

**MINUTES OF THE
TEXAS MUNICIPAL RETIREMENT SYSTEM
Meeting of the Board of Trustees**

February 23, 2017 – 1:30 p.m.

On February 23, 2017, the Board of Trustees of the Texas Municipal Retirement System (TMRS) convened for a meeting at 1:30 p.m. at TMRS Headquarters, located at 1200 North IH 35 in Austin, Texas, with the following members present:

Board of Trustees

Jim Parrish, Chair
Bill Philibert, Vice Chair
Roel "Roy" Rodriguez
Jim Jeffers

Absent: Julie Oakley
David Landis

Present also were:

David Gavia, Executive Director
Eric Davis, Deputy Executive Director
TJ Carlson, Chief Investment Officer
Christine Sweeney, General Counsel
Bill Wallace, Director of Communications
Dan Wattles, Director of Governmental Relations
Leslee Hardy, Director of Actuarial Services
Debbie Munoz, Director Member Services
Rhonda Covarrubias, Director of Finance
Scott Willrich, Director of Information Resources
Leslie Ritter, Director of Human Resources
Robert Klausner, Klausner, Kaufman, Jensen & Levinson
Kristin Qualls, Director of Public Equity
Dimitry Shishkoff, Director of Risk Management
Marc Leavitt, Director of Absolute Return
Chris Schelling, Director of Private Equity
Tom Masthay, Director of Real Assets
Jason Weiner, Director of Fixed Income
Sandra Vice, Director of Internal Audit
Karen Jackson, Executive Assistant
Marcia Beard, RVK
Brian Borton, StepStone
Mark White, Albourne

Also in attendance:

Michelle Mellon-Werch, Assistant General Counsel
Nick O'Keefe, Senior Staff Attorney

Anthony Mills, Regional Manager – City Services
David Rodriguez, Regional Manager – City Services
Melanie Thomas, Editor
Carol Leung, Equities Investment Analyst
Chris Tindell, Private Equity Analyst
Ryan Conner, Risk Management Analyst
Cindy Morse, Investment Support Analyst
Debbie Farahmandi, Investment Operations Specialist
Peter Jeske, Project Specialist
Madison Jechow, Assistant General Counsel
Kate Reed, Compliance Officer
Eddie Schultz, Real Estate Analyst
Martha deLivron, Absolute Return Analyst
Rachel Cleak, Alternative Analyst
German Gaymer, Fixed Income Analyst
Paula Nguyen, Investments Accountant
Arielle Chou, Actuarial Analyst
Sherry Chapman, Investment Accountant
Greg Shipley, Combined Law Enforcement Associations of Texas
George Kaufman, City of Garland
David Crow, Arlington Professional Fire Fighters
Bob Scott, City of Carrollton
David Riggs, Texas State Association of Fire Fighters
Kenneth Hubold, Pension Review Board

Mr. Parrish called the meeting to order at 1:30 p.m. and Mr. Jeffers gave the invocation.

1. Consider and Act on Adoption of the Minutes from the December 8-9, 2017 Meeting of the Board of Trustees

Mr. Gavia stated that Staff had nothing to add to the minutes as presented.

Mr. Philibert moved that the Board adopt the minutes from the December 8-9, 2016 Meeting of the Board of Trustees. Mr. Jeffers seconded the motion, which passed 4-0.

2. Consider and Act on Ratification of Ordinances Adopting Updated Service Credit and/or Annuity Increases Effective January 1, 2017

Mr. Davis introduced the ordinances received after the December 2016 Board meeting. Legal Counsel had advised that the Board should ratify these ordinances to be in compliance with the TMRS Act.

Mr. Rodriguez asked for clarification on one ordinance.

Mr. Jeffers moved that the Board ratify those ordinances adopting Updated Service Credit and/or Annuity Increases that were not included on the listing presented at the December 8, 2016 Board meeting. Mr. Philibert seconded the motion, which passed 4-0.

3. Consider and Act on Adoption of 2017/2018 Internal Audit Plan

Ms. Vice presented for approval the Audit Plan for 2017-2018. She noted that during the January Internal Audit Committee meeting, it was recommended that the plan be updated to reflect the order that audits are anticipated to be performed. She noted some language was added to further clarify that the two-year audit plan is based on five engagements and that alternate engagements are included in the event that resources allow one or more alternate audits to be completed in the two-year timeframe.

Mr. Jeffers recognized Ms. Vice for her work to date and moved that the Board approve the 2017/2018 Audit Plan. Mr. Philibert seconded the motion, which passed 4-0.

4. Consider and Act on State Street Custodian Contract Extension

Due to the increasing complexities of the TMRS Investment program and the increased reporting and service needs due to the number of managers being utilized and the size of the TMRS portfolio, TMRS has outgrown the current Custody relationship. As a result, complex Custodial services and a higher level of attention to detail is needed in order to coordinate all of the moving parts of the TMRS portfolio going forward. In December 2016, the Board was presented with a budget proposal outlining and recommending the changes that are needed for 2017 and future years, including upgrading to State Street's Enhanced Asset Owner Strategies (EAOS) program. To achieve the savings discussed at the previous Board meeting, Staff recommended that the Board approve replacing the current one-year State Street Custody agreement with a five (5) year agreement and authorize the Executive Director to negotiate and execute the agreement.

Mr. Parrish requested a description of how the custody process operates as well as how the new services will be evaluated in the next six months. Mr. Carlson explained the process.

Mr. Philibert moved that the Board (i) approve renewing and extending the State Street Custody agreement for an additional five years, including upgrading TMRS' servicing level and control environment to State Streets' Enhanced Asset Owner Strategies (EAOS), at fees no higher than presented and discussed in connection with the 2017 budget that was approved by the Board at the December 9, 2016 Board meeting, and (ii) authorize the Executive Director to negotiate, execute, acknowledge, and deliver any and all contract renewals, extensions, amendments and other documents or instruments necessary or desirable to give effect to such extended custodial services by State Street on such terms and conditions as are satisfactory to TMRS, such satisfactory terms and conditions to be conclusively evidenced by the execution thereof by the Executive Director, and to do any and all other acts deemed by the Executive Director in his judgment to be necessary or appropriate, in the best interests of TMRS, to give effect to such transaction. Mr. Jeffers seconded the motion, which passed 4-0.

5. Consider and Act on Private Equity Manager Search Recommendation(s)

Mr. Schelling, Mr. Tindell and Mr. Borton from StepStone presented the Private Equity manager search recommendations. Mr. Schelling highlighted the search process timeline and objectives. The team took over 100 meetings during this process. The final selected managers scoring matrix was discussed as well as the manager selection portfolio considerations. The strategy considerations included strategy diversification, manager

implementation and geographic diversification. The target portfolio keeps a conservative stance on international exposure. Mr. Schelling reviewed the manager recommendations and three managers were recommended for approval, Marlin Equity, Marlin Heritage and One Rock.

Mr. Tindell reviewed the background and management structure of Marlin, both the Equity and Heritage funds. The firm is a very reputable, top quartile performer with an operations-focused strategy. By investing in both funds, TMRS is participating in the top end of the lower market and the entire middle market. Both funds utilize a buy-out strategy. The loss ratio in Marlin is low, 3% in Equity and 0% in Heritage.

One Rock's Fund I has a top quartile track record. One Rock will focus on Lower Middle Market companies with a buy-out strategy. They will add a great deal of operational expertise to the process. They have a low loss ratio and the return is a 2.5 gross multiple target.

Mr. Philibert moved that the Board approve the following:

- (i) Authorize the following allocation(s), each as proposed and in accordance with the TMRS Investment Policy Statement, with an initial investment allocation up to the amount set out below and at fees no greater than presented in the TMRS Staff memo, each individually contingent on favorable background checks, if required below, and successful negotiation of the investment agreements:

Name of Investment Manager, Investment Fund or Fund Strategy	Asset Class Strategy	Initial Investment Allocation	Background Check Required (Yes or No)
Marlin Equity V, LP (Marlin Equity)	Buy-Out	\$60 M	Yes
Marlin Heritage II, LP (Marlin Heritage)	Buy-Out	\$15 M	Yes
One Rock Capital Partners II, LP (One Rock)	Buy-Out	\$50 M	Yes

- (ii) Approve and incorporate by reference for all purposes the Board Standard Investment Authorizations for each such investment allocation.

Mr. Rodriguez seconded the motion, which passed 4-0.

6. Consider and Act on Real Return Manager Search Recommendation(s)

Mr. Masthay, Mr. Schultz and Mr. White from Albourne presented the manager search recommendations for Real Return. Mr. Masthay reviewed the Real Return search process timeline and reviewed what makes up the Real Asset investment class.

The search process and manager selection was discussed as well as the scoring matrix. Mr. Masthay reviewed the portfolio construction considerations and noted the manager mapping from a risk/return perspective. Real Return portfolio statistics included exposure by asset type, private vs. public assets, manager and geography. Two managers are recommended for approval, Actis and Sprott.

The first recommendation is Actis. Mr. Schultz reviewed the firm, their background and experience. Their focus is on emerging market power production and distribution platforms. Actis was originally spun out from a development bank and as such, they have a unique skill set in the power production area. One of the key risk mitigating factors is cash flow through long term Power Purchase Agreements and employing insurance where necessary. Mr. Klausner asked how divestment from fossil fuels in Real Return assets may impact Actis at the fund level.

Sprott is focused on mining/resource lending. It has a risk mitigated approach to lending with high levels of cash income and strong upside potential through equity participations. Sprott also has an active loan management, limited credit loss history, and senior approach to lending. It is complementary to existing TMRS Real Return portfolio mining sector exposure.

Mr. Rodriguez moved that the Board approve the following:

- (i) Authorize the following allocation(s), each as proposed and in accordance with the TMRS Investment Policy Statement, with an initial investment allocation up to the amount set out below and at fees no greater than presented in the TMRS Staff memo, each individually contingent on favorable background checks, if required below, and successful negotiation of the investment agreements:

Name of Investment Manager, Investment Fund or Fund Strategy	Asset Class Strategy	Initial Investment Allocation	Background Check Required (Yes or No)
Actis Energy IV, LP (Actis)	Private Real Return	\$75 Million	Yes
Sprott Resource Lending Fund, LP (Sprott)	Private Real Return	\$80 Million	Yes

- (ii) Approve and incorporate by reference for all purposes the Board Standard Investment Authorizations for each such investment allocation.

Mr. Jeffers seconded the motion, which passed 4-0.

7. Annual Portfolio Risk Review

Mr. Shishkoff presented the annual review of Risk Management. He reviewed the key points from the 2016 Risk Management Review. Risk Management must be fully integrated into every step of the investment process and the job of the Risk Management Function is to

ensure that this integration happens and is effective. TMRS has a well-defined risk management process and if it is followed, it will ensure effective risk management.

Mr. Shishkoff discussed that the Three Lines of Defense concept, distinguishes among three groups involved in effective risk management. The First Line of Defense: Functions that own and manage risks. For TMRS these are the Asset Class Directors. The Second Line of Defense: Functions that are created by the CIO for the purpose of risk oversight. In the case of TMRS, these are the Risk Management function and the Compliance function. The Third Line of Defense: Functions that provide independent assurance (Board appointed internal audit and partially external audit). The components that make up each separate line of defense were discussed.

For risk to be managed, communication of risk with the Board must be sufficiently clear for the Board to provide guidance as to the range that is acceptable (Board Risk Appetite). The risk the Investment Department deals with on a day to day basis is implementation risk. Development of the Strategic Target Allocation checks the box on "strategic risk" as it relates to the investment program. Once the Strategic policy is set, some amount of implementation risk must be taken to implement that strategic policy.

Mr. Shishkoff reviewed changes to the Investment program since 2013. TMRS had just started implementing strategic allocation to traditional active management in 2013. By the beginning of 2017, not only has the allocation to actively managed Traditional Asset Classes been completed but strategic allocations to all alternative asset classes are also very nearly complete. An Active Risk Budget Policy was an excellent way to measure and communicate Implementation Risk being taken with Traditional Asset Classes. Total Risk, which estimates how far a return can fall below our expected returns, is the better approach for communicating risk of alternative asset classes and strategies. In estimating these risks, the first step is to work with each asset team to determine an expected range of risk for their strategies. Diversification opportunities between asset class strategies are also identified using expected correlations. The second step is to combine those risk estimates with the asset class strategy guidelines in the Investment Policy Statement (IPS) and calculate the implied Asset Class Implementation Risk Ranges. Mr. Shishkoff presented how this would look graphically. The proposal is to add this representation to the quarterly risk report. Mr. Carlson noted that decisions are made with these ranges in mind.

In conclusion, the risk that the Investment staff is managing on a day to day basis is Implementation Risk. The first requirement in managing risk is communication with the Board. Staff believes that communicating in terms of risk ranges for asset class strategies and regularly showing current risk within those ranges is the best approach and can be consistently applied across all asset classes. Mr. Shishkoff discussed the next steps, which are to run the new Implementation Risk Monitoring side by side with Risk Budgeting for the remainder of 2017 and to develop formal language for these changes to be included in the Investment Policy Statement (IPS) as part of the annual IPS review in October/December.

8. Investment Staff Quarterly Report/Asset Class Updates

Ms. Qualls reviewed Public Equities noting that there are no major changes in this portfolio and stating that the year-to-date returns are positive. She highlighted the 2016 Summary of Manager's Proxy Votes as required by the IPS.

Mr. Weiner then reviewed Fixed Income. Core Fixed Income is being used to fund other asset classes allowing the overweight to come down. Non-Core is fully implemented on a committed basis.

Mr. Tom Masthay reviewed the Real Estate portfolio, stating that the return is 240 basis points over the benchmark. Mr. Masthay gave an overview of the Real Return portfolio and noted Real Return was at 6.9% compared to a 4% benchmark.

Mr. Leavitt discussed Absolute Return portfolio and focused on the portfolio objectives and the portfolio management structure. He compared and contrasted the direct portfolio to the Blackstone Fund of One. The direct portfolio is more defensive and liquid than Blackstone.

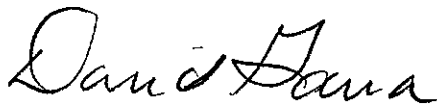
Mr. Chris Schelling reviewed the Private Equity portfolio, which is being built with a focus on risk. The portfolio is a little over halfway implemented on a committed basis. Diversification and performance were reviewed. Mr. Schelling indicated that it is early in the deployment of the fund, but there is still a positive return.

Ms. Kate Reed reviewed Q4 compliance. As of December 31, 2016, 383 separate compliance tests were run on the entire portfolios and there were no active violations. Ms. Reed indicated the project to automate testing is going well.

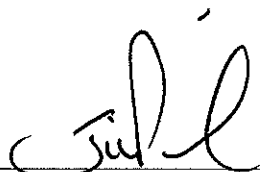
9. Executive Session

At 4:36 p.m., the Board entered into Executive Session, pursuant to Texas Government Code §§551.071 and 551.074 to consult with Legal Counsel to receive legal advice, and to discuss personnel matters. No action was taken during the Executive Session and all members of the Board that were present before the Executive Session were still present. The meeting was opened to the public again at 6:09 p.m.

At 6:09 p.m. the meeting was recessed until 9:00 a.m. on Friday, February 24, 2017.



David Gavia
Executive Director



Jim Parrish
Chair, Board of Trustees

**MINUTES OF THE
TEXAS MUNICIPAL RETIREMENT SYSTEM
Meeting of the Board of Trustees**

February 24, 2017 - 9:00 a.m.

On February 24, 2017, the Board of Trustees of the Texas Municipal Retirement System (TMRS) convened for a meeting at 9:00 a.m. at TMRS Headquarters, located at 1200 North IH 35 in Austin, Texas, with the following members present:

Board of Trustees

Jim Parrish, Chair
Bill Philibert, Vice Chair
Roel "Roy" Rodriguez
Jim Jeffers

Absent: Julie Oakley
David Landis

Present also were:

David Gavia, Executive Director
Eric Davis, Deputy Executive Director
Christine Sweeney, General Counsel
TJ Carlson, Chief Investment Officer
Rhonda Covarrubias, Director of Finance
Leslee Hardy, Director of Actuarial Services
Debbie Munoz, Director of Member Services
Bill Wallace, Director of Communications
Dan Wattles, Director of Governmental Relations
Scott Willrich, Director of Information Resources
Sandra Vice, Director of Internal Audit
Leslie Ritter, Director of Human Resources
Marc Leavitt, Director of Absolute Return
Dimitry Shishkoff, Director of Risk Management
Karen Jackson, Executive Assistant
Marcia Beard, RVK
Ron Lewis, Ron Lewis & Associates

Also in attendance:

Michelle Mellon-Werch, Assistant General Counsel
David Rodriguez, Regional Manager – City Services
Anthony Mills, Regional Manager – City Services
Madison Jechow, Assistant General Counsel
Melanie Thomas, Editor
Cindy Morse, Investment Support Analyst

Debbie Farahmandi, Investment Operations Specialist
Peter Jeske, Project Specialist
Ryan Conner, Risk Management Analyst
Arielle Chou, Actuarial Analyst
Peter Jeske, Project Specialist
Bob Scott, City of Carrollton
George Kaufman, City of Garland
Greg Shipley, Combined Law Enforcement Associations of Texas
David Riggs, Texas State Association of Fire Fighters
Lea Dunn, University Park
Tom Tvardizik, University Park

Mr. Parrish called the meeting to order and the meeting was reconvened at 9:00 a.m.

10. Overview of the 85th Legislative Session, Presentation of Legislative Committee Report and Discussion of Filed and Proposed Legislation, Including Solicitation of Board Direction to the Legislative Committee and Staff on Selected Matters, if desired

Mr. Lewis began the Legislative discussion and noted the filing deadline for bills is March 10th. The bill filing deadline is for both Houses and there should be approximately 5,000 bills filed by the deadline. Every office Mr. Lewis has visited has recognized how strong and efficient TMRS is as a system.

Mr. Wattles added that we are almost one-third of the way through the Legislative session and four items have been designated as emergency items. The emergency items are child and protective services, ethics, sanctuary cities and a constitutional convention of the states. TMRS is scheduled to make its overview presentation to the House Pension Committee on February 27th. Representative Dan Flynn is returning to chair the House Pensions Committee and Senator Joan Huffman is returning to chair the Senate State Affairs Committee. Ethics legislation has been passed by the Senate, and it does have pension implications. The bill proposes to suspend the annuity payments of an elected member of a retirement system who is convicted of a qualifying felony while in office and directly arising from their official duties of that office. No bills have been filed yet that directly amend the TMRS Act.

Another bill of significance is SB 936 which has been filed by Senator Huffman. This bill would create an Interim Joint Study Committee to review pension system types. This committee is to report back in January 2019. This is in addition to the bills listed in the Board packet.

Mr. Gavia and Mr. Wattles along with the TMRS Legislative Committee traveled to Washington, D.C. to attend the 2017 National Conference on Public Employee Retiree Systems. They made five office visits on Capitol Hill with selected members of the Texas Congressional Delegation that serve on Committees with jurisdiction over TMRS. There are tax changes being reviewed which could affect pension systems.

Mr. Rodriguez asked about consolidation of the Iran and Sudan investment provisions and associated bills. Mr. Wattles responded that the proposed consolidation bill proposes to

bring all retirement systems into the divestiture issues. TMRS is currently included in the current Iran divestiture, but not in Sudan. TMRS would be included to divest from companies boycotting Israel. Mr. Carlson stated that we have no direct holdings, but we do have some indirect holdings that we do have to report to the Pension Review Board.

Mr. Gavia introduced Lea Dunn and Tom Tvardizik, from University Park to discuss the issues relating to their Texas Local Fire Fighters Retirement (TLFFRA) plan. Mr. Tvardizik noted that this issue has been reviewed by the City for the last fifteen years. He discussed the University Park Firemen's Relief and Retirement Fund (FRRF) actuarial assets and liabilities and reviewed the pension funding for both TMRS and FRRF plans. The funding requirements for the FRRF continue to escalate and they are looking to find the best solution for providing benefits to firefighters. University Park is proposing to maintain the existing FRRF and fully fund that plan and enroll all new, first-hired fire department employees in TMRS.

Mr. Rodriguez asked what the Unfunded Actuarial Accrued Liability would look like if the new hires join TMRS. Mr. Tvardizik stated that it would increase immediately and he discussed what the City has reviewed and planned for that in that regard. The straw poll of firefighters was 3 to 1 in favor of this change. University Park and FRRF have discussed the funding issues. Proposed legislation has been submitted to Representative Meyer's and Senator Huffhines' offices as sponsors. The proposal is currently with the Legislative Counsel.

Mr. Parrish asked if they anticipate any opposition to this action. This was discussed and Mr. Rodriguez suggested engaging the Texas State Association of Fire Fighters. The focus will only be on the University Park FRRF and not with any other TLFRRRA funds. This bill will amend the TMRS Act as it relates to the definition of "department". Mr. Lewis advised the University Park representatives to review the rules regarding "local bills" and whether notice must be posted thirty days in advance of a bill being filed.

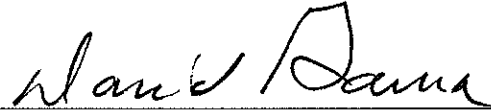
Mr. Riggs asked if University Park had a transition date in mind. Mr. Tvardizik indicated that 2018 would be the possible time frame after all the obligations had been met.

11. Review of Internal Audit Process

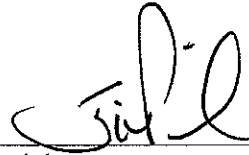
Ms. Vice presented an outline of the Internal Audit process. The four areas of the process are Planning, Field Work, Reporting and Follow-Up.

The Planning Phase consists of the following: 1) engagement notice, 2) entrance conference, 3) understanding the topic, 4) risk assessment, and 5) audit procedures. Ms. Vice discussed the field work phase and the steps include: 1) data and information, 2) audit procedure, 3) findings, 4) client feedback, and 5) update findings.

The Board lost its quorum at 9:47 a.m.



David Gavia
Executive Director



Jim Parrish
Chair, Board of Trustees