

TRS Board of Trustees Meeting

February 20-22, 2013



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

AGENDA

February 20, 2013 – 10:00 a.m.

February 21, 2013 – 8:00 a.m.

February 22, 2013 – 8:00 a.m.

TRS East Building, 5th Floor, Boardroom

NOTE: Any item posted on the agenda may be taken up during the Board meeting on Wednesday, February 20, 2013, or during the continuation of the meeting on Thursday, February 21, 2013, or Friday, February 22, 2013, or both, beginning at the times and place specified on this agenda.

The open portions of the February 20-22, 2013 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 13–14, 2012 Board meeting minutes](#) – David Kelly.
3. Provide opportunity for public comment – David Kelly.
4. Review and discuss the [Executive Director's report](#) on the following matters – Brian Guthrie:
 - A. Review the agenda items to be taken up on February 20, 2013.
 - B. Discuss TRS organizational structure, review the agency's 2012 accomplishments, and discuss the Executive Director's 2013 goals and objectives, including strategic planning, identified priorities, and metrics for success.
 - C. Preview draft agendas for upcoming Board meetings.
 - D. Receive the Board training calendar.
 - E. Discuss the project to review Board orientation materials.
 - F. Retirement plan benefits, investment activity and operations, health-benefit programs and operations, and Administrative operations, including financial, audit, legal, and staff services and special projects.

5. Receive presentations on the TRS investment management and functions, including the following matters:
 - A. Receive an [update on the Investment Management Division and a review of market conditions and outlook](#) – Britt Harris.
 - B. Receive an [overview and update on principal investments](#) – Joe Colonna, Jerry Albright, Rich Hall, and Eric Lang.
 - C. Confer with employees, consultants, or legal counsel of TRS and one or more representatives of KKR & Co. L.P. about TRS' investment in a private investment fund or the purchase, holding, or disposal of restricted securities or a private investment fund's investment in restricted securities – George Roberts, KKR & Co. L.P.
 - D. Receive an [update on TRS' Emerging Manager Program](#) – Stuart Bernstein.
 - E. [Measuring Investment Performance: A Primer](#) – Dr. Keith Brown.
6. Receive a [presentation on Dodd-Frank](#) – Angela Vogeli, Denise Lopez, and Tess Weil, Purrington Moody Weil, LLP.

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

7. Provide opportunity for public comment – David Kelly.
8. Review the agenda items to be taken up on February 21, 2013 – Brian Guthrie.
9. Receive an [overview of the Texas budgeting process](#) and the [legislative landscape](#), including a discussion of the proposed state budget for TRS in the House and Senate Appropriations bills – Don Green and Ray Spivey.
10. Receive an [overview of the organization and functions of the TRS Human Resources Division](#) – Janet Bray.
11. Discuss [agency staffing and resource matters](#) – Janet Bray and Don Green.
12. Receive an [overview of the organization and functions of the Legal Services Division](#) – Dennis Gold.
13. Review [trustee roles, responsibilities, and fiduciary duties](#); [qualifications for office and standards of conduct](#); [immunities, indemnification](#), and insurance; and requirements related to trustee ethics, conflicts, and disclosures – Tim Wei; Steve Huff; and Keith Johnson, Reinhart Boerner Van Deuren, s.c.
14. Receive [open government training](#) – Dan Junell.

15. Receive an [overview of the Communications Division](#), including a discussion of TRS communication initiatives and policies – Howard Goldman.
16. Receive an [overview of the organization and functions of the Special Projects Department](#), including the 403(b) company certification and product registration program and the legislative fiscal-note preparation function – Rebecca Merrill.
17. Receive an [overview of the organization and functions of the Financial Division](#) – Don Green.
18. Review the [reports of the Chief Financial Officer](#) – Don Green:
 - A. 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.
 - B. Quarterly financial reports on TRS programs.
19. Receive a presentation on the administration and operation of the TRS pension plan, including the following subjects – Marianne Woods Wiley:
 - A. [Overview of the TRS Pension Plan](#).
 - B. [Information on Increased Cost of Certain Service Credit](#).
 - C. [Organization and functions of the Benefits Services Division](#)
20. Receive a [presentation on Health Care 101](#), including an overview of the administrative organization and functions of TRS-Care and TRS-ActiveCare and an update on the TRS-Care Medicare Advantage and Prescription Drug Plans – Betsey Jones.
21. Receive [presentation on and consider premiums and plan design for the preferred-provider organization \(PPO\) plan options under the active employees health benefits program \(TRS-ActiveCare\)](#) – Betsey Jones and William Hickman, Gabriel, Roeder, Smith & Company.
22. Receive [presentation on and consider premiums and plan design for health maintenance organizations \(HMOs\) under the active employees health benefits program \(TRS-ActiveCare\)](#) – Betsey Jones.
23. Consider the [enrollment periods for the 2013-2014 plan year for the active employees health benefits program \(TRS-ActiveCare\)](#), including presentation of participation data – Betsey Jones.

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

24. Provide opportunity for public comment – David Kelly.
25. Review the agenda items to be taken up on February 22, 2013 – Brian Guthrie.
26. Receive a [presentation from the TEAM Program Independent Program Assessment \(IPA\) Vendor](#) – Michael Johnson, Bridgepoint Consulting.
27. Receive an [update on the TEAM Program](#) – Ken Welch; Amy Morgan; Jay Masci, Provaliant; and Janet Bray.
28. Receive a [panel discussion on the oversight functions for TRS](#) – Amy Barrett, Jay LeBlanc, Don Ballard, Jamie Michels, Hugh Ohn.
29. Review the [Deputy Director's report](#), including an update on Board elections – Ken Welch.
30. 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.
31. 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.



Teacher Retirement System of Texas

Minutes of the Board of Trustees December 13-14, 2012

The Board of Trustees of the Teacher Retirement System of Texas met on December 13-14, 2012, in the boardroom located on the fifth floor of the TRS East Building offices at 1000 Red River Street, Austin, Texas. The following people were present:

Board trustees:

David Kelly, Chair, by telephone conferencing
Charlotte Clifton, Vice-chair
Todd Barth
Karen Charleston
Joe Colonnetta
Eric McDonald
Chris Moss
Anita Palmer
Nanette Sissney

TRS executives and staff:

Brian Guthrie, Executive Director
Ken Welch, Deputy Director
Jerry Albright, Deputy Chief Investment Officer
Amy Barrett, Chief Audit Executive
Dennis Gold, Interim General Counsel
Don Green, Chief Financial Officer
T. Britton Harris IV, Chief Investment Officer
Amy Morgan, Chief Information Officer
Thomas Albright, Deputy Chief of Staff to the Chief Investment Officer
Dinah Arce, Internal Auditor
Jase Auby, Chief Risk Officer
Michelle Bertram, Administrative Assistant, Communications
Chi Chai, Senior Managing Director – External Private Markets
Mary Chang, Assistant General Counsel
Patrick Cosgrove, Senior Director, Internal Public Markets
John DeMichele, Investment Manager, Internal Public Markets
Edward Esquivel, Assistant Director, Health and Insurance Benefits
Brian Gomolski, Senior Investment Auditor
Cindy Haley, Team Leader- Financial Reporting and Budget
Rich Hall, Managing Director, Private Equity
Dan Herron, Communications Specialist

Clarke Howard, Assistant General Counsel
Janis Hydak, Managing Director – Macro, Risk, Quant and Thematic Strategies
Dan Junell, Secretary to the Board and Assistant General Counsel
Eric Lang, Managing Director – Real Assets
Lynn Lau, Assistant Secretary to the Board and Program Specialist
Patricia Moraw, Senior Accountant, Financial Reporting
Hugh Ohn, Director of Investment Audit and Compliance
Charmaine Skillman, Assistant General Counsel
Rebecca Smith, Assistant General Counsel
David Veal, Chief of Staff to the Chief Investment Officer
Ann Zigmund, Senior Accountant, Financial Reporting

Outside counsel, consultants, contractors, representatives of associations and organizations, and others:

Dr. Keith Brown, Investment Advisor
Steven Huff, Reinhart Boerner Van Deuren, Fiduciary Counsel
Brady O'Connell, Hewitt EnnisKnupp, Investment Counsel
Steve Voss, Hewitt EnnisKnupp, Investment Counsel
Bill Hickman, Gabriel Roeder Smith & Company
Joe Newton, Gabriel Roeder Smith & Company
Amy Cohen, Gabriel Roeder Smith & Company
Tathata Lohachitkul, Albourne America
Craig teDuits, State Street

Ms. Charlotte Clifton, Vice-chair, called the meeting to order at 11:50 a.m.

1. Call roll of Board members.

Ms. Lynn Lau called the roll. All trustees were present. Mr. David Kelly participated in the board meeting by telephone conference call pursuant to section 551.130 of the Texas Open Meetings Act (chapter 551 of the Texas Government Code), concerning participation by a TRS board member in a board meeting by telephone conference call. Per Ms. Clifton's request, all board members and staff sitting at the board table identified themselves, in accordance with the protocol for telephone conferencing.

2. Consider the approval of the September 13-14, 2012 Board meeting minutes

On a motion by Ms. Nanette Sissney, seconded by Ms. Anita Palmer, the board unanimously approved the September 13-14, 2012 board minutes as presented by staff.

3. Consider canceling the January 18, 2013 Board meeting

The board discussed the pros and cons of canceling the January 18, 2013 meeting. On a motion by Mr. Eric McDonald, seconded by Mr. Todd Barth, the board voted to cancel the January 18, 2013 meeting by a majority vote. Mr. Chris Moss and Mr. Kelly voted against the motion.

4. Recognize the service of Conni Brennan

Mr. Brian Guthrie stated that Ms. Connii Brennan had announced her retirement and Mr. Dennis Gold had assumed the duties of general counsel as the interim general counsel. On a motion by Mr. Moss, seconded by Ms. Sissney, the board unanimously approved the following resolution to honor the service of Ms. Brennan as TRS general counsel. Ms. Clifton read the following resolution into record:

Whereas, Connii Brennan joined the Texas Retirement System of Texas (TRS) in November 1990, focusing her early work on the area of real estate investments; and

Whereas, She was named deputy general counsel for the retirement system in September 1994, and became only the second General Counsel in TRS history in June 2000; and

Whereas, Throughout her years of leadership to the retirement system and its members, Ms. Brennan's approach to employment has embodied a fiduciary's duties of loyalty and care, always placing the retirement system and its participants first, ahead of any personal concerns; and

Whereas, She has exhibited the highest level of integrity, providing legal judgments, analysis, and advice that have been proven over time to be accurate and well-thought out; and

Whereas, TRS recognized Ms. Brennan with a TRS Golden Apple Award in 1999 in part for her demonstrated ability to handle complex matters, maintain infinite attention to detail, meet challenging deadlines, and deal successfully with high-pressure and high-profile situations; and

Whereas, She has demonstrated quiet courage and persistence in delivering sometimes unpopular advice and always handling challenging legal matters with grace, dignity, and courtesy; and

Whereas, She has maintained the highest standards of professionalism and played an invaluable role in educating fiduciaries of their obligation to act with loyalty to TRS and its beneficiaries; and

Whereas, She provided critical leadership during a time when the retirement system grew from approximately 617,000 to more than 1.3 million members and annuitants, surpassed \$112 billion in its investment portfolio by the time of her retirement, developed and implemented a statewide active member health benefits program, strengthened management controls, implemented new requirements for board eligibility and training, adopted and implemented new investment allocations and procedures, received a new positive determination on the tax qualification of the retirement plan from the Internal Revenue Service, received unqualified opinions with no material findings from the State Auditor's Office reports, and annually received the "Certificate of Achievement for Excellence in Financial Reporting" from the Government Finance Officers Association; and

Whereas, Conni Brennan is retiring from the Teacher Retirement System of Texas after serving as the retirement system's general counsel for nearly 13 years, mindful of her duty to those who teach or otherwise serve our state's children and thereby shape its future; and now therefore, be it

Resolved, That the Board of Trustees and staff of the Teacher Retirement System of Texas recognize the accomplishments and contributions of Conni Brennan during her 22-year highly successful career with the retirement system and express appreciation on behalf of TRS members both present and future, and be it further

Resolved, That a copy of this resolution be presented to Conni Brennan and entered in the record of the board for December 13, 2012.

5. Receive public comment

Ms. Clifton called for public comment. No comments were received.

6. Discuss and consider investment matters, including the following items:

A. Performance Review: Third Quarter 2012

Mr. Brady O'Connell of Hewitt EnnisKnupp presented the performance review for the third quarter of 2012 ending September 30, 2012.

B. Review Quarterly Portfolio Performance and market update

Mr. Britt Harris provided an overview of the global market performance.

Mr. Patrick Cosgrove and Mr. John DeMichele provided an overview of the current European markets. Mr. Chi Chai provided an overview of the economic development of China.

C. Receive the report of the Investment Management Committee on its December 13, 2012 meeting, and consider related matters

Mr. Barth, committee chair, presented the following report of the Investment Management Committee:

The Investment Management Committee met this morning. Britt Harris introduced the group presenting to the committee, which included Curt Rogers, Jase Auby, and Rusty Guinn. Mr. Rogers, Mr. Auby, and Mr. Guinn talked about strategic asset allocation, stable value investments, tactical asset allocation, and the risk management functions in IMD.

After a brief recess at 1:55 p.m., the board meeting reconvened at 2:10 p.m.

7. Review the Comprehensive Annual Financial Report for fiscal year 2012

Mr. Don Green and Ms. Cindy Haley presented the Comprehensive Annual Financial Report for the fiscal year ended August 31, 2012.

Ms. Clifton announced that the board would take up agenda item number 9.

9. Review the TRS-Care Actuarial Valuation report as of August 31, 2012, and receive an overview and update on the status of the health benefit programs.

Mr. Joseph Newton of Gabriel, Roeder, Smith & Company (GRS) presented the report on other post-employment benefits based on the Governmental Accounting Standards Board Statements No. 43 and No. 45.

Mr. Bill Hickman and Ms. Amy Cohen of GRS presented the actuarial valuation report as of August 31, 2012. Mr. Hickman profiled the TRS-Care plan and each level of coverage. He also laid out the cost drivers and funding sources of the plan and its projected savings from the new prescription plan and Medicare Advantage Plans. Ms. Cohen profiled the TRS-ActiveCare plan and provided details on the plan enrollment for each level of coverage, the costs on the employees, and cost drivers.

10. Receive the report of the Policy Committee on its December 13, 2012 meeting, and consider adoption of proposed amendments to the following TRS rules in Chapter 41 of Title 34 of the Texas Administrative Code:

- A. Rule § 41.2, relating to additional enrollment opportunities;**
- B. Rule § 41.5, relating to payment of contributions; and**
- C. Rule § 41.7, relating to effective date of coverage.**

Mr. Joe Colonna, committee chair, presented the following report of the Policy Committee:

The Policy Committee met on December 13, 2012, in the boardroom to adopt proposed rules. After approval of the September 2012 minutes, the committee heard from Clarke Howard and recommends final adoption of the proposed amendments to TRS-Care rules 41.2, 41.5 and 41.7. These rule amendments are necessary to implement the Medicare Advantage plans and the Medicare prescription drug plans originally adopted by the board. These amendments also update and clarify the rules.

Next, the committee heard from Tim Wei and authorized for public comment publication in the *Texas Register* proposed amendments to Chapter 23 of the TRS rules relating to the contractor ethics reporting. Lastly, the committee heard from Rebecca Smith

regarding the proposal of comment publication of the sections in chapters 25, 31, 41 and 47 of TRS rules. The rule proposals include amendments relating to employment by institutions of higher education, pension and health benefit surcharges, and a standard form for qualified domestic relation orders.

Upon a motion by Mr. Colonna, the board unanimously adopted the following resolution relating to the adoption of amended TRS-Care rules 41.2, 41.5, and 41.7 as recommended by the committee:

Whereas, Chapter 1575, Insurance Code, authorizes the Teacher Retirement System of Texas (TRS), as trustee, to implement and administer the uniform group health benefits program under the Texas Public School Retired Employees Group Benefits Act (TRS-Care), as described in the statute;

Whereas, TRS-Care rule §41.2 provides details about additional enrollment opportunities with regard to TRS-Care;

Whereas, TRS-Care rule §41.5 addresses the payment of contributions into TRS-Care by participants in TRS-Care;

Whereas, TRS-Care rule §41.7 describes the effective dates of coverage under TRS-Care;

Whereas, staff has recommended amendments to TRS-Care rules §§41.2, 41.5 and 41.7 in order to address issues that will arise from the introduction on January 1, 2013 of the TRS-Care Medicare Advantage (medical) plans and the TRS-Care Medicare Part D (drug) plans and in order to clarify and update these rules;

Whereas, pursuant to the authority granted by the Policy Committee at its September 2012 meeting, TRS published proposed amendments to TRS-Care rules §§41.2, 41.5 and 41.7 for public comment in the October 5, 2012 issue of the *Texas Register*, and the public had at least 30 days notice of TRS' intention to adopt the proposed amendments before the board considered their adoption, and TRS received no comments; and

Whereas, The board's policy committee has recommended that the board adopt the proposed amendments, and the board desires to adopt the proposed amendments without changes to the published texts of the proposed rules; now, therefore, be it

Resolved, That the board hereby:

- 1) Adopts amended TRS-Care rules 34 Tex. Admin. Code §§41.2, 41.5 and 41.7 as published in the October 5, 2012 issue of the *Texas Register* (37 TexReg 7980);
- 2) Incorporates by reference into this Resolution, as though fully set out in it, the applicable policy committee and board meeting materials, discussions and actions, including the approved rule texts

and reasoned justification for their adoption as presented in those meeting materials, discussions and actions;

- 3) Grants the TRS staff authority to prepare and to file all documents required by this Resolution, to work with the Office of the Secretary of State in preparing and filing such documents, and to make any technical changes required for publication of the adopted rules; and
- 4) Grants the presiding officer of the board the authority to sign an order showing the action of the board.

11. Receive an update on the implementation of legislation from the 82nd Texas Legislative Session and discuss legislative preparation for the upcoming 83rd Texas Legislative Session.

Mr. Guthrie provided an update on the implementation of key legislation from the 82nd Texas Legislative Session relating to board composition, access to criminal history for employees and job applicants, trustees' participation in meetings by telephone conferencing, protection of names of applicants for executive positions, employment after retirement, qualified domestic relations orders, standardizing the definition of a school year, service credit purchase cost, and extension of investment authority.

Mr. Guthrie provided an overview of the potential issues and appropriations requests for the 2013 legislative session. He presented the key budget request elements for fiscal years 2014 and 2015 for both the pension fund and TRS-Care fund. He responded to trustees' questions concerning the general legislative appropriation request process and the projected outcome of the current requests. He provided a brief summary of other issues relating to investments, board governance, confidentiality of TRS employee information and membership records, pension benefits rules, and health benefits.

Ms. Clifton announced that the board would take up agenda item number 8.

8. Review the TRS Pension Trust Fund Actuarial Valuation as of August 31, 2012.

Mr. Newton provided an overview of the pension trust fund actuarial valuation as of August 31, 2012. He presented the valuations on the actuarial liabilities and contributions in comparison with their projected values. He noted that the decline in active membership had reduced the projected future contributions. He stated that it was still uncertain whether the recent membership contraction would be temporary or permanent. Responding to a question from Mr. Colonna, Mr. Newton stated that the membership decline combined with the lack of payroll growth for the active members caused the nine percent contraction of the total covered payroll. Mr. Newton stated that the funding period continued to be "Never" and projected that the depletion date of the fund under current benefits and contributions was about 55 years from date of this meeting. He presented the projections on the fund assets and explained the financial mechanism used to smooth out the impact of market volatility. There was a discussion on the current investment return assumption and the desirability of reconsidering the assumed rate of return. Mr. Harris confirmed for Mr. Barth that lowering the investment return assumption rate would not lead to changing the current asset allocation. Mr. Newton also shared his observation

concerning changing assumptions and benefits. He cautioned the board about changing benefits under the existing plan for new hires based on the past experience and future expectations. Mr. Newton presented historical data on the actuarial values of assets, actuarial accrued liability, funded ratio and funding period for next year based on different levels of market return. He also presented various scenarios for changing active membership benefits and their projected results. Mr. Guthrie concurred with Ms. Sissney that the burden should be shared by both the state and active members. Mr. Newton summarized the combinations of options to meet the funding goal. He concluded that, apart from increased contributions, changing retirement eligibility would have the greatest impact on the funding status of the pension plan and TRS-Care.

12. Receive the report of the Risk Management Committee on its December 13, 2012 meeting, and consider related matters.

Mr. McDonald, Committee Chair, presented the following report of the Risk Management Committee:

The Risk Management committee met on Thursday, December 13, 2012. A report on the Enterprise Risk Management Program was provided by risk management and strategic planning staff, which included a report from the risk manager and discussion of risk management activities related to pension funding, TEAM program, retiree health care and health care administration risk categories.

14. Receive a report on the investments in private investment fund CVC European Equity Partners IV L.P. and restricted securities of Delta Topco under Section 825.3011, Government Code and Subchapter D of the Open Meetings Act (Chapter 551, Government Code).

Ms. Clifton announced that the board would enter a closed session after a brief recess.

The board meeting recessed at 4:50 p.m. for a short break and reconvened in open session at 4:56 p.m.

In open session, Ms. Clifton announced that the board would go into executive session on agenda items 14 and 23 under the following statutes: section 825.3011 of the Government Code to confer about confidential investment matters relating to a private investment fund for the purchase holding, or disposal of restricted securities; and section 551.071 of the Government Code to seek advice from the board's legal counsel about litigation and related matters. She 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.

The open portion of the board meeting recessed at 4:56 p.m. executive session. After the executive session concluded, Ms. Clifton announced that the open session was reconvened at 6:48 p.m. She announced that the board meeting was recessed at 6:48 p.m. and would reconvene in open session on the following day, December 14, 2012.

The Board of Trustees of the Teacher Retirement System of Texas reconvened on

December 14, 2012 at 11:20 a.m. in the boardroom located on the fifth floor of the TRS East Building offices at 1000 Red River Street, Austin, Texas. The following people were present:

Board trustees:

David Kelly, Chair
Charlotte Clifton, Vice-chair
Todd Barth
Karen Charleston
Joe Colonna
Eric McDonald
Chris Moss
Anita Palmer
Nanette Sissney

TRS executives and staff:

Brian Guthrie, Executive Director
Ken Welch, Deputy Director
Amy Barrett, Chief Audit Executive
Janet Bray, Director of Human Resources
Dennis Gold, Interim General Counsel
Howard Goldman, Director of Communications
Don Green, Chief Financial Officer
T. Britton Harris IV, Chief Investment Officer
Betsey Jones, Director of Health Care Policy and Administration
Amy Morgan, Chief Information Officer
Marianne Woods Wiley, Chief Benefit Officer
Thomas Albright, Deputy Chief of Staff to the Chief Investment Officer
Don Ballard, Assistant General Counsel
Sylvia Bell, Director of Investment Operations
Michelle Bertram, Administrative Assistant, Communications
Jan Engler, Audit Manager
Dan Junell, Secretary to the Board and Assistant General Counsel
Lynn Lau, Assistant Secretary to the Board and Program Specialist
Jay LeBlanc, Director of Risk Management & Strategic Planning
Rebecca Merrill, Special Advisor to the Executive Director and Manager of Special Projects
Mike Rehling, Manager, Benefit Processing
Noel Sherman, Manager, Client Services & Support
Charmaine Skillman, Assistant General Counsel
Rebecca Smith, Assistant General Counsel

Outside counsel, consultants, contractors, representatives of associations and organizations, and others:

Steven Huff, Reinhart Boerner Van Deuren, Fiduciary Counsel
Brady O'Connell, Hewitt EnnisKnupp and Associates
Philip Mullins, Austin Retired Teachers Association, Texas State Employees Union

Ann Fickel, Texas Classroom Teachers Association
Leroy DeHaven, Texas Retired Teachers Association
Ted Melina Raab, Texas American Federation of Teachers
Michael Johnson, Bridgepoint Consulting
David Roe, Bridgepoint Consulting
Andrea Anderson, Bridgepoint Consulting
Vicki Humphrey, Bridgepoint Consulting
Jason Fogle, Greentree Group
Chris Sharbaugh, Greentree Group
David Kim, Greentree Group

1. Call roll of Board members.

Ms. Lau called the roll. All trustees were present. Mr. Kelly participated in the board meeting by telephone conference call pursuant to section 551.130 of the Texas Open Meetings Act.

Ms. Clifton presided at the meeting. Per her request, all board members and staff sitting at the board table identified themselves, in accordance with the protocol for telephone conferencing.

Ms. Clifton announced that the board would take up agenda item number 15.

15. Discuss and consider selecting an Independent Program Assessment (IPA) vendor for the TEAM Program, including:

A. Receive an overview of the role of the IPA vendor in the TEAM Program and the IPA vendor selection process.

Ms. Amy Barrett provided the background of the independent program assessment (IPA) position and vendor selection process. She explained the role of the IPA vendor in the TEAM Program, explained its independent oversight function, and provided a detailed overview of the vendor evaluation process conducted by staff.

B. Interview IPA vendor finalists and consider a resolution selecting an IPA vendor.

Ms. Barrett introduced the following two finalists recommended by staff:

Bridgepoint Consulting represented by Michael Johnson, David Rowe, Andrea Anderson, Vicki Humphrey, and Vince Treviño; and

Greentree Group represented by Jason Fogle, Chris Sharbaugh, and David Kim.

The board separately interviewed representatives of the two firms. The representatives profiled their firms and services. They responded to questions from trustees about their past experience, their views on the vendor's relationship with the board, performance measurements,

meeting work schedules, reporting, and their local presence. Per Mr. Kelly's request, the representatives also shared their observations regarding the TEAM program.

Trustees discussed the firms and the proposed contract. Mr. Colonna commented that he would feel more comfortable if the contract terms were revised to not impose a limit on the vendor's work hours. Ms. Barrett stated that the contract could be written to allow additional work hours from the IPA if necessary. Mr. Don Ballard suggested setting an hourly rate without a limit to the number of hours but with a limit on the total funding. He confirmed for Mr. Colonna that the board could authorize the executive director to include such provisions in the contract. He also confirmed for Ms. Karen Charleston that the contract could be amended if necessary. Mr. Ballard stated that Mr. Kelly's suggestion of setting performance incentives could be an option as well. Ms. Clifton noted that the proposed resolution would allow the executive director the latitude to proceed with the negotiations of more specific terms concerning the fee arrangements. Ms. Barrett confirmed for Ms. Sissney that staff's recommendation of the finalists was not based solely on cost. Rather, Ms. Barrett said, the initial assessment focused on qualifications. Mr. Guthrie, Ms. Barrett, Ms. Marianne Woods Wiley, and Mr. Harris also provided their views on the two firms.

Mr. Colonna moved to adopt the proposed resolution to select Bridgepoint, requesting that Mr. Guthrie take the discussion at this meeting into account during the contract negotiation. Mr. Moss seconded the motion. The board voted unanimously to adopt the following resolution to select Bridgepoint to be the IPA vendor:

Whereas, The Board of Trustees ("Board") of the Teacher Retirement System of Texas ("TRS") is engaged in an electronic pension administration system modernization effort, TRS Enterprise Application Modernization ("TEAM");

Whereas, The Board has determined that it requires independent assistance with program assessment for the life of the TEAM program;

Whereas, Section 825.101 of the Texas Government Code states that the Board is responsible for the general administration and operation of the retirement system, and Section 825.103 of the Texas Government Code states that the Board has exclusive authority over the purchase of goods and services using trust funds and shall control all aspects of information technology and associated resources relating to the retirement system;

Whereas, TRS Bylaws subsection 1.8(j) provides that the Board is responsible for monitoring and evaluating the effectiveness of the retirement system;

Whereas, TRS Bylaws subsections 5.6(b) and 5.6(e) delegate authority to the Executive Director to contract for the purchase of services and the execution of vouchers for payments, in accordance with actions of the Board;

Whereas, TRS conducted a competitive procurement for TEAM independent program assessment;

Whereas, The Board wishes to authorize the Executive Director to enter into a contract for independent program assessment services for the TEAM program; now, therefore be it

Resolved, That the Board of Trustees of the Teacher Retirement System of Texas (the "Board"), pursuant to Sections 825.101 and 825.103 of the Texas Government Code, hereby authorizes the Executive Director or the Deputy Director of the Teacher Retirement System of Texas ("TRS") to negotiate, with the assistance and advice of legal counsel, a contract with Bridgepoint to provide independent program assessment services to the Board for the life of the TEAM program; and, if negotiations are deemed in his or her discretion to be successful, then the Executive Director or the Deputy Director is hereby authorized to execute a contract on such terms and conditions as such officer may deem, in his or her discretion, to be in the best interest of TRS, and further to execute and deliver all such other documents, including all future extensions or amendments to the contract, that such officer may deem necessary or appropriate to effect this resolution, as conclusively evidenced by the taking of the action or the execution and delivery of the documents, and to incur, approve and pay any budgeted expenses or costs reasonably necessary or advisable with respect to such contract or amendments.

Ms. Palmer left the meeting at 12:40 p.m.

After a brief recess at 12:45 p.m., the meeting reconvened at 12:55 p.m.

13. Receive an update on human resource matters, including the inclusion of TRS in the Austin American-Statesman's Top 100 Work Places of 2012, the selection process for the position of TRS General Counsel, and an update on the TRS Leadership Development Program.

Ms. Janet Bray announced that TRS was included in the *Austin American-Statesman*'s top ten work places in Austin of 2012.

Ms. Bray provided an update on the selection process for the position of TRS general counsel. She reviewed the selection process timeline. She stated that the start date of the new general counsel was anticipated to be as early as March or as late as June 2013. Mr. McDonald asked Mr. Guthrie to update the board on the hiring process at the next meeting and to introduce the finalists to the board members before final interviews.

Ms. Bray provided update on the leadership development program. She stated that the first class would graduate in February 2013 and the next class in 2014.

16. Receive the report of the Audit Committee on its December 14, 2012 meeting, and discuss and consider related matters.

Mr. Moss, Committee Chair, presented the following report of the Audit Committee:

The Audit Committee met on Friday, December 14, 2012 in the fifth floor boardroom. Representatives from the State Auditor's Office provided the results of the financial audit of the fiscal year (FY) 2012 comprehensive annual financial report. Mr. Joe Newton of Gabriel Roeder Smith and Company and Mr. Don Green provided a summary of changes to the Governmental Accounting Standards impacting pension accounting and financial reporting. Representatives from CliftonLarsonAllen reported on the status of the Telephone Counseling Center performance measure audit and reported on the results of the internal network vulnerability agreed-upon procedures. Internal Audit staff reported on the results of the quarterly testing of compliance with the investment policy statement, the status of prior audit and consulting recommendations, a summary of the FY 2012 internal audit annual report, and the quarterly internal audit staff reports.

17. Receive the report of the Benefits Committee on its December 14, 2012 meeting, and discuss and consider related matters.

Mr. Moss, Committee Chair, presented the following report of the Benefits Committee:

The Benefits Committee met this morning, December 14, 2012 to receive an overview of TRS supplemental benefit programs and the TRS Telephone Counseling Center. They also received reports on various benefit services division and TRS website statistics. Mr. Bob Jordan and Mr. Clarke Howard discussed the statutory authority for supplemental benefits and the current benefits offered, along with a review of the history of TRS optional coverages. Ms. Marianne Woods Wiley presented current and historical information on some of the activities of the benefit services division, including benefit processing and counseling. She reported that overall benefit service production and delivery have been very good this past fiscal year. For additional details, board members may refer to the information behind tab three of the Benefits Committee book. Mr. Tom Guerin and Ms. Woods Wiley presented an overview of the TRS Telephone Counseling Center. Mr. Guerin provided information on the hiring and staffing of the center, including the training, quality assurance and recognition programs offered to the TRS benefit counselors. Howard Goldman presented an overview of the TRS website activity during fiscal year 2012. He also reviewed current and upcoming website initiatives, along with planned improvements to the website.

18. Receive the report of the Chief Benefit Officer, and consider related matters:

A. Approve members qualified for retirement.

Ms. Woods Wiley presented the list of members and beneficiaries receiving initial benefit payments during the period from June 1, 2012 through August 31, 2012 (“reporting period”). She referred the board to the detailed list of payments made available for their review.

On a motion by Mr. Moss, seconded by Mr. Barth, 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 May 8, 2012, June 8, 2012 and July 10, 2012 meetings. On a motion by Ms. Sissney, seconded by Mr. McDonald, the board approved the minutes of the Medical Board meetings as presented, thereby ratifying the actions of the Medical Board reflected in those minutes.

19. Receive the report of the Chief Financial Officer 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.

Pursuant to section 825.314(b) of the Government Code, Mr. Green presented a report of the expenditures paid during the months of August, September, and October of 2012 that were required to perform the fiduciary duties of the board.

20. Receive the Deputy Director’s report, including matters related to communications outreach efforts, an update on the receipt of an IRS determination letter of qualified plan status for the pension plan, an update on the backup generator installation, and an update on the TEAM Program.

Mr. Ken Welch presented a list of the Texas Retired Teachers Association conventions staff attended in the fall 2012. He informed the board that TRS had received the plan qualification determination letter. He stated that the backup generator had been installed. He also provided an update on the TEAM program and stated that the Comptroller’s Office had approved the upgrade of the financial system as part of the program. He provided the tentative dates for trustees’ tour of the TRS offices in January.

21. Receive the Executive Director's report, including matters related to:

- A. Discuss upcoming Board agendas.**
- B. Retirement plan benefits and operations.**
- C. Investment activity and operations.**
- D. Health-benefit programs and operations.**
- E. Administrative operations and other financial, audit, legal, staff services, and special project matters.**

Mr. Guthrie provided an overview of the conferences offered by the National Conference on Teachers Retirement and the National Institute on Retirement Security.

Mr. Guthrie presented the Comptroller's requests to the state's public pension plans for information relating to investment returns.

Mr. Guthrie provided a brief update on the Senate State Affairs Committee hearings and stated that TRS had received positive feedback on both the health care and pension studies.

Mr. Guthrie presented system operational matters, including the following: plans to reinforce building security; visits to the Boston headquarters of TRS' custodial bank and securities lending agent State Street Bank and Trust Company; corrections made to the February 2011 board minutes and June 2011 Audit Committee minutes; and meetings with other pension funds.

Mr. Guthrie outlined the strategic objectives for fiscal year 2013, including the following: guiding the system through a successful legislative session; ensuring the success of the TEAM program; maintaining business continuity by meeting human resources needs; hiring a new general counsel; and continuing to provide the board educational opportunities.

Mr. Guthrie presented the proposed February 2013 board meeting agenda. Mr. Kelly requested a calendar laying out in advance the items and objectives set for the upcoming year.

At 1:56 p.m., Ms. Clifton announced that the board would go into executive session on agenda items 22 and 23 under section 551.071 of the Government Code, to seek advice from the board's legal counsel about litigation and related legal matters. She 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.

Mr. Colonna left at 1:56 p.m.

22. **Review the report of the General Counsel on pending or contemplated litigation, including updates on the following: the Bank of America securities class action; the Pfizer securities litigation; other securities litigation; the LIBOR litigation; the declaratory judgment action by a retiree relating to ownership in Educational Independent Contractors, L.L.C., and other litigation involving benefit-program contributions, retirement benefits, and open records.**
23. **Consult with the Board's attorney in closed session on any item listed above as authorized by Subchapter D of the Open Meetings Act (Chapter 551, Government Code).**

After completion of the executive session, Ms. Clifton announced that the open session was reconvened at 2:46 p.m.

The meeting adjourned at 2:48 p.m.

Teacher Retirement System of Texas



Executive Director's Report

Brian Guthrie
February 20, 2013





Presentation Objectives

- Discuss agenda for the February 20-22, 2013 meeting.
- Provide high-level review of TRS responsibilities and organizational structure.
- Review 2012 accomplishments.
- Revisit goals and objectives for 2013.
- Discuss agendas for 2013.
- Discuss Board training calendar.
- Discuss Board orientation materials review project.



Review Agenda Items for February 20-22, 2013 Meeting



Setting the Context

- The retreat will be similar to the 2010 meeting in Katy with department overviews and educational topics.
- TRS plans to stay the course in 2013 and focus on existing projects and challenges. No new major initiatives or projects will be proposed.
- Executive staff was challenged to conduct a SWOT analysis and incorporate the results in their presentations.



What is SWOT?

- STRENGTHS
- WEAKNESSES
- OPPORTUNITIES
- THREATS



Day 1

Wednesday, February 20th

Topics	Times
▪ Receive Public Comments	10:00 a.m.
▪ Executive Director's Report	10:00 a.m. – 11:30 a.m.
▪ Investment Matters <ul style="list-style-type: none"><li>• IMD Overview<li>• Co-investment Presentation<li>• Receive a Report on Investment in Private Investment Fund<li>• Emerging Manager Update<li>• Measuring Investment Performance – Dr. Brown<li>• Dodd-Frank Discussion	11:30 a.m.
▪ Recess	When done



Day 2

Thursday, February 21st

Topics	Times
■ Receive Public Comment	8:00 a.m. – 8:15 a.m
■ Review Board Agenda Items for Thursday 21 st	8:00 a.m. – 8:15 a.m.
■ State Budgeting 101 and Legislative Landscape	8:15 a.m. – 9:00 a.m
■ HR Division Overview	9:00 a.m. – 9:45 a.m.
■ Agency FTE / Resource Issues	9:45 a.m. – 10:15 a.m.
■ Legal Services Division Overview	10:15 a.m. – 10:45 a.m.
■ Fiduciary Training	10:45 a.m. – 11:30 a.m.
■ Open Government Training	11:30 a.m. – 12:15 p.m.
■ Communications Division Overview	12:15 p.m. – 12:45 p.m.
■ Special Projects Overview	12:45 p.m. – 1:15 p.m.
■ Financial Division Overview & Reports	1:15 p.m. – 2:00 p.m.
■ Benefits Division Overview	2:00 p.m. – 3:00 p.m.
■ Health Care 101	3:00 p.m. – 4:00 p.m.
■ TRS-ActiveCare Items	4:00 p.m. – 4:30 p.m.
■ Recess	When done



Day 3

Friday, February 22nd

Topics	Times
▪ Receive Public Comment	8:00 a.m. – 8:15a.m.
▪ Review Board Agenda Items for Friday 22 nd	8:00 a.m. – 8:15 a.m.
▪ TEAM IPA Vendor Presentation	8:15 a.m. – 9:45 a.m.
▪ TEAM Program Update	9:45 a.m. – 10:15 a.m.
▪ Oversight Panel	10:15 a.m. – 11:15 a.m.
▪ Deputy Director's Report	11:15 a.m.
▪ Adjourn	When done



TRS History, Responsibilities, and Organizational Structure



TRS History: Significant Events

	1936	1950s	1960s	1970s	1980s	1990s	2000s	2010-12
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
Other Changes						Legislative Intervention Benefits Exceeded Contributions Legacy Systems Not Addressed	Significant Market Declines IMD Growth	National Pension Debate TEAM



Today's Challenges are the Result of Historical Precedents

Yesterday	Today
State contributions were lowered at the same time benefits were increased	Unfunded liabilities cannot be paid within 30 years; changes are needed to address long-term sustainability
Legislative intervention in the 90's	Limitations on budget authority have resulted in FTE caps; TRS administrative budget is externally constrained
Significant market volatility	Return assumptions are questioned around the country
IMD growth	Search for the right mix between internal and external investment management
National pension debate	TRS Pension Benefit Design Study
Legacy systems are not replaced	TEAM



TRS Responsibilities

- Pension Trust Fund:
 - Investments; and
 - Annuity Payments.
- Retiree Group Health (TRS-Care).
- Active Employee Group Health (TRS-ActiveCare).
- 403(b) Program.



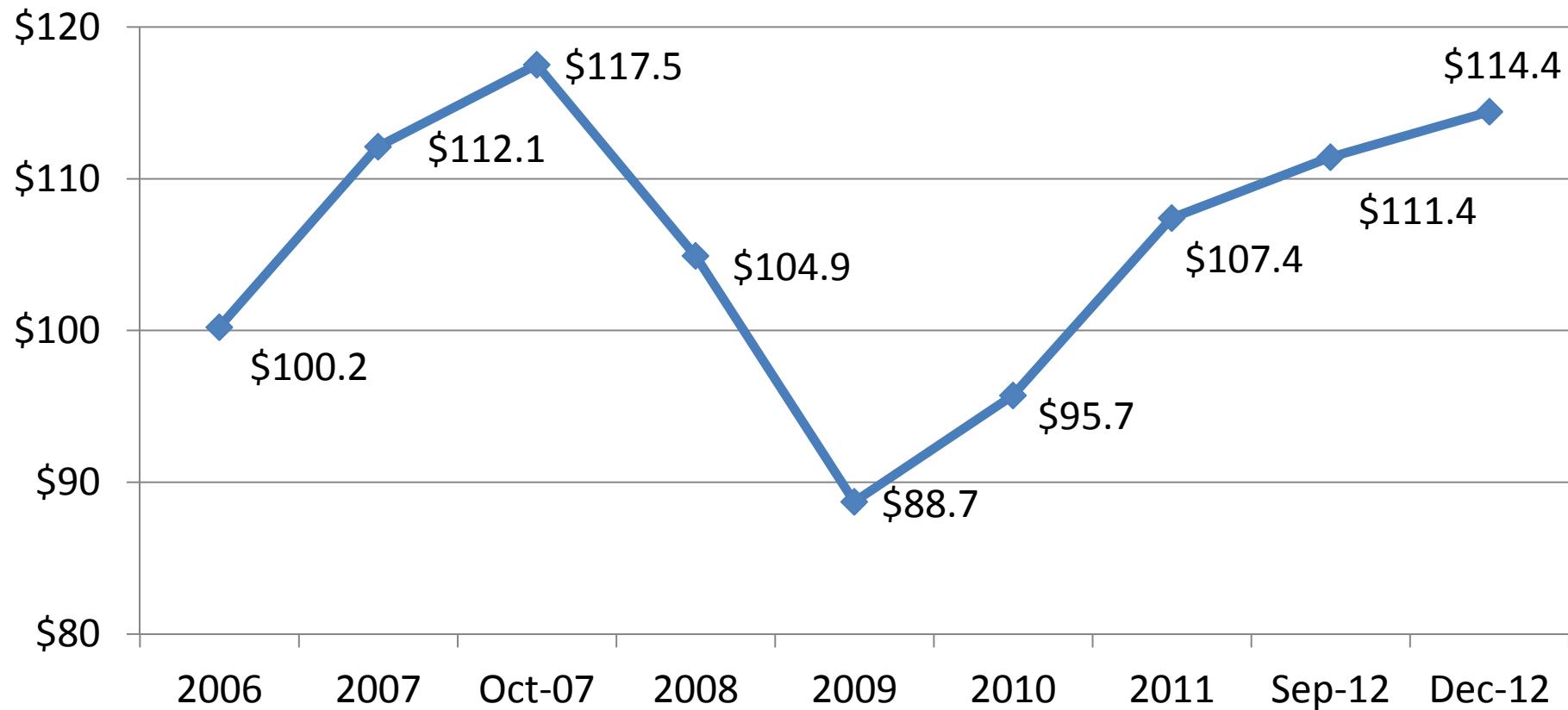
Pension Trust Fund

- Estimated balance of \$114.4 billion as of 12/31/12.
- The average retirement check is \$1,929 per month with \$7.7 billion paid in retirement benefits in 2012.
- 1,335,402 active members & annuitants as of 8/31/2012.
- Unfunded liability of \$26.1 billion as of 8/31/2012.
- Historical rates of return as of 12/31/2012:
 - 13.9% (1 year)
 - 10.0% (3 year)
 - 3.1% (5 year)
 - 7.9% (10 year)



Recent Fund Balance Fluctuations

FY 2006 – 2012 in Billions \$





Pension Benefit Design Study Background

- The Pension Trust Fund has enough assets on hand to pay benefits through 2065; however, the fund is not currently actuarially sound and steps need to be taken in the near term to begin addressing the unfunded liability.
- Options to address the unfunded liability are limited to: $C + I = B$.
- Enhancing Investment returns above 8% assumption is not realistic.
- The introduced budget for FY 2014-15 provides a state contribution rate of 6.4%. TRS is requesting an increase in this rate to 6.9% in 2014 and 7.4% in 2015. Each 0.5% increase will cost approximately \$125 million per year.



Pension Benefit Design Study Representative Changes

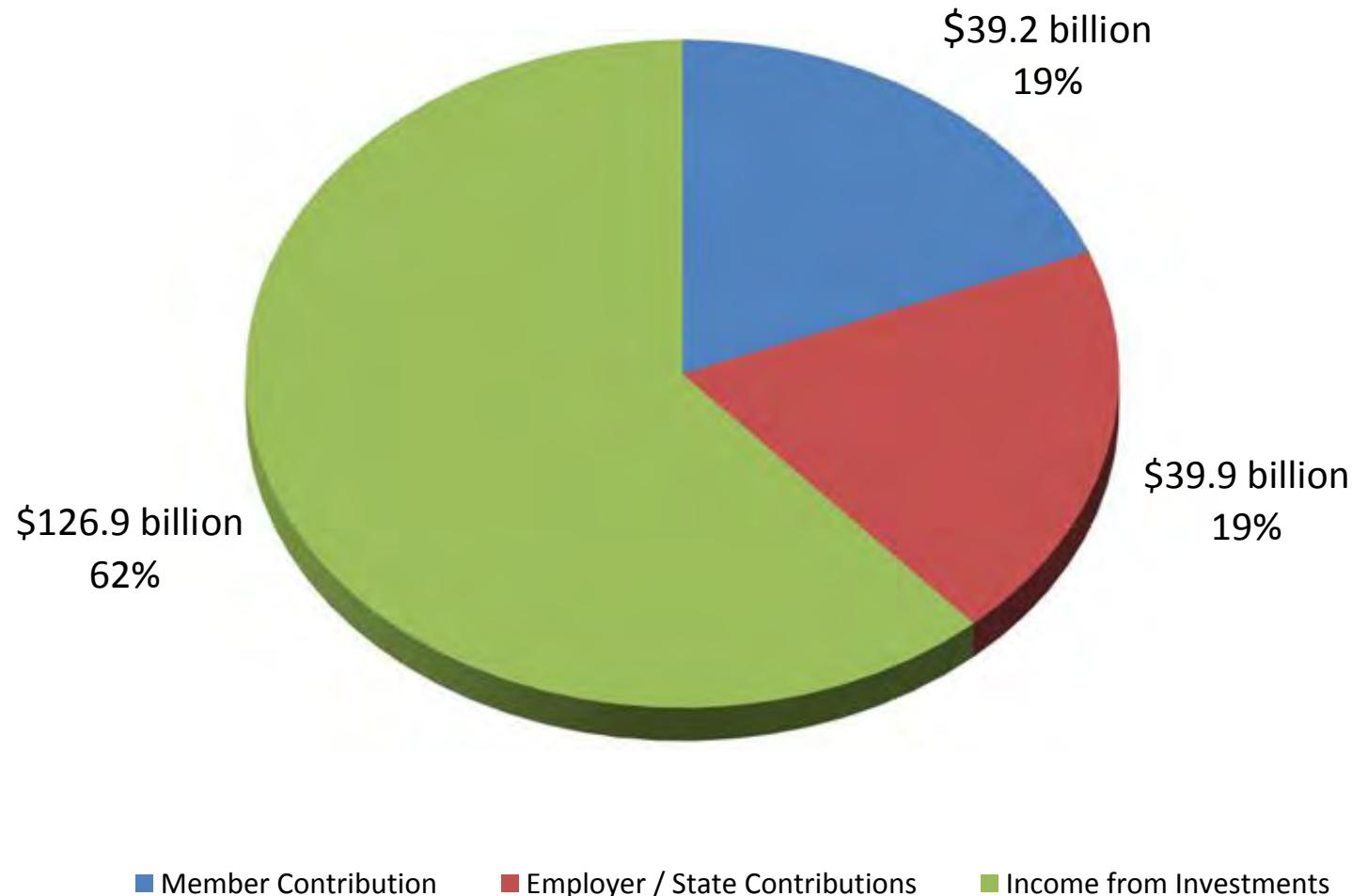
Provision	Representative Change	Unfunded Liability	State Contribution Rate for Actuarial Soundness*
Current Provisions as of August 31, 2012		\$26.1B	8.62%
Retirement Eligibility For All Current Members Not Yet Eligible to Retire	Rule of 80 & Minimum Age 62	\$13.9B	6.35%
Retirement Eligibility For Current Members Not Yet Eligible to Retire <u>With 5 Year Grandfather</u>	Rule of 80 & Minimum Age 62	\$ 17.3B	6.92%
Salary Averaging Period	7 Years	\$23.0B	7.77%
Accrual Multiplier	2.0% Per Year	\$24.5B	7.26%
Member Contribution Rate	7.4% Per Year	\$25.4B	7.80%

* State contribution rate for actuarial soundness is based on smoothed assets and is the rate necessary to pay for new benefit accruals and amortize the unfunded liability of \$26.1 billion over a period that is less than 31 years.



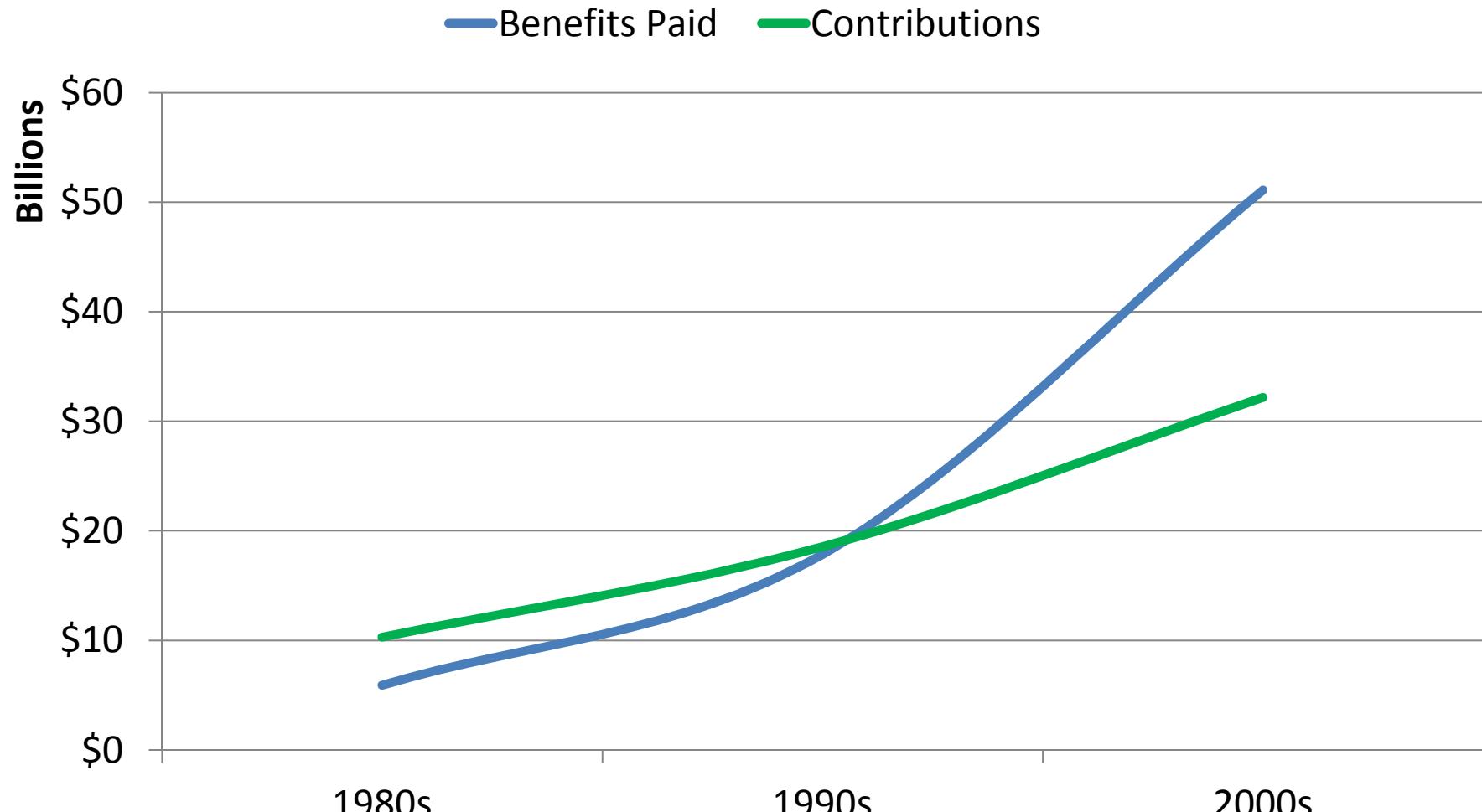
Pension Trust Fund

Sources of Pension Fund Revenue (1938 – 2012)





Cumulative Benefits Paid vs Contributions

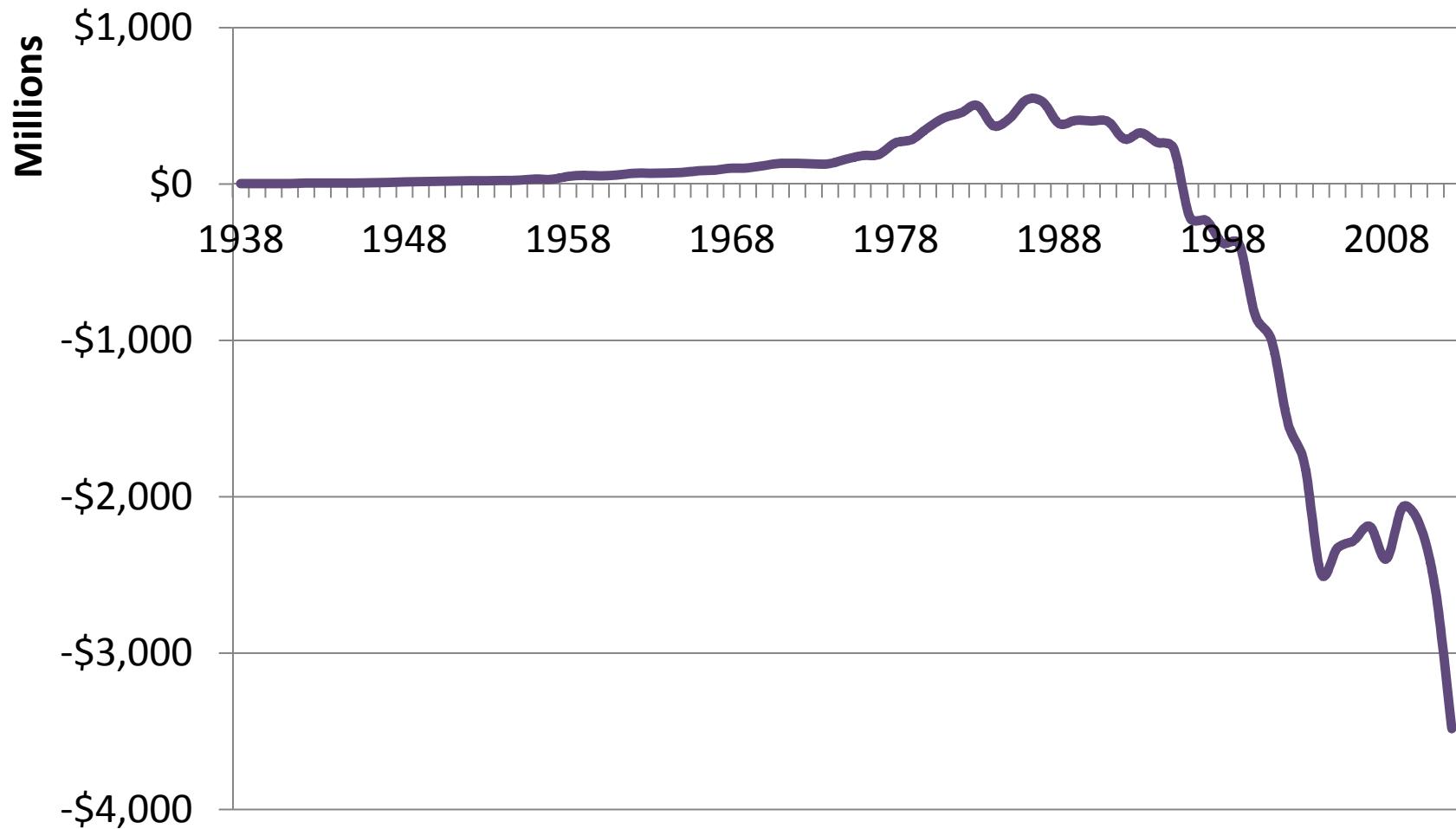


Benefits paid exceeded contributions for first time in 1996; cumulative total of \$28.4 billion since.





Annual Net Contribution



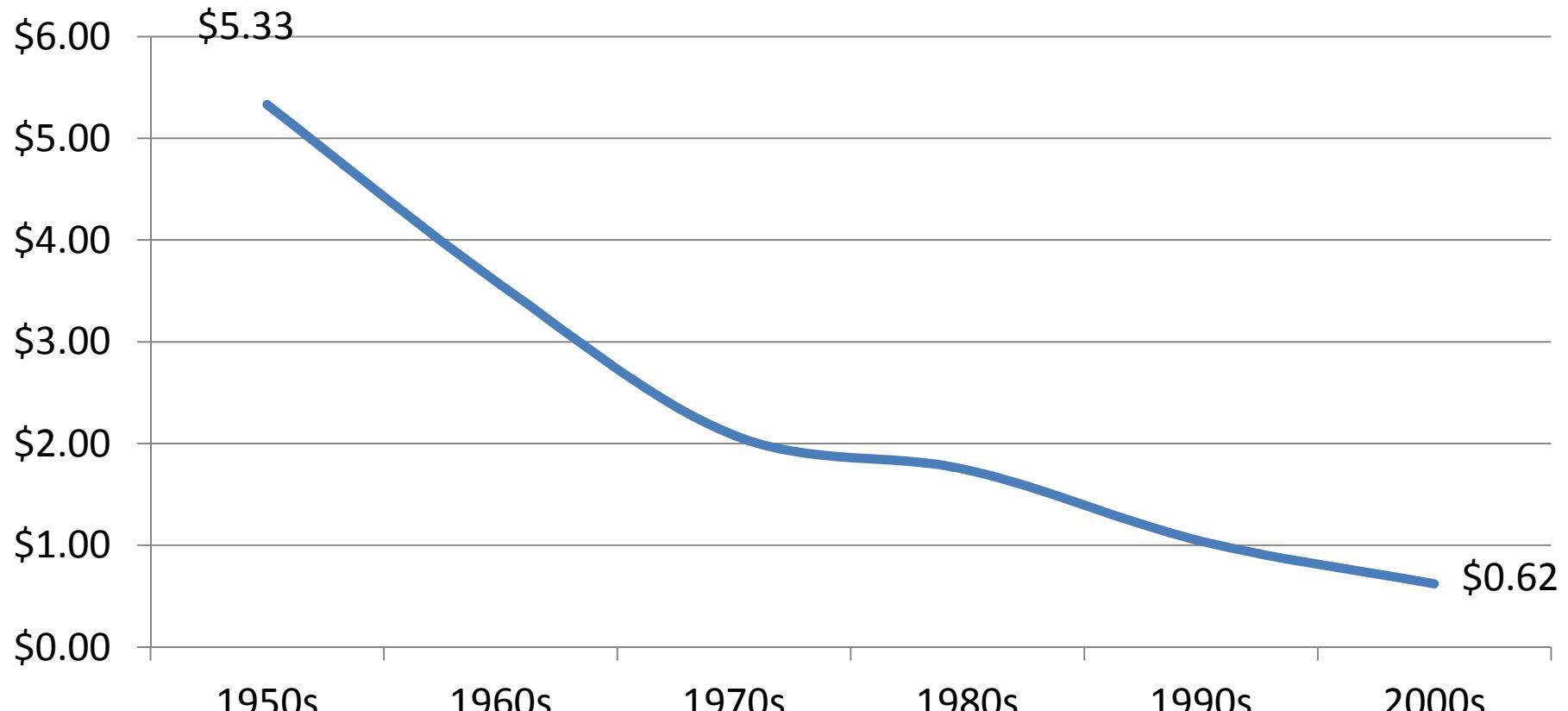
The net contribution is the difference between the contributions minus the benefits paid. Any negative net contribution amount would be covered by investment earnings.





Contributions per \$1 of Benefits

State/Employer/Employee Contributions per \$1 of Benefits Paid



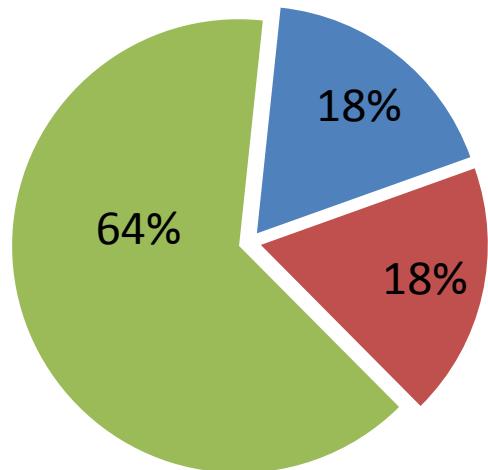
Revenue collected from the state, employers and employees to support each \$1 of benefits paid has declined over time.





Trust Fund – FY 2012

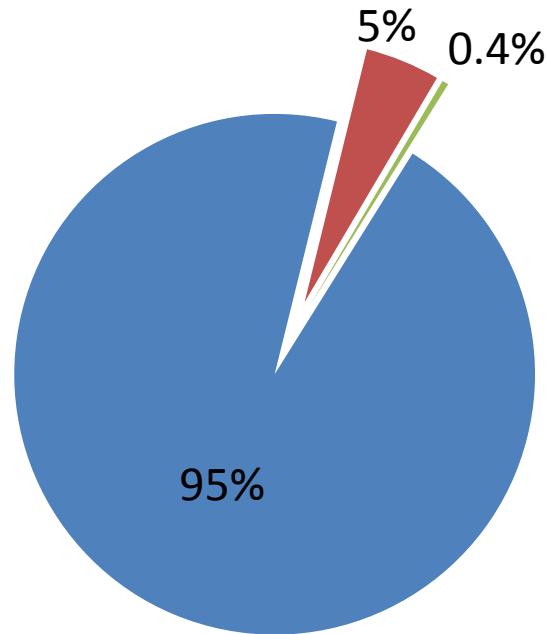
Additions



- Member
- Employer & State
- Investment

\$12.2 billion

Deductions



- Benefits
- Refunds
- Admin

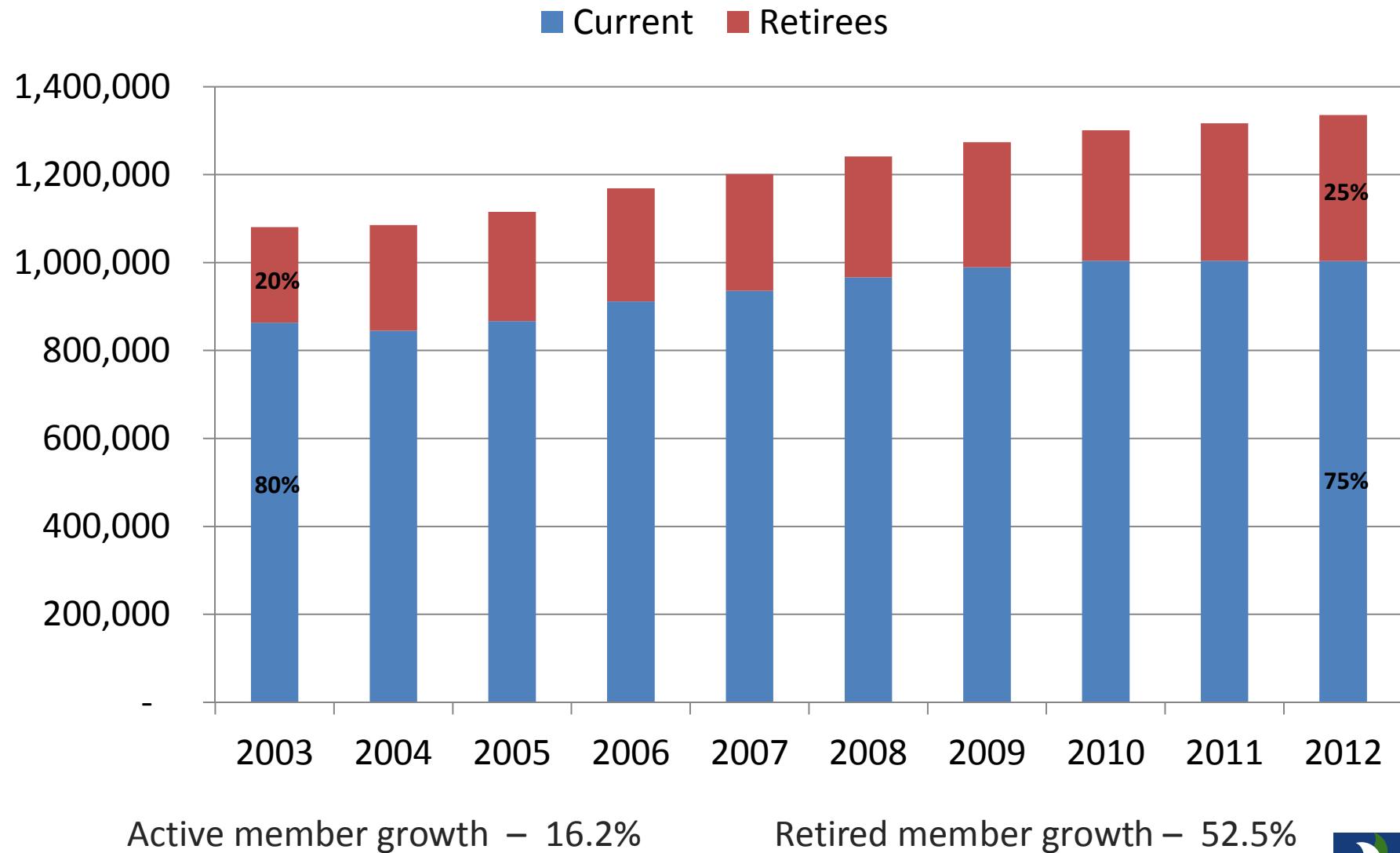
\$8.2 billion

\$4.0 billion addition to net assets



Membership Growth

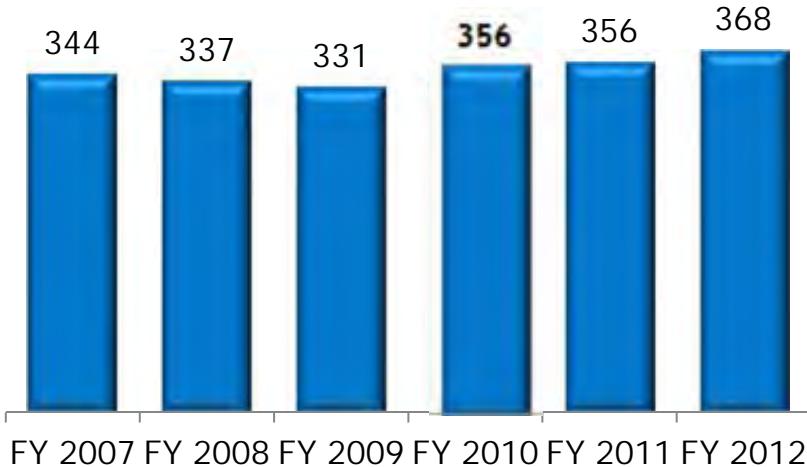
10 Year Trend





Agency FTE Comparison

FTEs - TRS (Not including IMD staff)



FTEs - Investment Management Division (IMD)



- Since fiscal year 2007, TRS' FTE cap has grown by 60 FTEs (14.0 %).
- In FY 2007, the Investment Management Division had 83 (19.4 percent) of the agency's FTEs. Currently IMD has 119 (24.4 percent) of the agency's FTEs. This is a growth of 43.4 percent for that division.
- Excluding FTEs assigned to IMD, the rest of the agency has seen a 7.0 percent growth (24 FTEs) from FY 2007 to FY 2012.
- In addition to FTE amounts shown, IMD utilizes 32 contractors working predominately in Investment Administration and External Public Markets.
- The rest of the agency utilizes 6-9 contractors to supplement staff, mainly in IT and business operations.



Retiree Health Insurance (TRS-Care)

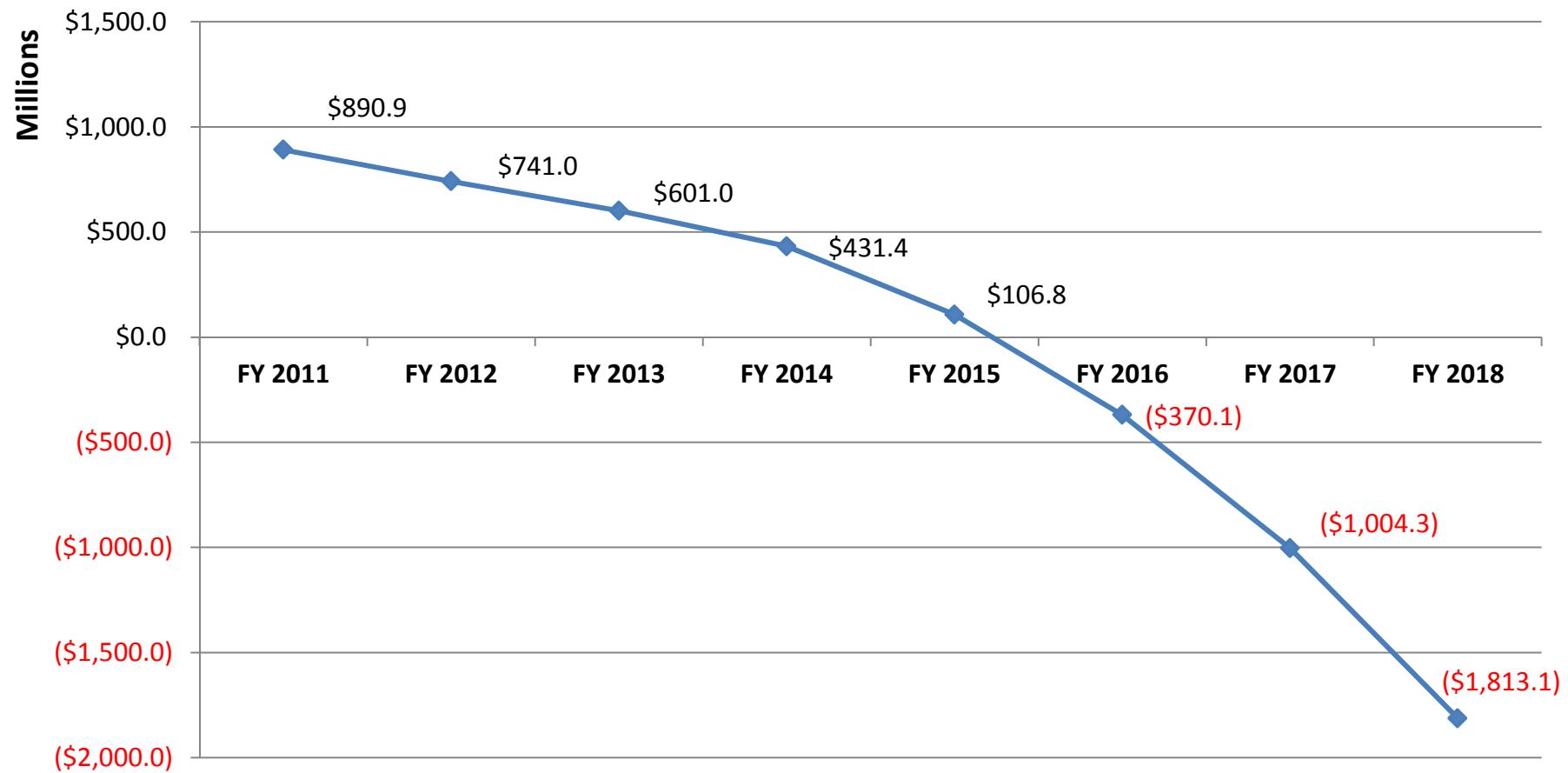
- Created in 1986 as an interim solution, TRS-Care provides health coverage for retired public school employees.
- 234,000 retirees and dependents (as of December 2012).
- Revenues of the TRS-Care Trust Fund are not tied to expenditures.
- With the introduction of the new Medicare Advantage and Prescription Drug Plans, insolvency is expected to be delayed until early FY 2016 (latest participation estimates will be provided at meeting).
- At this time, we do not believe that supplemental funding will be required in FY15 to ensure solvency with the current plan design.



TRS-Care Fund Balances

Trend of Projected Balances...

Ending Balance (Incurred Basis)





TRS-Care Sustainability Study

TRS was instructed by the 82nd Legislature not to increase premium costs for members for health care. They also directed TRS to conduct a study of potential design and other changes to its current TRS-Care health benefit plan to improve sustainability. Options considered were:

1. Pre-fund the long-term liability;
2. Fund on a pay-as-you-go basis for the biennium;
3. Retiree pays full cost for optional coverage;
4. Require Medicare eligible enrollees to purchase Medicare Part B;
5. Opt out consequence for participants eligible for Medicare Advantage and Medicare Part D plans;
6. Tighten eligibility requirements;
7. TRS-Care 1 only for non-Medicare;
8. Defined contribution for non-Medicare retirees to shop in the private market; and
9. Move non-Medicare retirees to TRS Active-Care.



Active Employee Group Health (TRS-ActiveCare)

- TRS-ActiveCare coverage began in 9/2002.
- TRS-ActiveCare is funded by:
 - State contribution \$ 75 per month
 - School district contribution \$150 per month (minimum)
 - Employees Premiums
- Program includes, coverage options and Prescriptions. Will consider premiums, plan design, and enrollment periods at this meeting.
- 470,967 current participants as of 8/31/2012.
- 1,119 participating entities as of 8/31/2012.

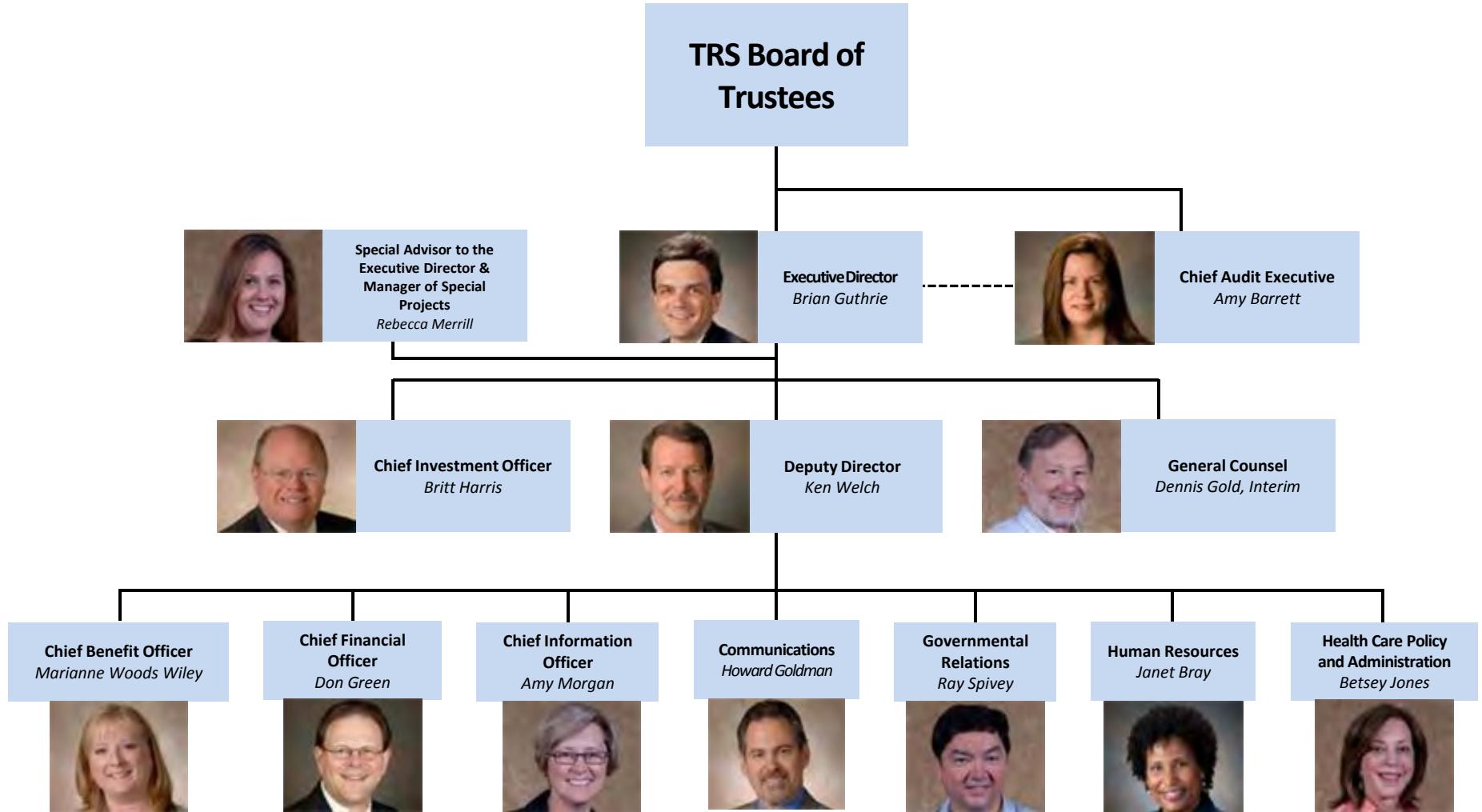


403(b) Certification Program

- Certify Companies and register products within the fee limits set by the TRS Board.
- Maintain a website with registered products. Currently, 70 certified companies with over 9,700 investment options registered.
- Districts may enter into salary reduction agreements only for registered 403(b) products offered by companies certified with TRS.
- By TRS rule, the following fee caps apply:
 - 6% combined front-end and back-end sales load ;
 - 2.75% asset-based fee (annually);
 - 10% surrender/withdrawal charge;
 - \$50 loan initiation fee; and
 - \$50 annual fixed-dollar administrative fee.
- Program funded by a \$3,000 company-paid fee to certify and \$3,000 fee to register products for 5-year period.



Organizational Structure





2012 Accomplishments and 2013 Goals and Objectives



Agency Accomplishments – 2012

- Successfully guided the agency through the Executive Director transition, which included:
 - Promoting CFO to Deputy Director;
 - Bringing in a new CFO and new HR Director;
 - Assigning the Chief Benefit Officer increased responsibility for TEAM;
 - Transitioning Director of Special Projects to Director of Health Care Administration and Policy; and
 - Moving attorney to Executive Office to consolidate staff-related Board functions and oversee Special Projects.



Agency Accomplishments – 2012 (Cont'd)

- Addressed major 2012 challenges, including:
 - Producing the TRS Pension Benefit Design Study, which helped inform the national discussion on the value of public pension plans;
 - Publishing the TRS-Care Study which identified options for improving the sustainability of the retiree health care plan;
 - Working to address workforce continuity issues by steering the agency through a large number of TRS employee retirements and creating a Leadership Development Program to identify future agency leaders;
 - Improving the sustainability of TRS-Care though the adoption of a Medicare Advantage Plan and Prescription Drug Plan; and
 - Increasing TRS' national presence in NCTR, NASRA, and NIR.



Agency Accomplishments – 2012 (Cont'd)

- Successfully managed the TEAM Program by:
 - Issuing three major contracts for TEAM services – project management vendor, data management vendor, and IPA vendor;
 - Mapping over 100 business rules and continuing the mapping process in 2013; and
 - Developing the RFO for the Pension LOB (Issued in early 2013).
- Implemented legislation from the 2011 session, including educating the membership and adopting policies, rules, and procedures as necessary to implement:
 - Actuarial cost of service credit purchase;
 - Standardized school year; and
 - Standardized return to work.



Agency Accomplishments – 2012 (Cont'd)

- Advanced the agency's utilization of technology by:
 - Creating a social media presence on Facebook, Twitter, etc.;
 - Allowing the public to interact with the agency and Board live via web cast (such as live submission and answer of questions on pension and TRS-Care studies at Lubbock retreat); and
 - Moving to electronic Board materials.



Agency Accomplishments – 2012 (Cont'd)

- Top Quartile Investment Results:
 - 13.9% return, \$1.5 billion value-added over benchmark in 2012.
 - Three years as of 9/30 – Top 15% vs. Peers, Top 5% risk-adjusted.
- Earned Industry Best In Class Honors in Multiple IMD Areas:
 - Runner-up for top global fund with assets >\$15B from aiCIO.
 - North American LP of the Year from Private Equity International.
 - Innovative Leadership Award from Toigo Foundation .
- Multiple New Capabilities in IMD:
 - Developed an expanded professional principal investments program.
 - Finalized industry's first Private Strategic Partnership Program and established dedicated SPO unit within IMD.
 - Enhanced technology and risk monitoring capabilities.



Agency Goals for 2013

- In December, I laid out the following goals for 2013:
 - Review the agency's strategic plan and refine as needed;
 - Educate managers on best practices for strategic planning;
 - Implement a performance appraisal system that supports agency values and essential competencies;
 - Continue to emphasize communication with all levels of agency;
 - Attract and retain a new general counsel for TRS;
 - Continue to make progress on the TEAM Program;
 - Address records management and open records issues;
 - Better identify and align goals around TRS Core Values; and
 - Support TRS Board of Trustees by providing educational opportunities and clear communication on progress towards TRS goals.
- I also identified specific goals for a January EC Retreat and for the 83rd Legislative session.





Agency Goals for 2013 – January EC Retreat

Priority Goal – Avoid common pitfalls and overcome preconceived notions regarding the value of retreats:





Agency Goals for 2013 – January EC Retreat (Cont'd)

- Last month, the Executive Council held an offsite retreat moderated by Focus Consulting.
- Retreat objectives:
 - Identify organizational resources, strengths, weaknesses, opportunities, and threats (SWOT);
 - Determine near term and mid-term priorities for the agency and align them with resources;
 - Establish a framework for executive communication, trust building, and team cohesion; and
 - Further develop TRS core values and begin working on TRS leadership culture.



Agency Goals for 2013 – January EC Retreat (Cont'd)

■ High Level Key Findings:

- TRS mission is the key driver for employee fulfillment and success. Achieving the mission exceeds personal compensation as the driver for many TRS professionals.
- Implementation of TEAM is generating both concern and opportunity. Change management is key.
- Retaining institutional knowledge while many TRS employees are either retiring or becoming retirement eligible over the next five years is vital and challenging.
- Public Information Act compliance impacts productivity and causes unease. Working to address these issues through technology and organizational structure.
- The Executive Council will continue to improve on communicating across silos and developing core values.





Agency Goals for 2013 – January EC Retreat (Cont'd)

- The EC identified 20 significant challenges that the agency will face in the next one to three years.
- Using the “wisdom of the crowd” approach through real time voting, participants identified those priorities that are considered “most urgent” and with the “greatest impact.”
- Six “meaningful challenges” were identified:
 - TEAM;
 - TRS-Care and the Legislative Session;
 - FTEs / resources;
 - Potentially volatile markets;
 - Records management and open records; and
 - Improving communication / working across silos in the agency.



Agency Goals for 2013 – January EC Retreat (Cont'd)

- In response to the “meaningful challenges” the EC determined that the agency is well positioned to:
 - Support the TEAM program by:
 - Securing essential resources required for successful completion of each phase.
 - Completing all foundation work timely so that the Line of Business vendor contract is completed on time.
 - Work with the legislature to address TRS-Care funding by educating and informing lawmakers about the nature of the program and the financial constraints.
 - Address potentially volatile markets through optimal positioning of the Trust.



Agency Goals for 2013 – January EC Retreat (Cont'd)

- Four meaningful challenges need more attention:
 - FTE / resource issues:
 - Examine vacancies to determine if reallocation of long-term vacant positions is warranted.
 - Study whether the agency is properly resourced.
 - Records management / open records matters:
 - Realigning or adding staff as necessary.
 - Implementing more efficient processes and procedures, including automation.
 - Creating and maintaining a “Super 16” resource for use in responding to requests.
 - Improve communications and trust:
 - Attend training on both trust development and personality styles.
 - EC meetings will also be restructured to be more efficient and effective.



Agency Goals for 2013 – January EC Retreat (Cont'd)

■ Next Steps:

- Discuss development of an agency culture that values agility, competence, and accountability. Disseminate core values that establish standards by which all TRS team members are expected to adhere.
- Address organizational structure and allocation of resources to most effectively meet the challenges associated with change and the implementation of high impact projects.
- Continue to develop the Executive Council's ability to work together and become more effective in managing the overall agency business.



Agency Goals for 2013 – Legislative Session

- Stand-alone legislation related to TRS-Care, TRS-ActiveCare, and pension benefits, as warranted.
- Omnibus legislation:
 - Board meetings – authorize closed session for audit items and Board-procured items that if discussed in public put TRS at competitive disadvantage.
 - Ethics – seek same materiality and recusal provisions for TRS trustees as provided to ERS trustees.
 - TRS employee information – seek same confidentiality of account numbers and other sensitive information as provided to all other state employees.



Agency Goals for 2013 – Legislative Session (Cont'd)

- Omnibus legislation (Cont'd):

- Pension benefits:
 - allow retiree with beneficiary other than spouse or adult child to change annuity option and eliminate consent requirement for such a change unless the spouse / former spouse is the beneficiary; and
 - provide the TRS Medical Board with the same protection from subpoena as the ERS Medical Board.



Agency Goals for 2013 – Legislative Session (Cont'd)

- Omnibus legislation (Cont'd):
 - Health benefits:
 - modify eligibility for TRS-Care and TRS-ActiveCare to align with new federal health care law; and
 - clarify allowable contributions for optional coverage.
 - TRS records:
 - require TRS covered employers to provide work email for all members; and
 - continue to give TRS discretion to determine which member records are confidential and exempt from disclosure under Public Information Act.



Agency Goals for 2013 – Legislative Session (Cont'd)

- Administrative budget:
 - 100% of funding comes from pension trust fund – not General Revenue.
 - Base bill provides funding at current levels. Includes \$6.8 million for capital projects to address safety issues, postponed building repairs and renovations, and business needs.
 - Request above LBB recommendations includes:
 - 28 additional FTEs (restoration of 15 previously authorized in FY12 and 13 for TEAM and open records requests); and
 - \$19 million for TEAM expenditures relating to the continued ongoing replacement of legacy systems for benefits administration and accounting.



Agency Goals for 2013 - Investments

- Outperform TRS Benchmarks Net of Fees.
 - Passive and Peer, Absolute and Risk-Adjusted Returns.
- Continue to Recruit and Retain Highly Talented Investment Professionals.
 - Effective monitoring and compensation of investment teams.
 - Continue to strengthen culture, training, and professionalism.
- Effectively Implement Modified IMD Organization Structure.
 - Continue development of new units, increase collaboration, and expand internal skills in key areas.
- Implement New Investment Strategies.
 - Energy & Natural Resources, Currency, Risk Premia, etc.



Agency Goals for 2013

■ How Do we Measure Success?

- For some goals, especially legislative goals, success depends largely on the context; and
- TRS will engage an external consultant to assist with assessing and measuring success of Executive Director, Chief Investment Officer, and Chief Audit Executive.



2013 Agenda Calendar



2013 Board Agendas

April 18-19, 2013 Major items include:

- Board – Presentation from Focus Consulting on process for ED, CIO, and CAE evaluations, report on Q4 earnings, actuarial valuation update, legislative update, TEAM update & IPA vendor presentation, Board election update, adopt HUB goals, and discuss facilities planning.
- Committees – Staff recommendations on 2014 Budget, Internal Management Annual Review, Investment Risk Report and Annual Report on Securities Lending Program, reviewing the Voucher Authority Policy, Sagebrush audit of TRS-ActiveCare, and receive SAO's Report on Ethics Policies Follow Up Audit.



2013 Board Agendas

June 13-14, 2013 Major items include:

- Board – Report on Q1 earnings, adopt FY 2014 Budget, adopt TRS-Care rates, legislative update, State Street update, and Board election results.
- Committees – Review Private Equity and Real Assets and receive first overview of Energy & Natural Resources, begin review of 403(b) rules, receive Enterprise Risk Management Report, receive Benefit Services Division statistics report, receive SAO's audit of incentive compensation and results of health care administration audit.



2013 Board Agendas (Cont'd)

July 26, 2013 Major items include:

- Board – Interview and consider selection of fiduciary counsel, legislative implementation, certify state contributions to TRS-Care, authorize purchase of D&O and fiduciary liability insurance.

September 12-13, 2013 Major items include:

- Board – Welcome three new TRS Trustees, receive committee chairman and concur on committee appointments, adopt Board calendar for FY 2014, report on Q2 earnings, discuss ED's goals and objectives for FY 2014, evaluate ED, CIO, and CAE.
- Committees – Review External Public Markets Portfolio, begin review of Mission Statement, begin review of the Proxy Voting Policy, review the Investment Risk Report, and consider the annual audit plan for FY 2014 and evaluation and compensation of Chief Audit Executive.





2013 Board Agendas (Cont'd)

October 18, 2013 Major items include:

- Agenda is under development.

December 13-14, 2013 Major items include:

- Board – Report on Q3 earnings, Pension Fund and Health Care Valuations as of 8/31/2013, CAFR.
- Committees – Review Strategic Asset Allocation / Stable Value, Tactical Asset Allocation, Risk, and Strategic Partnerships and Opportunistic Investments, begin review of Soft Dollar, Securities Lending, and staff ethics policies, receive Enterprise Risk Management Report, receive Benefit Services Division statistics report and Communications Division Web Site Statistics Report, receive SAO's report on the results of the FY2013 financial audit.



Major Items Beyond 2013

- Trust Fund Asset Allocation Study – Begin work in early CY 2014.
- 816 Lease expires in early CY 2015. Facilities planning discussions this year.
- Custodial Services – State Street contract (including extension) expires in early CY 2015.
- Securities Lending – State Street contract (including extension) expires in late CY 2015.
- Dr. Brown – contract expires mid CY 2015.
- Pension Fund Experience Study – Due early CY 2016. Study will be “as of” 8/31/2015.
- HEK – contract expires mid CY 2016.



Trustee Training Calendar



Board Orientation Materials Review



Board Orientation Materials Review

- Three new Trustees in September.
- Begin a review of the Board orientation materials to determine:
 - Which materials are required under statute;
 - What information is necessary to assist the Board in its fiduciary duty;
 - What needs to be updated; and
 - Whether any information can be condensed or eliminated.
- Seeking Trustee opinion on the training materials through a survey conducted to provide input directly to the ED.



Review of Trust Results, Market Conditions and Outlook

Britt Harris
Chief Investment Officer
February 2013

Agenda

- I. Current TRS Results
- II. Pension Benefit Design
- III. What Markets Are Discounting
- IV. Outlook for Markets & Economics
- V. Outlook for Environment & Bubbles
- VI. Best/Worst Ideas For 2013
- VII. GMO Intermediate-Term Forecast
- VIII. New Normal
- IX. Energy, Infrastructure and Water
- X. 10-Year Required Return Over Bonds



Current TRS Pension System

- Assets: \$114.4 billion
- Annualized Returns
 - 1 Year – 13.9%
 - 3 Year – 10.0%
 - 10 Year – 8.0%
 - 25 Year – 9.1%
- Funding Status
 - Funded Ratio – 82%
 - Duration – 24 Years
 - Exhaustion Date – 2065
 - FY12 Contributions – \$4.4 billion
- FY12 Benefits Paid – \$7.8 billion
- Asset Allocation Policy
 - 62% Global Equity
 - 18% Stable Value
 - 20% Real Return
- Other Issues
 - GASB Changes
 - Defined Benefit vs. Defined Contribution
- Other Key Points
 - Trust has earned more than \$45 billion over last four years
 - Ranks in Top 15% against other similar pension funds
 - Total return
 - Risk-adjusted return
 - Second largest “return-seeking” enterprise in Texas (after Exxon Mobil)
 - Named second-best large pension fund in the world by aiCIO (2012)



Pension Benefit Design Study

Defined Benefit Representative Changes for All Current Active Members

Provision	Representative Change	Unfunded Liability	State Contribution Rate for Actuarial Soundness*
Current Provisions as of August 31, 2012		\$26.1B	8.62%
Retirement Eligibility For All Current Members Not Yet Eligible to Retire	Rule of 80 & Minimum Age 62	\$13.9B	6.35%
Retirement Eligibility For Current Members Not Yet Eligible to Retire <u>With 5 Year Grandfather</u>	Rule of 80 & Minimum Age 62	\$ 17.3B	6.92%
Salary Averaging Period	7 Years	\$23.0B	7.77%
Accrual Multiplier	2.0% Per Year	\$24.5B	7.26%
Member Contribution Rate	7.4% Per Year	\$25.4B	7.80%

* State contribution rate for actuarial soundness is based on smoothed assets and is the rate necessary to pay for new benefit accruals and amortize the unfunded liability of \$26.1 billion over a period that is less than 31 years.

Return Projections (Market Return Only)

- Intermediate: 4.5% Gross of Fees (4% Net) – GMO Assumptions (7 years)
- Long Term: 8.4% Gross of Fees (8% Net) – JP Morgan (Long Term)



What Markets Are Discounting

Lowest Implied Growth Rates for 100 Years

Real Long-Term Growth Rate Implied By Equity Market	
Pre-crisis	3%
Early 2011	2%
Today	Negative

- Last 18 months: corporate earnings up 20%, bond yields down 1.5%
- Absent the drop in rates, this change in discounted growth rate would equate to a 35% price drop for stocks

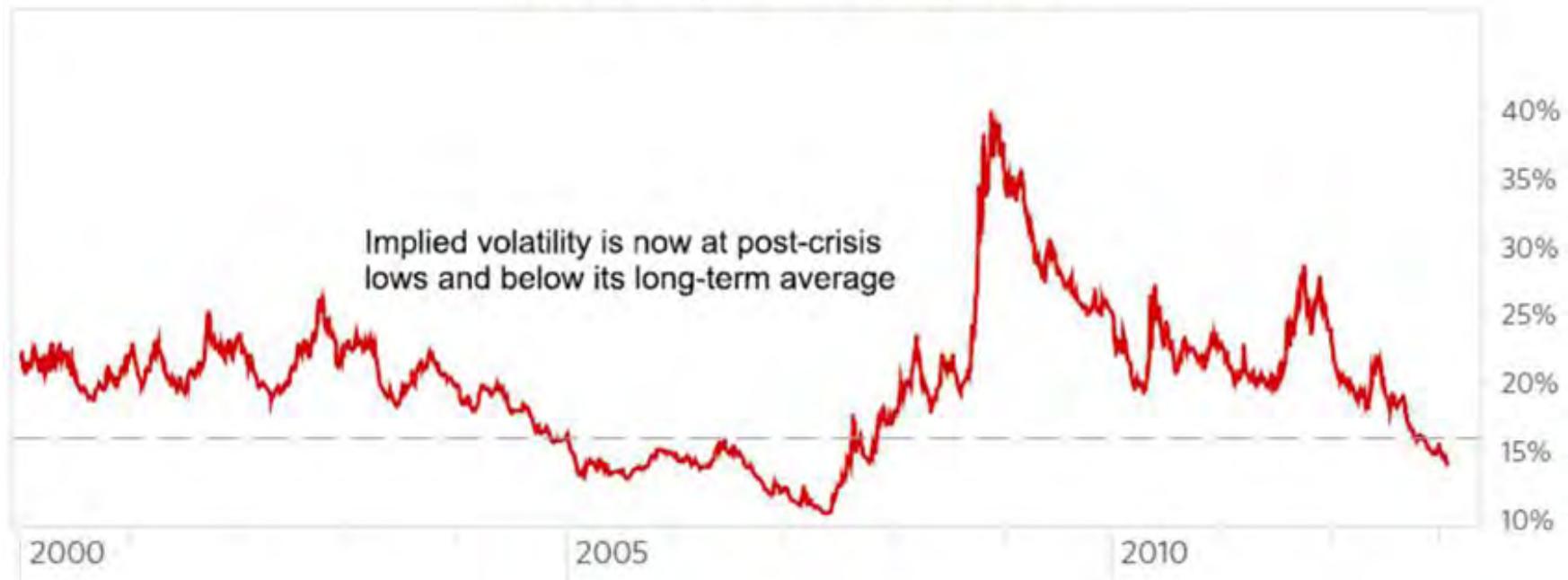


What Markets Are Discounting

Volatility Below Long-Term Average

- Sustained deleveraging and its deleterious effects on growth now fully priced in
- Convergence of discounted conditions with actual conditions reduces the pressure for markets to move

Global Implied Volatility Index



2013 Outlook Report

Strategist Forecasts for the S&P 500

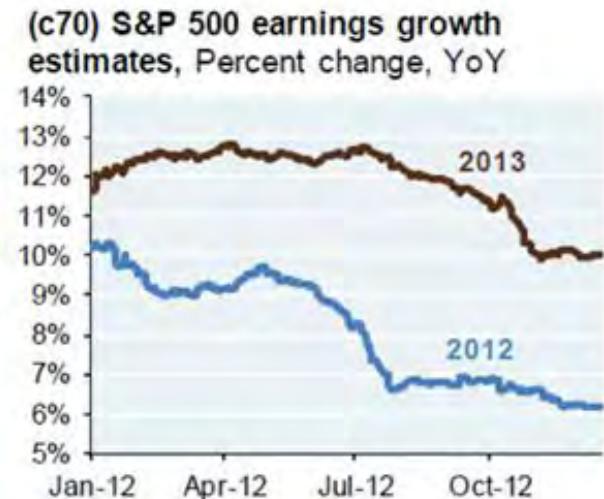
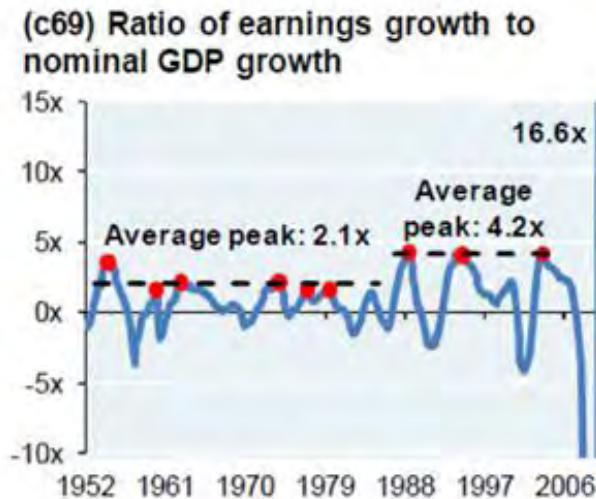
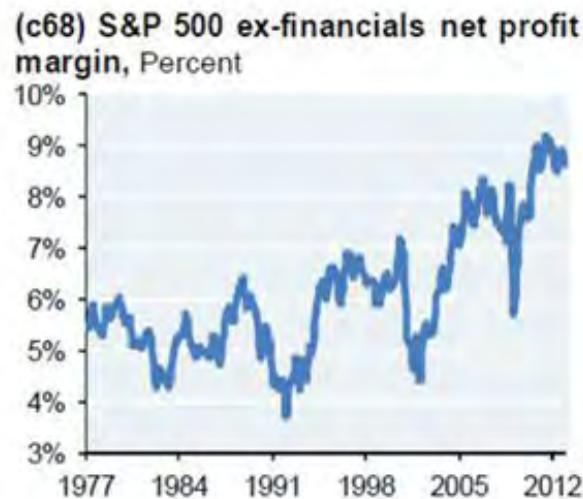
		2013		2012			2011			2010		
		01/02/13		01/04/12			01/04/11			01/04/10		
		%	Forecast	upside	%	Forecast	upside	Over / under	%	Forecast	upside	Over / under
Citigroup	Tobias Lefkovich	1,615	13.2%	1,425	13.3%	-0.1%	1,400	11.3%	11.3%	1,175	5.4%	-6.6%
Bank of America	Savita Subramanian	1,600	12.2%	1,350	7.3%	-5.3%	1,400	11.3%	11.3%	1,275	14.3%	1.4%
Oppenheimer	John Stoltzfus	1,585	11.1%	1,400	11.3%	-1.8%	1,325	5.4%	5.4%	1,300	16.6%	3.4%
JP Morgan	Thomas Lee	1,580	10.8%	1,430	13.7%	0.3%	1,425	13.3%	13.3%	1,300	16.6%	3.4%
Bank of Montreal	Brian Belski	1,575	10.4%				1,350			1,175		
Deutsche Bank	David Bianco	1,575	10.4%	1,500	19.3%	5.2%	1,550	23.2%	23.3%	1,325	18.8%	5.4%
Goldman Sachs	David Kostin	1,575	10.4%	1,250	-0.6%	-12.4%	1,450	15.3%	15.3%	1,250	12.1%	-0.6%
HSBC	Garry Evans	1,560	9.4%	1,250	-0.6%	-12.4%	1,320	5.0%	5.0%	1,225	9.9%	-2.6%
Credit Suisse	Andrew Garthwaite	1,550	8.7%	1,340	6.6%	-6.0%	1,250	-0.6%	-0.6%	1,125	0.9%	-10.5%
Barclays	Barry Knapp	1,525	6.9%	1,330	5.8%	-6.7%	1,420	12.9%	12.9%	1,120	0.4%	-10.9%
Weeden	Christopher Harvey	1,525	6.9%									
Stifel Nicolaus	Barry Bannister	1,500	5.2%									
Morgan Stanley	Adam Parker	1,434	0.5%	1,167	-7.2%	-18.2%	1,238	-1.6%	-1.6%	1,200	7.6%	-4.6%
UBS	Jonathan Golub	1,425	-0.1%	1,325	5.4%	-7.1%	1,325	5.4%	5.4%	1,250	12.1%	-0.6%
Wells Fargo	Gina Martin Adams	1,390	-2.5%	1,360	8.1%	-4.6%						
Average		1,534	7.6%	1,344	6.9%	-5.8%	1,371	9.0%	9.2%	1,227	10.0%	-2.1%
Median		1,560	9.4%	1,345	6.9%	-5.7%	1,375	9.3%	11.3%	1,238	11.0%	-0.6%
Actual				1,426	13.4%		1,258	0.0%		1,258	12.8%	

Five Most Accurate Forecasters

Oppenheimer	John Stoltzfus	1,585	11.1%	1,400	11.3%	-1.8%	1,325	5.4%	5.4%	1,300	16.6%	3.4%
UBS	Jonathan Golub	1,425	-0.1%	1,325	5.4%	-7.1%	1,325	5.4%	5.4%	1,250	12.1%	-0.6%
JP Morgan	Thomas Lee	1,580	10.8%	1,430	13.7%	0.3%	1,425	13.3%	13.3%	1,300	16.6%	3.4%
Credit Suisse	Andrew Garthwaite	1,550	8.7%	1,340	6.6%	-6.0%	1,250	-0.6%	-0.6%	1,125	0.9%	-10.5%
Citigroup	Tobias Lefkovich	1,615	13.2%	1,425	13.3%	-0.1%	1,400	11.3%	11.3%	1,175	5.4%	-6.6%
Average		1,551	8.8%	1,384	10.1%	-3.0%	1,345	6.9%	6.9%	1,230	10.3%	-2.2%
Median		1,580	10.8%	1,400	11.3%	-1.8%	1,325	5.4%	5.4%	1,250	12.1%	-0.6%
Actual				1,426	13.4%		1,258	0.0%		1,258	12.8%	

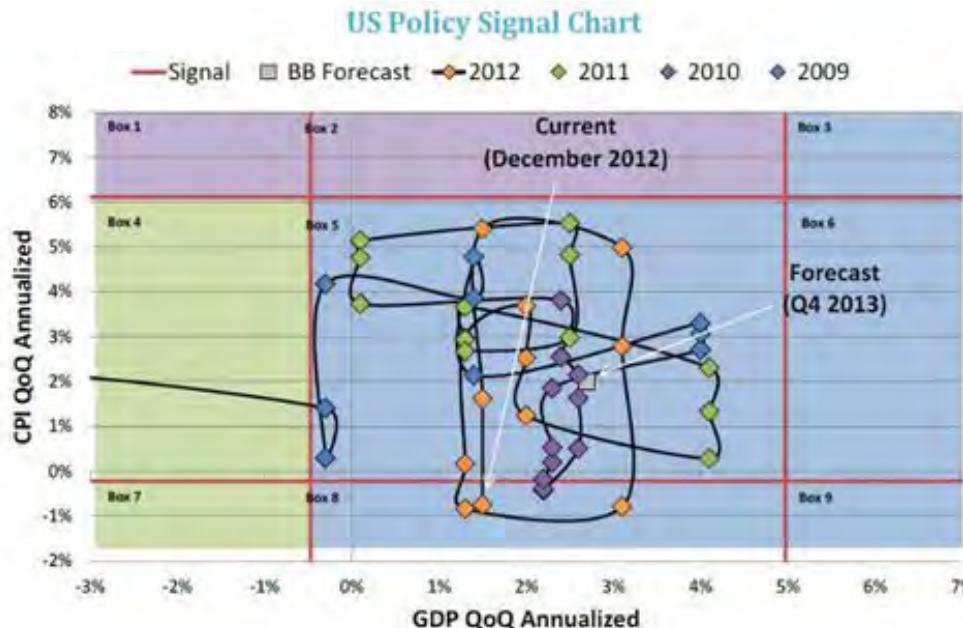
Outlook for 2013

Earnings/Economic Trends



Outlook for 2013

Environmental and Bubble Reports



Global Macro Environment

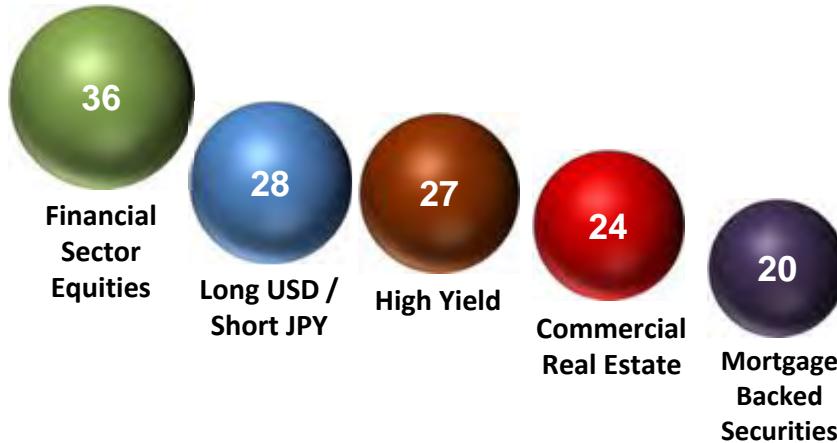
Region	Q4 2011	Q1 2012	Q2 2012	Q3 2012
US	Box 5	Box 5	Box 8	Box 5
Non-US G7 ex-Japan	Box 5	Box 5	Box 5	Box 5
Japan	Box 2	Box 2	Box 5	Box 5
EM ex-China	Box 5	Box 5	Box 5	Box 5
China	Box 5	Box 4	Box 4	Box 4

- Most markets in Global Equity environmental regime
- No active bubbles – most recent ones have been in developed market sovereign debt

Best Ideas Survey 2013

Top 5 Ideas

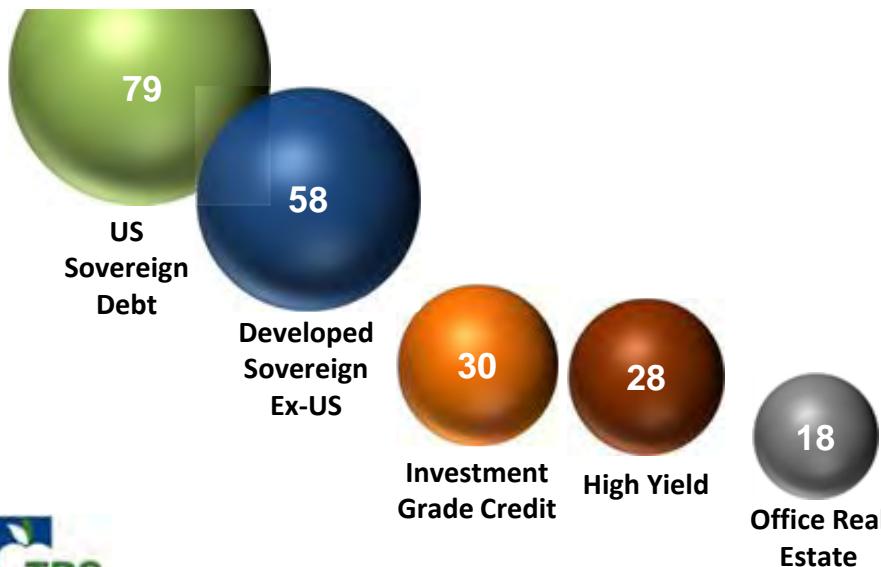
One Year Most Attractive



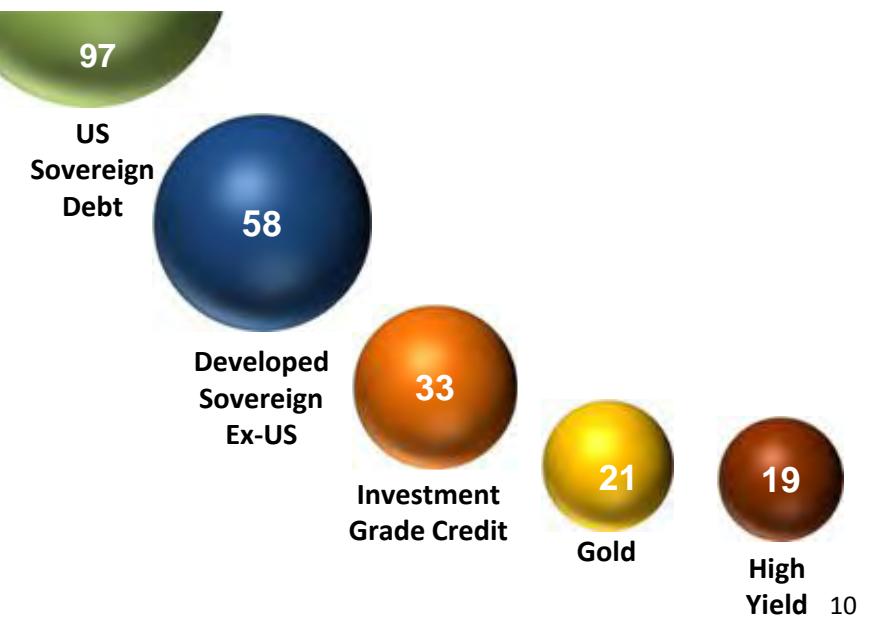
Three Year Most Attractive



One Year Least Attractive

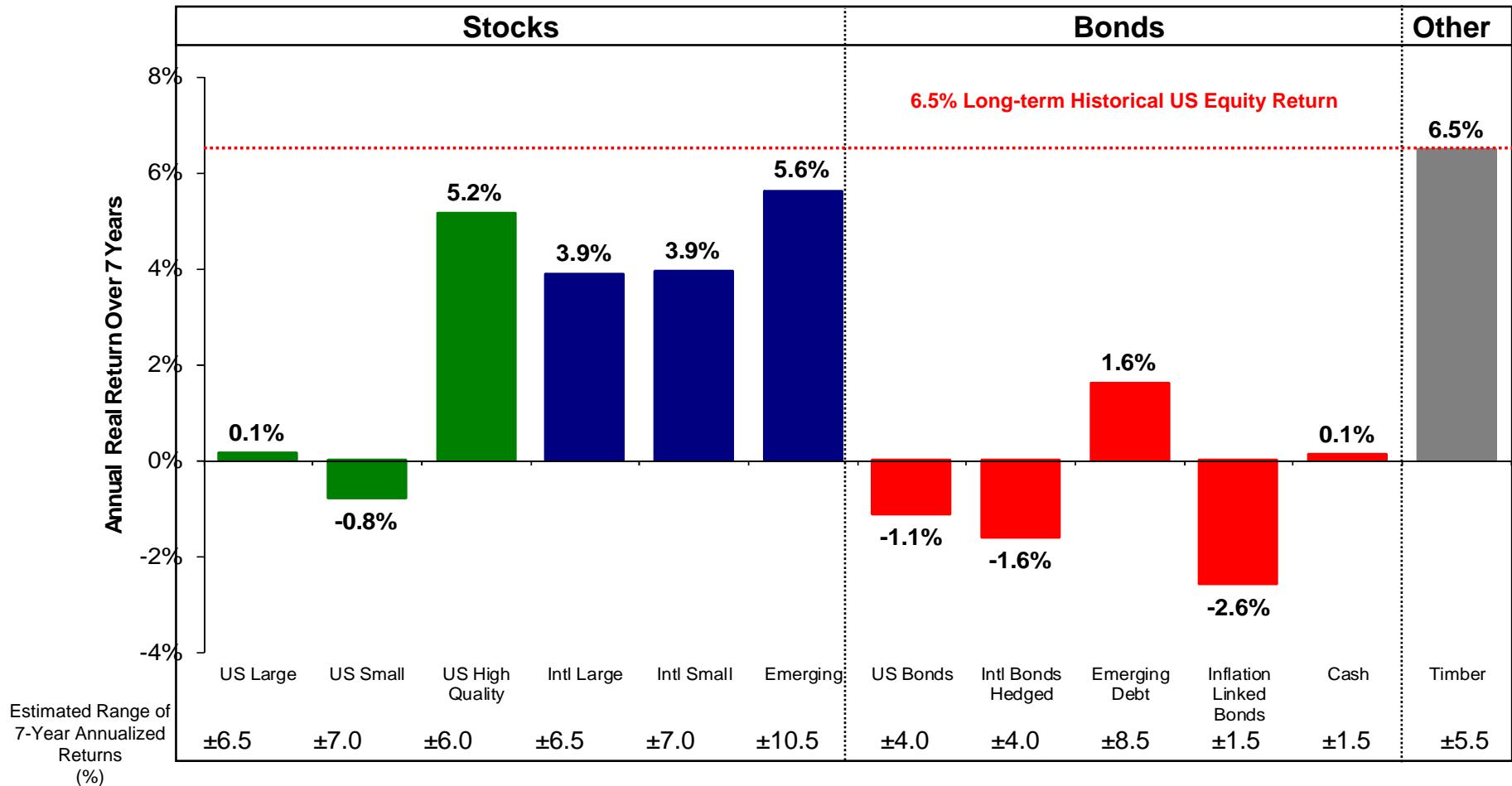


Three Year Least Attractive



Note: Numbers in the bubbles represent the total number of votes for an asset

GMO 7-Year Asset Class Return Forecasts

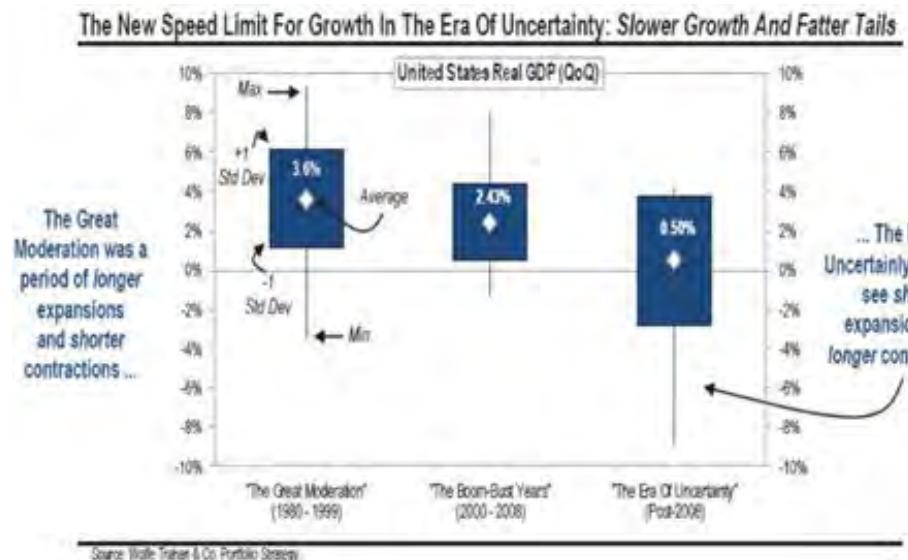


*The chart represents real return forecasts for several asset classes and not for any GMO fund or strategy. These forecasts are forward-looking statements based upon the reasonable beliefs of GMO and are not a guarantee of future performance. Forward-looking statements speak only as of the date they are made, and GMO assumes no duty to and does not undertake to update forward-looking statements. Forward-looking statements are subject to numerous assumptions, risks, and uncertainties, which change over time. Actual results may differ materially from those anticipated in forward-looking statements. US inflation is assumed to mean revert to long-term inflation of 2.2% over 15 years.



Source: GMO as of December 31, 2012

The “New Normal”



Old vs. New Normal Dynamics: Drivers Of Consumption & Investment

Sources Of Stimulus	"The Great Moderation" (1980 - 1999)	"The Boom-Bust Years" (2000 - 2008)	"The Era Of Uncertainty" (Post-2008)
Monetary Policy			
Fed Funds Rate	✓	✓	✗
Long-Term Yields	✓	✓	✗
Fiscal Policy			
Tax Policy	✓	✓	✗
Government Spending	✓	✓	✗
Inflation			
Low Commodity Prices	✓	✗	✗
Consumer			
Consumer Credit	✓	✓	✗
Wage Growth	✓	✓	✗

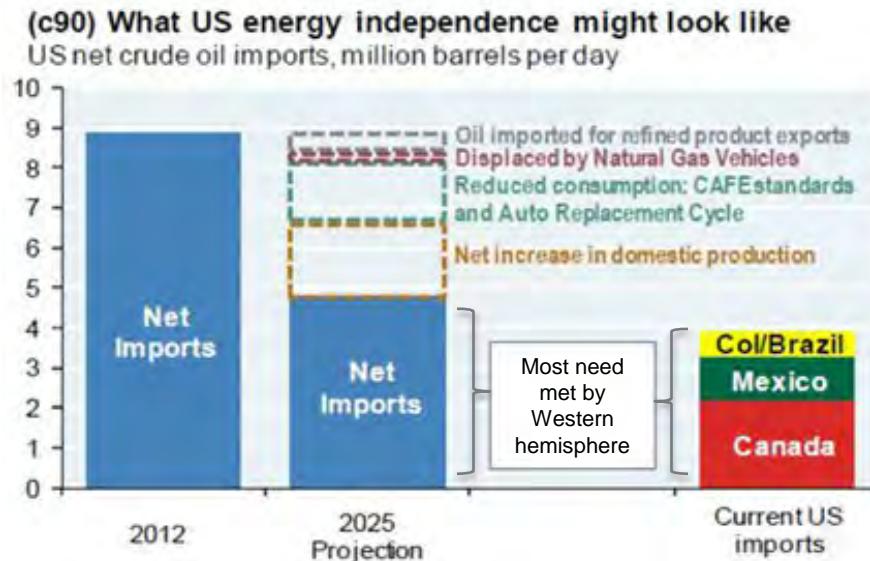
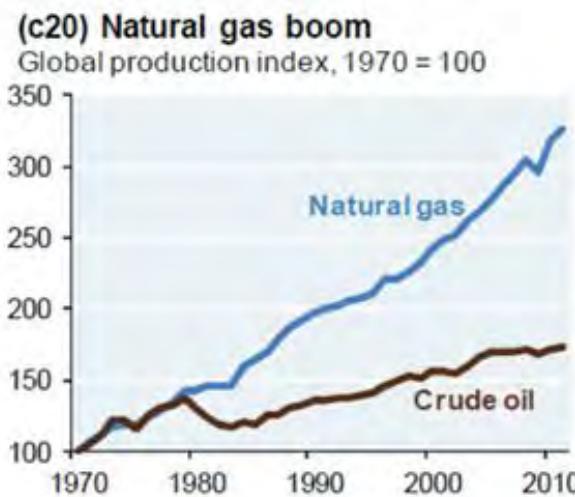
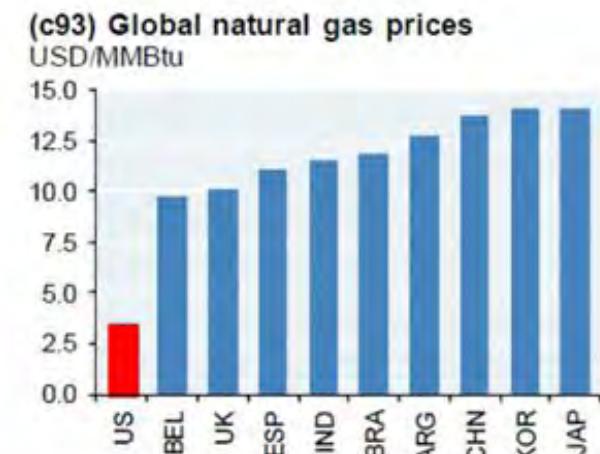
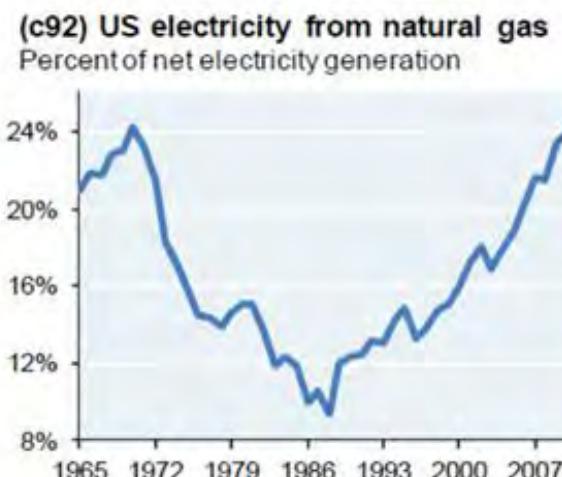
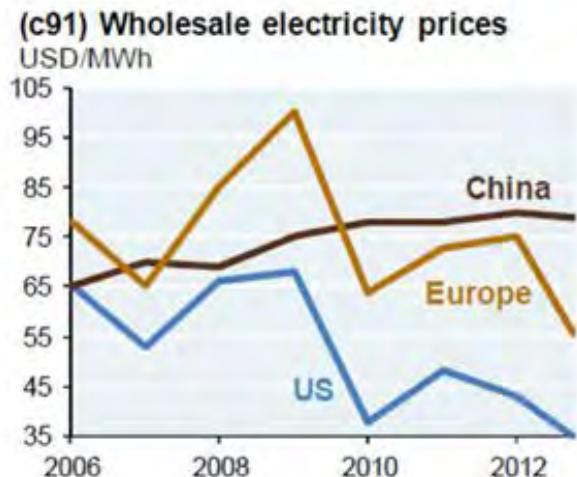
- Tenet #1** • Inflation in The U.S. Is At The Mercy Of The Butterfly Effect Of EM Growth
- Tenet #2** • Consumer Debt Is The New Inventories
- Tenet #3** • Monetary Policies Are Ineffective In A World Of Zero Interest Rates (ZIRP)
- Tenet #4** • Fiscal Stimulus Is Untenable When Gov't Debts & Deficits Are At Unsustainable Levels
- Tenet #5** • Inflation Matters More Than It Used To ... Ascension By Attrition

- Diminishing secular tailwinds = lower, more volatile growth
- Equity markets have become more difficult to navigate
- More economic surprises, markets have become more macro-driven
- “Safe haven” assets are now increasingly problematic



Source: Wolfe Trahan

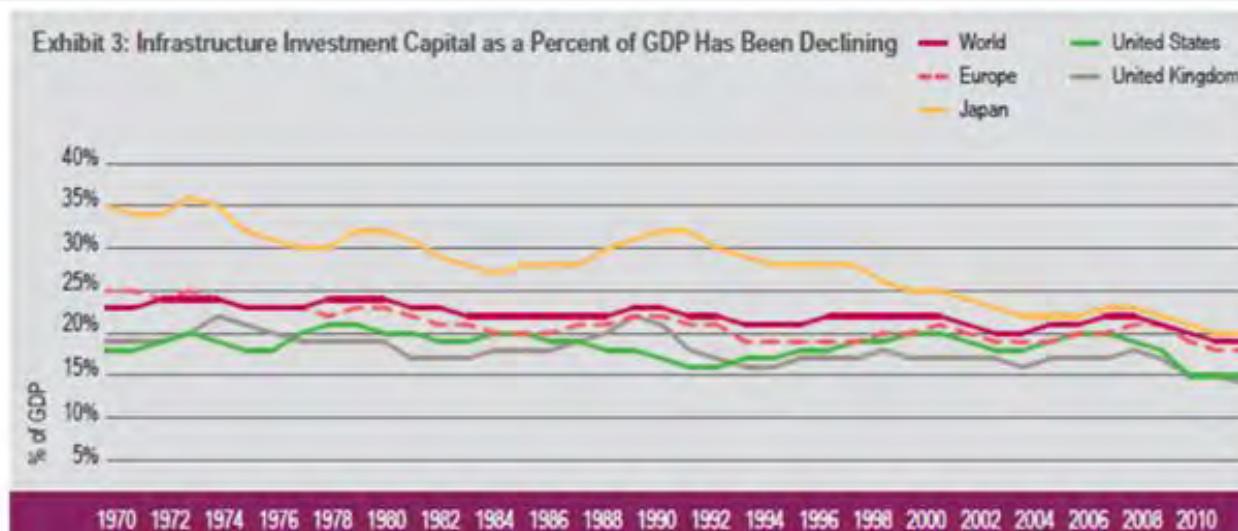
Energy Market Outlook and Factors



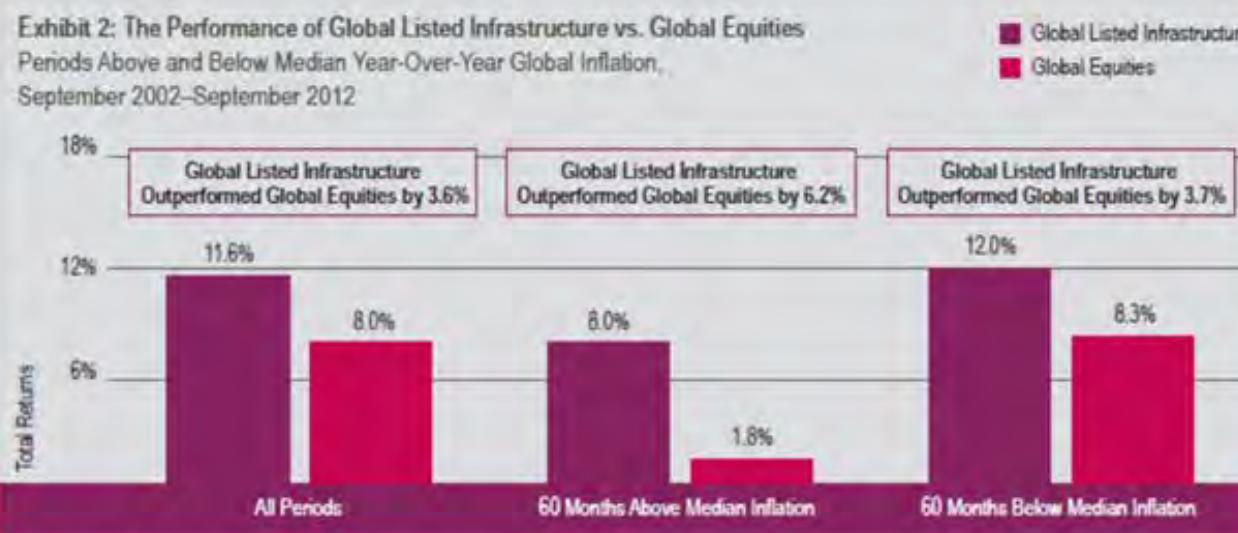
Source: JP Morgan



The Case for Infrastructure Investment



As of December 31, 2011. Source: World Bank.



As of September 30, 2012. Source: ISI Group, Bloomberg and Cohen & Steers.

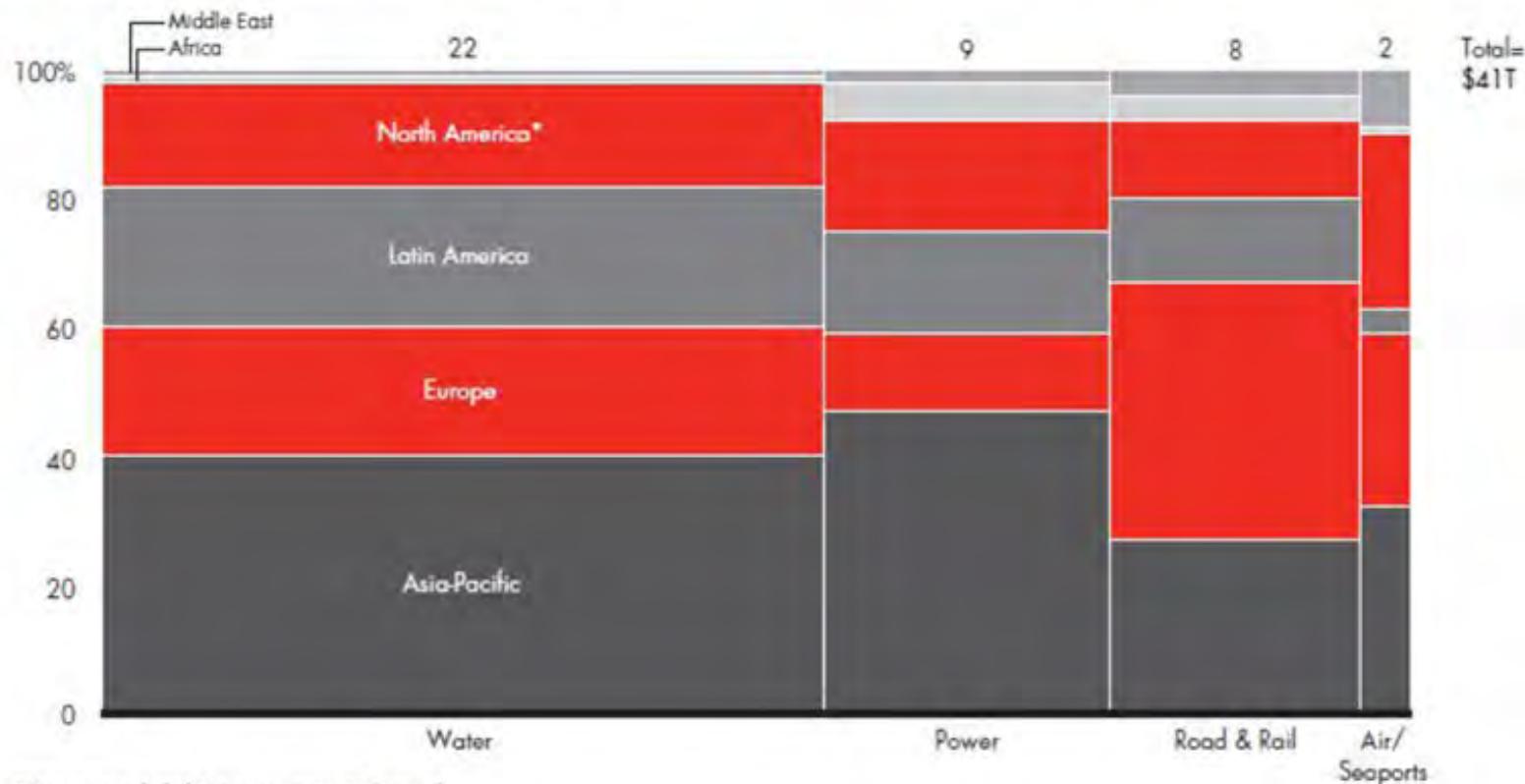


Source: Cohen & Steers

The Case for Infrastructure Investment

Cumulative infrastructure spending through 2030 is expected to be \$41 trillion, about half of it in advanced economy regions

Projected cumulative infrastructure spending, 2005–2030

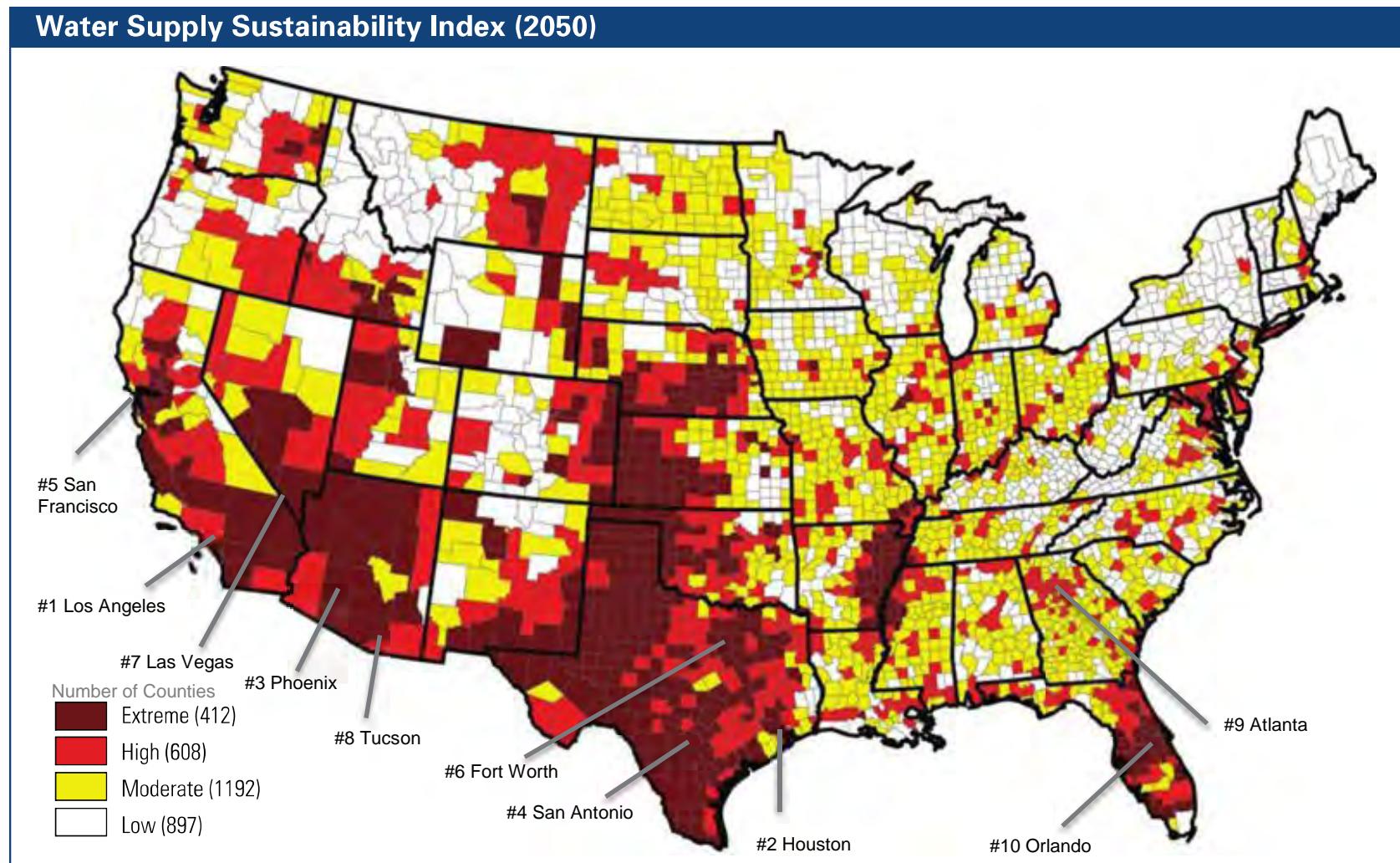


*Mexico is included in Latin America in this analysis

Note: Investment needed to modernize obsolescent systems and meet expanding demand

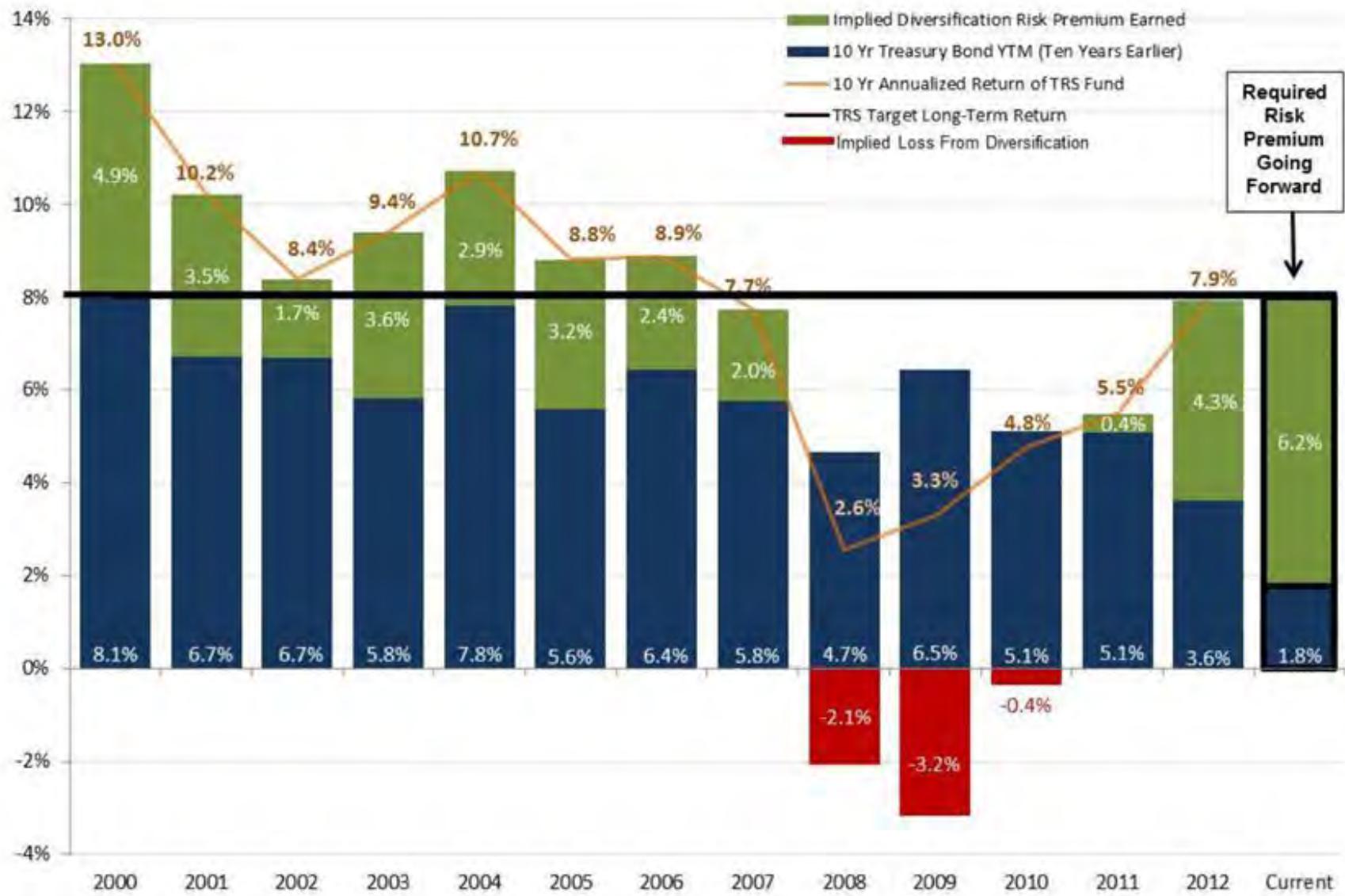
Sources: Cohen & Steers, Global Infrastructure Report 2009: The \$40 Trillion Challenge; OECD Infrastructure to 2030 (2006)

Water: Ten Cities At Risk of Running Out



- US has ample water supplies in total, but supply shortages may be created by population growth and economic activity in stressed areas

Historical Ability to Earn 8%





Principal Investments Overview

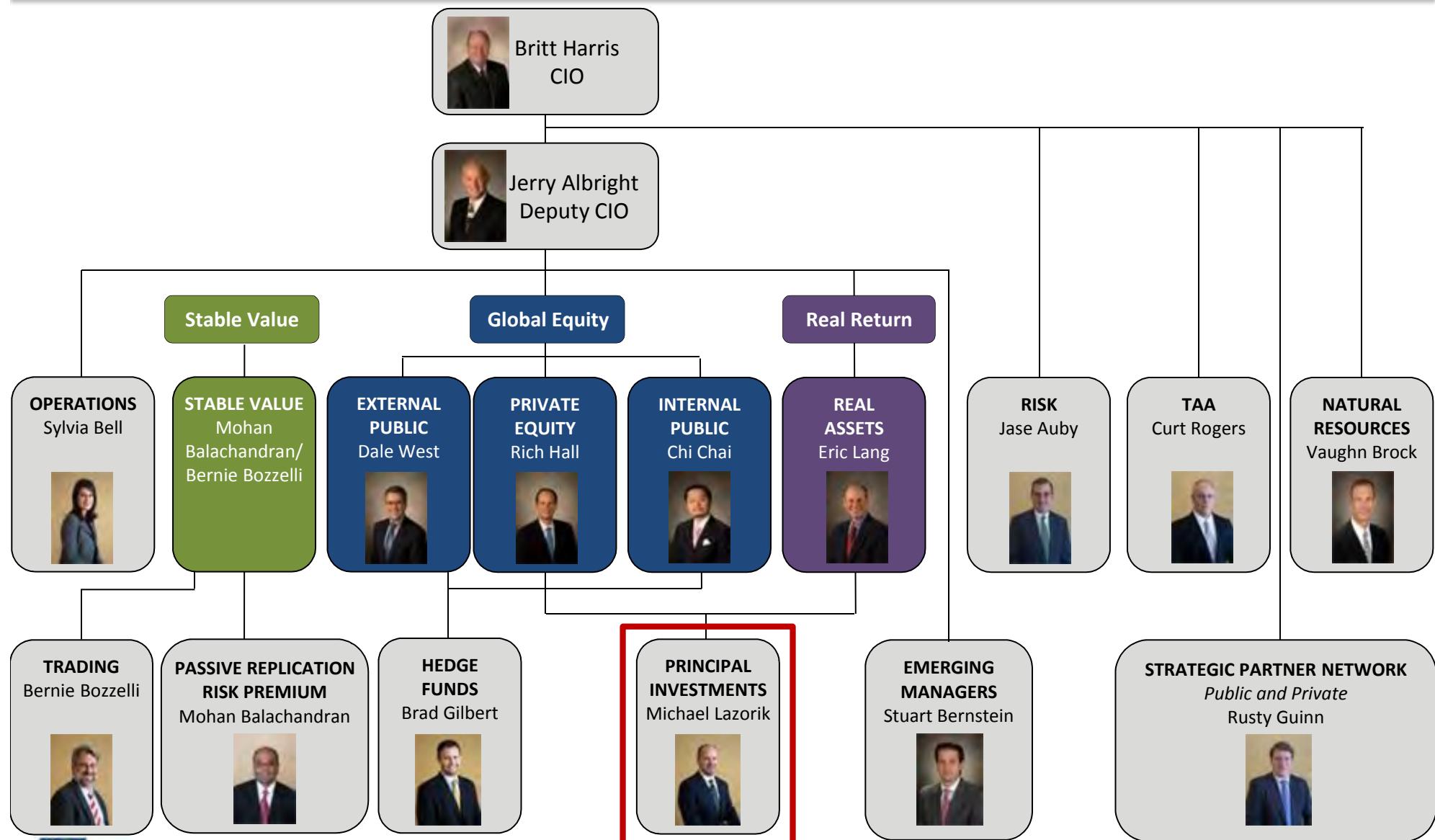
Jerry Albright, Deputy Chief Investment Officer
February 2013

Agenda

- I. Long Term Goals and Objectives
- II. Competitive Market Dynamics
- III. Infrastructure, Resources, and Processes



TRS Investment Management Division



TRS Principal Investment Program

Long-Term Goals and Objectives

- **Principal Investments to become a meaningful portion of NAV**
 - Currently 20% of NAV for both Private Equity and Real Assets
- **Integrate Principal Investments across the Global Equity platform**
 - Further leverage IMD global equity capabilities
 - Develop broader sourcing channels across TRS
 - Refine process, sourcing/origination, execution and monitoring
- **Extend brand and solidify external relationships to be “First Call / Partner of Choice”**
 - Increasingly competitive environment for high quality alpha generation
 - Yield starved financial regime challenging underwriting hurdles
 - TRS top peers and Sovereign wealth funds continue to expand similar efforts
- **Source of Alpha**
 - Enhanced returns through reduced fees/carry
 - Enhance fund selection through knowledge obtained in interactions with GPs
 - Share in transactions fees and expenses
 - Originate potential investments through TRS research and partner with domain expertise
- **Diversification through vintage, sector, strategy, geography, and partner selection**



Competitive Market Dynamics of Principal Investments

What competitive advantages are required for TRS to be successful?

- Our partners have told us that to be a “first call” investor we must be able to
 - Respond in a timely manner
 - Be knowledgeable and focus on key issues
 - Provide a significant amount of capital if investment is attractive

The competitive advantages necessary to accomplish this are:

- Team of informed investment professionals
 - Agile teams of knowledgeable investors dedicated to Principal Investments
 - Provided with necessary resources
- Timely decision making process
 - Clear roles, responsibilities and accountability
 - Clearly identified deal leaders and decision makers
- Cross-asset class mandate
 - Agnostic to traditional asset classifications (i.e. silos)
 - Ability to pursue / capitalize on diverse transaction structures/investment opportunities
- Global perspective
 - TRS is at the center of everything - learn to identify and use the information flow
- Premier investment network
 - Fewer, but deeper, strategic relationships with best-in-class partners
 - TRS becomes an expert partner



Infrastructure, Resources, and Processes

What infrastructure and processes have been put in place at TRS?

Phase I

- **Successful Launch (2009 – 2010)**

- “Proof of Concept” period
- Selected top GPs and created a standardized process
- Launched Co-Investment Funds with Blackrock (\$250 million) and LaSalle (\$200 million)
- Invested \$160 million in 4 Private Equity Principal Investments
- Invested \$2 billion in 12 Real Assets Principal Investments
- Expanded Team (Mike Lazorik and Blackrock Associate program)

Phase II

- **Expansion of Program (2011 – 2012)**

- Follow-on commitments \$400 million and \$200 million to BlackRock and LaSalle, respectively
- Invested \$495 million directly into 6 Private Equity Principal Investments
- Invested \$423 million directly into 10 Real Assets Principal Investments
- Refined list of Core PI Partners
- Improved diligence process to take advantage of available internal and external resources, leveraging inherent TRS capabilities
- Expanded Team (Jeff Edwards)

Phase III

- **Continue Maturation of Program (2013)**

- Working with TRS functional areas (Internal Audit, Legal, Operations) to further enhance Principal Investment process
- Further integrate Principal Investments across the Global Equity platform
- Extend brand and solidify external relationships to be the “First Call or Partner of Choice”



Private Strategic Partnership Network

Apollo Global Management

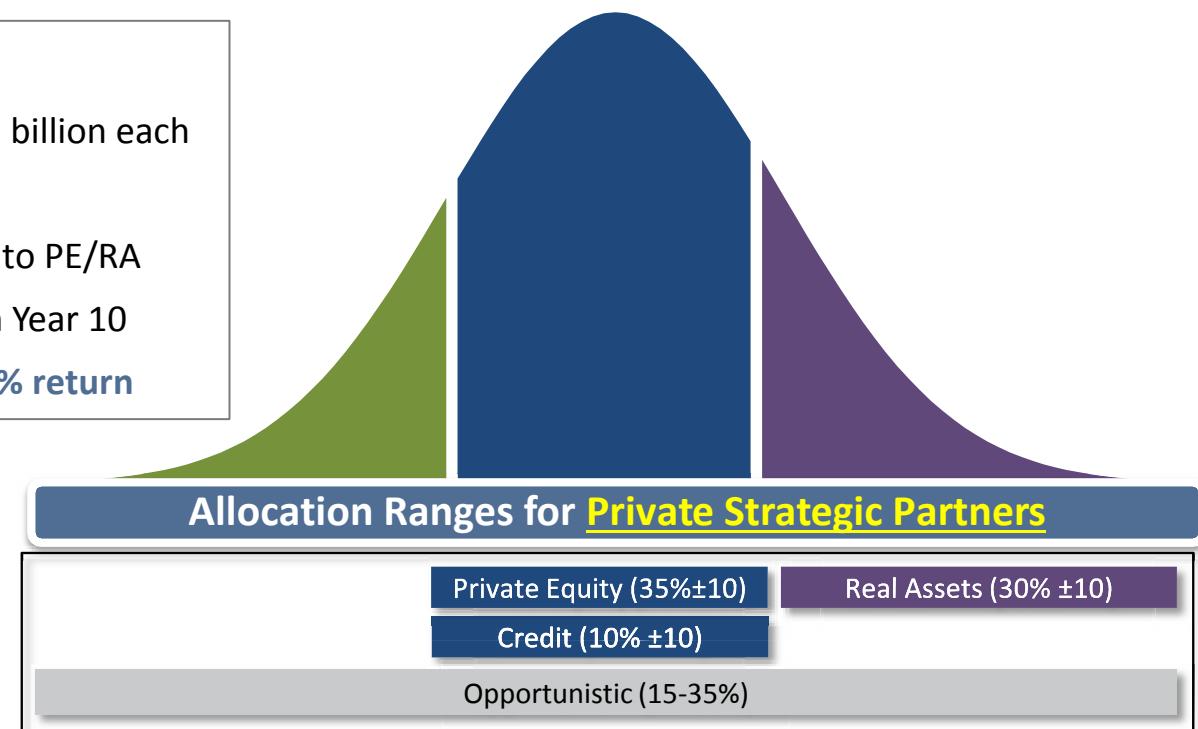
- AUM: \$110 billion
- Opportunistic, open to investments outside of the core fund mandates
- Excel in down markets and poor credit environments
- Existing Strategic Partnership with South Carolina
- Lots of diversity, lower quality focus

KKR & Co.

- AUM: \$66 billion
- Strong senior leadership and founders of the LBO
- Small, good diversity, high quality focus
- Core focus in buyout space
- Great communication and “can do” attitude

Private SPN Features

- Two partnerships with \$3 billion each
- Invested over five years
- 30% of TRS Commitment to PE/RA
- Perpetual capital through Year 10
- **Target net annualized 13% return**



Private Strategic Partnership Commitments

As of December 31, 2012

- TRS had \$724 million committed to KKR through 7 investments outside of the Strategic Partnership
- TRS had \$1,632 million committed to Apollo through 6 investments outside of the Strategic Partnership

PRIVATE STRATEGIC PARTNERSHIP COMMITMENTS						
(\$ in millions)	Total	Capital Committed	Capital Called	Commitment Remaining	TRS Policy Limits	Current % of Trust ¹
KKR	\$3,000	\$2,100	\$431	\$1,669	6.0%	3.4%
Apollo	\$3,000	\$850	\$118	\$732	6.0%	4.0%
Total	\$6,000	\$2,950	\$549	\$2,401		

KKR SPN Commitments To-Date			Apollo SPN Commitments To-Date		
(\$ in millions)	Year	Committed (\$)		Year	Committed (\$)
KNR Natural Resources Partnership	2011	\$750	Apollo Natural Resources Fund	2012	\$200
KKR North American Fund XI	2012	\$500	Apollo Global Real Estate – US	2012	\$150
KKR Asian Fund II	2012	\$300	Apollo Lightning Credit SMA	2012	\$200
KKR Mezzanine Partners I	2011	\$250	Apollo European Principal Finance II	2012	\$200
KKR Special Situations Fund I	2012	\$200	Apollo India Credit Fund (AION)	2012	\$100
Global Infrastructure Fund	2012	\$100			
Total		\$2,100	Total		\$850

EXPECTED PRIVATE STRATEGIC PARTNERSHIP COMMITMENT SCHEDULE							
(\$ in millions)	2011	2012	2013	2014	2015	2016	Total
KKR	\$900	\$1,100	\$650	\$150	\$200	-	\$3,000
Apollo	-	\$950	\$1,200	\$175	\$575	\$100	\$3,000
Total	\$900	\$2,050	\$1,850	\$325	\$775	\$100	\$6,000



¹ Includes remaining SPN Commitments



Principal Investments Update

Rich Hall, Managing Director for Private Equity

Eric Lang, Managing Director for Real Assets

February 2013

Agenda

- I. TRS Principal Investments Summary and Alpha Analysis
- II. Principal Investments Refresher and Definition and Market Dynamics
- III. Types of Principal Investments
- IV. Performance Drivers
- V. Process
- VI. Summary

Principal Investments

Definition & Market Dynamics

- What is a Principal Investment?
 - An opportunity that requires TRS to review a specific investment and complete due diligence, utilizing opt-out or selection rights prior to the investment decision
 - A concentrated position relative to a commingled diversified portfolio, typically relying on proven, existing outside relationships to serve as the fiduciary on behalf of TRS
 - There are four general types of Principal Investments that will be defined today
- What are the market dynamics?
 - Large public plans and Sovereign Wealth Funds (SWF) drive the market and dynamics as co-investment is an integral aspect of the lifecycle of fund commitments to managers
 - According to a 2012 Preqin PE study, 65% of LPs plan to increase allocations to co-investments, but only 24% are actively investing: competition is growing
 - LPs are moving more of their organizations and commitments towards Principal Investments
 - TRS' commitment to the Principal Investments Program was well-timed
 - Setting the bar with global competition for equity based alpha streams

Principal Investments

Refresher

- Principal Investments was developed in 2009 to take advantage of the following opportunities:
 - **Source of Alpha** - Driven by reduced fees and promote, selection quality and TRS stature. Expecting a premium over partnership investments
 - **Portfolio management tool** - Fund commitments provide less control of when and where the capital is deployed. Principal Investments allow TRS to manage security selection, asset allocation, and manager fit while working from a premier list of high-quality opportunities
 - Enables TRS to manage its allocation (i.e., overweight and underweight)
 - Fill portfolio holes
 - **Better real-time information markets and individual opportunities** - Provide an ideal mechanism for continuous observation of the markets and our GPs
 - **Differentiates TRS and further aligns our interests with those of our general partners** - Allows TRS to become a flexible provider of capital. We can facilitate unique transactions and hence become a more desirable LP
 - **Increasingly important competitive tool** - Principal investments are already used by the most sophisticated LPs. TRS is a leader in this space. Others include CALPERS, CalSTRS, Government of Singapore Investment Corporation (GIC), China Investment Corporation (CIC), Canada Pension Plan (CPP), etc.

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TRS Principal Investments – Summary

As of December 31, 2012

Private Equity
<ul style="list-style-type: none">Premier List Managers: 15Capital Distributed: \$295 millionSince Inception IRR¹: 20.9%

Real Assets
<ul style="list-style-type: none">Premier List Managers: 16Capital Distributed: \$952 millionSince Inception IRR¹: 18.4%

Type	Private Equity		Real Assets	
	Investment	Funded	Investment	Funded
Co-Investment	10	\$623	8	\$381
Direct Investment	2	\$375	4	\$941
Single LP Fund	N/A	N/A	8	\$1,100
Sidecar	N/A	N/A	4	\$145
Co-Invest Fund (Blackrock/Ranger)	2	\$198	2	\$242
Total Funded	14	\$1,196	26	\$2,809
Total Distributed	N/A	\$295	N/A	\$952

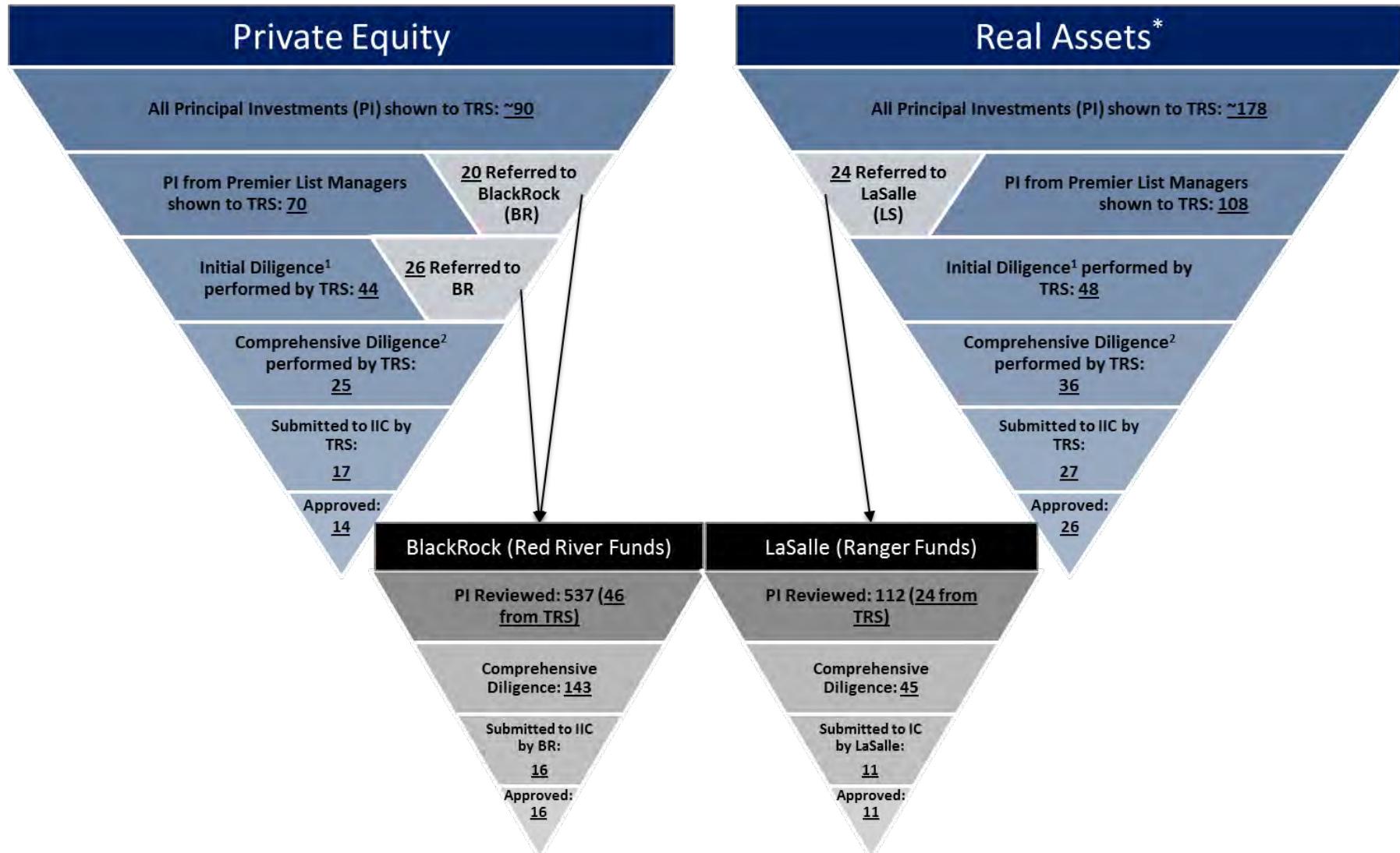
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Performance Drivers

Type	Group	Performance Drivers
Co-Investment / Direct Investment	Private Equity & Real Assets	<ul style="list-style-type: none"> • Major driver - deal selection and lower fees • Ability to fill gaps in TRS portfolio and tactically overweight property types/sectors based on best opportunities • Ability to take an active role in investment decisions through hands-on due diligence and ongoing management through board seats, etc. • Lower cost way of accessing private market opportunities
Single LP Fund (Separate Account)	Real Assets	<ul style="list-style-type: none"> • Manager Selection Drives Returns • Lower fees • Ability to execute on a specific strategy, fill gaps in the TRS portfolio and tactically overweight property types/sectors based on best opportunities • Ability to terminate and not invest based on market or trust conditions; TRS controls the exit and other major decisions • However GPs often have competing mandates so TRS is not always “first in line” and has to follow the GP’s allocation process
Sidecar	Private Equity & Real Assets	<ul style="list-style-type: none"> • Lower blended fees (i.e. half fee/half promote) result in better net returns to TRS • In majority, TRS has the ability to reduce commitment and not invest based on market or trust conditions

Principal Investment Process

Since Inception



* Includes Co-Investments, Direct Investments, Single LP Funds, and Sidecar Investments

¹ Reviewed with CIO and Deputy CIO at pre-specified times prior to recommendation to IIC

² Reviewed with Chair of Board and Chair of Investment Management Committee and prior to recommendation

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Principal Investments

2013 Goals

- Goal – Become a preferred initial destination for attractive, large and global investment opportunities
- Manage partners and pipeline to cultivate opportunities to invest \$400 million¹ in PE; \$400¹ million in RA:
 - Opportunities currently under consideration:
 - Initial diligence – two Private Equity / one Real Assets
 - Comprehensive diligence – two Private Equity / two Real Assets
- Integrate Principal Investments across the Global Equity platform
 - Further leverage TRS' Global equity capabilities
 - Develop broader sourcing channels across TRS
 - Refine process, execution and monitoring processes
- Extend brand and solidify external relationships to be the “First Call or Partner of Choice”
 - Increasingly competitive environment for high quality alpha generation
 - Yield starved financial regime challenging underwriting hurdles
 - TRS top peers and Sovereign wealth funds continue to expand similar efforts

Summary

- The Principal Investment Program has been a source of Alpha for TRS:
 - Principal Investments provide lower fees and costs
 - Principal Investments allow TRS the ability to better manage its portfolio and exposures
 - No two investments are ever the same
 - Private Equity has generated alpha of 9.0% against the SSPEI¹ Benchmark
 - Real Assets has generated alpha of 10.1% against the NCREIF – ODCE Fund Index

The Principal Investment Program

Texas Way in Principal Investments	Accomplishments	Going Forward
<ul style="list-style-type: none">• The team continues to see a strong pipeline of opportunities<ul style="list-style-type: none">• Current managers• Potential managers• Investment bankers and brokers• Execution has built the Texas Way and generates additional deal flow	<ul style="list-style-type: none">• Achieved goal of 20% of portfolio for Real Assets and – moving toward 20% goal for Private Equity• Alpha generator for the portfolio	<ul style="list-style-type: none">• Private Equity / Real Asset program provides TRS flexibility on structure and size• Expect a mix of sidecars, traditional co-investments, and tactical single-asset or portfolio opportunities to materialize• For Private Equity: Co-underwritten / lead underwriter will be the most competitive strategies to pursue .• For Real Assets: Sidecars will be the most prevalent vehicle in order to control portfolio.<ul style="list-style-type: none">• <u>Example:</u> 50% of commitment to fund and 50% to sidecar

¹ Since Inception IRR
Source: State Street Bank



Emerging Manager Program

Stuart Bernstein

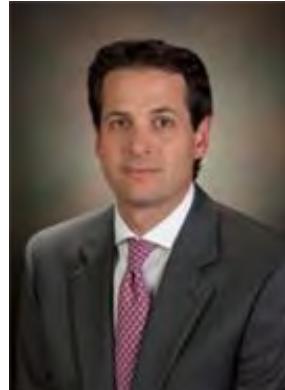
Senior Investment Manager

Agenda

- I. Emerging Manager (EM) Team
- II. EM Marketplace
- III. History and Mandate
- IV. Timeline
- V. Direct Investment Process
- VI. Best Practices
- VII. 2012 Update
- VIII. Success Stories
- IX. What We Have Learned
- X. Awards and Publications
- XI. Plans for 2013 and Beyond



Emerging Manager Team



Stuart Bernstein
Sr. Investment Manager
MBA, UT Austin
4 years at TRS
Prev. Employer: Lehman Brothers



Andy Cronin
Analyst
BBA, Texas A&M
3 years at TRS



Krista Kerr
Administrative Support
BS, UT Austin
5 months at TRS

EM Marketplace

Rapidly Evolving

- TRS is one of the top five public fund allocators to Emerging Managers
- Managers continually creating new investment vehicles to capitalize on key themes and trends
- Limited Partners are entering and exiting Emerging Manager space

Entering EM Space	Exiting EM Space
<p>Increased support from State Legislatures</p> <ul style="list-style-type: none">• Since 2008, the following states have passed initiatives relating to investments in Emerging Managers:<ul style="list-style-type: none">• California• Connecticut• Illinois• Maryland• New Jersey• New York• Ohio• Texas	<p>Difficulty sourcing and managing numerous small investments</p> <ul style="list-style-type: none">• Large time commitment to managing and institutionalizing these managers requires a deep, experienced team• Some of the previous large investors in the EM space have scaled back investments recently• Headline risk associated with new and emerging managers



EM Marketplace

Definition of Emerging Managers

- Broad range of definitions from seven of the top ten EM programs:

Pension Plan	Definition of Emerging Managers
Teacher Retirement System of Texas	Less than \$2 billion AUM; or less than 5 year track record or 3 institutional funds
California State Teachers Retirement System	First, second, or third institutional funds
California Public Employees Retirement System	Less than \$1 billion AUM
Chicago Public Teachers Pension	Minimum \$10 million – Maximum \$10 billion AND minority- or women-owned
New Jersey State Investment Council	Raising \$1 billion or less
New York State Common Retirement Fund	Less than \$1 billion AUM
New York City Retirement System	Less than \$2 billion in AUM and a minimum 2 year track record of similar strategy



History and Mandate

- Where We Were (2009)
 - Coming off the market bottom – Total Trust value \$70 billion
 - Emerging Manager Program
 - \$650 million committed across three Credit Suisse fund-of-funds
 - Only \$170 million deployed across approximately 30 underlying funds
 - All commitments and investments solely in Private Equity
- Program Expansion (2010)
 - Expanded Credit Suisse capabilities through \$200 million Real Estate fund-of-funds
 - Additional \$100 million committed to Private Equity funds via Credit Suisse
 - Began analyzing potential Evaluator relationships for the direct program

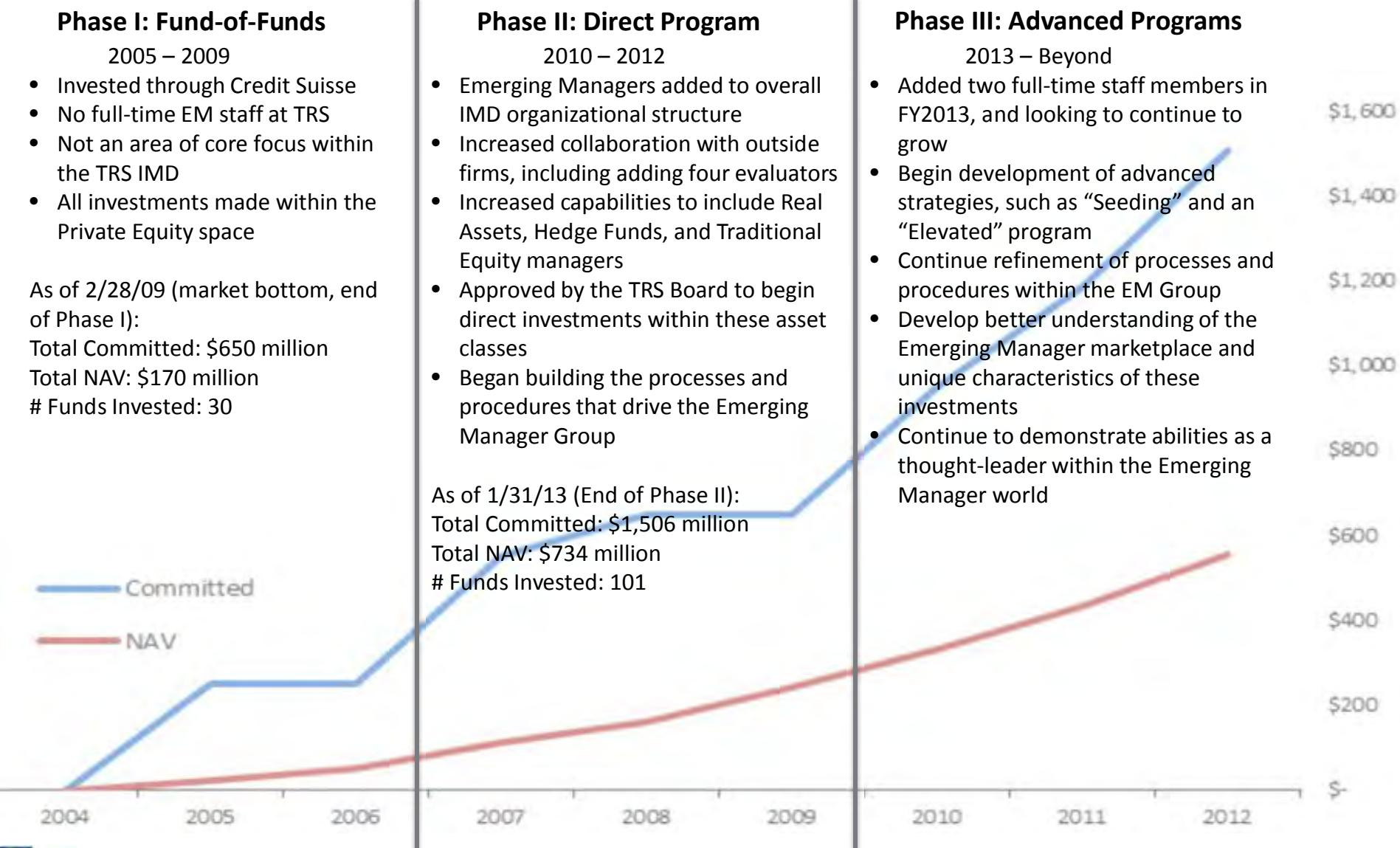
History and Mandate (cont.)

- Direct Program (2011 – Present)
 - Board approved deployment of \$700 million directly to managers across asset classes (increased total allocation in Policy to \$1.65 billion)
 - The approval expanded both the size of the program in dollars, as well as the breadth of the program with new asset classes
 - Selected four Evaluators to assist in sourcing and diligence of deals
 1. Private Equity – Hewitt EnnisKnupp
 2. Real Assets – Townsend Group
 3. Hedge Funds – Rock Creek Group
 4. Traditional Long-Oriented – Leading Edge

Portfolio	Target Allocation (\$ in millions)	Committed through 1/31/13	Remaining
External Public Markets	\$250	\$186	\$64
Private Equity	\$950	\$915	\$35
Real Assets	\$450	\$420	\$30
Total	\$1,650	\$1,521	\$129



Timeline



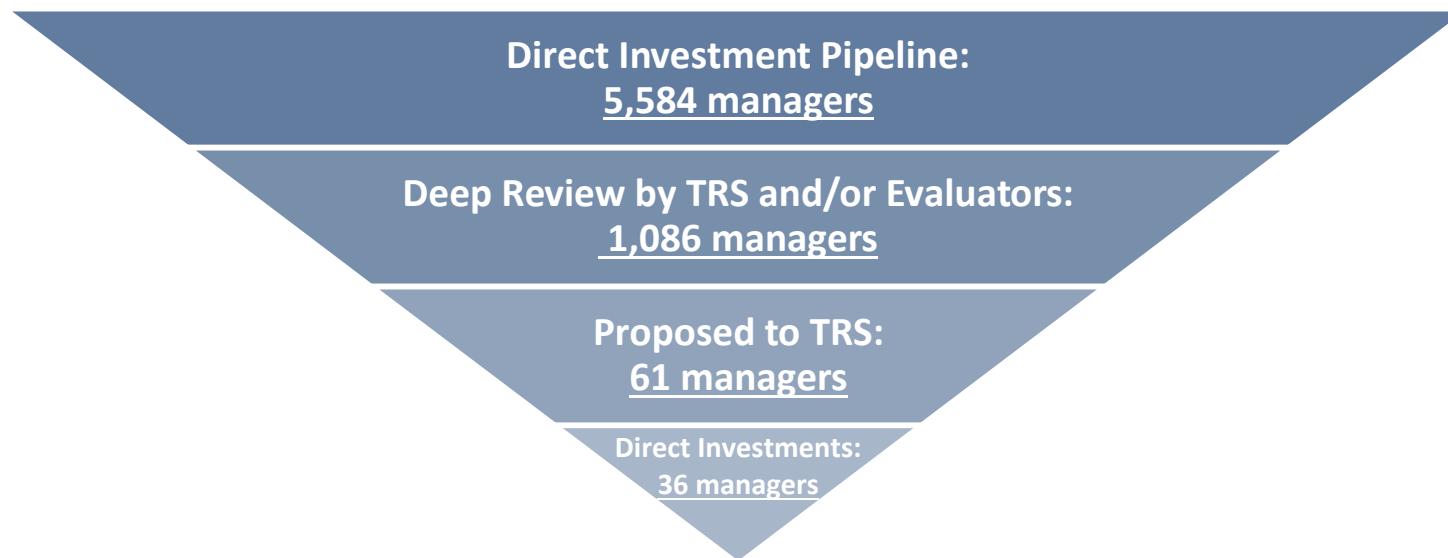
Timeline

- Since the end of Phase I in 2009, the Trust has grown 60%
- Within the Emerging Manager Group over this time
 - Commitments have grown 120%
 - NAV has grown 330%
 - Number of Funds Invested has grown 230%
- Expanded Capabilities
 - Team growth
 - Added three new asset classes
 - Deeper relationships with Evaluators
 - Established position as a market leader
 - Beginning stages of Advanced Programs: Elevation and Seeding



Direct Investment Process

- Through this growth, decision making has improved and become more refined
- Sourcing
 - Utilize industry contacts to meet the best and brightest managers
 - TRS EM Group reviews, via phone or in person, over 250 different managers annually
 - Vast scope of EM world requires reliance on Evaluators for introductions to quality managers

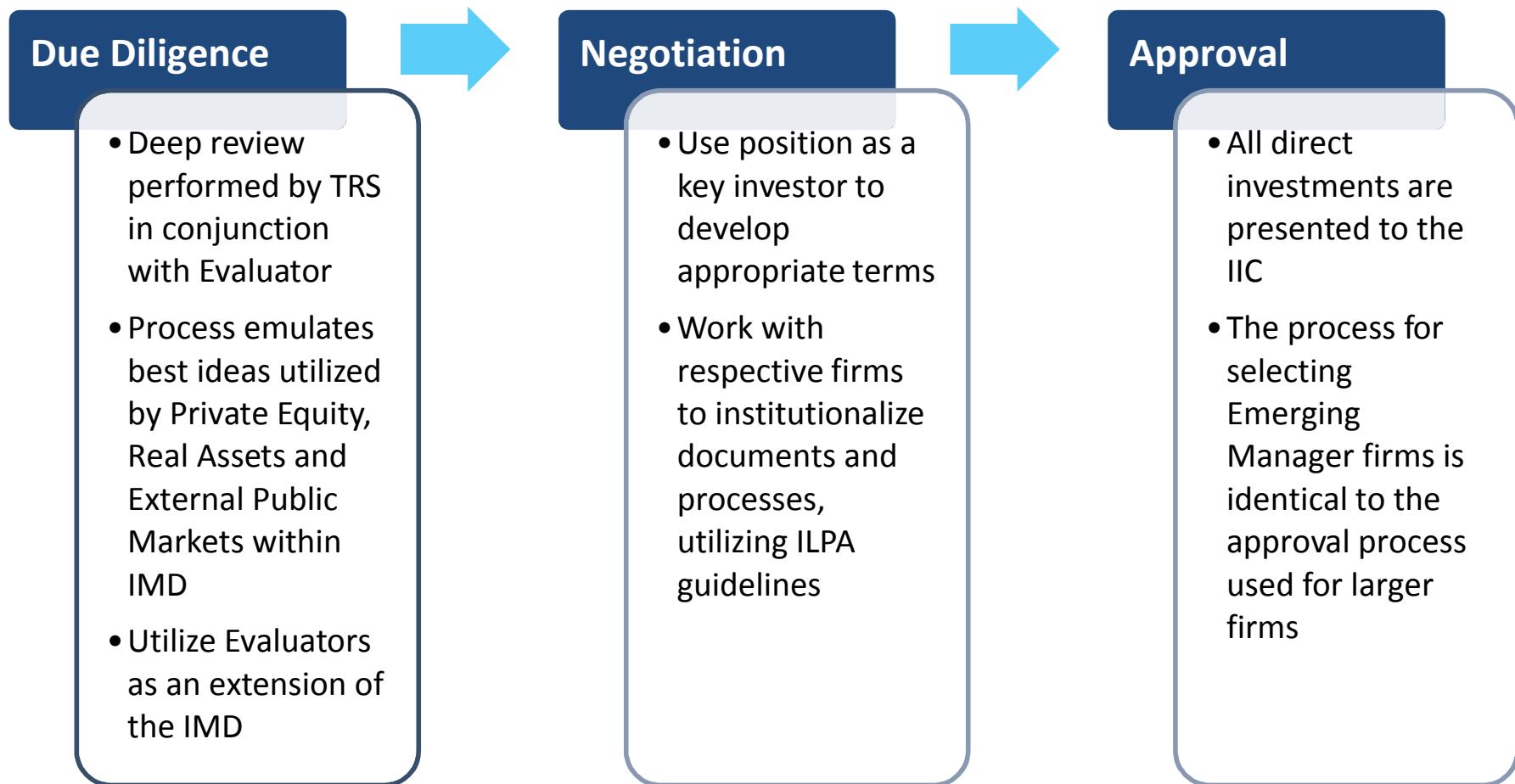


- Less than 1% of Total Pipeline was ultimately approved by IIC for investment



Source: TRS Staff, Townsend, Hewitt EnnikKnupp, Rock Creek, Leading Edge; Pipeline info as of 12/31/12

Direct Investment Process (cont.)



Best Practices

- How does TRS make the most of the Direct Investment program?
 - Building a deep, knowledgeable network
 - Hosted the 2nd Annual TRS Emerging Manager Conference in January 2013
 - Develop relationships with other Emerging Manager Programs, fund-of-funds, and consultants
 - Publicly promote TRS Direct Program for greater deal flow, credibility, and transparency
 - Approve allocations early in the fundraising cycle to drive terms and work with managers establishing ILPA best practices
 - Advocate on behalf of investments – as one GP phrased the “halo effect”
 - Toigo Foundation Board Member – non-profit organization promoting the advancement of women and minority professionals in the finance industry



Best Practices

Second Annual TRS Emerging Manager Conference

- Held successful conference on January 8 at the Texas Exes Alumni Center
 - 386 attendees, with 231 different firms represented
 - Received wide praise from attendees in regards to content, access, and candor
 - Collected constructive feedback to assist in planning next year's conference
- Attracted best-in-class Limited Partners from across the country
 - Texas-based firms: Employee Retirement System, San Antonio Fire and Police, Texas Comptroller, Texas Tech University Endowment, University of Houston Endowment, UTIMCO
 - US firms: CalPERS, CalSTRS, Illinois Teachers, LACERS, Maryland Retirement Agency, New York State Comptroller
- Well represented by consultants and allocators across asset classes
 - Trade groups: National Association of Securities Professionals (NASP), National Association of Investment Companies (NAIC), Pension Consulting Alliance, Association of Asian American Investment Managers (AAAIM), New America Alliance (NAA)
 - Fund-of-funds: Citi Private Equity, Credit Suisse CFIG, Invesco Private Capital, MAP Alternative Asset Management, Morgan Creek, Reservoir Capital
 - Allocators/Consultants: Callan Associates, Cliffwater, Hamilton Lane, Hewitt EnnisKnupp, Leading Edge, Mariner Investment Group, Rock Creek, The Townsend Group, Towers Watson



2012 Update

- Team
 - Two new employees, with expectations of continued team growth
 - New capabilities within key reporting and monitoring systems (eFront, AlternativeSoft)
 - Continued refinement of the relationship between TRS Staff and Evaluator firms
- Direct Investments
 - Approved 22 investments, \$334 million committed
- Credit Suisse Investments
 - Invested \$108 million in seven new funds
 - Total NAV grew by \$51 million, and more than \$35 million was distributed back to TRS



2012 Update

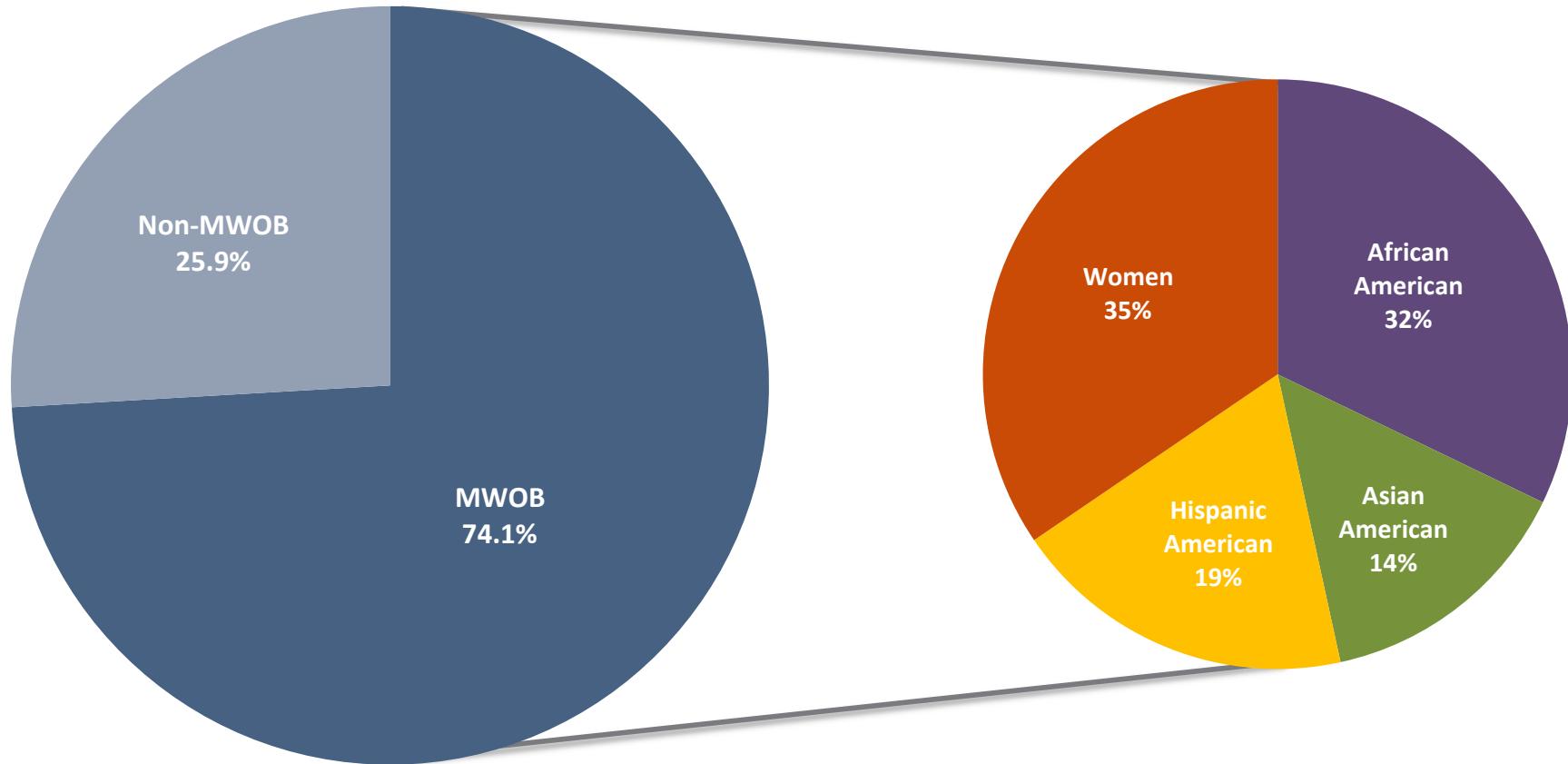
Performance as of December 31, 2012

- Overall, performance has been improving
 - Total Emerging Manager Program had a Q4 return of 2.6%
 - Private Equity portfolio: 11.6% return in 2012
 - Real Assets portfolio: 2.3% return in 2012
 - Long-Oriented portfolio: 14.2% return in 2012
 - Hedge Fund portfolio: 2.7% return in 4Q12
- Direct Investment Performance
 - Private Markets – much of the portfolio still undergoing “J-curve”
 - Overall since inception IRR: (0.4%)
 - Real Assets since inception IRR: 14.0%
 - Private Equity since inception IRR: (29.6%)



2012 Update

Direct Portfolio Breakdown by Commitments as of January 31, 2013



TRS defines MWOB as Minority or Women Owned Business

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What We Have Learned

- Leverage Relationships
 - Broad, fragmented market
 - Utilize trusted Evaluators to review the marketplace and make proposals to TRS
 - Continually build relationships with key market participants
- Maintain a presence in the marketplace
 - Consistent capital necessary to be considered a reliable partner
 - Actively pursue and maintain a robust pipeline
 - Maintain a service-oriented focus – very unique in the marketplace
- Ensure investments have traction for growth
 - Work with partners to make steady progress toward a final close
 - Utilize position in marketplace to help managers be successful



Awards and Publications

- Awards
 - 2012 Robert Toigo Foundation's Innovative Leadership Award
 - 2012 Association of Asian American Investment Managers (AAAIM) Capital Access Award
 - 2009 Opal Emerging Manager Summit Public Plan of the Year
 - 2009 Star Award – Dr. Emmett J. Conrad Leadership Program Service Awards
- TRS Emerging Manager Program in recent publications
 - Bloomberg News
 - Investment News
 - Institutional Real Estate Newsletter
 - Emerging Manager Monthly, a publication of Financial Investment News
 - Private Equity Real Estate (PERE) Magazine



Plans for 2013 and Beyond

Growth Plans

- Additional Resources
 - 1 – 2 FTEs
 - Increased travel budget
 - Continued development of the Emerging Manager Conference
- New Initiatives
 - Create an emerging manager database
 - Develop a limited partner database
- Evaluator Relationships
 - Continually refine and develop relationships with Evaluators
 - Consider adding Evaluators
 - Seek out “best of the best” capabilities
 - Increase market coverage
 - Additional knowledge transfer
 - Focus on managers with strengths that truly enhance the Emerging Manager Program



Plans for 2013 and Beyond

Advanced Programs

- Advanced Programs

- Elevated Program

- Increase allocation to more established, successful firms

Private Markets		Public Markets	
Fund I	\$15 – \$30 million	1 st Allocation	\$10 – \$20 million
Fund II	\$15 - \$50 million	2 nd Allocation	\$15 - \$50 million
Fund III	\$15 - \$65 million	3 rd Allocation	\$15 - \$65 million

- Investment Policy Statement limits all EM investments to 40% of the overall fund/strategy

- Seeding Program

- Determine if TRS has the resources to develop a successful seeding program
 - Analyze potential benefits and consequences of such a program



Measuring Investment Performance: A Primer

Prepared for:

Board of Trustees
Teacher Retirement System of Texas

Prepared by:

Keith C. Brown
University of Texas

February 20, 2013

Agenda for the Discussion

I. Overview of Performance Measurement in Funds Management

- Fitting Performance Measurement in the Portfolio Management Process
- The “Big Picture” of Performance Measurement
- The Two Questions of Performance Measurement

II. Addressing Performance Measurement Question #1

- Simple Performance Measures
- Traditional Risk-Adjusted Performance Measures

III. Addressing Performance Measurement Question #2

- Attribution Analysis Measures

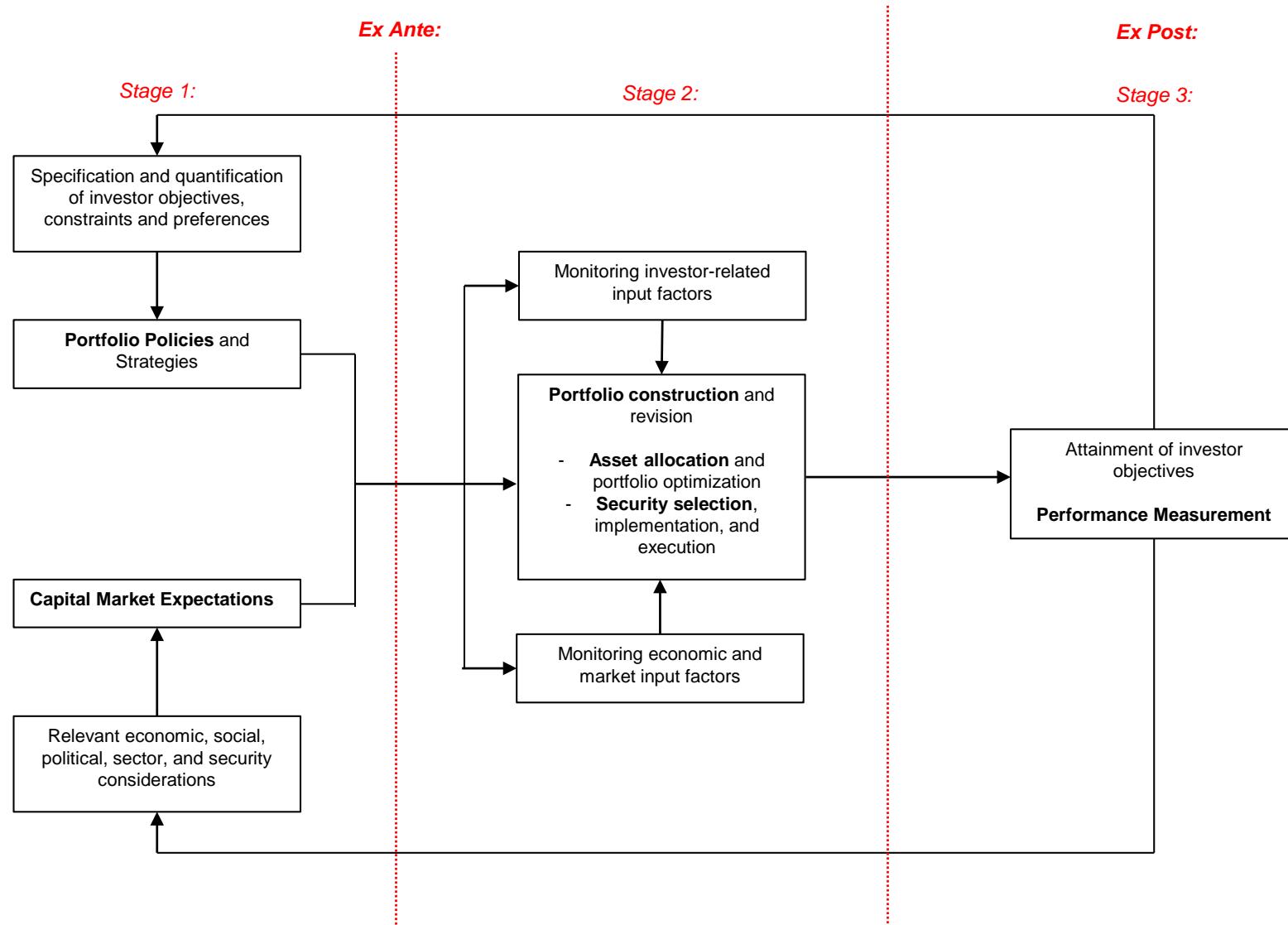
IV. Appendix

- Tracking Error: Concept and Calculations
- Examples of Performance Measure Calculations

I. An Overview of Performance Measurement in the Portfolio Management Process

- The portfolio management process can be viewed in three steps:
 - Analysis of Capital Market and Investor-Specific Conditions
 - Policy Formation and Market Expectations
 - Formation of Asset Class-Specific Portfolios
 - Strategic Asset Allocation Decision
 - Security Selection Decision
 - Analysis of Investment Performance
 - Performance Measurement Analytics
- The first two of these steps are **ex ante**; the third is **ex post**. Thus, performance measurement can be viewed as the “end game” for the portfolio management process, recognizing that the information generated in this evaluation will be used to alter decisions made about the portfolio’s design
 - That is, portfolio management is a *dynamic process*

Illustrating the Role of Performance Measurement in the Portfolio Management Process



A “Big Picture” Look at the Performance Measurement Process

- Generally speaking, assessing the performance of an investment portfolio is an exercise in *comparing* some measure of the *returns* that the fund **actually produced** to a measure of the returns that the fund **should have produced**.
- In estimating the return that the portfolio should have produced over a given investment period, it is necessary to take into account that investors *expect* to be compensated for two functions:
 - (i) committing their financial capital
 - (ii) incurring risk.
- One popular way of making this comparison is to compute the **“alpha”** component of the portfolio’s return as:

$$\text{Alpha} = (\text{Actual Return}) - (\text{Expected Return})$$

“Big Picture” of the Performance Measurement Process (cont.)

- In practice, there are *three primary ways* to estimate expected returns (i.e., what the portfolio’s return should have been):
 - The average contemporaneous return to a **peer group** of comparably managed portfolios
 - The contemporaneous return to an index (or index fund) serving as a **benchmark** for the portfolio
 - The return estimated by a **risk factor model**, such as the CAPM
- Each approach to measuring expected returns has its *advantages and disadvantages*
 - Peer groups and benchmarks are easily observable and often represent plausible alternative investment vehicles, but do not control explicitly for the risk incurred in the actual portfolio
 - Factor models can estimate systematic risk exposures very precisely, but are generally not investible (i.e., they are theoretical concepts).

“Big Picture” of the Performance Measurement Process (cont.)

- One important notion that underlies the performance measurement process is that the portfolio's expected return should be thought of as the **opportunity cost** of investing in the managed portfolio
 - That is, if an investor did not hold the actual portfolio, what would be the return to his or her next best alternative position?
 - In this context, an important consideration is whether the benchmark (or peer group) is *actually an investible alternative* to the actual portfolio.

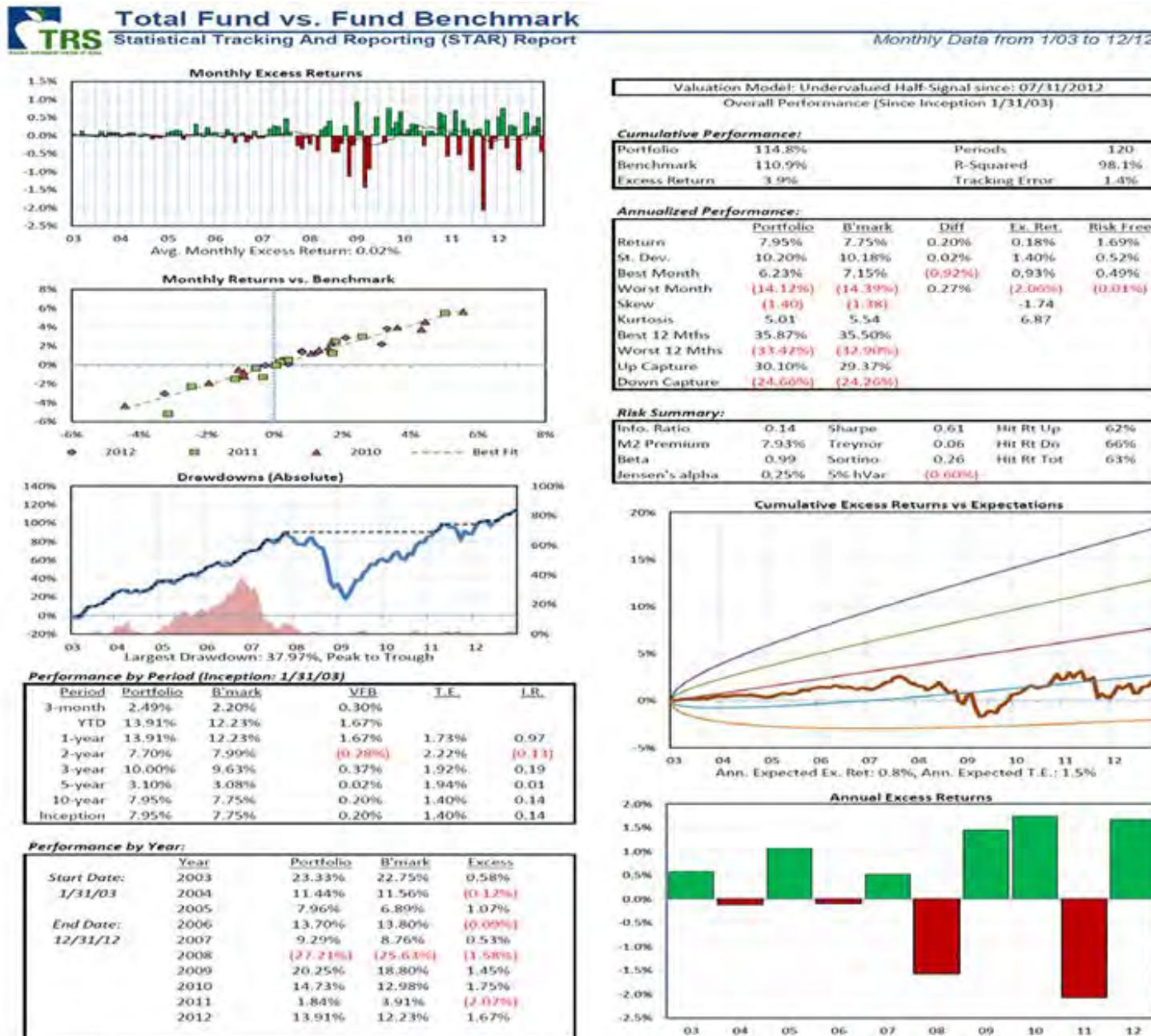
Benchmark-Adjusted (i.e., “Alpha”) Performance at TRS: November 2012

Teacher Retirement System of Texas
As of November 30, 2012

Asset Class	Returns						Alpha
	1-Month	QTD	YTD	1-Year	3-Year	5-Year	
GLOBAL EQUITY							
Total Large Cap <i>MSCI USA Standard</i>	0.71 0.65	-0.57 -1.17	15.67 15.04	16.66 16.13	11.12 10.67		0.06 0.59
Prior Large Cap Policy Benchmark							0.63
Total Small Cap <i>MSCI USA Small Cap</i>	1.87 1.41	0.78 0.04	19.90 15.01	18.89 15.08	16.81 15.37	5.30 3.96	0.53 0.45
Prior Small Cap Policy Benchmark							
Total US	0.81	-0.46	15.83	16.74	11.92	1.76	7.08
Total Non-US Developed <i>MSCI EAFE + Canada</i>	2.06 2.10	2.71 2.82	12.96 13.00	10.63 11.76	3.78 3.17	-3.59 -4.36	-0.04 -0.10
Total Emerging Markets <i>MSCI Emerging Markets</i>	1.28 1.27	0.98 0.65	13.83 12.71	11.39 11.35	4.48 4.35	-1.70 -1.79	0.01 0.32
Total Non-US	1.72	1.93	12.99	10.78	3.96	-2.26	9.97
Total Directional Hedge Funds <i>HFRX Fund of Funds Composite Index</i>	0.57 0.49	0.66 0.18	5.14 3.62	4.58 3.05			0.08 0.47
Total Public Equity	1.23	0.76	13.24	12.43	6.93	-0.96	6.76
Total Private Equity <i>State Street Private Equity Index</i>	2.79 0.00	3.67 0.00	15.46 8.65	14.60 2.10	15.01 14.22	4.75 4.27	16.68 8.19
Prior Private Equity Policy Benchmark							
Total Global Equity <i>Global Equity Target Weighted Blended Benchmark</i>	1.51 0.99	1.36 0.46	13.84 12.26	13.01 10.70	8.23 8.19	-0.19 -0.22	7.38 7.38
STABLE VALUE							
Total Long Treasury <i>Barclays Capital Long Treasury Index</i>	1.37 1.33	1.32 1.22	6.25 5.63	9.59 8.91	13.03 12.31	11.23 10.06	0.04 0.11
Total Stable Value Hedge Funds <i>HFRX FOF Conservative Index</i>	0.39 0.13	0.08 0.42	1.63 2.96	1.80 2.62	2.23 2.43	-0.16 3.03	4.66 4.81
Total Cash <i>Citigroup 90 Day US Treasury</i>	0.16 0.02	0.11 0.03	1.00 0.10	1.36 0.10	-0.32 0.11	0.28 0.58	1.80 1.81
Total Other Absolute Return <i>3 Month LIBOR + 2%</i>	1.42 0.19	2.20 0.38	36.57 2.23	37.39 2.45	17.58 2.38		1.23 1.82
Total Stable Value <i>Stable Value Target Weighted Blended Benchmark</i>	1.10 0.99	1.10 0.97	7.58 4.86	9.77 7.13	11.50 9.76	8.07 8.13	6.93 6.93
REAL RETURN							
Total Global Inflation Linked Bonds <i>BarCap US Treasury TIPS Index</i>	0.48 0.48	1.35 1.35	7.76 7.68	7.82 7.72	8.50 8.34	7.27 6.46	0.00 0.00
Prior Global Inflation Linked Bonds Policy Benchmark							0.08 0.11
Total Real Assets <i>NCREIF ODCE Index 1 Quarter Lagged</i>	1.44 0.00	2.15 0.00	13.24 7.74	14.20 11.30	14.13 7.37	-0.98 -1.77	1.44 5.50
Prior Total Real Assets Policy Benchmark							2.90 2.90
Total Commodities <i>Goldman Sachs Commodity Index</i>	-4.18 1.48	-7.55 -2.65	2.56 0.73	-7.15 -1.39	3.31 3.06	-4.36 -6.96	-5.66 -4.90
Total Real Return <i>Real Return Target Weighted Blended Benchmark</i>	0.91 0.12	1.48 0.34	11.18 8.51	11.20 11.36	10.98 8.98	4.03 3.19	6.19 6.19
Total Public Markets	1.07	0.76	12.10	12.13	9.18	2.67	
Total Private Markets	2.10	2.90	13.90	13.56	13.65	1.47	13.38
Total Fund <i>Total Fund Target Weighted Blended Benchmark</i>	1.32 0.81	1.27 0.53	12.54 10.39	12.48 10.45	9.95 9.18	2.76 2.57	7.54 7.31
Alpha							
1-Month	0.06	0.59	0.63	0.53	0.45		
QTD							
YTD							
1-Year							
3-Year							
5-Year							
10-Year							

Performance results are based on account level performance and reported net of realized fees. State Street Private Equity Index and NCREIF ODCE Index results are updated on a quarterly basis.

Performance Measurement Reporting for TRS



The Two Questions of Performance Measurement

- **How** did the portfolio manager actually do?

- Simple Performance Measures
 - Peer Group Comparisons
 - Drawdown Analysis
 - Up Capture/Down Capture Analysis
- Risk-Adjusted Performance Measures
 - Sharpe Ratio
 - Treynor Ratio
 - Information Ratio
 - Sortino Ratio
 - Jensen's Alpha

- **Why** did the portfolio manager do what he or she did?

- Decomposition of Portfolio Returns
 - Attribution Analysis

II. Performance Measurement Question #1:

1. Simple Performance Measures: Peer Group Comparisons

- Perhaps the most straightforward way to evaluate the investment performance of a particular portfolio manager is a *peer group comparison*. This is accomplished by calculating a portfolio's relative return ranking compared to a collection of similar funds:

$$\% \text{ Ranking} = [1 - (\text{Fund's Absolute Ranking} / \text{Ttl Peer Funds})] \times 100$$

Notice that this measure expresses the *percentile ranking* for a particular fund from best (i.e., 99th percentile) to worst (i.e., 0th percentile)

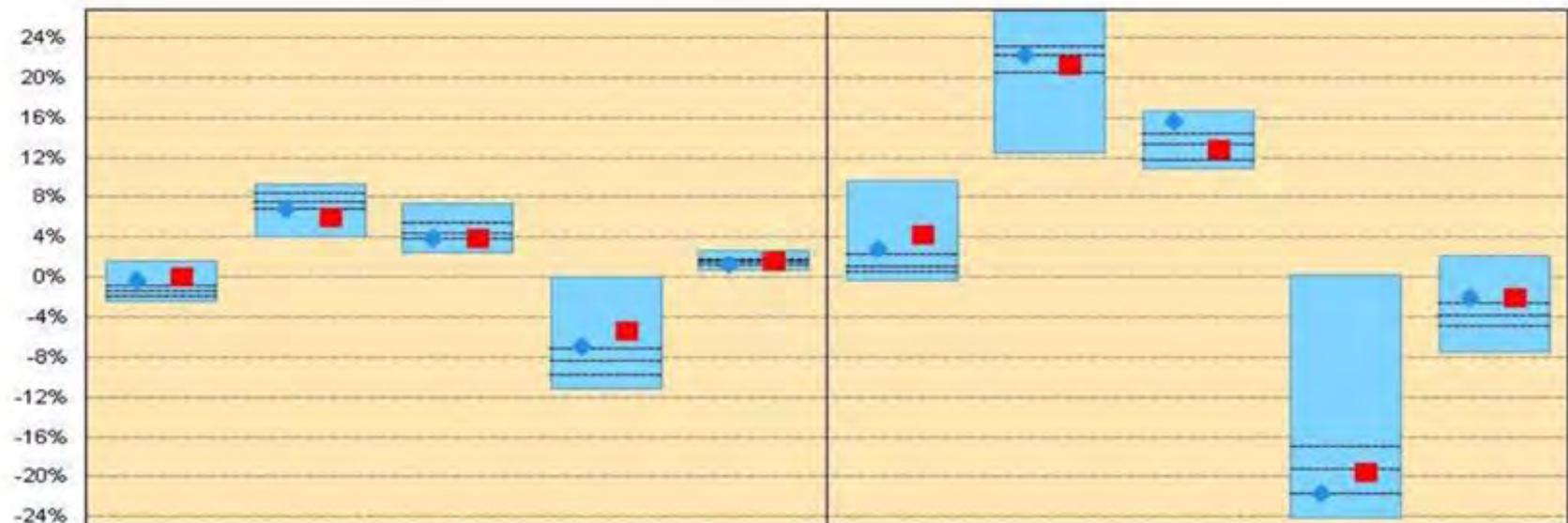
- The primary advantage of a peer group comparison is that it is relatively simple to produce. The goal is to compare the return generated by a given fund relative to other portfolios that follow the same investment mandate.
 - This comparison can be captured visually by a *boxplot graph*.

Peer Group Comparisons (cont.)

- There are disadvantages to the peer group comparison method of performance evaluation:
 - It requires the designation of a peer group, which may be difficult depending on the degree of specialization for the fund in question
 - It *does not make an explicit adjustment for risk differences* between portfolios in the peer group. Risk adjustment is *implicit* assuming that funds with the same objective should have the same level of risk.

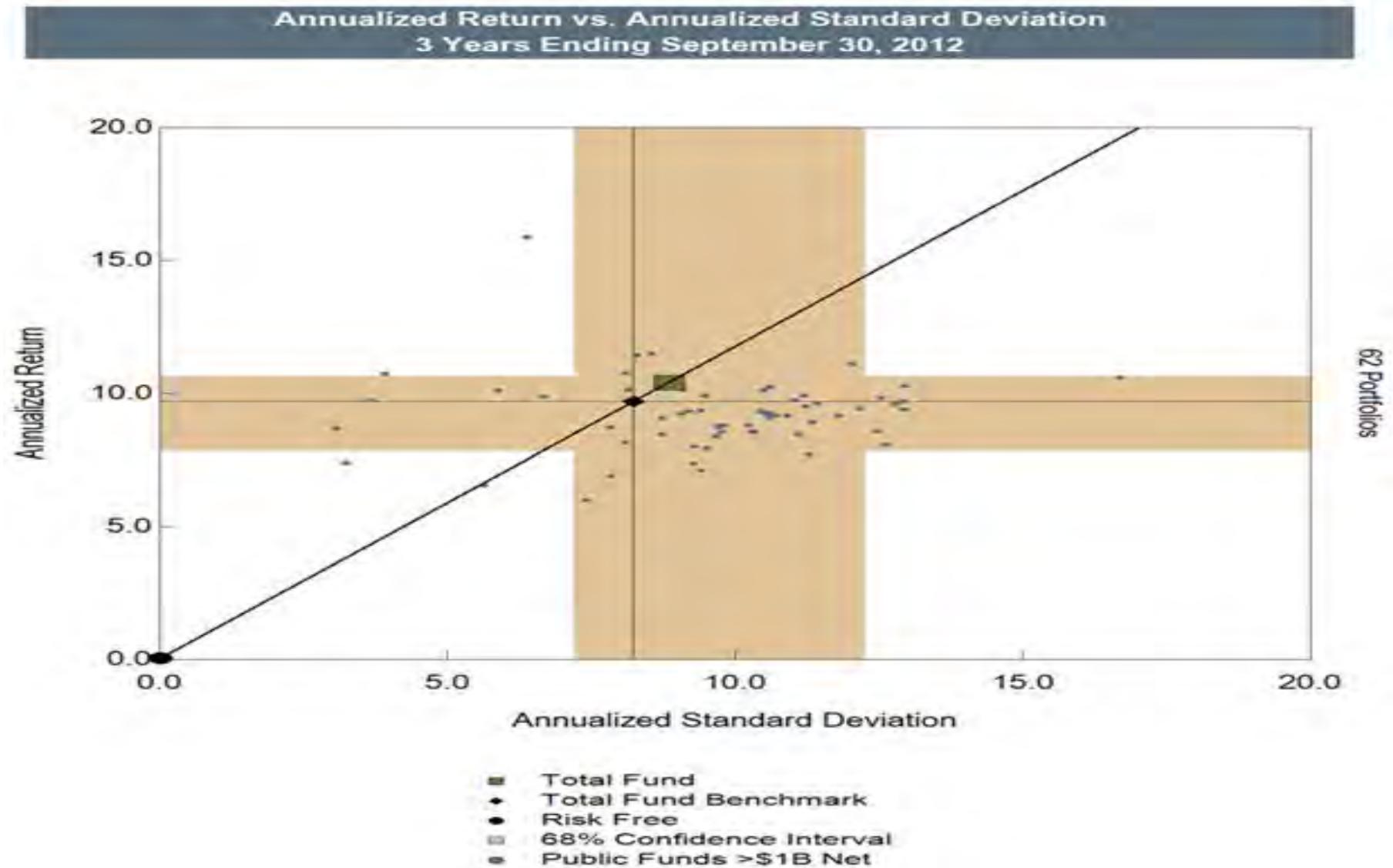
TRS Peer Group Ranking: June 2012

Master Trust Performance Analysis
Performance Comparison
 Total Returns of Public Fund Master Trusts > \$10 Billion
 Consecutive Time Periods: June 30, 2012



Percentile Rankings	Quarter Ending					Year Ending				
	Jun. 12	Mar. 12	Dec. 11	Sep. 11	Jun. 11	Jun. 12	Jun. 11	Jun. 10	Jun. 09	Jun. 08
5 th	1.59	9.21	7.29	0.10	2.67	9.60	26.62	16.65	0.21	2.15
25 th	-0.83	8.40	5.49	-7.13	1.84	2.26	23.10	14.30	-16.99	-2.59
50 th	-1.46	7.50	4.35	-8.39	1.62	1.15	22.18	13.37	-19.30	-3.84
75 th	-1.83	6.89	3.81	-9.74	1.23	0.58	20.57	11.75	-21.75	-4.85
95 th	-2.46	4.06	2.50	-11.22	0.80	-0.38	12.45	10.84	-24.11	-7.48
No. of Observations	40	43	43	42	45	39	44	45	44	45
Total Fund	-0.38 (15)	6.92 (67)	3.81 (75)	-7.02 (20)	1.33 (68)	2.80 (17)	22.29 (47)	15.66 (7)	-21.75 (75)	-2.04 (19)
Total Fund Benchmark	0.03 (8)	5.91 (89)	3.86 (70)	-5.35 (10)	1.66 (43)	4.14 (5)	21.20 (61)	12.84 (63)	-19.49 (56)	-2.02 (17)

TRS Fund vs. Peer Group: The Problem With Not Controlling Directly for Risk



2. Simple Performance Measures: Portfolio Drawdown

- At any point in time, the **drawdown** of a portfolio measures its decline in value relative to its historical peak value over some pre-defined past period.
 - Notice that the drawdown statistic attempts to measure one aspect of the *downside risk* that the portfolio has faced historically.
- Consider a series of returns to Portfolio j over the interval from (0, N), or $\{R_{j1}, R_{j2}, \dots, R_{jT}, \dots, R_{jN}\}$.
 - So, the *cumulative value of the portfolio* as of Period T (assuming a \$1 initial level of capitalization) is:

$$(Value)_{jT} = \prod_{t=1}^T (1 + R_{jt})$$

- The drawdown as of Period T, expressed as a percentage of previous peak value, is:

$$DD_{jT} = \min \left(0, \left[\frac{Value_{jT}}{\max(Value_{j1}, Value_{j2}, \dots, Value_{jT})} - 1 \right] \right)$$

- The **maximum drawdown** for Portfolio j over the interval (0, N) is then calculated as:

$$(MaxDD)_{jT} = \min\{DD_{j1}, DD_{j2}, \dots, DD_{jT}, \dots, DD_{jN}\}.$$

Example of Portfolio Drawdown

- As an example, consider the returns to (i) an active portfolio manager and (ii) the benchmark index that manager faces over a 41-month return period.
- Notice that the returns have been converted into cumulative fund value levels, assuming a \$1 initial investment
- **Drawdown** levels are computed for each month relative to the past sequence of fund values from the initial investment through that period, expressed as a percentage decline from peak value.
- The **Maximum Drawdown** is then the largest absolute decline in value that occurred over the entire investment period.

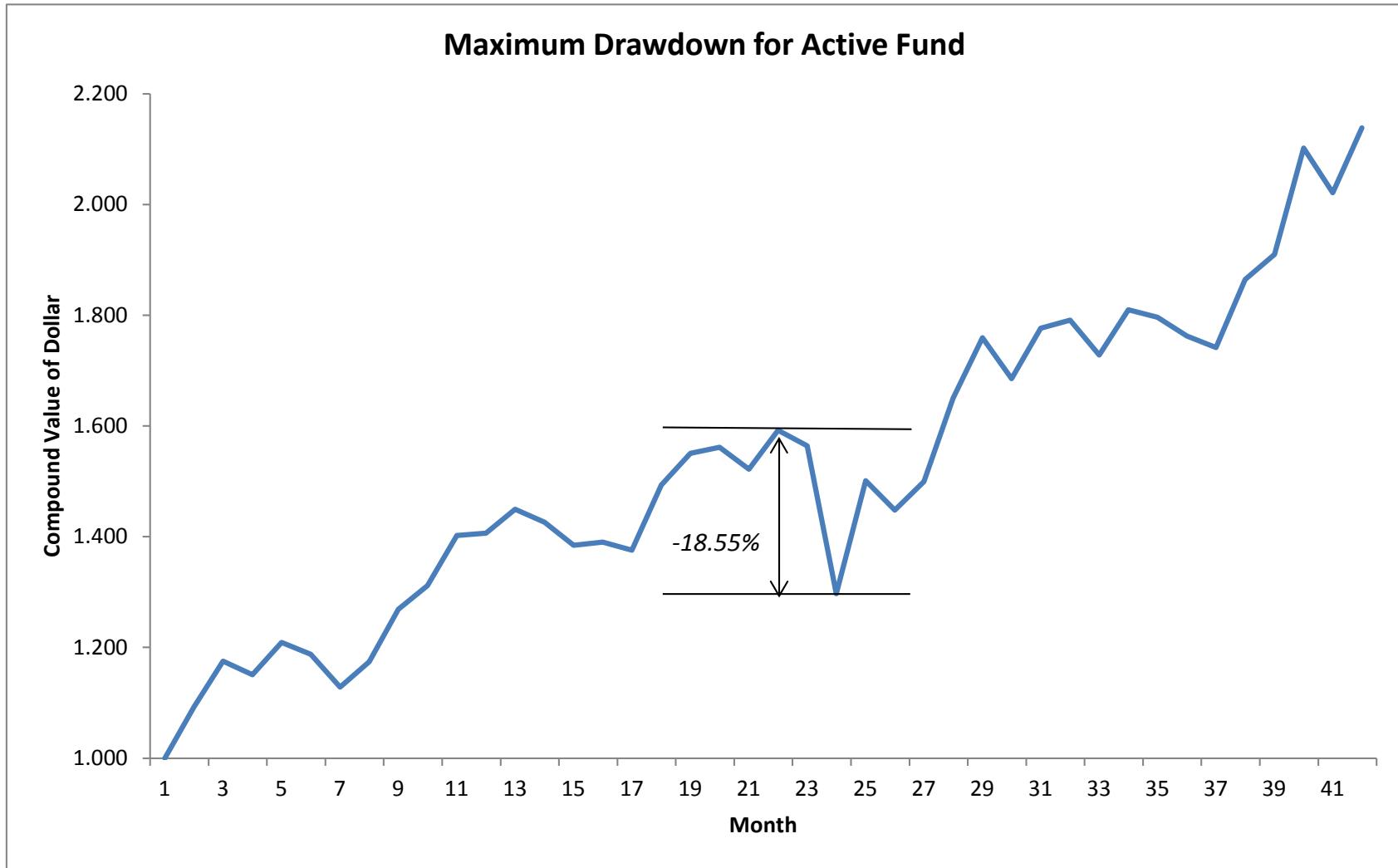
<u>Month</u>	<u>Active Fund Rtn</u>	<u>Active Compound\$</u>	<u>Drawdown</u>	<u>Index Fund Rtn</u>	<u>Index Compound\$</u>	<u>Drawdown</u>
<u>Initial</u>	—	1.000	—	—	1.000	—
1	9.254	1.093	0.00%	2.757	1.028	0.00%
2	7.576	1.175	0.00%	7.552	1.105	0.00%
3	-2.106	1.151	-2.11%	-1.981	1.083	-1.98%
4	5.085	1.209	0.00%	6.244	1.151	0.00%
5	-1.745	1.188	-1.74%	0.785	1.160	0.00%
6	-5.031	1.128	-6.69%	-4.101	1.112	-4.10%
7	4.064	1.174	-2.90%	5.965	1.179	0.00%
8	8.062	1.269	0.00%	6.084	1.250	0.00%
9	3.394	1.312	0.00%	4.478	1.306	0.00%
10	6.900	1.402	0.00%	7.955	1.410	0.00%
11	0.292	1.406	0.00%	-5.597	1.331	-5.60%
12	3.074	1.450	0.00%	5.476	1.404	-0.43%
13	-1.616	1.426	-1.62%	-3.336	1.357	-3.75%
14	-2.932	1.384	-4.50%	4.625	1.420	0.00%
15	0.445	1.391	-4.08%	1.716	1.445	0.00%
16	-1.064	1.376	-5.10%	1.105	1.461	0.00%
17	8.570	1.494	0.00%	7.208	1.566	0.00%
18	3.807	1.550	0.00%	5.117	1.848	0.00%
19	0.732	1.562	0.00%	1.006	1.863	0.00%
20	-2.555	1.522	-2.56%	-1.717	1.634	-1.72%
21	4.641	1.593	0.00%	4.059	1.700	0.00%
22	-1.793	1.564	-1.79%	-1.062	1.682	-1.06%
23	-17.065	1.297	-18.55%	-14.443	1.439	-15.35%
24	15.715	1.501	-5.75%	6.407	1.532	-9.93%
25	-3.536	1.448	-9.08%	8.127	1.656	-2.61%
26	3.582	1.500	-5.83%	6.058	1.756	0.00%
27	10.010	1.650	0.00%	5.759	1.857	0.00%
28	6.630	1.759	0.00%	4.180	1.935	0.00%
29	-4.205	1.685	-4.21%	-3.103	1.875	-3.10%
30	5.430	1.777	0.00%	3.999	1.950	0.00%
31	0.803	1.791	0.00%	3.873	2.026	0.00%
32	-3.520	1.728	-3.52%	-2.358	1.978	-2.38%
33	4.740	1.810	0.00%	5.545	2.087	0.00%
34	-0.759	1.796	-0.76%	-3.115	2.022	-3.11%
35	-1.875	1.763	-2.62%	-0.498	2.012	-3.60%
36	-1.187	1.742	-3.77%	-2.738	1.957	-6.24%
37	7.071	1.865	0.00%	6.326	2.081	-0.31%
38	2.434	1.910	0.00%	2.033	2.123	0.00%
39	10.059	2.102	0.00%	5.886	2.248	0.00%
40	-3.845	2.021	-3.84%	-5.024	2.135	-5.02%
41	5.785	2.138	0.00%	-1.891	2.095	-6.82%

Max Drawdown: -18.55%

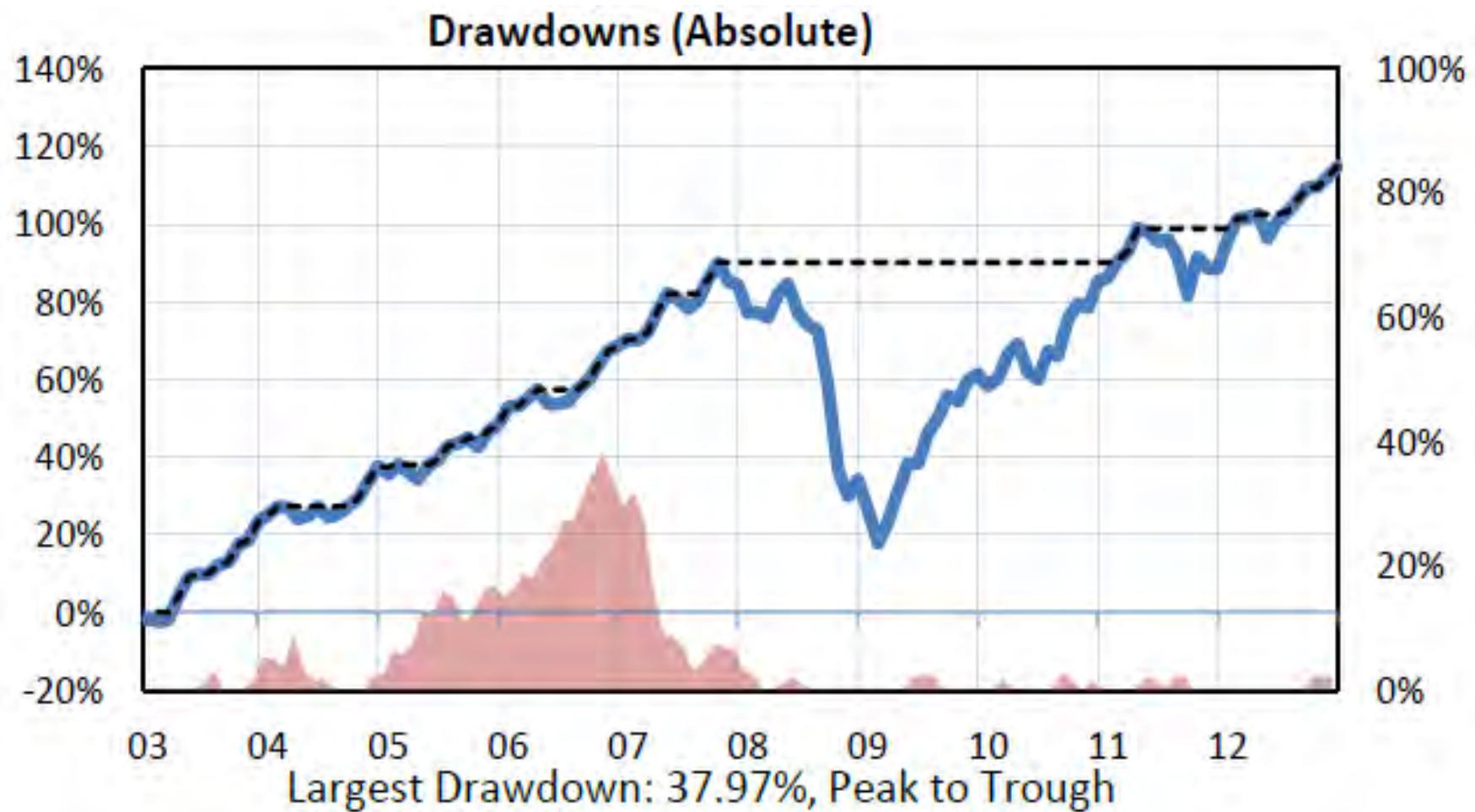
Max Drawdown: -15.35%

Example of Portfolio Drawdown (cont.)

- Graphically, for the actively managed portfolio:



Portfolio Drawdown at TRS Total Fund: January 2003 – December 2012



3. Simple Performance Measurement: “Up Capture” and “Down Capture” Ratios

- “Up Capture” and “Down Capture” ratios are comparisons of the average periodic return to an active portfolio versus the average periodic return to a benchmark portfolio.
- The difference between the two ratios lies in which periodic returns are included in the averaging process:
 - **Up Capture** involves returns from periods during which the *benchmark return was positive* (or zero)
 - **Down Capture** involves returns from periods during which the *benchmark return was negative*
- Specifically, for a series of active portfolio and benchmark returns (i.e., $\{R_{pt}, R_{bt}\}$):
 - Up Capture Ratio = $\text{Avg}[\{R_{pt} | R_{bt} \geq 0\}] \div \text{Avg}[\{R_{bt} | R_{bt} \geq 0\}]$
 - Down Capture Ratio = $\text{Avg}[\{R_{pt} | R_{bt} < 0\}] \div \text{Avg}[\{R_{bt} | R_{bt} < 0\}]$

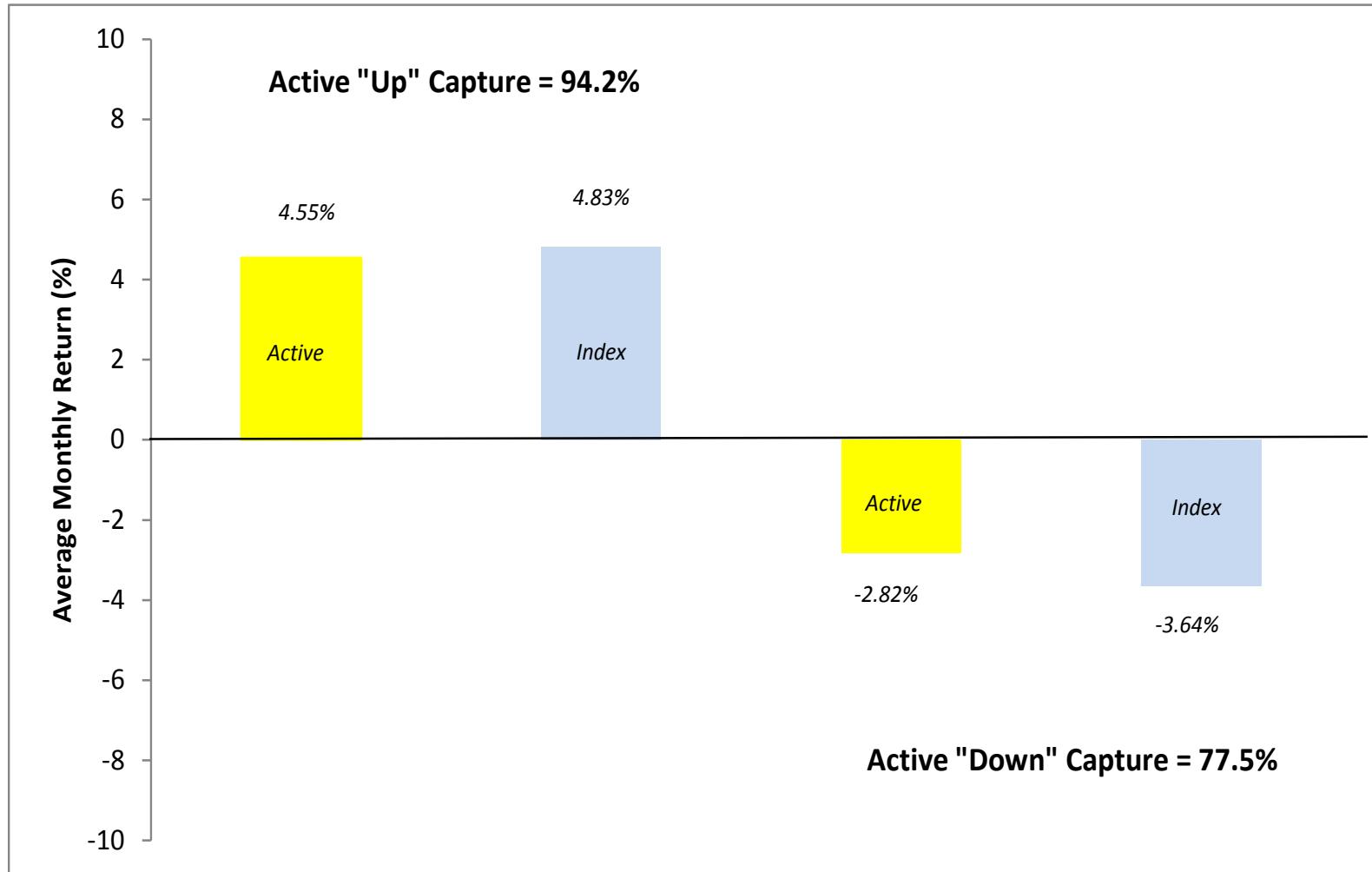
Example of “Up Capture” and “Down Capture” Ratios

- For the active fund data in the last example, the Up Capture and Down Capture ratios (relative to the index fund) are as follows:

<u>Month</u>	<u>Active Fund</u>	<u>Index Fund</u>	<u>Active/Index Up</u>	<u>Index Up</u>	<u>Active/Index Down</u>	<u>Index Down</u>
1	9.254	2.757	9.254	2.757		
2	7.576	7.552	7.576	7.552		
3	-2.106	-1.981			-2.106	-1.981
4	5.085	6.244	5.085	6.244		
5	-1.745	0.785	-1.745	0.785		
6	-5.031	-4.101			-5.031	-4.101
7	4.064	5.965	4.064	5.965		
8	8.062	6.084	8.062	6.084		
9	3.394	4.478	3.394	4.478		
10	6.900	7.955	6.900	7.955		
11	0.292	-5.597			0.292	-5.597
12	3.074	5.476	3.074	5.476		
13	-1.616	-3.336			-1.616	-3.336
14	-2.932	4.625	-2.932	4.625		
15	0.445	1.716	0.445	1.716		
16	-1.064	1.105	-1.064	1.105		
17	8.570	7.208	8.570	7.208		
18	3.807	5.117	3.807	5.117		
19	0.732	1.006	0.732	1.006		
20	-2.555	-1.717			-2.555	-1.717
21	4.641	4.059	4.641	4.059		
22	-1.793	-1.062			-1.793	-1.062
23	-17.065	-14.443			-17.065	-14.443
24	15.715	6.407	15.715	6.407		
25	-3.536	8.127	-3.536	8.127		
26	3.582	6.058	3.582	6.058		
27	10.010	5.759	10.010	5.759		
28	6.630	4.180	6.630	4.180		
29	-4.205	-3.103			-4.205	-3.103
30	5.430	3.999	5.430	3.999		
31	0.803	3.873	0.803	3.873		
32	-3.520	-2.358			-3.520	-2.358
33	4.740	5.545	4.740	5.545		
34	-0.759	-3.115			-0.759	-3.115
35	-1.875	-0.498			-1.875	-0.498
36	-1.187	-2.738			-1.187	-2.738
37	7.071	6.326	7.071	6.326		
38	2.434	2.033	2.434	2.033		
39	10.059	5.886	10.059	5.886		
40	-3.845	-5.024			-3.845	-5.024
41	5.785	-1.891			5.785	-1.891
Up/Down Average:			4.548	4.827	-2.820	-3.640
Up Capture (%):			94.23%			
Down Capture (%):			77.47%			

“Up Capture” and “Down Capture” Ratios Example (cont.)

- Graphically:



Up Capture and Down Capture Ratios for TRS Total Fund: Jan 2003 – Dec 2012

Annualized Performance:

	Portfolio	B'mark	Diff	Ex. Ret.	Risk Free
Return	7.95%	7.75%	0.20%	0.18%	1.69%
St. Dev.	10.20%	10.18%	0.02%	1.40%	0.52%
Best Month	6.23%	7.15%	(0.92%)	0.93%	0.49%
Worst Month	(14.12%)	(14.39%)	0.27%	(2.06%)	(0.01%)
Skew	(1.40)	(1.38)		-1.74	
Kurtosis	5.01	5.54		6.87	
Best 12 Mths	35.87%	35.50%			
Worst 12 Mths	(33.42%)	(32.90%)			
Up Capture	30.10%	29.37%			
Down Capture	(24.66%)	(24.26%)			

- Up Capture Ratio: $(30.10) / (29.37) = \mathbf{102.49\%}$

- Down Capture Ratio: $(-24.66) / (-24.26) = \mathbf{101.65\%}$

II. Performance Measurement Question #1: Traditional Risk-Adjusted Performance Measures

Simple portfolio performance measures (such as peer group comparisons) are potentially flawed in the sense that they *do not make explicit adjustments* for the risk of the portfolios in the comparison.

To address this shortcoming, there are also several performance measures that do take risk into account when assessing the returns produced by the portfolio manager. In fact, there are five well-established **risk-adjusted** performance measures used widely in practice:

1. Sharpe Ratio
2. Treynor Ratio
3. Information Ratio
4. Sortino Ratio
5. Jensen's Alpha

To understand how these measures are calculated and what they mean, consider the situation you must assess the investment performance of a portfolio manager over a given period of time. In executing this task, you will be using a historical data set consisting of 'N' periodic (e.g., monthly) observations on the following variables:

R_{pt} = the period t return to the p-th portfolio;

R_{mt} = the period t return to a market benchmark portfolio ;

RF_t = the period t return to a risk-free security (i.e., a T-bill).

1. Risk-Adjusted Performance Measures: Sharpe Ratio

This measure ranks investment performance on the basis of the portfolio's **risk premium earned per unit of risk**, where risk is measured by the **standard deviation** of the set of historical returns (i.e., σ_p). That is, for the p-th portfolio calculate:

$$S_p = \frac{(\bar{R}_p - \bar{RF})}{\sigma_p}$$

where the numerator is the difference between the historical average periodic returns to the portfolio and the risk-free rate, respectively.

In practice, the denominator can be calculated as either the standard deviation of the actual portfolio returns or as the standard deviation of the *excess portfolio returns* (i.e., the portfolio returns net of the risk-free rate).

The Sharpe ratio is then used to establish a simple ranking of managerial performance by listing the values corresponding to each portfolio from highest to lowest.

Sharpe Ratio (cont.)

An advantage of the Sharpe ratio is that it is relatively easy to compute and *widely used* in practice. In fact, it is arguably the widely used risk-adjusted performance measure reported throughout the funds management industry.

The disadvantages are that it is *difficult to interpret* and does not permit precise statistical comparisons between portfolios. For instance, suppose that two portfolios being compared produce Sharpe ratios of 0.51 and 0.49, respectively. It is:

- (i) not clear exactly what those numbers mean (i.e., the first manager produced 0.51 unit of return in excess of the risk-free rate for every unit of risk, as measured by total portfolio volatility); and
- (ii) whether 0.51 is significantly different than 0.49, or whether the two performance statistics are within the range of rounding and measurement error.

One absolute assessment that can be made with the Sharpe ratio is whether it is a *positive* or a *negative* number. Notice that the Sharpe ratio can only be positive if the manager produced an average return over the measurement period that exceeded the risk-free rate (i.e., the numerator of the statistic is positive). By construction, the standard deviation measure in the denominator of the Sharpe ratio can never be a negative number.

Sharpe Ratios for TRS Total Fund vs. Benchmark: Jan 2003 – Dec 2012

Annualized Performance:

	<u>Portfolio</u>	<u>B'mark</u>	<u>Diff</u>	<u>Ex. Ret.</u>	<u>Risk Free</u>
Return	7.95%	7.75%	0.20%	0.18%	1.69%
St. Dev.	10.20%	10.18%	0.02%	1.40%	0.52%
Best Month	6.23%	7.15%	(0.92%)	0.93%	0.49%
Worst Month	(14.12%)	(14.39%)	0.27%	(2.06%)	(0.01%)
Skew	(1.40)	(1.38)		-1.74	
Kurtosis	5.01	5.54		6.87	
Best 12 Mths	35.87%	35.50%			
Worst 12 Mths	(33.42%)	(32.90%)			
Up Capture	30.10%	29.37%			
Down Capture	(24.66%)	(24.26%)			

Risk Summary:

Info. Ratio	0.14	Sharpe	0.61	Hit Rt Up	62%
M2 Premium	7.93%	Treynor	0.06	Hit Rt Dn	66%
Beta	0.99	Sortino	0.26	Hit Rt Tot	63%
Jensen's alpha	0.25%	5% hVar	(0.60%)		

- TRS Sharpe Ratio: $(0.0795 - .0169) / (0.1020) = 0.614$

- Benchmark Sharpe Ratio: $(0.0775 - .0169) / (0.1018) = 0.595$

2. Risk-Adjusted Performance Measures: Treynor Ratio

Like the Sharpe ratio, the Treynor measure assesses performance on the basis of a ratio of average excess return to risk. The difference is that the Treynor ratio considers only the **systematic** component of a portfolio's risk to be relevant. Letting β_p be the portfolio's beta coefficient, the Treynor ratio is calculated as follows:

$$T_p = \frac{(\bar{R}_p - \bar{R}F)}{\beta_p}$$

Like the Sharpe measure, T_p produces a simple ranking of performance. (In fact, if all the portfolios being ranked are *fully diversified*, the Sharpe and Treynor indexes will create the *same* ranking.)

The Treynor ratio is not as easy to compute as the Sharpe ratio (i.e., it requires the calculation of the portfolio's beta coefficient) but is based on a widely accepted measure of risk. Similar to S_p , the disadvantages of Treynor's measure are that it is difficult to interpret and does not permit precise statistical comparisons between portfolios.

Treynor Ratios for TRS Total Fund vs. Benchmark: Jan 2003 – Dec 2012

Annualized Performance:

	<u>Portfolio</u>	<u>B'mark</u>	<u>Diff</u>	<u>Ex. Ret.</u>	<u>Risk Free</u>
Return	7.95%	7.75%	0.20%	0.18%	1.69%
St. Dev.	10.20%	10.18%	0.02%	1.40%	0.52%
Best Month	6.23%	7.15%	(0.92%)	0.93%	0.49%
Worst Month	(14.12%)	(14.39%)	0.27%	(2.06%)	(0.01%)
Skew	(1.40)	(1.38)		-1.74	
Kurtosis	5.01	5.54		6.87	
Best 12 Mths	35.87%	35.50%			
Worst 12 Mths	(33.42%)	(32.90%)			
Up Capture	30.10%	29.37%			
Down Capture	(24.66%)	(24.26%)			

Risk Summary:

Info. Ratio	0.14	Sharpe	0.61	Hit Rt Up	62%
M2 Premium	7.93%	Treynor	0.06	Hit Rt Dn	66%
Beta	0.99	Sortino	0.26	Hit Rt Tot	63%
Jensen's alpha	0.25%	5% hVar	(0.60%)		

- TRS Treynor Ratio: $(0.0795 - .0169) / (0.99) = 0.063$

- Benchmark Treynor Ratio: $(0.0775 - .0169) / (1.00) = 0.061$

3. Risk-Adjusted Performance Measures: Information Ratio

Closely related to the risk-adjusted performance statistics just presented (i.e., Sharpe, Treynor) is another widely used performance measure: the **Information Ratio**.

This statistic measures a portfolio's average return in excess of that to a comparison, or **benchmark**, portfolio divided by the standard deviation of this excess return. Formally, the information ratio (IR) is calculated as:

$$IR_p = \frac{\bar{R}_p - \bar{R}_b}{\sigma_{ER}} = \frac{\overline{ER}_p}{\sigma_{ER}}$$

where:

IR_p = the information ratio for portfolio j

\bar{R}_p = the average return for portfolio j during the specified time period

\bar{R}_b = the average return for the benchmark portfolio during the period

σ_{ER} = the standard deviation of the excess return during the period.

3. The Information Ratio (cont.)

To interpret IR, notice that the mean excess return in the numerator represents the manager's ability to use his talent and information to generate a portfolio return that differs from that of the benchmark against which his performance is being measured. As we have seen, this average return differential between the actual portfolio and the benchmark is one way of measuring the portfolio's **Alpha coefficient**.

Conversely, the denominator measures the amount of *residual (unsystematic) risk* that the investor incurred in pursuit of those excess returns. The coefficient σ_{ER} is sometimes called the **Tracking Error** of the investor's portfolio and it is a “cost” of active management in the sense that fluctuations in the periodic ER_j values represent random noise beyond an investor's control that could hurt performance.

Thus, the IR can be viewed as a benefit-to-cost ratio that assesses the quality of the investor's information and skill deflated by incremental risk generated by the active investment process, or:

$$IR_p = (\text{Alpha})_p \div (\text{Tracking Error})_p$$

Information Ratio for TRS Total Fund vs. Benchmark: Jan 2003 – Dec 2012

Cumulative Performance:

Portfolio	114.8%	Periods	120
Benchmark	110.9%	R-Squared	98.1%
Excess Return	3.9%	Tracking Error	1.4%

Annualized Performance:

	Portfolio	B'mark	Diff	Ex. Ret.	Risk Free
Return	7.95%	7.75%	0.20%	0.18%	1.69%
St. Dev.	10.20%	10.18%	0.02%	1.40%	0.52%
Best Month	6.23%	7.15%	(0.92%)	0.93%	0.49%
Worst Month	(14.12%)	(14.39%)	0.27%	(2.06%)	(0.01%)
Skew	(1.40)	(1.38)		-1.74	
Kurtosis	5.01	5.54		6.87	
Best 12 Mths	35.87%	35.50%			
Worst 12 Mths	(33.42%)	(32.90%)			
Up Capture	30.10%	29.37%			
Down Capture	(24.66%)	(24.26%)			

Risk Summary:

Info. Ratio	0.14	Sharpe	0.61	Hit Rt Up	62%
M2 Premium	7.93%	Treynor	0.06	Hit Rt Dn	66%
Beta	0.99	Sortino	0.26	Hit Rt Tot	63%
Jensen's alpha	0.25%	5% hVar	(0.60%)		

- TRS Information Ratio: $(0.0795 - .0775) / (.014) = 0.143$

Tracking Error Risk Budget at TRS: August 2012

Risk Budget Summary

	Asset Allocation		Tracking Error Budget ⁽⁴⁾			Tracking Error		
	\$	%	Lower	Neutral	Upper	3Y Actual	SY Predict	SY Contrib
TOTAL	110,974	100.0%				196	66	66
IPM								
GBI	18,762	16.9%	50	100	200	96	89	9
Precious Mtls (vs policy)	736	0.7%	NA	NA	NA	2438	3496	8
US Quality	100	0.1%	NA	NA	NA	1221	869	0
SV / PASSIVE								
US Large Cap Value	1,180	1.1%	0	100	200	(2)	79	0
US Large Cap Growth	204	0	0	100	200	(2)	79	0
Non-US Developed	1,464	1.3%	0	100	200	(2)	15	0
Emerging Market	1,459	1.3%	0	100	200	(2)	145	0
US Small Cap	317	0.3%	0	100	200	(2)	25	0
Directional HF	1,970	1.8%	0	600	600	(2)	473	0
US Treasury	32,437	11.2%	0	50	200	(2)	9	0
Cash	1,450	1.3%	0	50	200	112	2	0
Inflation Linked	5,129	4.6%	0	50	200	16	29	0
QVF	40	0.0%	700	1000	1300	1203	1262	(4)
EPU								
US Large Cap	8,811	7.2%	150	300	500	243	306	14
Non-US Developed	6,286	6.1%	150	300	500	285	211	4
Emerging Market	6,972	6.1%	150	300	500	260	267	1
US Small Cap	1,684	1.4%	250	500	700	528	344	0
Dislocated Credit	1,009	0.9%	300	600	1000	686	930	1
Directional HF	3,613	3.0%	300	600	800	(2)	272	0
Stable Value HF	3,936	3.7%	200	400	600	347	228	1
EPR								
Private Equity	13,064	11.8%	300	600	900	775	101	14
Real Assets	13,015	11.7%	250	500	750	351	101	(4)
REITS	2,097	1.9%	0	100	200	56	39	0
SPN								
Barclays Capital	531	0.5%	150	250	400	212	300	0
Blackrock	1,232	1.1%	150	250	400	168	193	0
JP Morgan	1,275	1.1%	150	250	400	285	199	0
Morgan Stanley	1,227	1.1%	150	250	400	130	194	-1
Neuberger Berman	1,285	1.2%	150	250	400	209	120	0
TAA (Security Selection)	227	0.2%	0	25	50	(2)	16	2
Asset Allocation						60	21	21
US Large Cap	21,911	18.6%				169	143	-8
Non-US Developed	17,301	16.5%				129	107	0
Emerging Markets	10,754	9.1%				181	213	0
US Small Cap	1,174	1.0%				233	585	6
Directional HF	5,583	4.7%				(2)	308	0
Private Equity	13,064	11.8%				775	(2)	2
US Treasury	13,476	12.2%				23	15	2
Stable Value HF	3,936	3.7%				211	228	0
Absolute Return	959	0.4%				676	1053	0
Cash	959	2.2%				456	12	0
Inflation Linked	5,499	5.0%				22	30	0
Real Assets	13,015	11.7%				351	(2)	18
Commodities	1,155	0.8%				912	2962	3
REITS	2,188	2.0%				58	41	0
OTHER RISK BUDGETS								
Total Public Trust	84,895	76.5%	50	100	300	125	81	(4)
Total TAA (SS + AA)			25	50	75			
EPU World Equity	3,700	3.3%	150	300	500	316	310	5
Trust VaR (Neutral is BM)			6.5%	8-8%	10.4%			

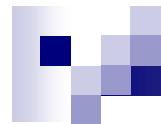
(1) Excludes private markets security selection

(2) Need at least twelve months history for realized tracking error

(3) Not modeled due to lack of transparency for the benchmark- private markets proxy under development

(4) Under development

(5) Boxed items are investment policy limits



The Information Ratio: Additional Thoughts

- Goodwin has noted that the *Sharpe ratio is a special case of the IR* where the risk-free asset is the benchmark portfolio, despite the fact that this interpretation violates the spirit of a statistic that should have a value of zero for any passively managed portfolio.
- Recall that the IR statistic can be interpreted as:

$$\text{IR} = (\text{Alpha}) \div (\text{Tracking Error})$$

So, if the Information Ratio is used as a policy tool for assessing what an active manager should “deliver”, then we should think of the Tracking Error as the manager’s **risk budget** and the Alpha coefficient of the return produced by spending that risk budget.

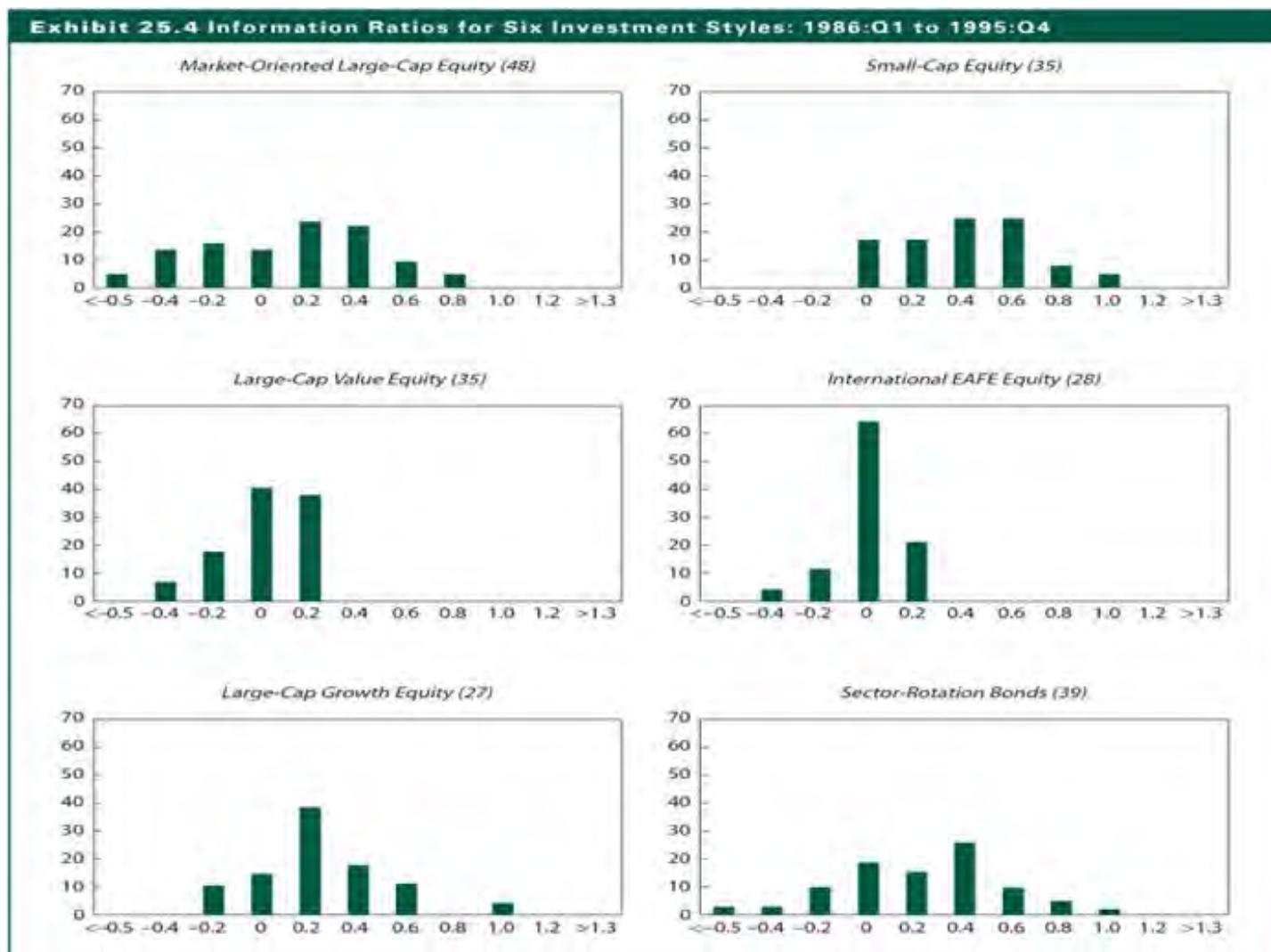
In that context, notice that different combinations of Alpha and Tracking Error can produce the same IR target: An IR statistic of 0.50 can be produced by a combination of [Alpha = 1.00%, TE = 2.00%] or a combination of [Alpha = 2.00%, TE = 4.00%].

The consequence of this is that a manager who is granted a bigger risk budget (i.e., a higher allowable TE) will need to produce a higher level of Alpha to justify his or her activity.

The Information Ratio: Additional Thoughts (cont.)

- There is *no theory* for what is an *acceptable level* of the IR statistic. However, notice that IR will only be positive if the manager's actual return exceeds that of the benchmark (i.e., produces a positive Alpha). By construction, tracking error—which is just calculated as a standard deviation—can never be negative.
- Grinold and Kahn have argued that reasonable information ratio levels *should range from 0.50 to 1.00*, with an investor having an IR of 0.50 being good and one with an IR of 1.00 being exceptional. These, however, appear to be exceptionally difficult hurdles to clear.
- Goodwin studied the performance of more than 200 professional equity and fixed-income portfolio managers with various investment styles over a ten-year period. He found that the IR of the median manager in each style group was positive but that the ratio never exceeded 0.50. Thus, while the average manager appears to add value to investors— α (and hence IR) is greater than zero—she doesn't qualify as “good.” Further, no style group had more than three percent of its managers deliver an IR in excess of 1.00.

The Information Ratio: Goodwin's Fund Comparison



Note: Midpoints of ranges. Information ratios are on the x-axes; relative frequencies, in percentages, are on the y-axes.

Source: Brian D. Singer, Renato Staub, and Kevin Terhaar, "Determining the Appropriate Allocation to Alternative Investments," Hedge Fund Management (Charlottesville, VA: CFA Institute, 2002), 10. Copyright © 2002 CFA Institute. Reproduced and republished from *Financial Management Journal* with permission from the CFA Institute. All Rights Reserved.

4. Risk-Adjusted Performance Measures: Sortino Ratio

The **Sortino measure** is a risk-adjusted investment performance statistic that differs from the Sharpe ratio in two ways:

- (i) the Sortino ratio measures the portfolio's average return in excess of a user-selected *minimum acceptable return (MAR) threshold*; and
- (ii) it focuses on just the **downside risk** in the portfolio.

This measure can be calculated as follows:

$$ST_p = \frac{\bar{R}_i - \tau}{DR_p}$$

where

τ = the minimum acceptable return threshold specified for the time period

DR_p = the downside risk coefficient for Portfolio p during the specified time period.

One of the most popular ways to compute DR is the *semi-deviation*, which uses the portfolio's average (expected) return as the hurdle rate:

$$\text{Semi - Deviation} = \sqrt{\frac{1}{n} \sum_{R < \bar{R}} (R_{it} - \bar{R}_i)^2}$$

where

n = the number of portfolio returns falling below the expected return

Like the Sharpe ratio, higher values of the ST measure indicate superior levels of portfolio management.

Sortino Ratio: An Example

Suppose that over the past ten years, two portfolio managers have produced the following returns:

Year	Portfolio A Return (%)	Portfolio B Return (%)
1	-5	-1
2	-3	-1
3	-2	-1
4	3	-1
5	3	0
6	6	4
7	7	4
8	8	7
9	10	13
10	13	16
Average:	4	4
Std. Dev.:	5.60	5.92

Both portfolios had an average annual return of 4 percent over this horizon, meaning that it will be how their risk is measured that determines which manager performed the best.

Based on the listed standard deviation coefficients, it appears that Portfolio A is the less volatile portfolio. Notice, however, that a substantial amount of the variation for Portfolio B came from two large positive returns, which are included in the computation of total risk. Assuming the average risk-free rate during this period was 2 percent, the Sharpe ratio calculations confirm that Portfolio A outperformed Portfolio B: $S_A = 0.357$ ($= [4 - 2]/5.60$) and $S_B = 0.338$ ($= [4 - 2]/5.92$).

The story changes when just the downside risk of the portfolios is considered. In addition to more extreme positive values, notice that Portfolio B also had losses that were limited to 1 percent in any given year, perhaps as a result of a portfolio insurance strategy the manager is using. Using semi-deviation to compute DR for both portfolios leaves:

$$DR_A = \sqrt{[(-5 - 4)^2 + (-3 - 4)^2 + (-2 - 4)^2 + (3 - 4)^2 + (3 - 4)^2] \div 5} = 5.80$$

and

$$DR_B = \sqrt{[(-1 - 4)^2 + (-1 - 4)^2 + (-1 - 4)^2 + (-1 - 4)^2 + (0 - 4)^2] \div 5} = 4.82$$

Thus, when only the possibility of receiving a less-than-average return is considered, Portfolio A now appears to be the risky alternative due to the fact it has more extreme negative returns than Portfolio B. Assuming a minimum return threshold of 2 percent to match the Sharpe measure, the Sortino ratios for both portfolios indicate that, by limiting the extent of his downside risk, the manager for Portfolio B was actually the superior performer: $ST_A = 0.345$ ($= [4 - 2]/5.80$) and $ST_B = 0.415$ ($= [4 - 2]/4.82$).

Sortino Ratio for TRS Total Fund vs. Risk-Free Rate: Jan 2003 – Dec 2012

Cumulative Performance:

Portfolio	114.8%	Periods	120
Benchmark	110.9%	R-Squared	98.1%
Excess Return	3.9%	Tracking Error	1.4%

Annualized Performance:

	Portfolio	B'mark	Diff	Ex. Ret.	Risk Free
Return	7.95%	7.75%	0.20%	0.18%	1.69%
St. Dev.	10.20%	10.18%	0.02%	1.40%	0.52%
Best Month	6.23%	7.15%	(0.92%)	0.93%	0.49%
Worst Month	(14.12%)	(14.39%)	0.27%	(2.06%)	(0.01%)
Skew	(1.40)	(1.38)		-1.74	
Kurtosis	5.01	5.54		6.87	
Best 12 Mths	35.87%	35.50%			
Worst 12 Mths	(33.42%)	(32.90%)			
Up Capture	30.10%	29.37%			
Down Capture	(24.66%)	(24.26%)			

Risk Summary:

Info. Ratio	0.14	Sharpe	0.61	Hit Rt Up	62%
M2 Premium	7.93%	Treynor	0.06	Hit Rt Dn	66%
Beta	0.99	Sortino	0.26	Hit Rt Tot	63%
Jensen's alpha	0.25%	5% hVar	(0.60%)		

- TRS Sortino Ratio: $(0.0795 - .0169) / (\text{Semi-Deviation}) = 0.26$

5. Risk-Adjusted Performance Measures: Jensen's Alpha

Unlike the previous risk-adjusted performance measures, which summarize the historical return data by taking simple averages, the Jensen's Alpha procedure estimates the coefficients of the following time-series **regression** for each portfolio relative to a risk factor model. For instance:

$$(R_{pt} - RF_t) = \alpha_p + \beta_p(R_{mt} - RF_t) + \varepsilon_t; t = 1, \dots, N$$

In this procedure, α_p is the performance index. According to the Capital Asset Pricing Model (CAPM), Jensen's alpha should be equal to zero. Thus, if it is significantly above (below) zero, you can conclude that the portfolio manager has significantly outperformed (underperformed) the market, after adjusting for the risk of his or her investment.

There are **three advantages** to Jensen's alpha as a performance measure:

- (i) since it is a byproduct of a regression, its statistical validity can be established directly,
- (ii) it can be interpreted as the level of return that the manager generated in excess (deficient) of what he or she should have earned given the risk of the investment, and
- (iii) it can be adapted to other models of estimating expected returns besides the CAPM (e.g., Fama-French three-factor model).

Jensen's Alpha (cont.)

In particular, when assessing the performance of all-equity portfolios, Jensen's alpha is often calculated using the following versions of the Fama-French multi-factor model:

Three-Factor Model:

$$R_{pt} - RFR_t = \alpha_j + \{[b_{p1}(R_{mt} - RFR_t) + b_{p2}SMB_t + b_{p3}HML_t]\} + e_{pt}$$

Four-Factor Model:

$$R_{pt} - RFR_t = \alpha_j + \{[b_{p1}(R_{mt} - RFR_t) + b_{p2}SMB_t + b_{p3}HML_t] + b_{p4}MOM_t\} + e_{pt}$$

where the risk factors are defined as being related to the general stock market ($R_m - RFR$), firm size (SMB), relative valuation (HML) and return momentum (MOM).

Jensen's Alpha for TRS Total Fund vs. Benchmark: Jan 2003 – Dec 2012

Cumulative Performance:

Portfolio	114.8%	Periods	120
Benchmark	110.9%	R-Squared	98.1%
Excess Return	3.9%	Tracking Error	1.4%

Annualized Performance:

	Portfolio	B'mark	Diff	Ex. Ret.	Risk Free
Return	7.95%	7.75%	0.20%	0.18%	1.69%
St. Dev.	10.20%	10.18%	0.02%	1.40%	0.52%
Best Month	6.23%	7.15%	(0.92%)	0.93%	0.49%
Worst Month	(14.12%)	(14.39%)	0.27%	(2.06%)	(0.01%)
Skew	(1.40)	(1.38)		-1.74	
Kurtosis	5.01	5.54		6.87	
Best 12 Mths	35.87%	35.50%			
Worst 12 Mths	(33.42%)	(32.90%)			
Up Capture	30.10%	29.37%			
Down Capture	(24.66%)	(24.26%)			

Risk Summary:

Info. Ratio	0.14	Sharpe	0.61	Hit Rt Up	62%
M2 Premium	7.93%	Treynor	0.06	Hit Rt Dn	66%
Beta	0.99	Sortino	0.26	Hit Rt Tot	63%
Jensen's alpha	0.25%	5% hVar	(0.60%)		

- TRS Jensen's Alpha: **0.25%** (relative to single-factor market model)

III. Performance Measurement Question #2:

- The risk-adjusted performance measures that we have just discussed are the answer to the first, and most important, question involved in the performance measurement process:
 - *How* did the portfolio manager do relative to the “competition” (i.e., the benchmark, peer group, return-generating model)?
- Once the first question has been answered, the second that should be addressed is:
 - **Why** did the portfolio manager perform as he or she did?
- Said differently, the second question seeks to establish which skills or decisions associated with the manager that the investment performance can be attributed. Accordingly, the techniques involved with answering this second question are collectively called **attribution analysis**.

Attribution Analysis

- Portfolio managers can "add value" to their investors in either of two ways:
 - (i) *selecting superior securities*, or
 - (ii) demonstrating superior *market timing skills* through their allocation of funds to different asset classes or market segments.
- **Attribution analysis** attempts to distinguish which of these factors was the source of the portfolio's overall performance. Specifically, this method compares the total return to the manager's actual investment holdings to the return for a pre-determined benchmark portfolio and decomposes the difference into:
 - (i) an **allocation effect**, and
 - (ii) a **selection effect**.

Attribution Analysis (cont.)

The most straightforward way to measure these two effects is as follows:

$$\text{Allocation Effect} = \sum_i [w_{pi} - w_{bi}] \times [R_{bi} - R_b]$$

and:

$$\text{Selection Effect} = \sum_i [w_{pi}] \times [R_{pi} - R_{bi}]$$

where:

$[w_{pi}, w_{bi}]$ = the investment proportions given to the i-th *market segment* (e.g., asset class, industry group) in the manager's actual portfolio and the benchmark portfolio, respectively;

$[R_{pi}, R_{bi}]$ = the investment return to the i-th market segment in the manager's actual portfolio and the benchmark portfolio, respectively;

R_b = the total return to the benchmark portfolio.

Attribution Analysis (cont.)

- Computed in this manner, the *allocation effect* measures the decision of the manager to over- or underweight a particular market segment (i.e., $[w_{pi} - w_{bi}]$) in terms of that segment's return performance relative to the overall return to the benchmark (i.e., $[R_{bi} - R_b]$). Good timing skill is therefore a matter of investing more money in those market segments that end up producing greater than average returns.
- The *selection effect* measures the manager's ability to form specific market segment portfolios that generate superior returns relative to the way in which that comparable market segment is defined in the benchmark portfolio (i.e., $[R_{pi} - R_{bi}]$), weighted by the manager's actual market segment investment proportions.
- When constructed in this manner, the manager's *total value-added performance is the sum of the allocation and selection effects*.

Attribution Analysis (cont.)

$$\begin{aligned}\textbf{Total Value-Added} &= (\text{Allocation Effect}) + (\text{Selection Effect}) \\ &= (\text{Total Actual Return}) - (\text{Total Benchmark Return}) \\ &= (R_p - R_b) = \textbf{Alpha}\end{aligned}$$

This can be seen as follows:

$$\begin{aligned}(\textbf{Allocation Effect}) + (\textbf{Selection Effect}) &= \\ \{ \sum_i [w_{pi} - w_{bi}] \times [R_{bi} - R_b] \} + \{ \sum_i [w_{pi}] \times [R_{pi} - R_{bi}] \} &= \\ \{ \sum_i [w_{pi} R_{bi} - w_{pi} R_b - w_{bi} R_{bi} + w_{bi} R_b] \} + \{ \sum_i [w_{pi} R_{pi} - w_{pi} R_{bi}] \} &= \\ \{ \sum w_{pi} R_{bi} - \sum w_{pi} R_b - \sum w_{bi} R_{bi} + \sum w_{bi} R_b \} + \{ \sum w_{pi} R_{pi} - \sum w_{pi} R_{bi} \} &= \\ [\sum w_{pi} R_{bi} - \sum w_{pi} R_{bi}] + R_b [\sum w_{bi} - \sum w_{pi}] + [\sum w_{pi} R_{pi} - \sum w_{bi} R_{bi}] &= \\ = (\mathbf{R_p} - \mathbf{R_b}) \end{aligned}$$

Attribution Analysis: An Illustrative Example

- Consider an investor whose "top down" portfolio strategy consists of two dimensions. First, he decides on a broad allocation of his investment dollars across three asset classes: *U.S. stocks*; U.S. long-term bonds; and *cash equivalents*, such as U.S. Treasury bills or bank certificates of deposit.
- Once this judgment is made, the investor's second general decision involves choosing which specific *stocks*, *bonds*, and *cash* instruments to buy. As a benchmark for his investment prowess, he selects a hypothetical portfolio with a:
 - 60% allocation to the Standard & Poor's 500 index,
 - 30% investment in the Barclay's U.S. Aggregate Bond index,
 - 10% allocation to three-month Treasury bills.

Attribution Analysis: An Illustrative Example (cont.)

- Suppose that at the start of the investment period, the investor feels that equity values are somewhat inflated and is not optimistic about the near-term performance of the stock market. Compared to the benchmark, he therefore decides to *underweight stocks* and *overweight bonds and cash* in his actual portfolio. The investment proportions he chooses are 50% in equity, 38% in bonds, and 12% in cash.
- Further, instead of selecting a broad-based portfolio of equities, he decides to concentrate on the interest rate sensitive sectors, such as utilities and financial companies, while deemphasizing the technology and consumer durables sectors. Also, he resolves to buy shorter duration bonds of a higher credit quality than are contained in the benchmark bond index and to buy commercial paper rather than Treasury bills.
- Notice in this example that the manager has made *active investment decisions* involving both the *allocation of assets* and the *selection of individual securities*. To determine if either (or both) of these decisions proved to be wise ones, at the end of the investment period he can calculate his overall and segment-specific performance.

Attribution Analysis: An Illustrative Example (cont.)

Asset Class:	Investment Weights:			Returns:		
	Actual	Benchmark	Excess	Actual	Benchmark	Excess
Stock	0.50	0.60	-0.10	9.70%	8.60%	1.10%
Bonds	0.38	0.30	0.08	9.10%	9.20%	-0.10%
Cash	0.12	0.10	0.02	5.60%	5.40%	0.20%

- $Overall\ Actual\ Return = (0.50 \times 0.097) + (0.38 \times 0.091) + (0.12 \times 0.056) = 8.98\%$

and:

- $Overall\ Benchmark\ Return = (0.60 \times 0.086) + (0.30 \times 0.092) + (0.10 \times 0.054) = 8.46\%$

so that:

- $Allocation\ Effect = [(-0.10) \times (0.086 - 0.0846)] + [(0.08) \times (0.092 - 0.0846)] + [(0.02) \times (0.054 - 0.0846)] = -0.02\%$

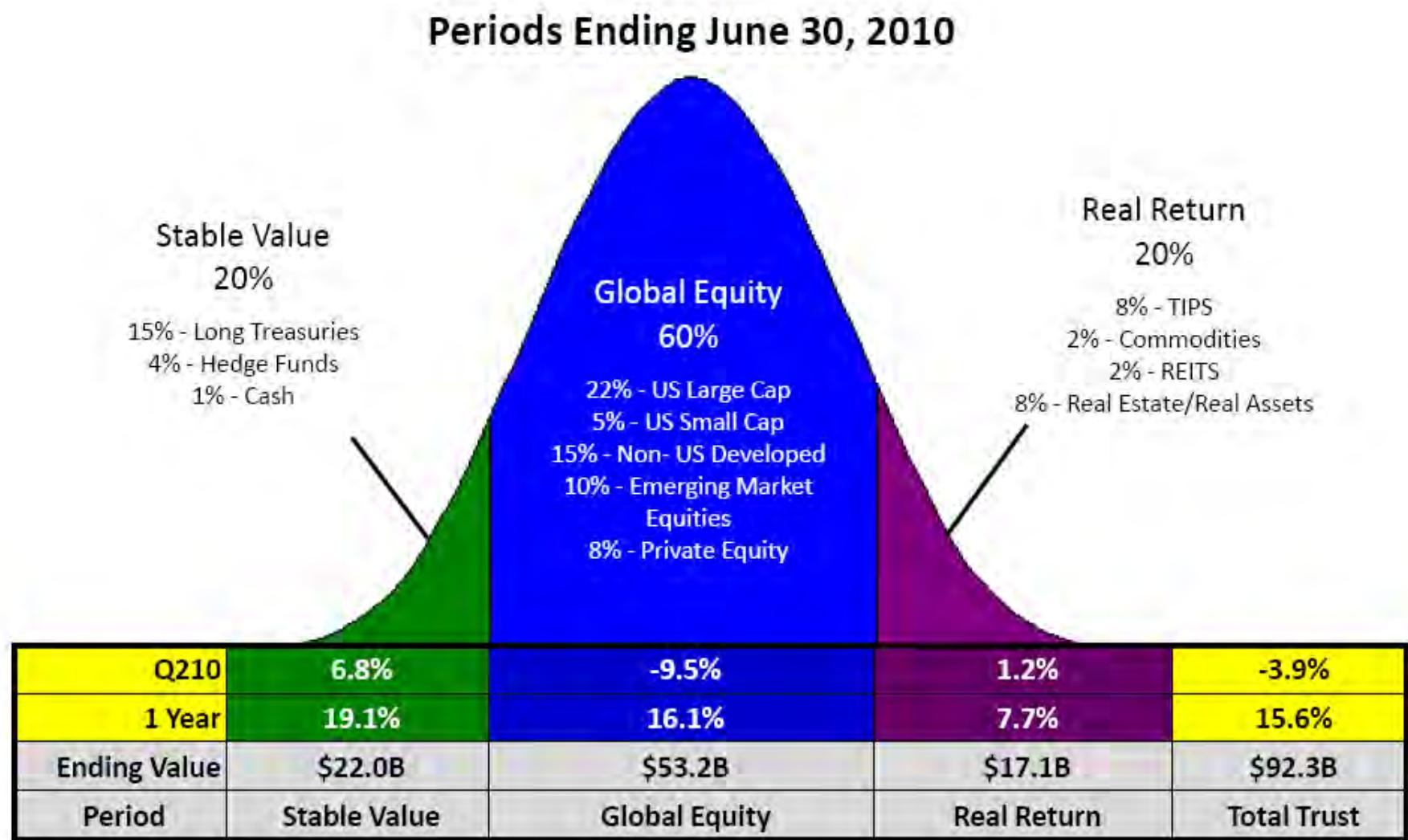
and:

- $Selection\ Effect = [(0.50) \times (0.097 - 0.086)] + [(0.38) \times (0.091 - 0.092)] + [(0.12) \times (0.056 - 0.054)] = 0.54\%$

meaning:

- $Total\ Value-Added = (Allocation\ Effect) + (Selection\ Effect) = (-0.02\%) + (0.54\%) = 0.52\%.$

Attribution Analysis at TRS – June 2010



TRS Attribution Analysis: June 2010

Assets	Value (\$B)	Average		Total Return	Excess Return	Value Added	NOTES
		% of Fund	+/- weight				
Public Equity	\$45.7	52.2%	-0.3%	14.5%	0.2%	0.3%	
Private Equity	\$7.9	7.1%	-0.6%	24.6%	-9.8%	-0.7%	Excess Return using a PE Benchmark was +3.7%
Global Equity	\$53.6	59.4%	-0.9%	16.1%	-0.7%	-0.4%	Continued strong returns for Global Equity
LT Treasuries	\$11.2	9.9%	-4.3%	12.7%	0.6%	-0.2%	Largest Underweighted Position
Hedge Funds	\$4.0	4.0%	0.0%	7.7%	5.5%	0.2%	
Credit	\$5.2	7.2%	6.5%	34.2%	29.2%	2.2%	Largest Overweighted Position
Cash	\$1.0	1.8%	0.8%	0.6%	0.5%	0.0%	
Stable Value	\$21.4	22.9%	3.1%	19.1%	9.9%	2.1%	Tactical Credit Allocation Beneficial
TIPS	\$8.6	9.2%	0.8%	10.5%	0.0%	0.1%	
Commodities	\$2.1	2.1%	0.2%	-0.1%	5.3%	0.1%	
REITs	\$1.8	2.0%	0.0%	50.7%	-3.0%	-0.2%	
Real Assets	\$4.8	4.4%	-3.1%	-9.0%	6.7%	1.0%	
Real Return	\$17.4	17.8%	-2.2%	7.7%	5.2%	1.0%	Underweight to Real Assets Beneficial
Total Trust	\$92.3	100.0%	0.0%	15.6%	2.7%	2.7%	+15% Total Fund Return
Public Assets	\$79.7	88.5%	3.7%	16.0%	2.6%	2.4%	Exceeded Target Value Added
Private Assets	\$12.7	11.5%	-3.7%	7.0%	-1.1%	0.3%	
Total Trust	\$92.3	100.0%	0.0%	15.6%	2.7%	2.7%	Return and Value Added both positive

TRS Attribution Analysis: June 2010 (cont.)

	Asset Allocation	Security Selection	Total
[Overweight] Credit/ [Underweight] Treasuries	1.8%	0.0%	1.8%
[Underweight] Real Assets/ REITS Allocation	0.6%	0.3%	0.9%
[Overweight] Emerging Market Equity	0.1%	0.1%	0.2%
Hedge Funds	-	0.2%	0.2%
[Overweight] World Equity/ [Underweight] Small Cap	-0.2%	0.2%	0.0%
Private Equity	-0.1%	-0.6%	-0.7%
Other	-0.1%	0.4%	0.3%
Total Fund	2.1%	0.6%	2.7%

TRS Attribution Analysis: September 2012 Update

	Market Value (\$ in millions) as of 9/30/2012		Policy Target	Relative Allocation to Policy Target	Ranges
	(\$)	(%)			
Total Fund	\$112,432	100%	100%	-	-
U.S. Large	\$25,052	22.3%	18%	+4.3%	13-23%
U.S. Small	\$1,600	1.4%	2%	-0.6%	0-7%
Non-U.S. Developed	\$14,499	12.9%	15%	-2.1%	10-20%
Emerging Markets	\$12,048	10.7%	10%	+0.7%	5-15%
Directional Hedge Funds	\$5,720	5.1%	5%	+0.1%	0-10%
Private Equity	\$13,043	11.6%	12%	-0.4%	7-17%
Global Equity	\$71,962	64.0%	62%	+2.0%	55-69%
Long Treasuries	\$12,032	10.7%	13%	-2.3%	0-20%
Stable Value Hedge Funds	\$3,984	3.5%	4%	-0.5%	0-10%
Absolute Return (including OAR)	\$1,979	1.8%	0%	+1.8%	0-20%
Cash	\$2,256	2.0%	1%	+1.0%	0-5%
Stable Value	\$20,251	18.0%	18%	0.0%	13-23%
TIPS	\$5,276	4.7%	5%	-0.3%	0-10%
Real Assets	\$13,367	11.9%	13%	-1.1%	5-20%
REITS	\$712	0.6%	2%	-1.4%	0-5%
Commodities	\$864	0.8%	0%	+0.8%	0-5%
Real Return	\$20,219	18.0%	20%	-2.0%	15-25%

TRS Attribution Analysis: September 2012 Update (cont.)

TOTAL FUND ATTRIBUTION ANALYSIS
3 MONTHS ENDING 9/30/12



Asset Class	Allocation Effect (in bps)
U.S. Large Cap	5
U.S. Small Cap	-2
Non-U.S. Developed	1
Emerging Markets	-1
Directional Hedge Funds	0
Private Equity	1
Long Treasuries	2
Stable Value Hedge Funds	1
Cash Equivalents	-2
Other Absolute Return	-3
U.S. TIPS	0
Real Assets	2
REITS	0
Commodities	6
Total Allocation Effect	10

IV. Appendix

1. The Notion of Tracking Error: Concept and Calculation

- One way to evaluate how closely any managed investment fund matches its intended benchmark is to calculate the fund's **tracking error**.
- Tracking error can be computed as the standard deviation of the *difference in returns* between the managed portfolio (i.e., either active or passive) and the underlying benchmark.
- Let $\Delta_t = (R_{\text{MgdPort}} - R_{\text{Bench}})_t$. Then, using a total of T return periods, *periodic tracking error* equals:

$$\sigma_\Delta = \sqrt{\frac{\sum_{t=1}^T (\Delta_t - \bar{\Delta})^2}{(T-1)}}$$

Notion of Tracking Error (cont.)

- For P return periods in a year (e.g., $P = 12$ for monthly returns) *annualized tracking error* is then:

$$TE = \sigma_{\Delta} \sqrt{P}$$

- Generally speaking, managed portfolios can be separated into the following categories by the level of their annualized tracking errors:
 - *Passive* (i.e., Indexed): $TE < 1.0\%$ (Note: $TE < 0.5\%$ is normal)
 - *Structured* (i.e., Enhanced Index): $1.0\% \leq TE \leq 3\%$
 - *Active*: $TE > 3\%$ (Note: $TE > 5\%$ is normal for some active managers)

Tracking Error Example: “Large Blend” Active Manager vs. Index Funds

DGAGX US \$ NAV **45.19** -.08 Purch Prc 45.19

.... On 14 Jan

DGAGX US Equity		99) Feedback	Page 1/4 Description: Profile	
1) Profile		2) Performance	3) Holdings	4) Organizational
DREYFUS APPRECIATION FD INC				Objective Growth-Large Cap
Dreyfus Appreciation Fund, Inc. is an open-end fund incorporated in the USA. The Fund's objective is long-term capital growth consistent with the preservation of capital. Its secondary goal is current income. The Fund invests at least 80% of its net assets in the common stock of U.S. and foreign blue-chip companies of market capitalization of more than \$5 billion. [BBGID BBG000BBW0L3]				
6) Current Data (COMP)		Bloomberg Classification		
<p>1 yr Tot Ret vs Index BBOEGLUS Index 14.5115 SPX Index 16.2722 DGAGX US Equity 11.8769</p>		Fund Type Open-End Fund Asset Class Equity Geo. Focus. Global Style Growth Size Large-cap		
7) NAV (GP)		Fund Info		
Assets 01/14/13 USD 45.19		Inception Date 01/18/84	Front Load .00%	
		Share Class Retail	Back Load .00%	
		Min Investment USD 2500	Early Withdrawal .00%	
		Min Subsequent USD 100.00	Current Mgmt Fee .55%	
		Min IRA USD 750	Performance Fee N.A.	
		Expense Ratio .97%	12b1 Fee .00%	
Px Source NASDAQ		Fees		
Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000		Front Load .00%		
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.		Back Load .00%		
		Early Withdrawal .00%		
		Current Mgmt Fee .55%		
		Performance Fee N.A.		
		12b1 Fee .00%		

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 335716 CST GMT-6:00 6819-2832-0 15-Jan-2013 12:17:16

Index Fund (VFINX) and Exchange-Traded Fund (SPY)

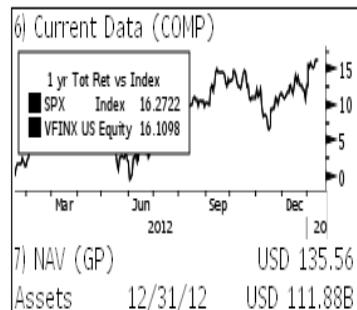
VFINX US \$ NAV **135.56** -.12 Purch Prc 135.56

.... On 14 Jan

VFINX US Equity	Feedback	Page 1/4	Description: Profile
1) Profile	2) Performance	3) Holdings	4) Organizational

VANGUARD 500 INDEX FUND-INV Objective Index Fund-Large Cap

Vanguard 500 Index Fund is an open-end fund incorporated in the USA. The Fund aims to track the performance of the Standard & Poor's 500 Index, which is dominated by the stocks of large U.S. companies. The Fund invests substantially all of its assets in the stocks that make up the Index. [BBGID BBG000BHTMY2]



Performance	Return	Percentile
1 Month	4.18%	60
YTD	3.19%	56
1 Year	16.52%	73
3 Year	10.75%	72
5 Year	2.94%	75
Px Source	NASDAQ	

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 335716 CST GMT-6:00 G819-2832-0 15-Jan-2013 12:21:48

Bloomberg Classification	
Fund Type	Open-End Fund
Asset Class	Equity
Geo. Focus.	U.S.
Style	Index Fund
Size	Large-cap

Fund Info		Fees
Inception Date	08/31/76	Front Load .00%
Share Class	Investor	Back Load .00%
Min Investment	USD 3000	Early Withdrawal .00%
Min Subsequent	USD 100.00	Current Mgmt Fee .14%
Min IRA	N.A.	Performance Fee N.A.
Expense Ratio	.17%	12b1 Fee .00%

SPY US \$ ↑ **146.83** -.14 P146.82 / 146.83II 340 x 348

At 12:10 d Vol 44,224,351 0 146.29X H 146.9315D L 146.20T Val 6.479B

SPY US Equity	Feedback	Page 1/5	Description: Profile
1) Profile	2) Performance	3) Holdings	4) Allocations 5) Organizational

SPDR S&P 500 ETF TRUST Objective Blend - Large Cap

SPDR S&P 500 ETF Trust is a unit investment trust incorporated in the United States. The Trust consists of a portfolio representing all 500 stocks in the S&P 500 Index. [BBGID BBG000BDTBL9]

6) Current Data (COMP)	Bloomberg Classification	Appropriations
	Fund Type ETF	Leverage No
7) Price (GP) USD 146.82	Asset Class Equity	Actively Managed No
8) NAV(NAV) USD 146.93	Size Large-cap	Swap Based No
INAV USD 146.82	Style Blend	Derivatives Based No
Fund Percent Premium 0.000%	Geo. Focus. U.S.	Currency Hedged No
52 Wk H 09/14/12 USD 148.11	Replication Strategy Full	Securities Lending No
52 Wk L 06/04/12 USD 127.135		

7) Price (GP) USD 146.82	Trading Data	Characteristics
8) NAV(NAV) USD 146.93	Bid Ask Spread 0.010	Und. Index 10) SPX
INAV USD 146.82	30D Avg Volume 137.9M	Index Weight Market Cap
Fund Percent Premium 0.000%	Implied Liquidity 61.7M	Px Track. Error .314
52 Wk H 09/14/12 USD 148.11	Market Cap USD 126.70B	NAV Track. Error .042
52 Wk L 06/04/12 USD 127.135	Shares Out 862.9M	Inception Date 01/22/93
9) Options(OMON) Yes	Total Assets USD 126.79B	Expense Ratio .095%

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 335716 CST GMT-6:00 G819-2832-0 15-Jan-2013 12:25:53

Tracking Errors for VFINX, SPY, DGAGX

<u>Period</u>	Return to <u>VFINX</u>	Return to <u>SPY</u>	Return to <u>DGAGX</u>	Return to <u>SPX</u>	<u>Δvfinx</u>	<u>Δspy</u>	<u>Δdgagx</u>
2012	15.82	15.99	10.18	16.00	-0.18	-0.01	-5.82
2011	1.97	1.89	7.62	2.11	-0.14	-0.22	5.51
2010	14.91	15.06	15.26	15.06	-0.15	0.00	0.20
2009	26.49	26.37	21.01	26.46	0.03	-0.09	-5.45
2008	-37.02	-36.81	-32.37	-37.00	-0.02	0.19	4.63
2007	5.82	5.14	6.54	5.49	0.33	-0.35	1.05
2006	15.64	15.85	16.26	15.79	-0.15	0.06	0.47
2005	4.77	4.83	4.14	4.91	-0.14	-0.08	-0.77
2004	10.74	10.70	5.57	10.88	-0.14	-0.18	-5.31
2003	<u>28.50</u>	<u>28.18</u>	<u>20.39</u>	<u>28.68</u>	<u>-0.18</u>	<u>-0.50</u>	<u>-8.29</u>
Average (%):	8.76	8.72	7.46	8.84	-0.07	-0.12	-1.38
Periodic Tracking Error (%):					0.16	0.20	4.66
Period/Yr:					1.00	1.00	1.00
Annual Tracking Error (%):					0.16	0.20	4.66

Tracking Error Example: Calculations

- TE for VFINX:

$$\sqrt{\frac{[-0.18 - (-0.07)]^2 + [-0.14 - (-0.07)]^2 + \dots + [-0.18 - (-0.07)]^2}{(10 - 1)}} = 0.16$$

- TE for SPY:

$$\sqrt{\frac{[-0.01 - (-0.12)]^2 + [-0.22 - (-0.12)]^2 + \dots + [-0.50 - (-0.12)]^2}{(10 - 1)}} = 0.20$$

- TE for DGAGX:

$$\sqrt{\frac{[-5.82 - (-1.38)]^2 + [5.51 - (-1.38)]^2 + \dots + [-8.29 - (-1.38)]^2}{(10 - 1)}} = 4.66$$

2. Examples of Risk-Adjusted Performance Measure Calculations

- Consider the monthly returns over a 41-month historical period to the following:
 - An actively managed investment fund
 - The market benchmark the actively managed fund uses
 - The risk-free rate
 - Three Fama-French risk Factors: Excess Market, SMB, HML

Month	% Returns to:			% Returns to F-F Factors:		
	Active Fund Rtn	Mkt Index Rtn	1-mo RF	Excess MktRtn	SMB	HML
1	9.254	2.757	0.42	0.97	-4.03	4.62
2	7.576	7.552	0.41	6.16	-3.46	0.09
3	-2.106	-1.981	0.46	-1.60	3.14	1.08
4	5.085	6.244	0.45	4.85	-1.58	-2.54
5	-1.745	0.785	0.39	-0.48	-2.54	4.83
6	-5.031	-4.101	0.43	-4.87	-0.32	3.85
7	4.064	5.965	0.43	3.82	-5.14	-1.20
8	8.062	6.084	0.49	6.64	4.62	-4.09
9	3.394	4.478	0.37	4.05	1.36	0.83
10	6.900	7.955	0.43	7.20	-2.37	-0.69
11	0.292	-5.597	0.41	-4.06	7.44	0.90
12	3.074	5.476	0.44	5.36	2.58	-0.38
13	-1.616	-3.336	0.42	-3.83	-0.93	2.53
14	-2.932	4.625	0.39	2.72	-5.05	1.05
15	0.445	1.716	0.48	1.32	-2.33	3.60
16	-1.064	1.105	0.43	0.01	-1.01	-1.67
17	8.570	7.208	0.39	6.89	0.29	-1.23
18	3.807	5.117	0.39	4.75	-1.45	1.92
19	0.732	1.006	0.43	0.66	0.41	0.22
20	-2.555	-1.717	0.40	-2.95	-3.62	4.29
21	4.641	4.059	0.41	2.86	-3.40	-1.54
22	-1.793	-1.062	0.40	-2.72	-4.51	-1.79
23	-17.065	-14.443	0.43	-16.11	-5.92	5.69
24	15.715	6.407	0.46	5.95	0.02	-3.76
25	-3.536	8.127	0.32	7.11	-3.36	-2.85
26	3.582	6.058	0.31	5.86	1.36	-3.68
27	10.010	5.759	0.38	5.94	-0.31	-4.95
28	6.630	4.180	0.35	3.47	1.15	-6.16
29	-4.205	-3.103	0.35	-4.15	-5.59	1.66
30	5.430	3.999	0.43	3.32	-3.82	-3.04
31	0.803	3.873	0.37	4.47	2.89	2.80
32	-3.520	-2.358	0.34	-2.39	3.46	3.08
33	4.740	5.545	0.40	4.72	3.42	-4.33
34	-0.759	-3.115	0.38	-3.45	2.01	0.70
35	-1.875	-0.498	0.39	-1.35	-1.16	-1.26
36	-1.187	-2.738	0.39	-2.68	3.23	-3.18
37	7.071	6.326	0.39	5.80	-6.53	-3.19
38	2.434	2.033	0.36	3.20	7.71	-8.09
39	10.059	5.886	0.44	7.83	6.98	-9.05
40	-3.845	-5.024	0.41	-4.43	4.08	-0.16
41	5.785	-1.891	0.43	2.55	21.49	-12.03

Sharpe Ratio

Month	% Returns to:			% Excess Returns to:	
	Active Fund Rtn	Mkt Index Rtn	1-mo. RF	Active Fund Rtn - RF	Mkt Index Rtn - RF
1	9.254	2.757	0.42	8.834	2.337
2	7.576	7.552	0.41	7.156	7.142
3	-2.106	-1.981	0.46	-2.566	-2.441
4	5.085	6.244	0.45	4.635	5.794
5	-1.745	0.785	0.39	-2.135	0.395
6	-5.031	-4.101	0.43	-5.461	-4.531
7	4.064	5.965	0.43	3.634	5.535
8	8.062	6.084	0.49	7.572	5.594
9	3.394	4.478	0.37	3.024	4.108
10	6.900	7.955	0.43	6.470	7.525
11	0.292	-5.597	0.41	-0.118	-6.007
12	3.074	5.476	0.44	2.634	5.036
13	-1.616	-3.336	0.42	-2.036	-3.756
14	-2.932	4.625	0.39	-3.322	4.235
15	0.445	1.716	0.48	-0.035	1.236
16	-1.064	1.105	0.43	-1.494	0.675
17	8.570	7.208	0.39	8.180	6.818
18	3.807	5.117	0.39	3.417	4.727
19	0.732	1.006	0.43	0.302	0.576
20	-2.555	-1.717	0.40	-2.955	-2.117
21	4.641	4.059	0.41	4.231	3.649
22	-1.793	-1.062	0.40	-2.193	-1.462
23	-17.065	-14.443	0.43	-17.495	-14.873
24	15.715	6.407	0.46	15.255	5.947
25	-3.536	8.127	0.32	-3.856	7.807
26	3.582	6.058	0.31	3.272	5.748
27	10.010	5.759	0.38	9.630	5.379
28	6.630	4.180	0.35	6.280	3.830
29	-4.205	-3.103	0.35	-4.555	-3.453
30	5.430	3.999	0.43	5.000	3.569
31	0.803	3.873	0.37	0.433	3.503
32	-3.520	-2.358	0.34	-3.860	-2.698
33	4.740	5.645	0.40	4.340	5.145
34	-0.759	-3.115	0.38	-1.139	-3.495
35	-1.875	-0.498	0.39	-2.265	-0.888
36	-1.187	-2.738	0.39	-1.577	-3.128
37	7.071	6.326	0.39	6.681	5.936
38	2.434	2.033	0.36	2.074	1.673
39	10.059	5.886	0.44	9.619	5.446
40	-3.845	-5.024	0.41	-4.255	-5.434
41	6.785	-1.891	0.43	5.355	-2.321
			Average:	1.627	1.531
			Std. Dev.:	5.729	4.824
			Sharpe:	0.284	0.317

- Active Fund Sharpe: $(1.627\%) / (5.729\%) = 0.284$
- Market Index Sharpe: $(1.531\%) / (4.824\%) = 0.317$

Treynor Ratio

Month	% Returns to:			% Excess Returns to:		
	Active Fund Rtn	Mkt Index Rtn	1-mo RF	Active Fund Rtn - RF	Mkt Index Rtn - RF	
1	9.254	2.757	0.42	8.834	2.337	
2	7.576	7.552	0.41	7.166	7.142	
3	-2.106	-1.981	0.46	-2.566	-2.441	
4	5.085	6.244	0.45	4.635	5.794	
5	-1.745	0.785	0.39	-2.135	0.395	
6	-5.031	-4.101	0.43	-5.461	-4.531	
7	4.064	5.965	0.43	3.634	5.535	
8	8.062	6.084	0.49	7.572	5.594	
9	3.394	4.478	0.37	3.024	4.108	
10	6.900	7.955	0.43	6.470	7.525	
11	0.292	-5.597	0.41	-0.118	-6.007	
12	3.074	5.476	0.44	2.634	5.038	
13	-1.616	-3.336	0.42	-2.036	-3.756	
14	-2.932	4.625	0.39	-3.322	4.235	
15	0.445	1.716	0.48	-0.035	1.236	
16	-1.064	1.105	0.43	-1.494	0.675	
17	8.570	7.208	0.39	8.180	6.818	
18	3.807	5.117	0.39	3.417	4.727	
19	0.732	1.006	0.43	0.302	0.576	
20	-2.555	-1.717	0.40	-2.955	-2.117	
21	4.641	4.059	0.41	4.231	3.649	
22	-1.793	-1.062	0.40	-2.193	-1.452	
23	-17.065	-14.443	0.43	-17.495	-14.873	
24	15.716	6.407	0.46	15.265	5.047	
25	-3.536	8.127	0.32	-3.856	7.807	
26	3.582	6.058	0.31	3.272	5.748	
27	10.010	5.759	0.38	9.630	5.379	
28	6.630	4.180	0.35	6.280	3.830	
29	-4.205	-3.103	0.35	-4.555	-3.453	
30	5.430	3.999	0.43	5.000	3.569	
31	0.803	3.873	0.37	0.433	3.503	
32	-3.520	-2.358	0.34	-3.860	-2.698	
33	4.740	5.545	0.40	4.340	5.145	
34	-0.759	-3.115	0.38	-1.139	-3.495	
35	-1.875	-0.498	0.39	-2.265	-0.888	
36	-1.187	-2.738	0.39	-1.577	-3.128	
37	7.071	6.326	0.39	6.681	5.936	
38	2.434	2.033	0.36	2.074	1.673	
39	10.059	5.886	0.44	9.619	5.446	
40	-3.945	-5.024	0.41	-4.255	-5.434	
41	5.785	-1.891	0.43	5.355	-2.321	
			Average:	1.627	1.531	
			Beta:	0.918	1.000	
			Treynor:	1.773	1.531	

- Active Fund Treynor: $(1.627\%) / (0.918) = 1.773$
- Market Index Treynor: $(1.531\%) / (1.000) = 1.531$

Information Ratio

Month	% Returns to:			% Excess Returns to:			% (Active-Index) Rtn Diff
	Active Fund Rtn	Mkt Index Rtn	1-mo RF	Active Fund Rtn - RF	Mkt Index Rtn - RF		
1	9.254	2.757	0.42	8.834	2.337		6.497
2	7.576	7.552	0.41	7.166	7.142		0.024
3	-2.105	-1.981	0.46	-2.566	-2.441		-0.125
4	5.085	6.244	0.45	4.635	5.794		-1.159
5	-1.745	0.785	0.39	-2.135	0.395		-2.530
6	-5.031	-4.101	0.43	-5.461	-4.531		-0.930
7	4.064	5.965	0.43	3.634	5.535		-1.901
8	8.062	6.084	0.49	7.572	5.594		1.978
9	3.394	4.478	0.37	3.024	4.106		-1.063
10	6.900	7.955	0.43	6.470	7.525		-1.055
11	0.292	-5.597	0.41	-0.118	-6.007		5.890
12	3.074	5.476	0.44	2.634	5.036		-2.403
13	-1.616	-3.336	0.42	-2.036	-3.756		1.720
14	-2.932	4.625	0.39	-3.322	4.235		-7.558
15	0.445	1.716	0.48	-0.035	1.236		-1.271
16	-1.064	1.105	0.43	-1.494	0.675		-2.169
17	6.570	7.208	0.39	6.180	6.616		1.362
18	3.807	5.117	0.39	3.417	4.727		-1.310
19	0.732	1.006	0.43	0.302	0.576		-0.273
20	-2.555	-1.717	0.40	-2.955	-2.117		-0.839
21	4.641	4.059	0.41	4.231	3.649		0.582
22	-1.793	-1.062	0.40	-2.193	-1.462		-0.731
23	-17.065	-14.443	0.43	-17.495	-14.873		-2.622
24	15.715	6.407	0.46	15.255	5.947		9.308
25	-3.536	8.127	0.32	-3.856	7.807		-11.663
26	3.582	6.058	0.31	3.272	5.748		-2.476
27	10.010	5.759	0.38	9.630	5.379		4.250
28	6.630	4.180	0.35	6.280	3.830		2.450
29	-4.205	-3.103	0.35	-4.555	-3.453		-1.102
30	5.430	3.999	0.43	5.000	3.569		1.430
31	0.803	3.873	0.37	0.433	3.503		-3.069
32	-3.520	-2.358	0.34	-3.860	-2.698		-1.162
33	4.740	5.545	0.40	4.340	5.145		-0.805
34	-0.759	-3.115	0.38	-1.139	-3.495		2.356
35	-1.875	-0.496	0.39	-2.265	-0.888		-1.377
36	-1.187	-2.738	0.39	-1.577	-3.128		1.552
37	7.071	6.326	0.39	6.681	5.936		0.746
38	2.434	2.033	0.36	2.074	1.673		0.401
39	10.059	5.886	0.44	9.619	5.446		4.173
40	-3.845	-5.024	0.41	-4.255	-5.434		1.179
41	5.785	-1.891	0.43	5.355	-2.321		7.676
							Average (Mthly Alpha): 0.097
							Std. Dev. (Mthly TE): 3.657
							Annual Alpha: 1.159
							Annual TE: 12.669
							Annual IR: 0.092

- Active Fund IR (Annual): $(1.159\%) / (12.669) = [(0.097\%) / (3.657)] \times \sqrt{12} = 0.092$

Jensen's Alpha: Single Market Index Risk Factor Model

SUMMARY OUTPUT FOR ONE-FACTOR REGRESSION

Regression Statistics	
Multiple R	0.773
R Square	0.597
Adjusted R Square	0.587
Standard Error	3.682
Observations	41

ANOVA

	df	SS	MS	F	Significance F
Regression	1	783.907	783.907	57.823	0.000
Residual	39	528.726	13.557		
Total	40	1312.634			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.223	0.604	0.369	0.714	-0.999	1.444	-0.999	1.444
(Mkt Indx Rtn - RF)	0.918	0.121	7.604	0.000	0.674	1.162	0.674	1.162

Alpha (Monthly):	0.223%
(t-stat)	(0.37)
Beta:	0.918
(t-stat)	(7.60)
R-Squared:	59.72%

- Active Fund One-Factor Model Alpha (Monthly): **0.223%** (*t-stat: 0.37*)

Jensen's Alpha: Fama-French Three Risk Factor Model

SUMMARY OUTPUT FOR THREE-FACTOR REGRESSION

<i>Regression Statistics</i>	
Multiple R	0.835
R Square	0.697
Adjusted R Square	0.672
Standard Error	3.281
Observations	41

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	914.294	304.765	28.308	0.000
Residual	37	398.340	10.766		
Total	40	1312.634			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.072	0.540	0.134	0.894	-1.023	1.167	-1.023	1.167
Excess Market	0.894	0.132	6.767	0.000	0.626	1.162	0.626	1.162
SMB	0.044	0.130	0.339	0.737	-0.219	0.307	-0.219	0.307
HML	-0.179	0.199	-0.900	0.374	-0.582	0.224	-0.582	0.224

Alpha (Monthly): 0.072%
 (t-stat) (0.13)
Beta:
 Excess Mkt 0.894
 (t-stat) (6.77)
 SMB 0.044
 (t-stat) (0.34)
 HML -0.179
 (t-stat) (-0.90)
R-Squared: 69.65%

- Active Fund Three-Factor Model Alpha (Monthly): **0.072%** (t-stat: 0.13)

2013 Dodd Frank Update



**Teacher Retirement System
of Texas**

Tess Weil

Purrington Moody Weil LLP

Angela Vogeli

*Assistant General Counsel
TRS Legal Services*

Denise Lopez

*Assistant General Counsel
TRS Legal Services*





Dodd-Frank Presentation Goals

To answer the following questions:

- What is Dodd-Frank?
- How will derivative trading change?
- How is TRS impacted?
- What is TRS doing?





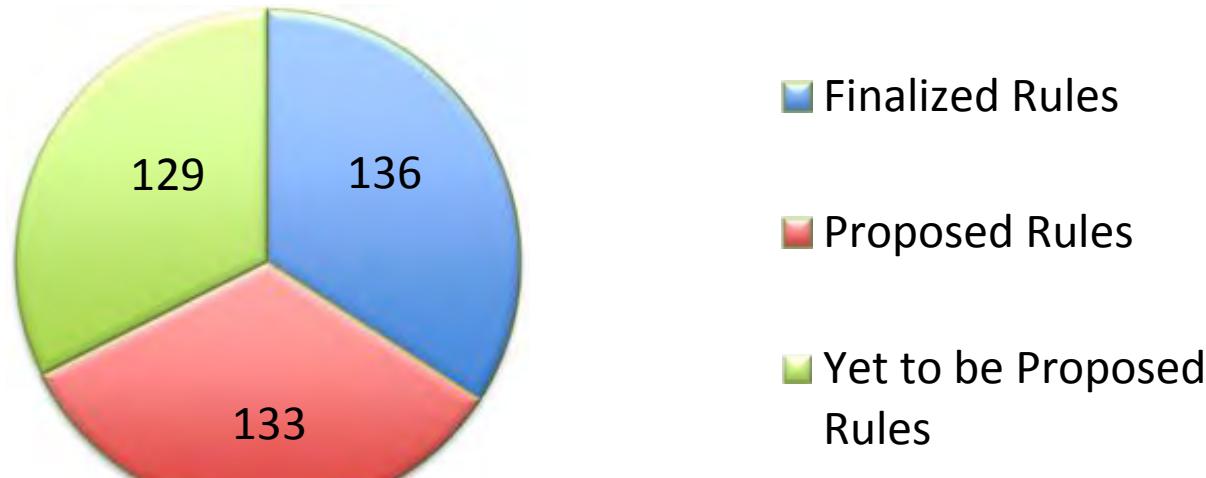
Dodd-Frank Introduction

- In 2010, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (“Dodd-Frank”).
- Dodd-Frank provides for significant changes to the structure of federal financial regulation.
- Title VII of Dodd-Frank delegated authority to the Commodity Futures Trading Commission (“CFTC”) and Securities Exchange Commission (“SEC”) to regulate over-the-counter (“OTC”) derivatives.



Dodd-Frank By the Numbers

398 Federal Rules Required of 11 Agencies*



- 2300+ Pages of Legislation
- 67 Studies by Regulators
- 398 Deadlines
- 22 Periodic Reports by Regulators
- 237 of the 398 deadlines have lapsed with no final regulations

* Federal Agencies include Commodity Futures Trading Commission ("CFTC"), Securities and Exchange Commission ("SEC"), Federal Reserve ("Fed"), Treasury Department, Federal Deposit Insurance Corp ("FDIC"), Financial Stability Oversight Counsel. Statistics taken from Dodd-Frank Progress Report, January 2013 published by Davis Polk & Wardwell LLP.





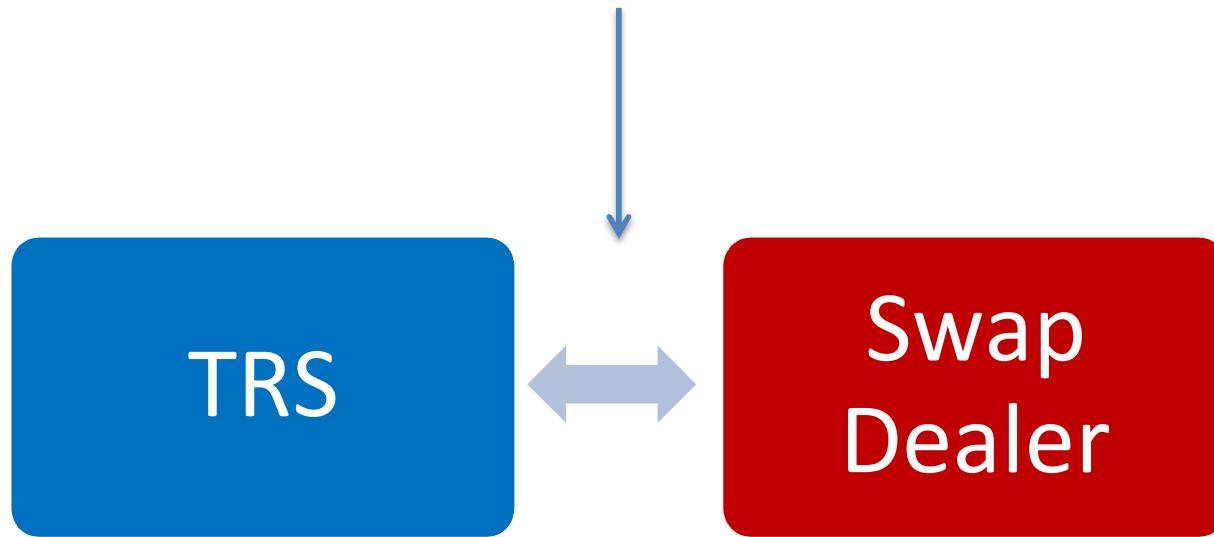
Dodd Frank & OTC Derivatives

- Currently, OTC derivative contracts trade privately in a bilateral market using industry-standard ISDA (International Swaps and Derivatives Association) documentation.
- The long-term industry goal of standardization of documentation made significant inroads in the last decade.
- The events surrounding the Lehman bankruptcy and AIG bailout contributed to a congressionally mandated departure from historical OTC derivative practices.
- TRS is ready to meet, and has already meet some of, these new requirements and trading practices.



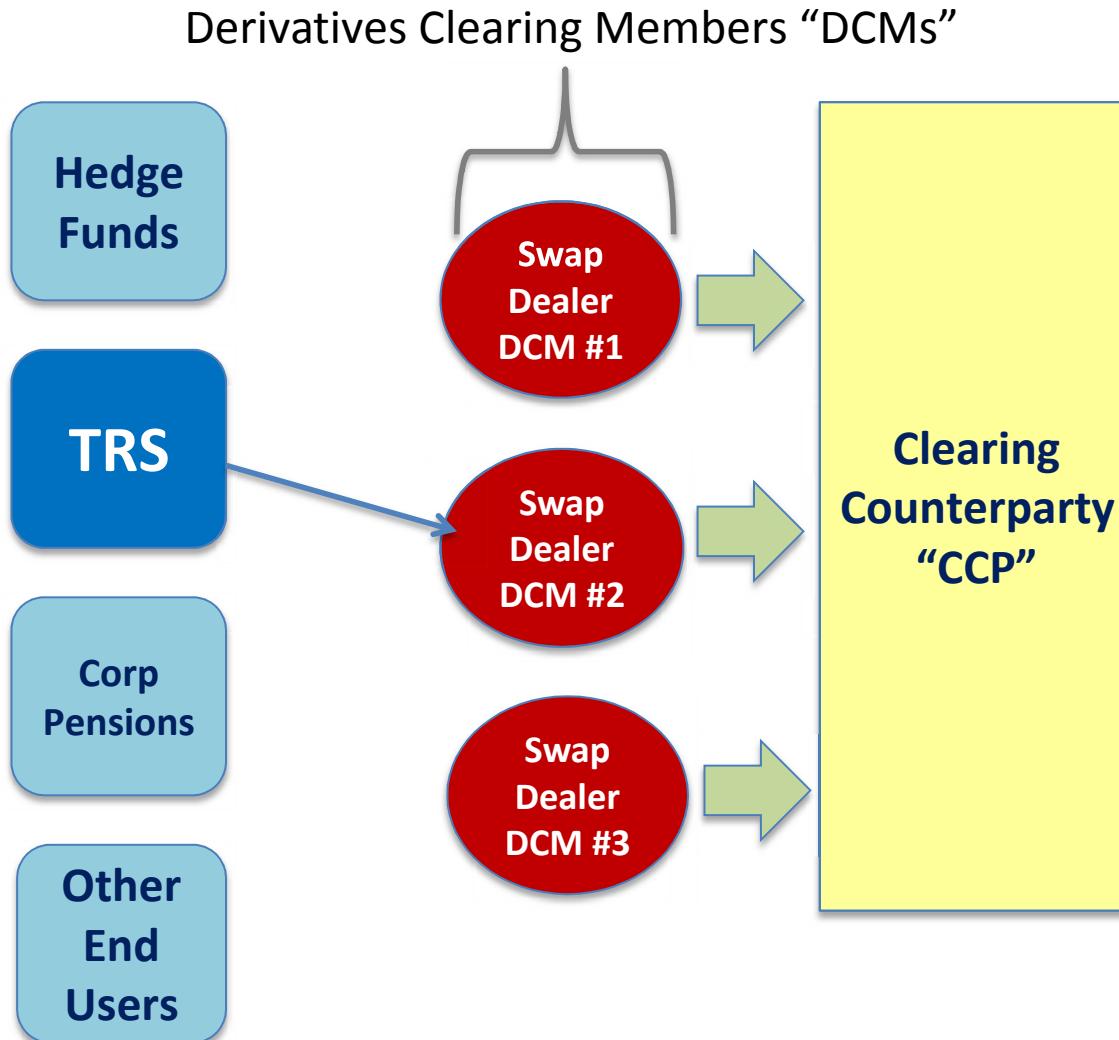
Before Dodd-Frank

Bilateral Derivatives Contract





After Dodd-Frank





Dodd-Frank & OTC Market

Before	After
Trades are entered into by parties on a bilateral basis.	Executed trades submitted for clearing with central counterparty.
Parties negotiate collateral documentation.	Parties negotiate derivatives clearing agreements and swap dealers have heightened due diligence requirements in respect of their counterparties.
Both parties post collateral to each other in respect of any out-of-the-money positions.	Central counterparty holds required margin including limited segregation.
Pricing negotiated bilaterally and privately.	Pricing negotiated bilaterally pending launch of swap execution facilities where pricing will be transparent and anonymous.



Dodd-Frank Effect on OTC Pricing

- The following Dodd-Frank requirements will directly impact Swap Dealers' economics and lead to increased transaction costs:
 - Increased capital requirements for Swap Dealers.
 - Mandatory reporting requirements for Swap Dealers.
 - Volcker Rule — Swap Dealers forced to spin-out proprietary trading desks.



Other DF Effects on OTC Derivatives

- Consolidation of counterparty risk with Derivatives Clearing Member.
- Collateral posted to Clearing Counterparty and Derivatives Clearing Member with rules governing the use of such collateral.
- Increased pricing transparency as a result of trade reporting.



Immediate Dodd-Frank TRS Impact

- Negotiate documentation required for Centralized Clearing mandates.
- Comply with Dodd-Frank External Business Conduct Standards for Swap Dealers and Major Swap Participants (a.k.a. “Business Conduct Rules” or “BCR”).



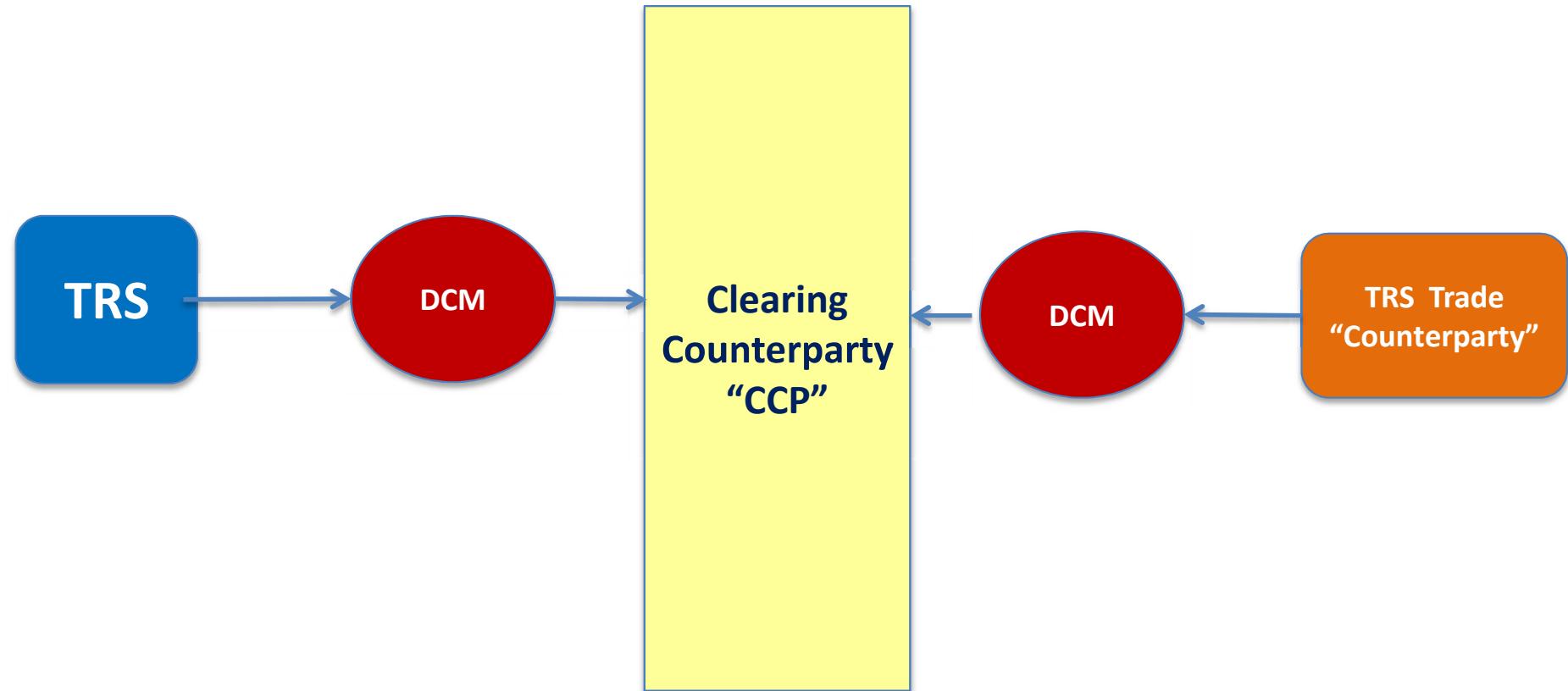


Clearing of OTC Derivatives

■ Central Clearing – The Basics

- A clearing house is a centralized Clearing Counterparty (“CCP”) that acts as buyer to every seller and seller to every buyer of certain transactions.
- The centralized Clearing Counterparty assumes the credit risk of cleared transactions and facilitates multilateral netting of transactions.
- End users, like TRS, retain access to a centralized Clearing Counterparty by contracting with a Derivatives Clearing Member (“DCM”).
- OTC derivatives will migrate to clearing exchanges per timelines set by CFTC.
- Deadlines for clearing mandates vary depending upon entity status and derivative type.

Clearing Mechanics of a TRS Trade





TRS Focus in Move to Clearing

- Negotiate clearing agreements with DCMs to ensure TRS access to derivatives trading after clearing mandated deadlines.
- Understand (i) additional collateral requirements, (ii) where collateral will reside, and (iii) protections afforded collateral and, where possible, negotiate sensible collateral obligations.
- Monitor counterparty risk of Derivatives Clearing Members and centralized Clearing Counterparties.



Clearing – What & When?

- What is required to be cleared?
 - OTC Derivatives Clearing will begin with –
 - (i) Index CDS and (ii) vanilla interest rate swaps in USD, EUR, GBP and JPY.
 - Other classes of derivatives will follow.
- When does OTC clearing come into effect?
 - March 11, 2013 for Swap Dealers, Major Swap Participants and Active Funds.
 - **June 10, 2013** for all remaining Financial Entities other than third party investments managers & ERISA plans.
 - September 9, 2013 for third party subaccounts, ERISA Plans and all other entities.



TRS BCR Compliance

- TRS Compliance with the Dodd-Frank Business Conduct Rules
 - Requires greater due diligence and disclosure requirements of Swap Dealers when transacting with derivative counterparties.
 - Formalizes the contractual relationship between swap dealers and their “special entity” counterparties, like TRS.
 - Establishes greater “suitability” and “arms-length” parameters.





Business Conduct Rules (“BCR”)

- The BCR establishes higher “suitability” requirements for Swap Dealers that enter into swaps with public pension plans (i.e., “special entities”).
- If a Swap Dealer has reasonable basis to believe the special entity counterparty is represented by a qualified independent representative (“QIR”), the Swap Dealer does not need to do the “extra” due diligence required under the BCR.
- Consequently, TRS needed to document its existing policies and procedures and to select and monitor any QIR.





Who can be a QIR?

- A TRS Qualified Independent Representative must:
 - Have sufficient knowledge to evaluate swap transactions and risks,
 - Be independent of TRS's Swap Dealer counterparties,
 - Act in the best interests of TRS,
 - Make appropriate and timely disclosures to TRS,
 - Evaluate fair pricing and appropriateness of TRS swaps, and
 - Not otherwise be disqualified.





TRS QIRs

Mohan Balachandran	Curt Rogers	Jase Auby
Strategic Asset Allocation/Stable Value	Tactical Asset Allocation	Risk Management
Managing Director	Managing Director	Managing Director
MS and Ph.D, Physics, Brown University	MS, Engineering, MIT MBA, Finance, UT Austin	BS, Electrical Engineering, Harvard University
4 Years TRS 14 Years Investment Experience	13 Years TRS 15 Years Investment Experience	3 Years TRS 12 Years Investment Experience
NISA Investment Advisors	Rand Corporation	Barclays Capital and Goldman Sachs



External TRS QIRs

- TRS requires that each TRS external manager and/or strategic partner with authority to use swaps on TRS's behalf trade under TRS' ISDA Master Agreements and Derivative Clearing Account Agreements.
- Each TRS external manager and/or strategic partner with derivative authority is required to become a TRS QIR, establishing its own policies and procedures and making applicable representations to the Swap Dealers.



TRS BCR Compliance Summarized

- TRS satisfies the BCR prudence requirements with its existing policies and procedures.
- TRS implemented additional compliance procedures regarding selection and monitoring of QIRs.
 - IIC approves.
 - Annual QIR certification requirement.
- TRS adhered to the ISDA August 2012 DF Protocol in January 2013.
 - TRS represents to the Swap Dealers that it complied in good faith with written policies and procedures reasonably designed to select and monitor a qualified QIR.
 - Each TRS QIR represents to the Swap Dealers that it meets the requisite criteria.



Conclusion



Teacher Retirement System of Texas



Overview of the Texas Budget Process

Don Green, Chief Financial Officer

Board of Trustees Meeting
February 21, 2013





Texas Budgeting Timeline

Even Year; 2012

- 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; 2013

- January LBB submits budget estimates to 83rd Leg
- January Comptroller releases Biennial Revenue Est
- 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 2014



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 budget process beginning with strategic planning and ending with budget execution
- Provides overall vision, mission, and philosophy, as well as statewide goals and benchmarks
- Has line-item veto power

■ State Auditor's Office

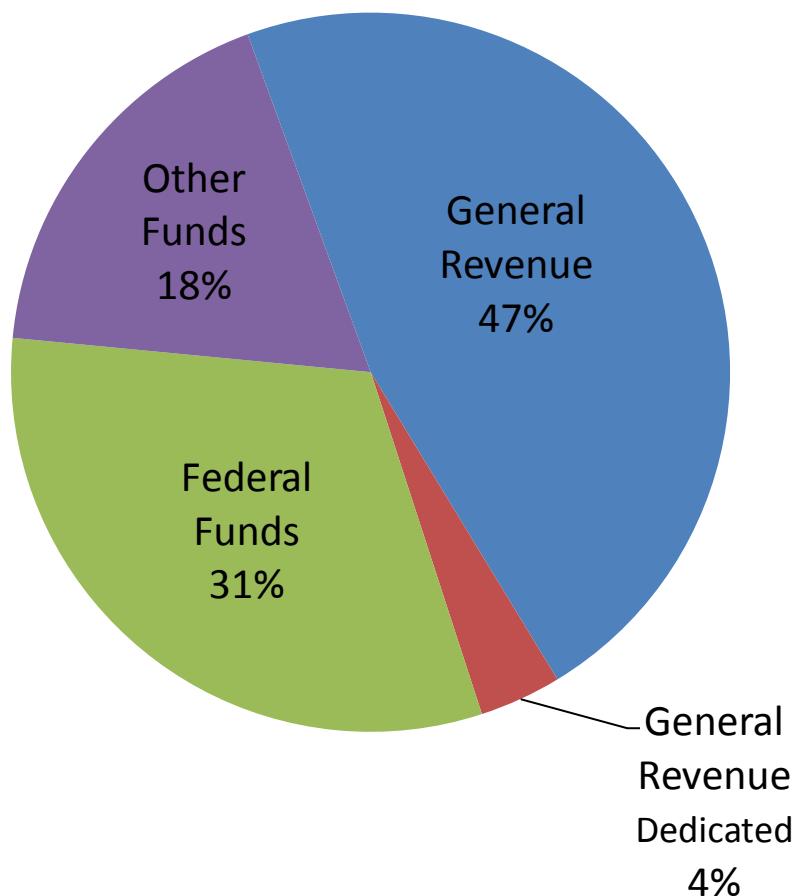
- Serves as independent auditor of state agencies, including institutions of higher education
- Audits the accuracy of reported performance measures and assesses the related internal controls



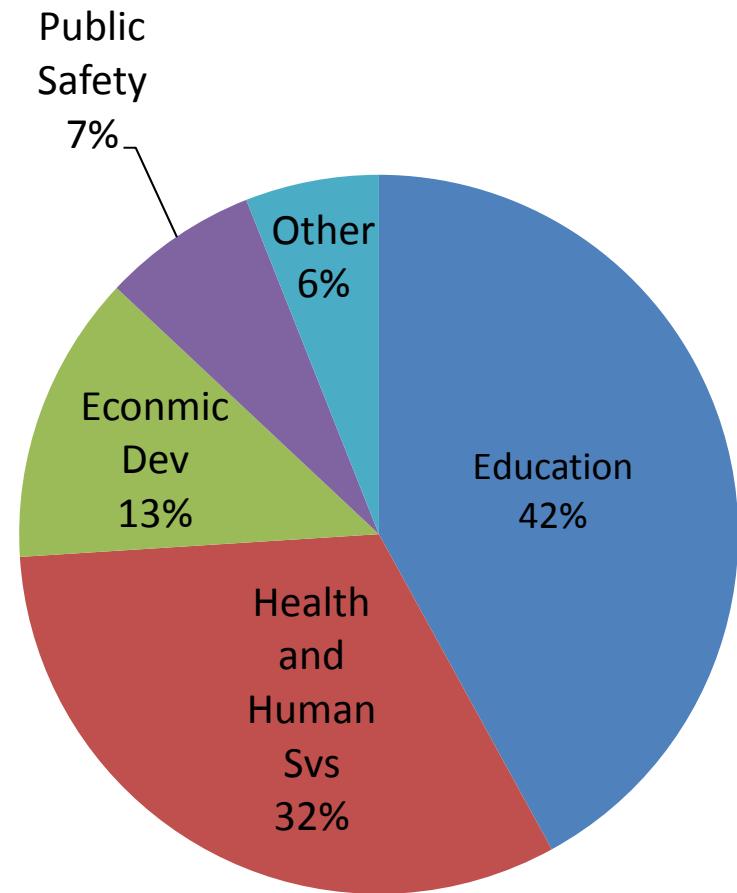
FY 2012-13 State Budget Overview

TOTAL = \$173.5 Billion

Sources of Funds



Uses of Funds





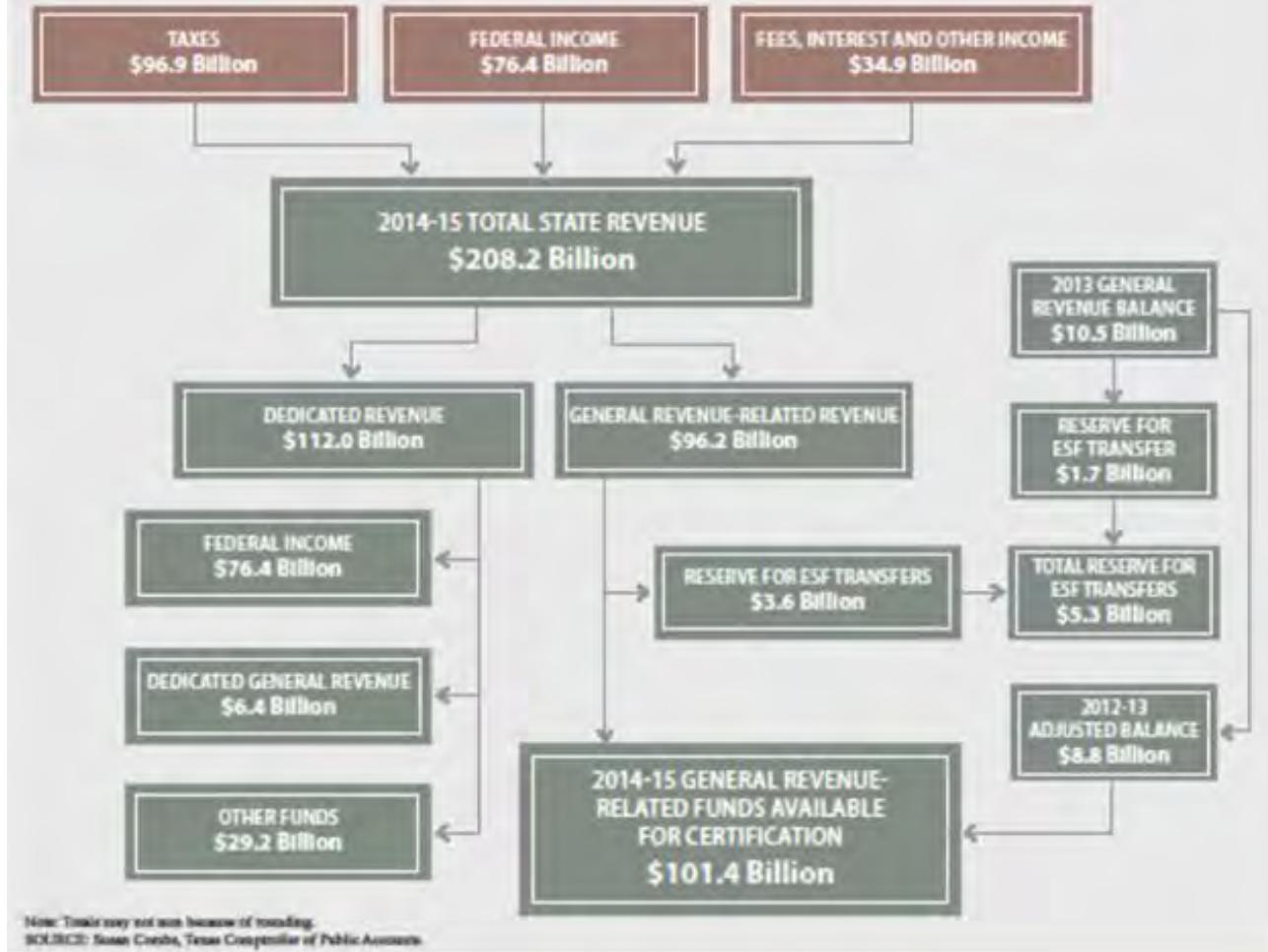
Constitutional Spending Limits

- **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



Comptroller Biennial Revenue Estimate (BRE)

FIGURE 1
Flow of Major Revenues for the 2014-15 Biennium





Major Revenues

Taxes of \$96.9 billion include:

- \$55.0 billion in sales tax
- \$14.5 billion in vehicle sales, rental and fuel taxes
- \$9.5 billion in franchise taxes
- \$7.1 billion in natural gas and oil production taxes
- \$10.8 billion on other taxes
 - Cigarette/tobacco
 - Alcoholic beverages
 - Hotel occupancy
 - Insurance taxes



State Revenue Sources and Economic Outlook

- Comptroller's FY 14-15 Revenue Estimate \$101.4 billion (12.4% increase over 2012-13)
 - GR-Related less reserve for ESF Transfers \$92.6 billion
 - 2013 GR Balance less reserve for ESF Transfers \$8.8 billion
- Rainy Day Fund
 - Constitutional fund created by the voters in 1988
 - When collections are sufficient, the fund receives an amount of GR equal to 75% of oil production tax collections in excess of 1987 levels and 75% of natural gas tax collections in excess of 1987 levels, plus one-half of unencumbered GR funds balance at end of each biennium



Major Budget Indicators, 2002 and 2012

Indicators	2002	2012	% Change
Avg Daily Attendance – Public Schools	3,854,707	4,632,351	20.2
Fall Headcount Enrollment – Universities	455,719	576,711	26.5
Fall Headcount Enrollment – Community/Junior Colleges	454,017	744,153	63.9
Avg Monthly Caseload – Medicaid Clients	2,082,697	3,653,103	75.4
Avg Inmate Population – Dept of Criminal Justice	144,561	154,877	7.1

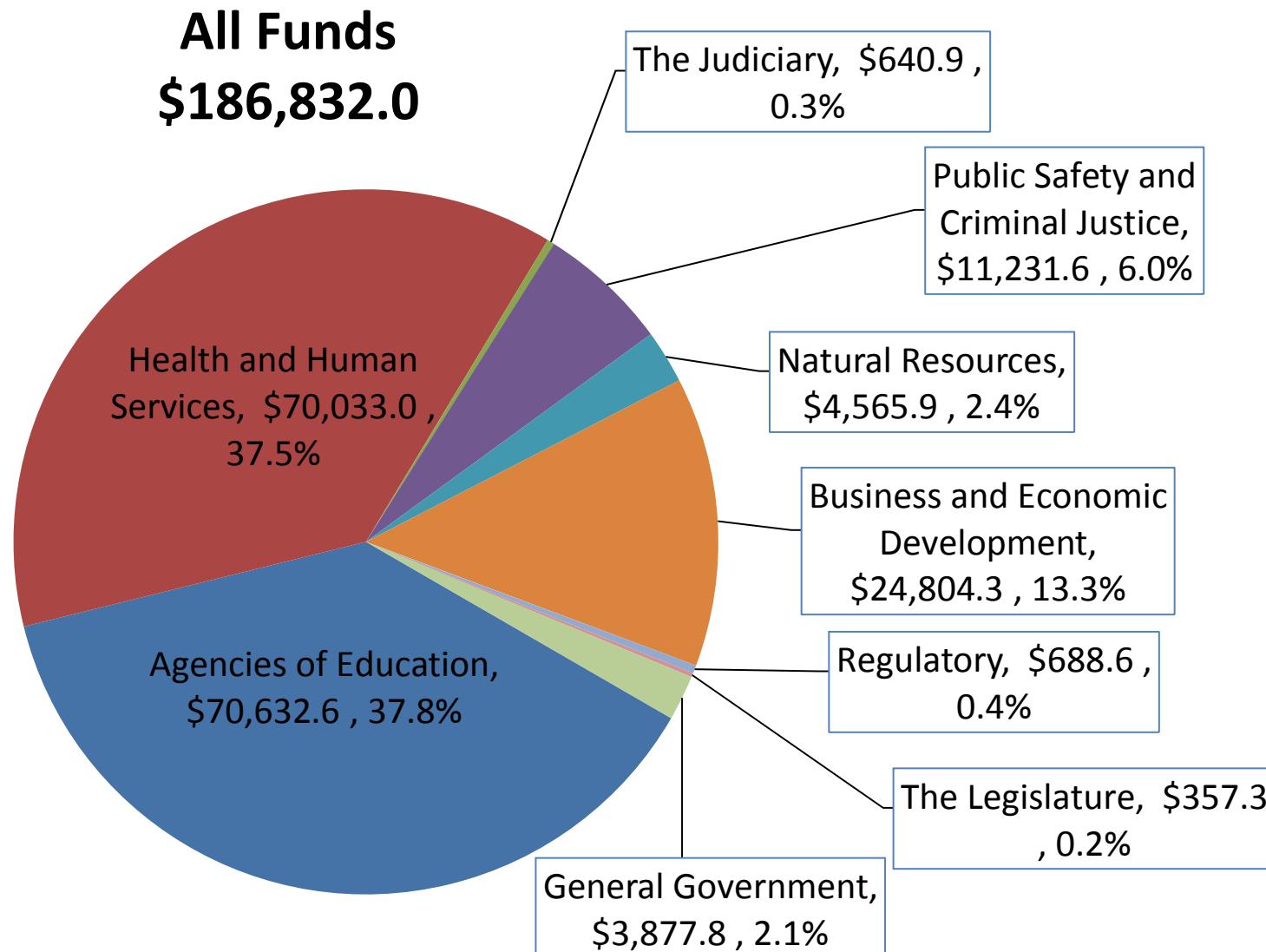
General state population growth has been approximately 21.2%.

Source: Legislative Budget Board





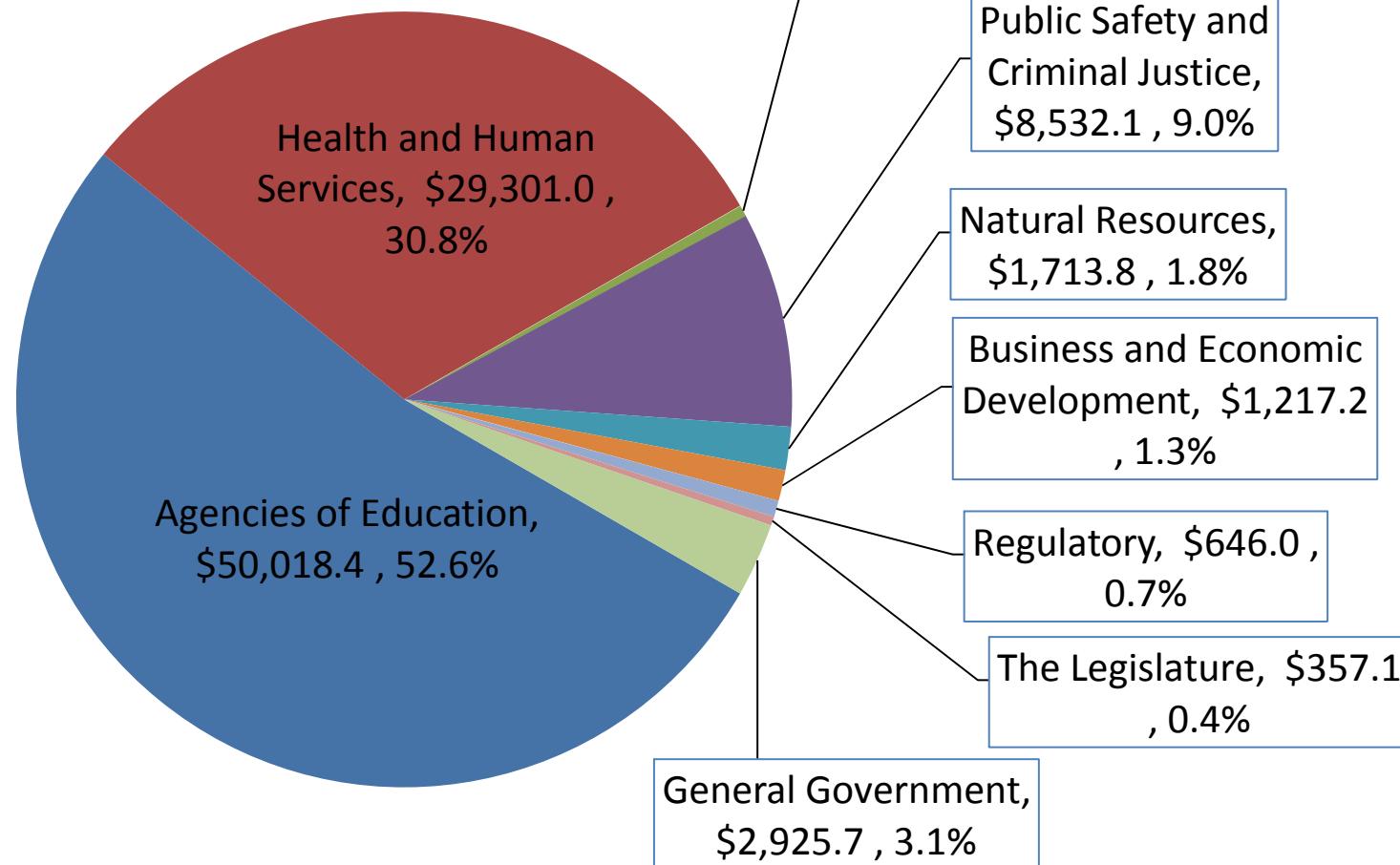
FY 2014-15 Biennial Recommendations





FY 2014-15 Biennial Recommendations

**GR and GR Dedicated
\$95,173.2**





LBB Budget Recommendations 2014-15

\$ in Billions

	2012-13 Approp	2012-13 Adjusted Base	2014-15 Senate Bill 1	Biennial Increase	Percent Change
General Revenue	81.3	87.4	89.0	1.6	1.8%
All Funds	173.5	189.9	186.8	(3.1)	(1.6%)

Source: Legislative Budget Board



Supplemental Adjustments Built into the 2012-13 Base

\$ in Millions

Significant General Revenue Supplemental Bill Items	\$6,784
Medicaid & CHIP: Fully fund 24 months of payments	\$4,523
Foundation School Program: Reverse Deferral	\$1,750
Foundation School Program: Fully fund FY13 entitlement	\$ 317
Texas A&M Forest Service: Wildfire Costs	\$ 155
Department of Criminal Justice: Correctional Managed Health Care	\$ 39

Source: Legislative Budget Board



LBB Recommendations for TRS 2014-15

- The introduced LBB budget for TRS totals \$3.8 billion in all funds and \$3.4 billion in general revenue.
- This represents 2.0% of the state's all funds budget and 3.6% of the general revenue budget.
- Funded 6.4% state contribution rate with the exception of community college districts
- Policy of limiting contribution for community college districts to state rate multiplied by unrestricted GR is maintained for 2014-15
- Funded 1.0% state contribution rate for TRS Care
- Funded TEAM Program at same level as FY2012-13 expended



TRS Administrative Budget

- 100% of funding comes from pension trust fund – not GR.
- Base bill provides funding at current levels. Includes \$6.8 million for capital projects to address safety issues, postponed building repairs and renovations, and business needs.
- TEAM program is a 3 biennium project needing approximately \$25 million per biennium. TRS did not spend the full \$25 million in FY12/13 due to start up.
- Request above LBB recommendations includes:
 - 28 additional FTEs (restoration of 15 previously authorized in FY12 and 13 for TEAM and open records requests).
 - \$19 million for TEAM expenditures relating to the continued ongoing replacement of legacy systems for benefits administration and accounting.



TRS Appropriations Priorities

Pension Fund Contribution: Additional funding in both years to increase the state contribution by 0.5% per year to 6.9% in FY14 and 7.4% in FY15. Doing so would cost approximately \$125M per year for each 0.5% increase for a total of \$375M for the biennium. Additional funding, together with plan design changes, could achieve actuarial soundness based on the most recent actuarial analysis.

TEAM Funding Authority: \$25M was appropriated for the FY12/13 biennium; \$9.6M will not be spent during that time period. The LBB has recommended \$15.4M for the FY14/15 biennium. An additional \$19.2M above this amount is requested to meet existing project timelines. Spending is expected to accelerate once contracts are negotiated. TEAM is funded by pension trust fund dollars – NOT general revenue. As a result, increasing funding will not add any cost to the appropriations bill.



TRS Appropriations Priorities

FTEs for TEAM and High Priority Administrative Functions: TRS staffing assessments indicate that 28 additional FTEs above the LBB recommended level are needed to maintain current service levels. Fifteen (15) of the 28 FTEs were previously authorized in the FY12/13 biennium. The 13 additional FTEs, requested for FY14/15, would be dedicated to TEAM related activities as well as open records requests and transparency demands.



TEAM FTE Rider Request

- **TRS Enterprise Application Modernization (TEAM) Program Full-Time Equivalent (FTE) Positions Exemption and Salary Expenditures.** Funds appropriated in the TEAM capital budget may be expended for salaries and wages of Full-Time Equivalents (FTE) and contract workers assigned to the TEAM program. FTEs and contract workers funded by the TEAM capital budget are excluded from the limitation on the number of FTE positions by a state agency set for the in this Act, including Article IX, Section 6.10, Limitation on State Employment Levels. TRS shall provide to the Legislative Budget Board, the Governor, the Comptroller of Public Accounts, and the State Auditor's Office a report on the number of FTEs and contract workers funded by the TEAM capital budget each fiscal year.

The Legislative Landscape



TRS Board of Trustees Meeting

February 21, 2013



TRS cannot advocate or influence legislation

- Gov't Code § 821.008. PURPOSE OF RETIREMENT SYSTEM. The purpose of the retirement system is to invest and protect funds of the retirement system and to deliver the benefits provided by statute, not to advocate or influence legislative action or inaction or to advocate higher benefits.
- Gov't Code § 825.215. ADVOCACY PROHIBITED. An employee of the retirement system may not advocate increased benefits or engage in activities to advocate or influence legislative action or inaction. Advocacy or activity of this nature is grounds for dismissal of an employee.

These sections do not prohibit the use of system assets by an employee of the retirement system to comment on federal laws, regulations, or other official actions or proposed actions affecting or potentially affecting the retirement system that are made in accordance with policies adopted by the board.



TRS cannot advocate or influence legislation

- Gov't Code § 825.315. PROHIBITED USE OF ASSETS. (a) Assets of the retirement system may not be used to advocate or influence the outcome of an election or the passage or defeat of any legislative measure. This prohibition may not be construed to prevent any trustee or employee from furnishing information in the hands of the trustee or employee that is not considered confidential under law to a member or committee of the legislature, to any other state officer or employee, or to any private citizen, at the request of the person or entity to whom the information is furnished. This prohibition does not apply to the incidental use of retirement system facilities by groups of members or retirees or by officers or employees of state agencies.

This section does not prohibit the use of system assets by an employee of the retirement system to comment on federal laws, regulations, or other official actions or proposed actions affecting or potentially affecting the retirement system that are made in accordance with policies adopted by the board.



TRS Legislative Team

- Over 130 years experience working directly with the Texas Legislature.
- Many key TRS personnel from Legal, Benefits, Finance, and other divisions provide valuable expertise in analyzing legislation.
- Review more than 6,000 bills/joint resolutions typically filed and analyze 400 TRS-related bills plus amendments.
- The 83rd Session is tracking behind previous sessions with approximately 30% fewer bills filed at this time.



Key Participants in the Legislative Process

- Members and Retirees
- Governor, Lt. Governor, Speaker, and the Legislature
- Committees
 - Senate State Affairs- Sen. Robert Duncan
 - House Pensions Committee-Rep. Bill Callegari
 - Senate Finance- Senator Tommy Williams
 - House Appropriations- Rep. Jim Pitts
- Member and Retiree Associations



Key Participants in the Legislative Process (continued)

- Other agencies
 - Legislative Budget Board
 - Other Funds- four statewide systems (including Employees Retirement System for state employees), UTIMCO
 - Pension Review Board
 - State Auditor
 - Comptroller
- Congress
- National Associations
 - NASRA –National Association of State Retirement Administrators
 - NCTR –National Conference on Teacher Retirement
 - NIRS –National Institute on Retirement Security
- Special Interest Groups



TRS-related issues

80th - 82nd Legislative sessions

- COLA, Supplemental payments to retirees
- Sunset Bill 2007; next Sunset date is 2019
- Investment Authority 2007, 2011
- 403(b) legislation 2009
- Standard School Year 2011
- Service Credit Purchases 2011
- Return-to-work 2011
- TRS Appropriations
 - Pension contribution rate
 - TRS-Care 1% funding
 - Increase in FTEs/TEAM funding



Challenges for this Legislative Session

- TRS-Care sustainability
- Increased contributions to pension fund
- Pension plan design changes
- Appropriations for TRS Administration
 - ERS, Texas Municipal, Texas County & District retirement systems do not participate in the appropriations process for administration.
- Targeted or Social investing
- Senate Nominations Committee-confirmation for four TRS Board members

Teacher Retirement System of Texas



Human Resources Overview

Janet Bray
Human Resources Director





HR Overview

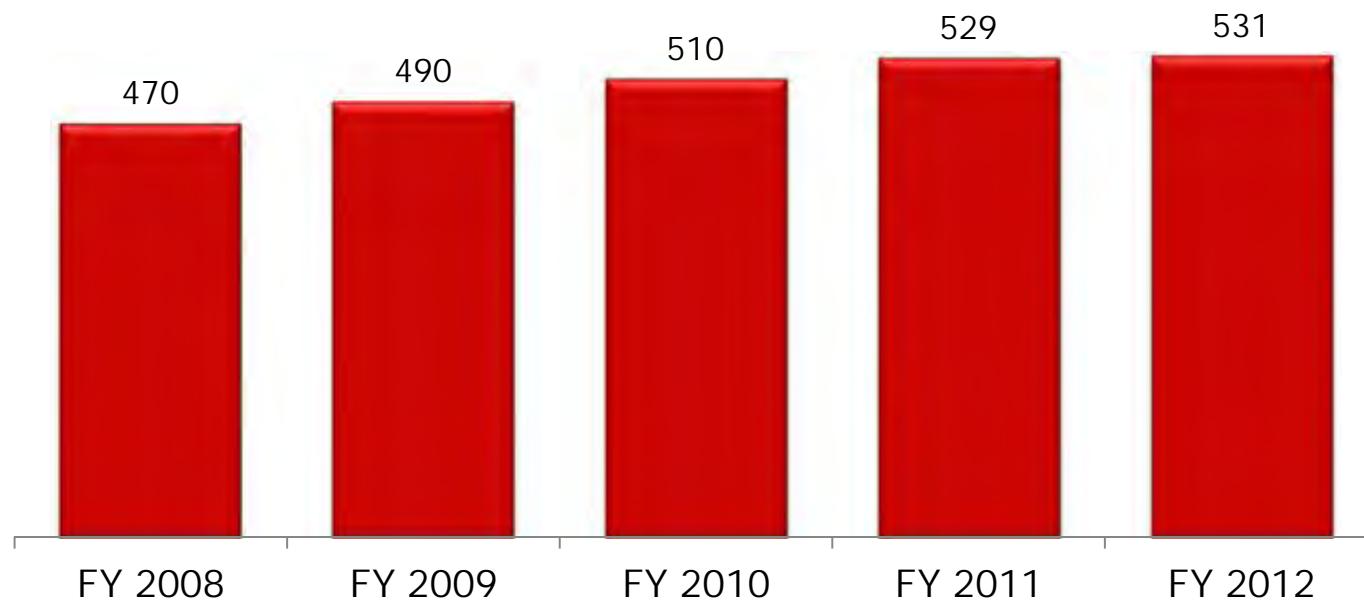


- TRS workforce profile
- 5- year agency turnover rates
- Retirement estimates
- HR case study
- HR measures and accomplishments
- Workforce planning initiatives



TRS Workforce Overview

Average Employee Headcount



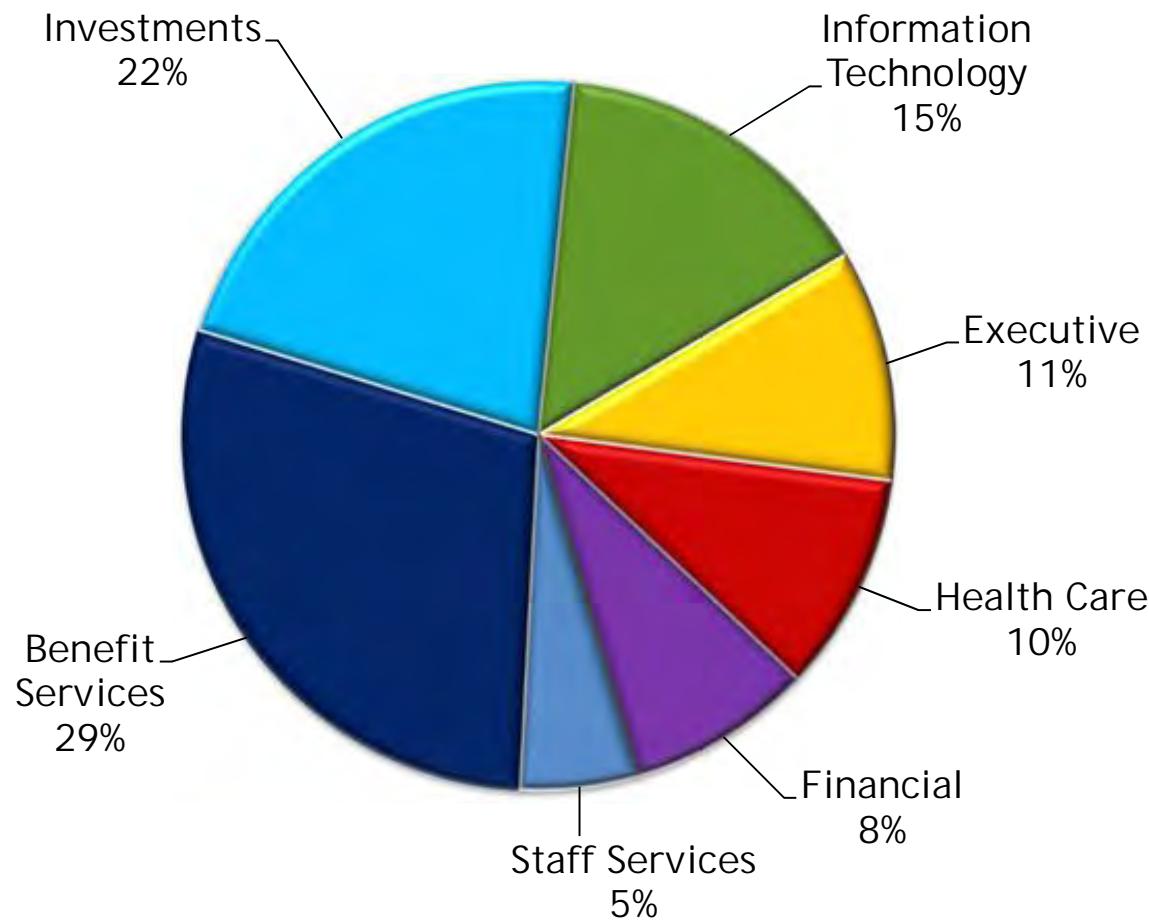
Note: Includes classified full-time, classified part-time, and exempt positions.





Distribution of Employees

Employees by Division



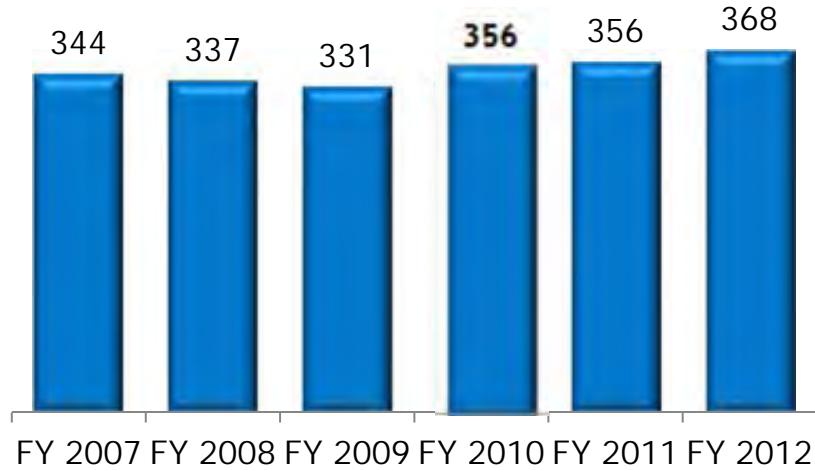
as of 8/31/2012



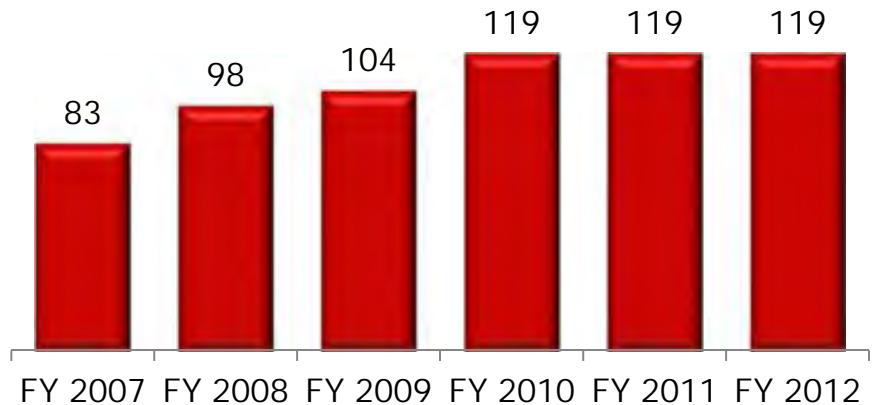


Agency FTE Comparison

FTEs - TRS (Not including IMD staff)



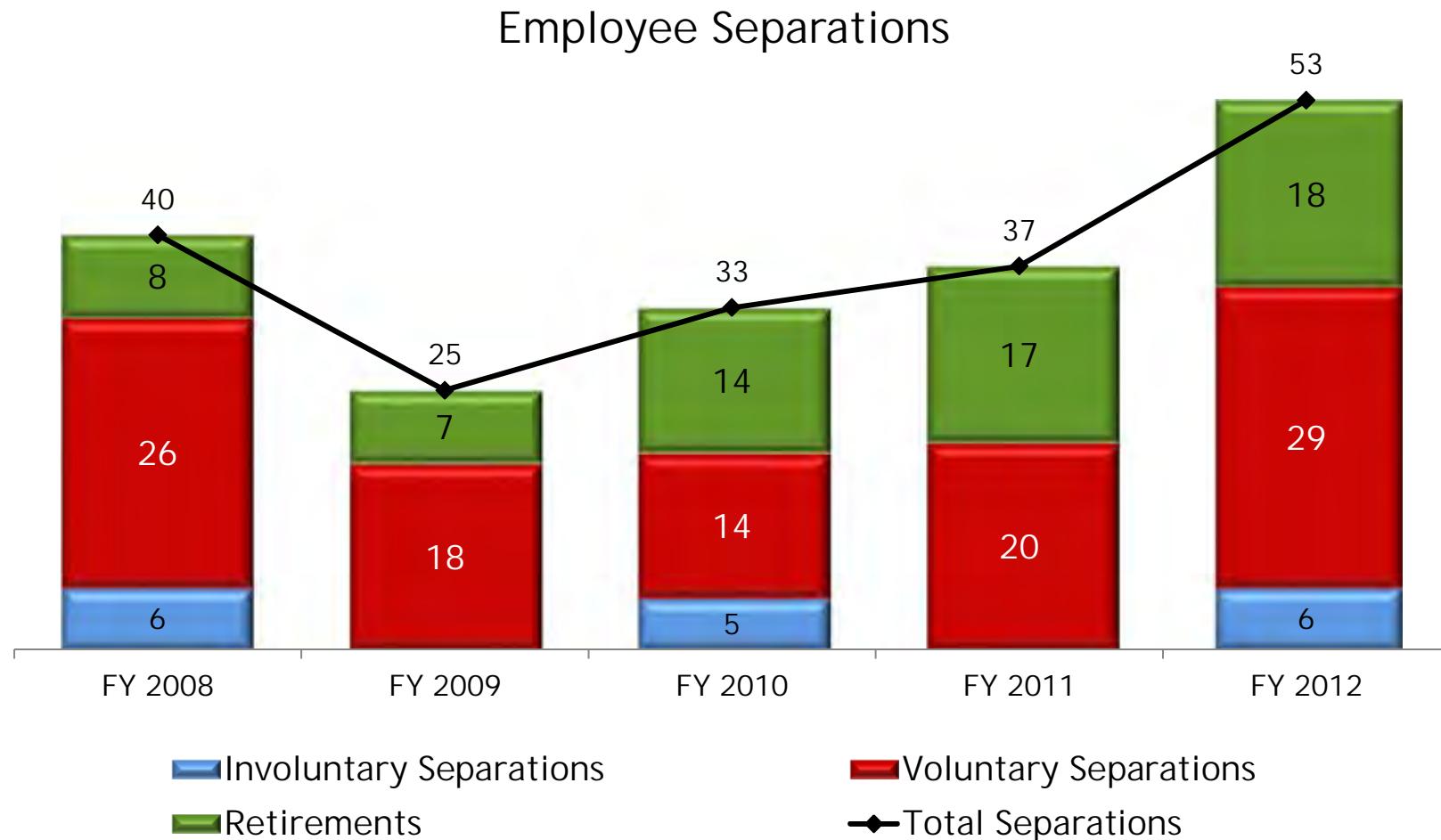
FTEs - Investment Management Division (IMD)



- Since fiscal year 2007, TRS' FTE cap has grown by 60 FTEs (14.0 %).
- In FY 2007, the Investment Management Division had 83 (19.4 percent) of the agency's FTEs. Currently IMD has 119 (24.4 percent) of the agency's FTEs. This is a growth of 43.4 percent for that division.
- Excluding FTEs assigned to IMD, the rest of the agency has seen a 7.0 percent growth (24 FTEs) from FY 2007 to FY 2012.
- In addition to FTE amounts shown, IMD utilizes 32 contractors working predominately in Investment Administration and External Public Markets.
- The rest of the agency utilizes 6-9 contractors to supplement staff, mainly in IT and business operations.



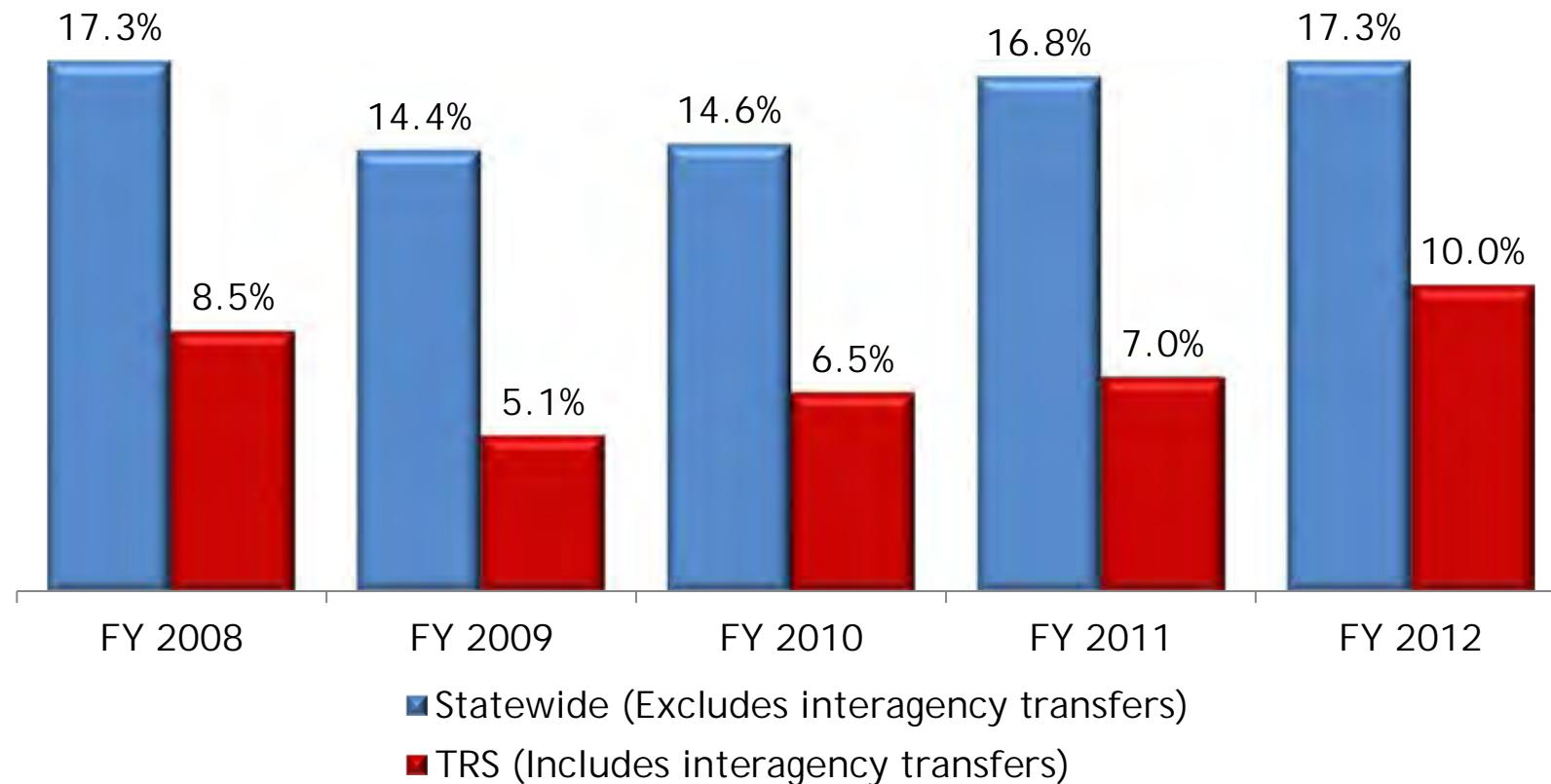
Employee Separations





Annual Turnover Rates

Turnover Trends

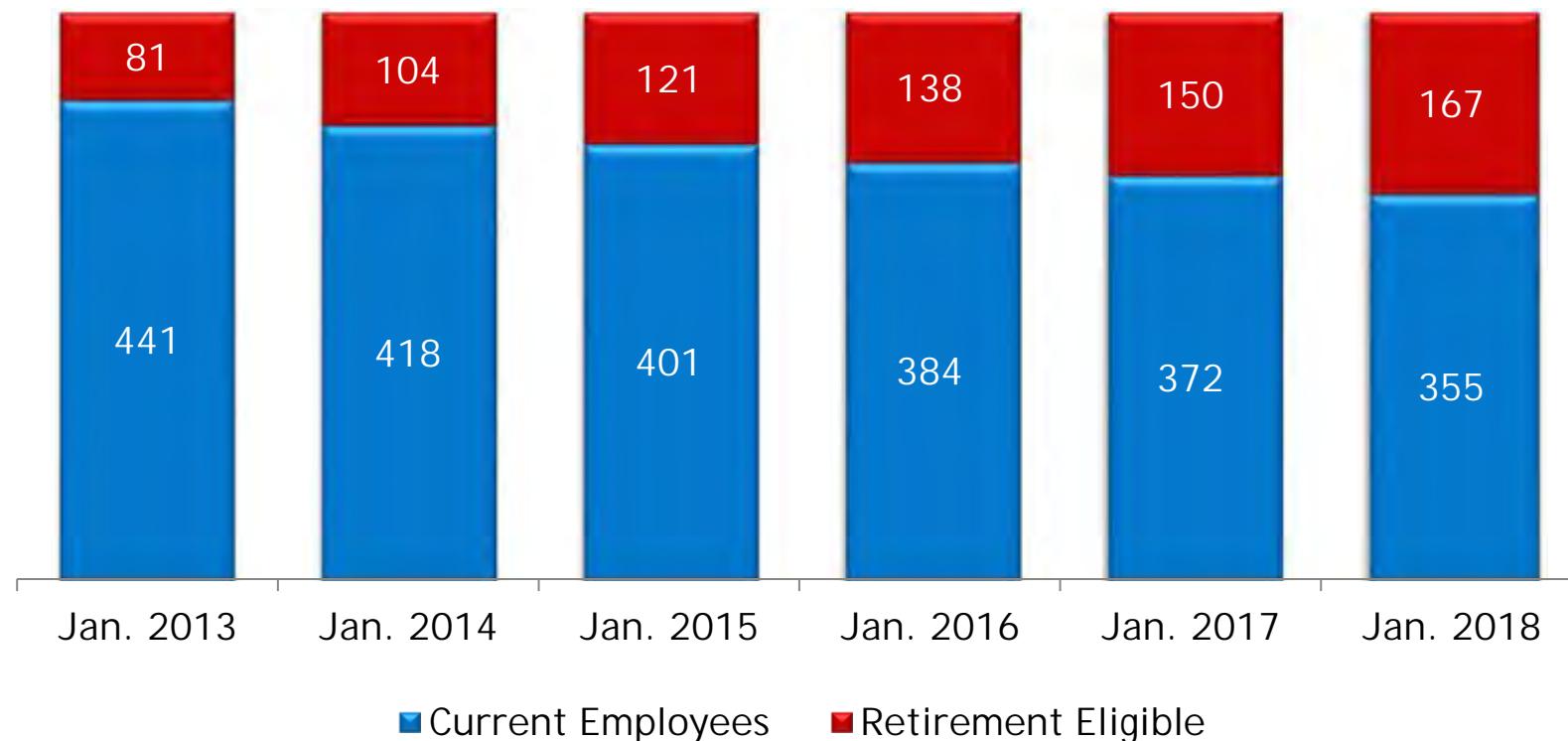


Note: Includes classified full-time, classified part-time, and exempt positions.



Retirement Estimates

Comparison of Retirement Eligible Employees to Remaining Agency Staff



Estimates are based on active employees as of 12/31/2012, includes return-to-work retirees, but excludes employees who retired in January 2013.

Percent of TRS Employees Eligible to Retire, by Department

Department	Current (as of 1/1/2013)	In 3 Years (as of 1/1/2016)	In 5 Years (as of 1/1/2018)
Benefit Services	10.4%	19.6%	26.4%
Communications	25.0%	50.0%	62.5%
Executive Team	50.0%	50.0%	50.0%
Financial	26.4%	41.5%	43.4%
Government Relations	0.0%	50.0%	50.0%
Health Care	15.4%	46.2%	50.0%
Human Resources	10.0%	30.0%	50.0%
Information Technology	21.7%	32.5%	41.0%
Internal Audit	44.4%	55.6%	66.7%
Investment Management	3.5%	7.9%	10.5%
Legal Services	38.1%	47.6%	47.6%
Staff Services	27.6%	41.4%	48.3%
Agency Total	15.5%	26.4%	32.0%
Executive Council	25.0%	58.3%	75.0%

Estimates are based on active employees as of 12/31/2012, includes return-to-work retirees, but excludes employees who retired in January 2013.





Effects of Turnover

Business Risks

- Loss of institutional knowledge.
- Interruptions to business continuity and customer service.
- Increased workload to recruit, hire and train new employees.
- Lower productivity levels during vacant periods and while new employees are trained.
- Multiple separations within a division or in a short time frame may impede business.

Business Opportunities

- Ability to hire for specific skills and experience.
- Provides advancement and developmental opportunities for current employees.
- Ability to restructure or reassign work functions without retraining current staff.



The HR Story

What happened?

- HR was identified with a high risk of potential retirements prior to 2010.
- 80 percent (9 out of 11) employees were eligible to retire.
- Within the last year, 7 of those employees left including the HR Director and both Team Lead positions.

Where did this leave HR?

- High loss of institutional knowledge.
- Labor intensive, manual processes.
- Lack of written policies, procedures and documented processes for new staff to follow.
- Remaining staff was not sufficiently cross-trained on HR functions.



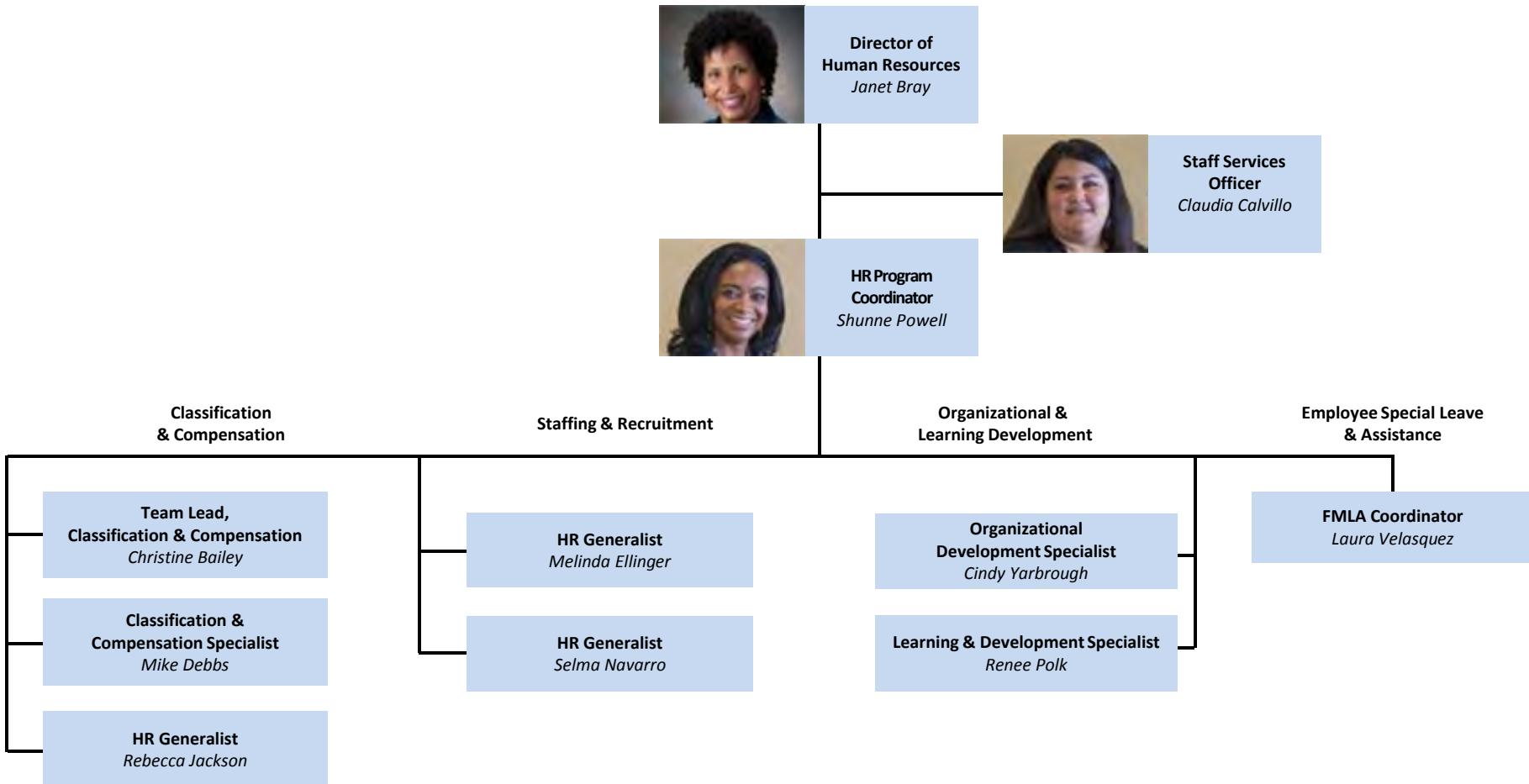
Benefits of the Change



- New HR Director could reorganize the division more easily.
- Opportunities for strategic shifts in meeting the agency's business needs.
- Ability to hire skilled, subject matter experts to support the shift in strategies.
- Opportunities for current staff to re-align their work with new initiatives.



Human Resources Division





HR Accomplishments

- Filled all vacant HR positions with subject matter experts, and restructured work functions to meet agency and TEAM program needs.
- Identified guiding values and principles.
- Created a departmental mission and identity statement to help prioritize initiatives.
- Completed agency's first Leadership Development Program.
- Implemented a year round internship program.
- Created a Organizational Change Management (OCM) project to support the TEAM program.
- Initiated automation of hiring process, employee onboarding and performance management systems.

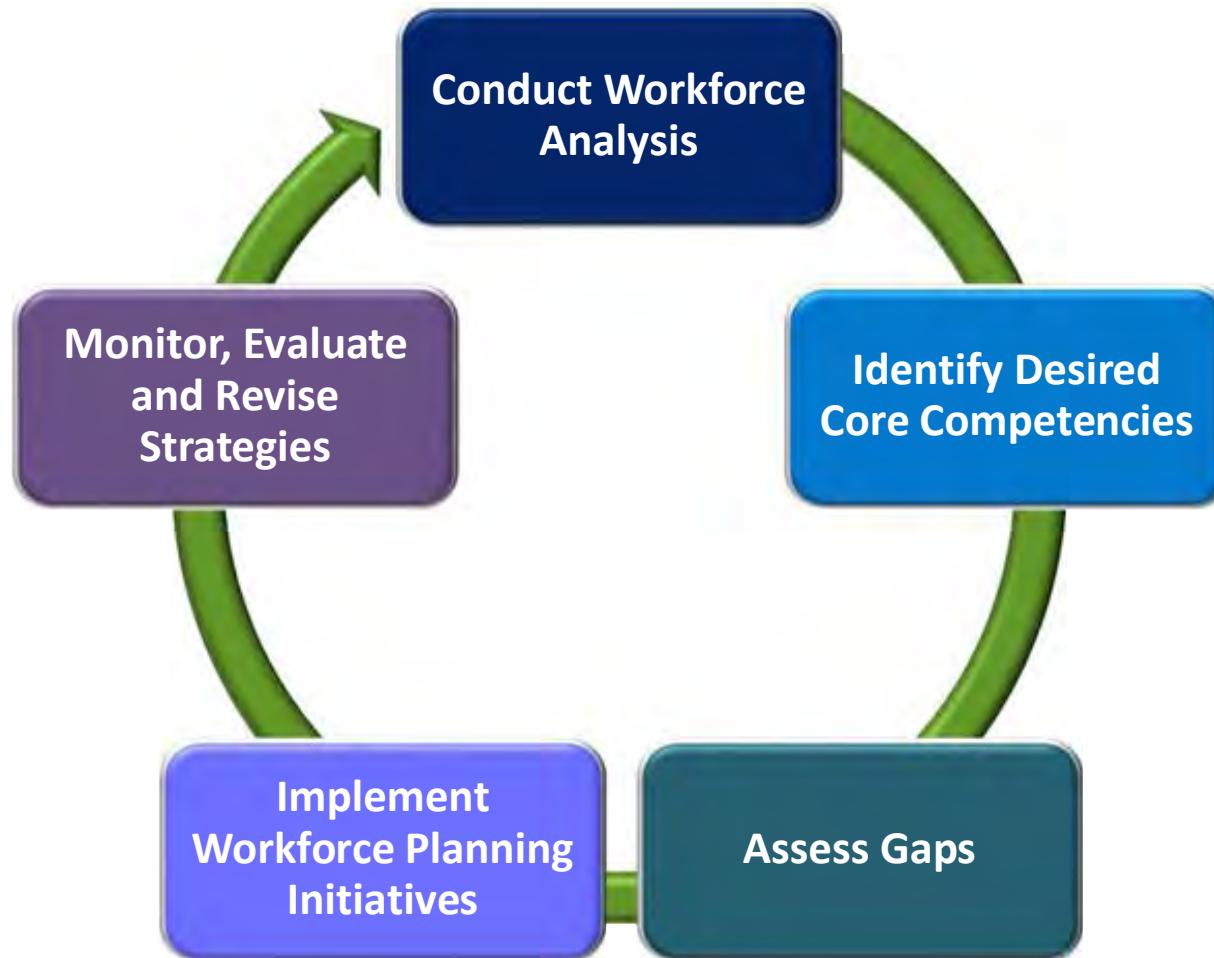


HR Workload Measures

Measure	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013*
Positions Posted	74	49	60	53	66	21
Positions Filled	68	53	47	61	77	25
Time to Fill Positions (avg. days)	61	141	43	65	74	58
Applications Processed	4,468	3,123	3,457	2,151	2,181	563
Promotions	15.3%	12.0%	9.4%	11.3%	13.4%	3.2%
Merit Increases	56.3%	35.8%	29.9%	43.8%	39.4%	13.9%
Family and Medical Leave Events	57	64	63	49	43	32

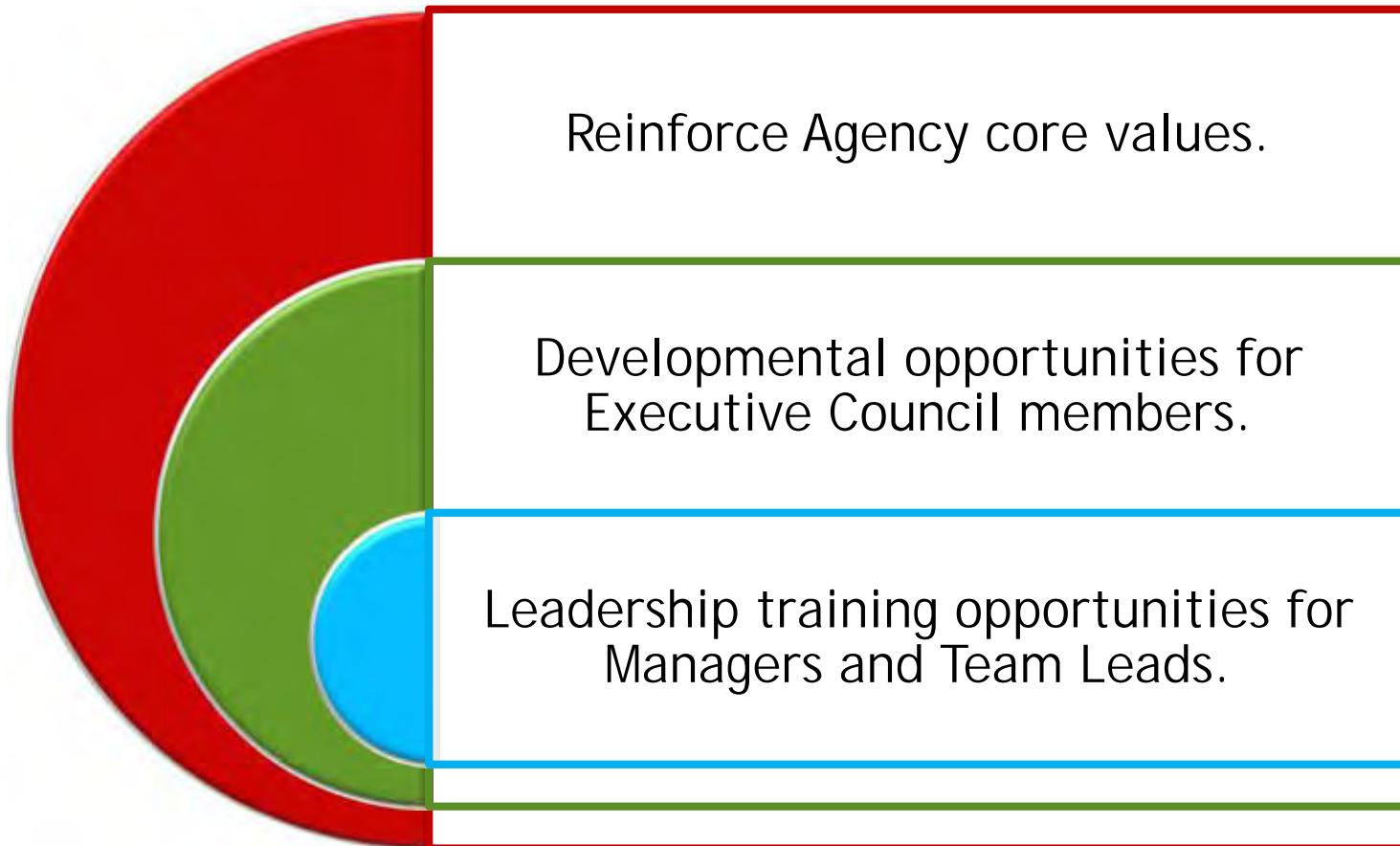
*FY 2013 data includes actions between 9/1/2012 and 12/31/2012.

HR Initiatives to Address Workforce Continuity Risks





Additional Agency Initiatives to Address Workforce Continuity Risks





HR Automation Initiatives



Teacher Retirement System of Texas



Agency Staffing and Resource Matters

Don Green, Chief Financial Officer

Janet Bray, Human Resources Director

Board of Trustees Meeting
February 21, 2013

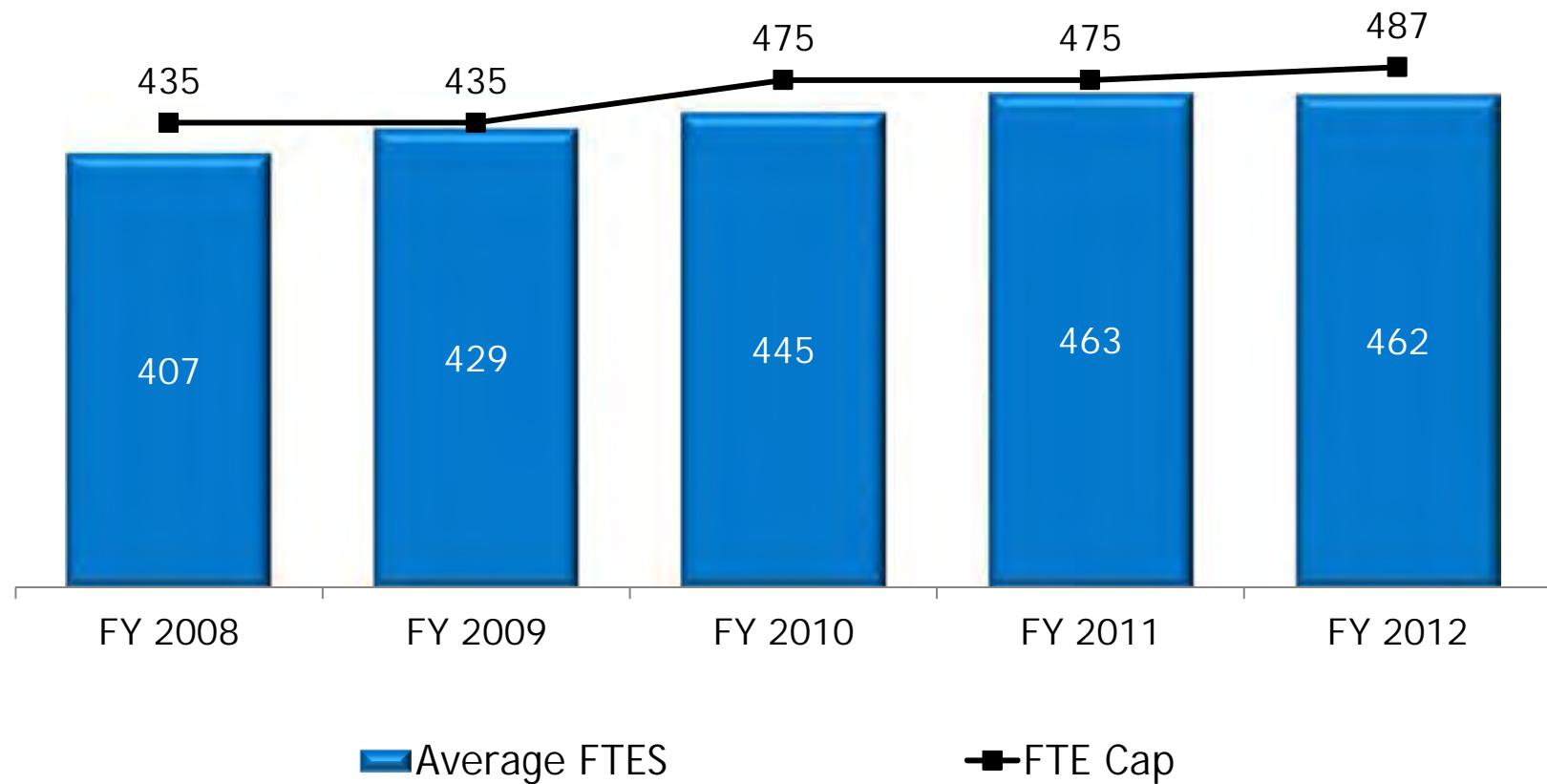




TRS Operates a Lean Organization

- Full-time equivalent (FTE) employee levels remain close to the agency's FTE cap.
- Vacancies due to anticipated retirements or separations are frequently posted before the employee's last day. This leaves a limited pool of vacant positions.
- Employees routinely work overtime to maintain current business operations.
- Contractors are frequently used to fill workload gaps and address ongoing business needs. In January 2013, TRS employed 43 contractors agency-wide.
- According to a 2011 study by CEM (Cost Effectiveness Measurement), TRS' total pension administration cost was \$31 per active member and annuitant. This was \$48 below the peer average of \$78, the second lowest cost in our peer group, and among the lowest in CEM's global universe.

Full-Time Equivalent (FTE) Employees





Staffing Analysis

- The Core Management Team (CMT) prepared staffing recommendations for the TEAM program based on:
 - Provaliant's staffing analysis and recommendations
 - Pension system tours
 - Input from agency management and TEAM members
 - Observations from the IPA (Independent Project Assessment) vendor, Bridgepoint Consulting



Staffing Considerations

■ CMT observations:

- Existing TRS staffing levels will not meet TEAM program needs.
- Employees cannot manage current operations and take on increased work for a major program such as TEAM without an increase in overtime or creating potential burnout.
- A sufficient number of vacant positions are not currently available to address staffing needs for the program.
- As TEAM ramps up staffing for peak periods of the program, the agency will exceed current FTE limitations.

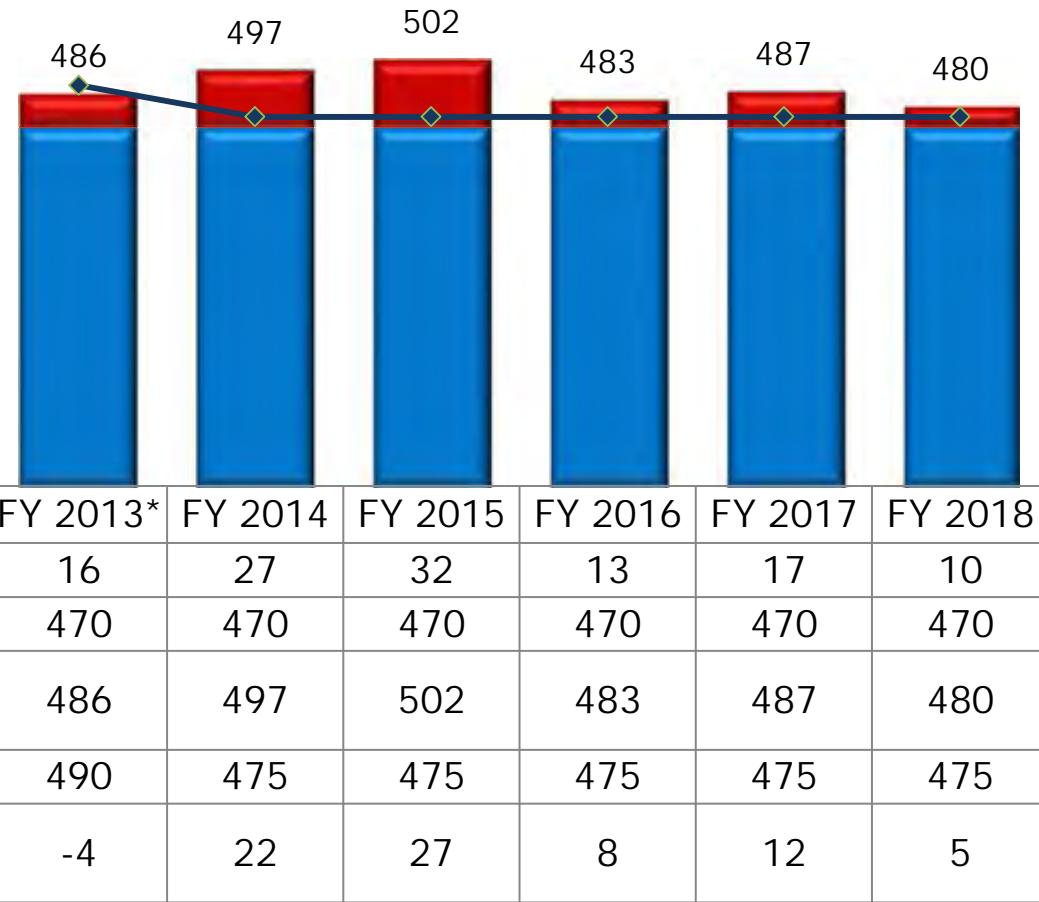


Staffing Considerations

- Based upon current analysis, a maximum of 32 FTEs over the life of the project are needed beyond current FTE levels. This includes:
 - 26 FTEs for subject matter experts that will be used to backfill positions currently held by employees assigned to TEAM.
 - 6 FTEs for IT positions that are critical to the long-term success of the program.
- Posting for 16 positions in FY 2013 should begin ASAP to allow sufficient time for hiring and training, and ensure the program can meet targets.
- Projected staffing numbers do not include members of the Executive Steering Committee, Core Management Team, and other TRS staff that contribute significant time to the program in addition to daily operational functions.



TEAM Staffing Projections



*Note: Agency FTEs are based on 1st Quarter, FY 2013 data. These numbers are used as a staffing projection for the next five years.



Staffing Strategies

- Although an additional 15 FTEs were authorized by the legislature for FY 2013 (bringing the FY 2013 cap to 490.3), these FTEs are not included in the introduced version of the General Appropriations Act (GAA) for TRS.
- Another 13 FTEs were included in the agency's budget request (for a proposed cap of 503.3), but are not funded in the introduced budget bill for FY 2014-2015.
- Proposed language in both the House and Senate version of Article IX, General Appropriations Act (GAA) would allow agencies the flexibility to staff 10 percent above the FTE cap with Board approval. If approved, this could represent approximately 47 FTEs for TRS above the current cap.



Staffing Strategies

In order to address TEAM Program needs:

- Hiring 16 backfill FTEs for FY 2013 is critical for project timelines, and will not cause the agency to exceed the FTE cap for FY 2013.
- Backfilled positions will be paid out of agency funds.
- After the legislative session and prior to FY 2014, TRS will update and submit a proposal to the Board with strategies to determine critical needs and appropriately place positions.
- As positions become vacant in the agency, they will be reviewed and considered for reallocation at the agency-level.



Long Term Considerations

TRS will need to consider:

- Staffing decisions based upon service delivery needs, not FTE levels.
- Adjusting staffing levels across the agency by strategically aligning positions with future business needs.
- Alternative approaches to hiring staff for TEAM which may include hiring and training new graduates, developing existing staff, hiring experienced subject matter experts, outsourcing, or a combination of strategies.
- Workforce planning and organizational change management strategies to integrate staff dedicated to TEAM back into business operations as projects finish.



Insourcing and Outsourcing Opportunities

- Department by department analysis of workload requirements and the potential for using contracted versus permanent workers.
- Examples of outsourcing include:
 - Specialized audits and legal services
 - Investment custodial services
 - Actuarial services
 - TEAM Program Management Services
 - TRS ActiveCare Enrollment
 - Grounds keeping
 - Major construction projects



Insourcing and Outsourcing Opportunities

Insourcing Pros:

- Allows agency to control direct costs of materials such as in-house printing.
- Convenience factor of working directly with TRS staff.
- Some functions such as human resources have previously been outsourced on a state-wide basis with unfavorable outcomes.

Outsourcing Pros:

- Currently some outsourced services are very specialized that bringing in-house may command very high salaries (legal services, actuaries, electricians, etc.).
- Outsourcing shifts more of the liability and risk from the agency. One example is construction and remodeling projects with the potential for significant liability and workers' compensation claims.

Teacher Retirement System of Texas



LEGAL SERVICES OVERVIEW

FEBRUARY 20 – 22, 2013

Law: an ordinance of reason for the common good, made by him who has care of the community. – St. Thomas Aquinas





Standards of Professional Responsibilities for Lawyers

What is a “professional”?

- “A profession is concerned with knowledge which is for the good of society.” – Marjorie Brown
- “The norms of practice enforced by the profession are more stringent than legal controls.” – William J. Goode
- “A professional is more concerned with the public interest than with self-limited private interest.” – Helen G. Hurd



Standards of Professional Responsibilities for Lawyers

The organization - TRS - is the client.

- Lawyers employed or retained by an organization represent the entity as distinct from its trustees, employees, members, beneficiaries, or others. (Tex. Disc. Rules of Prof. Conduct Sec. 1.12) ("TDRPC").

Each lawyer must:

- Exercise independent professional judgment; and
- Render candid and objective advice. (TDRPC Sec. 2.01).



Roles of TRS In-House Legal Staff

- ❖ **Risk awareness & compliance**
 - Policy development.
 - Ethics advice & disclosures.
 - Statutory interpretations, opinions, & advice (e.g., open government; fiduciary duties; employment matters).
- ❖ **Advocacy**
 - Negotiation (investment transactions, contracting, including purchasing & investment operations, rulemaking, dispute resolution).
 - Appeals before board and SOAH.
 - Litigation (assist OAG, outside counsel, or both).
- ❖ **Services & Facilitation**
 - Training (e.g., ethics & open government).
 - Problem solving.
 - Class actions; public information & communications; foreign trading account documentation (e.g., proxy voting powers of attorney).
 - Liaison to OAG, SORM, Secretary of State, etc.



The TRS Legal Environment

- **Purpose of retirement system**
 - Invest assets & administer benefits.
 - Advocacy prohibition vs. providing information.
- **Pension benefits trust vs. state agency**
 - Fiduciary duties paramount (TRS may be exempt or retain discretion, e.g., purchasing, as set forth in Sec. 825.103, Gov't Code).
 - Trust funds vs. "state funds."
 - Legislative power limited; assets may not be diverted from the constitutional mission to deliver benefits (i.e., why assets are held in trust).
 - Benefits and contributions are set by legislature and can be changed.
- **Federal and state laws**
 - Federal tax exemption & plan qualification.
 - State open government.
 - HIPAA, etc. for health plans.
 - Employment laws (e.g., anti-discrimination; ADA; FLSA; FMLA).





Services And Responsibilities

❖ Five Key Processes:

- 1) Provide legal advice and services to support TRS mission (administration, investments, benefits + insurance)**
- 2) Serve in special roles designated by Executive Director**
 - HIPAA Privacy Officer (required by Federal Law).
 - Complaint Officer (Complaint process required by State Law).
 - Texas Register liaison (required by rules of Secretary of State).
 - Board Secretary and Assistant Board Secretary.
 - TRS Ethics Coordinator (assist Executive Director and Board).
 - Facilitator for ADR and Negotiated Rulemaking Procedures (required by State Law).
- 3) File claims in securities class action cases (monitoring, evaluating, filing, follow up thru collection).**
- 4) Review and approve court orders as qualified domestic relations orders (QDROS).**
- 5) Respond to public information requests & brief OAG; process documents for delivery or inspection & invoice allowable costs.**



Services And Responsibilities

❖ Organization: Four Functional Areas

- 1) *Investments:*** policies, transactions, operations, class action claims, securities litigation, etc.
- 2) *Pension Benefits:*** QDROs, appeals, rules, levies, litigation, etc.
- 3) *Health Law / Group Programs:*** HIPAA, claims, contracting, appeals, litigation.
- 4) *Administration:*** HR support & employment law, tax exemption & plan qualification, purchasing, rulemaking, open records, ethics, outside counsel administration, risk management & liability insurance, special designation roles, appeals administration, board minutes & resolutions, policy review & development.



Legal Services Organization



Dennis Gold
Interim
General Counsel

Investments



Tim Wei
Asst. Gen. Counsel
Investments; Team
Leader of Investments
Legal Team; Ethics
Coordinator



Angela Vogeli
Asst. Gen. Counsel
Investments Legal Team



Denise Lopez
Asst. Gen. Counsel
Investments Legal Team

Health Law



Wm. Clarke Howard
Asst. Gen. Counsel
Health Law/Group
Programs;
Privacy Officer

Pension Benefits



Rebecca M. Smith
Asst. Gen. Counsel
Team Leader of
Benefits Legal Team;
Benefits; Appeals



Juan Duran
Asst. Gen. Counsel Benefits; Appeals



Kirsten Morgan
Asst. Gen. Counsel Benefits; Appeals



Cherie Stewart
Program Specialist Benefits



Carol Lee
Program Specialist Benefits



Vacant
Program Specialist Benefits
 $\frac{1}{2}$ Time



Christina Alexandra
Program Specialist Benefits
 $\frac{1}{2}$ Time

Administration

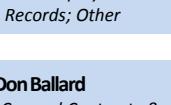


Chammaine Skillman
Asst. Gen. Counsel
Supv. of Admin. Legal Team
Tax; Pension Benefits
Support; 403(b); Dept.
Admin.; Other

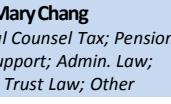
Dan F. Junell
Asst. Gen. Counsel; Secretary to
Board; Open Records; Admin. Law;
Pension Benefits Support; Other



Tina Carnes
Asst. Gen. Counsel Employment Law;
Open Records; Other



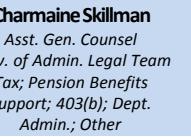
Don Ballard
Asst. Gen. Counsel Contracts &
Procurements; Trust Law; Open
Records; Other



Mary Chang
Asst. General Counsel Tax; Pension
Benefit Support; Admin. Law;
403(b); Trust Law; Other



Vacant
Asst. General Counsel
Open Records



Carol Ellis
Program Specialist Team Leader*
Open Records; Securities Class
Actions; Research

Sharon Deike
Executive Assistant Outside Counsel
Program; Ethics Compliance
Program: Dept. Budget

Lynn Lau
Program Specialist Asst. Secretary to
Board; Coordinator/Dept. Intranet
Page; Docket Clerk

Anna Espinosa
Program Specialist*
Investments/Benefits Support;
Open Records

Shannon Connelly
Program Specialist*
Investments/Benefits Support;
Open Records

Vicki Young
Program Specialist Pension Benefits
Support: Dept. Records Liaison &
Administrative Assistance





Non-Attorney Specialists

~134 years TRS experience, by length of TRS employment:

- Vicki Young (29 yrs.)
- Cherie Stewart (25 yrs.)
- Carol Ellis (22 yrs.)
- Carol Lee (20 yrs.)
- Sharon Deike (17 yrs.)
- Lynn Lau (10 yrs.)
- Anna Espinosa (5 yrs.)
- Shannon Connelly (5 yrs.)
- Christina Alexandra (1 yr.) (1/2 time)
- Leslie Crabbe (Master of Legal Studies student intern)

Highlights:

- 2 Golden Apple recipients (Vicki, Carol E).
- Former exec. asst. to two general counsels & several years board secretary (Cherie).
- Former Gov't Relations specialist (Vicki).
- 2 masters degrees; 6 bachelors degrees, 1 associate degree, 4 paralegal certifications.
- Open records team: Shining Example Award 2012 (Carol E, Anna, Shannon).
- Board minutes, Sec. of State notices, Access database, Sharepoint & Legal Intranet page, Chinese translation, appeals docket, Asst. Board Sec. (Lynn).
- Class action claims monitoring and filing (Carol E, Anna, Shannon).
- QDROs, levies, powers of attorney & foreign filings (Vicki, Cherie, Carol L, Anna).
- Outside counsel administration; ethics administration; Legal budget and operations (Sharon).





Legal Services Attorneys

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Legal Services Attorneys, cont'd

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Workload Drivers and Measures

Legal Budget FY13: \$7.8 million

Outside Counsel: \$4.9 million

\$4.3 million investments (\$3.8 million FY 13 remaining)

\$0.630 million fiduciary & tax (\$19,000 fiduciary to 1/18/2013)

FTEs: 24

- 14 Attorneys (2 of which are vacant)
- 8 Program Specialists (1 vacant)
- 1 Executive Assistant; 1 Legal Intern

Vacancies: General Counsel; new open records attorney; benefits specialist

Work Drivers

TRS FTEs: 537 (IMD has doubled since 2006)

TRS Participants: 1,335,402 (divorces, retirements, withdrawals, deaths).

Employment matters: policies, hiring, terminations, accommodations, dispute resolution, investigations.

TRS Pension Assets: \$115.8 billion (at 1/25/2013).

Publicity (media and public information requests)

New TRS programs or special matters:

- Federal health care law implementation, other program changes;
- Private equity strategic partnerships.
- Financial regulations.
- TEAM Program.

Examples of Outputs (FY12)	
QDROs, court orders, levies	1500 approx.
Requests for member info	500 approx.
TRS-ActiveCare appeals	11
Investments- Portfolio transactions	92; \$18.52B
Filed – Sec. class action claims	43
Recoveries – Securities Litigation	\$10,487,149
Open records requests (processed by Legal)	215
Pension appeals filed w/Exec Dir	3
Rulemaking	22
Ethics – Advice matters	48
Ethics – Reporting forms	973
TRS posted meetings	44
Procurement docs - \$1M or more	16
Procurement docs - under \$1M	75
New federal laws & regulations	13
Human Resources matters	20
New or reviewed board policies	15
Open Records Collections	\$2,025



Outside Counsel

❖ Legal Services publishes Requests for Qualifications to identify qualified outside counsel:

- **Fiduciary counsel** (works with Board and Staff)
 - Board's independent counsel selected by board as required by Bylaws; Advises primarily on fiduciary duties and ethics and provides insight and perspective on issues faced by systems around the country.
 - Source for external advice and perspective in situations involving or affecting staff (e.g., internal investigations).
 - ***The current fiduciary counsel contract is up for review, summer 2013.***
- **Tax and employee benefits counsel** (works with staff), including plan administration, plan qualification.
- **Investment transactions counsel** (works with staff) including investment transactions, derivatives, related tax issues, custody.
- **Litigation counsel** (works with staff, with or without OAG assistance), including securities litigation, securities claims analysis, lead plaintiff, open records litigation.



Role Of Office Of The Attorney General (OAG)

- By law, the OAG represents TRS and the Board in litigation and serves as legal advisor to the Board (Sec. 825.203(a), Gov't Code).
- OAG approves all contracts for outside counsel (Sec. 825.203(b) & (c), Gov't Code) and must approve all invoices before payment can be made; the OAG mandates maximum hourly rates state entities can pay.
- If requested by the head of a state department or a board, the OAG issues and publishes advisory opinions on its website; e.g., official duties, agency power & authority (Sec. 402.042, Gov't Code).
- If requested by a state entity, the OAG makes determinations whether information must be disclosed under the Public Information Act (Sec. 552.301, Gov't Code).
- Investigative & enforcement functions for the State (e.g., child support, removal of state official from office; consumer protection; open government compliance; charitable trusts, etc.).



OAG Developments – Outside Counsel

- A statute now permits the OAG to charge fees for reviewing outside counsel invoices; law firms pay the fee at inception of the contract based on the contract amount.
- Because of the fee collection program, the OAG now requires biennial outside counsel contracts (2 year term) to match the state's fiscal biennium.
- The OAG has revised its standard form of engagement contract, but has allowed TRS to modify some provisions for the TRS mission.
- As a result of OAG standard contract terms it viewed as unacceptable, at least one top law firm declined to represent TRS.



Legal Services Accomplishments

- Shining Example Award 2012, Open Records Team (L to R: Carol E, Shannon, Dan (attorney), Anna)





Legal Services Accomplishments, cont'd

Records reviewed and assembled for one requestor's inspection:





Legal Services Accomplishments, cont'd

- IRS plan qualification determination letter received.
- Significant recovery as lead plaintiff in the Bank of America case.
- Closing of the private markets strategic partnerships with Apollo and KKR.
- New types of investment transactions, including direct investments.
- A continued record of successfully defending confidential information in the open records process.
- TEAM line of business rules review & development.
- TEAM procurements & contracting, e.g., line of business RFO, independent program assessment RFO & contract, project manager RFO & contract, etc.



Challenges for Legal Services

- **Change management**, e.g., TEAM & new general counsel orientation.
- **Records management & file system** updates (electronic files).
- **Retirements & succession planning**.
- **Matter intake, tracking and reporting technology** (especially benefits & administration services).
- **Open records tracking software acquisition**, training, and implementation (currently in process).
- **E-discovery software acquisition** (open records, subpoenas, investigations).
- **Salary equity, incentives, training, and career ladders**.
- **Space planning (TRS growth)**.

Trustee Education

Board of Trustees Training

**Teacher Retirement System
of Texas**

February 21, 2013

Reinhart Boerner Van Deuren s.c.

Constructing a Secure Future

TRS

Overview

- This training session will address:
 - Requirements and guidance under the Trustee Ethics Policy
 - Gifts
 - Personal Investments
 - Conflicts of Interest
 - Trustee Qualifications, Prohibitions on Eligibility and Related Matters
 - Hot Topics in Public Pensions

Ethics Policy - General

- The Ethics Policy is based on the standards applicable to Trustees under the Texas State Constitution, Texas statutes, and federal law as well as high ethical principles.
- The Ethics Policy, as well as Texas law, limits gifts that Trustees may accept.

Ethics Policy - Gifts

- Under the Ethics Policy:

"[a] Trustee shall not solicit or accept any gifts (e.g., objects, services, favors, entertainment, preferential treatment, vacations, or property) from any donor. Such gifts cannot be accepted by Trustees for themselves or for their families or business partners." Ethics Policy section 2.

 - The specific rules applicable to gifts are examined on the following slides.
- Even if gifts are allowed under the Ethics Policy, the Policy notes that, in order to avoid the appearance of impropriety, Trustees should consider whether the circumstances associated with an expense payment or a courtesy by another would draw unfavorable public criticism.
- Also, even if a gift is within the Ethics Policy guidelines discussed next, the gift is not acceptable if it could be considered bribery of the Trustee or create the appearance of impropriety (for example, by being given too frequently).

Gifts – Food and Meals

- Food and Meals.
 - Food included in the conference or seminar fee paid by Trustee or TRS is acceptable and is not a gift.
 - Trustees may accept modest food items and other perishable items given on holidays or other infrequent occasions if valued at less than \$50.
 - Meals valued at less than \$50 may always be accepted. The donor need not be present.
 - Trustees may also accept meals valued at \$50 or more if provided by a TRS vendor in good standing and who is present for the meal.

Gifts – Food and Meals

- Food and Meals (cont.).
 - *Example 1: A Trustee is scheduled to speak at an event for investment professionals. The Trustee, an authority on a subject of interest to event attendees, is speaking at the event in a personal capacity rather than on behalf of TRS. A TRS vendor is sponsoring a dinner that will precede the Trustee's speech. The sponsor is unable to estimate the value of the dinner for the Trustee in advance and is unable to bill the Trustee for the meal. Vendor representatives are present at the dinner meeting.*
 - *May the Trustee attend the dinner preceding the speech? Yes, the Trustee may attend because the TRS vendor was in good standing and present at the dinner. The Trustee's attendance is acceptable whether or not the cost of the meal is deemed to exceed \$50 so long as there is no appearance of impropriety.*

Gifts – Food and Meals

- Food and Meals (cont.).
 - *Example 2: Assume the example above except that the sponsor is the general partner of a fund in which TRS invests.*
 - *May the Trustee attend the dinner? Yes, but only if valued at less than \$50 and there is no appearance of impropriety. Because the general partner of a fund in which TRS is invested is not a TRS vendor, the \$50 limitation applies.*

Gifts – Lodging and Entertainment

- Lodging and Entertainment.
 - Trustees may accept entertainment included in a conference or seminar fee paid by Trustee or TRS.
 - Trustees may accept lodging or entertainment valued at less than \$50 regardless of whether the donor is present.

Gifts – Lodging and Entertainment

- Lodging and Entertainment (cont.).
 - *Example 1: As before, a Trustee speaks at an event for investment professionals. Before the speech, a video sponsored by the TRS vendor relating to investment strategy is shown to the audience.*
 - *Has the Trustee violated the ethics policy by being present for the video? No, the Trustee may accept this entertainment presuming there is no appearance of impropriety and the value of the entertainment as applied to the individual falls within the \$50 limit.*

Gifts – Travel and Conferences

- Lodging and Entertainment (cont.).
 - *Example 2: A Trustee speaks at an event for investment professionals. The sponsor of the video and the dinner is the general partner of a fund in which TRS invests.*
 - *Has the Trustee violated the ethics policy by being present for the video? No, but only so long as there is no appearance of impropriety and the value of the entertainment for the individual as well as the value of the dinner together fall within the \$50 limit.*

Gifts – Transportation

- Transportation. Following are rules applicable to transportation for Trustees.
 - Trustees may accept transportation valued at less than \$50 regardless of whether the donor is present.
 - Ground transportation valued at \$50 or more is acceptable in certain circumstances. The transportation must be provided by a TRS vendor in good standing or by an existing general partner or representative of a private investment fund in which TRS has an existing investment. The vendor, general partner, or representative must be present. Presence at the origin or the destination is sufficient.

Gifts – Transportation

- Transportation (cont.).
 - *Example 1: The vendor in example 1 above goes to the Trustee's hotel to pick him or her up for the dinner and speech described.*
 - *May the Trustee accept the transportation? Yes, the Trustee may accept the transportation.*

Gifts – Transportation

- Transportation (cont.).
 - *Example 2: The general partner of the fund in example 2 above goes to Trustee's hotel to pick him or her up for the dinner and speech described.*
 - *May the Trustee accept the transportation? Yes, the Trustee may accept the transportation presuming the value of the dinner is less than \$50 so that the Trustee may attend the dinner as previously discussed.*

Gifts – Transportation

- Transportation (cont.).
- *Example 3: A Trustee takes the opportunity while out of his or her city on other business to visit the offices of a vendor in that city and learn more about a TRS service provider. The service provider arranges a taxi to bring the Trustee to the place of business and pays the taxi fare when the Trustee arrives.*
- *May the service provider provide the fare payment? Yes, the Trustee may accept the taxi fare payment.*

Gifts – Transportation

- Transportation (cont.).
 - Travel expenses paid for by another governmental entity or a non-profit organization related to the public retirement industry are permitted, provided there are no prohibitive circumstances as determined after consultation with TRS General Counsel.

Gifts –Conference Tokens

- Other. Often at conferences, meetings and receptions, tokens of nominal value are distributed to all attendees. Trustees may accept such tokens.
- These tokens should still be under the \$50 limit.

Gifts – Conference Tokens

- Other (cont.).
 - *Example: A Trustee is given a packet of meeting materials at the conference. Later, the Trustee discovers a DVD copy of the investment strategy presentation, which retails for \$11.50, was included with the materials.*
 - *The Trustee need not ship the DVD back to the sponsor because the DVD would be considered of nominal value, and trustees may accept such tokens as part of the conference.*

Gifts – Other

- The following gifts are also allowed under the Ethics Policy.
 - Gifts conferred on account of kinship or a personal, professional, or business relationship independent of the official status of the Trustee.
 - *Example: A gift from a colleague or client of a Trustee's personal business that is unrelated to the Trustee's status as a Trustee is acceptable.*

Gifts – Other

- Gifts of less than \$50 value (but in no event cash, negotiable instruments, or cash equivalents such as gift cards), such as the meals and transportation.

Gifts – Other

- Special occasion gifts between Trustees or between Trustees and TRS employees.
 - *Example 1: A Trustee could accept a gift given by another Trustee or TRS employee commemorating:*
 - Stanford's Rose Bowl victory;
 - Texas A&M's Cotton Bowl victory;
 - Texas Tech's Meineke Car Care Bowl victory;
 - University of Texas' Alamo Bowl victory.
 - Vanderbilt's Music City Bowl victory; or
 - *Example 2: A Trustee could give a gift to a TRS employee commemorating his or her retirement from TRS because the Ethics Policy specifies that gifts between Trustees and TRS employees for special occasions are acceptable.*

Best Governance Practices

- The National Council on Public Employees Retirement Systems ("NCPERS") issued recommendations on best governance practices in 2012:
 - Governance manual.
 - Board practices.
 - Board policies.
 - Risk oversight.
 - Strategic planning.
 - Reporting.
 - Stakeholder communications.

Best Governance Practices

- Challenges to effective governance identified by NCPERS include:
 - Lack of adherence to policies and rules.
 - Excessive bureaucracy that inhibits decision making.
 - Unattainable policies and goals increase the probability of compliance failures.
 - Over-documentation.
 - Inflexible rules that take discretion from experts

Personal Investments, Disclosures, and Personal Financial Statements

TRS

- Trustees' personal investments and disclosure.
 - "Trustees, their spouses, and dependents shall not make personal investments ("co-invest"), directly or indirectly, in private investment funds in which TRS has invested." Ethics Policy section 4.
 - This standard is derived from the common law conflict of interest doctrine which is a more comprehensive prohibition and is described in more detail starting on slide 31.
 - TRS will inform Trustees of its contractors and the private investment funds that it is considering.

Personal Investments – Private Funds

TRS

- If a Trustee becomes aware that TRS is considering an investment in a private investment fund in which the Trustee, or the Trustee's spouse or dependent already has invested, the Trustee should notify the ED.
- If a Trustee becomes aware of a co-investment that already exists, the Trustee should notify the ED and the date of his or her purchase.

Personal Investments – Public Securities

- Trustees should not use their personal knowledge of upcoming TRS investments, trading activity or material developments regarding TRS investments, about which the general public is not aware, for the financial gain of themselves or their family, business associates, or friends.
- Generally, Trustees are not prohibited from otherwise investing in the same public investments in which TRS is invested.

Disclosures

- Trustees file an annual personal financial statement (“PFS”) with the Texas Ethics Commission. They must also provide a copy of the PFS to the ED.
- Trustees must file an annual acknowledgement, in writing, that they understand, have abided by, and will abide by the Ethics Policy. New Trustees provide this acknowledgement at the time they become Trustees.
- Trustees must also disclose to the ED legal proceedings a Trustee is involved with that affects or could impact the Trustee’s ability to serve on the Board.

Disclosures

- Matters relating to co-fiduciary responsibility.
 - If a Trustee is aware of illegal activity, a breach of fiduciary duty by another Trustee or by someone else serving as a fiduciary of TRS, or a violation of the Ethics Policy, the Trustee must report the activity to the Executive Director and the Chair of the Ethics Committee of the Board. Ethics Policy section 12.

Conflicts of Interest

- Requirements and restrictions on conflicts of interest are governed by both the Ethics Policy and the common law conflict of interest doctrine.

Conflicts of Interest – Ethics Policy

- Ethics Policy.
 - The Ethics Policy aids Trustees in identifying conflicts of interest, avoiding them, disclosing them properly and managing them if they cannot be avoided.
 - A "conflict of interest" occurs where a Trustee has, or reasonably could be perceived to have, an incentive to decide a matter or provide a recommendation for a reason that would be inconsistent with acting solely in the interests of TRS, or that would provide a financial benefit to the Trustee. Ethics Policy pg. 1.

Conflicts of Interest – Ethics Policy

- Ethics Policy (cont.).
 - A conflict also includes a personal or business relationship or interest that could reasonably be expected to diminish the Trustee's independence of judgment in the performance of the Trustee's responsibilities to TRS. Ethics Policy pg. 1.
 - Conflicts can arise in relation to a Trustee, a Trustee's spouse, or a Trustee's dependents.
 - Determination of whether a conflict actually exists is highly factual. Trustees who encounter situations that potentially present a conflict should consult the ED.

Conflicts of Interest – Common Law

- Common Law Conflict of Interest Doctrine.
 - The common law conflict of interest provides that a contract with a governing body is void if a public officer has a direct or indirect personal pecuniary interest in the contract.
 - The fact that the public officer exercised no influence and acted with sincere purpose does not keep the contract from violating the doctrine.

Conflicts of Interest – Common Law

- Common Law Conflict of Interest Doctrine (cont.).
 - Texas Attorney General opinions state that an ownership interest is a personal pecuniary interest. It appears that an ownership interest includes ownership of securities. The doctrine also extends to parents, affiliates and subsidiaries of the entity in question.
 - If a Trustee experiences a common law conflict of interest due to a pecuniary interest, the Trustee must sell the pecuniary interest or otherwise dispose of the interest in question. Otherwise, future TRS contracts with the entity are void, and TRS may not otherwise amend, renew or extend a contract that existed prior to the Trustee's interest unless the Trustee sells.

Conflicts of Interest - Examples

- A Trustee's child could become employed by an employer who provides services to TRS. This situation poses a potential conflict of interest under both the Ethics Policy and the common law conflict of interest doctrine because the Trustee could indirectly receive benefits through the child's employment at the employer. A Trustee should preemptively check the TRS vendor list to determine whether a prospective employer of a family member is a TRS vendor.

Conflicts of Interest - Examples

- TRS is considering investing in a private equity fund. As previously discussed, co-investment in a TRS private equity fund of which the Trustee has been notified is impermissible.
- Investment in a common public security does not create a conflict of interest unless it is a public security issued by an entity contracting with TRS. Such investment would create a common law conflict of interest under the Texas Attorney General opinions.

Conflicts of Interest - Examples

- TRS is considering contracting with a new insurer. A Trustee has made an investment in the common stock of that insurer. It is a violation of the common law conflict of interest rules for TRS to contract with the insurer. To avoid the conflict, the Trustee must sell his or her stock in the insurer.

Conflicts of Interest - Examples

- TRS adopts a rule or policy that favors a Trustee's business interests. Even if the adoption of the rule or policy is in the best interests of TRS outside of the Trustee's business interests, the situation could create an appearance of impropriety and result in allegations that the Trustee unduly influenced the Board for future personal gain.
- In that case, the Trustee may want to recuse him- or her-self from any decisions related to adoption of the rule or policy or future decisions related to the decision, stating that he or she does not feel a conflict of interest exists but recuses to avoid any appearance of impropriety.

Conflicts of Interest - Examples

- The benefit appeal of a Trustee's relative is to be heard by the TRS Board. Others could allege that the Trustee would not be impartial in his or her discussion and decision related to the benefit appeal. Under Texas Government Code section 572.058, the Trustee should recuse him- or her-self from the discussion of and voting on this benefit appeal to avoid a potential conflict of interest or allegations of impropriety.

Conflicts of Interest - Process

Conflict of Interest Process.

- Disclosure. Trustees who encounter potential conflicts of interest should disclose it to the ED. The ED, in consultation with legal counsel, will then aid the Trustee in determining whether an actual conflict of interest exists and whether further disclosure or action by the Trustee is required.
- Conflicts and Cure. If it is determined that a potential conflict would qualify as a conflict, then the Trustee should attempt to avoid the situation so an actual conflict of interest does not exist. If the conflict cannot be avoided, a Trustee should attempt to cure the conflict (i.e. alter the situation so the conflict does not exist).

Conflicts of Interest - Process

- Recusal.
 - If a conflict cannot be cured, a Trustee must disclose the conflict at an open meeting and recuse him- or her-self from discussing or voting on the matter.
 - In practice, Trustees may recuse themselves in situations where a conflict of interest does not exist to avoid the appearance of impropriety.

Conflicts of Interest - Process

- Recusal (cont.).
 - However, recusal might be required but is not a cure for violations of Texas conflicts of interest law that result from:
 - a gift
 - employment or compensation
 - a personal investment that might reasonably be expected to affect the Trustee's independence of judgment in the performance of his or her TRS duties
 - a Trustee's acceptance of employment that a Trustee might reasonably expect would require or induce the Trustee to disclose TRS' confidential information.

Conflicts of Interest - Process

- Recusal (cont.).
 - For example, a Trustee could not recuse him- or her-self in an effort to cure a conflict of interest related created by the acceptance of a bribe.

Employment of Relatives

- Nepotism prohibitions are stated in Texas Government Code chapter 573.
- TRS may not employ a person who is a relative of a Trustee. This does not prevent the continued employment of a person who has already been working for TRS for thirty consecutive days prior to the date of a related Trustee's appointment.

Employment of Relatives

- The definition of who constitutes a “relative” is technical. If a Trustee is aware that TRS is considering hiring a relative of the Trustee, the Trustee should talk to the Executive Director.

Leading Fiduciary Best Practices

- TRS participated in a benchmarking survey conducted by Funston Advisory Services LLC ("FAS") on behalf of the New York State Common Retirement Fund ("CRF").
- Purpose was to identify the leading practices by large public pension funds.
- A copy of the survey results was provided to TRS.

Leading Fiduciary Best Practices

What types of standing committees does your organization utilize?	Re-sponses	Sole Fiduciary N=3	Trustee Board		Average number of meetings annually
			Invest-ment N=5	Integrat-ed N=7	
Voting Board Committees:					
Audit	10		3	7	4
Personnel and Compensation	9		2	7	3
Investment (all asset classes)	7			7	8
Pension Benefits/Actuarial	6	1		5	4
Governance	5		2	3	5
Executive	4		1	3	7
Risk	3		1	2	5
Corporate Governance/ESG	3		1	2	4
Strategic Planning	3		1	1	6
Legislative/Policy	2			2	
Disability	2			2	
Public Assets	1		1		8
Private Assets	1		1		8
Real Estate	1	1			12
Alternatives	1				NA
Nominating	1		1		8
Finance and Administration	1			1	8
Benchmark	1		1		
Stakeholder	1			1	
Budget	1			1	
Ethics	1			1	

Leading Fiduciary Best Practices

How frequently are each of the following reviewed and updated?	Number of Responses (N=15)				
	Annually or more frequently	Every 2 years	Every 3 years	More than 3 years	Ad hoc, as needed
Investment Policy Statement	8	1	4		2
Conflict of interest policies for staff, board/committee members and consultants/advisors	8		1		6
Proxy voting policies	8				7
Investment benchmarks	6	1	1		7
Asset allocation and rebalancing policies	5	2	1	2	3
Insider trading and/or personal trading policies	5		3		6
Standards of Conduct	5		3		7
Ethics code(s) for staff, board/committee members and consultants/advisors	5		2		8
Board (if applicable) and committee charters	5	1	1		7
Investment manager guidelines	5				10
Risk management policy	5				7
Fund governance structure and policies	4	2	1		7
Securities litigation policies	4		1		6
Responsible investment or ESG policy	3		2		5
Policy on use/disclosure of placement agents	3		1		9
Board (if applicable) and committee member job descriptions	2	1	1		9

Leading Fiduciary Best Practices

Please indicate which of the following are documented and, if so, if it is available on your web site.	Number of Responses (N=15)	
	Documented	Available on Fund Website
Investment and Risk:		
Investment guidelines/investment policy	15	11
Risk management policy	10	2
Risk management reports	15	2
Quarterly and annual portfolio and fund performance reports	15	10
Asset allocation and rebalancing policies	13	7
Securities lending cash collateral investment guidelines	15	1
Fund and portfolio benchmarks	15	10
Responsible investment or ESG policy	9	6
Proxy voting policies	15	8
Ethics and Conduct		
Standards of Conduct, ethics code(s) and conflict of interest policies for staff, board/committee members and consultants/advisors	15	7
Insider trading and/or personal trading policies	14	7
Policy on use/disclosure of placement agents	10	4
Whistleblower and/or complaint policy	13	5
Securities litigation policy	10	4

Leading Fiduciary Best Practices

Please indicate which of the following are documented and, if so, if it is available on your web site.	Number of Responses (N=15)	
	Documented	Available on Fund Website
Boards and Committees		
Schedule of board and committee meeting agenda topics (or agendas for past year)	14	9
Board and committee charters	13	7
Committee minutes	15	7
Board or committee member charters or job descriptions	11	4
External Managers		
External manager review, watch list and/or termination policy	14	2
RFPs for external managers and advisors	12	6

Trustee Qualifications

- Role of Trustees. A Trustee is a fiduciary and is subject to the requirements of the Texas State Constitution and Texas statutes.
- A Trustee must take the prescribed constitutional oath.
- The Senate must confirm certain Trustees by a vote of two-thirds of the Senate present .
- A Trustee must reside within Texas.

Prohibitions on Eligibility

An individual is not eligible to be a Trustee if:

- The individual or his or her spouse is employed by or participates in management of a business entity or other organization receiving funds from TRS (unless on behalf of TRS).
 - This raises the issue whether an individual is eligible if, for example, he or she is employed by the parent corporation of a subsidiary with which TRS contracts.

Prohibitions on Eligibility

- The individual or his or her spouse owns or controls, directly or indirectly, more than a 10% interest in an entity or organization receiving funds from TRS.
- The individual or his or her spouse is a paid officer, employee or consultant of a Texas trade association in the field of investment or insurance as defined by Texas Government Code section 825.0032.

Prohibitions on Eligibility

- The Trustee is a person who is required to register as a lobbyist because of activities for compensation related to the Board's operations.
- The memo on the qualifications and standards of conduct includes a comprehensive description of all prohibitions on eligibility.

Removal of a Trustee

- Grounds for removal exist if a Trustee:
 - Does not satisfy the qualification requirements at the time he or she takes office.
 - *Example: if a Trustee who was appointed by the governor was a TRS beneficiary at the time he or she took office*
 - Does not maintain the qualifications during his or her term of office.
 - Violates a prohibition on eligibility.
 - *Example: if a Trustee or spouse is employed by a brokerage firm that receives funds from TRS as a TRS vendor.*

Removal of a Trustee

- Cannot discharge his or her duties for a substantial part of his or her term due to illness or disability.
- Is absent from more than 1/2 of the regularly scheduled meetings in a calendar year without an excuse approved by the majority vote of the Board.

Dual Office Holding

- On occasion, a Trustee may be asked to serve in another public office at the same time as his or her service on the Board.
- The concept of dual office holding allows for such dual roles in some instances, and it involves two distinct aspects: Texas constitutional prohibitions and the common law doctrine of incompatibility.

Dual Office Holding

- Texas Constitutional Requirements.
 - Article XVI, §40.
 - "No person shall hold or exercise at the same time, more than one civil office of emolument"
 - Under statutory requirements, a nonelective state officer may not accept an offer to serve in another nonelective office unless the officer obtains from the governing body a finding that the officer has satisfied Article XVI, §40.
 - Section 574.001 of the Texas Government Code

Dual Office Holding

- Texas Constitutional Requirements (cont.).
 - Article XVI, §40.
 - Thus, a Trustee being asked to serve in another nonelective office cannot serve unless and until TRS provides to the Trustee a finding that Article XVI, § 40 of the Texas Constitution is satisfied.
 - Service as a Trustee is most likely not an office of emolument at this time.

Dual Office Holding

- Texas Constitutional Requirements (cont.).
 - Article XVI, §12. Based on Article XVI §12, a Trustee may not simultaneously hold an “office or trust” under the U.S. government or foreign government.

Dual Office Holding

- The common law doctrine of incompatibility.
 - This doctrine prohibits a person from holding two positions where one position might impose its policies on the other or subject it to control in some other way.
 - The common law doctrine of incompatibility is independent of the Constitutional doctrine discussed above.

Dual Office Holding

- The common law doctrine of incompatibility (cont.).
- Distinction from Conflict of Interest. Incompatibility is distinct from a “conflict of interest” because incompatibility occurs when there are two inconsistent public duties, rather than a private interest creating a conflict of interest.

Dual Office Holding

- The common law doctrine of incompatibility (cont.).
 - Conflicting Loyalties.
There are three aspects of common law incompatibility:
 - Self-appointment
 - Self-employment
 - Conflicting loyalties
 - Trustees are most likely to confront the conflicting loyalties aspect.

Dual Office Holding

- The common law doctrine of incompatibility (cont.).
 - Factors necessary in determining whether a conflicting loyalties issue exists are:
 - Public Office. Are both positions at issue public “offices”?
 - Potential Conflict. If so, does it create the potential for conflict and incompatibility?
 - There must be an inherent conflict represented in the two offices
 - The law must make one office subordinate to and accountable to another.

Dual Office Holding

- The common law doctrine of incompatibility (cont.).
 - Similarly, “conflicting loyalties” may also arise whenever a person serves in two offices, one of which has authority to impose its will on the other in any matter whatsoever.
 - *Example: If two governmental bodies are authorized to contract with each other, one person may not serve as a member of both.*

Dual Office Holding

- The common law doctrine of incompatibility (cont.).
 - Trustees who desire to hold more than one public position should contact the TRS General Counsel or their own attorneys.
 - If a Trustee serves in a dual role which runs afoul of either the constitutional or common law requirements, the Trustee is deemed to automatically resign from the first office. In this instance, the TRS Trustee would not hold over until his or her successor qualifies.

Fiduciary Risk Management Challenges

TRS

- International Center for Pension Management 2012 Fiduciary Roundtable highlighted challenges for public pension fund fiduciaries.
- External relationships.
 - Conflicting political agendas.
 - Unbalanced media coverage.
 - Pension envy.
 - Conflicting expectations of stakeholder groups.
- Systemic risk exposures.
 - Poor corporate governance practices.
 - Health of the economy.
 - Market integrity / fraud.
 - Diversification not a systemic risk remedy.

Fiduciary Risk Management Challenges

- **Pension fund governance.**
 - Building board member skills.
 - Mission and goal clarity.
 - Attention to advances in knowledge.
 - Handling legislatively imposed constraints.
- **Maintaining loyalty to beneficiaries**
 - Balancing short- and long-term goals.
 - Avoiding inter-generational bias / risk transfers.
 - Success from the perspective of beneficiaries.
- **Continuous improvement culture**

The Public Information Act

Teacher Retirement System of Texas



- Public Information Act 101



Open Records Requests Submitted to TRS

- In FY 2012:
 - TRS responded to **215** open records requests.
 - TRS sent requestors cost estimates to produce records totaling **\$4,999.51**.
 - Not all requestors accepted final cost estimates provided to them – if they did not accept, they did not receive records.
 - TRS collected a total of **\$2,025.43** from requestors who accepted the cost estimates and paid final charges.



Initiatives

- In FY 2013, TRS staff, under the Executive Director's direction, have engaged in the following initiatives:
 - undertaken procurement of open records tracking software;
 - posted new open records attorney position;
 - clarifying processes for handling open records versus media inquiries;
 - working with Internal Audit to map open records processing, including making cost estimates and invoicing requestors;
 - reviewing records management processes;
 - established requirement that estimated charges over \$100 be paid in full before beginning production or submitting a request to the AG for an open records ruling; and
 - eliminated the threshold of charging a requestor only if costs exceed \$50.



What is Public Information?

- What is the definition of “public information”?
- Is all public information subject to the Public Information Act (PIA)?



Public Information Defined

- “Public information” means information that TRS, under a law or in connection with the transaction of official business:
 - collects,
 - assembles or
 - maintains.



Information Held by a Third Party

- Information collected, assembled or maintained for TRS by a third party is subject to PIA if TRS:
 - owns the information or
 - has a right of access to it.



Form of Public Information

- Information subject to the PIA may be in any form, including:
 - paper
 - e-mail
 - computer data
 - audio or video recordings
 - photographs



Charges Under the Public Information Act

- TRS can ask requestors to narrow or clarify their requests (and possibly minimize charges).
- TRS can charge requestors to provide copies of requested information.
- TRS must calculate charges according to the rules and method of calculation set by the Attorney General (AG).



Charges for Copies of Paper Records

- For 50 or fewer pages of paper records, the charge ***cannot include*** the cost of **materials, labor or overhead** but is limited to 10¢/page for each photocopy, unless the documents to be copied are in:
 - two or more separate buildings that are not connected; or
 - a remote storage facility.



Charges for Copies of Paper Records

- For more than 50 pages, location of records is irrelevant and TRS can charge for:
 - **photocopies** at 10¢/page;
 - **labor** at \$15/hour, which includes:
 - locating
 - compiling
 - redacting confidential information
 - making copies; and
 - **overhead** at 20% of labor costs



Charges Under the Public Information Act

- Requestors generally can inspect public information without charge.
- TRS can charge to redact confidential information from the material before inspection.
- TRS can charge personnel costs to make information available for inspection if it:
 - is older than five years; or
 - fills more than six archival boxes *and* will require more than five hours to assemble.

Information Compiled by TRS for an Inspection





Providing Information in an Electronic Medium

- TRS must provide a copy of requested information in a specified electronic medium, like on a CD, if TRS:
 - has the technological ability to do so;
 - does not have to buy additional software, hardware or programming capabilities to accommodate the request; and
 - will not violate a copyright agreement in providing the information in the requested medium.
- Charges may include labor and the cost of materials (at rates set by the AG, e.g., \$15 an hour for labor and \$1 per CD).



Programming or Manipulation of Data

- If TRS can produce information in a requested form only by programming or manipulating existing data, then TRS must tell the requestor in writing that:
 - compliance with the request is not feasible or will result in substantial interference with ongoing operations; or
 - the information can be provided only:
 - at an estimated charge under the AG's cost schedule; and
 - at an anticipated time.



Programming or Manipulation of Data

- TRS can charge for:
 - “**programming**” @ **\$28.50/hour** – “the process of producing a sequence of coded instructions that can be executed by a computer”;
 - “**manipulation of data**” @ **\$15/hour** – “the process of modifying, reordering, or decoding of information with human intervention”; and
 - **computer resources @ various rates** according to systems used.
- Searching or printing electronic records is neither programming nor manipulation of data.



What Triggers the PIA?

- What are the characteristics of a PIA request?
- When do TRS' obligations under the PIA begin?



Public Information Requests

- To be a valid PIA request, a request for information must:
 - be in writing to trigger the PIA; and
 - ask for information in existence as of the date the request was received.
- TRS is *not* required under the PIA to:
 - create new information;
 - answer questions; or
 - perform legal research.



Public Information Requests

- A requestor does not have to:
 - include “magic words” in the request;
 - label it as an “open records” or “public information” request; or
 - comply with a specific form to submit request.
- TRS may not ask the requestor why it wants the information.
- Programming or manipulation of existing data is not creating new information.



Public Information Officer & Public Information Coordinator

- The Executive Director is TRS' Officer for Public Information, who is primarily responsible for ensuring TRS' compliance with the open records laws.
 - Each department is a statutory agent of the public information officer.
 - Each department is responsible for its own records.
- The Communications Director is TRS' Public Information Coordinator (PIC), who is authorized:
 - to receive e-mailed and faxed requests; and
 - to take required open records training on behalf of trustees.



Open Records Versus Media Inquiries

- TRS' Communications Department responds to requests from news media (media inquiries), which seek:
 - answers to questions;
 - information that is readily available without charge (i.e., so long as the requestor is not asking for copies or inspection of records).
- Communications generally refers open records requests, including those by the news media, to the Legal Services Department.



Timelines for Responding to an Open Records Request

- In response to an open records request (and after an AG ruling, if any), TRS must “promptly”
 - make information available for inspection or duplication in its offices
 - OR
 - mail the requestor copies of the information
- “Promptly” means
 - without delay
 - within a reasonable amount of time



E-mails & Faxes

- As allowed by the PIA, TRS has designated Howard Goldman, TRS Director of Communications and Public Information Coordinator, to receive e-mailed or faxed requests.
 - An e-mailed or faxed request triggers the PIA only if the request is sent to the designated person
- Written requests that are not sent by e-mail or fax do not have to be directed to any specific TRS employee or officer.



Timelines for Responding to an Open Records Request

- Deadlines are generally calculated in business days from the date TRS receives the request.
- What is a reasonable amount of time to provide information depends on the facts of each case.
 - The volume of information requested is relevant to determining a reasonable amount of time.



Timelines for Responding to an Open Records Request

- If TRS has not provided the information by the 10th business day after receiving the request, TRS must:
 - certify that it is unavailable and tell the requestor when it will be available; or
 - ask the AG for an open records ruling.



Deadlines for Requesting an AG Ruling

- By the 10th business day, TRS must:
 - ask the AG for a ruling and state the exceptions to disclosure that apply;
 - notify the requestor in writing that TRS has asked for ruling;
 - provided the requestor a copy of TRS' letter to the AG asking for a ruling; and
 - notify any third parties with proprietary interests in the requested information that they may brief the AG on why the information should be withheld.



Deadlines for Requesting an AG Ruling

- By the 15th business day, TRS:
 - brief the AG on why the information should be withheld, specifically arguing for each exception;
 - submit a copy of the written information request;
 - submit a signed statement as to the date TRS received the information request;
 - submit a copy of the requested information or a representative sample of it if voluminous;
 - label the submitted information with the exceptions claimed; and
 - send a copy of TRS' brief to the requestor.



Consequences for Missing Deadlines

- A claimed exception could be waived and TRS would have to release information it sought to withhold.



Exceptions to Disclosure

- Common exceptions include:
 - TRS member and other participant information
 - investment due diligence information (confidential by law, provided OAG determines; Sec. 552.143, Gov't Code)
 - Certain information provided by a private investment fund (confidential by law, provided OAG determines, Sec. 552.143, Gov't Code)
 - information related to litigation
 - information related to competition or bidding
 - attorney-client and attorney work product material
 - trade secrets and confidential commercial or financial information (must be established by briefing the OAG)



Exceptions to Disclosure

- Common exceptions include:
 - policymaking information
 - certain personnel information, including home addresses and personal telephone numbers and family information
 - motor vehicle records
 - account numbers (of credit and debit cards, access devices, insurance policies, etc.)
 - e-mail addresses of members of the public
 - social security numbers



“Super-Public” Information

- Some information is deemed to be public and must be provided on request:
 - Certain investment information, like the name of a private investment fund in which TRS has invested and the amount invested (Sec. 552.0225(b), Gov’t Code)
 - A completed report, audit, evaluation or investigation
 - Employee names, salaries, titles, and dates of employment
 - Account, voucher or contract information relating to TRS’ receipt or expenditure of public or other funds



Administrative & Civil Enforcement

- The AG investigates complaints of overcharging and failure to provide requested public information.
- The following remedies are available in civil courts:
 - suit for writ of mandamus by AG or requestor;
 - suit for declaratory judgment or injunctive relief brought by county or district attorney or AG; and
 - suit by governmental body or a third party to withhold information.



Criminal Violations

- Destruction, removal or alteration of public information (\$25-\$4,000 fine or 3 days-3 months in jail or both)
- Distribution or misuse of confidential information (up to \$1,000 fine or up to 6 months in jail or both)
 - May also be prosecuted as misuse of official information (3d degree felony)
- Failure or refusal of public information officer to provide access to or copying of public information (up to \$1,000 fine or up to 6 months in jail or both)

The Open Meetings Act

Teacher Retirement System of Texas



- Open Meetings Act Update: Significant Issues Addressed in 2012





Significant Open Meetings Issues Addressed in 2012

The courts or attorney general addressed the following open meetings issues in 2012:

1. Can members of a governmental body violate the Open Meetings Act by deliberating via e-mail?
2. Can Board members discuss Board issues outside open Board meetings?
3. What are the requirements for meeting privately with the Board's attorney(s)?
4. Can a quorum of the Board attend a committee meeting?
5. What is the notice requirement for emergency meetings?



Issue 1: Meetings Through E-mail

- The First Amendment does not bar prosecution of members of a governmental body for violating the Open Meetings Act by deliberating and therefore meeting via e-mails outside a properly noticed meeting held in accordance with the Act.

Asgeirsson v. Abbott, 696 F.3d 454 (5th Cir. 2012).



Issue 2: Discussions Outside Board Meetings

- One board member asking another board member her opinion on a matter does not constitute a deliberation of public business.
- A per se violation of the Act does not occur when members of a governmental body confer one-on-one outside of a posted meeting, unless the members meet in less than a quorum with the intent to evade the Act's requirements.

Foreman v. Whitty, No. 04-11-00841-CV2012, Tex. App. LEXIS 10243, at *29 (Tex. App.—San Antonio Dec. 12, 2012, no pet. h.).



Issue 3: Attorney Consultations

- A governmental body may consult with its attorney in executive session to receive advice on the legal issues raised by a proposed contract.
 - But the governmental body may not discuss the merits of a proposed contract, financial considerations, or other non-legal matters related to the contract merely because its attorney is present.

Killam Ranch Properties, Ltd. v. Webb County, 376 S.W.3d 146 (Tex. App.--San Antonio 2012, pet. filed).



Issue 3 (cont'd): Attorney Consultations

- The attorney consultation exception is an affirmative defense on which the governmental entity bears the burden of proof.
- Minutes properly reflecting that an executive session was conducted pursuant to the attorney consultation, and other applicable exceptions, can raise a fact issue regarding the affirmative defense and defeat a motion for summary judgment.

Killam Ranch Properties, Ltd. v. Webb County, 376 S.W.3d 146 (Tex. App.--San Antonio 2012, pet. filed).



Issue 4: Attendance of a Board Quorum At a Committee Meeting

- The Open Meetings Act requires that a public notice be posted announcing a meeting of the governmental body if:
 - a quorum of the governmental body attends a committee meeting
 - at which deliberation takes place regarding public business or public policy over which the governmental body has supervision or control.

Tex. Att'y Gen. Op. No. GA-0957 (2012).



Issue 4 (cont'd): Attendance of a Board Quorum At a Committee Meeting

- Notice posted for a committee meeting that indicates a quorum of the governmental body may attend is sufficient to notify the public of such a meeting, as long as the other requirements of the Act are satisfied.

Tex. Att'y Gen. Op. No. GA-0957 (2012).



Issue 5: Emergency Meetings

- If there is an emergency or urgent public necessity, a governmental body may hold a meeting with two hours' notice to the public.
 - The notice must clearly identify the emergency or urgent public necessity, which involves:
 - an imminent threat to public health and safety; or
 - a reasonably unforeseeable situation.

Cooksey v. State, 377 S.W.3d 901 (Tex. App.--Eastland 2012, no pet.).



Issue 5 (cont'd): Emergency Meetings

- An emergency meeting notice must clearly identify an emergency.
 - Stating an emergency exists but providing no explanation of what that emergency or urgent public necessity might be is inadequate.
 - Stating exceptions to the general requirement that meetings be open, without more, does not satisfy the Open Meetings Act for posting notice of an emergency meeting.

Cooksey v. State, 377 S.W.3d 901 (Tex. App.--Eastland 2012, no pet.).

Teacher Retirement System of Texas

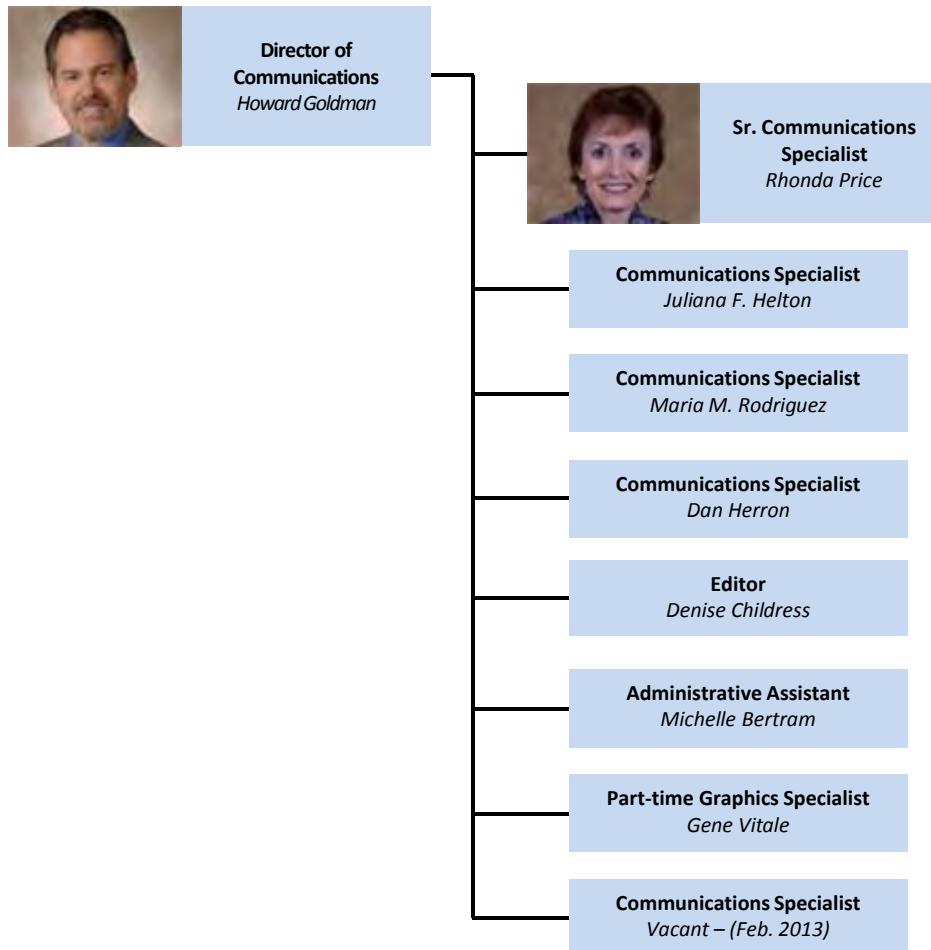


TRS Communications Department





TRS Communications Department





Communications Functions

- Publications (internal and external)
- Media Relations
- Market Research
- Graphic Design
- Social Media
- Photography and Videography Service
- Website Design & Content Management
- Coordination of Board Elections
- Coordination of External Survey Responses



Publications

- *TRS News* – member and retiree newsletter
- *Update* – reporting entity newsletter
- *Chalkboard* – TRS employee newsletter
- *TRS Benefits Handbook*
- TRS brochures
- *Comprehensive Annual Financial Report*
- *TRS Laws & Rules*

TRS NEWS
OCTOBER 2012

Features

- TRS service credit purchase costs to increase
- MEMO TO MEMBERS from Executive Director Brian Gammie
- TRS annual statements mailed in October
- TRS adds 75th anniversary section to website
- TRS to introduce new distribution options for Benefits Handbook
- New legislative session begins in January
- Benefits of early retirement consider
- New TRS-Care plans being well received
- 2013 TRS Board election nomination forms

TRS service credit purchase costs to increase

Act before Sept. 1, 2013 to avoid paying higher costs

In 2011, the Texas Legislature enacted new laws that increased the cost to purchase certain types of service and compensation credit. However, a two-year window closing Aug. 31, 2013, has been established to allow eligible members to purchase the credit at the old, lower cost, provided certain requirements are met.

To view a comparison of old and new costs, other important requirements, and a service credit purchase cost comparison per year of service credit, visit the TRS website located at www.trs.state.tx.us.

The following types of service credit purchases are affected by the cost increase:

- withdrawn service
- unreported service and/or compensation (including substitute service)
- out-of-state service rendered before Jan. 1, 2008, and developmental leave

If you are eligible to purchase any of these types of service or compensation credit and

wish to make the purchase at the old (lower) cost, TRS must receive payment in full or a completed installment agreement on or before August 31, 2013.

When purchasing service credit using an installment agreement, payments must be made according to the terms of the agreement. If the agreement is terminated by the member or by TRS prior to payment in full, the member must pay the full cost by August 31, 2013 or lose the opportunity to purchase that service credit at the old cost.

Warning: Do not confuse the August 31, 2013 deadline, which is the deadline for purchasing eligible service credit at the old cost, with the August 31, 2016 deadline, which is the deadline for verifying certain unreported service and/or compensation, including substitute service and service not credited on your annual statement, that was performed or paid prior to September 1, 2011. Please visit the TRS website for additional information regarding the deadline for verifying unreported service and/or compensation, including substitute service and other service not credited on your annual statement.



Media Relations

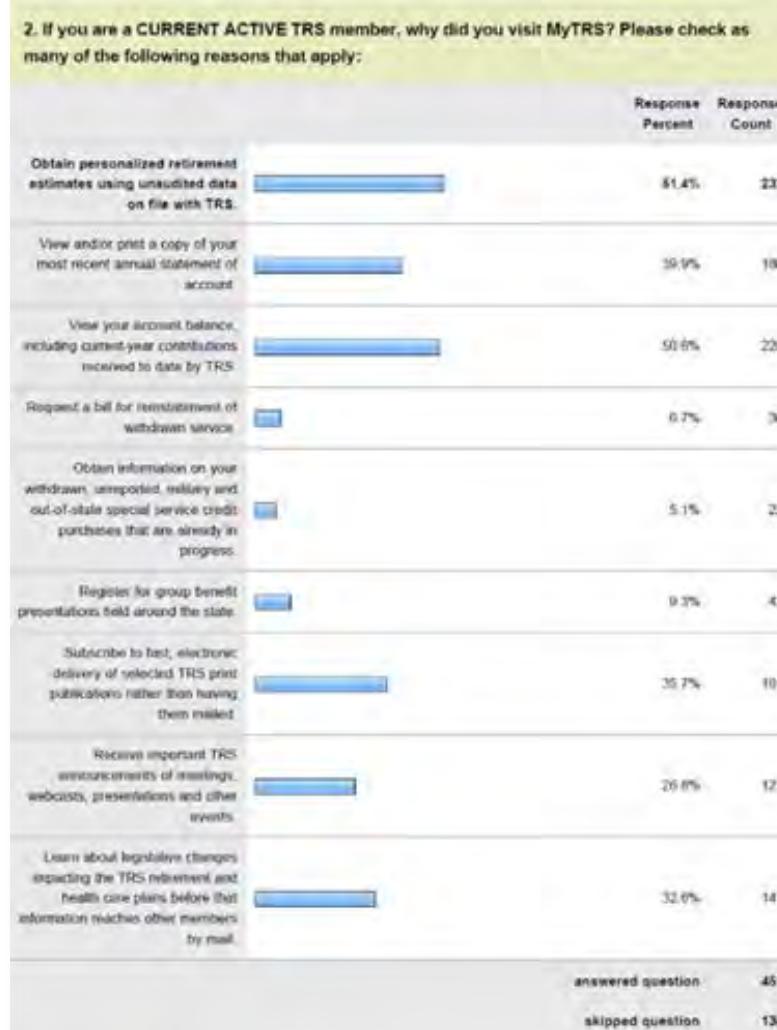
- Respond to media information requests
- Work with Legal Services and others to respond to news media open records requests
- Coordinate media interviews
- Media outreach through news releases/advisories, etc.
- Fact sheets and info placed on the website
- Disaster recovery communications





Market Research

- Member satisfaction surveys
- Follow-up member/retiree surveys
- Focus group research
- Online surveys
- Survey support for TRS departments





Graphic Design

- Logo and collateral development
- Graphic Style Guide
(companion to Writing Style Guide)
- Print publications
- TRS website
- Posters and fliers
- Graphics support to other TRS departments
- Educational items
- Information display booths
- Graphics and photography now being used extensively for e-learning modules and videos
- Graphics for electronic printing environment





Social Media

- Policy and procedure development
- Posting and responding to comments
- Information outreach to members, general public
- Coordination with other TRS departments
- Monitoring activity on other social media sites
- Driving social media traffic to the TRS website



Photography & Videography Services



- Photography for print publications
- Special event photography and videography
- Streaming videos – TRS website
- File photos for media relations
- Employee photos
- Photos for information booths/other outreach
- YouTube now a primary distribution method for TRS videos/ learning modules as opposed to our Web server





Website Design & Content Management

- Ongoing website graphic design and content creation
- Website content management/approval process
- Website accessibility
- Online surveys
- TEAM Website Redesign Project

The screenshot shows the TRS website homepage. At the top, there's a navigation bar with links for 'MyTRS Login', 'Contact Us', and a search bar. Below the navigation is a main banner featuring a teacher interacting with three young children in a classroom setting. To the right of the banner is a blue sidebar with the text 'Earning Your Trust Every Day' and 'so you can earn theirs'. The main content area includes a '75th TRS' logo and links for 'Bylaws of the Board of Trustees', 'Board of Trustees Meeting Minutes', 'TRS Board Meeting Webcasts', and 'Board of Trustees Meeting Minutes' (repeated). A footer section contains a 'Site Plan' with links to various TRS pages like Home, Active Members, Retirees & Beneficiaries, Employers, General Information, Site Map, Legal, Privacy Policy, Web Site Accessibility, Statement, Search, and Contact Us. It also lists TRS contact information: 1000 Red River St., Austin, Texas 78701, 512-542-6400, 1-800-223-8778, TDD 512-542-6444, and 1-800-841-4497. A map of Austin, Texas, is shown in the bottom right corner.



Coordination of Board Elections

- Planning and procedure development
- Election publicity
- Nomination petition forms
- Election ballots
- Coordination with other TRS departments
- Election Review Committee
- Certification of election results





FY 2012 Accomplishments

- *TRS Benefits Handbook* restructured to simplify use by members, retirees
- Developed social media policies and procedures
- Launched a TRS presence on Facebook, Twitter, YouTube, and LinkedIn. Results to date:
 - Nearly 3,000 Facebook fans (exposure to nearly 750,000 friends of fans)
 - More than 800 followers on LinkedIn
 - More than 250 followers on Twitter
 - More than 17,000 video views on YouTube



FY 2012 Accomplishments

- After adding 140,000 registrations and e-mail addresses to *MyTRS*, totaled 285,000+ registrations by end of FY 2012
- Purchased and customized Web-based software enabling TRS to send publications/announcements electronically via *MyTRS*
- Conducted the 2012 member satisfaction survey
- Produced six *TRS Today* videos on legislative studies, the Aetna Medicare Advantage plans, TRS-Care program improvements
- Produced an updated “A Great Value for Texans” video



FY 2012 Accomplishments

- Played an integral role in TEAM Communications, including the Reporting Entity Outreach Team
- Conducted three Report Card Tour meetings as well as three town hall meetings on the agency's two legislative studies
- Webcast all board meetings, one Report Card Tour meeting, and three town hall meetings



FY 2012 Accomplishments

- Commemorated TRS' 75th anniversary through:
 - 75th anniversary video
 - online anniversary history museum
 - oral interviews with TRS centenarians
 - TRS employee barbecue and anniversary celebration
 - new TRS logo and collateral materials
 - 1937-era posters in the cafeteria and online
 - creation of a lobby display featuring Charles Umlauf's sculpture titled "Spirit of Learning"



Current Issues and Trends

- **Trend:** Faster news cycles/accelerating shift from print to online media
- **Impact /TRS Response:** TRS being challenged to respond quickly to certain media requests. Improved response time/accuracy through more website info, fact sheets, improved databases, request-tracking software, and hiring a communications specialist with a focus on finance/ investments.

- **Trend:** Shift from desktops to hand-held devices for accessing the Internet
- **Impact/TRS Response:** A growing number of people (especially young members) expect to view websites formatted for hand-held devices. TRS is evaluating interim changes to our current site and will be actively exploring mobile website options as part of the Website Redesign Project.



Current Issues and Trends

- **Trend: Landlines quickly being replaced by mobile phones**

Impact/TRS Response: Fewer landlines present major obstacles for telephone surveys. Evaluating options for 2014 Member Satisfaction Survey (targeted surveys, online surveys, e-mailed surveys, etc.).

- **Trend: Social media use growing, becoming more a customer service tool**

Impact/TRS Response: Members are increasing going to social media for information. Now shifting our focus on how to use social media strategically and effectively plan for anticipated questions/comments.



Current Issues and Trends

- **Trend: Snail mail being replaced by e-mail**
- **Impact/TRS Response:** TRS has been presented with a significant opportunity to reduce costs and improve member convenience. This year, we will mainly distribute the *TRS Benefits Handbook* electronically (first time). Also promoting *MyTRS* e-subscriptions, creating a member discount site for those registered with *MyTRS*, and expanding our e-learning focus.

- **Trend: Decreasing use of print publications**
Impact/TRS Response: Fewer people are reading hard-copy publications. TRS is actively working to develop e-publications (more convenient, less expensive, with direct links to supplemental website information, videos)



Focus in FY 2013

- Coordinate 2013 Board Election
- Begin preliminary work on the 2015 Website Redesign Project
- Prepare fact sheets on topics of importance to our members
- Continue to increase *MyTRS* registrations and e-mail addresses through ongoing publicity and a new member discount website
- Distribute *TRS Benefits Handbooks* through e-mail and online
- Work with TEAM to expand communication initiatives
- Inform members of changes from the 2013 legislative session
- Effectively use videos and social media for external communication
- Continue to improve the efficiency and effectiveness of our interactions with the news media
- Begin using new Web-based software to effectively distribute information to members and track areas of interest





Questions?



Teacher Retirement System of Texas



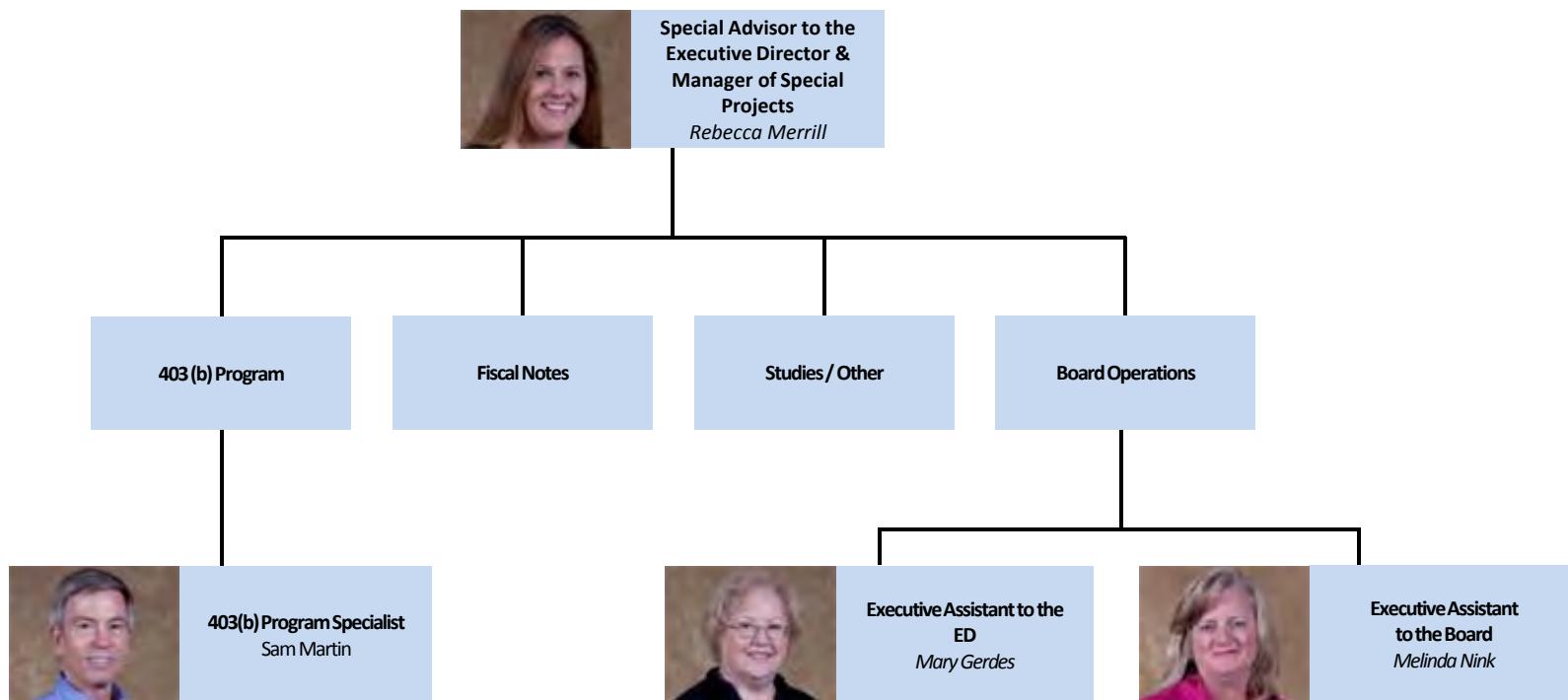
Special Projects Overview

Rebecca Merrill
February 21, 2013





Functional Areas





403(b) Program

- Established product fee caps and allow for salary reduction agreement
 - TRS Board sets fee caps by rule.
- Company certification
 - 70 certified companies.
- Product registration
 - Over 9,700 product options registered.



403(b) Program

- Serves public educators, districts, and 403(b) companies
- Companies certify every 5 years and must annually demonstrate licensure and qualifications of 403(b) company personnel
- New products can be registered twice a year (May – June and November – December)



Fiscal Notes

- Prepare fiscal notes for bills being heard in legislative committee
- Coordinate with:
 - Legislative Budget Board.
 - Actuaries (GRS).
 - Internal Staff.
- Fiscal notes for 59 bills prepared during 82nd session. Expect more fiscal note requests during the 83rd session because pensions has been split from financial services



Study / Other

- Pension Benefit Design Study
 - Coordinated study development with the work group.
 - Worked extensively with Legal Services Division, IMD, actuaries, and Trustees on Study drafting and editing.
 - Worked with Communications Division on final Study layout and publication.
- CEM
 - Pension administration benchmarking study.



Study / Other

- Value Brochure
 - Contracted with Perryman Group to conducted an updated economic analysis.
 - Received results back last month .
 - In the process of updating the Value Brochure .
- Other projects as assigned by ED, such as working with Communications, Legal, and IMD on open records process, and coordinating the ED designations project



Board Operations

- Agenda development transferred to Executive Division
 - Begin discussing agendas 3-4 months before the meeting.
 - Coordinate with the Chairman, Executive Director, and Executive Council to develop agenda items.
 - Develop the agenda for Board and Policy Committee meetings and assist other EC members, as needed, with development of agendas for other committees.
- Move Board agenda and materials development to electronic format
 - Agendas now disseminated on SharePoint.
 - Worked with IT and Exec to develop new Board Materials Dashboard for submission and tracking of Board meeting materials.
 - Next step is SharePoint-based collaborative development of Board materials.



Upcoming Challenges and Opportunities

■ Board Operations

- Develop collaborative functions in SharePoint for use in drafting and editing Board materials.
- Coordinate the Board orientation materials review project.
- Prepare for retirement of key professionals by transferring the Executive Assistant to the ED and Executive Assistant to the Board to Special Projects.
- FTE to learn responsibilities and processes.

■ Various projects

- Finalizing Value Brochure updates.
- Continuing to work with CEM.
- Addressing changes in 403(b) law, if any.

Teacher Retirement System of Texas



Financial Services

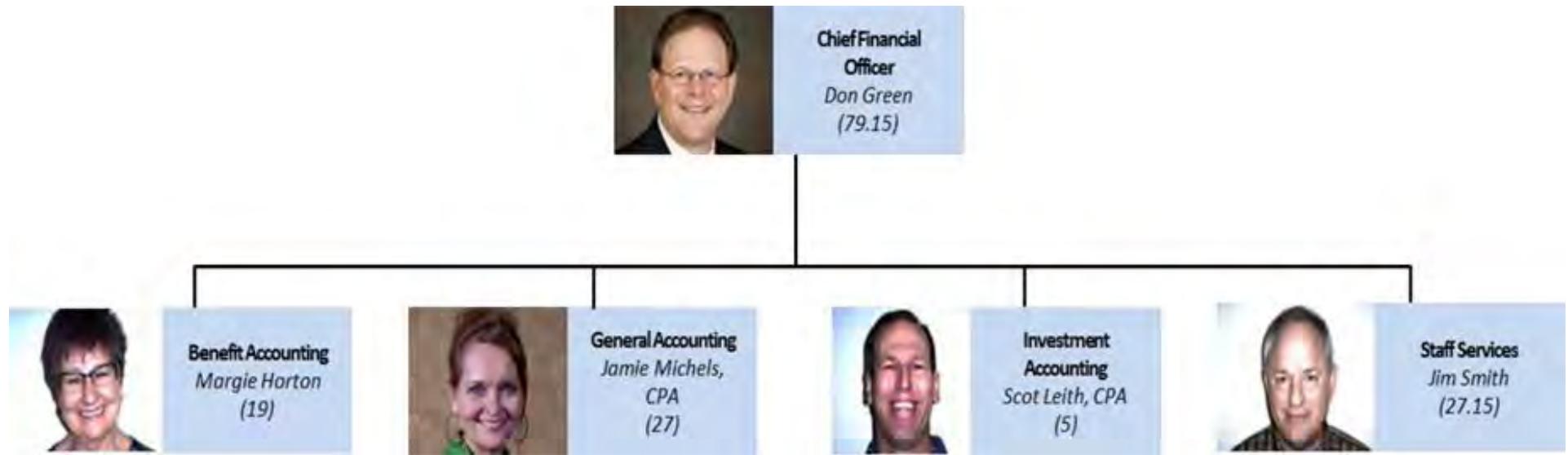
Don Green, Chief Financial Officer

Board of Trustees Meeting
February 21, 2013





Financial Services





Financial Services

Don Green

- BS (Economics & Accounting), MBA, MPA, University of Texas at Austin
- 33 years of state service
- Board chair & trustee of Employees Retirement System (ERS) Board, 8 years
- Senior Financial Advisor for Lt. Governor, 3 years
- Director of Budget and Policy for Speaker of House, 6 years
- CFO for Health and Human Services Commission, 4 years
- CFO for Department of Mental Health and Mental Retardation, 4 years
- Senior Budget Analyst for Legislative Budget Board, 15 years

Margie Horton

- Bachelor of Science, Texas A&I University (now Texas A&M Kingsville)
- Secondary Level Teaching Certificate with business & English specialties
- 40 years of TRS service

Jamie Michels

- BBA Finance, Texas A&M University
- Certified Public Accountant
- 27.5 years of TRS service

Janie Duarte

- MBA, Southwest Texas State University (now Texas State University)
- BBA, University of Texas
- Former CFO of Texas Youth Commission (TYC)
- 19.5 years of state service

Jim Smith

- BBA Accounting, University of Texas
- 8.5 years of TRS service
- Former CFO of Texas School for the Deaf, 12 years
- Past President of Texas State Agency Business Administrators Association
- Past President of Austin Chapter of the Institute of Internal Auditors

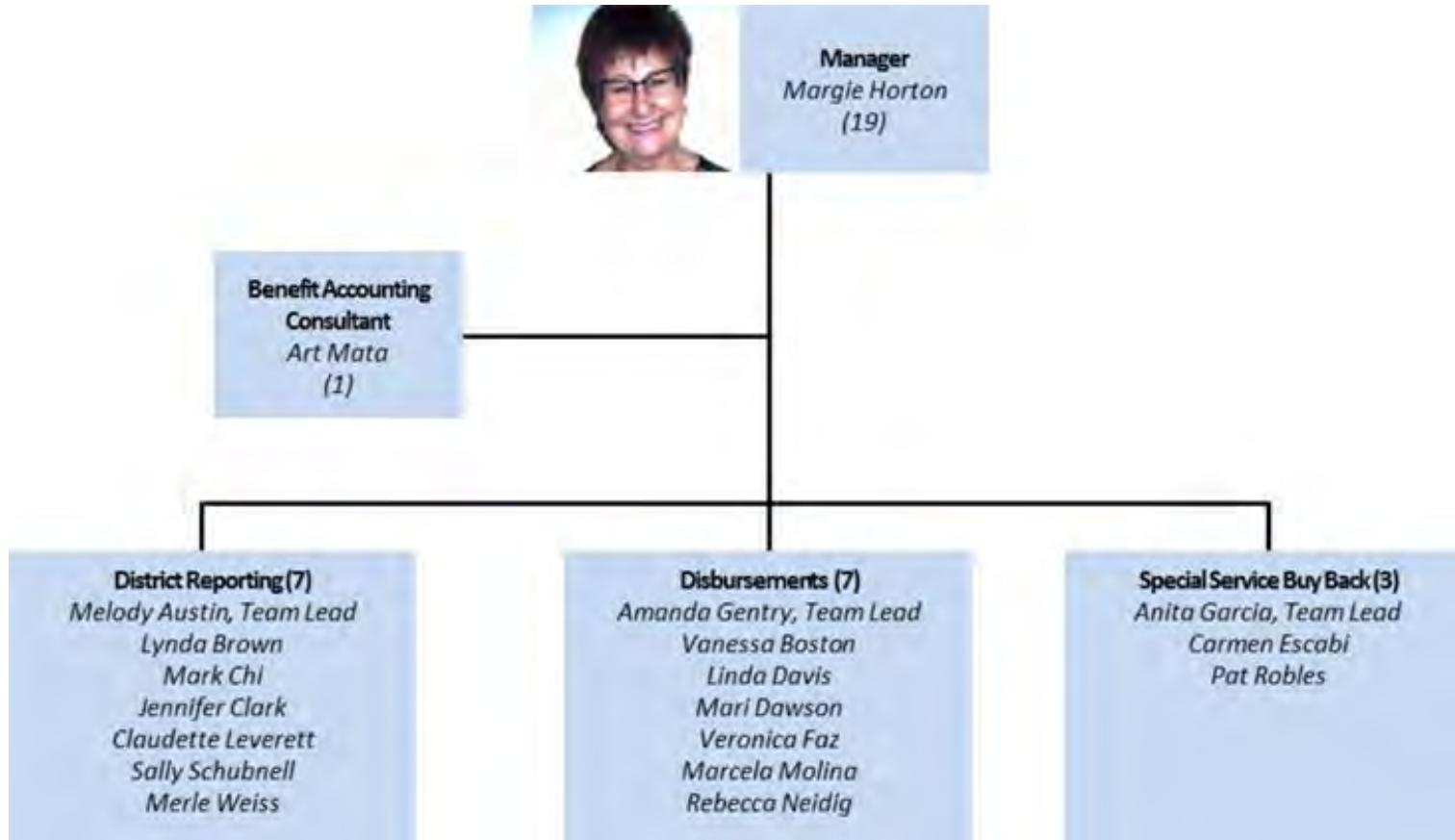
Scot Leith

- MPA, University of Texas
- Bachelor of Science, Eastern Illinois University
- Certified Public Accountant
- 15 years of TRS service



Financial Services Benefit Accounting

Benefit Accounting





Financial Services Benefit Accounting

- ❖ **Direct Reporting** – establishes accounts for new members and maintains accounts for existing members, collects monthly financial reports for member and reporting entity deposits, and provides training and communicates changes in TRS laws, rules and procedures as they relate to monthly reporting.
- ❖ **Disbursements** – prepares, maintains and reviews regular and supplemental payrolls, reversals, stop payments, 1099Rs for retirees, maintains current tax tables, coordinates with Legal for QDROs, child support, bankruptcies and levies, collects association dues, and employment after retirement.
- ❖ **Special Service Buy Back (SSBB)** – processes payments for purchase of special service through rollovers, payroll deductions, and installment payments.

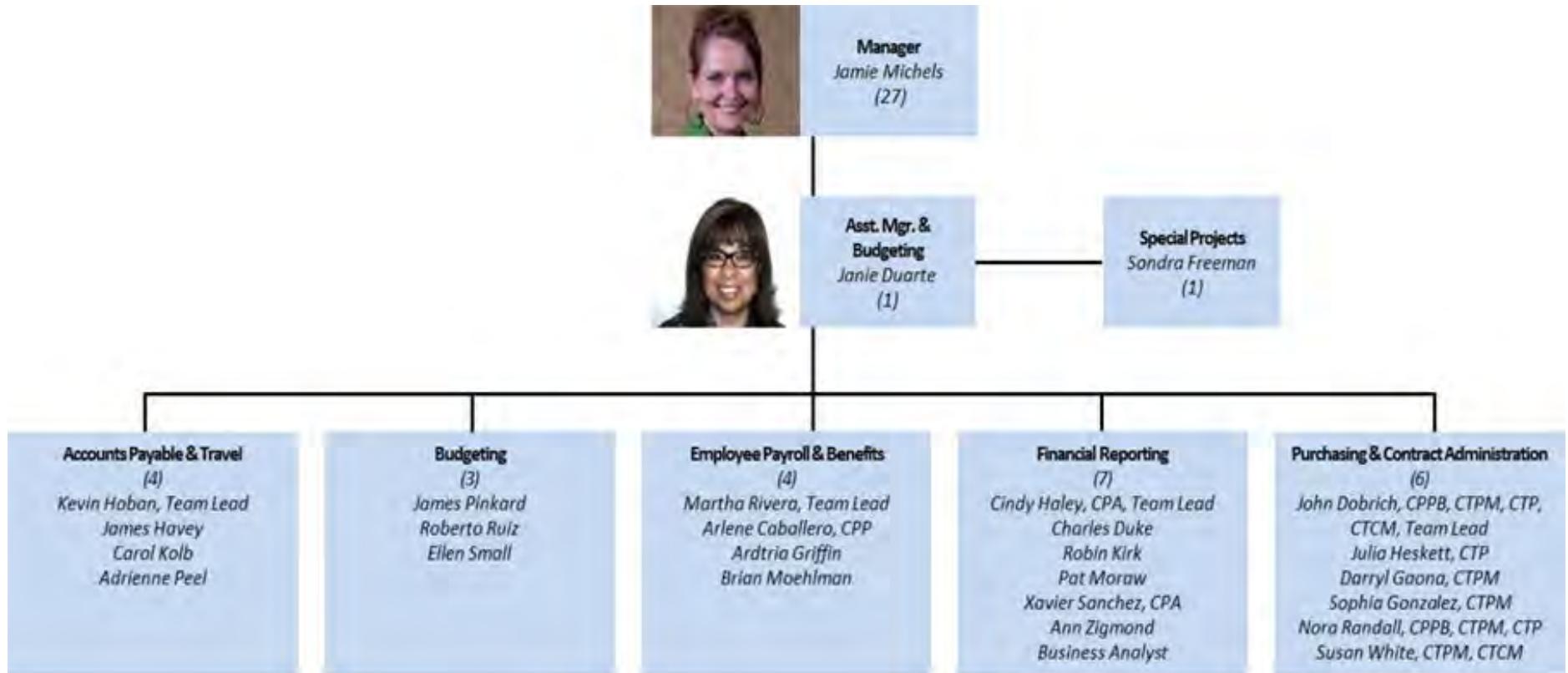




Financial Services

General Accounting

General Accounting





Financial Services

General Accounting

- ❖ **Accounts Payable & Travel** – processes vendor payments, conducts 3-way matching of invoice, receiving document, and purchase orders, enter purchase requisitions, performs budget checks by department, enters travel requisitions, and audits travel claims including the issuance of advances when requested.

- ❖ **Budgeting** – prepares and administers agency operations budgets, maintains budgetary reports including board reports, interim budgetary statements, budget transfers, reconciliations, prepares the Legislative Appropriations Request (LAR) and Operating Budget reports, and assists in preparing the Comprehensive Annual Financial Report .



Financial Services

General Accounting

- ❖ **Employee Payroll & Benefits** – processes and maintains employee and excess benefit payee payments, as well as employee leave, employee insurance records, conducting New Employee Orientation, exit meetings, employee retirement records, retirement statements, and W-2s.
- ❖ **Financial Reporting** – coordinates all financial transactions, federal tax, reconciliations, prepares interim and board financial statements, as well as prepares and distributes the Comprehensive Annual Financial Report .
- ❖ **Purchasing & Contract Administration** – responsible for acquiring goods and services, including development and advertising solicitations, evaluating responses, awarding purchase orders, contract negotiations, tracking and reviewing contracts, and reporting.

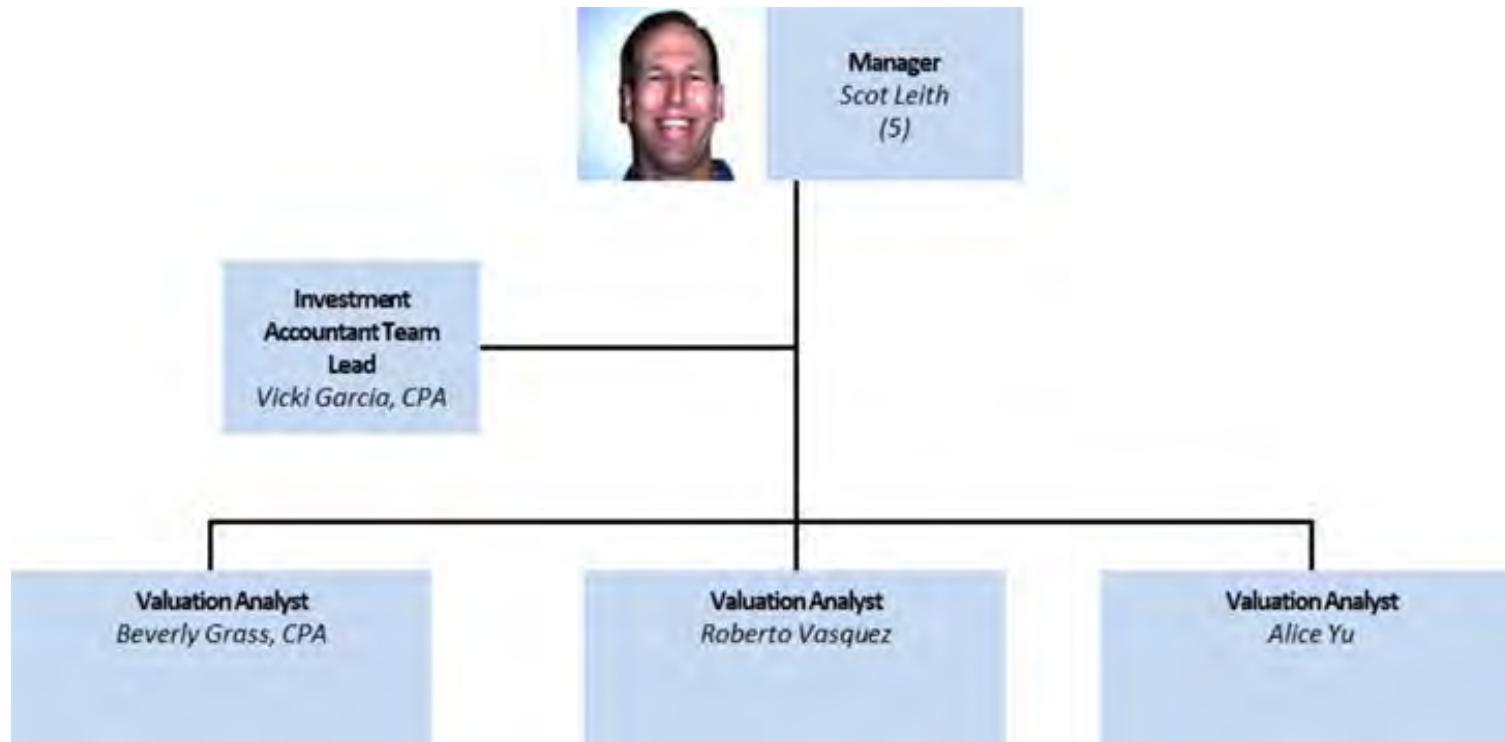




Financial Services

Investment Accounting

Investment Accounting





Financial Services Investment Accounting

- ❖ **Valuation Oversight** – Reviews and monitors TRS investment valuations including independently calculating and reconciling all Limited Partner (LP) valuations and activities and reviewing all audited General Partnership (GP) financial statements.
- ❖ **Financial Reporting**– Verifies investment financial information reported by State Street bank and delivered to TRS.
- ❖ **Cash Funding** - Verifies and approves all external investment fundings including capital calls, distributions, manager fee payments, derivative collateral movements, and comptroller cash transfers.
- ❖ **Custody Oversight** - Manages the State Street Bank accounting custody relationship.



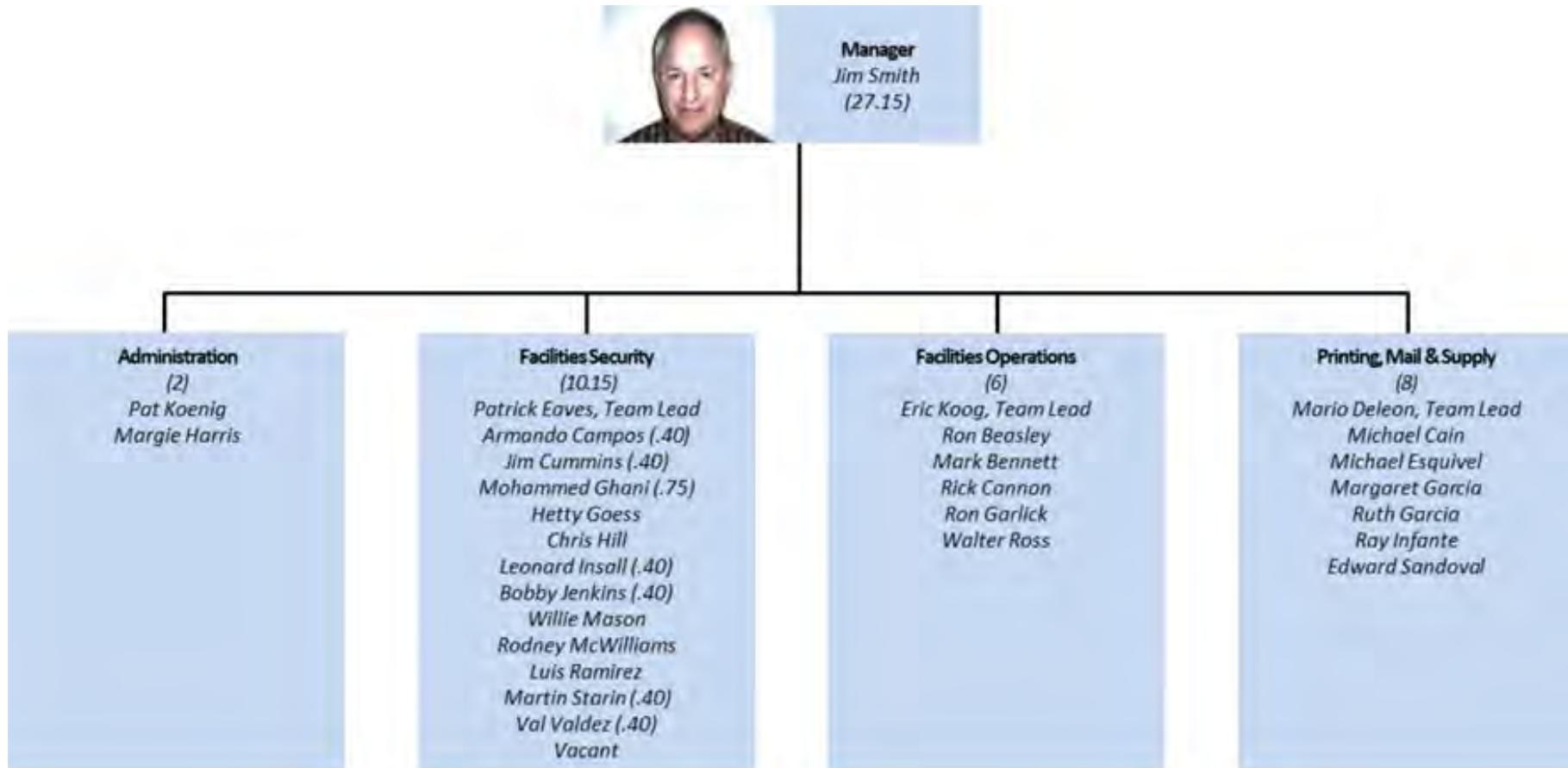
Financial Services Investment Accounting

- ❖ **Annual CAFR Reporting** – Contributes to financial statements and note disclosures related to investments.
- ❖ **Incentive Compensation** – Calculates Investment Management Division (IMD) incentive compensation values.
- ❖ **Liaison between Financial Division and Investment Division.**



Financial Services Staff Services

Staff Services





Financial Services Staff Services

- ❖ **Administration** – Plan, organize, coordinate, direct and monitor all operations for Staff Services, identify, evaluate, estimate, and schedule major improvement projects, collaborate with the Texas Facilities Commission to select architects, engineers, and contractors for major projects, inspect and monitor construction and renovation projects to ensure adherence to building codes, specifications, and safety standards, and examines and inspects work progress of contractors to ensure that projects are completed on schedule and within budget.

- ❖ **Facilities Operations** – Provides ongoing maintenance for TRS grounds and facilities including kitchen equipment, sound equipment, mechanical equipment, irrigation systems, electrical systems, plumbing systems, the heating, ventilation and air conditioning (HVAC) systems, sets up conference rooms for meetings, moves furniture and set up work areas, and provides transportation as requested.



Financial Services Staff Services

- ❖ **Facilities Security** – Provides a 24/7 security presence, provides surveillance of TRS grounds and buildings, controls access to TRS grounds and buildings, and assigns and monitors parking.
- ❖ **Printing, Mail Room and Supply** – Prints business cards, letterheads, envelopes, forms, pamphlets, and brochures, copies, collates, punches, binds, and delivers documents, process and deliver all incoming and outgoing mail, purchases, receives, stocks, and distributes office supplies, and coordinates mass mailings with vendors.



Financial Services

Division Accomplishments

- ❖ Completed installation of back-up generator for data center
- ❖ Completed modernization of the heating and cooling systems
- ❖ Upgraded and modernized the TRS security system
- ❖ Budgeting is fully staffed & positioned to support executive through the 2014-2015 Legislative Session
- ❖ Received the Government Finance Officer's Association (GFOA) Certificate of Achievement for the Comprehensive Annual Financial Report (CAFR) for 22nd year
- ❖ Received an unqualified opinion by State Auditor's Office for 2012 CAFR



Financial Services Division Accomplishments

- ❖ Financial System Replacement (FSR) preliminary planning completed
- ❖ TEAM Project contracts awarded: Program Management, Data Management, and Independent Program Assessment
- ❖ TEAM Projects active in procurement process: Pension Administration Line of Business (LOB) RFO complete and publically advertised, Financial System Replacement Statement of Work (SOW), and Organizational Change Management SOW.
- ❖ Implemented new laws and rules and streamlined a method to determine amounts due for TRS-Care surcharge for retirees who return to work for TRS-covered employers
- ❖ Added on-line webinar training for TRS-covered employers
- ❖ Implemented new standards for determining service credit





Financial Services

TRS Enterprise Application Modernization Program (TEAM) Participants

Core Management Team (CMT)

Amanda Gentry
Jamie Michels

Line of Business (LOB) Subject Matter Experts (SMEs)

Vanessa Boston
Mark Chi
Jennifer Clark
Veronica Faz
Pat Moraw
Marcela Molina
Rebecca Neidig
Martha Rivera





Financial Services

TRS Enterprise Application Modernization Program (TEAM) Participants continued...

Financial System Replacement (FSR)

Project Sponsor: Jamie Michels
Business Lead: Cindy Haley
Business Analyst: Posted
Project Team: Arlene Caballero
Vicki Garcia
James Havey
Ellen Small
Susan White
Ann Zigmond

Reporting Entity Outreach (REO)

Project Sponsor: Amanda Gentry
Business Lead: Melody Austin
Active Member Project Team: Mark Chi
Jennifer Clark
Rebecca Neidig
Retiree Project Team: Vanessa Boston
Veronica Faz
Marcela Molina
Rebecca Neidig



Financial Services

Additional Full-Time Equivalents (FTEs) needed due to TEAM

Financial System Replacement (FSR) -- Total need 5

- 1 Accountant VII – Financial Reporting
- 1 Accountant II – Financial Reporting
- 1 Accountant IV – Payroll
- 1 Accountant III – Accounts Payable & Travel
- 1 Contract Specialist IV – Purchasing & Contracts

Reporting Entity Outreach (REO) -- Total need 5

- 3 Accountant II – TRS Reporting and Query System (TRAQS) Coaches
- 1 Accountant II – Electronic Funds Transfer (EFT) Specialist
- 1 Accountant II – Payroll Specialist



Financial Services

Ongoing/Future Challenges

- Staffing needs as a result of TEAM
- High number of employees eligible for retirement
- Knowledge transfer/management
- Assessment of services (outsourcing vs. insourcing)
- Facility growth planning
- Implementation of Governmental Accounting Standards Board (GASB) Statements 67 and 68
- Legislative changes



Financial Services

Ongoing/Future Challenges Continued

- Financial System Replacement (FSR) Project
 - Replaces systems that are over 21 years old and eliminates manual processes
 - Provides automated functionality for Accounts Payable & Travel, Budgeting, Financial Reporting, Purchasing & Contracts Administration, Employee Benefits & Payroll, and Human Resources

Teacher Retirement System of Texas



Financial Statements First Quarter as of November 30, 2012

Don Green, Chief Financial Officer

Board of Trustees Meeting
February 21, 2013





Financial Statements

First Quarter

November and December 2012 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 6, 2013

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 82nd Texas State Legislature adopted provisions allowing operating expenses of the system to be paid out of the Pension Trust Fund. On June 8, 2012, the board approved the Administrative Operations budget for fiscal year 2013.

Total Administrative Expenses of \$6.7 million were disbursed in November, 2012. *Salaries and Other Personnel Costs* were \$4.0 million, *Professional Fees and Services* were \$0.6 million, *Capital Projects* were \$0.5 million, and *Other Operating Expenses* were \$1.6 million. Items of interest include payments of \$331 thousand for investment consultants, \$109 thousand for investment counsel, \$590 thousand for insurance premium renewals, \$151 thousand for leased space, and \$249 thousand in software purchases and maintenance.

Total Administrative Expenses of \$4.8 million were disbursed in December, 2012. *Salaries and Other Personnel Costs* were \$4.0 million, *Professional Fees* were \$0.2 million, *Capital Projects* were \$16 thousand, and *Other Operating Expenses* were \$0.5 million. Item of interest includes a payment of \$83 thousand for leased space.

TEAM Program Expenses of \$668 thousand were disbursed in November, 2012. *Salaries and Other Personnel Costs* were \$128 thousand, *Professional Fees* were \$191 thousand, *Software Purchases and Maintenance* were \$236 thousand, and *Computer Hardware Upgrades* were \$236 thousand.

TEAM Program Expenses of \$594 thousand were disbursed in December, 2012. *Salaries and Other Personnel Costs* were \$111 thousand, *Professional Fees* were \$318 thousand, and *Computer Hardware Upgrades* were \$165 thousand.

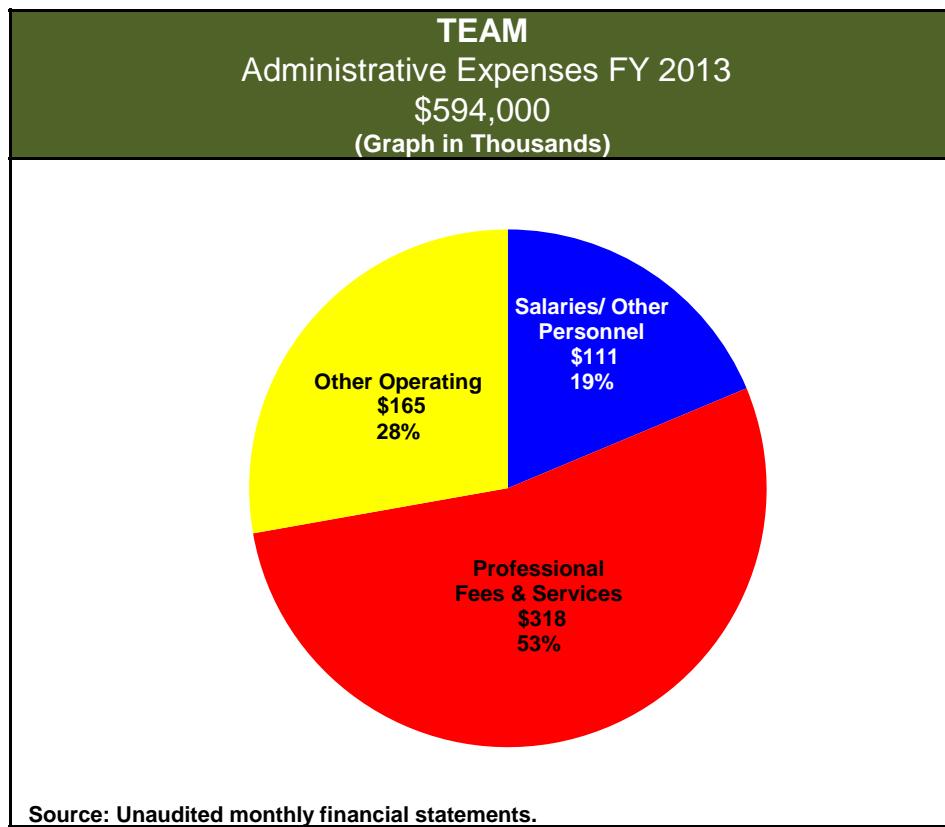


Financial Statements

First Quarter

Pension Trust Fund Cash Disbursements FY 2013 YTD Ended December 31		
	2013	2012
September	\$ 6,956,188	\$ 6,793,546
October	7,527,488	6,450,857
November	7,342,717	4,929,626
December	5,384,514	5,984,486
Totals	<u>\$ 27,210,907</u> (a)	<u>\$ 24,158,515</u> (b)

(a) Includes reimbursements of \$16,934
 (b) Cash Disbursements totaled \$74,094,530 at August 31, 2012.





Financial Statements

First Quarter

Financial Report for the First Quarter Ended November 30, 2012 Pension Trust Fund

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

From: Don Green, Chief Financial Officer
Date: February 6, 2013

Net Assets Held in Trust for Pension Benefits:

For the first quarter ended November 30, 2012, *Net Assets Held in Trust for Pension Benefits* were \$113.7 billion, an increase of \$2.3 billion over the \$111.4 billion at August 31, 2012. *Total Additions* excluding Net Appreciation in Fair Value of Investments were \$1.6 billion. Contributions and other additions totaled \$1.1 billion. Interest, dividend, and securities lending income totaled \$453.8 million. *Total Deductions* were \$2.1 billion including external manager fees of \$24.2 million. Benefit payments account for 93% of all deductions.

Administrative Operations:

Total Administrative Expenses were \$16.5 million of which \$4.9 million was for September, \$5.7 million for October, and \$5.9 million for November. *Salaries and Other Personnel Costs* were \$11.4 million, *Professional Fees and Services* were \$570 thousand, *Other Operating Expenses* were \$4.6 million, and *Capital Expenses* were \$5 thousand. At the end of the first quarter 78% of the total funds budgeted were remaining.



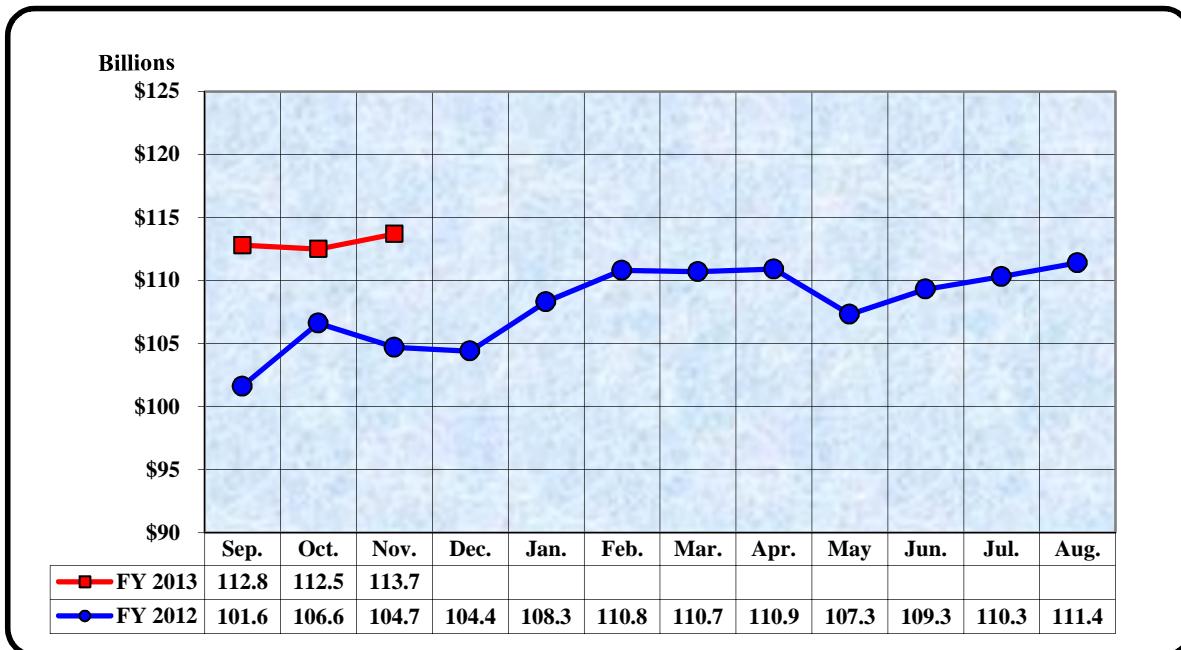


Financial Statements

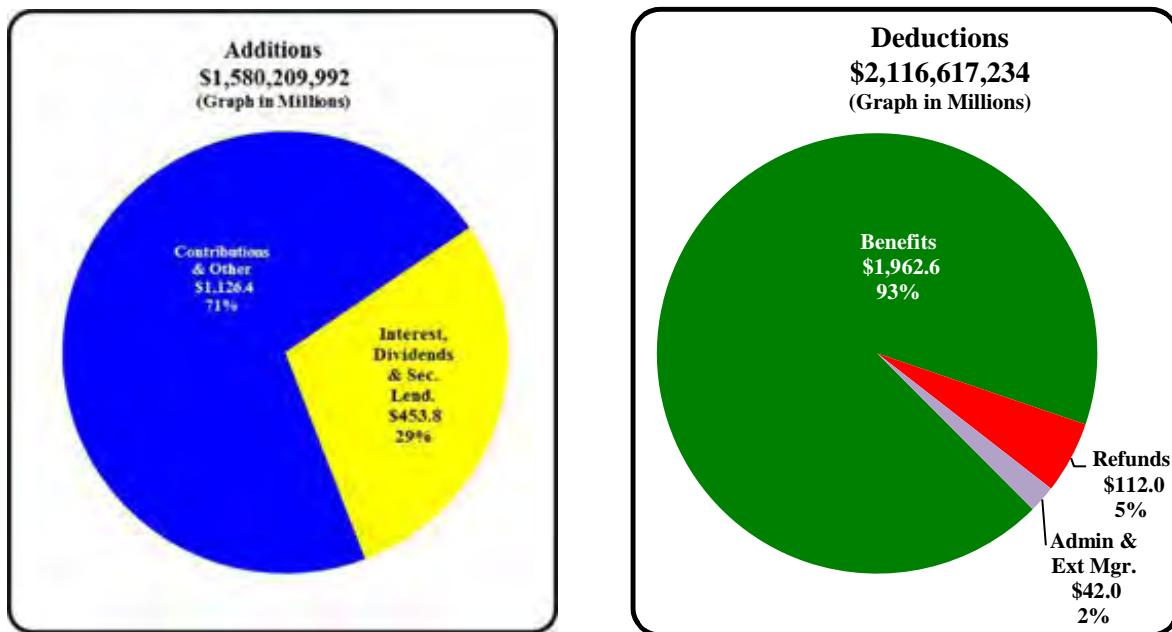
First Quarter

Pension Trust Fund

Net Assets – FY 2013 YTD and FY 2012



Additions and Deductions – FY 2013 YTD for the First Quarter Ended November 30

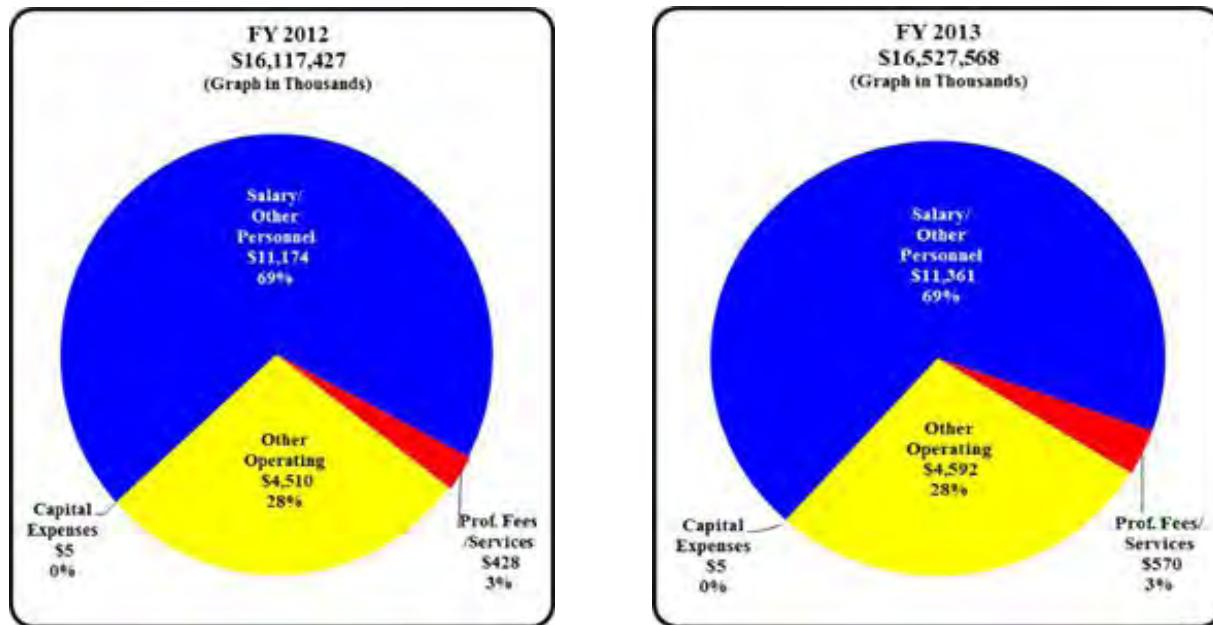


Financial Statements

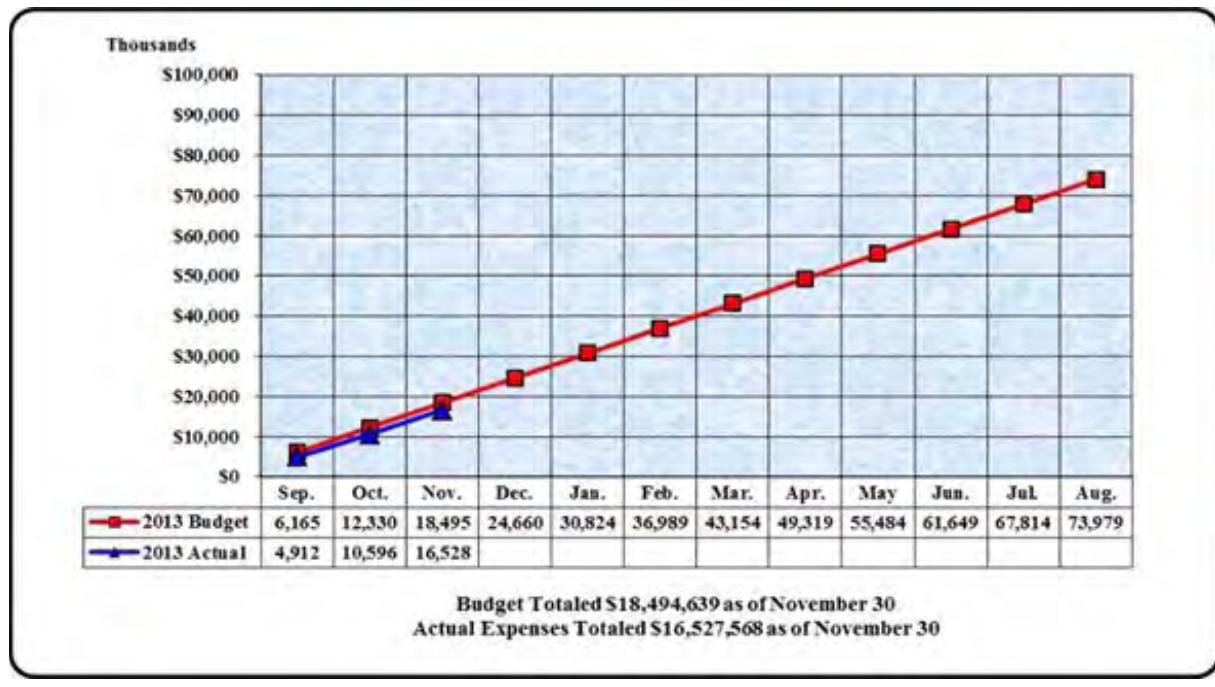
First Quarter



Pension Trust Fund (Excludes TEAM)
Administrative Expenses – FY 2012 and FY 2013
YTD for the First Quarter Ended November 30



Budget to YTD Actual – FY 2013
 (Excludes Team and Encumbered Funds)





Financial Statements

First Quarter

Pension Trust Fund (Excludes TEAM)
FY 2013 Budget Basis Administrative Expenses

	Actual YTD <u>November 30, 2012</u>	Encumbered YTD <u>November 30, 2012</u>	Annual Budget <u>Amount</u>	Remaining Budget <u>Amount</u>	% <u>Expended</u>
SALARIES AND OTHER PERSONNEL COSTS					
Salaries and Wages	\$ 9,060,529.00	\$ 38,284,981.00	\$ 29,224,452.00	\$ 24%	
Longevity Pay	150,160.00	636,720.00	486,560.00	24%	
Employer Retirement Contributions	582,787.08	2,450,239.00	1,867,451.92	24%	
Employer FICA Contributions	485,181.98	2,804,067.00	2,318,885.02	17%	
Employer Health Insurance Contributions	1,048,572.57	4,805,304.00	3,756,731.43	22%	
Benefit Replacement Pay	11,083.91	129,836.00	118,752.09	9%	
Other Employee Benefits	22,789.63	7,500.00	461,000.00	430,710.37	7%
TOTAL SALARIES AND OTHER PERSONNEL COSTS	<u>\$ 11,361,104.17</u>	<u>\$ 7,500.00</u>	<u>\$ 49,572,147.00</u>	<u>\$ 38,203,542.83</u>	<u>23%</u>
PROFESSIONAL FEES AND SERVICES					
	<u>\$ 570,248.62</u>	<u>\$ 642,078.05</u>	<u>\$ 8,064,064.00</u>	<u>\$ 6,851,737.33</u>	<u>15%</u>
OTHER OPERATING EXPENSES					
Consumable Supplies and Fuels	\$ 111,516.55	\$ 25,872.57	\$ 453,210.00	\$ 315,820.88	30%
Utilities	134,332.91	209,001.77	1,105,355.00	762,020.32	31%
Travel	272,972.59	77,426.49	1,177,003.00	826,603.92	30%
Rentals	670,795.31	847,987.74	2,235,627.00	716,843.95	68%
Dues, Fees and Staff Development	67,203.24	11,599.00	398,501.00	319,698.76	20%
Subscriptions and Reference Information	48,500.60	20,992.21	287,419.00	217,926.19	24%
Printing and Reproduction Services	3,510.52	308,760.03	507,650.00	195,379.45	62%
Postage, Mailing and Delivery Services	838,766.77	190,532.25	2,277,364.00	1,248,064.98	45%
Software Purchases and Maintenance	1,219,899.23	216,577.34	2,733,106.00	1,296,629.43	53%
Computer Hardware Maintenance	261,258.36	56,889.04	465,000.00	146,852.60	68%
Miscellaneous Expenses	145,813.28	86,551.91	1,095,470.00	863,104.81	21%
Insurance Premiums	613,931.00	1,200.00	693,100.00	77,969.00	89%
Furniture and Equipment - Expensed	112,185.98	5,111.75	433,850.00	316,552.27	27%
Maintenance - Buildings and Equipment	90,969.48	119,045.02	945,433.00	735,418.50	22%
TOTAL OTHER OPERATING EXPENSES	<u>\$ 4,591,655.82</u>	<u>\$ 2,177,547.12</u>	<u>\$ 14,808,088.00</u>	<u>\$ 8,038,885.06</u>	<u>46%</u>
TOTAL OPERATING EXPENSES	<u>\$ 16,523,008.61</u>	<u>\$ 2,827,125.17</u>	<u>\$ 72,444,299.00</u>	<u>\$ 53,094,165.22</u>	<u>27%</u>

Source: Unaudited monthly financial statements.





Financial Statements

First Quarter

Pension Trust Fund (Excludes TEAM)
FY 2013 Budget Basis Administrative Expenses

(concluded)

CAPITAL EXPENSES

Furniture and Equipment

Capital Budget Items

TOTAL CAPITAL EXPENSES

	Actual YTD <u>November 30, 2012</u>	Encumbered YTD <u>November 30, 2012</u>	Annual Budget Amount	Remaining Budget Amount	% Expended
Furniture and Equipment	\$ 4,559.00	\$ 4,348.66	\$ 96,665.00	\$ 87,757.34	9%
Capital Budget Items		105,425.00	1,437,590.31	1,332,165.31	7%
TOTAL CAPITAL EXPENSES	\$ 4,559.00	\$ 109,773.66	\$ 1,534,255.31	\$ 1,419,922.65	7%
TOTAL OPERATING AND CAPITAL EXPENSES*	\$ 16,527,567.61	\$ 2,936,898.83	\$ 73,978,554.31	\$ 54,514,087.87	26%
METHOD OF FINANCE					
Administrative Operation Appropriations	\$ 14,399,942.07	\$ 2,936,898.83	\$ 63,789,108.31	\$ 46,452,267.41	27%
Employer Retirement Contributions	582,787.08		2,450,239.00	1,867,451.92	24%
Employer FICA Contributions	485,181.98		2,804,067.00	2,318,885.02	17%
Employer Health Insurance Contributions	1,048,572.57		4,805,304.00	3,756,731.43	22%
Benefit Replacement Pay	11,083.91		129,836.00	118,752.09	9%
TOTAL OPERATING AND CAPITAL EXPENSES	\$ 16,527,567.61	\$ 2,936,898.83	\$ 73,978,554.31	\$ 54,514,087.87	26%

*Amounts are net of reimbursements.

Source: Unaudited monthly financial statements.



Financial Statements

First Quarter

TRS Enterprise Application Modernization - TEAM FY 2013 Budget Basis Administrative Expenses

	Actual YTD November 30, 2012	Encumbered YTD November 30, 2012	Annual Budget Amount	Remaining Budget Amount	% Expended
SALARIES AND OTHER PERSONNEL COSTS					
Salaries and Wages	\$ 152,982.36	\$ 52,021.90	\$ 1,210,950.00	\$ 1,005,945.74	17%
Longevity Pay	1,900.00	640.00	17,355.00	14,815.00	15%
Employer Retirement Contributions	9,912.49	3,370.37	77,501.00	64,218.14	17%
Employer FICA Contributions	11,623.91	3,933.24	92,638.00	77,080.85	17%
Employer Health Insurance Contributions	12,229.88	4,233.42	106,720.00	90,256.70	15%
Benefit Replacement Pay			4,125.00	4,125.00	
Other Employee Benefits			15,095.00	15,095.00	
TOTAL SALARIES AND OTHER PERSONNEL COSTS	\$ 188,648.64	\$ 64,198.93	\$ 1,524,384.00	\$ 1,271,536.43	17%
PROFESSIONAL FEES AND SERVICES					
	\$ 372,430.72	\$ 1,139,937.00	\$ 15,693,840.00	\$ 14,181,472.28	10%
OTHER OPERATING EXPENSES					
Dues, Fees and Staff Development	\$	\$	\$ 50,000.00	50,000.00	
Travel	984.22		25,000.00	24,015.78	4%
Software Purchases and Maintenance	112,966.20	112,966.20	2,870,000.00	2,644,067.60	8%
Furniture and Equipment - Expended	2,024.99		5,000.00	2,975.01	40%
TOTAL OTHER OPERATING EXPENSES	\$ 115,975.41	\$ 112,966.20	\$ 2,950,000.00	2,671,058.39	8%
TOTAL OPERATING EXPENSES	\$ 677,054.77	\$ 1,317,102.13	\$ 20,168,224.00	\$ 18,174,067.10	10%
CAPITAL EXPENSES					
Furniture and Equipment	\$ 236,000.00	\$ 405,674.89	\$ 875,000.00	\$ 233,325.11	73%
TOTAL CAPITAL EXPENSES	\$ 236,000.00	\$ 405,674.89	\$ 875,000.00	\$ 233,325.11	73%
TOTAL OPERATING AND CAPITAL EXPENSES	\$ 913,054.77	\$ 1,722,777.02	\$ 21,043,224.00	\$ 18,407,392.21	13%
METHOD OF FINANCE					
Capital Budget Appropriation*	\$ 879,288.49	1,711,239.99	20,762,240.00	18,171,711.52	12%
Employer Retirement Contributions	9,912.49	3,370.37	77,501.00	64,218.14	17%
Employer FICA Contributions	11,623.91	3,933.24	92,638.00	77,080.85	17%
Employer Health Insurance Contributions	12,229.88	4,233.42	106,720.00	90,256.70	15%
Benefit Replacement Pay			4,125.00	4,125.00	
TOTAL OPERATING AND CAPITAL EXPENSES	\$ 913,054.77	\$ 1,722,777.02	\$ 21,043,224.00	\$ 18,407,392.21	13%

*Component of Administrative Operation Appropriations.

Source: Unaudited monthly financial statements.

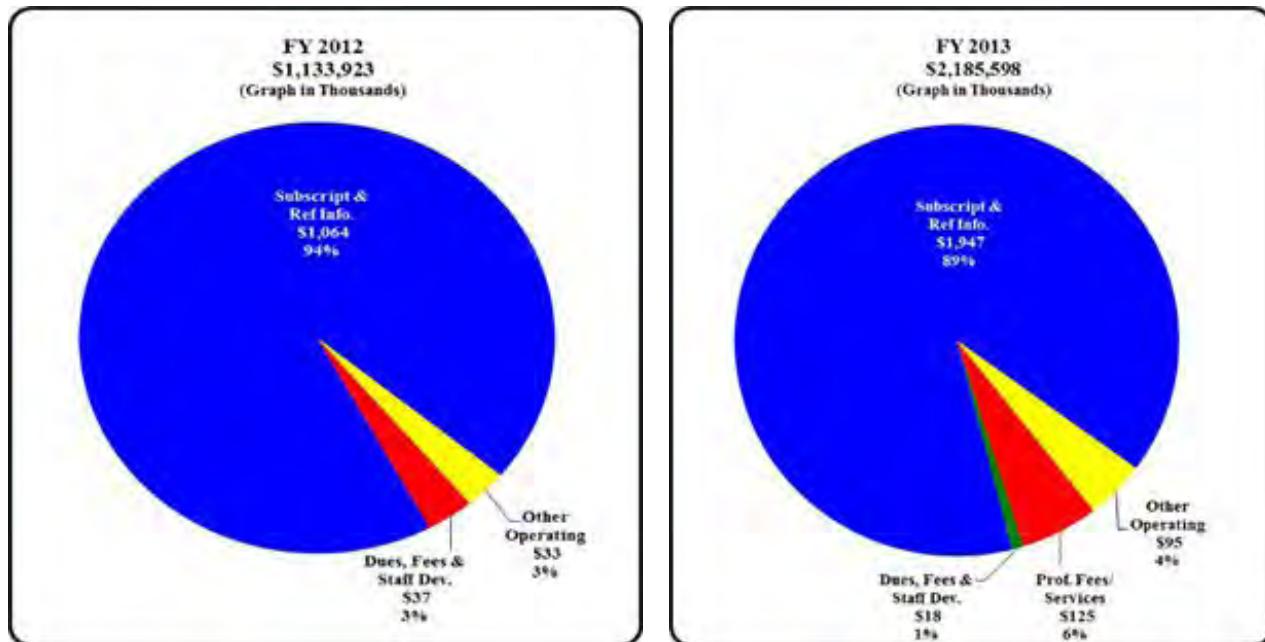


Financial Statements

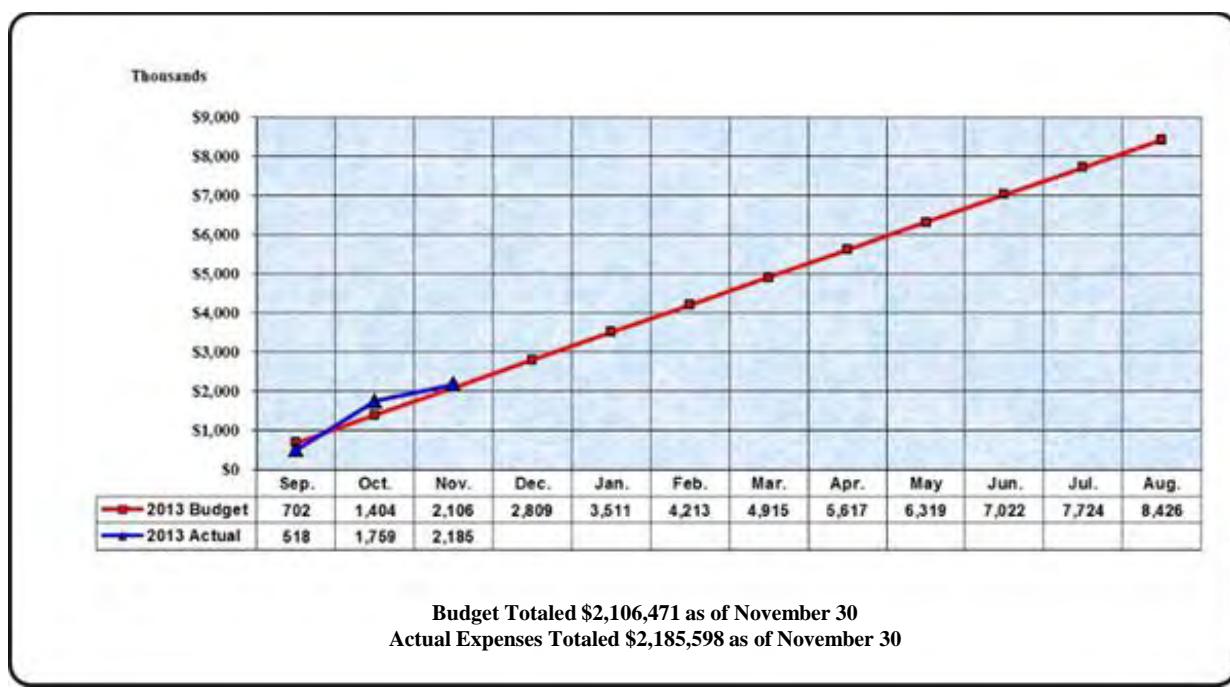
First Quarter



**Investment Soft Dollars
Administrative Expenses – FY 2012 and FY 2013
YTD for the First Quarter Ended November 30**



Budget to YTD Actual – FY 2013

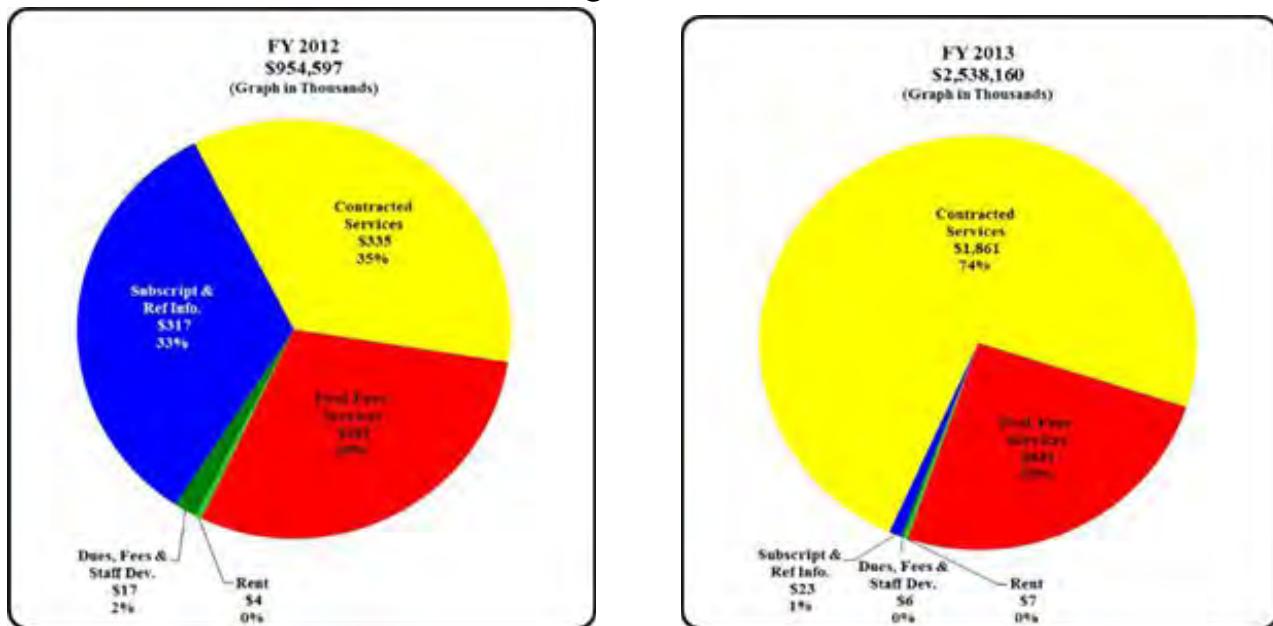


Financial Statements

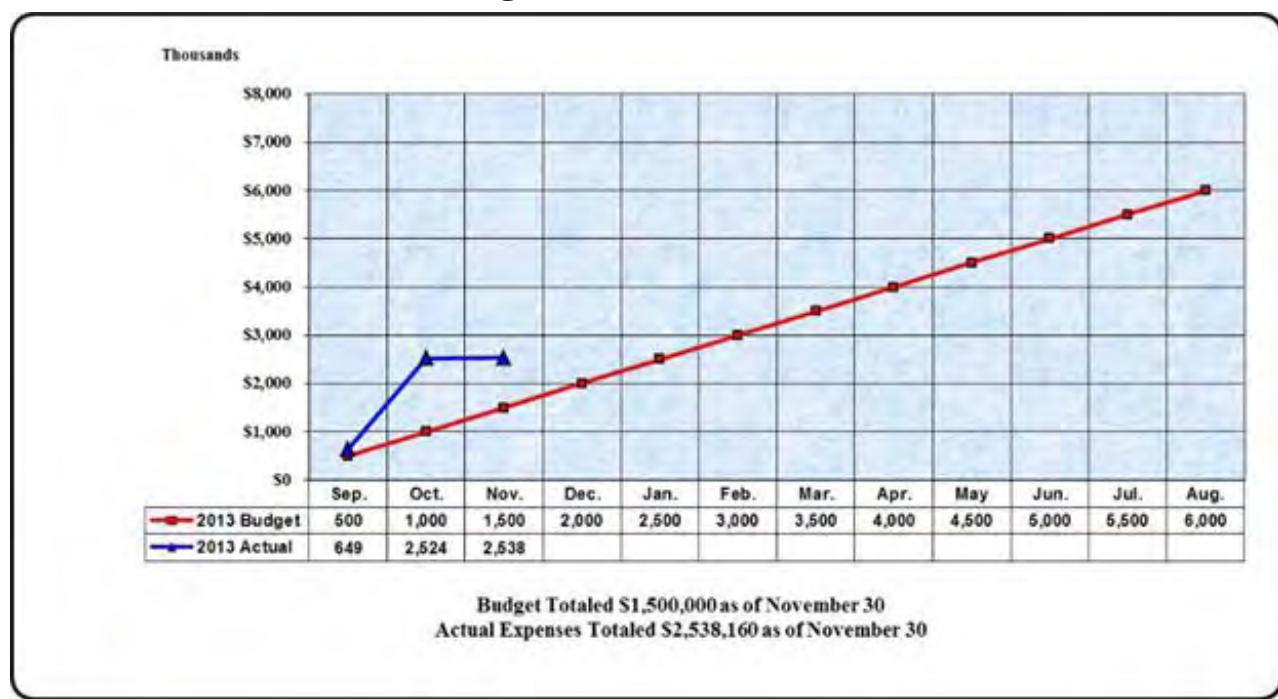
First Quarter



SSB/TRS Partnership Account
Administrative Expenses – FY 2012 and FY 2013
YTD for the First Quarter Ended November 30



Budget to YTD Actual – FY 2013





Financial Statements First Quarter

Financial Report for the First Quarter Ended November 30, 2012 TRS-Care

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

From: Don Green, Chief Financial Officer
Date: February 6, 2013

Net Assets Held in Trust for Other Employee Benefits:

For the first quarter ended November 30, 2012, *Net Assets Held in Trust for Other Employee Benefits* were \$765.4 million, an increase of \$24.4 million over the \$741 million at August 31, 2012. *Total Additions* include contributions and other additions of \$226.7 million, premiums of \$92.6 million, and federal revenue of \$12.1 million. Included in contributions is \$102.4 million, a one-time re-appropriation from both the Pension Trust Fund and TRS Care. *Total Deductions* were \$307.1 million including medical claims payments and processing fees of \$190.6 million and pharmacy claims payments and processing fees of \$115.9 million.

Administrative Operations:

Total Administrative Expenses were \$616 thousand of which \$186 thousand was for September, \$226 thousand for October, and \$204 thousand for November. *Salaries and Other Personnel Costs* were \$578 thousand, *Professional Fees and Services* were \$29 thousand, and *Other Operating Expenses* were \$9 thousand. At the end of the first quarter, 84% of the total funds budgeted were remaining.



Financial Statements

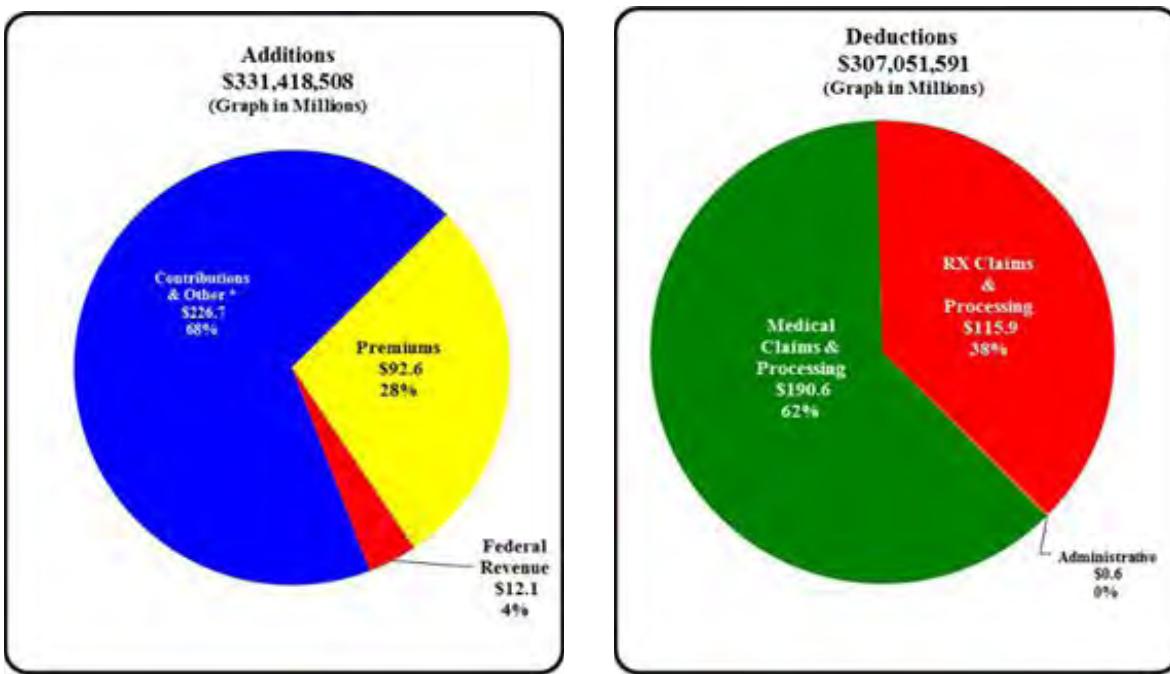
First Quarter

TRS-Care

Net Assets – FY 2013 YTD and FY 2012



Additions and Deductions – FY 2013 YTD for the First Quarter Ended November 30



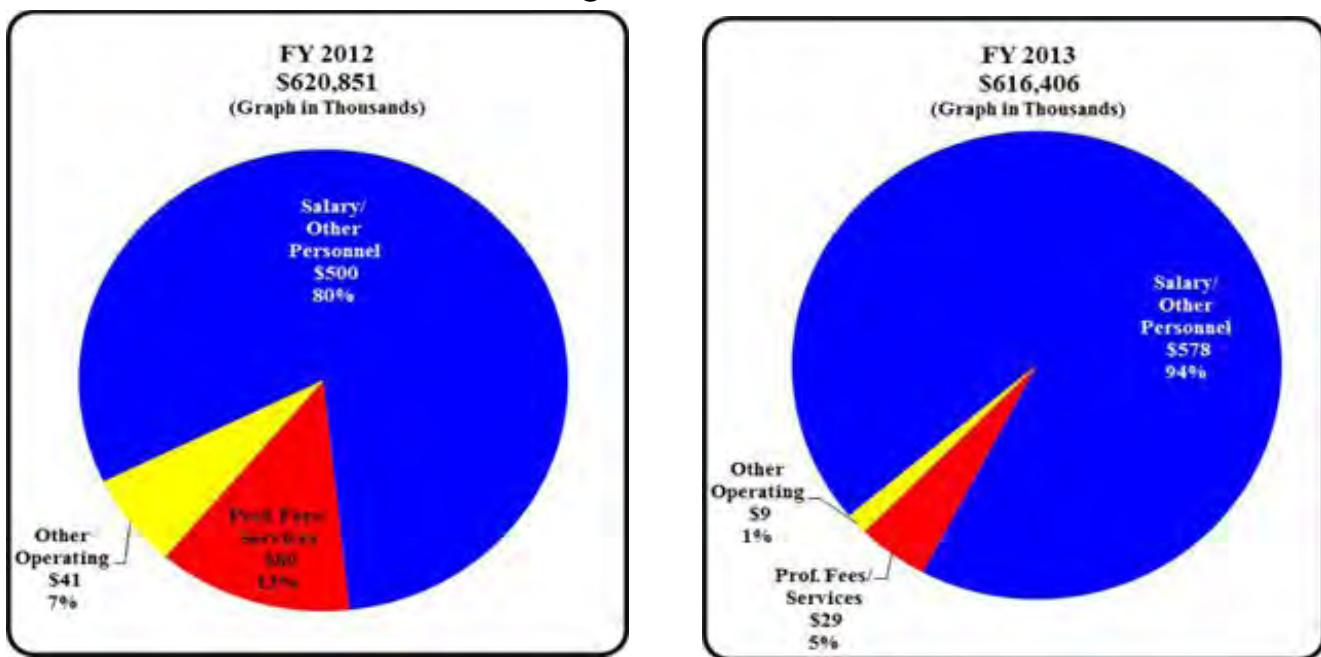
Financial Statements

First Quarter

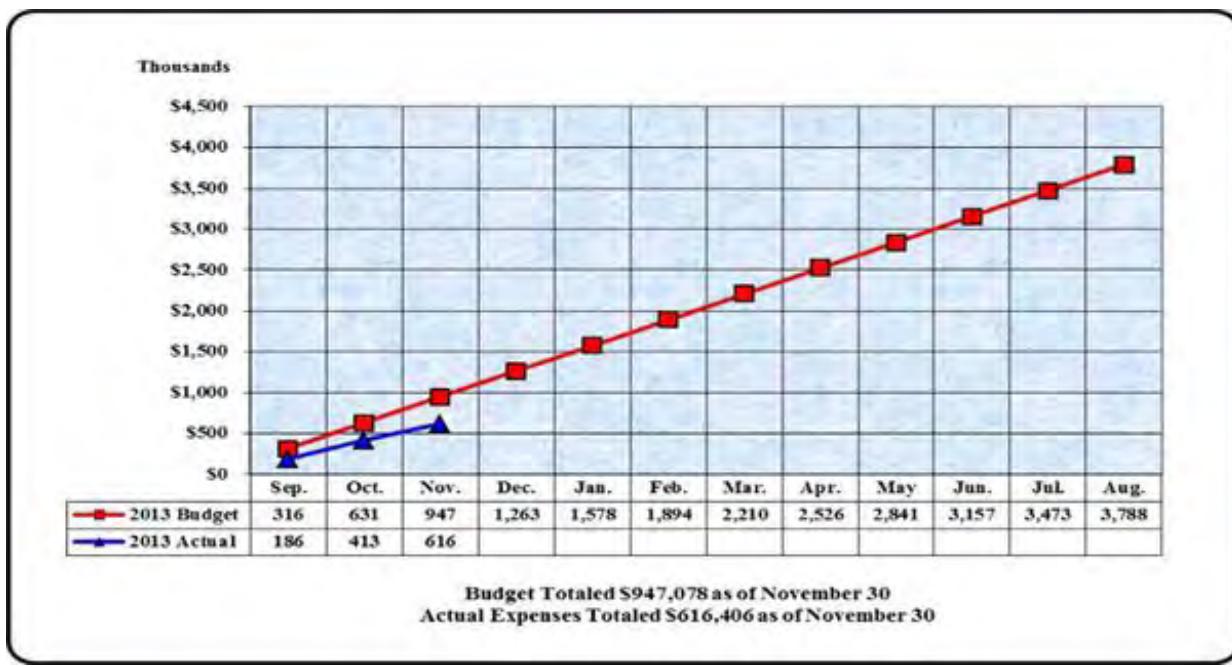
TRS-Care

Administrative Expenses – FY 2012 and FY 2013

YTD for the First Quarter Ended November 30



Budget to YTD Actual – FY 2013
(Excludes Encumbered Funds)





Financial Statements

First Quarter

TRS-Care
FY 2013 Budget Basis Administrative Expenses

	Actual YTD November 30, 2012	Encumbered YTD November 30, 2012	Annual Budget Amount	Remaining Budget Amount	Expended %
SALARIES AND OTHER PERSONNEL COSTS					
Salaries and Wages	\$ 443,874.66	\$	\$ 1,815,673.00	\$ 1,371,798.34	24%
Lump Sum Payments			50,000.00	50,000.00	
Longevity Pay	13,280.00		54,100.00	40,820.00	25%
Employer Retirement Contributions	29,112.48		116,203.00	87,090.52	25%
Employer FICA Contributions	33,122.17		138,899.00	105,776.83	24%
Benefit Replacement Pay	1,546.74		12,377.00	10,830.26	12%
Other Employee Benefits			14,150.00	14,150.00	
Employer Health Insurance Contributions	57,581.16		233,442.00	175,860.84	25%
TOTAL SALARIES AND OTHER PERSONNEL COSTS	\$ 578,517.21	\$ -	\$ 2,434,844.00	\$ 1,856,326.79	24%
PROFESSIONAL FEES AND SERVICES					
	\$ 29,139.15	\$ 149,417.63	\$ 1,074,500.00	\$ 895,943.22	17%
OTHER OPERATING EXPENSES					
Consumable Supplies	\$ 475.66	\$ 1,071.00	\$ 5,200.00	\$ 3,653.34	30%
Utilities	999.56		2,031.00	1,031.44	49%
Travel In-State			6,500.00	6,500.00	
Travel Out of State	2,818.21		5,455.00	2,636.79	52%
Rental - Building		20,627.75	82,511.00	61,883.25	25%
Dues, Fees and Staff Development			3,325.00	3,325.00	
Subscriptions and Reference Information			570.00	570.00	
Printing and Reproduction Services	3,291.40	1,115.25	15,000.00	10,593.35	29%
Postage, Mailing and Delivery Services	(1,131.85)	26,979.15	135,277.00	109,429.70	19%
Miscellaneous Expenses	2,296.39	833.33	14,600.00	11,470.28	21%
Furniture and Equipment - Expensed			6,500.00	6,500.00	
Maintenance - Buildings and Equipment			2,000.00	2,000.00	
TOTAL OTHER OPERATING EXPENSES	\$ 8,749.37	\$ 50,626.48	\$ 278,969.00	\$ 219,593.15	21%
TOTAL OPERATING EXPENSES					
Less: Employer Retirement Contributions paid on behalf of Employees	\$ 616,405.73	\$ 200,044.11	\$ 3,788,313.00	\$ 2,971,863.16	22%
	\$ (29,112.48)	\$ -	\$ (116,203.00)	\$ (87,090.52)	25%
TOTAL CASH OUTLAY FOR OPERATING EXPENSES	\$ 587,293.25	\$ 200,044.11	\$ 3,672,110.00	\$ 2,884,772.64	21%

Source: Unaudited monthly financial statements.



Financial Statements

First Quarter

Financial Report for the First Quarter Ended November 30, 2012
TRS-ActiveCare

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

From: Don Green, Chief Financial Officer
Date: February 6, 2013

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 Assets – Restricted for Health Care Programs

For the quarter ended November 30, 2012, *Net Assets* were \$78.5 million, an increase of \$32.7 million over the \$45.8 million at August 31, 2012. *Total Revenues* were \$454.2 million. Health care premiums were \$451 million, COBRA premiums were \$3.2 million, investment income was \$63 thousand and optional life and long-term care administrative fees were \$34 thousand. *Total Expenses* were \$421.5 million including medical claims payments and processing fees of \$346.7 million, pharmacy claims payments and processing fees of \$49.3 million, and HMO payments of \$25.1 million.

Administrative Operations:

Total Administrative Expenses were \$430 thousand of which \$131 thousand was for September, \$126 thousand for October, and \$173 thousand for November. *Salaries and Other Personnel Costs* were \$344 thousand, *Professional Fees and Services* were \$82 thousand and *Other Operating Expenses* were \$4 thousand. At the end of the first quarter, 84% of the total funds budgeted were remaining.



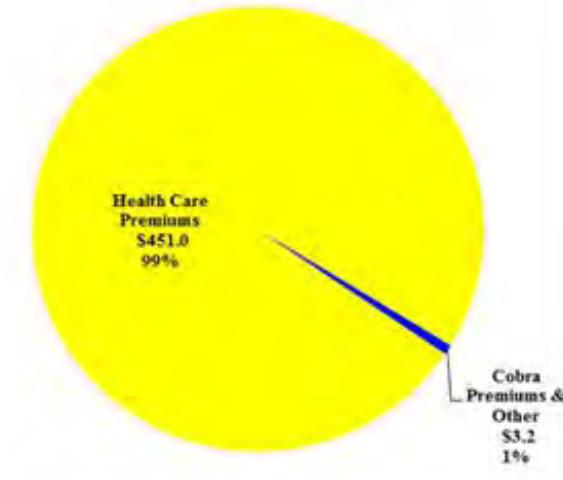
Financial Statements First Quarter

TRS-ActiveCare Net Assets – FY 2013 YTD and FY 2012

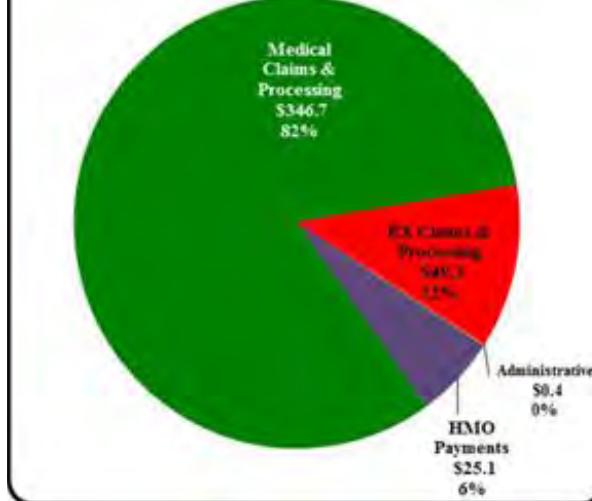


Additions and Deductions – FY 2013 YTD for the First Quarter Ended November 30

Revenues
\$454,228,127
(Graph in Millions)



Expenses
\$421,497,495
(Graph in Millions)

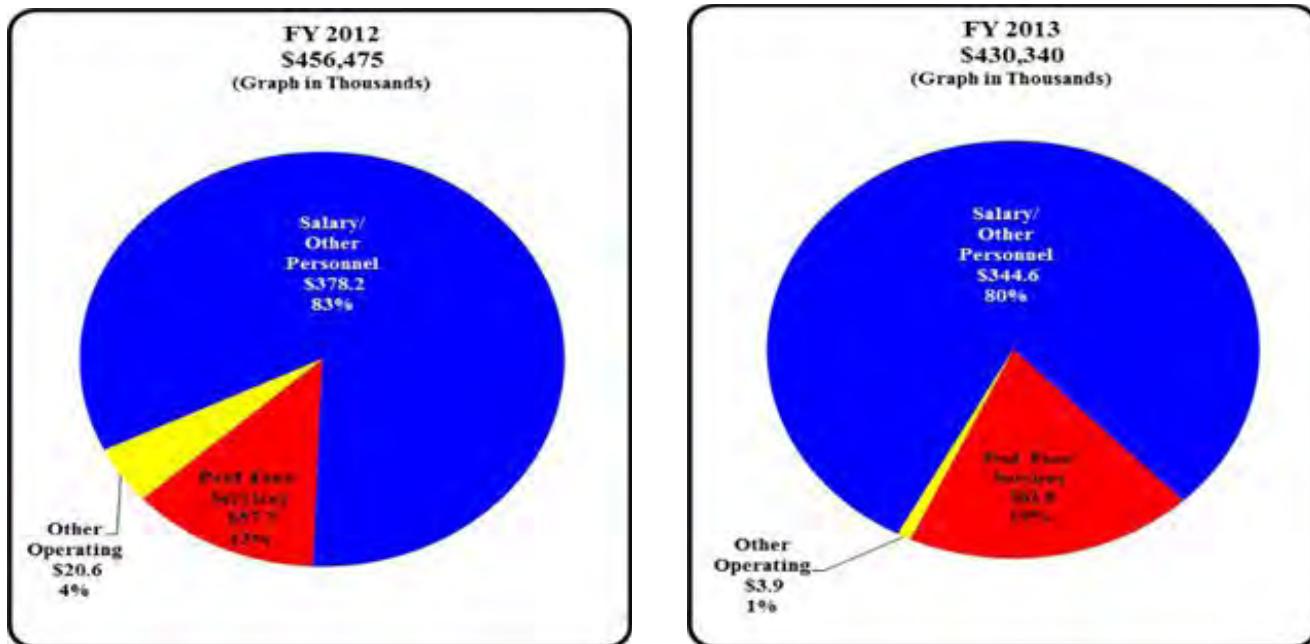


Financial Statements

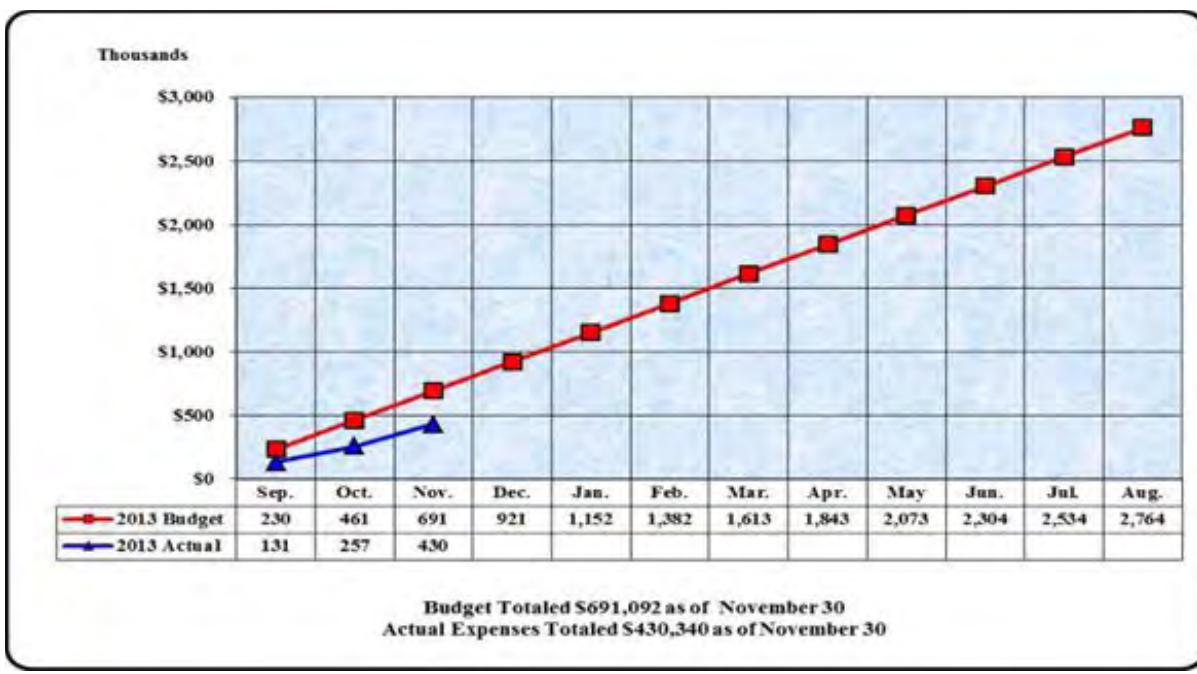
First Quarter



TRS-ActiveCare
Administrative Expenses – FY 2012 and FY 2013
YTD for the First Quarter Ended November 30



Budget to YTD Actual – FY 2013
(Excludes Encumbered Funds)





Financial Statements

First Quarter

TRS-ActiveCare

FY 2013 Budget Basis Administrative Expenses

	Actual YTD November 30, 2012	Encumbered YTD November 30, 2012	Annual Budget Amount	Remaining Budget Amount	Expended % _____
SALARIES AND OTHER PERSONNEL COSTS					
Salaries and Wages	\$ 271,397.57	\$	\$ 1,295,835.00	\$ 1,024,437.43	21%
Longevity Pay	6,260.00		32,040.00	25,780.00	20%
Employer Retirement Contributions	17,786.51		82,933.00	65,146.49	21%
Employer FICA Contributions	19,249.24		99,131.00	79,881.76	19%
Employer Health Insurance Contributions	29,648.98		141,422.00	111,773.02	21%
Benefit Replacement Pay	257.79		2,063.00	1,805.21	12%
Other Employee Benefits			59,500.00	59,500.00	
TOTAL SALARIES AND OTHER PERSONNEL COSTS	\$ 344,600.09	\$ 0.00	\$ 1,712,924.00	\$ 1,368,323.91	20%
PROFESSIONAL FEES AND SERVICES					
	\$ 81,758.89	\$ 149,583.33	\$ 950,750.00	\$ 719,407.78	24%
OTHER OPERATING EXPENSES					
Consumable Supplies	\$ 50.53	\$ 479.87	\$ 3,000.00	\$ 2,469.60	18%
Utilities	186.71		1,500.00	1,313.29	12%
Travel	456.99	811.50	8,350.00	7,081.51	15%
Rentals		14,111.00	62,245.00	48,134.00	23%
Dues, Fees and Staff Development	2,610.00	195.00	8,700.00	5,895.00	32%
Subscriptions and Reference Information	499.00		900.00	401.00	55%
Printing and Reproduction Services		356.25	1,425.00	1,068.75	25%
Postage, Mailing and Delivery Services		976.11	4,775.00	3,798.89	20%
Miscellaneous Expenses	178.52	241.74	3,300.00	2,879.74	13%
Furniture and Equipment - Expensed			4,500.00	4,500.00	
Maintenance - Buildings and Equipment			2,000.00	2,000.00	
TOTAL OTHER OPERATING EXPENSES	\$ 3,981.75	\$ 17,171.47	\$ 100,695.00	\$ 79,541.78	21%
TOTAL OPERATING EXPENSES					
	\$ 430,340.73	\$ 166,754.80	\$ 2,681,436.00	\$ 2,167,273.47	22%
Less: Employer Retirement Contributions paid on behalf of Employees	\$ (17,786.51)	\$ -	\$ (82,933.00)	\$ (65,146.49)	21%
TOTAL CASH OUTLAY FOR OPERATING EXPENSES	\$ 412,554.22	\$ 166,754.80	\$ 2,681,436.00	\$ 2,102,126.98	22%

Source: Unaudited monthly financial statements.





Financial Statements

First Quarter

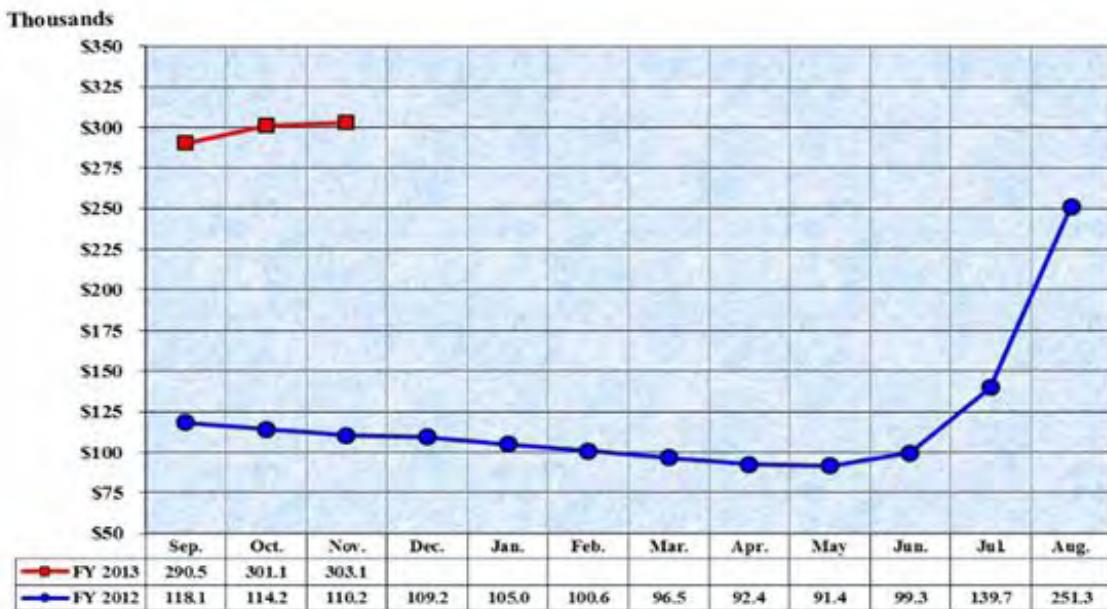
Financial Report for the First Quarter Ended November 30, 2012
403(b) Administrative Program

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

From: Don Green, Chief Financial Officer
Date: February 6, 2013

For the first quarter ended November 30, 2012, *Net Assets* were \$303 thousand, an increase of \$52 thousand over the \$251 thousand at August 31, 2012. *Total Revenues* were \$66 thousand. Product Registration were \$30 thousand and Certification Fees were \$36 thousand. *Total Operating Expenses* were \$15 thousand which was *Salaries and Other Personnel Costs*. At the end of the first quarter, 74% of the total funds budgeted were remaining.

TRS-ActiveCare
Net Assets – FY 2013 YTD and FY 2012



Teacher Retirement System of Texas



Overview of TRS Pension Plan

February 21, 2013



TRS is a Defined Benefit Plan

401(a)

Retirement benefits are calculated based on a formula established by law and funded by

**Member
Contributions
(6.4%)**

**State
Contributions
(6.4%)**

**Investment
Earnings**



Covered Employment

Employment eligible for membership in TRS is:

- Employment expected to last 4½ months or more,
- for one-half or more of the full-time workload, and
- With compensation comparable to the rate of compensation for other persons employed in similar positions





Establishing TRS Service Credit

Service credit is an important component in determining eligibility for TRS benefits and is part of the retirement formula.

- ✓ **Established in one-year increments**
- ✓ **Minimum of 90 days**
- ✓ **Full fall semester in the last school year before a member retires**



Service Credit Eligible for Purchase

- **Withdrawn Service**
- **Unreported Service**
- **Substitute Service**
- **Out-of-State Service**
- **Developmental Leave**
- **Active Duty Military Service**
- **USERRA (Uniformed Services Employment and Re-employment Act)**
- **Work experience by a Career or Technology Teacher**
- **State Sick and/or Personal Leave**
- **Membership Waiting Period**



Service Credit Purchase

Verify Service in a Timely Manner

- Service not shown on annual statement
 - Provide verification to TRS of that service not later than five years after the end of the school year in which the service was rendered.
 - Service before September 1, 2011, verify service by August 31, 2016.
- Unreported service or compensation (Including Substitute Service)
 - Provide verification to TRS not later than five years after the end of the school year in which the service was rendered or compensation earned.
- If not verified by these deadlines, service is not creditable.
- Verified service must be purchased to be creditable and included in a benefit calculation.



Service Credit Purchase

August 31, 2013

Deadline to purchase Service Credit at “Old Cost”

- **Withdrawn Service**
- **Unreported Service**
- **Substitute Service**
- **Out-of-State Service**
- **Developmental Leave**



Service Credit Purchase

Service Credit Purchase Cost Change Deadline Communication:

- TRS Web Site – *Important Deadline before Increase in Service Purchase Cost* chart and PowerPoint presentation
- Mass Mailing - a letter was sent to those members who were previously sent a cost statement and who would be affected by the legislative changes
- TRS Service Credit Brochure
- TRS Benefits Handbook
- Forms - TRS 220T “Bill for Withdrawn Account”, TRS 223 “Bill for Out-of-State Service Credit” TRS 218 “Bill for Unreported Service Credit” and TRS 538 “Agreement for Installment Purchase of Service Credit”



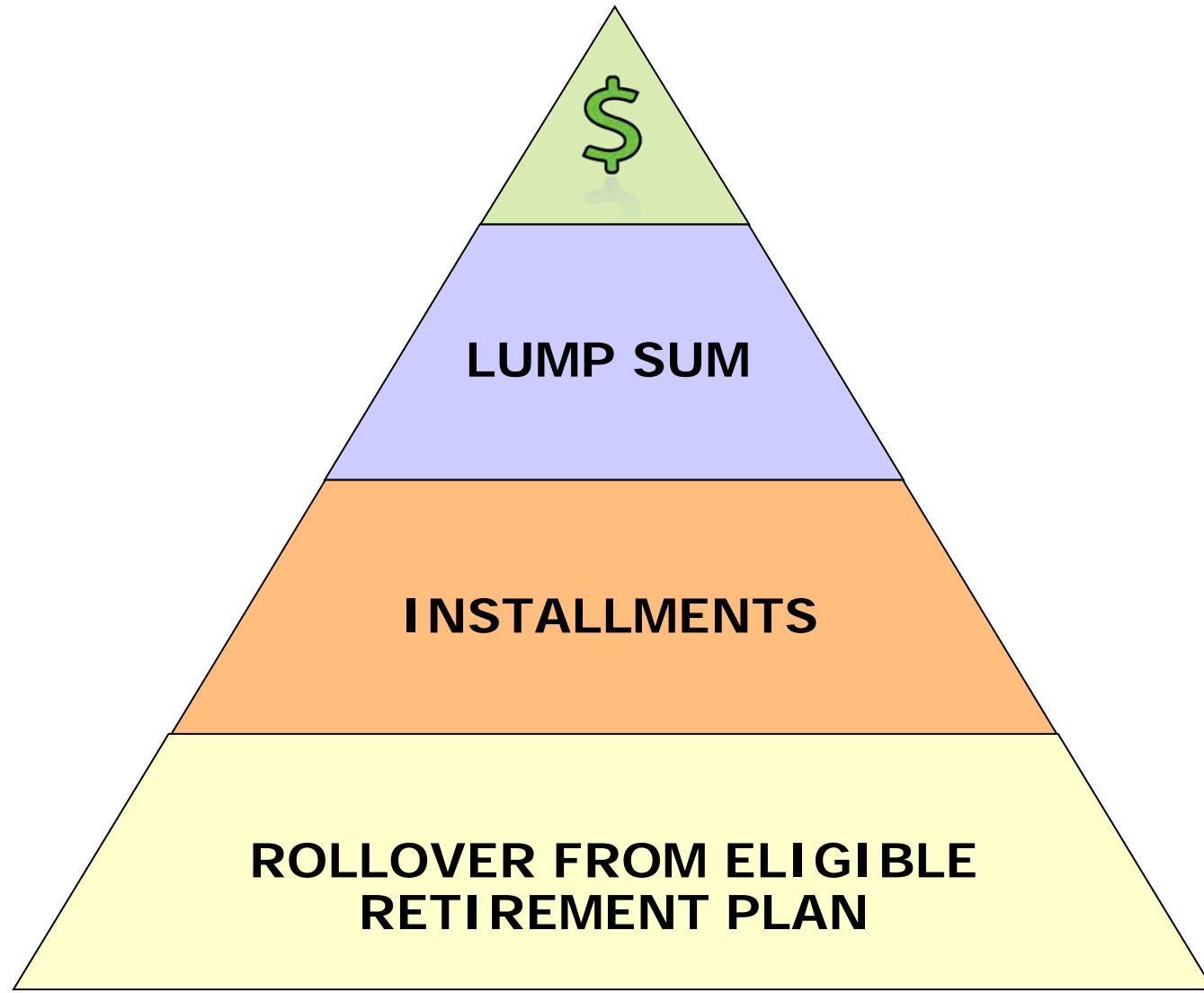
Service Credit Purchase

Service Credit Purchase Cost Change Deadline Communication:

- Annual Statement of Member Accounts
- Group Benefits Presentations
- Group Retirement Sessions
- During one-on-one office visits and telephone counseling
- TRS Update – newsletter sent to reporting entities in June/July 2011
- TRS News – newsletter sent to members
 - July 2011
 - October 2011
 - February 2012
 - August 2012
 - October 2012



Methods of Payment





Refund of TRS Contributions

Are subject to two requirements



Permanently terminate all employment with all
TRS-covered employers

and

Have not applied for or received a promise of employment
with the same or another TRS-covered employer



Calculating The Standard Annuity



Average of highest **three** or **five** annual salaries

Total years of **Service Credit** \times 2.3%
= Total %

Total % \times **Average Salary** =
Annual Annuity

Annual Annuity \div 12 = Monthly
Standard Annuity



Grandfathered Member

Was a TRS member and met one of these criteria on or before

August 31, 2005

Was at least 50 years of age,

Or

Age and years of service credit totaled at least 70,

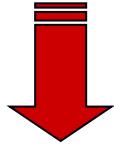
Or

Had at least 25 years of service credit



Calculation of Benefits

“Grandfathered”

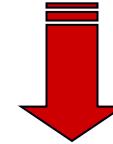


Average of the highest ***three*** annual salaries

Partial Lump Sum Option –eligible for normal-age (unreduced) service retirement benefit

Members age 55 or older with 20-24 years of service credit and do not meet normal age retirement eligibility – early retirement reduction may be as great as 10%

“Non-Grandfathered”



Average of the highest ***five*** annual salaries

Partial Lump Sum Option - Rule of 90 – either unreduced benefit or reduced for early age

Members age 55 or older with 20-24 years of service credit and do not meet normal age retirement eligibility – early retirement reduction may be as great as 53%



Retirement TIERS

- **Changes to the retirement plan over the years have resulted in four distinct membership categories, each with its own retirement eligibility requirements**
- **To better understand the requirements, TRS has identified four membership TIERS**



TIER 1

Grandfathered and current TRS membership began prior to September 1, 2007

**Normal-Age
Retirement Eligibility**

Age 65 with at least 5 years of service credit

or

Rule of 80 (age and years of service credit total at least 80) and at least 5 years of service credit

**Early-Age
Retirement Eligibility**

Do not meet normal-age requirements and at least age 55 with 5 or more years of service credit

or

30 or more years of service credit



TIER 2

Not grandfathered and current TRS membership began prior to September 1, 2007

**Normal-Age
Retirement Eligibility**

Age 65 with at least 5 years of service credit

or

Meet the Rule of 80 (age and years of service credit total at least 80) and at least 5 years of service credit

**Early-Age
Retirement Eligibility**

Do not meet normal-age requirements and at least age 55 with 5 or more years of service credit

or

Have 30 or more years of service credit



TIER 3

Not grandfathered and current TRS membership began after September 1, 2007

Normal-Age Retirement Eligibility

Age 65 with at least 5 years of service credit

or

At least age 60, age and years of service credit total at least 80 (Rule of 80), and have at least 5 years of service credit

Early-Age Retirement Eligibility

Do not meet normal-age requirements and at least age 55 with 5 or more years of service credit

or

At least 30 years of service credit, but less than age 60

or

Age and years of service credit total at least 80, but are less than age 60



TIER 4

Grandfathered but current TRS membership began after September 1, 2007

**Normal-Age
Retirement Eligibility**

Age 65 with at least 5 years of service credit

or

Meet Rule of 80 (age and years of service credit total at least 80), at least age 55, and at least 20 years of service credit

**Early-Age
Retirement Eligibility**

Do not meet normal-age requirements and at least age 55 with 5 or more years of service credit

or

At least 30 years of service credit

or

Are less than age 55 but you meet the Rule of 80



RETIREMENT PAYMENT PLANS

STANDARD ANNUITY – Monthly annuity paid for life of retiree.

OPTION 1 – Monthly annuity paid for life of retiree. Upon death this same amount will continue to be paid throughout the life of the person named as beneficiary.

OPTION 2 - Monthly annuity paid for life of retiree. Upon death one-half (1/2) of this amount will be paid throughout the life of the person named as beneficiary.

Option 3 – Monthly annuity paid for the life of the retiree. Should death occur within a period of 60 months (5 years) from the date of retirement, this same amount will be paid to the beneficiary(ies) until the remainder of the 60 payments has been made.



RETIREMENT PAYMENT PLANS

Option 4 – Monthly annuity paid for the life of the retiree. Should death occur within a period of 120 months (10 years) from the date of retirement, this same amount will be paid to the beneficiary(ies) until the remainder of the 120 payments has been made.

Option 5 – Monthly annuity paid for the life of retiree. Upon death three-fourths (3/4) of this amount will be paid throughout the life of the person named as beneficiary.



Partial Lump Sum Option

- If eligible, a retiree may select a PLSO distribution equal to 12, 24 or 36 months of a standard annuity.
- Monthly annuity is actuarially reduced to reflect the PLSO distribution.
- Distribution:
 - An amount equal to 12 months is issued at the same time as the member's first monthly annuity payment.
 - An amount equal to 24 months may be taken in either one or two annual payments.
 - An amount equal to 36 months may be taken in one, two, or three annual payments.



Choosing a Retirement Date

Things to consider:

- ✓ Effective date of retirement
- ✓ Termination of employment (including June 15th rule)
- ✓ Credit for the Current year and/or full annual salary
- ✓ Deadline for application for retirement



Getting Started.....

- Members should contact TRS at least six months prior to the anticipated retirement date by completing and submitting a "Request for Estimate of Retirement Benefits" form (TRS 18). This can be done on-line, by telephone, or submitting the paper form.
- TRS will send a retirement packet within 31 days after receipt of TRS 18.
- TRS suggests retirement forms be completed and submitted to TRS at least 6 weeks in advance of the retirement date.



Receiving Monthly Payments from TRS

IF your effective retirement date is May 31...

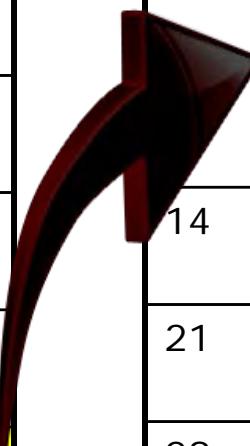
...**THEN** your first annuity payment is due the first business day of the month following the first calendar month after your retirement is effective

May

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

July

S	M	T	W	T	F	S
			1	2	3	4
			8	9	10	11
			14	15	16	17
			21	22	23	24
			28	29	30	31





Disability Retirement

A member, regardless of age or years of service credit may apply for disability retirement if:

- The member is mentally or physically disabled from the further performance of duty, and
- The disability is probably permanent.



Retiree Survivor Benefits

In addition to any joint and survivor option (1, 2, or 5) or guaranteed period (option 3 or 4) annuity, the beneficiary of a deceased retiree receives a \$10,000 lump sum survivor benefit payment.

In lieu of the \$10,000 survivor benefit, one of the following benefits may be selected:

- If the beneficiary is the retiree's spouse or dependent parent, the beneficiary may choose a \$2,500 lump sum payment plus \$250 per month beginning when the beneficiary reaches age 65 or upon the death of the retiree, whichever is later.



Retiree Survivor Benefits

- If the beneficiary is the spouse and has one or more minor children or has custody of one or more minor children of the decedent, the beneficiary may choose a \$2,500 lump sum payment, plus a \$350 monthly benefit. This benefit is payable until the youngest child reaches age 18 and is followed by a lifetime monthly benefit of \$250 beginning when the spouse reaches age 65.
- If the beneficiary or beneficiaries are the retiree's dependent children under the age of 18, the children's surviving parent or guardian may elect to receive for them a \$2,500 lump sum payment plus a \$350 monthly benefit. The \$350 monthly benefit is payable for as long as two or more children are under age 18; a \$250 monthly benefit is payable as long as one child is under age 18.



Active Member Death and Survivor Benefits

- As an active member, coverage for TRS death benefits becomes effective on the first day of TRS-covered employment.
- Upon death, the beneficiary/beneficiaries may be eligible to select one of the following five different payment plans.



Active Member Death Benefit Payment Plans

- An amount equal to twice the annual rate of compensation up to a maximum of \$80,000 payable.
- Sixty monthly payments equal to a standard annuity without reduction for age. Available only to beneficiaries of members who have five or more years of TRS service credit.
- A lifetime annuity equal to an Option 1 retirement plan. This payment plan is available only to beneficiaries of members who have five or more years of TRS service credit. Also, this plan is not available to joint beneficiaries.
- An amount equal to the accumulated contributions in the member's account.



Active Member Death Benefit Payment Plans

- Survivor benefits consisting of a \$2,500 lump sum payment plus a monthly payment, according to the following designations:
 - To a beneficiary spouse or a retiree's dependent parent, \$250 per month for life beginning when the beneficiary reaches age 65 or at member's death, whichever is later.
 - To a beneficiary spouse who has one or more minor children, \$350 per month, continuing until the youngest child reaches age 18. At age 65, beneficiary would again begin receiving \$250 per month for life.
 - To minor children beneficiaries, \$350 per month with two or more children less than age 18, or \$250 per month with only one child under age 18.



Active Member Death Benefit Payment Plans

In addition to the payments under one of these five payment plans, a lump sum death benefit of \$160,000 is payable to the beneficiary of a member who is a TRS-covered employee and who dies as a result of a physical assault during the performance of the employee's regular duties.



TRS/ERS Transfer Service

ERS members with at least 36 months of ERS service credit can transfer their TRS service credit to ERS



TRS members with at least 3 years of TRS service credit can transfer their ERS service credit to TRS

Transfer takes place at retirement



Proportionate Retirement

A member who has active membership credit in more than one Texas Public Statewide Retirement System may be eligible to combine all of their service credit to satisfy eligibility requirements to retire under TRS.

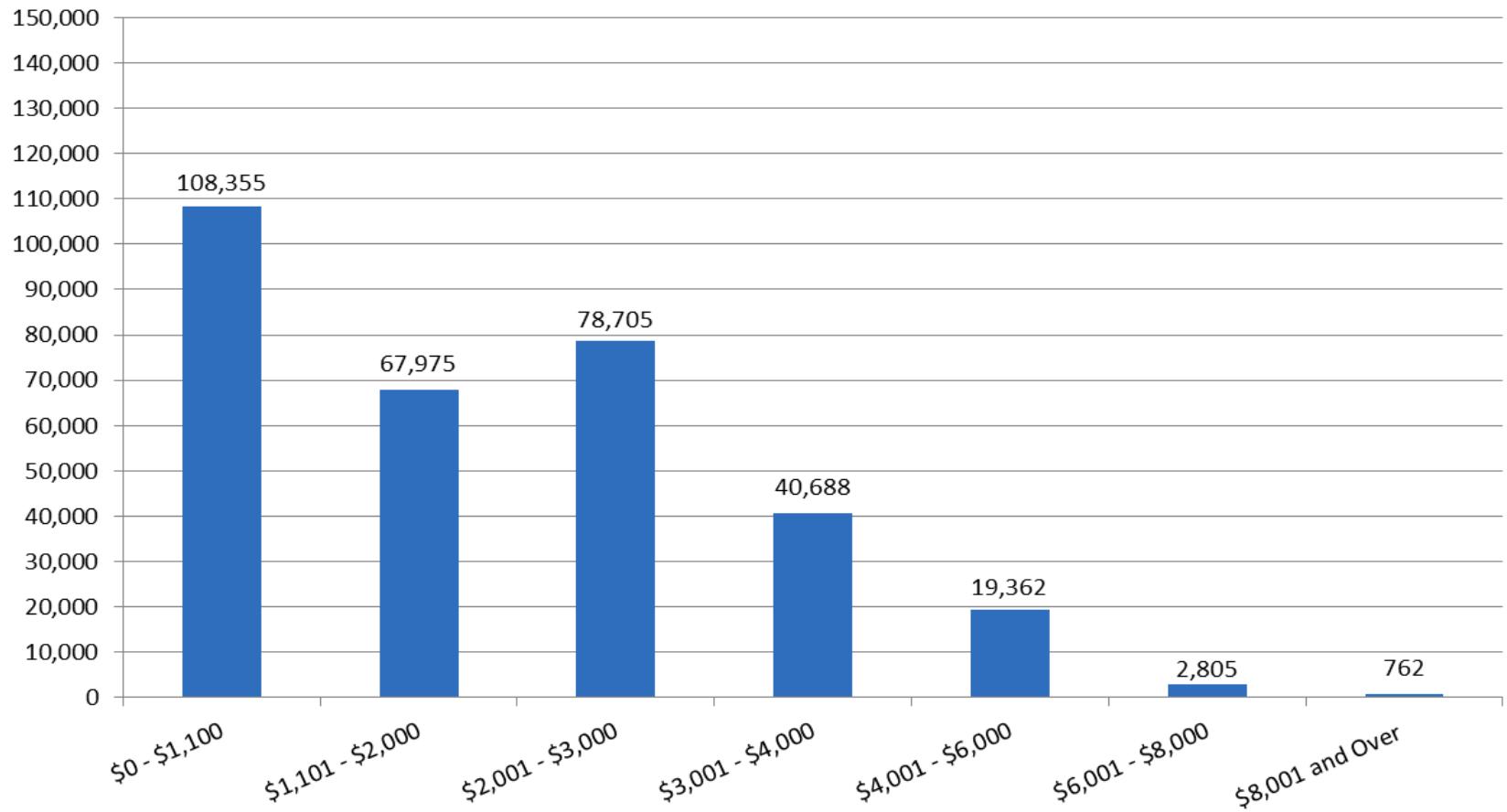
Retirement systems currently participating are:

- Teacher Retirement System of Texas
- Employees Retirement System of Texas (ERS)
- Judicial Retirement System of Texas (Plans One and Two)
- Texas Municipal Retirement System (TMRS)
- Texas County and District Retirement System (TCDRS)
- City of Austin Employees Retirement System
- El Paso City Employees' Pension Fund
- El Paso Firemen's and Policemen's Pension Fund
- City of Austin Police Retirement Fund



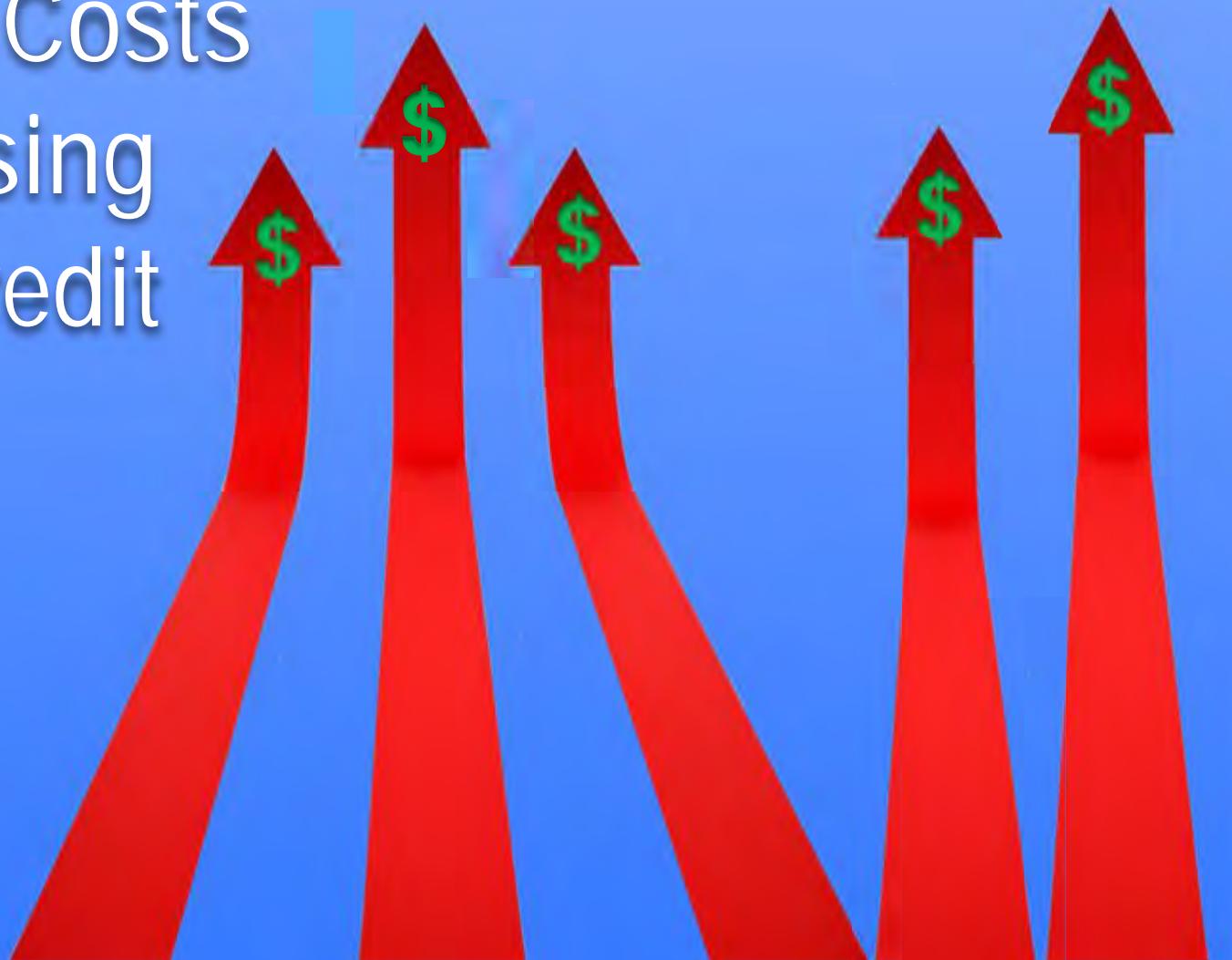
Annuity Distribution

Annuity Payments



Increased Costs of Purchasing Service Credit

Narrator: Tom Guerin



A presentation by the Teacher Retirement of Texas
February 2013



Increased Costs of Purchasing Service Credit



Purchasing service credit increases your years of service, which increases the amount of your retirement annuity.

Service credit is also an important part of determining eligibility for TRS benefits.

Annuity



2011: Texas Legislature increased the cost to purchase many types of service credit, including:

Withdrawn Service

Unreported Service and/or Compensation

Substitute Service

Out-of-State Service

Developmental Leave

Certain eligible members may still purchase these types of service at the lower cost in effect prior to 9/1/11, the "old cost," provided they meet the deadline discussed in this presentation.



Important Deadline

AUGUST 31, 2013 is the deadline for purchasing the following types of service credit at the “old cost”:

- **Withdrawn Service**
- **Unreported Service and/or Compensation**
- **Substitute Service**
- **Certain Out-of-State Service**
- **Developmental Leave**



IF YOU WAIT UNTIL AFTER AUGUST 31, 2013, YOU WILL PAY THE NEW, HIGHER COST.

Withdrawn Service

Withdrawn Service is TRS service credit cancelled by withdrawal of contributions and interest.

Current cost is the amount withdrawn plus the reinstatement fee:

- **Effective 9/1/11**
the fee is 8%
- **PRIOR to 9/1/11**
the fee WAS 6%



To purchase at the “old cost,” all of the following conditions must be met:



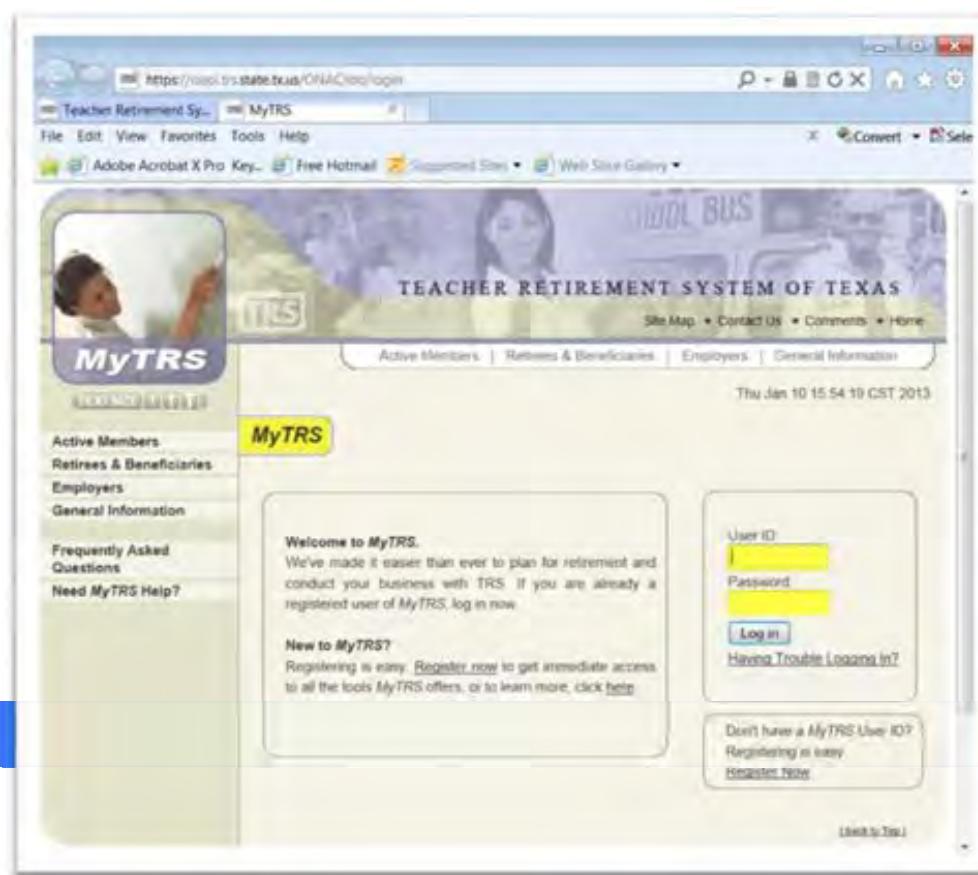
- Service rendered, all TRS-covered employment terminated, and refund application received by TRS prior to 9/1/11.
- Resume TRS membership and request bill no later than 8/31/13.
- Payment in full or completed installment agreement received at TRS no later than 8/31/13.
- If using the installment method of payment, all payments must be made in accordance with the terms of the agreement as required by TRS Laws and Rules.



To request a bill:

- MyTRS users can request through TRS website.

- Contact TRS by phone or letter.



Unreported Service and/or Compensation is service and/or compensation not reported to TRS that is not credited on member's annual statement.

- Effective 9/1/11 **cost is actuarial present** value of additional service retirement benefit.
- Prior to 9/1/11 cost **was** amount of member contributions on compensation plus 5 percent fee.
- The cost may include TRS-Care active member contributions, if applicable.



If you serve as a substitute in a position otherwise eligible for TRS membership, this service is not reported at the time of employment. However, you may establish a year of service credit when you have rendered at least 90 days of substitute service in one school year.

- Effective 9/1/11 cost is actuarial present value of additional service retirement benefit.
- Prior to 9/1/11 cost was amount of member contributions on compensation plus 5 percent fee per year on the unpaid contributions.



How to purchase at "old cost"

To purchase unreported and substitute service at the "old cost":

- Service must have been rendered and/or compensation must have been paid **prior to 9/1/11**.
- Verification and request for bill must be received by TRS **no later than 8/31/13**.
- Payment in full or completed installment agreement received at TRS **no later than 8/31/13**.



VERIFICATION

To verify and request a bill:

- Verify Unreported Service and or Compensation with TRS **Form 22I** (available on TRS website).
- Verify Substitute Service with TRS **Form 22S** (available on TRS website).
- Verify unreported worker's compensation payments with TRS **Form 22W** (available on TRS website).

The screenshot shows the TRS website with a sidebar for 'Active Members'. The main content area displays a list of 'TRS Forms for Active Members' with icons and descriptions. The three forms mentioned in the bullet points are highlighted with yellow backgrounds and green arrows pointing to them from the left.

Form	Description
PDF QDRO	TRS Model Qualified Domestic Relations Order (QDRO)*
PDF EXPL	Explanation of the Model QDRO*
PDF TRS 6	Notice of Final Deposit and Request for Refund - Special IRS Tax Notice Regarding TRS Payments*
PDF TRS GPG1	Special IRS Tax Notice Regarding TRS Payments*
PDF TRS 15	Designation of Beneficiary Form*
PDF TRS 18	Request For Estimate of Retirement Benefits
PDF TRS 22I	Verification of Service and Salary*
PDF TRS 22S	Verification of Substitute Service and Salary*
PDF TRS 22W	Verification of Worker's Compensation Payments*
PDF TRS 28	Notice of Election to Participate in Optional Retirement Program
PDF TRS 29	Application for Refund for Participants in the Optional Retirement*

http://www.trs.state.tx.us/global.jsp?page_id=/global/forms_active

Any of these forms:

- Are available on the TRS website, or you can call TRS to have one mailed to you.
- Should be signed by you and completed and signed by a school business official of the TRS employer where the service was rendered.
- May be faxed or mailed to TRS.



Certification of School Official: I certify that records created at or near the time of service in my office show that the person named on this form performed the service listed on this form and show that all information provided on this form is true and correct. I further certify that I am currently employed in the reporting entity below and that this reporting entity is a TRS covered educational institution. The reporting entity agrees to provide records used to verify the service and salary reported on this form to TRS upon request as required under Sections 826.403 and 826.505, Texas Government Code.		
Signature of School Official	Title of School Official	Date Signed
Printed Name of School Official	Name of Texas Public Educational Institution	Telephone Number
Notarization of School Official Signature:		
STATE OF _____	COUNTY OF _____	
Before me, a notary public, on _____ (date) personally appeared _____ (name of official known to me to be the person whose name is subscribed to the foregoing document and, being by me first duly sworn, declared that the statements therein are true and correct.)		
GIVEN under my hand and official seal this day of _____ Month _____ Year _____ (SEAL)		
Signature of Notary Public: _____		

Out-of-State Service

Board Meeting - Receive a presentation on the administration and operation of the TRS pension plan, including the following subjects:

Out-of-State Service is service in public education in another state. This can include service in a commonwealth territory or possession of the United States, service in certain foreign countries, or service with a Department of Defense Dependents School.



**You must have at least five years of current TRS service
to purchase out-of-state service.**

Out-of-State Service

Board Meeting - Receive a presentation on the administration and operation of the TRS pension plan, including the following subjects:



- Effective 9/1/11, cost for all out-of-state service for all members is actuarial present value of additional service retirement benefit.
- **Prior to 9/1/11** some members paid actuarial value for certain service while cost for others was 12 percent of full-time annual salary rate for first creditable year of TRS-covered employment after the out-of-state service plus 8 percent fee compounded annually.

To purchase at “old cost:”

- Must have been a member of TRS on **12/31/05** and,
- Service was rendered **prior to 1/1/06**.
- Verification and request for bill must be received at TRS no later than **8/31/13**.
- Payment in full or completed installment agreement received at TRS no later than **8/31/13**.

To verify and request a bill:

Verify with Texas Teacher Service Record, or with TRS **Form 224** (available on TRS website).

TEACHER RETIREMENT SYSTEM OF TEXAS
1090 Red River Street, Austin, Texas 78701-2898
Telephone (512) 543-6400 or 1-800-223-TRST(8787)
www.tra.texas.state.us

TRS 224
Rev. 01-06

VERIFICATION OF OUT-OF-STATE SERVICE

Name _____ Social Security No. _____

Instructions: This form is to be completed by an authorized official in the business or personnel office of the institution in which the out-of-state service was rendered.

I HEREBY CERTIFY THAT:

1. According to the records in my office, the person named above was employed and paid by the public school system named for the period shown;
2. This was a public school system maintained during the period shown by a state or territory of the United States or by the United States for the children of United States citizens;
3. This employment was for one-half or more of the standard work load at a rate comparable to the rate of compensation paid other persons employed in similar positions;
4. This employment was for at least four and one-half months of the school year, or for at least a full semester of more than four calendar months, or for at least 90 days of a school year as a substitute in a position otherwise eligible for out-of-state service; and
5. This employment was not conditioned upon the employee being enrolled as a student at the same institution.

Signature and Title of Verifying Official _____ Date _____

Name of School District, College, or University (PLEASE PRINT) _____ Telephone Number _____

Developmental Leave is absence from TRS membership service to improve professional competence.

- Must be approved in advance by employer, and
 - Member and employer must certify the leave to TRS on TRS Form 215 (available on the TRS website) before the leave begins.

	TEACHER RETIREMENT SYSTEM OF TEXAS 1000 Red River Street, Austin, Texas 78701-2096 Telephone (512) 543-6460 or 1-800-223-8778 www.trs.state.tx.us	TRS 215 Rev. 8/01		
NOTICE OF INTENT TO TAKE DEVELOPMENTAL LEAVE				
<i>This Form Must Be Received By TRS No Later Than The Date on Which Your Developmental Leave Begins</i>				
Name _____	Social Security No. _____			
Address _____	Street or Box No. _____	City _____	State _____	Zip Code _____
Name of Employer _____	School District, College, University, etc.			
Leave has been approved to: Begin _____		End _____		
I intend to take developmental leave for the following purpose:				
<hr/> <hr/> <hr/>				
Signature of Member _____				

TO BE COMPLETED BY EMPLOYER		
<p>I certify that the above named member has been granted a developmental leave as defined by Section 522.402 of the Texas Government Code during the period and for the purpose stated above.</p>		
Signature of TRS Reporting Official:		Date _____
<p>Requirements to Establish TRS Service Credit for Developmental Leave</p> <ul style="list-style-type: none"> • A member may establish no more than two years of developmental leave service credit. • Developmental leave creditable in the retirement system is absence from membership service for a school year that is approved by the member's employer for study, research, travel, or other purpose designed, as determined by the employer, to improve the member's professional competence. • A member is eligible to establish credit for developmental leave if the member <ul style="list-style-type: none"> • has at least five years of service credit in TRS before the leave occurs, and at the time the required deposits for the credit are paid; and • has established at least one year of membership service credit following the developmental leave. • The member must file a completed form TRS 215, including the employer's certification, with TRS no later than the date on which the developmental leave begins. 		

Developmental Leave

Developmental Leave

- Effective **9/1/11** cost is actuarial present value of additional service retirement benefit.
- **Prior to 9/1/11** cost was amount equal to member, state, and employer contributions on annual salary for the year prior to the leave.



Developmental Leave

You would be able to purchase developmental leave at the old, lower cost if:

- Leave was approved by your employer and TRS was notified prior to the date leave began.
- Leave completed **prior to 9/1/11**.
- Reemployment in either 2011-2012 or 2012-2013 school year.
- Request bill **no later than 8/31/13**.
- Payment in full or completed installment agreement received at TRS **no later than 8/31/13**.

**"old cost"
prior to
9/1/11**



To request a bill:

- Contact TRS by phone or letter as soon as your leave ends and **no later than 8/31/13**.

COST COMPARISON CHART

Board Meeting - Receive a presentation on the administration and operation of the TRS pension plan, including the following subjects:

Cost Comparison Chart

Service Credit Type	Assumptions Used in Example	Estimated cost if purchased by 8/31/13	Estimated cost if purchased <u>after</u> 8/31/13
Withdrawn	Assumes withdrawal date in FY 96 and withdrawn amount of \$1,551.	\$3,506.82	\$4,555.29
Unreported service and/or compensation, including substitute service	Assumes salary of \$6,000 (typical rate for 90 days 10+ years ago).	\$556.80	\$6,379.34
Developmental Leave	Must already have at least 5 years service credit.	\$5,599.79	\$6,379.34
Out-of-state service for persons who were members on 12/31/05 and whose out-of-state service was performed before 1/1/06	Assumes a base salary during the first year of membership of \$24,240 (state minimum teacher salary in 2001). Must already have at least 5 years service credit.	\$3,955.97	\$6,379.34
Estimates are examples intended for illustration only.	Costs do not reflect additional fees for payment on an installment basis.	All figures are based on a "typical member": age 44; 10 current years of service credit; current annual salary of \$42,930.	Refer to the TRS Service Credit Brochure for additional information.

Teacher Retirement System of Texas

Important Deadline

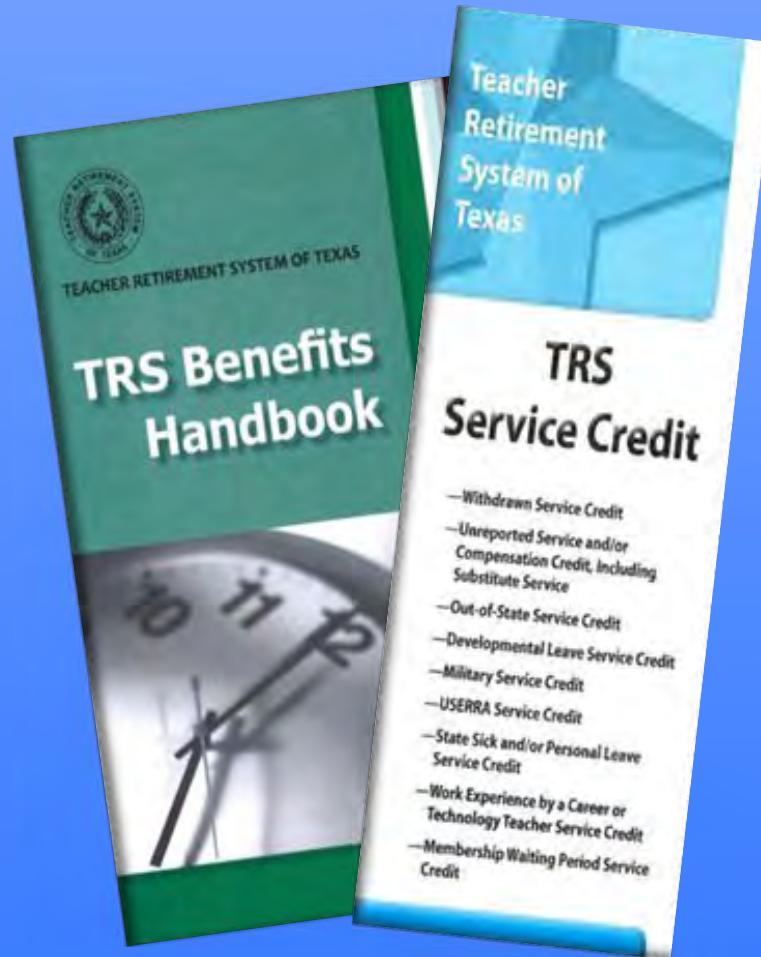
INCREASED COST OF PURCHASING SERVICE CREDIT

- Withdrawn Service
- Unreported Service and/or Compensation
- Substitute Service
- Certain Out-of-State Service
- Developmental Leave

August 31, 2013
Deadline to purchase service credit
at "old cost."

Refer to the TRS Service Credit brochure for more information regarding verification and eligibility.

For more information....



See the “TRS Benefits Handbook” or the “TRS Service Credit” brochure on the TRS website.



www.trs.state.tx.us



Teacher Retirement System of Texas



**Benefit Services Division
February 21, 2013**

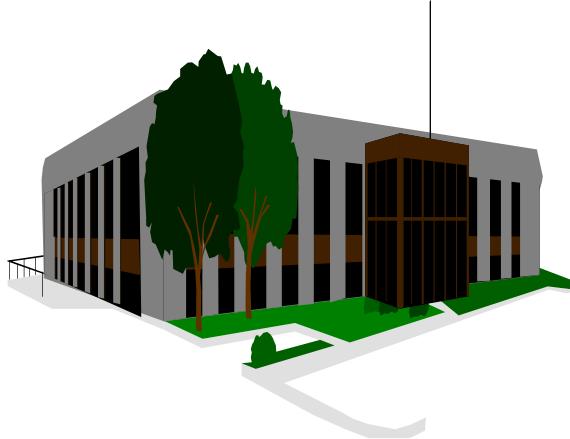


TRS Benefit Services Operations Fiscal Year 2012



Work Drivers

- Member/Annuitant/Reporting Entity Inquiries
- Terminating Member Refunds
- Member Service Credit Purchase
- Member Retirements and Requests for Work Product
- Member and Annuitant Demographic Changes
- Member/Annuitant Deaths
- Legislative Changes
- 1.3 million Members and Annuitants
- TEAM



Resources

- \$9.6 Million Total Budget
- 165.3 FTEs
- Medical Board
- TRS Internal Support
- Technology Infrastructure

Outputs

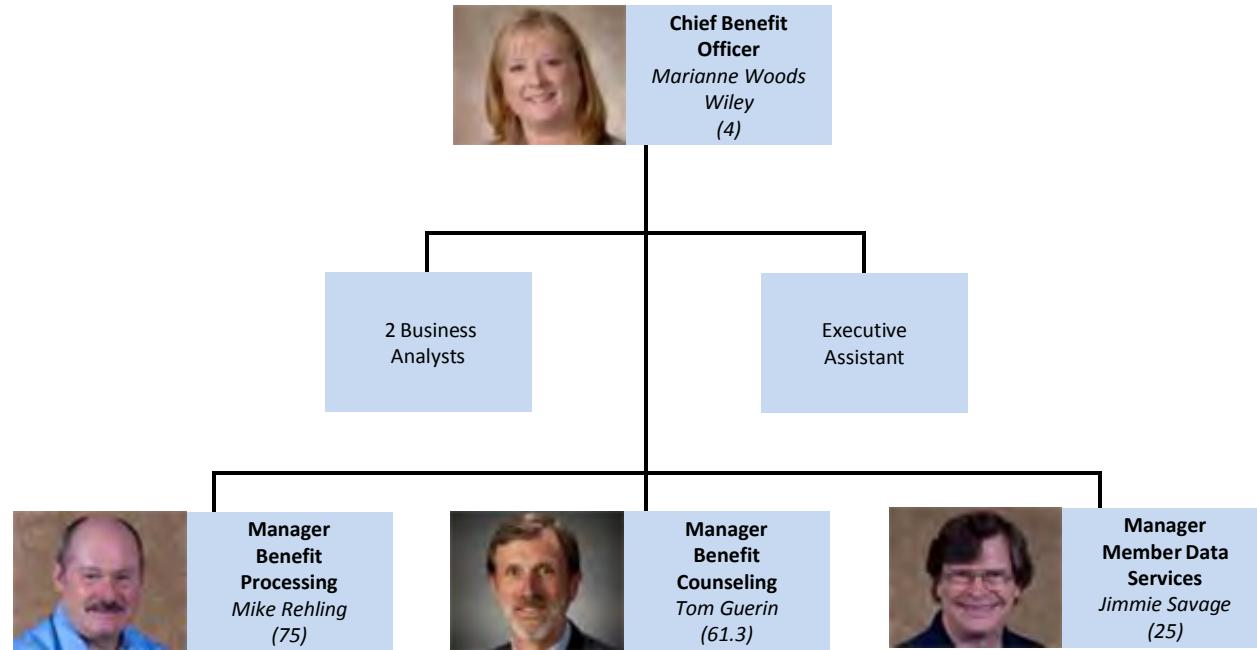
- 194,432 Demographic Updates Processed
- 560,166 Incoming calls
- 10,149 One-on-One Member Visits
- 43,332 Refunds Processed
- 35,141 Retirement Estimates Prepared
- 22,579 New Retirements Processed
- 12,350 Service Purchase bills Processed
- 9,803 Death Claims Processed
- 6,890 PLSOs Processed
- 185 Group Counseling Presentations for 14,009 Members
- 2.5 Million Records Imaged





Benefit Services Division

(165.3)





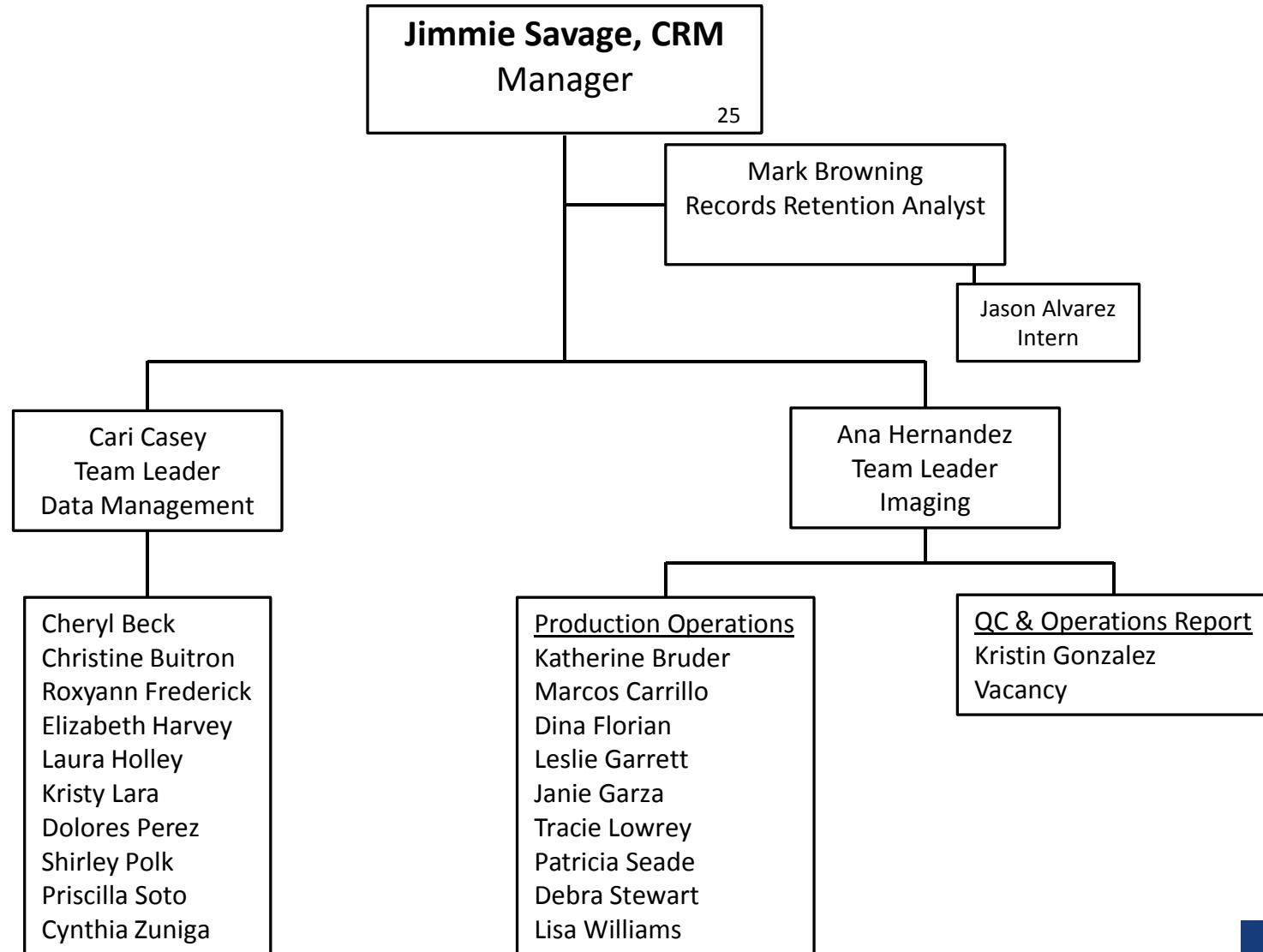
Benefit Services Division

Departments

- Member Data Services
- Benefit Counseling
- Benefit Processing



Member Data Services





Member Data Services

Imaging Team

- Imaging system - all member and annuitant files: 70 million docs
- Scan mail directly into the system
- 225+ Benefits staff get new work from imaging
- Goal – do it today, do it accurately
 - Production (quick turnaround)
 - High Quality – error rate < 0.25% in 2012
 - Customer Service
- Simple process (batch, scan & index), sophisticated technology



Member Data Services

Data Management Team

- High volume, transactional data (200k/yr)
- Demographic - beneficiary designations, address changes & name changes
- Annuity - direct deposits & withholding tax
- Special – Power of Attorney & guardianship documents
- Forms Management





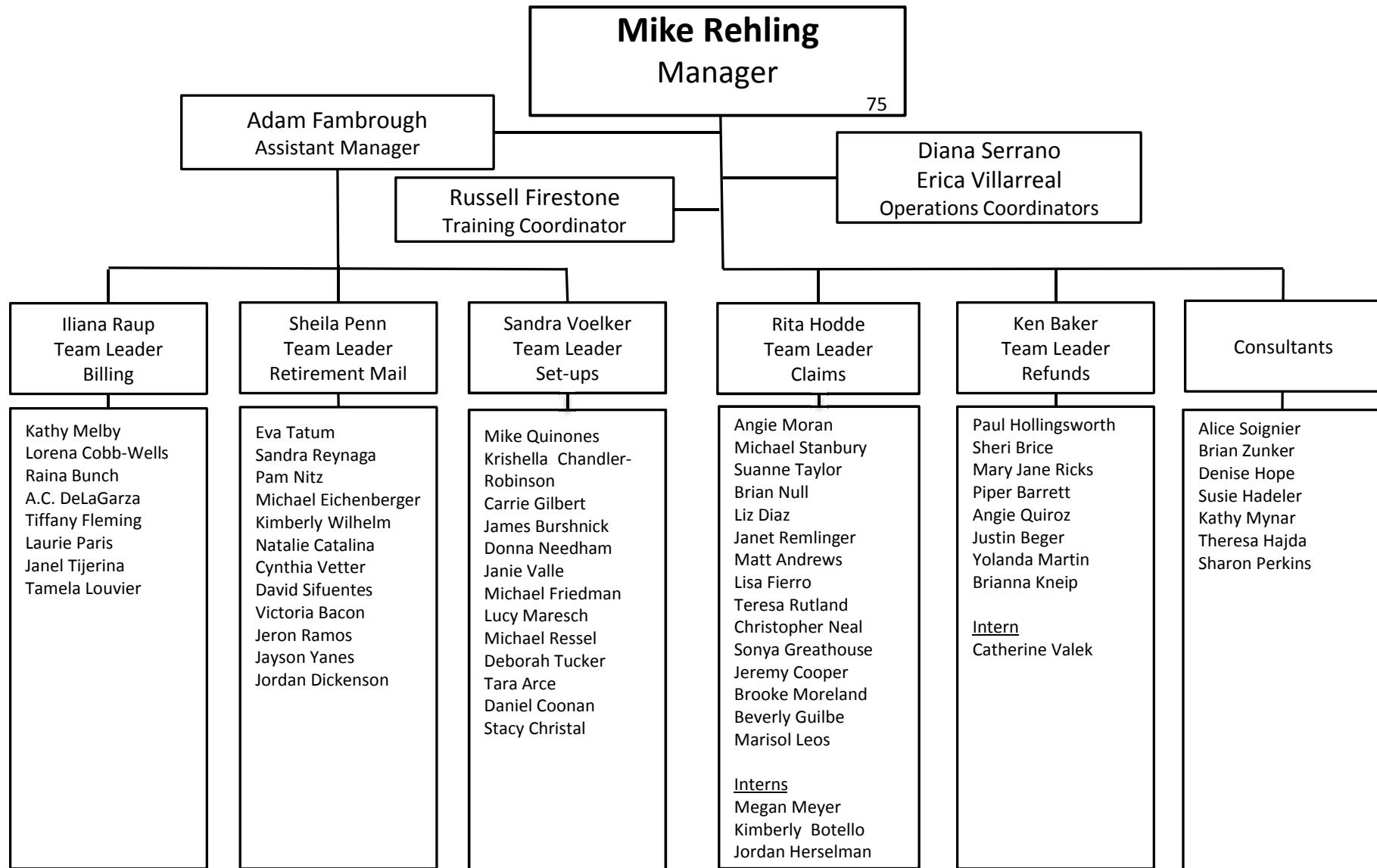
Member Data Services

Records Management

- Record Retention Schedule
 - Maintenance
 - Annual disposition & destruction
- E-Records initiatives
 - eMail
 - Network drives
 - Other repositories
- Coordinates with Records Liaisons in each department



Benefit Processing





Benefit Processing

Retirement Set-Up

- Reviews and verifies eligibility for retirement benefits
- Processes service and disability retirement estimates
- Mails estimates and various retirement related forms to members
- Prepares service and disability retirement estimates for Benefit Counseling when a member has scheduled an office visit



Benefit Processing

Retirement Mail

- Processes applications for retirement
- Processes forms received from districts and members
- Verifies the information sent by the Retirement Set-Up team has not changed before processing service and disability retirements
- Corresponds with members if additional information is needed prior to retirement



Benefit Processing

Refunds

- Processes applications for refunds
- Processes final salary and deposit information received from reporting entities
- Coordinates annual mail out of dormant account letters and semi-annual age 70 ½ letters
- Processes Death Claims living member requests
- Processes Optional Retirement Plan (ORP) elections and refunds





Benefit Processing

Billing

- Calculates multiple types of bills for members
- Sends members bills and installment agreements
- Analyzes files and performs statistical rehabs to correct information on the TRS mainframe system
- Corresponds with districts for additional information about member accounts
- Processes information received from the TRS Legal Department regarding the division of a member's benefits pursuant to a qualified domestic relations order



Benefit Processing

Death Claims

- Processes death reports received for members and annuitants
- Determines eligible beneficiary(ies) or heir(s) of a deceased member or annuitant
- Analyzes files and calculates inservice death estimates
- Sends payment forms to the beneficiary(ies) or heir(s) of a deceased member or annuitant
- Processes beneficiary(ies)/heir(s) payments once payment forms are received
- Collects any funds not due to an annuitant that were released from TRS after the annuitant's death
- Handles member or annuitant estate issues relating to TRS
- Performs death match, proof of life, and foreign address audits





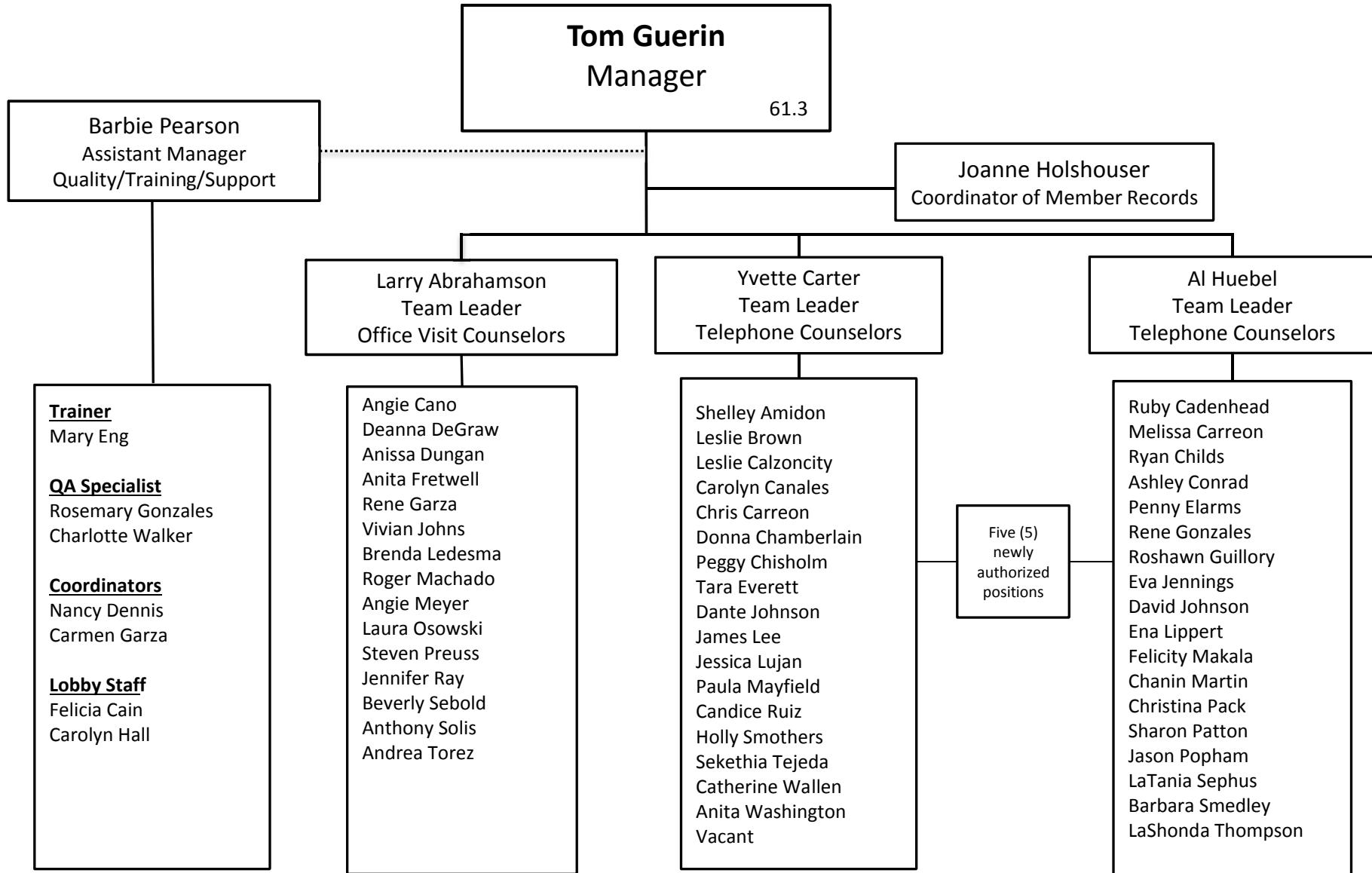
Benefit Processing

In-House Consultants

- Serve as resource persons and subject-matter experts for various types of member benefits
- Provide responses to internal customers throughout TRS and external customers regarding complex benefit issues
- Track, review, and implement benefit changes due to legislative or board of trustee action
- Work with TRS Medical Board
- Handle benefit related appeals



Benefit Counseling





Benefit Counseling

Telephone Counseling Center

- Counsel members and other callers via telephone regarding TRS benefit options. Callers can be active members, retirees, payment beneficiaries, employers, financial representatives
- Handle walk-in visitors (without an appointment)
- Intake caller requests and route to appropriate TRS department for handling/processing
- Perform detailed research and analysis of member records and confer with other TRS staff



Benefit Counseling

Office Visit Counseling

- Counsel active members, retirees and payment beneficiaries via telephone and face-to-face meetings regarding TRS benefit options
- Travel within the state conducting group benefit presentations and individual field appointments with TRS members
- Intake member requests and route to appropriate TRS department for handling/processing
- Perform detailed research and analysis of member records and confer with other TRS staff



Benefit Counseling

Quality/Training/Support

Receptionists:

- Greet visitors; notify Counseling when appointments have arrived and other areas of TRS when visitors have arrived
- Mail Benefit Counseling daily distribution from phone calls
- Place reminder calls to members who have scheduled appointments

Counseling Coordinators:

- Coordinate with Benefit Processing in preparation for office visits, field office visits, and group retirement sessions
- Coordinate and maintain yearly field office visits and group benefit presentation schedule, which includes finding and reserving locations throughout the state.
- Make travel arrangements for Benefit Counseling staff members
- Provide notary services to TRS members
- Provide administrative support to the BC Leadership Team





Benefit Counseling

Quality/Training/Support

Department Trainer:

- Develops and updates department training for new hires, existing staff, and training coaches
- Maintains the Benefit Counseling Intranet Page
- Participates in Call Quality Reviews and monthly calibration sessions
- Dedicated to answering phones on Mondays and paydays to assist with high call volume, conducts office visits with members as needed, and conducts Group Benefit Presentations

Quality Assurance Specialists:

- Review and score calls for Quality Review
- Schedule and conduct monthly calibration sessions
- Coach Counselors on scored calls
- Answer telephones on Mondays, paydays, and during high call volume
- Conduct office visits/walk-ins when needed





Benefit Services Division

TRS Enterprise Application Modernization Program (TEAM) Participants

Core Management Team (CMT)

Barbie Pearson
Adam Fambrough

Business Process Analysts

Ryan Childs – Benefit Counseling
Jeremy Cooper – Benefit Processing
Michael Eichenberger – Benefit Processing

Line of Business (LOB)

Project Sponsor: Adam Fambrough

Data Management Project

Business Project Sponsor:
Barbie Pearson

Subject Matter Experts (SMEs)

Benefit Counseling – 12
Benefit Processing – 29
Member Data Services – 9



Benefit Services Division

TRS Enterprise Application Modernization Program (TEAM) Participants

Business Rules Project

Project Sponsor: Barbie Pearson

Project Lead: Sharon Perkins

Lead Back-up: Larry Abrahamson

Writing Team: Christine Buitron

Yvette Carter

Mary Eng

Brian Null

Review Team: Adam Fambrough

Russell Firestone

Tom Guerin

Jimmie Savage

Reporting Entity Outreach (REO)

Project Team: Brian Zunker

Business Procedures and Training

Project Sponsor: Adam Fambrough

Website Redesign Project

Business Project Sponsor: Barbie Pearson



Benefit Services Division

Additional Full Time Equivalents (FTEs) Needed Due To TEAM

Line of Business Implementation (LOB) & Data Management Project

Total need 16

- 10 Benefit Processors*
- 2 Benefit Counselors*
- 4 Data Management Specialists

* 1 of the 10 Benefit Processor and 1 of the 2 Benefit Counselor positions have already been approved to backfill



Benefit Services Cross-Training/Assistance

Benefit Processing

- Billing team assists with retirement estimates/application verification.
- Retirement set-up and mail teams assist each other and billing team as needed.
- Refunds team assists death claims team and billing team.
- Benefit “Consultants” assist Benefit Processing and Counseling staff with complex cases.

Benefit Counseling

- Telephone Counselors help with walk-ins (visitors without appointments), lobby customer service, and attend conventions.
- Office Visit (OV) Counselors assist Telephone Counseling Center.
- TeamQuest (the quality assurance, training, and coordinator team) assists with phones, OV's, presentations, walk-ins, and lobby.

MDS

- Data Management and Imaging teams assist each other during peak times or when staffing is short. Data Management team assists Refunds team.
- All Departments assist each other daily as necessary.





Benefits Internal Customer Service (BICS) Committee

- To improve knowledge, respect and trust among staff.
- To develop and improve the internal customer service between the departments within the Benefit Services Division to include Benefit Accounting and Health & Insurance Benefits.
- To provide ideas and recommend actions and process changes to improve communication, cooperation, and service to each other among the teams and departments that provide benefits related services to the members and reporting entities.
- To provide a communication system/network for staff to share problems and solutions to internal customer service problems.
- To foster a culture where quality service to each other is given just as high a priority as service to the membership/reporting entities.





Accomplishments

Benefit Services Division Accomplishments:

- Implemented significant changes in TRS Laws and Rules related to:
 - Two year window to purchase certain special service credit at the old cost
 - New service credit calculations for certain special service purchases
 - Change in creditable service - 90 paid days for one year of TRS service credit
 - Prepared for implementation of new definition of school year (began in fiscal year 2013)
 - Changes to the percentage limits on compensation increases and conversion rule along with clarification of non-creditable compensation



Accomplishments

- Change in TRS membership eligibility requirements of 15 hours per week minimum
- Deadlines for verification of unreported service and/or compensation along with service not reported on the annual statement
- Communicated changes via newsletters, annual statements, TRS website, new TRS Handbook, TRS brochures, counseling sessions and group presentations, and direct correspondence
- Trained all staff on legislative and rule changes
- Piloted electronic certification of final deposit for refunds with reporting entities
- Continued to cross-train staff
- Implemented a Callback Feature that allows callers a choice to be called back when it's their turn in the queue or wait on hold





Accomplishments

- Created special messaging on the IVR and the TRS Website to communicate items of interest for callers and play informational recorded messages to callers while on hold
- Implemented on-line address changes for members via MyTRS (16.9k changes submitted since inception - 11/11)
- Developed standard form template (Forms Review Committee)
- Annual Agency-wide Records Purge volume
 - Paper – 611 boxes or 20,000 lbs
 - Electronic – 100gb (approximately)



Accomplishments

Performance Measures that Exceeded Their Target:

- Annuity Payments – 99.76% of retirees were added to payroll on time as defined by the Strategic Plan measures
- Refunds - 99.98% of refunds were processed within 31 days of receipt of required paperwork.
- Retirement Estimates – 99.08% of all retirement estimates were processed within 31 days of the member's request for estimate if the retirement date is within 6 months
- Death Benefit Information Letters – 99.5% of all death benefit information letters were sent to the beneficiary(ies) within 14 days of the report of death.



Accomplishments

- Death Benefit Payments – 99.2% of all death benefit payments were processed within 31 days of receipt of the required paperwork
- Special Service Bills and general requests for information were generally processed within 14 days
- Counseling quality service score increased from 96.25% in 2011 to 96.81% in 2012.



Challenges

Benefit Services Division Challenges

- Supporting and implementing the TEAM Program
- Maintaining/enhancing current level of service and performance standards
- Responding to potential increase in service purchase requests in a timely manner due to deadlines for old cost structure
- Transition to new imaging software (P8)
- Transition to new records management software (P8)
- Improving management of electronic records – file plans, email & other e-records initiatives



TRS Health & Insurance Benefits Department

Teacher Retirement System of Texas



Health Care Coverage for Active and Retired Public Education Employees and their Families

February 2013



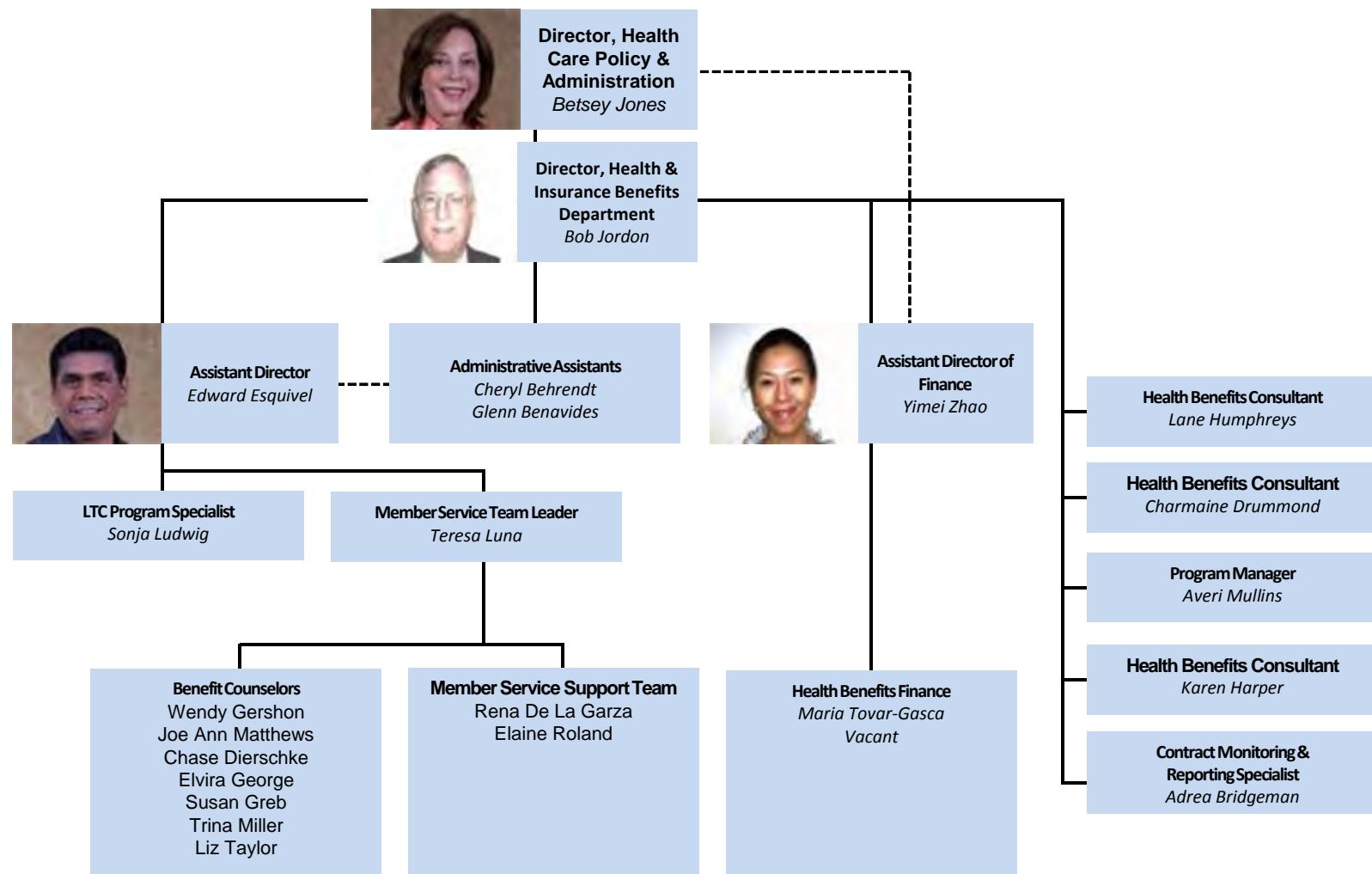


Overview

- TRS-Care and TRS-ActiveCare organizationally restructured in 2010 to both be under one Director, Bob Jordan
- Provides for efficiency and cross functional training
- In 2011 organizational change from Chief Benefit Officer, Marianne Woods Wiley to newly created Director of Health Care Policy and Administration, Betsey Jones
- Separate trust funds



Health Benefits Division





Health Care Coverage for Retired Public Education Employees and their Families

February 2013





TRS-Care Background

- Provides health coverage for retired Texas public school employees
- The program was created in 1986 as an interim solution but has endured for more than 25 years. It was redesigned in 2004 to provide an additional decade of solvency.
- Revenues of the TRS-Care Trust Fund are not tied to expenditures. To address projected funding challenges, the TRS Board and staff have taken a variety of steps to improve the program's financial position. The new Medicare Advantage plan offerings was the cornerstone of these changes.



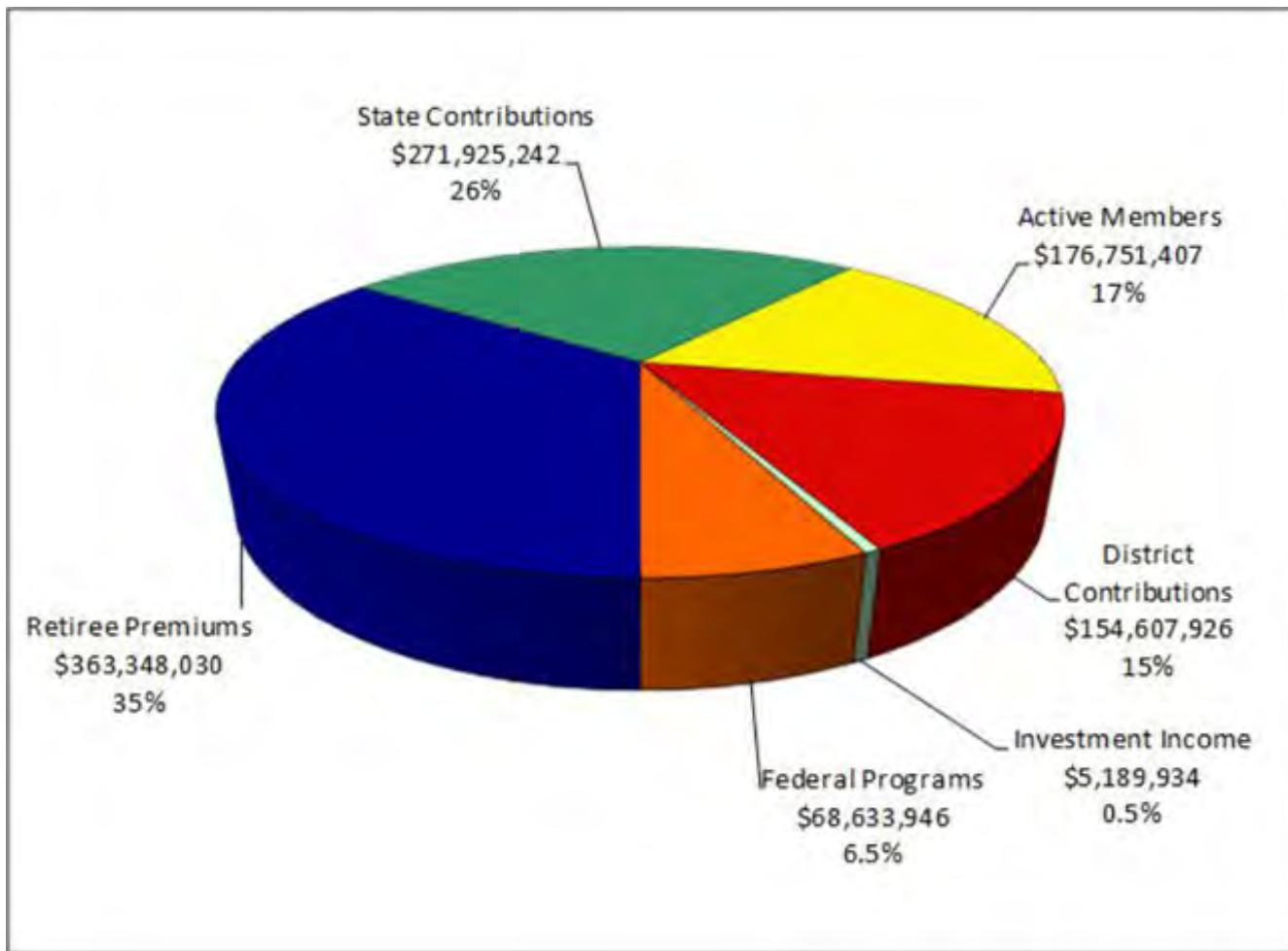
TRS-Care Funding

- State: 1.0% of public education payroll, 0.5% for FY 13
- Active employees: 0.65% of salaries
- Districts: 0.55% of salaries
- Retiree premiums: Based on years of service and Medicare eligibility
- Federal programs and subsidies
- Investment income



TRS-Care Funding

■ FY 12 Distribution of Funding Sources





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



Enrollment Opportunities

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



Plan Structure

- Law requires that a catastrophic plan be offered at no cost for retiree only coverage
- 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

- TRS-Care 2 and TRS-Care 3 are comprehensive plans with a carve out Rx benefit

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



Plan Structure

- Effective January 1, 2013 two new options offered to TRS-Care 2 and 3 Medicare participants
 - Aetna Medicare Advantage Plan (must have both Medicare Parts **A and B**)
 - Express Scripts Medicare Part D plan (must have Medicare Part **A and/or B**)



TRS-Care Enrollment

- As of December 1, 2012
 - 234,000 participants
 - TRS-Care 1 31,000 13%
 - TRS-Care 2 47,000 20%
 - TRS-Care 3 156,000 67%
- Distribution by Medicare status
 - Medicare A & B 57%
 - Medicare B only 9%
 - Non-Medicare 34%



TRS-Care Administration

- Medical is administered by Aetna
 - San Antonio-Claims, customer service, case management
 - Sugar Land-Disease Management
- Pharmacy is administered by Express Scripts (effective 9/1/12)
 - Irving-Customer service
 - Fort Worth-Front end pharmacy

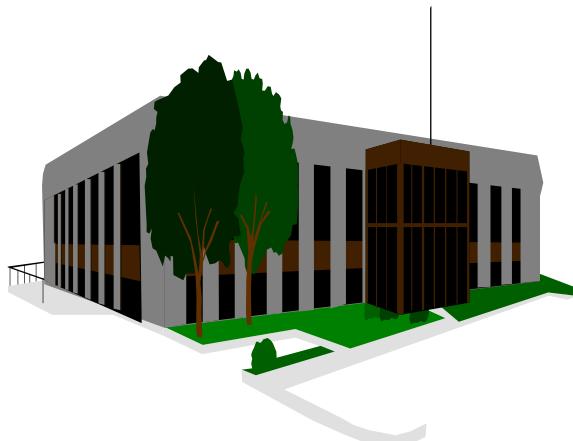


TRS-Care Operations

Fiscal Year 2012

Resources

- \$2.3M Budget
- 14 FTEs
- \$741M Net Assets of TRS-Care Trust Fund
- Health Plan Administrator (HPA) 416 dedicated and designated FTEs
- Pharmacy Benefits Manager (PBM) 35 designated FTEs
- Health Care Actuarial Consultants
- TRS Resources and Support



Outputs

- 5.3M Medical Claims Processed
- \$622M Medical Claims Cost
- 5.3M Pharmacy Claims Processed
- \$455M Pharmacy Claims Cost
- \$5,144 Average Total Claims Cost Per Participant
- 56,135 Incoming Calls Answered by Staff
- 85,261 Incoming Mail, Fax, & Email Processed by Staff
- 638 Walk-in Member Visits Serviced
- 13,082 New Enrollee Packets Mailed
- 402,490 Calls Answered by HPA and PBM
- Monitored and Audited HPA and PBM Contract Compliance and Performance Guarantees



TRS-Care Staff Key Processes

- 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



Accomplishments

- Successful transition to Express Scripts, effective 9/1/12
- Successful implementation of new Aetna Medicare Advantage and Express Scripts Medicare Part D plans, effective 1/1/13
- Efforts significantly improve the near-term solvency of the program
- Disease management copay waiver program



Update on MA and Part D Plans

- Effective 1/1/13
 - Implemented new options
 - Aetna Medicare Advantage Plan
 - TRS-Care 2 and 3 participants
 - Must have Medicare Part A **and** B
 - Express Scripts Medicare Part D Plan
 - TRS-Care 2 and 3 participants
 - Must have both Medicare Parts A **and/or** B



Update on MA and Part D Plans (cont)

- Automatic enrollment
- Opt out period began November 1
- Plans offer richer benefits at a lower cost
 - MA premium reduction of \$15 per month
 - 50% reduction in deductible
 - Lower copays for drugs
- Plan year extended to December 31, 2012



Update on MA and Part D Plans

- Extensive, coordinated communication effort
 - July
 - TRS Bulletin
 - MA Welcome Kits
 - TRS Newsletter
 - August-November
 - 76 MA workshops in 30 locations-27,000 attendees
 - October
 - MA conference calls Tuesdays and Thursdays-4,000 participants
 - Express Scripts benefit overview



Update on MA and Part D Plans

■ Challenges during implementation

- CMS required communications
- Incorrect information from unaffiliated parties
- Unprecedented call volume to TRS-Care. Actions taken include:
 - All hands on deck, brought in people from other TRS Depts
 - Embedded Aetna reps
 - Added auto direct transfers to Aetna and Express Scripts
 - Web and IVR announcements offering call back option



Update on MA and Part D Plans (cont)

- Solvency through 2015 originally projected with participation rates of 80%
- Participation rates
 - Aetna Medicare Advantage Plan - **74%**
 - Express Scripts Medicare Part D Plan - **91%**



TRS-Care Funding Projection

TRS-Care Fund Balance Projection
Financial History and Projection through FY2018
as of November 30, 2012

Fiscal Year	Contributions								Expenditures				Ending Balance (Incurred Basis)	
	Retiree Contributions	State Contributions	Supplemental Appropriations	Active Employee Contributions	District Contributions	Investment Income	RDS Subsidy	ERRP Subsidy	Part D Plan Revenues	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	\$0	\$362,371	\$18,084,976
FY 1987	\$22,617,624	\$25,931,680	\$0	\$18,522,629	\$0	\$2,568,998	\$0	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$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	\$0	\$250,691,898	\$139,774,848	\$0	\$18,237,767	(\$35,950,521)
FY 2002	\$143,797,748	\$49,792,026	\$285,515,036	\$47,378,092	\$0	\$7,140,560	\$0	\$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	\$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	\$0	\$366,840,457	\$214,514,500	\$0	\$26,332,200	\$238,285,158
FY 2005	\$322,780,191	\$202,397,566	\$64,172,167	\$101,198,783	\$80,914,228	\$11,300,868	\$0	\$0	\$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	\$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	\$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	\$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	\$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	\$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	\$66,258,080	\$70,629,797	\$0	\$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)	\$0	\$687,987,585	\$454,143,825	\$0	\$48,181,723	\$741,013,656
FY 2013	\$365,515,705	\$135,962,621	\$102,363,704	\$176,751,407	\$154,673,667	\$7,950,506	\$21,317,047	\$0	\$121,264,147	\$700,521,108	\$478,308,642	\$1,074,309	\$45,900,404	\$601,007,997
FY 2014	\$369,127,391	\$271,925,242	\$0	\$176,751,407	\$154,673,667	\$6,186,353	\$7,962,742	\$0	\$191,995,285	\$711,006,330	\$576,140,551	\$13,108,289	\$48,002,753	\$431,372,159
FY 2015	\$376,871,363	\$271,925,242	\$0	\$176,751,407	\$154,673,667	\$3,784,238	\$9,228,307	\$0	\$203,360,262	\$778,107,635	\$660,999,898	\$32,897,900	\$49,161,918	\$106,799,296
FY 2016	\$384,120,396	\$271,925,242	\$0	\$176,751,407	\$154,673,667	\$528,852	\$10,643,165	\$0	\$214,471,695	\$844,670,318	\$751,007,052	\$44,093,878	\$50,270,602	(\$370,128,129)
FY 2017	\$390,207,699	\$271,925,242	\$0	\$176,751,407	\$154,673,667	\$0	\$12,251,405	\$0	\$225,812,086	\$912,354,776	\$851,212,851	\$50,934,128	\$51,283,370	(\$1,004,291,749)
FY 2018	\$396,001,384	\$271,925,242	\$0	\$176,751,407	\$154,673,667	\$0	\$14,044,269	\$0	\$236,871,273	\$985,571,643	\$962,588,996	\$58,647,372	\$52,270,502	(\$1,813,103,019)

NOTES

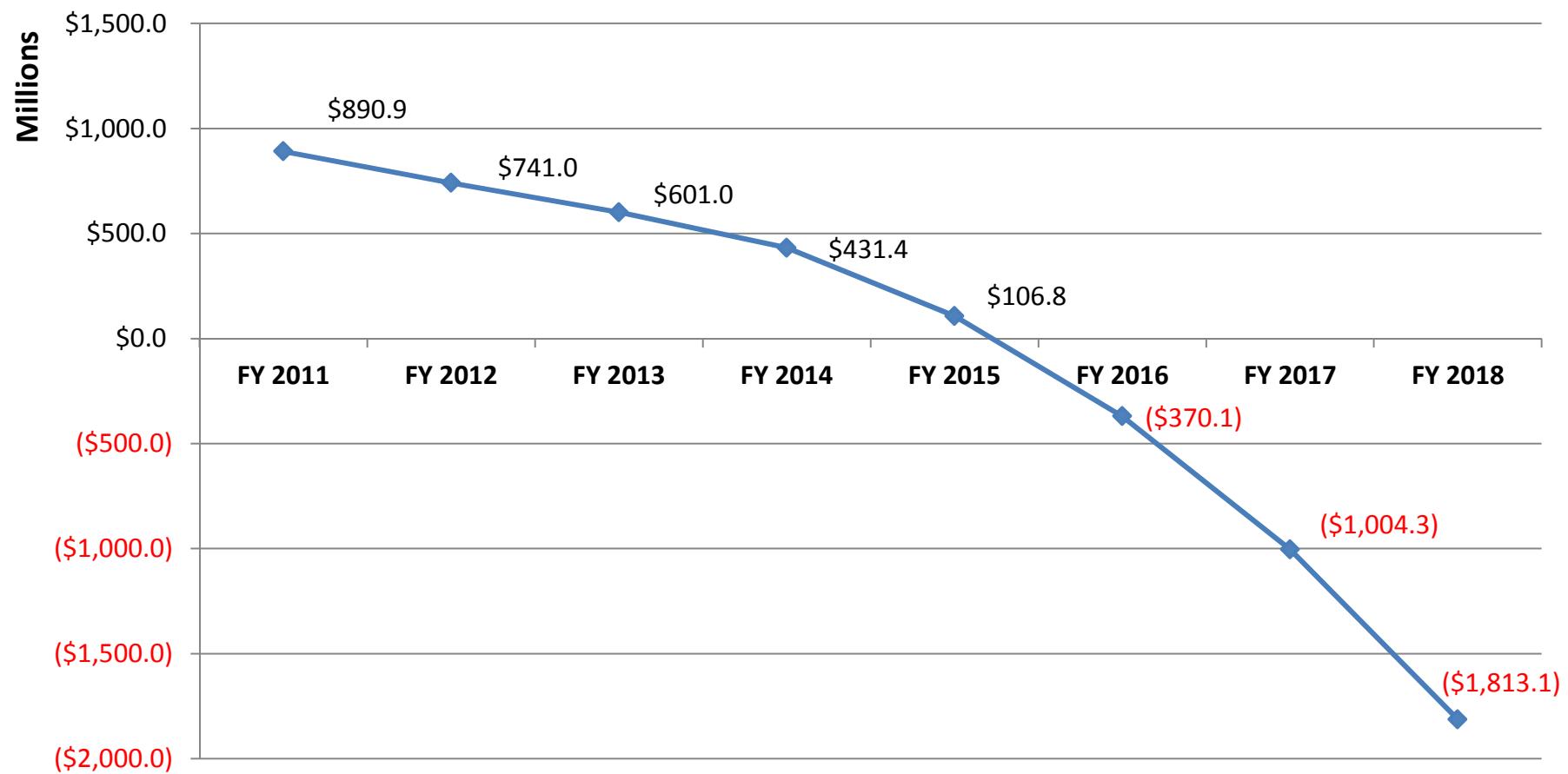
- Actual data through November 30, 2012
- Reduction in pharmacy spend as a result of the implementation of ESI/Medco as the new PBM effective 9/1/2012;
- 74% participation in Medicare Advantage and 91% participation in Part D plan, which will be effective 1/1/2013; CY2013 CMS Subsidy values assumed for 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: 9% for Care 1; 9% for Care 2; 9% for Care 3.
- Pharmacy trends: 9.5% for Care 2; 9.5% for Care 3.
- Interest Rate = 1%



TRS-Care Fund Balances

Trend of Projected Balances...

Ending Balance (Incurred Basis)





Challenges

- Primary challenge is long term solution for the sustainability of TRS-Care
- Staff will come with recommendations in June for any benefits or premium changes
- Procurement for health care consultant and actuary
- Electronic communication materials



TRS-Care Sustainability Study

- TRS was instructed by the 82nd Legislature not to increase premium costs for members for health care. They also directed TRS to conduct a study of potential design and other changes to its current TRS-Care health benefit plan to improve sustainability. Options considered were:
 1. Pre-fund the long-term liability
 2. Fund on a pay-as-you-go basis for the biennium
 3. Retiree pays full cost for optional coverage
 4. Require Medicare eligible enrollees to purchase Medicare Part B
 5. Opt out consequence for participants eligible for Medicare Advantage and Medicare Part D plans
 6. Tighten eligibility requirements
 7. TRS-Care 1 only for non-Medicare
 8. Defined contribution for non-Medicare retirees to shop in the private market
 9. Move non-Medicare retirees to TRS Active-Care



Health Care Coverage for Public Education Employees and their Families

February 2013





TRS-ActiveCare Background

- 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
- 2002 – TRS-ActiveCare established
 - Provides health coverage for active Texas public school employees
 - Participation mandatory for small districts, elective for mid-size districts. Large districts were ineligible to participate until the TRS Board determined it was administratively feasible (9/1/2003) .



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

- Law requires that a minimum of two plans be offered
 - Catastrophic coverage at least as extensive as coverage provided under TRS-Care 1
 - Primary coverage comparable to HealthSelect, the health care coverage for State employees



Plan Structure

- 4 PPO options

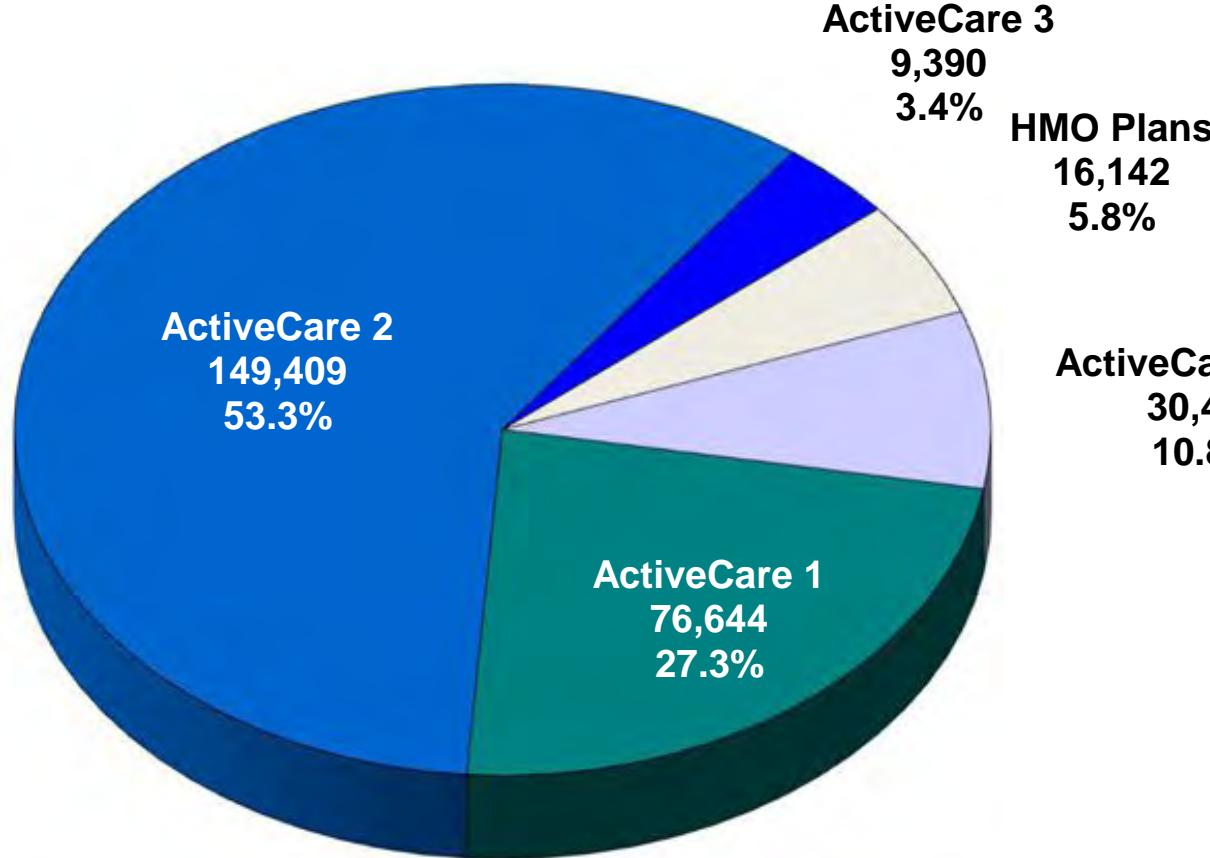
- ActiveCare 1 HD and ActiveCare 1 are high deductible plans
- ActiveCare 2 and ActiveCare 3 are comprehensive plans with a carve out prescription drug benefit

	AC 1 HD	AC 1	AC 2	AC 3
Deductible	\$2,400	\$1,200	\$750	\$300
Employee Only Premium	\$298	\$338	\$460	\$637
Family Premium	\$957	\$850	\$1,150	\$1,592

- 3 Regional HMO's offered in select service areas



Enrollment Summary (Employees by Plan, Dec. 2012)



FirstCare Health Plans 2.5%

Scott & White Health Plan 2.7%

Valley Baptist Health Plans 0.5%

280,423 Contracts (Employees) • 477,023 Members



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 will be out for bid next year

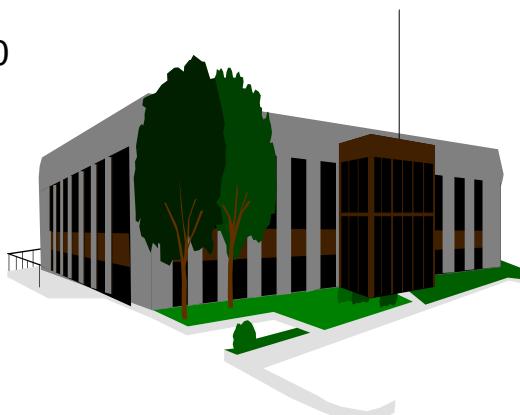


TRS-ActiveCare Operations for Fiscal Year 12

Resources

- \$1.55M Budget
- 7 FTEs
- \$45.8M Net Assets of TRS-ActiveCare Trust Fund
- Health Plan Administrator (HPA); 120 designated FTEs
- Pharmacy Benefits Manager (PBM); 200+ designated FTEs
- Three Health Maintenance Organizations (HMO)
- Health Care Actuarial Consultants
- TRS Resources and Support

Note: Claims data excludes average enrollment of 27,254 in three fully-insured HMOs.



Outputs

- 5.0M Medical Claims Processed
- \$1,433M Medical Claims Cost
- 4.4M Pharmacy Claims Processed
- \$301M Pharmacy Claims Cost
- \$3,905 Average Total Claims Cost Per Participant
- 10,382 Calls Handled by Staff
- 1,102,290 Calls Handled by HPA and PBM
- 1,120 Participating Entities Billed Monthly for Premiums
- 1,524 Benefits Administrators Trained at 20 Remote Locations
- 31,230 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

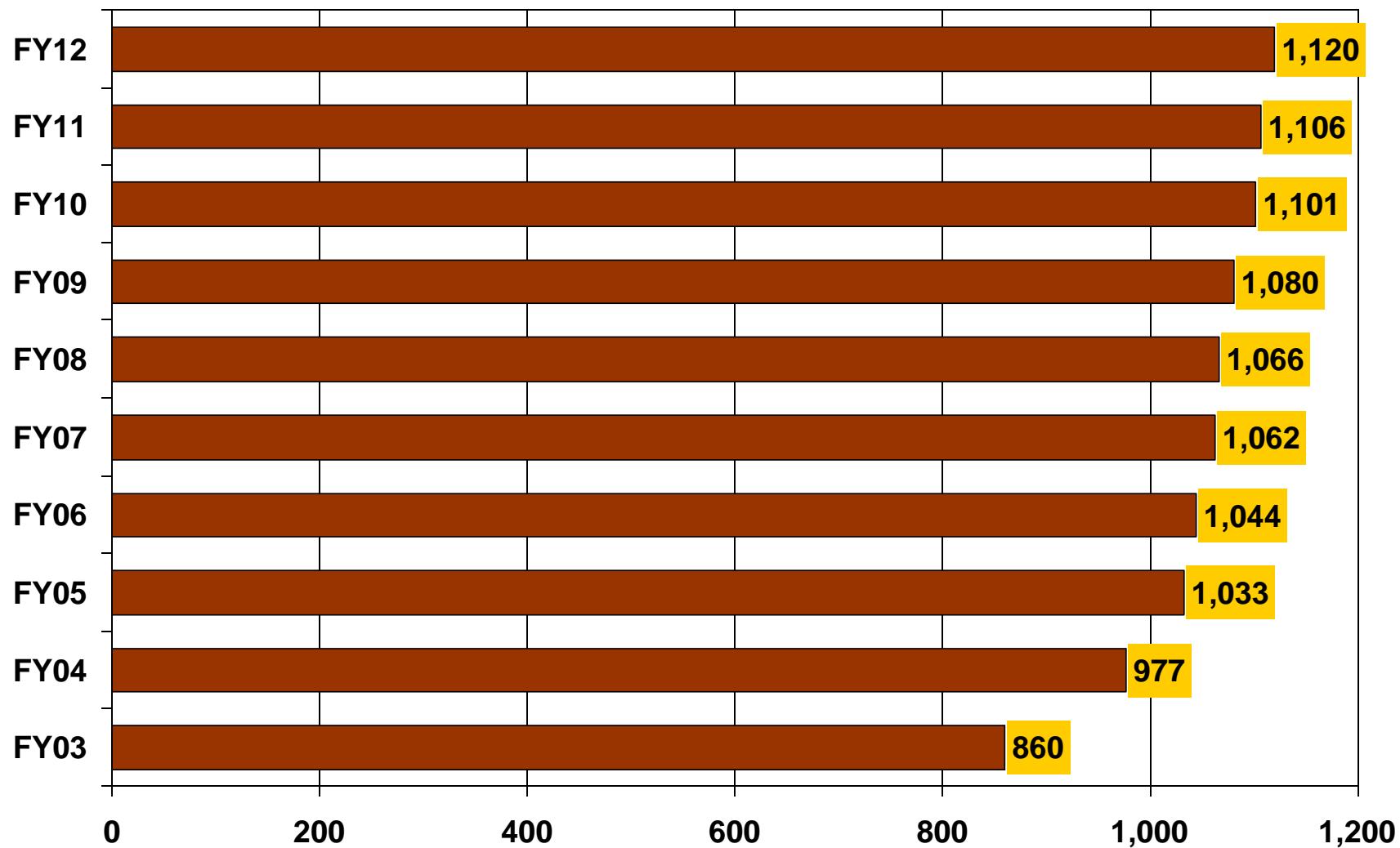


Vendor Responsibilities

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



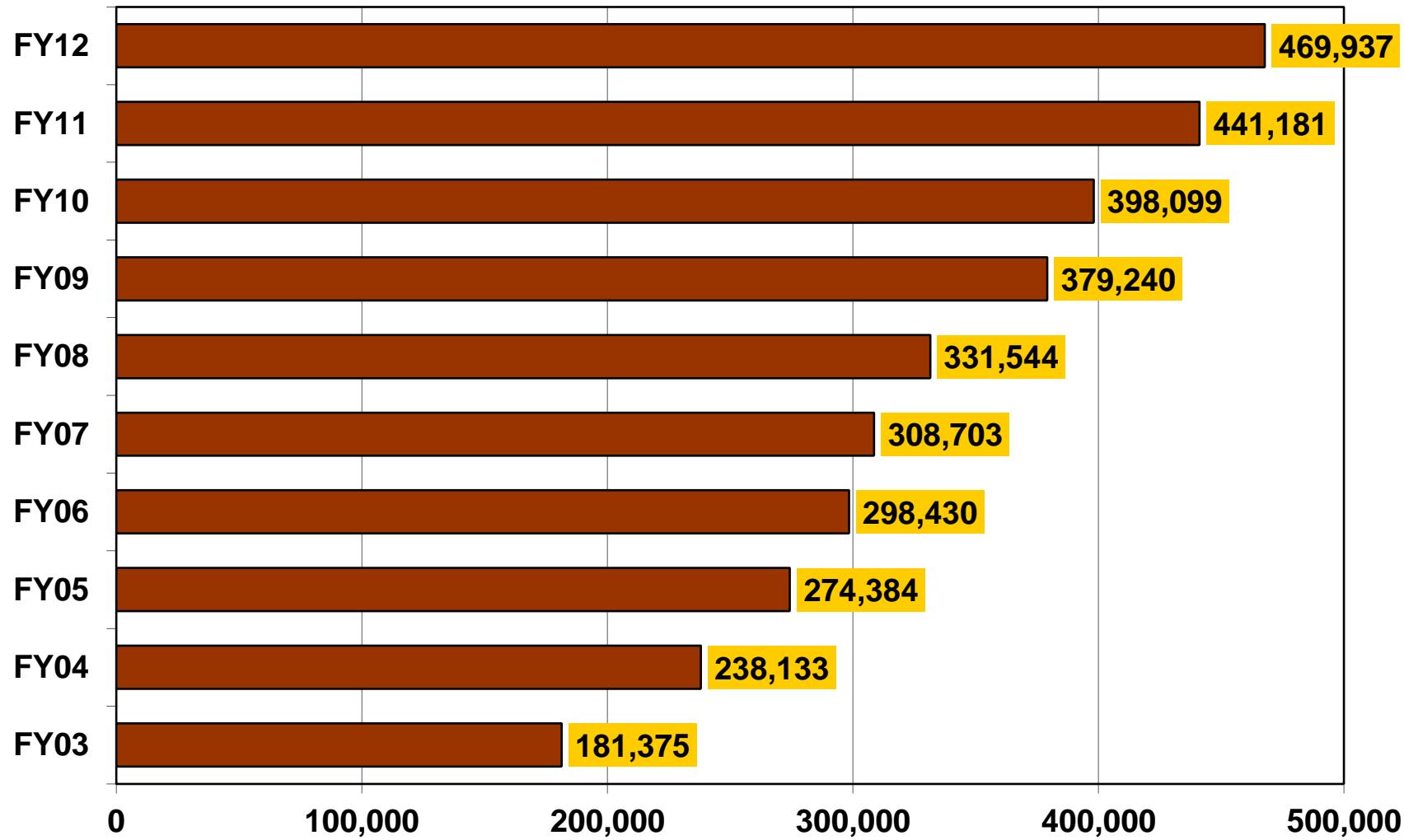
TRS-ActiveCare Participating Entities



1,244 Entities are eligible to participate in TRS-ActiveCare (90% are participating)

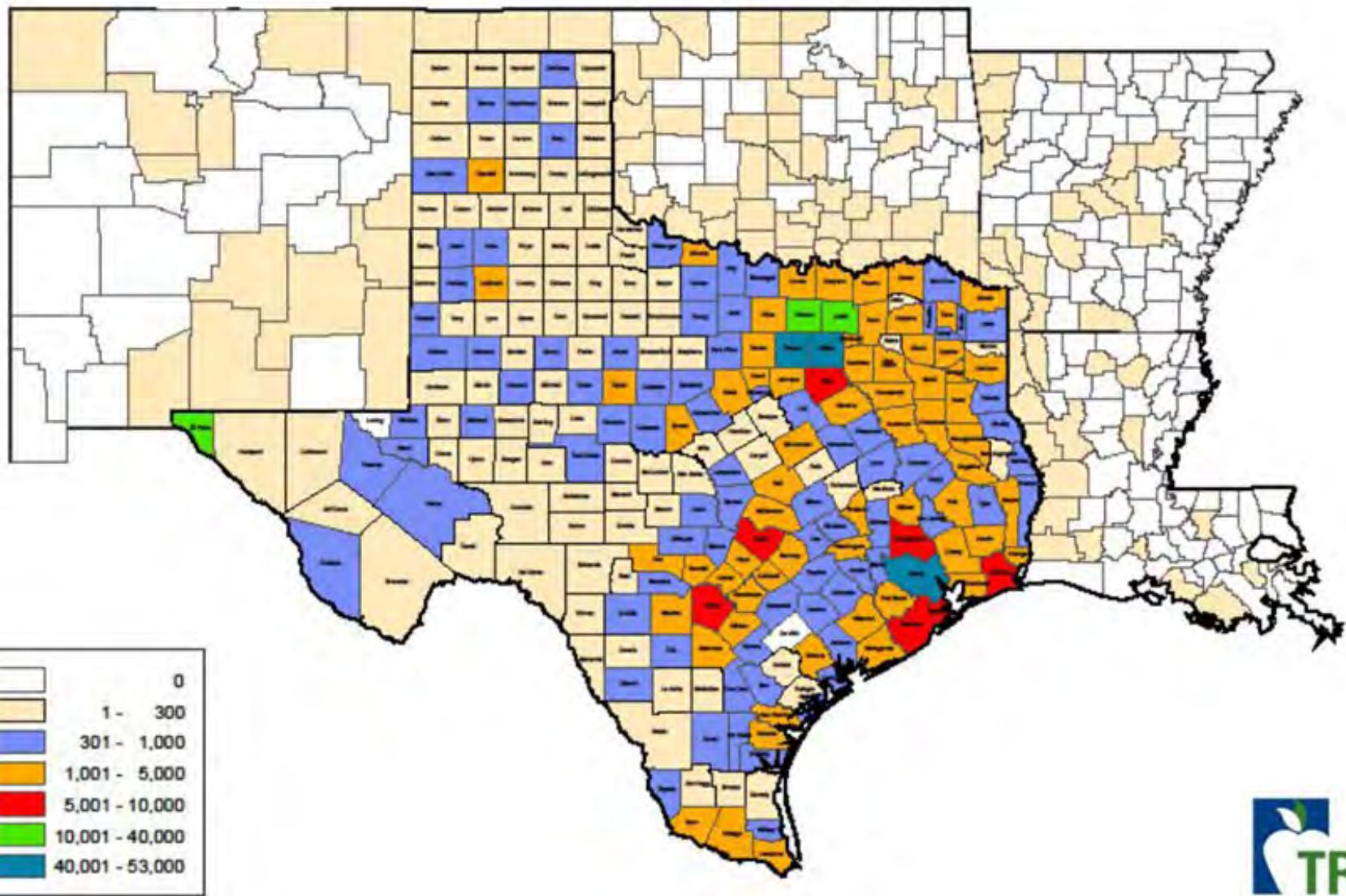


TRS-ActiveCare Participation (Employees and Dependents)





TRS-ActiveCare Participation by Location Texas and Surrounding States September 2012





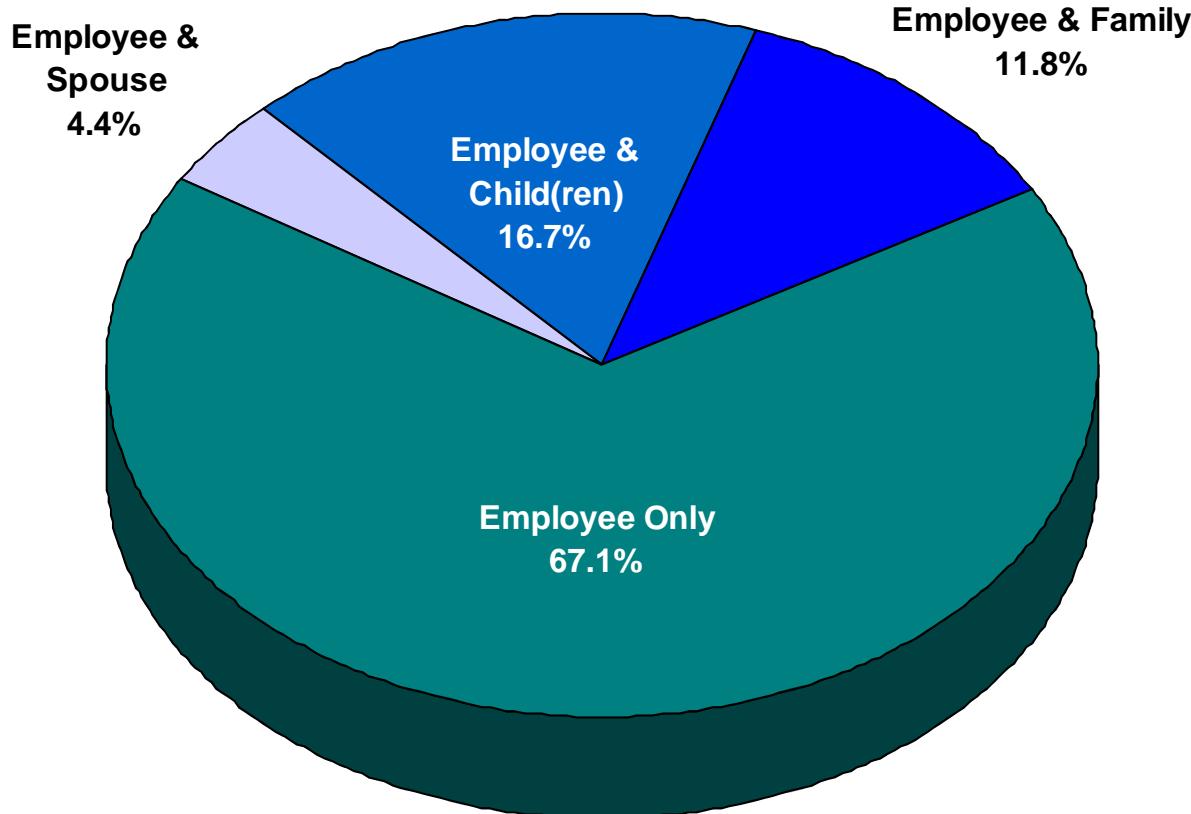
TRS-ActiveCare HMO Plan Options

- FirstCare
- Scott and White
- Valley Baptist





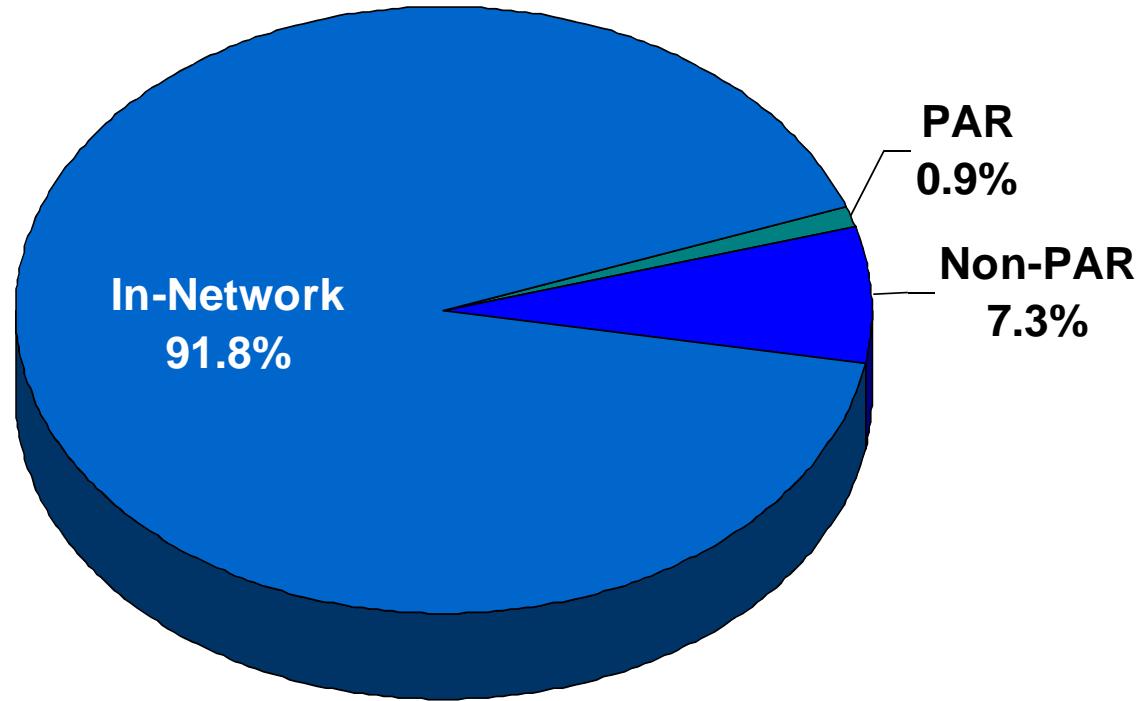
TRS-ActiveCare PPO Coverage Tiers and Demographics (Dec. 2012)



63% females, 37% males



TRS-ActiveCare Network Utilization for the PPO Plans





Accomplishments

- In FY 12, added 31,200 enrollees to the program
- In FY 13, added another 7,000 new enrollees
- Bridges to Excellence program for diabetes
- Medical Home Model Pilot program



Challenges

- To continue to provide affordable care under current funding levels. Cost saving initiatives being considered include:
 - Smoking cessation incentives
 - Consumer tools
 - Restricted network plan option
 - Disease management copay waiver program
 - Bridges to Excellence incentive



Challenges

- Procurement for health plan administrator
- Procurement for PBM
- Procurement for health care consultant and actuary
- Electronic communication materials



Rates and Benefits for FY 2014

February 2013



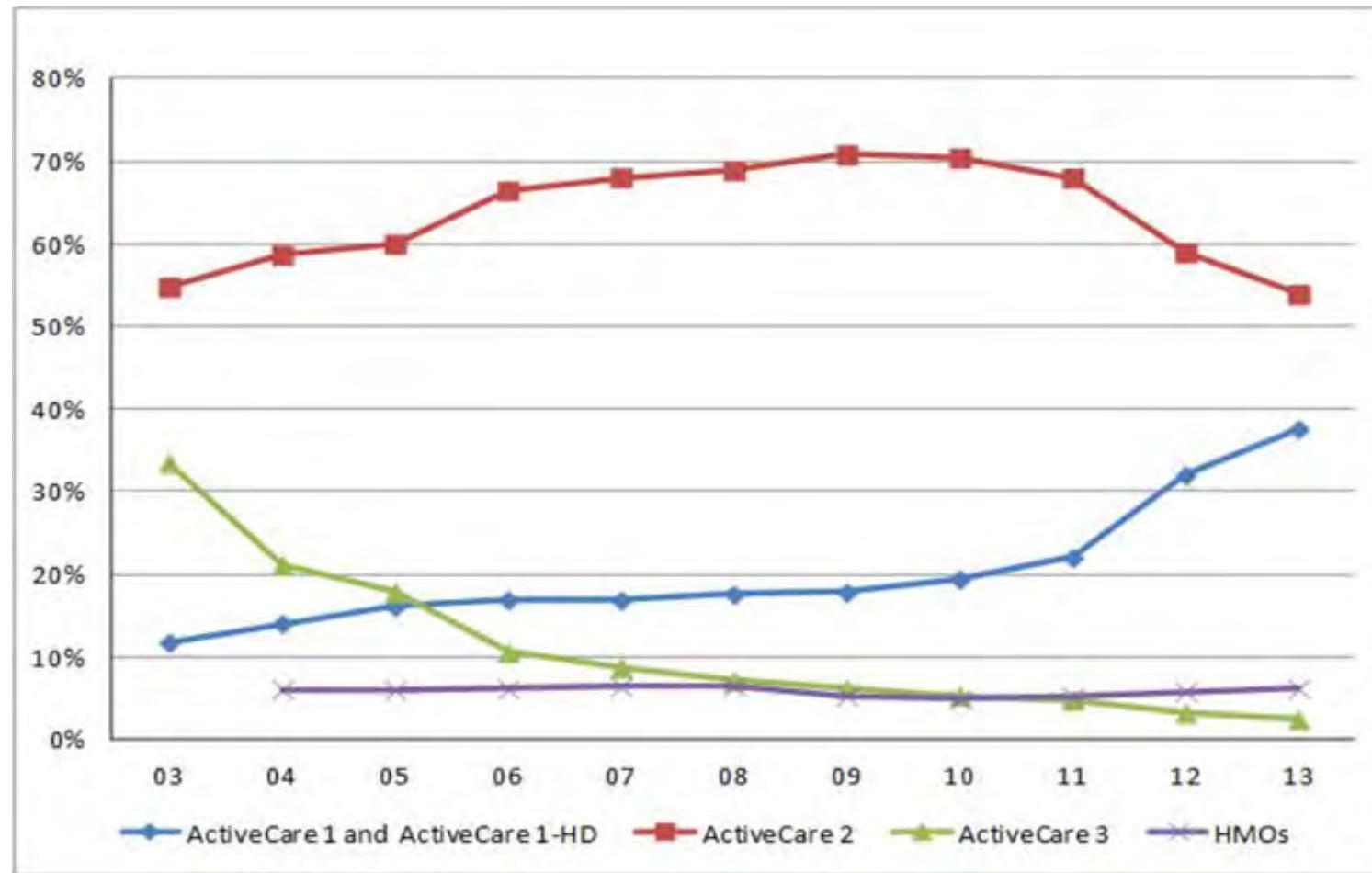


TRS-ActiveCare Funding

- 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



Enrollment Distribution



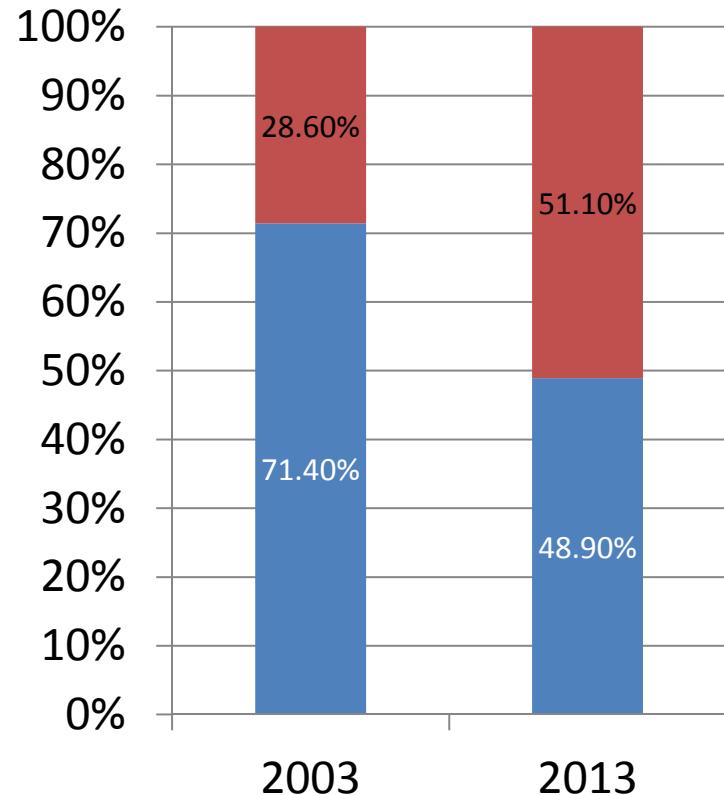
Significant shift in enrollment over the past decade as premiums have increased and benefits have been reduced.



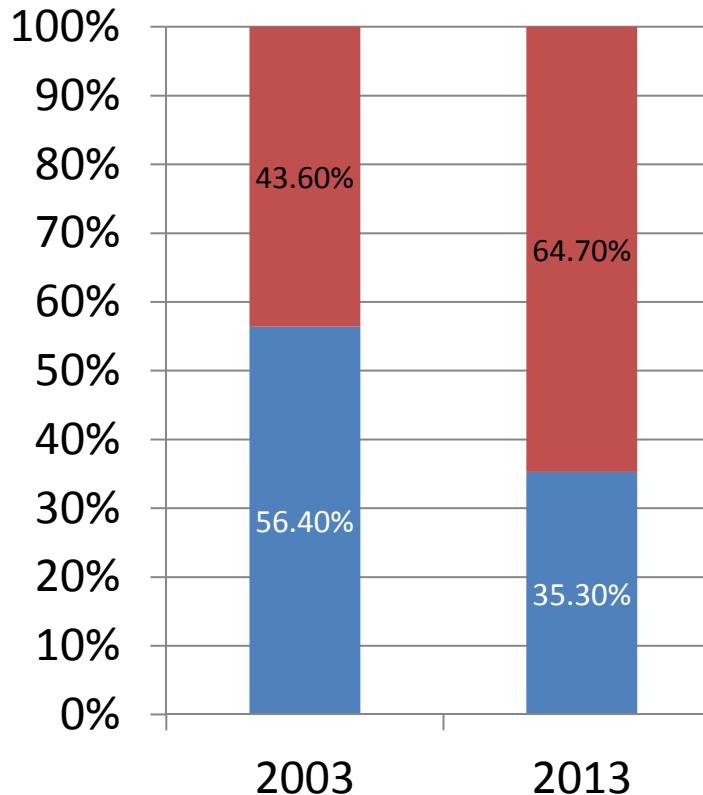
Contributions

■ Employee ■ State/District

Active Care 2



Active Care 3



- The largest share of contributions has increasingly shifted to employees over the past decade.
- Districts may contribute more than the \$150 per month minimum.



Teacher Retirement System of Texas

**RESOLUTION REGARDING THE RATES AND BENEFITS
OF HEALTH MAINTENANCE ORGANIZATIONS
FOR THE TRS-ACTIVECARE PROGRAM**

February 20-22, 2013

Whereas, Chapter 1579, Insurance Code, authorizes the Teacher Retirement System of Texas (TRS), as trustee, to implement and administer the uniform group health benefits program under the Texas School Employees Uniform Group Health Coverage Act (TRS-ActiveCare), as described in the statute;

Whereas, TRS currently has contracts with three health maintenance organizations, SHA, L.L.C. d/b/a FIRSTCARE, Scott & White Health Plan, and Valley Baptist Health Plan, Inc., to offer benefits to participants in TRS-ActiveCare who reside or work in the respective service areas of each health maintenance organization ("HMO");

Whereas, the respective contract with each HMO automatically renews for successive one (1) year terms, unless terminated as provided in each contract;

Whereas, Staff and TRS health benefits consultant, Gabriel, Roeder, Smith & Company ("GRS") have recommended that during Fiscal Year 2014, SHA, L.L.C. d/b/a FIRSTCARE, Scott & White Health Plan, and Valley Baptist Health Plan, Inc. be allowed to provide health care services to TRS-ActiveCare participants in their respective service areas under the same respective plan design that each HMO offered in Fiscal Year 2013, with only those major changes in benefits noted hereafter, along with other minor benefit changes that will be reflected in the TRS-ActiveCare Enrollment Guide and the Evidence of Coverage issued by each respective HMO;

Whereas, Staff and GRS have recommended that the premiums to be paid by TRS-ActiveCare participants enrolled in an HMO include the rates offered for Fiscal Year 2014 by each of the three HMOs plus a monthly administration fee of \$5.00 per contract between a participant and an HMO to cover the clearinghouse fees and other administrative expenses incurred by the TRS-ActiveCare program;

Whereas, Scott & White Health Plan has received a Certificate of Authority from the Texas Department of Insurance to include the county of Limestone in its authorized service area, and TRS staff and GRS have concluded that the addition of this county to the service area offered under TRS-ActiveCare by Scott & White Health Plan is beneficial to the overall plan and its participants, and the addition of this county is recommended; and

Whereas, The Board desires to approve the recommendations, including the respective plan design offered in Fiscal Year 2014 by each of the three HMOs, with the respective changes in

benefits proposed by SHA, L.L.C. d/b/a FIRSTCARE, Scott & White Health Plan, and Valley Baptist Health Plan, Inc., and to approve the rates offered for Fiscal Year 2014 by each of the three HMOs and the premiums recommended by Staff and GRS; now, therefore, be it

Resolved, that the Board hereby approves the proposal for SHA, L.L.C. d/b/a FIRSTCARE to offer to TRS-ActiveCare participants during Fiscal Year 2014 the same plan design it offered in Fiscal Year 2013, with no benefit changes, and approves and adopts the following monthly premiums to be charged to TRS-ActiveCare participants enrolled in this HMO during Fiscal Year 2014 according to coverage tier:

SHA, L.L.C. d/b/a FIRSTCARE Premium Changes

Coverage Tier	FY 2013 Premiums	FY 2014 Premiums	Percent Change
Employee Only	\$382.06	\$391.50	+2.5%
Employee & Spouse	\$961.16	\$985.06	+2.5%
Employee & Child(ren)	\$607.56	\$622.62	+2.5%
Employee & Family	\$970.70	\$994.84	+2.5%

Resolved, that the Board hereby approves the proposal for Scott & White Health Plan to offer to TRS-ActiveCare participants during Fiscal Year 2014 the same plan design it offered in Fiscal Year 2013, with the following proposed benefit change, and approves and adopts the following monthly premiums to be charged to TRS-ActiveCare participants enrolled in this HMO during Fiscal Year 2014, according to coverage tier:

Scott & White Health Plan Benefit Change Highlights

Benefit	2012-2013 Plan Year	Commencing 9-1-2013
Urgent Care Copay	\$40	\$55

Scott & White Health Plan Premium Changes

Coverage Tier	FY 2013 Premiums	FY 2014 Premiums	Percent Change
Employee Only	\$398.00	\$418.42	+5.1%
Employee & Spouse	\$961.00	\$945.10	-1.7%
Employee & Child(ren)	\$641.00	\$664.00	+3.6%
Employee & Family	\$997.00	\$1,048.54	+5.2%

Resolved, that the Board hereby approves the proposal for Scott & White Health Plan to include the county of Limestone in its authorized service area for TRS-ActiveCare, beginning on September 1, 2013;

Resolved, that the Board hereby approves the proposal for Valley Baptist Health Plan, Inc. to offer to TRS-ActiveCare participants during Fiscal Year 2014 the same plan design it offered in Fiscal Year 2013, with the following proposed major benefit changes, and approves and adopts the following monthly premiums to be charged to TRS-ActiveCare participants enrolled in this HMO during Fiscal Year 2014 according to coverage tier:

Valley Baptist Health Plan, Inc. Benefit Change Highlights

Benefit	2012-2013 Plan Year	Commencing 9-1-2013
Out-of-pocket maximum		
• Individual	\$3,500	\$4,000
• Family	\$7,000	\$8,000

Valley Baptist Health Plan, Inc. With No Premium Changes

Coverage Tier	FY 2013 Premiums	FY 2014 Premiums	Percent Change
Employee Only	\$387.06	\$387.06	0.0%
Employee & Spouse	\$941.04	\$941.04	0.0%
Employee & Child(ren)	\$607.86	\$607.86	0.0%
Employee & Family	\$960.14	\$960.14	0.0%

Resolved, that the approved plans of coverage offered by each HMO to participants in TRS-ActiveCare who reside or work in the respective service areas of each HMO, each of which commences on September 1, 2013, shall remain unchanged until further action by the Board.

Resolved, that with prior written approval from the Executive Director or his designee, each HMO may offer to participants in TRS-ActiveCare who reside or work in the respective service areas of each HMO, lower premiums than those herein approved, each of which commences on September 1, 2013.

Resolved, that the Board authorizes the Executive Director or his designees to take any actions, including the expenditure of funds and the execution of all documents, deemed by him or such designee to be necessary or advisable to implement this resolution and to administer the TRS-ActiveCare contracts with the HMOs.



Teacher Retirement System of Texas

RESOLUTION AUTHORIZING FISCAL YEAR 2012 PLAN ENROLLMENT PERIODS FOR TRS-ACTIVECARE

February 20-22, 2013

Whereas, Chapter 1579, Insurance Code, authorizes the Teacher Retirement System of Texas (TRS), as trustee, to implement and administer the uniform group health benefits program under the Texas School Employees Uniform Group Health Coverage Act (TRS-ActiveCare), as described in the statute;

Whereas, 34 TEX. ADMIN. CODE § 41.36 provides that the TRS Board of Trustees may set the plan enrollment periods for TRS-ActiveCare by resolution;

Whereas, TRS staff and the TRS-ActiveCare health plan administrator, Blue Cross and Blue Shield of Texas, have recommended that the plan enrollment periods for Fiscal Year 2014 TRS-ActiveCare coverage, effective September 1, 2013, occur from April 22, 2013 through May 24, 2013, and from August 1, 2013 through August 31, 2013;

Whereas, these plan enrollment periods do not affect the enrollment periods for any entity that becomes a participating entity after September 1, 2013; and

Whereas, the Board desires to adopt the recommended plan enrollment dates; now, therefore, be it

Resolved, subject to alternative plan enrollment dates established under 34 Texas Administrative Code §41.30, that the Fiscal Year 2014 TRS-ActiveCare plan enrollment dates for entities who are participating entities on or before September 1, 2013 are from April 22, 2013 through May 24, 2013, and from August 1, 2013 through August 31, 2013.

Teacher Retirement System of Texas

Independent Program Assessment

Board Presentation

February 22, 2013



Objectives



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

IPA Activities Completed Summary



- A. Reviewed Line Of Business (LOB) Request For Offer, provided feedback and discussed at length with Provaliant for purposes of final review with Executive Steering Committee, including:
 - 1. Comments on General Offer Information, Scope of Work, General Contractual Information sections and Attachments
 - 2. Discussed at length with Provaliant for clarifications and possible revisions
 - 3. Participated in Executive Steering Committee session to review final comments and revisions
- B. Attended weekly Executive Steering Committee and Core Management Team meetings
- C. Started baseline project management assessment
 - 1. Conducted initial interviews and meetings: Provaliant, Enterprise Risk Management and various Project Sponsors, Leads and Managers
 - 2. Review of program and project level documentation, including organizational charts, project charters, project plans and status reporting

Upcoming Milestones & IPA Activity



Project	Date	Milestone	Typical Risks	IPA Activities
TEAM Program	Ongoing	<ul style="list-style-type: none">• See project level milestones	<ul style="list-style-type: none">• Substantial delays and cost overrun• Ineffective program organization and management• Inadequate staffing• Ineffective risk management and issues tracking	<ul style="list-style-type: none">• Meetings: Executive Steering Committee (ESC), Core Management Team (CMT), project managers, etc• Monitor staffing plans• Review documents• Monitor project plans to milestone deliverables and dates

Upcoming Milestones & IPA Activity



Project	Date	Milestone	Typical Risks	IPA Activities
Line Of Business (LOB) Request For Offer (RFO)	4 th Qtr (June-Aug) FY2013	LOB Vendor Selection	<ul style="list-style-type: none"> • Wrong vendor selected • Inadequate vendor contract 	<ul style="list-style-type: none"> • Review selection criteria • Monitor response evaluation process • Monitor proof of concept analysis • Monitor contracting process
Financial System Replacement (FSR)	3 rd Qtr (March-May) FY2013	FSR Vendor Selection: Finalize FSR Vendor Statement of Work (SOW)	<ul style="list-style-type: none"> • Inadequate vendor contract • Substantial delays 	<ul style="list-style-type: none"> • Review SOW draft and monitor through completion • Review project charter and plan

Upcoming Milestones & IPA Activity



Project	Date	Milestone	Typical Risks	IPA Activities
Data Management	To Be Determined	To Be Determined – Milestones update in process	<ul style="list-style-type: none"> • Delays in completing tasks on-time • Incomplete data cleansing and conditioning 	<ul style="list-style-type: none"> • Review project charter and plan • Review milestone updates • Monitor project plan to milestones progress
Organizational Change Management (OCM)	3 rd Qtr (March-May) FY2013	Finalize OCM Vendor SOW, communications plan and training plan	<ul style="list-style-type: none"> • Inadequate vendor contract • Resistance to change and lack of acceptance 	<ul style="list-style-type: none"> • Review SOW draft and monitor through completion • Review communications and training plans; monitor through completion

Upcoming Milestones & IPA Activity

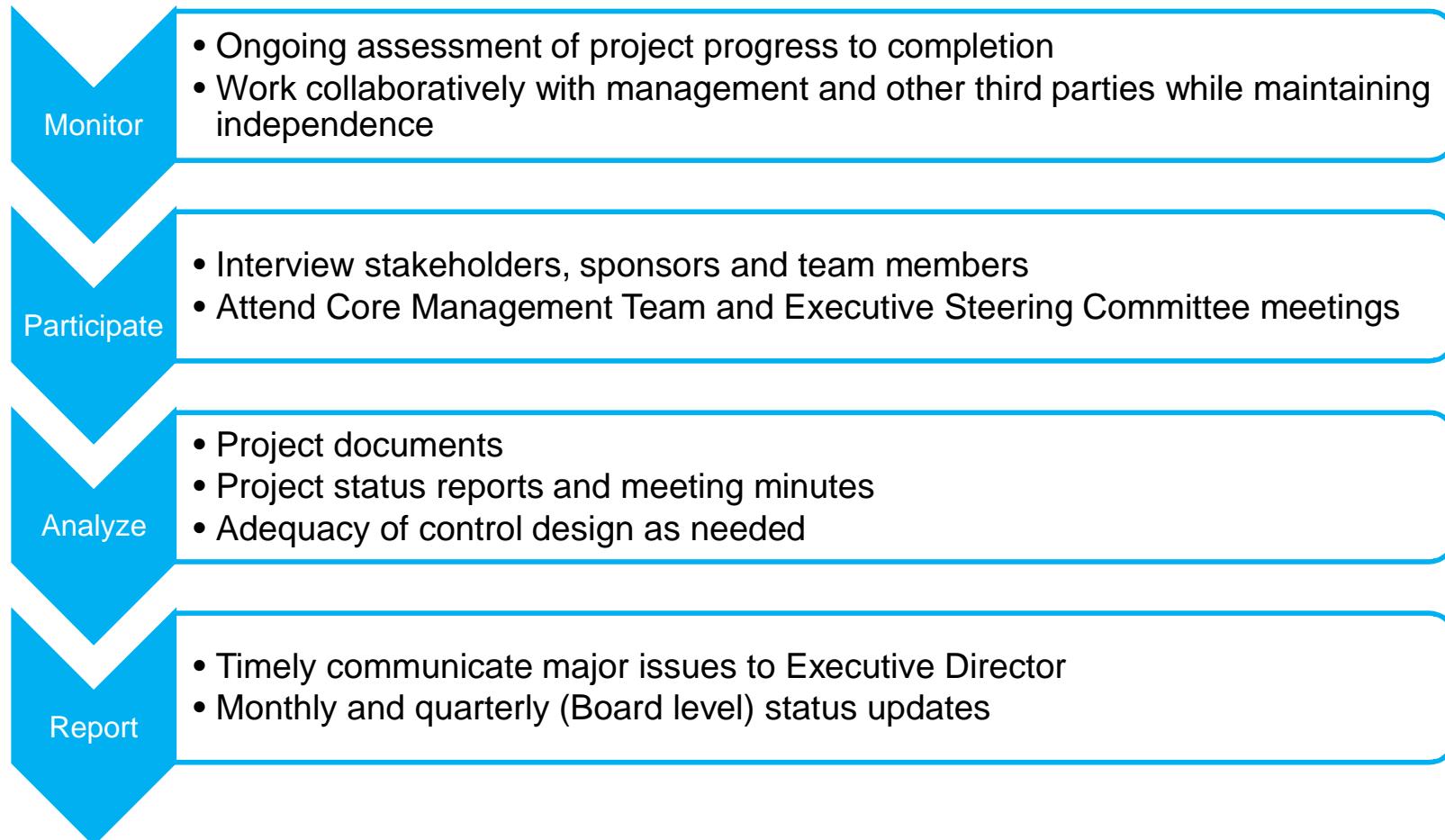


Project	Date	Milestone	Typical Risks	IPA Activities
Reporting Entity Outreach (REO)	2 nd Qtr (Dec-Feb) FY2013	<ul style="list-style-type: none"> • Launch webpage of TEAM information for Reporting Entities (REs) • Provide draft of new system data elements to REs 	<ul style="list-style-type: none"> • Lack of RE acceptance and use of system capability 	<ul style="list-style-type: none"> • Monitor webpage launch and related communications with REs • Monitor drafting of new system data elements and RE involvement
Business Rules	2 nd Qtr (Dec-Feb) FY2014	Phase 1 Priority B Business Rules Complete	<ul style="list-style-type: none"> • Delays impact dependent projects 	<ul style="list-style-type: none"> • Monitor progress of business rules development

RISK-BASED APPROACH



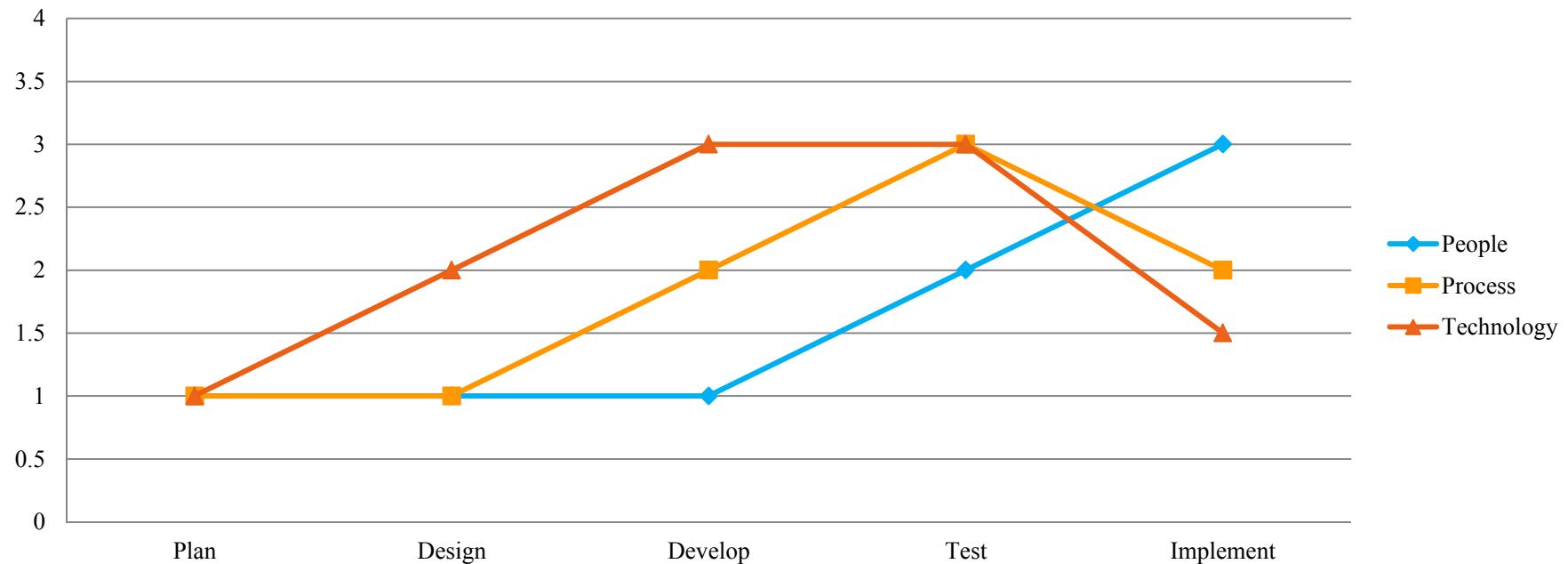
Risk-Based Approach



Risk Summary



Illustrative Risk Trends



Legend:

- 1 = Low
- 2 = Medium
- 3 = High

Typical Risks: Planning



People	Process	Technology
<ul style="list-style-type: none"> • Ownership/executive sponsorship not defined • Executive Steering Committee and Core Management Team not defined • Inadequate staff planning 	<ul style="list-style-type: none"> • Lack of formal Project Charter with defined business objectives • Incomplete/inaccurate requirements • Project Plan missing scheduled milestone deliverables, due dates and dependencies • Lack of formal risk/issue management • Milestone acceptance criteria not clearly defined 	<ul style="list-style-type: none"> • Inadequate focus on technology strategy • Project Plan not supported • Project work product and communications not enabled

Sample Risk Mitigation: Planning



- Evaluated project charter to determine if objectives were well documented and understood at all levels; recommended charter revisions to define objectives, roles and responsibilities.
- Reviewed procurement and contractual documents to assess if potential risks were adequately addressed; recommended alternative systems for comparison.
- Reviewed staffing plans for sufficient, competent resources assigned; recommended staffing plan adjustments to meet milestone dates and ongoing support post “go-live.”
- Evaluated risk management approach to determine if risks were articulated and processes for managing the risks were in place; recommended program risks be formally documented in project plan and addressed in project manager status reporting to Executive Steering Committee.
- Evaluated business operations documentation for adequacy to be understood by potential vendor partners; recommended updates to business documentation
- Assessed business requirements for coverage of objectives; recommended alignment of requirements to objectives within each milestone.

Typical Risks: Design



People	Process	Technology
<ul style="list-style-type: none">• Not enough resources• Not the right resources	<ul style="list-style-type: none">• Lack of business user involvement• Defined business requirements not included in design• Lack of change management rigor• Process internal controls not effective	<ul style="list-style-type: none">• System does not meet business requirements• IT internal controls not effective• Inadequate data security

Sample Risk Mitigation: Design



- Monitored progress against project plan; recommended increased transparency of task level planned versus actual dates, dependencies and deliverables.
- Monitored staffing plan; recommended staffing plan adjustments to meet milestone dates.
- Assessed business user involvement; recommended increased users involvement in the design sessions.
- Monitored business requirements tracking; recommended mapping requirements from the procurement to incorporation into the design
- Reviewed design document effectiveness; recommended users validate that the design will meet their needs.
- Evaluated change management; recommended Executive Steering Committee vetting of changes to requirements to prevent “scope creep.”
- Assessed design of internal controls for new system; recommended controls for gaps identified.
- Assessed data security design; recommended the design consider and protect confidential data with sustainable monitoring of user access.

Typical Risks: Development



People	Process	Technology
<ul style="list-style-type: none">• Not enough technical resources• Not the right resources• Lack of business user involvement	<ul style="list-style-type: none">• Incomplete unit testing of code• Cost/budget estimation and tracking inaccurate• Incomplete technical documentation	<ul style="list-style-type: none">• System does not meet defined business requirements• Software quality failure

Sample Risk Mitigation: Development



- Continued monitoring project and staffing plan; recommended increased transparency of task level planned versus actual dates, dependencies and deliverables and staffing adjustments to meet milestone dates.
- Monitored development plan; recommended issue tracking and resolution documentation for development estimates not being met.
- Evaluated functional fit; recommended issue tracking and resolution documentation for requirements not being incorporated into the system during development. Requirements tracking matrix should be developed to tie requirements to system functions.
- Assessed business user involvement; recommended increasing end users involvement in clarifying key functional areas
- Assessed software quality for what level of bugs or enhancements were coming out of unit testing; recommended issue tracking and resolution documentation for testing defects.
- Reviewed technical documentation; recommended review and signoff on Technical Unit Testing results to confirm that code was developed per specifications.

Typical Risks: Testing



People	Process	Technology
<ul style="list-style-type: none">• Not enough functional resources for validating test results• Not the right resources	<ul style="list-style-type: none">• Inadequate or incomplete functional testing• Inadequate integration testing• Test results are not validated	<ul style="list-style-type: none">• System not designed properly• System not performing as designed• System not operating effectively

Sample Risk Mitigation: Testing



- Continued monitoring project and staffing plan; recommended “go, no go” decision point resulting in go-live date deferral and carryover of development staff to resolve testing issues.
- Assessed software quality; recommended issue tracking and resolution documentation for significant defects or functional gaps found during functional and acceptance testing
- Monitored integration testing of system effectively interfacing with internal and external systems; recommended further scrutiny of external system provider as to interface capability and impact on milestone dates for potential change of provider.
- Reviewed stress/performance testing for evidence that adequate amounts of real data were being used for testing and if the system was performing as expected; recommended testing defect issue tracking and resolution documentation.



Typical Risks: Implementation

People	Process	Technology
<p>Risk:</p> <ul style="list-style-type: none">• Not enough resources• Not the right resources• Inadequate Technical Support staffing	<p>Risk:</p> <ul style="list-style-type: none">• Incomplete/inaccurate data conversion• Incomplete reports• User training inadequate	<p>Risk:</p> <ul style="list-style-type: none">• System not designed or operating effectively• Disaster recovery not addressed

Sample Risk Mitigation: Implementation



- Continued monitoring project and staffing plan; recommended “go, no go” decision point resulting in go-live date deferral and carryover of development staff for further user training and technical support.
- Assessed user readiness; recommended tracking of user training attendance and increased training time to be prepared for system launch.
- Evaluated data conversion results for evidence of “cleanliness,” reconciliation and completeness; recommended issue tracking and resolution documentation.
- Assessed system reporting; recommended issue tracking and resolution documentation of users’ reporting gaps and challenges to effectively utilize the system.
- Evaluated data protection for adequate controls in place to secure, protect and recover data; recommended controls for gaps identified.

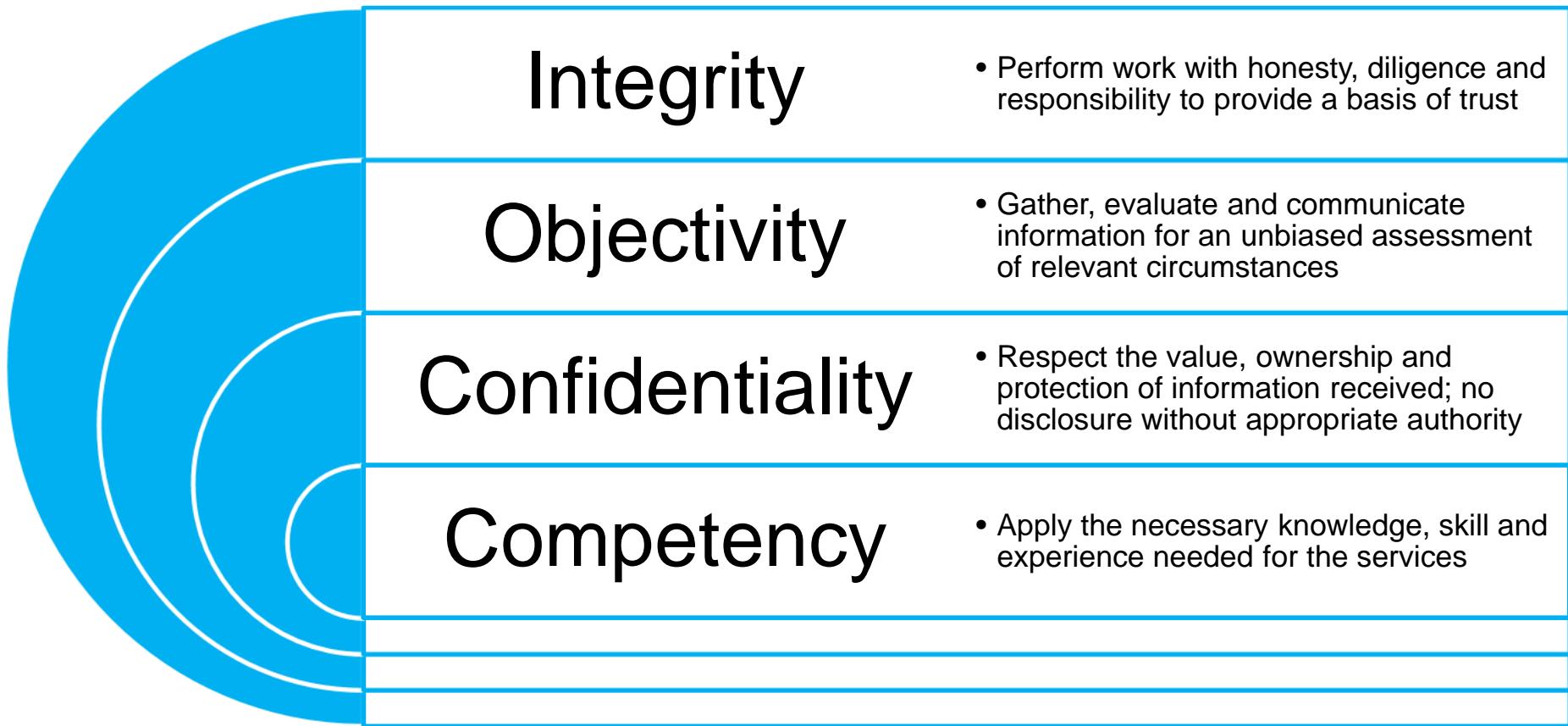
IPA METHODOLOGY



IPA Methodology Framework



Our approach to service delivery is anchored by the following professional service principles:



IPA Methodology Overview



Our IPA Methodology is focused on Systems Development Life Cycle (SDLC) process and includes the following specific components:

1. Program/Project Management
2. Risk Management
3. Change Management
4. Issues Management and Tracking
5. Requirements Tracking and Functional Design
6. Milestone Deliverable Approval and Quality Management
7. Development and Configuration
8. Interfaces and Bridges
9. Data Conversion and Validation
10. Reports and Analytics
11. Training and Documentation
12. Security and Controls Validation
13. IT Infrastructure and Readiness
14. System Performance and Integration Testing
15. Functional, User Acceptance and Parallel Testing
16. Cutover and Deployment Plan

Example IPA Status Report: Scorecard



TEAM Program Assessment	Prior Quarter	Current Quarter	Comments
1. Program Management (includes Executive Steering Committee and Core Management Team effectiveness)	1	1	
2. Risk Management	1	1	
3. Issues Management and Tracking	1	1	
4. Program Communication and Reporting	1	1	
5. Program Change Management	1	1	
6. Staffing and Organization	2	2	
7. Budget, Time and Cost Tracking	1	1	
TEAM Projects Assessemnt			
1. Line of Business (LOB) Request For Offer	1	1	
2. Financial System Replacement (FSR)	2	2	
3. Data Management	1	1	
4. Reporting Entity Outreach (REO)	1	1	
5. Organizational Change Management (OCM)	1	1	
6. Business Rules Development	1	1	
7. LOB Implementation	NA	NA	
8. Business Procedures and Training	NA	NA	
9. External Website Enhancement	NA	NA	
10. Legacy System Decommissioning	NA	NA	

Legend:		
Not applicable, not started or early stage	NA	
LOW: Regular Monitoring	1	
GUARDED: Regular monitoring and action items	2	
CAUTION: Increased monitoring and action items	3	
ELEVATED: Increased management involvement	4	
SEVERE: Significant on-going management involvement	5	

Teacher Retirement System of Texas



TEAM Program Update

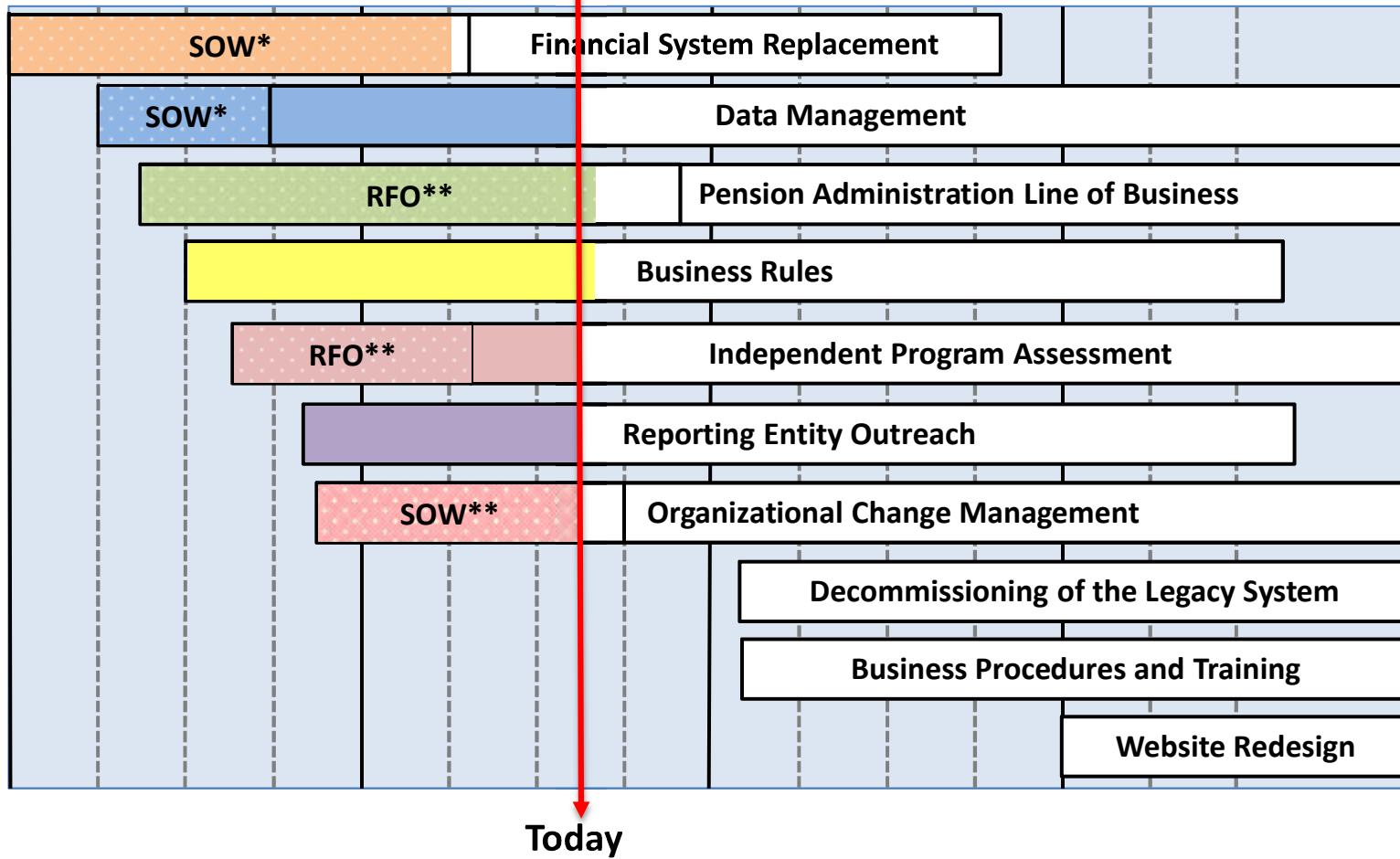
February 2013





TEAM PROGRAM

FY2012 FY2013 FY2014 FY2015 FY201?



* SOW = Statement of Work

** RFO = Request for Offer



TEAM PROGRAM

ACCOMPLISHMENTS

Financial System Replacement

- Received vendor proposal based on the new methodology that TRS is undertaking to reduce scope and cost risk
- Completed transition to a new project manager
- Assessed information on state payroll processing and interfaces to determine the optimal solution for payroll processing in new system



TEAM PROGRAM

ACCOMPLISHMENTS

Data Management

- Completed building data assessment and conditioning infrastructure
- Made significant progress discovering and defining data business rules
- Refined desired project deliverables and acceptance criteria



TEAM PROGRAM

ACCOMPLISHMENTS

Pension Administration Line of Business

- Posted the Request for Offer on the Electronic State Business Daily website for vendor review and response on 1/23/2013

Business Rules

- Completed Phase 1 Priority A Business Rules, which resulted in over 100 rules written and approved. This project is 25% complete



TEAM PROGRAM

ACCOMPLISHMENTS

Reporting Entity Outreach

- Launched website for the reporting entities on 1/31/2013
- Provided reporting entities a draft version of the data elements required in the new system on 1/31/2013

Organizational Change Management

- Completed project charter
- Identified risks and mitigations
- Formed two advisory groups formed and held kick-off meetings

The remaining projects will not get started until after the Pension Administration LOB gets started.



TEAM PROGRAM

UPCOMING MILESTONES

Financial System Replacement

- Date TBD - Finalize a Statement Of Work, based on the potential vendor proposals

Data Management

- 2/28/2013 - Receive first data assessment report



TEAM PROGRAM

UPCOMING MILESTONES

Pension Administration Line of Business

- 2/28/2013 - Pre-Offer Conference

Business Rules

- 8/30/2013 - Phase 1 Priority B should be 50% complete

Reporting Entity Outreach

- 6/26/2013 - Form Reporting Entity Focus Groups

Organizational Change Management

- 3/27/2013 - All-hands meeting on the TEAM Program
- 3/31/2013 - Target date for a contract with a vendor





TEAM PROGRAM

MAJOR MILESTONES

Project Milestones	Planned Start Date	Actual Start Date	Planned Finish Date	Actual Finish Date	Percentage Complete
Financial/HR Package Requirements Gathering	10/1/2011	11/15/2011	5/31/2012	4/30/2012	100%
Planning Document Templates Development	12/1/2011	12/1/2011	2/29/2012	2/29/2012	100%
Data Management RFO/SOW Requirements Gathering	12/1/2011	2/1/2012	5/31/2012	5/31/2012	100%
Data Management SOW Development	12/1/2011	12/1/2011	5/31/2012	6/5/2012	100%
Information Technology Plan Development	3/1/2012	2/15/2012	5/31/2012	7/23/2012	100%
Data Management Vendor Selection	3/1/2012	1/15/2012	5/31/2012	6/11/2012	100%



TEAM PROGRAM

MAJOR MILESTONES

Project Milestones	Planned Start Date	Actual Start Date	Planned Finish Date	Actual Finish Date	Percentage Complete
Pension LOB RFO Requirements Gathering	3/1/2012	3/1/2012	11/30/2012	7/31/2012	100%
Business Rules Development	3/1/2012	3/1/2012	10/15/2015		25%
Financial/HR Package Vendor Demonstrations	3/1/2012	5/11/2012	7/31/2012	7/31/2012	100%
Financial/HR Package Selection	3/1/2012	4/16/2012	2/28/2013		85%
Data Management Project Execution	6/1/2012	6/25/2012	8/31/2018		<10%
Pension LOB RFO Development	6/1/2012	5/15/2012	2/28/2013	1/23/2013	100%



TEAM PROGRAM

MAJOR MILESTONES

Project Milestones	Planned Start Date	Actual Start Date	Planned Finish Date	Actual Finish Date	Percentage Complete
Reporting Entity Outreach	7/2/2012	7/2/2012	5/30/2016		<10%
Organizational Change Management (Previously reported as Change Management)	8/1/2012	8/1/2012	8/31/2018		<10%
Oversight for Line of Business Requirements (Independent Program Assessment)	9/1/2012	7/1/2012	11/30/2012	8/31/2012	100%
Oversight for Line of Business RFO Development (Independent Program Assessment)	9/1/2012	7/1/2012	11/30/2012	9/7/2012	100%
Oversight for Line of Business Vendor Selection (Independent Program Assessment)	10/22/2012	10/22/2012	12/30/2012	12/14/2012	100%



TEAM PROGRAM

MAJOR MILESTONES

Project Milestones	Planned Start Date	Actual Start Date	Planned Finish Date	Actual Finish Date	Percentage Complete
Financial/HR Project Execution	3/1/2013		8/31/2014		
Pension LOB Vendor Selection	7/1/2013		9/30/2013		
Pension LOB Phase 1 Implementation	10/1/2013		2/28/2016		
Business Procedures and Training	10/1/2013		8/31/2018		
Legacy System Decommissioning	10/1/2013		8/31/2018		
Enhance TRS Website	9/1/2014		8/31/2015		
Pension LOB Phase 2 Implementation	5/1/2016		8/31/2018		
TEAM Program Report	7/1/2018		8/31/2018		

Teacher Retirement System of Texas



Organizational Change Management Project

Janet Bray
Human Resources Director



What *IS* Organizational Change Management?



A structured process for managing the people side of change to achieve the desired business outcome



Site Visits: Lessons Learned

What will happen to my job?

- Say loud and often: not a job elimination program.

Will they listen to my concerns?

- Use focus groups.

This will never work.

- No negativity --pass on and live the phrase that failure is not an option.

What is happening?

- Communicate what is coming and when.

I don't want to do this.

- Anticipate and address resistance.

What am I responsible for now?

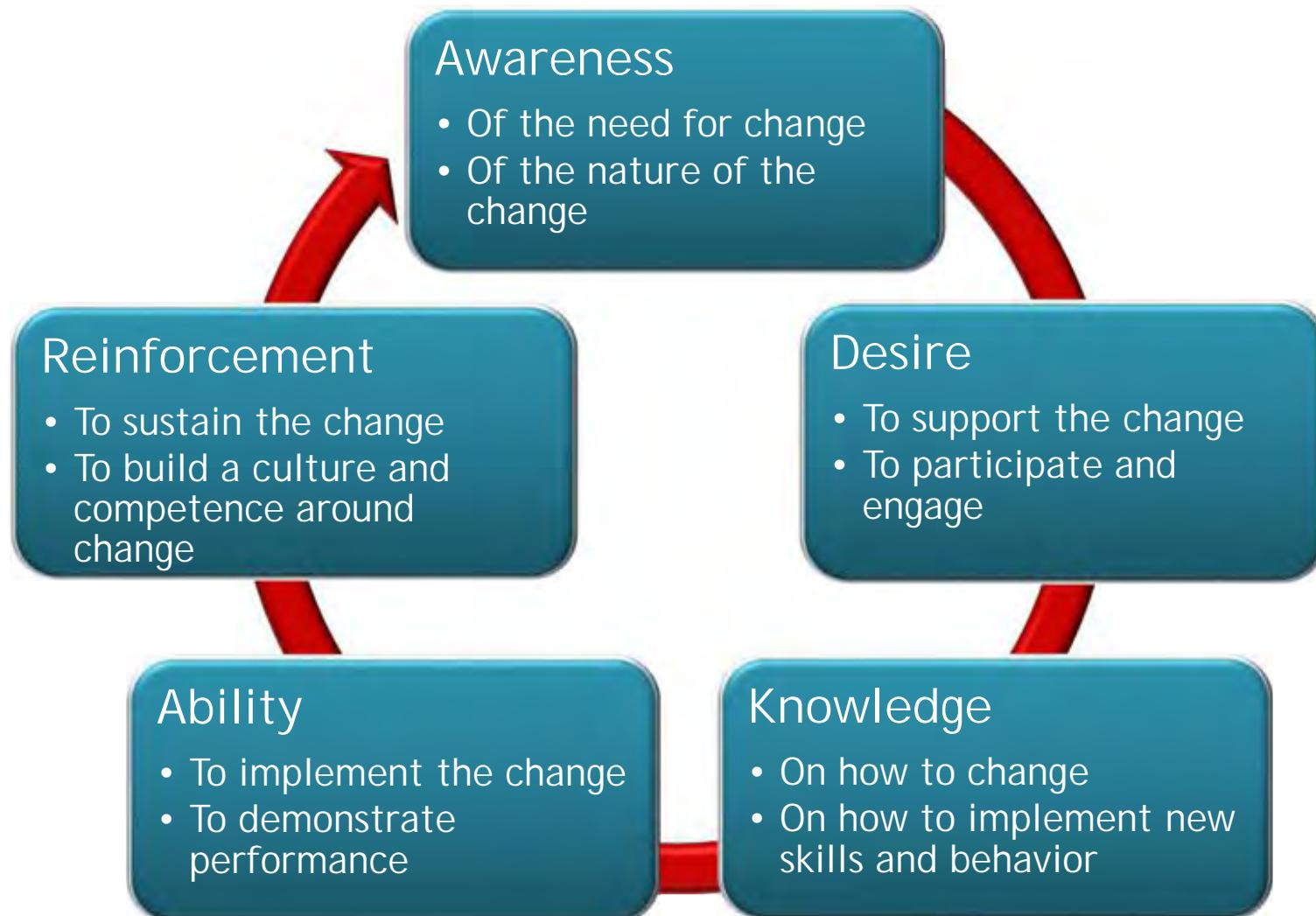
- Have a plan for staff as roles and responsibilities change.

What happens after TEAM is over?

- Create a plan for transitioning employees off TEAM.

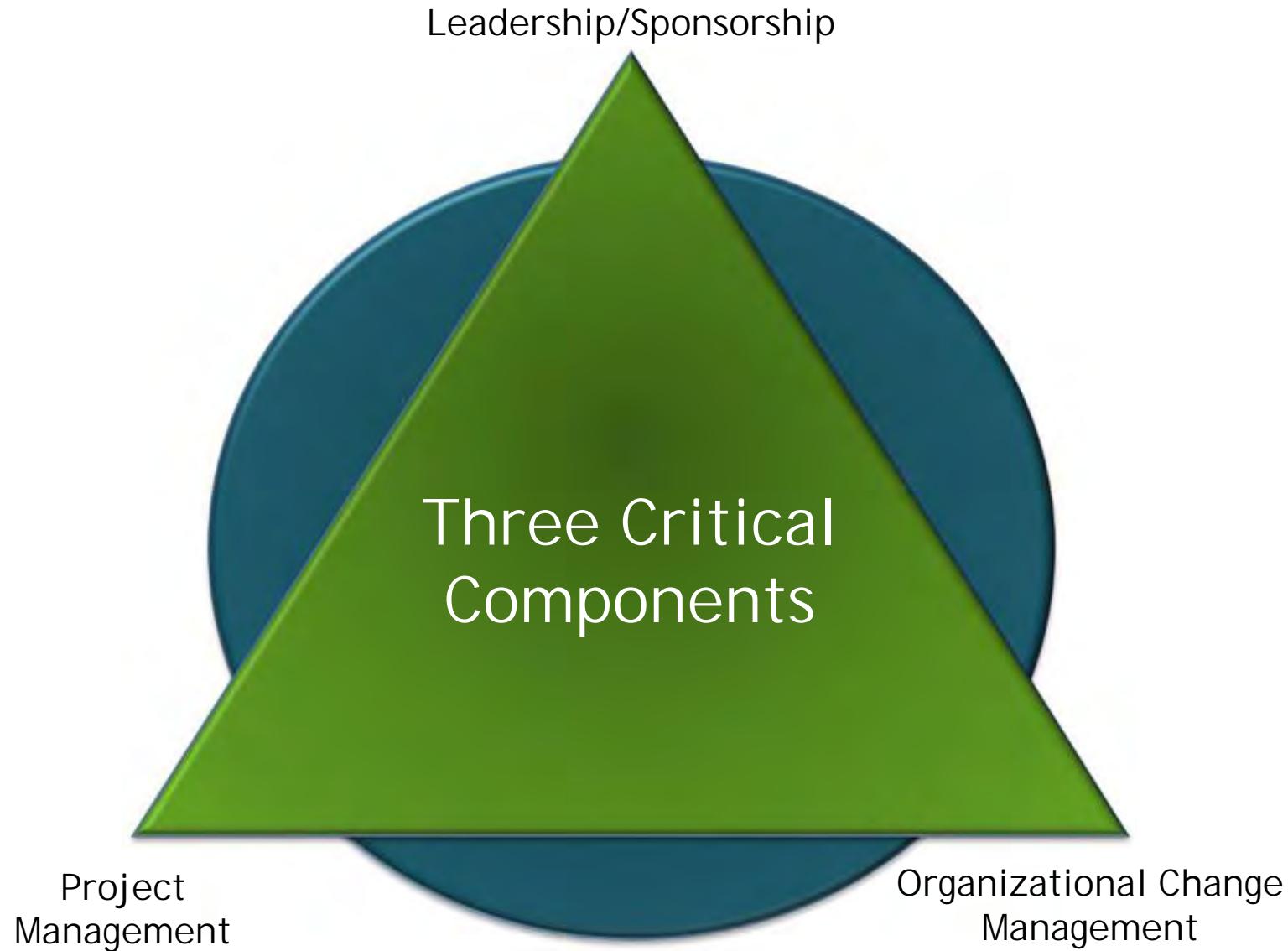


Prosci® ADKAR ® Model





TEAM Integrated Approach: Prosci ® Model





TEAM Integrated Approach: Prosci ® Model



Organizational Change Management Process for TRS

Communications:

- Focus groups
- Advisory groups
- Newsletters
- Surveys
- Pop-in meetings

Learning and Development:

- Gap analysis
- Curriculum development
- Change leadership

Staffing:

- **Workforce planning**
- **Succession planning**
- Realignment
- Job descriptions

Performance Management:

- Defined expectations
- Competencies
- Performance evaluations
- Coaching and counseling



Panel Discussion on the Oversight Functions for TRS

Teacher Retirement System of Texas



Panelists:

Jamie Michels – General Accounting

Don Ballard – Legal Services

Jay LeBlanc – Enterprise Risk Management

Amy Barrett – Internal Audit

Hugh Ohn – Internal Audit





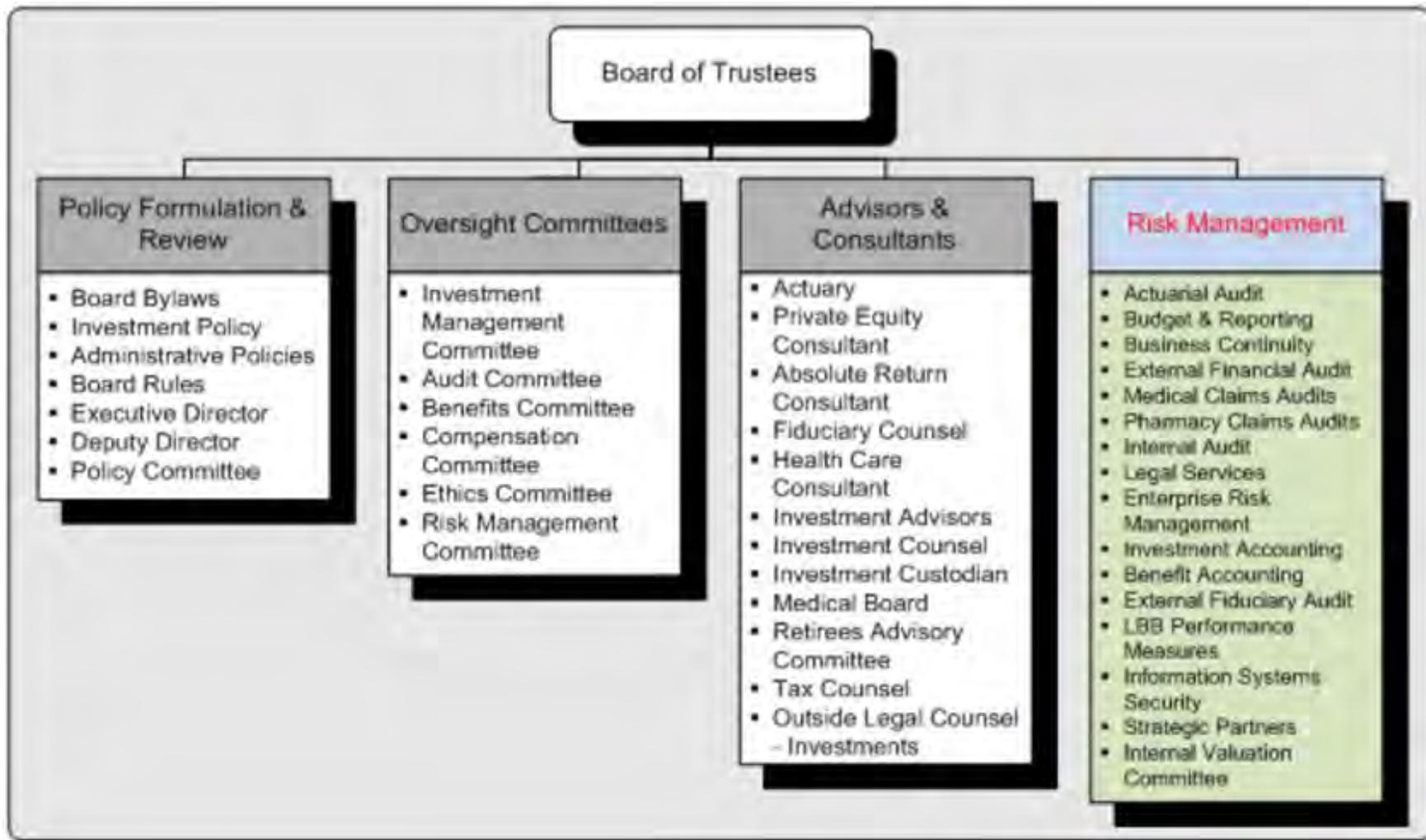
Agenda

- Introduction to Oversight Presentation
- Panelists' Introductions
- Purchasing and Contracts Management
- Takeaways
- Questions and Answers

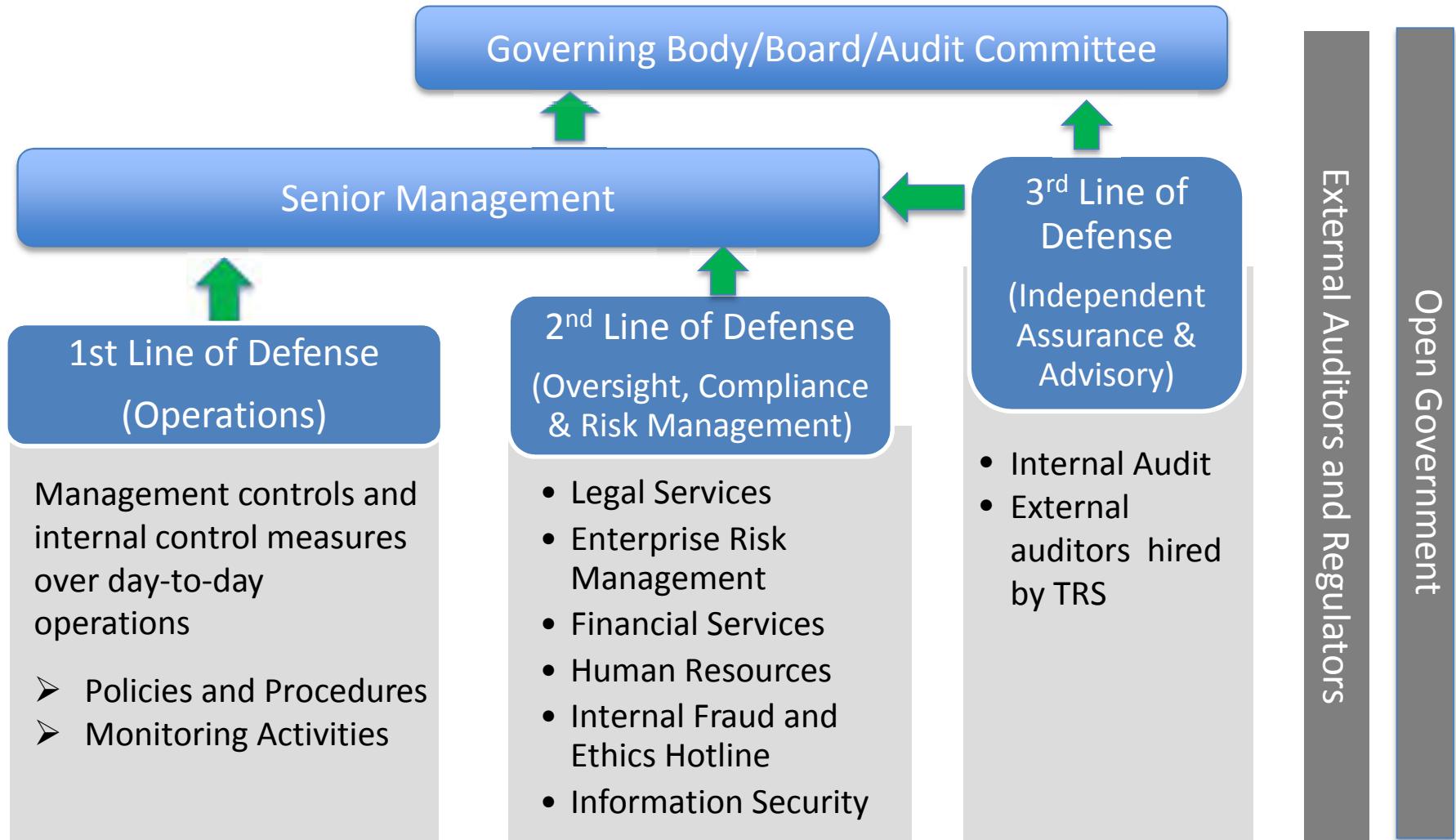




TRS Governance



The Three Lines of Defense



Source: Modified from The Institute of Internal Auditors (IIA) Position Paper, *The Three Lines of Defense in Effective Risk Management and Control*, January 2013



“Outside the Perimeter” External Oversight

State

- Office of the Governor
- Texas Comptroller of Public Accounts (CPA)
- State Auditor’s Office (SAO)
- Legislative Budget Board (LBB)
- Sunset Advisory Commission (Sunset)
- Department of Information Resources (DIR)
- Quality Assurance Team (QAT) - SAO, LBB, DIR representatives
- Office of Attorney General (OAG)
- State Office of Risk Management (SORM)

Federal

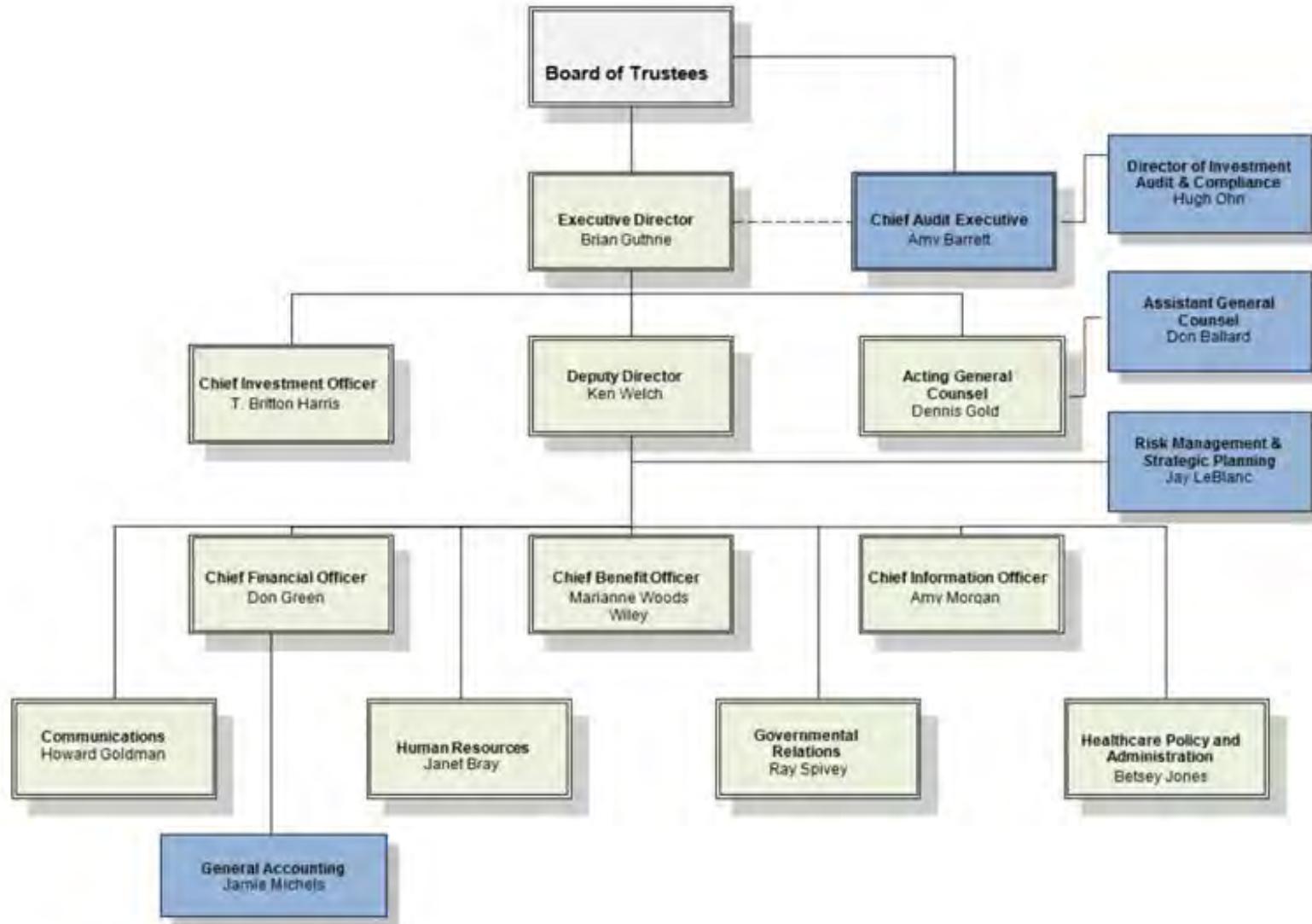
- Securities and Exchange Commission (SEC)
- Department of Health and Human Services (HHS)
- Equal Employment Opportunity Commission (EEOC)
- Department of Labor (DOL)
- Internal Revenue Service (IRS)

Required Public Disclosure

- Office of Attorney General – Public Information Act (open records and media requests)

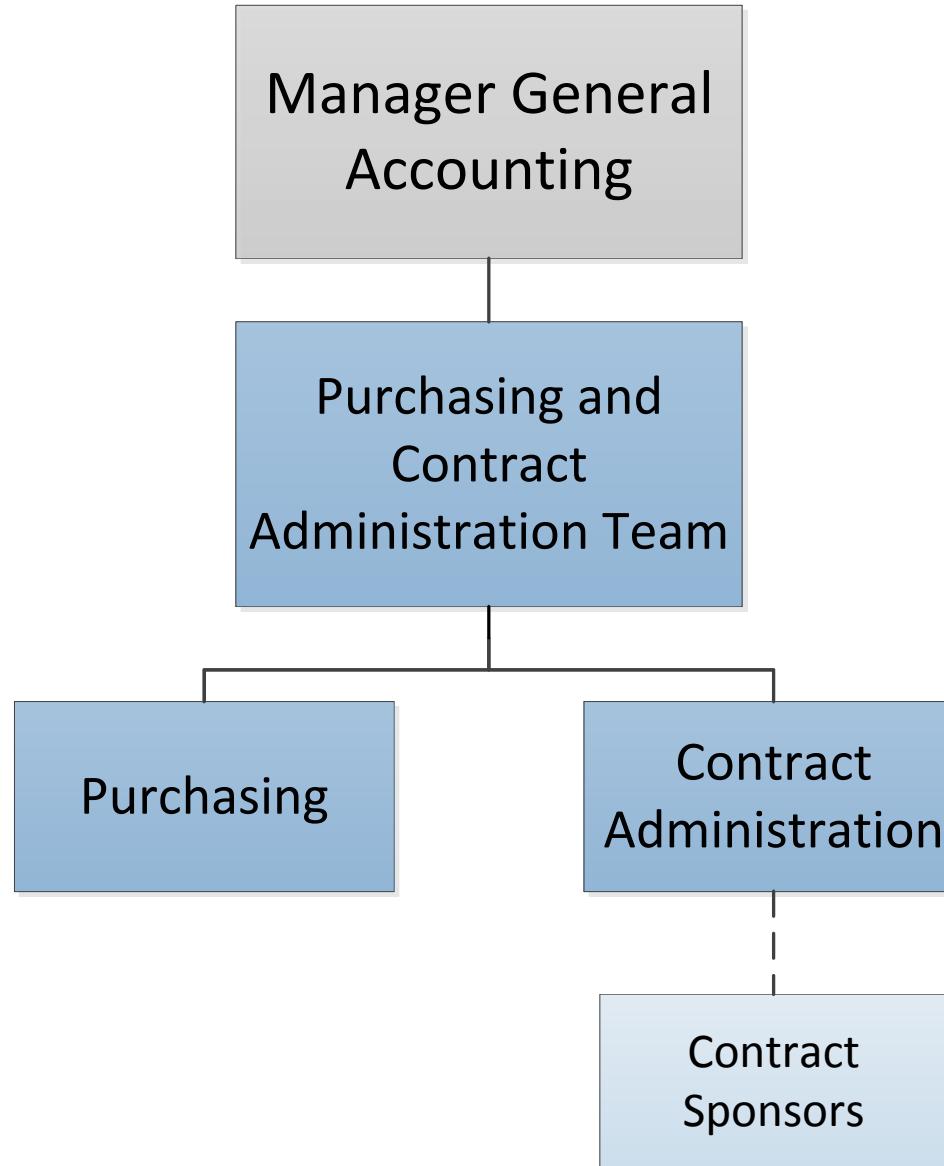


TRS Organization Chart





Purchasing and Contracts



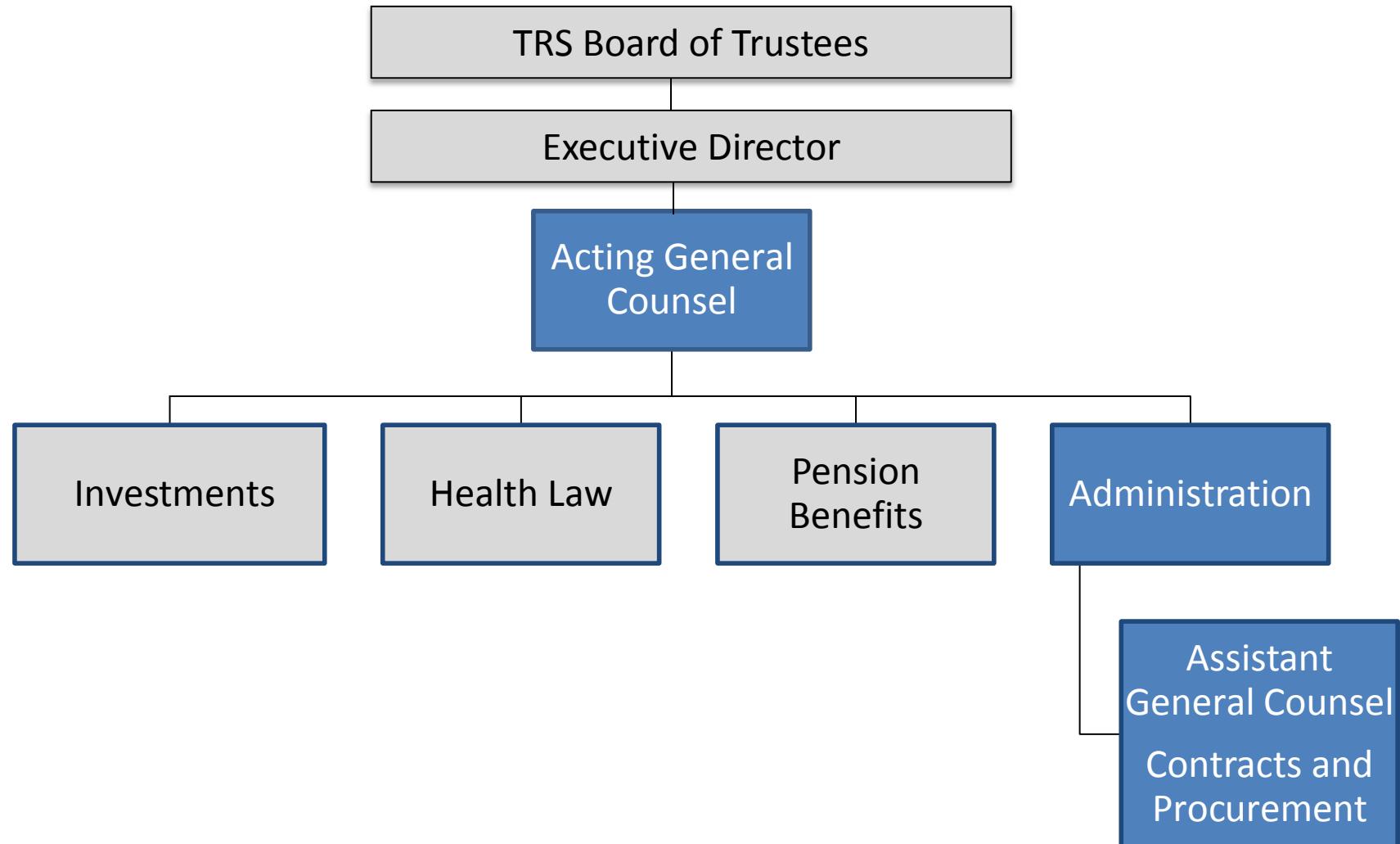


Purchasing and Contracts Transparency

- Open and Public Deliberations – The Board awards many of the high profile contracts in open meetings that are webcast and archived for later viewing
- Reporting – Procurement reports include:
 - HUB report
 - State Use
 - DIR General Appropriations Act Report
 - Legislative Budget Board reports
 - Open Records report
 - Purchases over \$100,000 report
 - Proprietary Purchases (for Annual Report of Non-Financial Data)
 - Recycled Goods report
- Web Posting – All contract awards of \$100,000 or more are posted to the TRS website
- Fraud Reporting – Most state agencies (including TRS) have a fraud, waste, and abuse policy, as well as a method for anonymous reporting of any perceived issues.



Legal Services





Legal Services

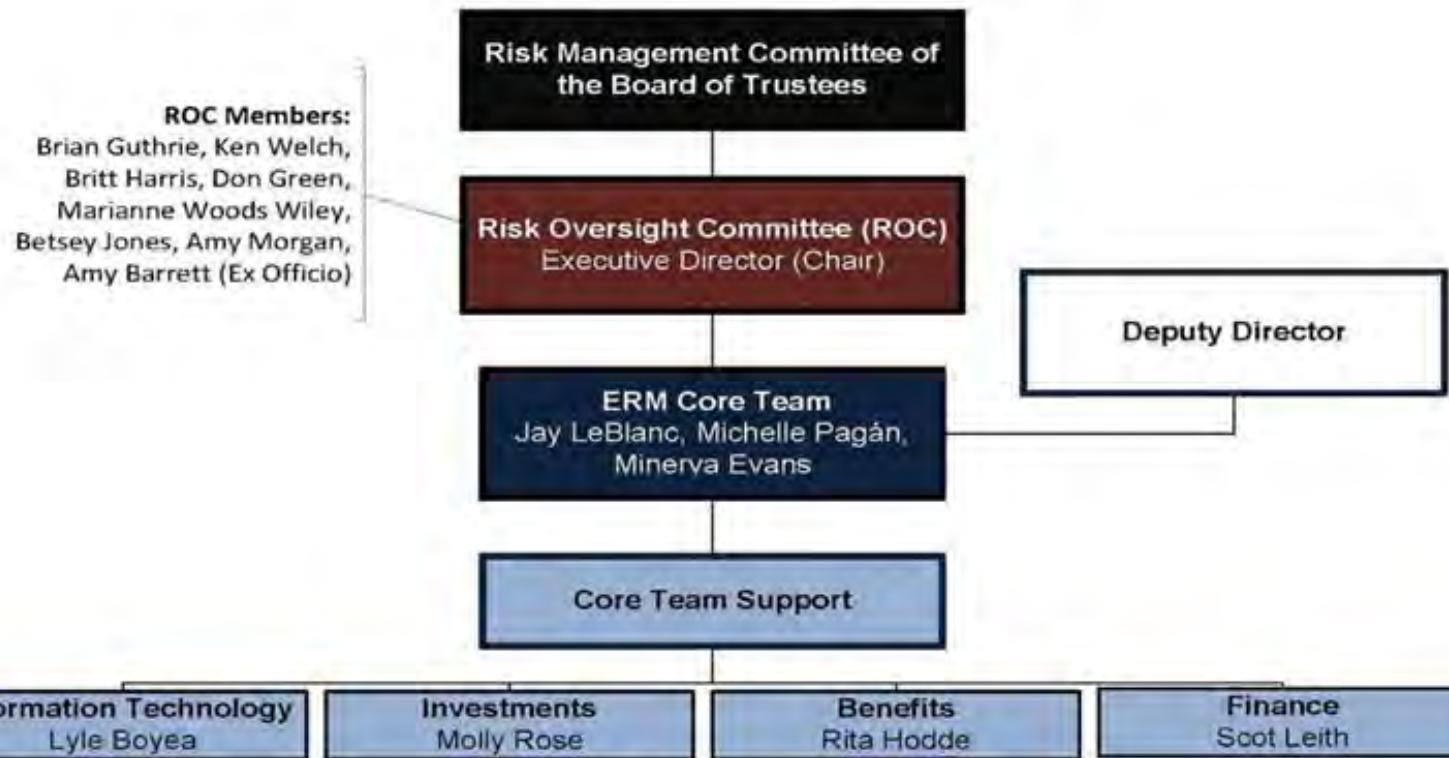
Review and Functions (Procurement and Contracts for Goods and Services)

- Contract Administration Manual (exemptions and exceptions, adherence, implementation)
- Legal reviewed documents (types, scope, outside counsel)
- Compliance with Procurement Policy (budget source, ethics, laws)
- Delegation of contracting authority
- Ongoing contract management advice



Enterprise Risk Management

TRS' ERM Structure



Teacher Retirement System of Texas Enterprise Risk Inventory - 2012				
ENTERPRISE		OPERATIONS	FINANCE	INVESTMENTS
Pension Funding	Communications & External Relations	Pension Benefit Administration	General Accounting & Reporting	Investment Operations
Retiree Health Care	Governmental/Association Relations	Health Care Administration	Budget	Investment Reporting
Workforce Continuity	TEAM	403(b)	Employer Reporting	Market
Governance	Legacy Information Systems	Customer Service	Procurement & Contract Management	Credit
Business Continuity	Information Security	Tax Qualification Status		Liquidity/Leverage
Fraud Prevention & Detection	Confidential Information			
Records Management				



Spotlight – Procurement and Contract Management

GOAL	OVERALL RISKS	OBJECTIVES
Maintain effective procurement and contract management systems	<ul style="list-style-type: none">• Inappropriate procurement practices could result in purchases of sub-standard products and services, unfavorable pricing or contract terms, and violation of laws• Ineffective contract monitoring could result in contractors not fulfilling their contractual obligations	<ul style="list-style-type: none">• Mitigate Procurement risk associated with processing purchases and contracts• Mitigate Contract Management risk through effective monitoring processes

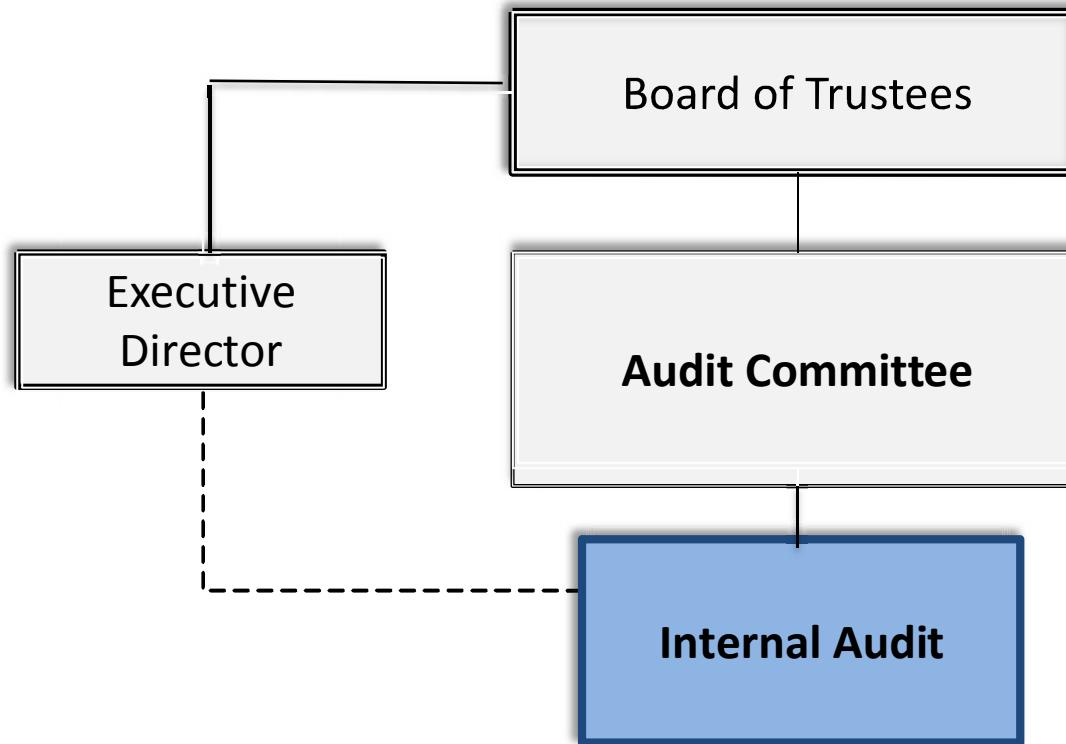


Spotlight - Procurement & Contract Management

Risks/Risk Drivers	Mitigations
▪ Inadequate resources and loss of institutional knowledge	<ul style="list-style-type: none"> ○ Succession planning; Cross-training and rotation of duties; Staff development ○ Positive and pleasant work environment ○ Adequate funding for FTEs
▪ Failure to receive information timely	<ul style="list-style-type: none"> ○ Effective communication; Planning ○ Documented processes and procedures
▪ Unauthorized access to or release of confidential information	<ul style="list-style-type: none"> ○ Documented processes and procedures ○ Management oversight; Contract review ○ Screen prospective employees
▪ Internal fraud	<ul style="list-style-type: none"> ○ Documented processes and procedures ○ Management oversight ○ Segregation of duties ○ Screen prospective employees
▪ Collusion with vendor/contractor on major contracts (Healthcare contracts)	<ul style="list-style-type: none"> ○ Cross-functional participation on major contracts ○ Documented processes and procedures ○ Management oversight; Contract review ○ Segregation of duties ○ Screen prospective employees
▪ Competing priorities/heavy workload	<ul style="list-style-type: none"> ○ Plan and prioritize work ○ Management oversight ○ Cross-training and rotation of duties



Internal Audit





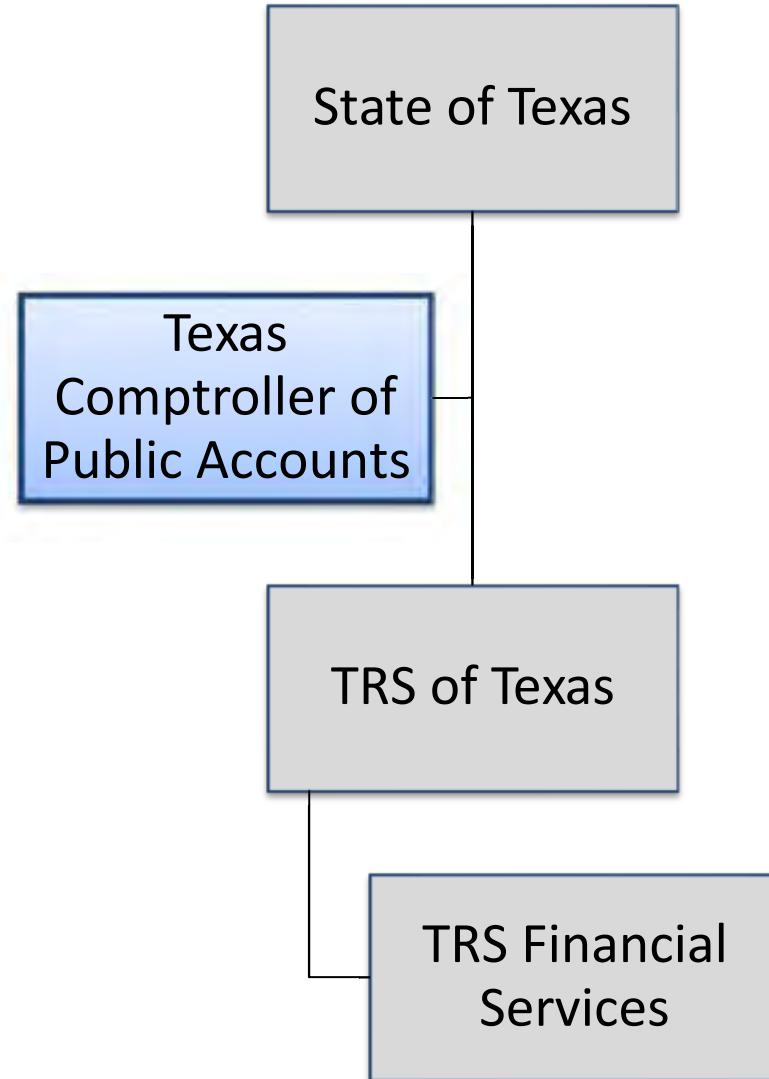
Excerpt FY 2013 Audit Plan

➡

Title	Risks	Type	Reason	Description
Employer reporting audit	Compliance	Audit	Risk Assessment, Request	Assess whether employers are reporting data and contributions to TRS completely and accurately in areas such as eligibility, compensation, and return-to-work
Procurement and contracting audit	Ethics, strategic, compliance, operations	Audit	Risk Assessment, Request	Assess compliance with TRS procurement and contracting requirements, efficiency of operations, and whether Historically Underutilized Business (HUB) program goals are being met
1099 payment processing	Financial, compliance	Consulting	Request	Flowchart disbursement activities and 1099 reporting process; inquire about past reporting problems, and suggest process enhancements.
Budget transfer inspection	Fraud, Financial	Advisory	Request	Perform surprise inspections of budget transfer process and assess whether transfers are properly approved and supported
Accounting standards changes monitoring	Financial	Advisory	Audit Charter	Monitor impact of accounting standards changes on TRS financial statements
Financial audit coordination	Financial	Advisory	Audit Charter	Coordinate activities of State Auditor's Office audit of TRS financial statements to ensure deadlines are met; coordinate quarterly update meetings with executive management and State Auditor's Office



Texas Comptroller of Public Accounts





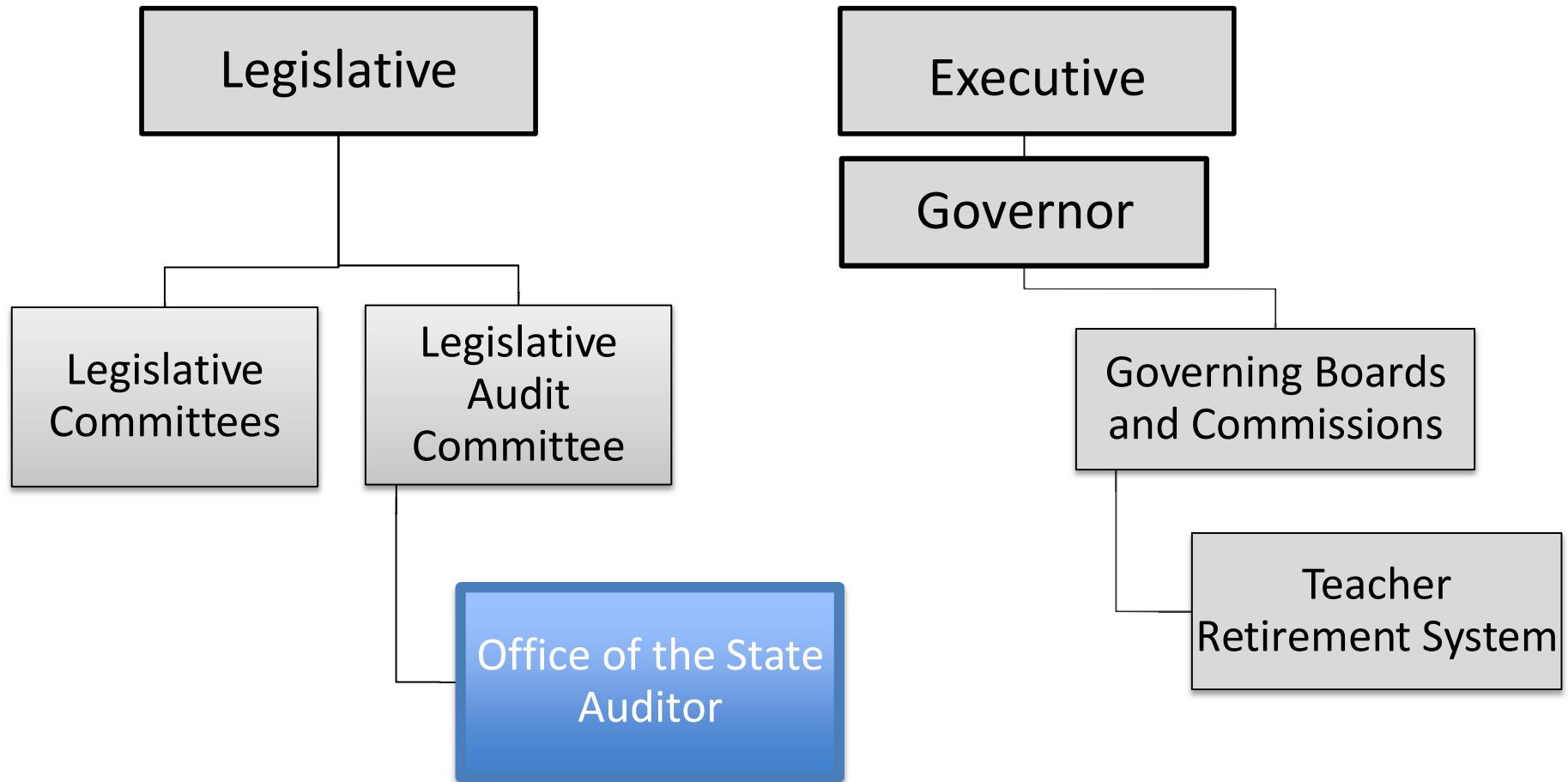
Comptroller's Post Payment Audit

Fiscal Management Post-Payment Audit Report Summary: TRS Fiscal Year 2010 Second Quarter

- Audited a stratified random sample of transactions for the period 3/1/2008 through 2/28/2009 for compliance with General Appropriations Act, Payroll and Purchase Guides, TexTravel, prompt payment law and schedule rule, and other relevant statutes:
 - Payroll
 - Purchase
 - Travel
- Tested a limited number of fixed assets expenditures
- Reviewed internal control structure sufficient to plan audit
- Results: No significant errors



State Auditor's Office





State Auditor's Office (SAO) Oversight of State Agencies

Mission is to actively provide government leaders with useful information that improves accountability

- Independent auditor for Texas state government
- Authorized by Texas Statute (Chapter 321 of Government Code) to perform audits and investigations of state agencies and higher education institutions



SAO Oversight (continued)

- Develop *Annual Audit Plan* – submitted to and approved by the Legislative Audit Committee of the Texas Legislature
- Perform audits in accordance with *Government Auditing Standards* issued by the Comptroller General of the U.S.
- Report audit results to the Legislative Audit Committee
- Administer SAO Fraud, Waste, or Abuse Hotline
(1-800-TX-AUDIT)

SAO Audit of Purchasing and Contracts

CAFR Audit

- Annually performed
 - 2012 TRS CAFR: Unqualified Opinion
- Financial statement audit with focus on material amounts presented
- Material accounts tested:
 - Investments purchased payable
 - Pension benefits paid and payable
 - Health care claims paid and payable
- Other item reviewed:
 - Disclosure on fees & commissions

Contract Audit

- Discretionally decided based on SAO's state-wide risk assessment
- Performance/Program audit with focus on policies, processes and controls
- Main areas tested:
 - Vendor selection
 - Vendor monitoring
 - Payments made
- Can start special investigation

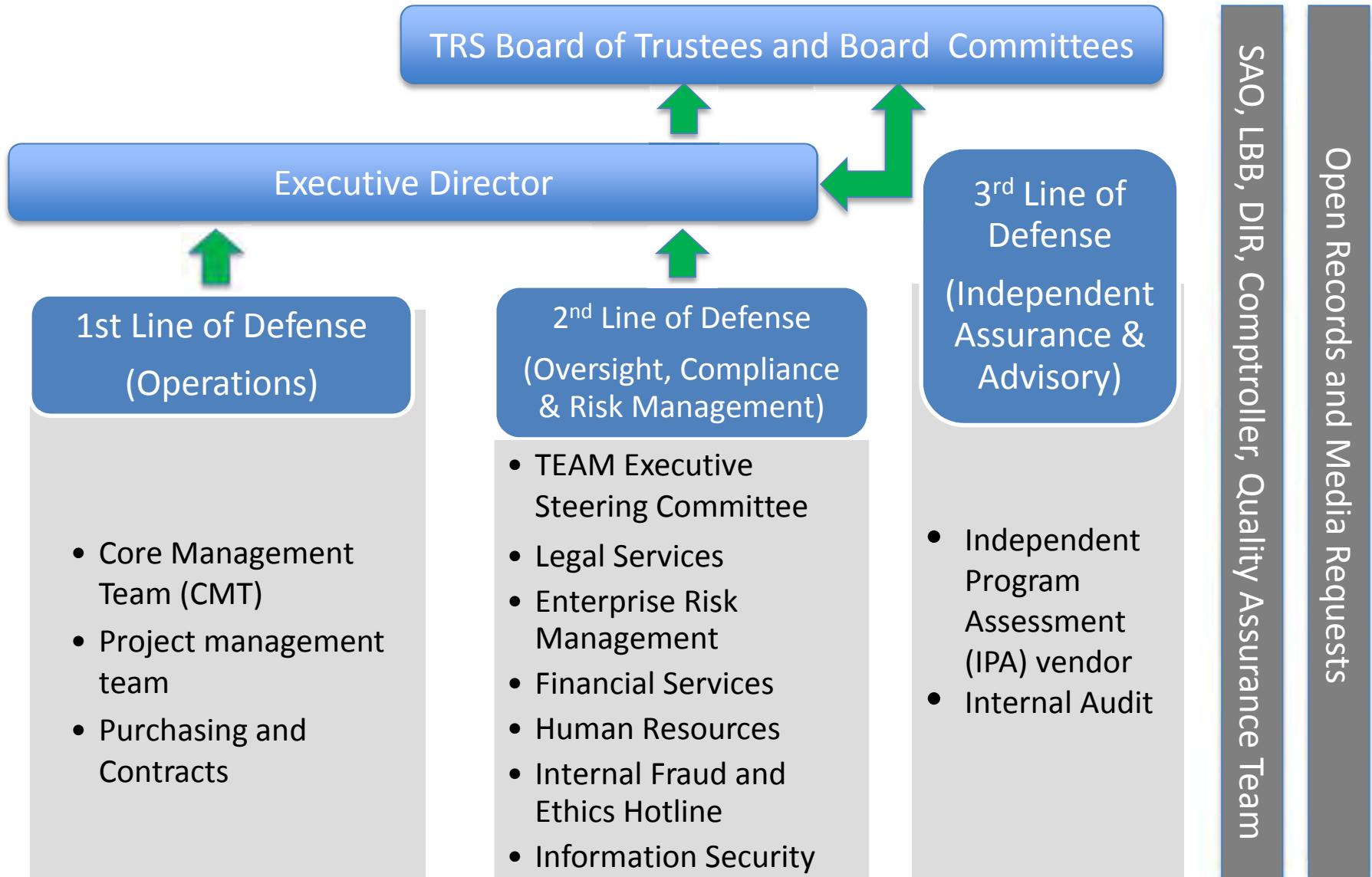


Purchasing and Contracts Lines of Defense





TEAM Project Lines of Defense





Takeaways

Multiple Lines of Defense

- Internal
 - 1st line: Operations
 - 2nd line: Compliance and Risk Management
 - 3rd line: Assurance
- External
 - State
 - Federal
 - Open government



Questions & Answers



IIA Position Paper:

THE THREE LINES OF DEFENSE IN EFFECTIVE RISK MANAGEMENT AND CONTROL

JANUARY 2013



The Institute of
Internal Auditors

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IIA POSITION PAPER: THE THREE LINES OF DEFENSE IN EFFECTIVE RISK MANAGEMENT AND CONTROL

INTRODUCTION

In twenty-first century businesses, it's not uncommon to find diverse teams of internal auditors, enterprise risk management specialists, compliance officers, internal control specialists, quality inspectors, fraud investigators, and other risk and control professionals working together to help their organizations manage risk. Each of these specialties has a unique perspective and specific skills that can be invaluable to the organizations they serve, but because duties related to risk management and control are increasingly being split across multiple departments and divisions, duties must be coordinated carefully to assure that risk and control processes operate as intended.

It's not enough that the various risk and control functions exist — the challenge is to assign specific roles and to coordinate effectively and efficiently among these groups so that there are neither "gaps" in controls nor unnecessary duplications of coverage. Clear responsibilities must be defined so that each group of risk and control professionals understands the boundaries of their responsibilities and how their positions fit into the organization's overall risk and control structure.

The stakes are high. Without a cohesive, coordinated approach, limited risk and control resources may not be deployed effectively, and significant risks may not be identified or managed appropriately. In the worst cases, communications among the various risk and control groups may devolve to little more than an ongoing debate about whose job it is to accomplish specific tasks.

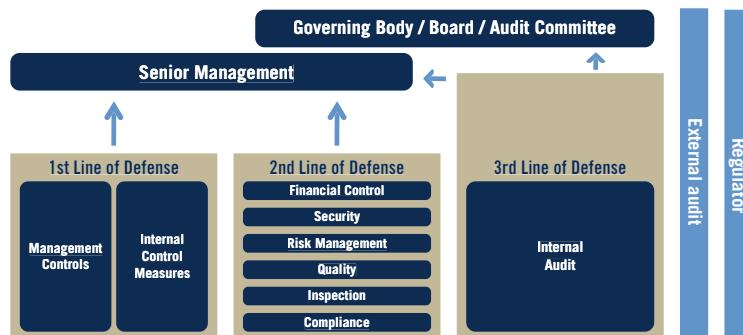
The problem can exist at any organization, regardless of whether a formal enterprise risk management framework is used. Although risk management frameworks can effectively identify the types of risks that modern businesses must control, these frameworks are largely silent about how specific duties should be assigned and coordinated within the organization.

Fortunately, best practices are emerging that can help organizations delegate and coordinate essential risk management duties with a systematic approach. The Three Lines of Defense model provides a simple and effective way to enhance communications on risk management and control by clarifying essential roles and duties. It provides a fresh look at operations, helping to assure the ongoing success of risk management initiatives, and it is appropriate for any organization — regardless of size or complexity. Even in organizations where a formal risk management framework or system does not exist, the Three Lines of Defense model can enhance clarity regarding risks and controls and help improve the effectiveness of risk management systems.

BEFORE THE THREE LINES: RISK MANAGEMENT OVERSIGHT AND STRATEGY-SETTING

In the Three Lines of Defense model, management control is the first line of defense in risk management, the various risk control and compliance oversight functions established by management are the second line of defense, and independent assurance is the third. Each of these three “lines” plays a distinct role within the organization’s wider governance framework.

The Three Lines of Defense Model



Adapted from ECIIA/FERMA *Guidance on the 8th EU Company Law Directive, article 41*

Although neither governing bodies nor senior management are considered to be among the three “lines” in this model, no discussion of risk management systems could be complete without first considering the essential roles of both governing bodies (i.e., boards of directors or equivalent bodies) and senior management. Governing bodies and senior management are the primary stakeholders served by the “lines,” and they are the parties best positioned to help ensure that the Three Lines of Defense model is reflected in the organization’s risk management and control processes.

Senior management and governing bodies collectively have responsibility and accountability for setting the organization's objectives, defining strategies to achieve those objectives, and establishing governance structures and processes to best manage the risks in accomplishing those objectives. The Three Lines of Defense model is best implemented with the active support and guidance of the organization's governing body and senior management.

THE FIRST LINE OF DEFENSE: OPERATIONAL MANAGEMENT

The Three Lines of Defense model distinguishes among three groups (or lines) involved in effective risk management:

- Functions that own and manage risks.**
- Functions that oversee risks.**
- Functions that provide independent assurance.**

As the first line of defense, operational managers own and manage risks. They also are responsible for implementing corrective actions to address process and control deficiencies.

Operational management is responsible for maintaining effective internal controls and for executing risk and control procedures on a day-to-day basis. Operational management identifies, assesses, controls, and mitigates risks, guiding the development and implementation of internal policies and procedures and ensuring that activities are consistent with goals and objectives. Through a cascading responsibility structure, mid-level managers design and implement detailed procedures that serve as controls and supervise execution of those procedures by their employees.

Operational management naturally serves as the first line of defense because controls are designed into systems and processes under their guidance of operational management. There should be adequate managerial and supervisory controls in place to ensure compliance and to highlight control breakdown, inadequate processes, and unexpected events.

THE SECOND LINE OF DEFENSE: RISK MANAGEMENT AND COMPLIANCE FUNCTIONS

In a perfect world, perhaps only one line of defense would be needed to assure effective risk management. In the real world, however, a single line of defense often can prove inadequate. Management establishes various risk management and compliance functions to help build and/or monitor the first line-of-defense controls. The specific functions will vary by organization and industry, but typical functions in this second line of defense include:

- A risk management function (and/or committee) that facilitates and monitors the implementation of effective risk management practices by operational management and assists risk owners in defining the target risk exposure and reporting adequate risk-related information throughout the organization.
- A compliance function to monitor various specific risks such as noncompliance with applicable laws and regulations. In this capacity, the separate function reports directly to senior management, and in some business sectors, directly to the governing body. Multiple compliance functions often exist in a single organization, with responsibility for specific types of compliance monitoring, such as health and safety, supply chain, environmental, or quality monitoring.
- A controllership function that monitors financial risks and financial reporting issues.

Management establishes these functions to ensure the first line of defense is properly designed, in place, and operating as intended. Each of these functions has some degree of independence from the first line of defense, but they are by nature management functions. As management functions, they may intervene directly in modifying and developing the internal control and risk systems. Therefore, the second line of defense serves a vital purpose but cannot offer truly independent analyses to governing bodies regarding risk management and internal controls.

The responsibilities of these functions vary on their specific nature, but can include:

- **Supporting management policies, defining roles and responsibilities, and setting goals for implementation.**
- **Providing risk management frameworks.**
- **Identifying known and emerging issues.**
- **Identifying shifts in the organization's implicit risk appetite.**
- **Assisting management in developing processes and controls to manage risks and issues.**

- Providing guidance and training on risk management processes.**
- Facilitating and monitoring implementation of effective risk management practices by operational management.**
- Alerting operational management to emerging issues and changing regulatory and risk scenarios.**
- Monitoring the adequacy and effectiveness of internal control, accuracy and completeness of reporting, compliance with laws and regulations, and timely remediation of deficiencies.**

THE THIRD LINE OF DEFENSE: INTERNAL AUDIT

Internal auditors provide the governing body and senior management with comprehensive assurance based on the highest level of independence and objectivity within the organization. This high level of independence is not available in the second line of defense. Internal audit provides assurance on the effectiveness of governance, risk management, and internal controls, including the manner in which the first and second lines of defense achieve risk management and control objectives. The scope of this assurance, which is reported to senior management and to the governing body, usually covers:

- A broad range of objectives, including efficiency and effectiveness of operations; safeguarding of assets; reliability and integrity of reporting processes; and compliance with laws, regulations, policies, procedures, and contracts.
- All elements of the risk management and internal control framework, which includes: internal control environment; all elements of an organization's risk management framework (i.e., risk identification, risk assessment, and response); information and communication; and monitoring.
- The overall entity, divisions, subsidiaries, operating units, and functions — including business processes, such as sales, production, marketing, safety, customer functions, and operations — as well as supporting functions (e.g., revenue and expenditure accounting, human resources, purchasing, payroll, budgeting, infrastructure and asset management, inventory, and information technology).

Establishing a professional internal audit activity should be a governance requirement for all organizations. This is not only important for larger and medium-sized organizations but also may be equally important for smaller entities, as they may face equally complex environments with a less formal, robust organizational structure to ensure the effectiveness of its governance and risk management processes.

Establishing a professional internal audit activity should be a governance requirement for all organizations. This is not only important for larger and medium-sized organizations but also may be equally important for smaller entities, as they may face equally complex environments with a less formal, robust organizational structure to ensure the effectiveness of its governance and risk management processes.

Internal audit actively contributes to effective organizational governance providing certain conditions — fostering its independence and professionalism — are met. Best practice is to establish and maintain an independent, adequately, and competently staffed internal audit function, which includes:

- **Acting in accordance with recognized international standards for the practice of internal auditing.**
- **Reporting to a sufficiently high level in the organization to be able to perform its duties independently.**
- **Having an active and effective reporting line to the governing body.**

EXTERNAL AUDITORS, REGULATORS, AND OTHER EXTERNAL BODIES

External auditors, regulators, and other external bodies reside outside the organization's structure, but they can have an important role in the organization's overall governance and control structure. This is particularly the case in regulated industries, such as financial services or insurance. Regulators sometimes set requirements intended to strengthen the controls in an organization and on other occasions perform an independent and objective function to assess the whole or some part of the first, second, or third line of defense with regard to those requirements. When coordinated effectively, external auditors, regulators, and other groups outside the organization can be considered as additional lines of defense, providing assurance to the organization's shareholders, including the governing body and senior management.

Given the specific scope and objectives of their missions, however, the risk information gathered is generally less extensive than the scope addressed by an organization's internal three lines of defense.

COORDINATING THE THREE LINES OF DEFENSE

Because every organization is unique and specific situations vary, there is no one "right" way to coordinate the Three Lines of Defense. When assigning specific duties and coordinating among risk management functions, however, it can be helpful to keep in mind the underlying role of each group in the risk management process.

FIRST LINE OF DEFENSE	SECOND LINE OF DEFENSE	THIRD LINE OF DEFENSE
Risk Owners/Managers	Risk Control and Compliance	Risk Assurance
• operating management	• limited independence • reports primarily to management	• internal audit • greater independence • reports to governing body

All three lines should exist in some form at every organization, regardless of size or complexity. Risk management normally is strongest when there are three separate and clearly identified lines of defense. However, in exceptional situations that develop, especially in small organizations, certain lines of defense may be combined. For example, there are instances where internal audit has been requested to establish and/or manage the organization's risk management or compliance activities. In these situations, internal audit should communicate clearly to the governing body and senior management the impact of the combination. If dual responsibilities are assigned to a single person or department, it would be appropriate to consider separating the responsibility for these functions at a later time to establish the three lines.

Regardless of how the Three Lines of Defense model is implemented, senior management and governing bodies should clearly communicate the expectation that information be shared and activities coordinated among each of the groups responsible for managing the organization's risks and controls. Under the *International Standards for the Professional Practice of Internal Auditing*, chief audit executives are specifically required to "share information and coordinate activities with other internal and external providers of assurance and consulting services to ensure proper coverage and minimize duplication of efforts."

RECOMMENDED PRACTICES:

- Risk and control processes should be structured in accordance with the Three Lines of Defense model.
- Each line of defense should be supported by appropriate policies and role definitions.
- There should be proper coordination among the separate lines of defense to foster efficiency and effectiveness.
- Risk and control functions operating at the different lines should appropriately share knowledge and information to assist all functions in better accomplishing their roles in an efficient manner.
- Lines of defense should not be combined or coordinated in a manner that compromises their effectiveness.
- In situations where functions at different lines are combined, the governing body should be advised of the structure and its impact. For organizations that have not established an internal audit activity, management and/or the governing body should be required to explain and disclose to their stakeholders that they have considered how adequate assurance on the effectiveness of the organization's governance, risk management, and control structure will be obtained.

All three lines
should exist in
some form at
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regardless of size
or complexity.

Risk management
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when there are
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clearly identified
lines of defense.

About the Institute

Established in 1941, The Institute of Internal Auditors (IIA) is an international professional association with global headquarters in Altamonte Springs, Fla., USA. The IIA is the internal audit acknowledged leader, chief advocate, and principal educator.

Position Papers

Position Papers are part of The IIA's International Professional Practices Framework (IPPF), the conceptual framework that organizes authoritative guidance promulgated by The IIA. A trustworthy, global, guidance-setting body, The IIA provides internal audit professionals worldwide with authoritative guidance organized in the IPPF as mandatory guidance and strongly recommended guidance. Position papers are part of the Strongly Recommended category of guidance, compliance is not mandatory, but it is strongly recommended, and the guidance is endorsed by The IIA through formal review and approval processes.

Position Papers assist a wide range of interested parties, including those not in the internal audit

profession, in understanding significant governance, risk, or control issues, and delineating the related roles and responsibilities of internal auditing.

For other authoritative guidance materials provided by The IIA, please visit our website at www.globaliia.org/standards-guidance.

Disclaimer

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Teacher Retirement System of Texas



Deputy Director's Report

Ken Welch
February 22, 2012





2013 Board of Trustees Election Overview

- This nominating election will enable TRS to provide the governor with the names of three candidates with the most votes. He will then select one of those candidates to fill the active public education position on the board currently held by Charlotte Clifton.
- Three candidates have qualified to appear on this year's ballot (in order of appearance):
 - Hiram Burguete of Mission
 - Lindsey Pollock of Houston
 - Dolores Ramirez of San Benito
- Election is for a six-year term that will begin as early as Sept. 1, 2013 and will expire on August 31, 2019.
- TRS has contracted with VR Election Services (VRES) of Carrollton, Texas, to manage the election process. Each ballot will contain the names of three candidates, and space will be provided for write-in candidates.



2013 Board of Trustees Election Timeline

July/August 2012

Members informed of election through August *TRS News*. Information also added to website.

Mid-August 2012

TRS website announced that nominating petitions were available upon request.

September 2012

Election information sent to associations with request for assistance in publicizing availability of nominating petition forms.

October 2012

TRS members reminded of election through October *TRS News*. Information also added to website.

January 2013

Election reminder sent to associations. Information added to website.

January 22, 2013

Deadline for submitting nominating petitions to TRS.

February 1, 2013

Drawing held to determine order in which names will appear on ballot.



2013 Board of Trustees Election Timeline (Cont'd)

March 15, 2013	Ballots mailed out on or before this date along with March <i>TRS News</i> article containing candidate biographical information.
May 6, 2013	Deadline for TRS to receive completed ballots.
May 7-18, 2013	Ballots counted, sorted, and verified.
Late May 2013	Independent election committee reviews election procedures and ballot count and attests to the election results.
Late May 2013	Names of three candidates and election results certified to governor.
Summer 2013	Normally during the summer (at the governor's discretion), governor appoints new trustee.
September 1, 2013	Earliest date that the new trustee takes office.