



Investment Practices and Performance Evaluation

May 24, 2024



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Executive Summary

Pursuant to Section 802.109 of Texas Government Code, NEPC, LLC (“NEPC”) has been engaged by the Texas Municipal Retirement System (“TMRS” or “the System”) to conduct an independent evaluation of the appropriateness, adequacy and effectiveness of TMRS’ investment policies and practices. In preparing this evaluation, NEPC has followed the guidance provided by the Texas Pension Review Board in composing our evaluation.

The 2024 Investment Practices and Performance Evaluation (“IPPE”) for TMRS covers five Evaluation Topics, broadly defined in Section 802.109 of the controlling Government Code:

- A review of the System’s governance processes related to investment activities;
- An analysis of any investment policy or strategic investment plan adopted by the System;
- A detailed review of the System’s investment asset allocation;
- A review of the System’s investment manager selection and monitoring process; and
- A review of the appropriateness of investment fees and commissions.

Period of Evaluation:

The Evaluation Period began on 1 September 2023 and ended on 30 March 2024.

Overview of Findings:

NEPC finds TMRS’ policies, procedures and practices to be appropriate, adequate and effective when compared to industry prevailing practice.

Overview of Recommendations:

This 2024 IPPE report recommends three actions – none of which are critical – that TMRS could undertake that may help in sustaining the success of TMRS in serving its members, retirees and beneficiaries while mitigating potential impediments to efficiency.

- 1) Based on NEPC’s initial evaluation, it was noted that TMRS should implement a process for a more formal **review of the Investment Operational Procedures Manual** and dissemination of all Standard Operating Procedures (“SOPs”) to investment team members on at least an annual basis. Before issuance of this final report, TMRS has made changes that bring the System’s processes in line with NEPC’s recommendation. See more detail on page 13.
- 2) NEPC encourages TMRS to **finalize the Investment Compliance process for auditing proxy votes** that ISS submits on the System’s behalf. See more detail on page 16.
- 3) TMRS may wish to **review the personal trading policy**. See more detail on page 16.

Methodology

For each of the five Evaluation Topics, we have noted the Activities Completed, Standards for Comparison, NEPC's Findings and Recommendations for Improvement. NEPC wishes to thank the entire investment staff at TMRS for their timely and thorough cooperation in this evaluation process.

Timeline for TMRS 2024 IPPE Process:

September 1, 2023 – NEPC requests source documents from TMRS Staff
January 10, 2024 – Two NEPC evaluators conduct on-site interviews with TMRS Staff
March 19, 2024 – NEPC evaluators conduct additional interviews with Staff
March 30, 2024 – NEPC delivers executive summary of IPPE report to Staff
April 15, 2024 – NEPC submits preliminary draft IPPE report to TMRS Staff
April 24, 2024 – TMRS responds to NEPC draft
May 16, 2024 – NEPC sends final IPPE report to TMRS
June 1, 2024 – Final Report is submitted to Texas Pension Review Board

Documents Reviewed:

NEPC reviewed Texas Constitution and Government Code documents relevant to TMRS. A number of additional documents were requested and received from the TMRS investment staff. The source documents reviewed by NEPC include:

- Texas Constitution Article XVI, Section 67
- Texas Government Code Chapters 801-804, 808-810, 851-855
- Texas Property Code Chapter 117
- TMRS Board Bylaws (September 17, 2020)
- Texas Pension Review Board IPPE Guidance (adopted October 17, 2019; updated October 6, 2022)
- Investment Operational Procedures Manual (December 20, 2022)
- Texas Administrative Code Chapter 607, Subchapter B, Rule §607.110
- Board of Trustees Orientation and Education Policy (March 25, 2021)
- Annual Comprehensive Financial Report – Policies and Procedures Overview (October 31, 2023)
- Rebalancing Procedures
- Watch List Procedures
- Private Market Investment Procedures
- Investment Memos
- Investment Fund Legal Review Process
- SMA Manager Fees
- Trading Cost Analysis (July 21, 2023)
- SMA Management Fee Approval Process (June 7, 2023)
- Personal Trading Policy (January 1, 2020)
- Investment Standard Operating Procedures (August 2023)
- Investment Process Manual (January 1, 2024)
- Investment Department Internal Procedures Manual (August 2022)
- ALM Study
- Annual Comprehensive Financial Report (ACFR)
- Pension Valuation Reports
- Investment Policy Statement

Interviews with TMRS Staff:

Sam Austin (NEPC Partner and Lead Consultant for TMRS) and Kevin Lau-Hansen (NEPC Head of Operational Due Diligence) traveled to the TMRS headquarters for interviews with Staff on 10 January 2024 and again on 19 March 2024.

On-site interviews were conducted with the following individuals:

David Wescoe – Executive Director
Yup Kim – Chief Investment Officer
Tom Masthay – Deputy Chief Investment Officer
Nick O’Keefe – Chief Financial Officer
Michele Fullon – Investment Compliance Officer
Kristyn Scoggins – Director of Internal Audit
Timothy Sweeney – Director, Public Markets

Document review and interviews were supplemented by numerous follow-up emails and telephone calls to further investigate context and implementation of policy and procedures.

Standards of Comparison:

TMRS did not provide a list of self-described peers for this evaluation. NEPC constructed a peer group of eleven (11) institutional investors based on two factors:

- 1) Our understanding from verbal statements that TMRS Executive Director feels that TMRS peers might include statewide public pension plans with assets greater than \$10 billion and with a funded ratio similar to that of TMRS.
- 2) NEPC’s view that it is reasonable to compare TMRS policies with those of other Texas statewide pension plans operating in a similar geographic, regulatory, and talent pool environment as TMRS.

This peer group served as a standard of comparison for the Investment Practices and Performance Evaluation. We studied each peer’s website, IPS, ACFR and other publicly available documents for comparisons of governance, investment objectives, assumed rate, funding ratio, asset allocation and historical performance.

TMRS Peer Group:

- Arkansas Teacher Retirement System
- Employees Retirement System of Texas
- Illinois Municipal Retirement Fund
- Minnesota State Employees Retirement System
- Missouri Local Government Employees Retirement System
- Nebraska Investment Council
- South Dakota Retirement System
- Tennessee Consolidated Retirement System
- Texas County & District Retirement System
- Teacher Retirement System of Texas
- Utah Retirement System

Where applicable, we also compared the TMRS investment policies and practices against industry standards articulated by institutions of national scope such as the Governmental Accounting

Standards Board (GASB), the Actuarial Standards Board (ASB), the Association of Public Pension Fund Auditors (APPFA), CFA Institute, Government Finance Officers Association (GFOA), National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS).

Another standard of comparison was NEPC's deep experience with other pension funds across the country. NEPC currently advises 420 retainer clients, including 71 government-sponsored retirement systems ("public funds"), representing \$775 billion of public fund assets under advisement. NEPC's Public Fund Team consists of 18 investment professionals, including five Partners that collectively have advised pension clients on investment best practices for more than 100 years.

Findings:

The findings reported herein are a summary of NEPC's review of source documents and interviews with staff versus the standards of comparison listed above.

Recommendations:

Where applicable, NEPC identifies suggestions that can improve operational efficiency, facilitate more clear communication of policy, or bring TMRS closer in line with industry best practice.

Section 1. Review of Governance Processes Related to Investment Activities

Activities Completed:

NEPC requested and, in timely fashion, received materials from TMRS Staff to document the roles of Board members, how Board members are selected, the terms of their appointment/election, as well as detailed biographies on current Board members. NEPC also reviewed documents listing fiduciary education standards required by the Texas Pension Review Board. In interviews with TMRS staff, NEPC inquired how each Board member's compliance with these educational requirements is monitored.

As part of the governance analysis, NEPC evaluated the following documents:

- Bylaws of the Board of Trustees of the TMRS Amended as of September 17, 2020
 - Texas Constitution, Article XVI, Section 67
 - Texas Government Code Title 8, Subtitle G, Chapter 851 – 855 (the 'TMRS Act')
 - Section 855.101 of the TMRS Act
- TMRS Investment Policy Statement
- TMRS Board Minutes
- TMRS Board Bios
- Board of Trustees Orientation and Education Policy
- PRB Training Submissions
- Texas Pension Review Board Minimum Educational Training (MET) program
- <https://www.prb.texas.gov/education-met-program/>
- Peer group review
- Staff Investment Committee Charter
- Investment Operational Procedures Manual
- Investment Operational SOPs

Standard of Comparison:

NEPC compared the governance structure of TMRS against governance information publicly available on peers and with NEPC client experience. We also asked our NEPC colleagues for feedback on whether TMRS Board governance is consistent with leading and prevailing practice among the dozens of other U.S. public pension funds to whom our consultants advise.

Findings:

TMRS draws its authority from Article XVI, Section 67.c.1.C of the Texas Constitution:

“The legislature shall provide by law for...a statewide system of benefits for officers and employees of cities in which cities may voluntarily participate.”

According to the TMRS IPS, the Board has a fiduciary responsibility to:

1. Exercise the degree of judgment and care, under the circumstances, that persons of prudence, discretion, and intelligence exercise in the management of their own affairs, considering the probable income from the securities and probable safety of their capital.
2. Evaluate investment decisions in the context of the entire Trust Fund portfolio and with appropriate risk and return objectives.

To execute this fiduciary responsibility, TMRS has established an investment governance structure that includes a Board of Trustees, which delegates authority to the Executive Director, Chief Investment Officer, Staff Investment Committee, Investment Staff, Compliance Staff, and to external vendors hired by the Board including Investment Consultants, a Consulting Actuary, a Custodian and External Advisors. The Board's investment role includes, but is not limited to, the following:

1. Establishing investment goals, objectives and beliefs of the System consistent with plan funding needs;
2. Adopting a written IPS;
3. Monitoring and evaluating investment performance, investment risk, and compliance with the IPS and applicable state and federal laws;
4. Selecting, in consultation with staff, the General Investment Consultant, any Specialized Investment Consultants, Custodian Bank, and Securities Lending Agent;
5. Periodically reviewing investment consultant performance; and
6. Reviewing and, as appropriate, approving investment activities not delegated to staff.

Executive Director

The Board has determined that implementation of investment decisions within the limits set forth in the IPS shall be delegated to the Executive Director (ED) or their designees. The ED's responsibilities and duties include, but are not limited to:

1. Supervising the investment program by ensuring that investment staff act in accordance with the IPS and that internal controls and a compliance structure are in place to safeguard Trust Fund assets;
2. Negotiating, where necessary, and executing all contracts, agreements, and memorandums of understanding in accordance with the IPS;
3. Taking prudent action deemed necessary to protect Trust Fund assets;
4. Ensuring regular investment reporting is provided to the Board; and
5. Performing or delegating additional duties as determined by the Board.

Chief Investment Officer

The Chief Investment Officer (CIO) is the senior member of the investment staff and directs the day-to-day activities of the investment program. The CIO's responsibilities and duties or its designees include, but are not limited to:

1. Providing information, support, and advice to the Board to ensure its directives are fulfilled;
2. Ensuring implementation of the investment program is consistent with the Board's intentions as set forth in the IPS;
3. Ensuring adequate controls are in place to safeguard Trust Fund assets by maintaining internal procedures, analytical and risk management tools, and recommending updates to the IPS;
4. Recruiting, retaining and supervising a qualified investment staff capable of implementing the IPS; and
5. Performing or delegating other duties pertinent to the day-to-day management of the Trust Fund.

General Investment Consultant

1. Advising on the development of investment goals and objectives, investment policies and strategies, asset allocation, investment manager and service provider selection, monitoring, terminations, guidelines and restrictions, analysis of investment performance and risk,

advice on internal staffing issues, and independently researched support for delegated investment decisions in areas of firm expertise.

2. Ensuring the Board is provided educational opportunities on institutional investment practices and other topics pertinent to the discharging their fiduciary obligations.
3. Working closely with staff to ensure that TMRS' investment objectives are achieved in accordance with the IPS and applicable state and federal laws and regulations.
4. Collaborating with the Consulting Actuary, Specialized Investment Consultants, and other investment service providers to provide coordinated advice to the Board.

Specialized Investment Consultant

The Board may retain one or more Specialized Investment Consultant to provide advice on specific asset class implementations or other topics. Specialized Investment Consultants collaborate with the General Investment Consultant and staff to provide independent support for delegated investment decisions.

The Board, pursuant to limitations set forth below, delegates the following authority to staff.

Investment Managers

The Board authorizes staff to hire, retain and terminate investment managers to achieve the System's investment objectives.

Investment Decisions

The Board delegates to staff the authority to invest Trust Fund assets subject to the following limitations:

1. Passive Public Markets Strategies. An investment in Passive Public Markets Strategies up to limits stated in the Asset Allocation.
2. Active Public Markets Strategies. An investment in Active Public Markets Strategies up to 3% of total Trust Fund assets.
3. Private Markets Strategies. An investment in Private Markets Strategies up to 0.75% of total Trust Fund assets. Three years after an initial investment in an Open-ended Private Markets Strategy, additional investments may be made up to 1.25% of total Trust Fund assets.
4. Asset-Specific Private Markets Strategies (ASPMS). An investment in an ASPMS strategy with a current investment manager cannot exceed 0.375% of total Trust Fund assets. No individual investment with the manager can exceed 0.10% of total Trust Fund assets.
5. Rebalancing. The authority to rebalance Trust Fund assets so long as no additional net investment is required and is within the above limitations.
6. Cash Management. The Board delegates to the CIO the ability to raise cash from Passive Public Markets Strategies and Active Public Markets Strategies to meet the operational needs of the System and to invest cash consistent with the Board's Asset Allocation.
7. Emergencies. Emergency measures to ensure Trust Fund assets remain under fiduciary management are delegated to staff.

Delegation Standards

The following standards apply to investment delegation:

1. Delegated Limits. Delegated limits are calculated using the market value of total Trust Fund assets as reported in the latest Annual Comprehensive Financial Report (ACFR).
2. Investment Consultant Support. Written General and/or Specialized Investment Consultant support must be received prior to the implementation of any delegated Investment Decisions with respect to Passive Public Markets Strategies, Active Public Markets Strategies, and

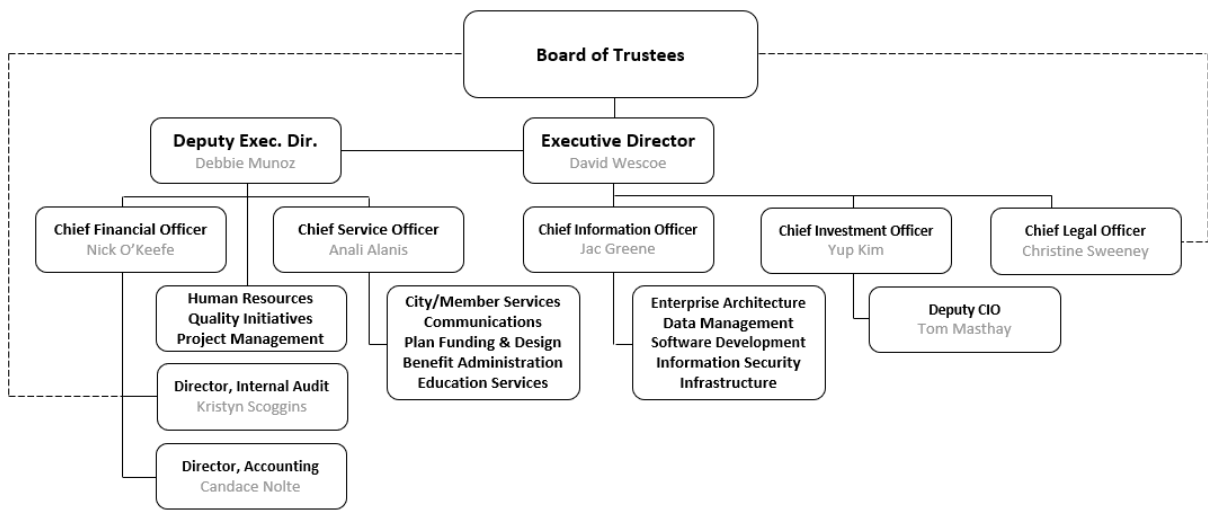
Private Markets Strategies. Written Consultant support for an existing investment strategy may be relied upon for a delegated decision involving an ASPMS. Written Investment Consultant support for approved Transition Managers must be provided every four years.

- Executive Director Designee. When the ED designates responsibility for executing investment contracts and agreements, the designee must be independent of and in addition to the CIO.

Illustration 1.1, below, is a helpful visualization of the System’s governance structure. Albourne and NEPC act as vendor consultants in investment-oriented activities.

Illustration 1.1

Organization Chart: Investment/Financial Governance + Chiefs + Senior Staff Functions



Board of Trustees

Per Article XVI, Section 67 of the Texas Constitution, “each statewide benefit system must have a board of trustees to administer the system and to invest the funds of the system in such securities as the board may consider prudent investments. In making investments, a board shall exercise the judgment and care under the circumstances then prevailing that persons of ordinary prudence, discretion, and intelligence exercise in the management of their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income therefrom as well as the probable safety of their capital.”

There are six members of the TMRS Board of Trustees, with one seat currently vacant. TMRS Trustees are appointed for six-year terms by the Governor with the consent of the Senate. The Governor appoints three executive trustees and three employee trustees. To be eligible to serve as an executive trustee a person must be a chief executive officer, chief finance officer, or other officer, executive or department head of a participating municipality. To be eligible to serve as an employee trustee a person must be an employee of a participating municipality. A trustee is immediately disqualified from serving as a trustee if the trustee ceases to satisfy (these) requirements.

Per Texas Government Code Section 855.004, the trustees hold office for staggered terms of six years, with the terms of two trustees expiring February 1 of each odd-numbered year. The Governor shall

fill a vacancy in the office of a trustee for the unexpired term by appointing a successor from a participating municipality.

Before taking office as a trustee, a person shall present to the board of trustees a certified oath of office subscribed before the clerk of the municipality that the person serves.

BOARD BIOGRAPHIES:

Bill Philibert, Chair, Director of Human Resources and Risk Management, City of Deer Park

Bill Philibert is the Board Chair. He was appointed to the Board in February 2013 and reappointed in July 2020. Mr. Philibert has served as Board Chair and Vice Chair, Chair of the Audit Committee, and Chair and Vice Chair of the Budget and Compensation Committee, Chair and Vice Chair of the former Advisory Committee on Benefit Design, and Chair and Vice Chair of the former Legislative Committee. Mr. Philibert is Director of Human Resources and Risk Management of the City of Deer Park, Texas.

David Landis, Vice Chair, City Manager, City of Perryton

David Landis is the Board Vice Chair. He was appointed to the Board in September 2013 and reappointed in April 2016 and May 2022. Mr. Landis has served as Board Chair and Vice Chair, Chair and Vice Chair of the Audit Committee, Vice Chair of the Compensation Committee, Vice Chair of the former Advisory Committee on Benefit Design, and Vice Chair of the former Legislative Committee. Mr. Landis is City Manager of the City of Perryton, Texas.

Tommy Gonzalez, City Manager, City of Midland

Tommy Gonzalez was appointed to the Board in April 2024. Mr. Gonzalez previously served as the City Manager of El Paso from 2014 to 2023, where he earned the Baldrige Foundation E. David Spang Lifetime Leadership Award in 2022. He helped El Paso earn various awards including the All-America City Award and Texas Award for Performance Excellence. Mr. Gonzalez is the City Manager of the City of Midland, Texas.

Tricia Mirabelle, Commander, City of Pflugerville Police Department

Tricia Mirabelle was appointed to the Board in April 2024. She is president and Board Member of Blue Guardian of Pflugerville, a volunteer law enforcement liaison for ASIS International, and member of the International Association of Chiefs of Police. Additionally, she is a Women in Leadership subcommittee member for the Texas Police Chiefs Association. Ms. Mirabelle is a Commander in the Pflugerville Police Department.

Roy Rodriguez, City Manager, City of McAllen

Roy Rodriguez was appointed to the Board in April 2024. He is a member of the Texas City Managers Association (TCMA) and Region 10 president. He is a member of the American Society of Civil Engineers, Rio Grande Drainage Committee, Rio Grande Valley Metropolitan Planning Organization, and South Texas College Public Administration Advisory Council. He is a former director of the Lower Rio Grande Water Committee and a former TMRS trustee, where he twice held the position of chairman between 2005 and 2018. Mr. Rodriguez is the City Manager of the City of McAllen, Texas.

Bob Scott, Deputy Town Manager, Town of Prosper

Bob Scott was appointed to the Board in July 2020. He has served as Chair and Vice Chair of the Board, Chair and Vice Chair of the Budget and Compensation Committee, Chair of the Audit Committee, Vice Chair of the Stakeholder Advisory Committee, and Vice Chair of the Advisory Committee on Benefit Design. Mr. Scott is the Deputy Town Manager of the Town of Prosper, Texas.

Investment Operations SOPs

Since 2020, TMRS has continued to implement changes to their processes to further delegate the identification, documentation, and implementation of specific processes down to those who perform them on a regular basis. As part of this, the Investment Department – Internal Procedures Manual was revised extensively in 2022 in order to delegate responsibility for oversight of a number of granular investment procedures from the CIO to the Investment Operations staff and other Investment Department teams. The result of this revision was to split the original document into the Investment Operational Procedures Manual, consisting of 17 pages, and the Investment Standard Operating Procedures (“SOPs”), consisting of 67 pages.

The SOPs are designed to be flexible and be updated when necessary to reflect changes in processes or establish new processes that have been delegated to the Investment Department. NEPC observes that the SOPs is a well-structured document, appears to capture the majority of procedures, and is an example of best industry practice. They are a crucial tool for cross-training of TMRS’ staff and are an example of best industry practice, clearly describing processes necessary for implementation of TMRS’ investment program. The SOPs state that they are to be reviewed at least annually and that they are the responsibility of the Director of Investment Operations.

While it appears certain SOPs were amended throughout the review period, TMRS was not able to provide evidence that this document was reviewed by the Investment Operations team on an annual basis with the purpose being to document new processes, amend current processes, and generally to ensure the Investment Operations team has a clear understanding of the different processes for which they are responsible. NEPC’s recommendation is for TMRS to implement a process for reviewing and disseminating both documents (the SOPs and the Investment Operational Procedures Manual) to Investment team members on at least an annual basis.

Since NEPC began its evaluation of the System and before issuance of this final report, NEPC notes that TMRS has made changes that bring the System’s processes in line with NEPC’s recommendation. Since March 2024, the investment operations function reports to the Chief Financial Officer independent of CIO oversight, and the investment data, performance, and risk (“DPR”) function reports to the Deputy CIO. The Investment Operational Procedures Manual that NEPC initially reviewed for this evaluation included procedures for both investment operations and DPR functions. Since then, the Manual has been divided into two components: i) an Investment Operational Procedures Manual under the oversight of the CFO; and ii) an Investment Data Procedures Manual under the oversight of the Deputy CIO. Both components are being updated to require formal periodic review consistent with NEPC’s recommendation.

Recommendations:

1. Based on NEPC's initial evaluation, it was noted that TMRS should implement a process for a more formal review of the Investment Operational Procedures Manual and dissemination of all Standard Operating Procedures ("SOPs") to investment team members on at least an annual basis.
 - NEPC observed that the SOPs are generally well-structured, appearing to capture the majority of procedures. The Investment Operational Procedures Manual was noted to be worthy of further development and consideration.
 - SOPs state that they are to be reviewed at least annually and that they are the responsibility of the Director of Investment Operations.
 - While it appeared certain SOPs were amended throughout the review period, TMRS was not able to provide evidence that this document was reviewed by the Investment Operations team on an annual basis with the purpose being to document new processes, amend current processes, and generally to ensure the Investment Operations team has a clear understanding of the different processes for which they are responsible.
 - Before issuance of this final report, TMRS has made changes that bring the System's processes in line with NEPC's recommendation, as described in the "Investment Operations SOPs" section.

Section 2. Investment Policy Statement Analysis and Compliance

Activities Completed:

NEPC reviewed the following documents:

- Investment Policy Statement adopted 1/1/2024
- Investment Operational SOPs dated 12/13/2023
- Investment Operational Procedures Manual dated 8/2022
- Board Materials 2020-2023
- Virtual interview with Nick O’Keefe

Standard of Comparison:

To document that the structure of the IPS and TMRS compliance with its IPS are consistent with prevailing practice, NEPC used a three-step evaluation process. The first step was to compare the IPS to the investment policy statements of other large, sophisticated institutional investors identified as peers of TMRS. The second step involved comparing the IPS to the recommended investment policy statements by the Government Financial Officers Association (“GFOA”) and the CFA Institute. The third step was to compare the System’s IPS to the NEPC sample IPS template. This template applies NEPC’s 30 plus years of experience in working with public fund clients on both the structuring of, and compliance with, their investment policy statements.

Findings:

The most recent version of the IPS was adopted on December 14, 2023, and went into effect as of January 1, 2024. The IPS reflects the new asset allocation policy and benchmarks that were approved by the Board in June and September 2023, respectively. The most recent version also reflects modest amendments made to the IPS to clarify the roles and responsibilities of different entities.

The TMRS Investment Policy Statement (IPS) is generally consistent with the following elements recommended by GFOA, the CFA Institute and NEPC:

- Scope, purpose, investment objectives, investment philosophy/beliefs
- Governance
- Investment guidelines
- Asset allocation, rebalancing and funding policy/procedures
- Internal controls
- Authorized intermediaries (custodians, depositories, broker/dealers, etc.)
- Risk management and objectives
- Performance standards and procedures
- Reporting and disclosure policy/procedures

In the role of General Investment Consultant, NEPC has directly observed that TMRS is adhering to the governance and compliance guidelines set forth in the IPS. Under normal market conditions, the System should be able to sustain a commitment to the IPS policies under most likely foreseeable market environments and the investment managers should be able to maintain fidelity to their respective policies. However, it is important to note that TMRS may not achieve stated objectives over significant periods of time given persistently abnormal circumstances (including, but not limited to, low or negative interest rates, deflation, liquidity traps, global recession, heightened barriers to trade, breakdown of financial markets, or exogenous geopolitical turmoil).

Investment Compliance

TMRS implements an investment compliance program through the Chief Financial Officer. Investment compliance staff duties include monitoring TMRS's compliance with the Investment Policy Statement, monitoring hired investment manager's compliance with investment management agreements, monitoring separately managed account portfolios for compliance with agreements, and monitoring TMRS Investment Staff's personal trading, among others.

One of the most important duties of Investment Compliance is to control for and mitigate risks from conflicts of interest. Per Section II of the IPS under Standard of Care, "Conflicts of Interest [are] Prohibited" with applicability extending to Board members, TMRS employees, investment consultants, and investment managers. To mitigate the risk of conflicts of interest arising, prior to every Staff Investment Committee meeting, Investment Compliance distributes a form to meeting participants asking them to certify that they do not have any conflicts of interest regarding the topics to be discussed in that meeting. NEPC finds that this an example of TMRS setting industry best practice by placing repeated emphasis on identifying conflicts of interest and keeping the topic front-of-mind for key meeting participants.

To ensure TMRS remains in compliance with its Investment Policy Statement and other procedures, on a weekly and quarterly basis, the investment compliance staff is responsible for testing TMRS's portfolio for all testable parameters that have been identified in the IPS to ensure the System remains in compliance. The results of these tests are reported to the Board at quarterly meetings. A review of the Board meeting materials confirmed that TMRS was in compliance with the testable parameters in the Investment Policy Statement in each quarter since Investment Compliance testing began to be reported to the Board in Q3 2021. NEPC's own testing of TMRS's portfolio also confirmed that the System was in compliance with the IPS as of 9/30/2023.

Investment compliance staff works with TMRS's custodian bank, State Street, which performs automated compliance checks of the System's separately managed account ("SMA") portfolios on a weekly and monthly basis. The SMA portfolios are generally public market investments and TMRS has established clear minimum requirement guidelines with the SMA managers for permissible investments. State Street is able to run checks of these portfolios on an automated basis, flag the results to investment compliance staff, which then follows up with the SMA managers to determine whether they were aware of the violation and understand the action plan. Reportedly, many flags are attributable to passive violations such as where an issuer's credit rating is downgraded below the minimum permissible level, which then requires the SMA manager to trade out of the name to resolve the violation. NEPC finds the outsourcing of these compliance checks to the custodian bank and the follow-up process to be well designed and an example of industry best practice.

TMRS personal trading policy applicable to the Investment Staff is also monitored by the investment compliance staff. Investment staff employees are required to obtain pre-clearance for all personal securities transactions except for those where less than \$2000 of any applicable security is transacted over a rolling 30-day period, or for those regarding mutual funds, index funds, ETFs and the like. Investment Staff are also required to submit transactional disclosure forms within 10 days of the pre-clearance to investment compliance staff, and annually, Investment Staff are required to submit annual brokerage statements. NEPC finds that the \$2000 exemption is higher than peers and that many peers and other financial market participants have moved to quarterly brokerage account statement submissions and review. TMRS may consider whether lowering the \$2000 exemption and increasing the frequency of brokerage account statement review is appropriate.

Proxy Voting

In 2023, TMRS re-assumed proxy voting responsibility and adopted a proxy voting policy that states “Investment staff will vote proxies to maximize the long-term investment returns consistent with the Board’s fiduciary duty and the laws of the State of Texas.” As part of this change, in early 2023, TMRS engaged Institutional Shareholder Services (“ISS”) to act as its proxy advisor for its SMAs and for other investment with external managers, proxy voting has been delegated to those managers. TMRS worked with ISS to set the guidelines for how ISS should vote on corporate actions to ensure that TMRS votes according to the System’s best interest and consistent with fiduciary duties. At the time of NEPC’s review, TMRS did not have a process in place for systematically reviewing or auditing the votes ISS submitted on its behalf but was in the process of establishing a process. It is likely that Investment Compliance will be responsible for auditing a selection of votes submitted by ISS to ensure compliance with the guidelines set by TMRS. NEPC notes that TMRS may have significantly less risk of misstep in proxy voting because TMRS neither internally trades, nor has developed a custom proxy voting policy which requires higher order monitoring.

Recommendations:

2. NEPC encourages TMRS to finalize the Investment Compliance process for auditing proxy votes that ISS submits on the System’s behalf.
 - In early 2023, TMRS engaged Institutional Shareholder Services (“ISS”) to act as its proxy advisor for its SMAs.
 - TMRS selected ISS’ Global Board Aligned Policy to set the guidelines for how ISS should vote on corporate actions.
 - At the time of NEPC’s on-site interviews, TMRS did not have a process in place for systematically reviewing or auditing the votes ISS submitted on its behalf but was in the process of considering whether such an audit process is needed. NEPC believes this is consistent with the language on monitoring proxy votes in the TMRS IPS.
 - In response to NEPC's preliminary report, staff indicated they will implement a process for reviewing consistency of voting with TMRS' adopted proxy voting policy.
3. TMRS may wish to review the personal trading policy and consider whether lowering the \$2000 exemption and increasing the frequency of brokerage account statement review is appropriate.
 - Investment Staff employees are required to obtain pre-clearance for all personal securities transactions except for those where less than \$2000 of any applicable security is transacted over a rolling 30-day period, or for those regarding mutual funds, index funds, ETFs and the like.
 - NEPC finds that the \$2000 exemption is higher than that for peers and that many other financial market participants have moved to quarterly brokerage account statement submissions and review.
 - TMRS may consider whether it is prudent to lower the \$2000 exemption and increase the frequency of brokerage account statement review.
 - In its response to NEPC's preliminary report, staff indicated that TMRS does not conduct internal trading and that investment processes in use provide little to no opportunity for insider trading. Staff indicated they will perform a review of the internal trading policy in 2024.

Section 3. Asset Allocation Review

3(A). Process for Determining Target Allocations

Activities Completed:

NEPC reviewed the following documents:

- Investment Policy Statement Effective January 1, 2024
- Asset Liability Study 2023
- 2023 Actuarial Experience Study
- Investment Process Manual
- TMRS Investment Guidelines

Standard of Comparison:

To ensure TMRS is following prevailing industry practices as it relates to the asset allocation process, NEPC used a two-step evaluation process. The first step considers comparing TMRS' policies and practices to the prevailing practice of NEPC's clients. As a second step, our methodology for evaluating the reasonableness of this policy, several peer institutions were compared to TMRS' asset allocation-related documents.

Findings:

NEPC confirmed that TMRS has a formal written policy for determining and evaluating a long-term asset allocation that is expected to be successful in meeting its objectives over long periods of time. TMRS has developed a process that allows for the periodic setting of asset allocation, monitoring and review by the Staff, General Investment Consultant and ultimately the Board of Trustees. Importantly, the asset allocation of the portfolio is considered after a careful assessment and within context of the Plan's liabilities. This process is consistent with prevailing practice among peer public pension funds. The importance of asset allocation is codified in TMRS' Investment Policy Statement within its Investment Beliefs which state:

Investment belief 1 - The System's asset allocation and funding strategies are based on an asset/liability framework and are designed to optimize the funding of TMRS liabilities over time.

Investment belief 8 - The primary determinant of portfolio risk and return is the System's long-term asset allocation.

NEPC believes the asset allocation process provides clarity and context on the importance of this function and provides a process for appropriate oversight and responsibility setting.

The asset allocation process is addressed as follows in the IPS:

The IPS... outlines TMRS' investment objectives and beliefs, Board and staff responsibilities and limitations, and asset allocation (Section I, page 1). The Board's investment role includes... adopting a written IPS (Section III.A, page 2). Executive Director responsibilities... include... supervising the investment program by ensuring investment staff act in accordance with the IPS... (Section III.C, page 3). Chief Investment Officer responsibilities... include... recommending updates to the IPS (Section III.C, page 4). Responsibilities and duties of [the General] investment consultant include... advising on the development of [the] asset allocation... (Section III.C, pg. 4). The Asset Allocation will be reviewed at least annually for reasonableness, taking into consideration current capital markets and economic conditions and the Board's views regarding long-term investment goals and objectives...

An Asset Allocation Study to comprehensively review the Asset Allocation will be completed at least every four years. The Board will verify or amend its Asset Allocation upon review of an Asset Allocation Study... An Asset-Liability Modeling Study will be conducted at least every four years... The Board will assess the Asset Allocation's performance over five-year rolling periods compared to the [Actuarial Return Assumption], Trust Fund benchmark, and asset class benchmarks (Exhibit A, page A-1).

Recommendations:

None.

3(B). Expected Risk & Return

Activities Completed:

Expected risk and return projection for TMRS asset allocation targets based on NEPC Capital Market Assumptions as of 12/31/2023.

Standard of Comparison:

TMRS asset allocation targets and ranges were reviewed for reasonableness against industry averages. The NEPC projection of expected risk and return for the TMRS allocation targets was compared against TMRS' actuarial rate of return.

Findings:

Citing the TMRS Investment Policy Statement, risk assessment is codified within the Investment Beliefs as follows:

Investment belief 6 - Intelligent risk-taking is rewarded with compensating returns over time and is justifiable for long-term investors.

Investment belief 7 - Trust Fund risk must be managed.

Investment belief 8 - The primary determinant of portfolio risk and return is the System's long-term asset allocation.

The Chief Investment Officer is tasked with 'Ensuring adequate controls are in place to safeguard Trust Fund assets by maintaining internal procedures, analytical and risk management tools, and recommending updates to the IPS'. The CIO is also tasked with "...implement(ing) a risk management program to ensure investment risk is managed consistent with the IPS. The CIO will establish and oversee the risk management program to ensure policies and procedures are adopted, documented, and followed. The CIO will ensure that investment risk, operational risk and portfolio impacts are assessed during the investment manager selection processes and ongoing portfolio management."

The General Investment Consultant is tasked with 'Advising on the development of investment goals and objectives, investment policies and strategies, asset allocation, investment manager and service provider selection, monitoring, terminations, guidelines and restrictions, analysis of investment performance and risk, advice on internal staffing issues, and independently researched support for delegated investment decisions in areas of firm expertise'.

The Investment Policy Statement outlines that Staff will provide a performance and risk report to the Board quarterly. This Report will include historical risk in current asset class implementations, and a comparison of historical total Trust Fund risk relative to the General Investment Consultant's risk expectations used in the last Asset Allocation Study.

The TMRS Investment Guidelines and Investment Process Manual outline objectives, permissible investments and risk management principles.

NEPC finds these documents to be reasonable and within industry prevailing standards for completeness, depth and compare well to peer public funds.

NEPC's capital market assumptions provided to TMRS are developed by NEPC's asset allocation team which consists of senior investment professionals as well as licensed actuaries. These assumptions are forward-looking and fundamentally based forecasts developed with proprietary valuation models to generate both an intermediate and long-term outlook. The long-term outlook represents a foundation on which to build a strategic allocation to meet long-term objectives. The intermediate outlook represents a planning horizon over which more dynamic asset allocation decisions can be developed.

Asset class forecasts are based on a combination of forward-looking analysis and historical data. NEPC produces forecasts for more than 70 asset classes. Historical information dating back to 1926, which includes monthly index returns, cash rates, inflation rates, bond yields, and valuation metrics are utilized to both frame the current economic environment and serve as the foundation for the volatility and correlation assumptions for all asset classes. Volatility assumptions are based primarily on the long-term history of the asset class with some adjustments for the current environment, while correlation assumptions are based on a mix of both long-term history and current trend.

Expected return forecasts are based on current market prices and forward-looking estimates. The forward-looking estimates rely on a fundamental building block approach that broadly includes intermediate and long-term assumptions for economic growth, supply/demand dynamics, inflation, valuation changes, currency markets, forward-looking global yield curves, and credit spreads. The building blocks are specific to each major asset class and represent the primary drivers of future returns. For example, the equity forecast model is based upon assumptions for real earnings growth with adjustments incorporated for profit margin changes, inflation, dividend yield, and current valuations trending to long-term averages. Fixed income return forecasts are based upon changes in real interest rates and forward yield curves, with credit sectors including an assumption for changes in credit spreads and credit defaults. Alternative investment strategies are similarly built from the bottom up with a building blocks approach based upon public market beta exposures while also incorporating an appropriate risk premium for illiquidity.

The asset class assumptions are prepared quarterly by NEPC. The review process is overseen by the Asset Allocation Committee. The responsibilities of the Asset Allocation Committee include highlighting current market risks and identifying macro-themes that may produce event-driven inflection points for the economy and markets.

TMRS 2023 capital market assumptions and expected rates of return and risk are presented for the 10-year and 30-year periods in Illustration 3.1 below. Risk is expressed as the expected standard deviation of the asset class and the total asset mix. Risk, as shown in the table, is calculated using the correlation of assets and variance-covariance matrix based on the 2023 NEPC capital market expectations.

Illustration 3.1**Expected TMRS Returns & Vol Using NEPC 2023 Capital Market Assumptions**

Asset Class	Target Asset Allocation
Global Equity	35%
Core Fixed Income	6%
Non-Core Fixed Income	6%
Hedge Funds	5%
Total Public Assets	52%
Private Equity	13%
Real Estate	12%
Infrastructure	6%
Other Private	4%
Private Debt	13%
Total Private Assets	48%
<i>Expected Return 10 years</i>	7.1%
<i>Expected Return 30 years</i>	8.0%
<i>Standard Deviation</i>	13.8%
<i>Sharpe Ratio 10 years</i>	0.24
<i>Sharpe Ratio 30 years</i>	0.34
<i>Probability of 1-Year Return Under 0%</i>	30.3%
<i>Probability of 10-Year Return Under 0%</i>	5.2%
<i>Probability of 10-Year Return Under 6.75%</i>	46.6%
<i>Probability of 30-Year Return Under 6.75%</i>	44.1%

Source: NEPC 2023 Capital Market Expectations

The mix of assets in the above table is expected to achieve the System's actuarial rate of return, which is currently 6.75% over the next 30 years. NEPC does note that TMRS has a lower overall plan risk and better funded position than peer funds. As a consequence, the TMRS asset allocation is broadly within a reasonable range for plans of its size and risk/return objectives on an asset class allocation basis. It is important to note that capital market expectations are subject to change from year to year based on prevailing market conditions and the myriad of inputs considered when setting forward-looking capital market expectations.

As of January 1, 2024, TMRS outlines its approved Target Asset Allocation, Ranges and Benchmarks as follows:

Illustration 3.2

Asset Class	Min. %	Strategic Target Allocation %	Max. %	Benchmark
Global Equity	25%	35%	45%	MSCI ACWI Investable Market Index (Net)
Core Fixed Income	1%	6%	11%	Bloomberg U.S. Aggregate Bond Index
Non-Core Fixed Income	1%	6%	11%	CS Leveraged Loan Index (50%) + ICE BofA US HY Constrained Index (50%)
Hedge Funds	0%	5%	10%	HFRI Asset Weighted Composite Index
Cash Equivalents	0%	0%	3%	FTSE 1-month U.S. T-Bill Index
Total Public Assets		52%		
Private Equity	8%	13%	18%	Cambridge US All Private Equity Index
Private Debt	8%	13%	18%	CS Leveraged Loan Index + 100 bps
Real Estate	7%	12%	17%	NCREIF-ODCE Index (Net)
Infrastructure	1%	6%	11%	Cambridge Infrastructure Fund Index
Other Private	0%	4%	9%	MSCI ACWI Investable Market Index (Net)
Total Private Assets		48%		

Source: Page A-1 TMRS Investment Policy

NEPC finds that TMRS evaluates the use of active and passive strategies in a systematic and reasonable manner as outlined within TMRS' IPS and Investment Process Manual as detailed below:

- Written General and/or Specialized Investment Consultant support must be received prior to the implementation of any delegated Investment Decisions with respect to Passive Public Markets Strategies, Active Public Markets Strategies, and Private Markets Strategies. Written Consultant support for an existing investment strategy may be relied upon for a delegated decision involving an ASPMS. Written Investment Consultant support for approved Transition Managers must be provided every four years.
- Delegated authority limitations set forth in the IPS apply to single investment vehicles. Separate tranches invested through a common legal entity for cost or administrative purposes are considered to be separate investment vehicles for delegated limit tests. Percentage limitations may be interpreted as "amounts not to cause the total amount invested to exceed the limitation." The percentage limitation utilizes the following calculation basis:
 - For Passive Public Markets Strategies and Active Public Markets Strategies: the percentage test applies to the most recently available market value.
 - For ASPMS strategies: the percentage limitation applies to newly committed amounts (e.g., the rollover of previously invested capital into a continuation vehicle does not count against the percentage test). For Passive Public Markets Strategies and Active Public Markets Strategies the percentage test applies to the most recently available market value.

TMRS investment guidelines outline the permissibility of passive and active strategies for example: Global Equity Permissible investments include the following:

1. Index funds of broad market benchmarks.
2. Active and passive commingled funds.
3. Separately managed accounts for Actively Managed, Rules Based Strategies and Passively Managed or custom strategies.

Recommendations:

None.

3(C). Appropriateness of Selection and Valuation Methodologies of Alternative/Illiquid Assets

Activities Completed:

NEPC evaluated Standards of Operating Procedures, Procedures Manuals and Private Market Investment Procedures.

Standard of Comparison:

TMRS alternative asset selection and valuation methodologies were compared against those of other public pension fund clients advised by NEPC and against industry prevailing standards.

Findings:

TMRS has more than a decade of history investing in alternative and illiquid asset classes, defined here as including hedge funds, private equity, private credit, real return, and real estate. The Board adopted an asset allocation as recently as January 1, 2024, which provides a strategic target allocation for each asset class, as well as a minimum and a maximum. As of this report, no asset classes were outside the target policy range, and only a handful were materially above or below their strategic policy targets. The alternative and illiquid asset classes are included based on expected returns, risk, correlation, diversification, and other characteristics. Certain of the asset classes (private equity, private debt, real estate, and real return in particular) require careful liquidity management through pacing plans and annual budgets.

The investments corresponding to these asset classes are monitored constantly and carefully by Investment Staff with support from TMRS' specialized investment consultant, Albourne America, LLC. Investment Staff keeps the Board apprised of any developments regarding the illiquid and alternative investments through regular reports mandated by the IPS. TMRS and the investment consultant interact regularly with the investment managers and evaluate whether the investments are performing within the range of reasonable expectations.

Investment managers hired by TMRS are responsible for valuing the assets in the funds they manage according to applicable accounting standards and provide regular portfolio valuation updates, as well as annual audited financial statements. Investment managers may take different approaches to valuing the assets and some may utilize independent valuation firms to value the assets in the funds and mitigate inherent conflicts of interest.

Through operational due diligence reviews, TMRS Investment Staff and the specialty investment consultant are both responsible for reviewing the valuation procedures and methodologies of investment managers prior to investment to assess whether the procedures and methodologies are appropriate for the strategies and intended assets. Investment managers personnel, valuation service providers, and auditors are assessed for competency and independence in relation to valuation matters. On an ongoing basis, Staff and the specialized investment consultant review changes made to those procedures and methodologies by the investment managers while TMRS is invested. Audited financial statements are reviewed annually by Investment Staff and the specialized investment consultant for any matters of concern, and a formal report summarizing the review is presented by Staff to the Board.

NEPC assesses the above process as standard industry practice and that the constant dialogue between TMRS, the specialized investment consultant, and the investment managers helps TMRS mitigate valuation issues that may arise.

We did find that the Valuation Policy of prospective managers and current managers is a mandatory diligence item and TMRS holds them on file. TMRS does defer to industry standards for ongoing valuation of illiquid investments and thereby manager standards are adopted by TMRS not unlike its peers. We do note that TMRS was awarded a Certificate of Achievement for Excellence in Financial Reporting.

NEPC finds that the valuation methodology of alternative and illiquid assets is reasonable and compares in a materially similar fashion with peers and industry prevailing standards.

Recommendations:

None.

3(D). Consideration and Incorporation of Future Cash Flow and Liquidity Needs

Activities Completed:

NEPC performed an Asset Liability Study in 2023 for TMRS using inputs from TMRS' actuary GRS.

Standard of Comparison:

TMRS' liquidity projections and funded status were compared against industry averages for public pension funds and against what is typical for similar clients advised by NEPC.

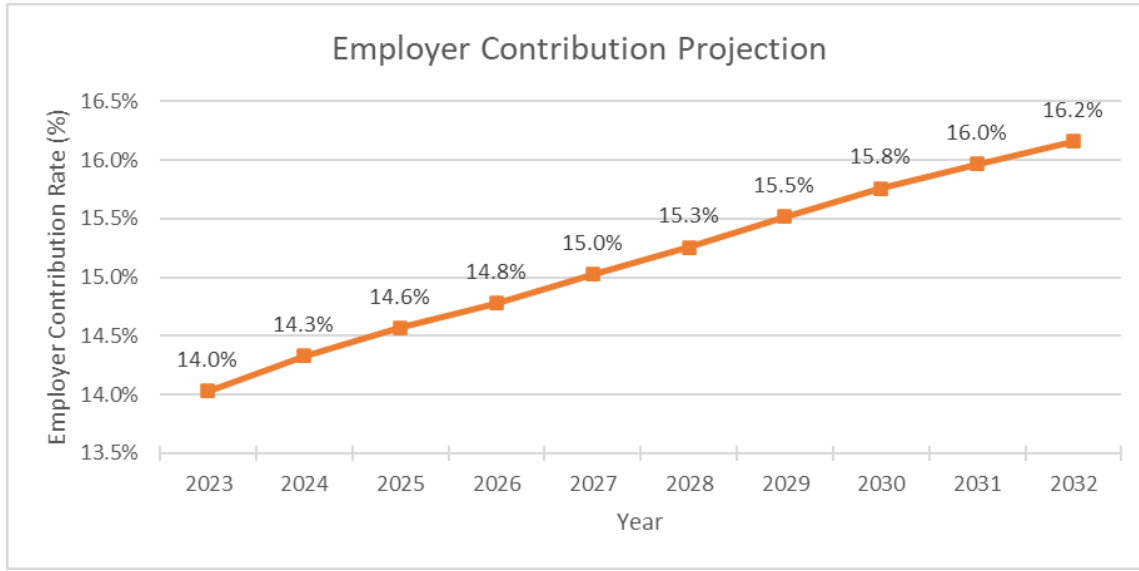
Findings:

The asset allocation process is a function of a mosaic of inputs, including, but not limited to, actuarial evaluations, risk tolerance, and liquidity needs. NEPC evaluated the policies in context of peers. Policies around liquidity may be compared to peers and industry prevailing practice but are mainly rooted within the funding needs of the System.

We can speak to how the System is handling its future cash flow and liquidity needs versus our clients as we have a more holistic view of what is being done by them. As a result, we asked our Asset Allocation team who have the perspective of seeing what all our public fund clients are doing to address these issues and have actuarial backgrounds to speak to the processes and methodologies being used. Primarily, NEPC has observed that TMRS remains in a well-funded position and is projected to maintain current funding levels over the next 10 years given the current IPS-established asset allocation. Funded status is 89% on an Actuarial Basis and 82% on a Market Value Basis. Relative to the public pension plan universe, TMRS has lower overall plan risk and better funded position; 6.75% investment return assumption vs. 7.00% public fund median. Improved financial stability due to less reliance on returns and reduced potential of future contribution increases, noting a 1.5 ratio of actives to retirees vs. 1.3 public fund median. A higher ratio means lower cost of amortizing unfunded liability as a percentage of payroll.

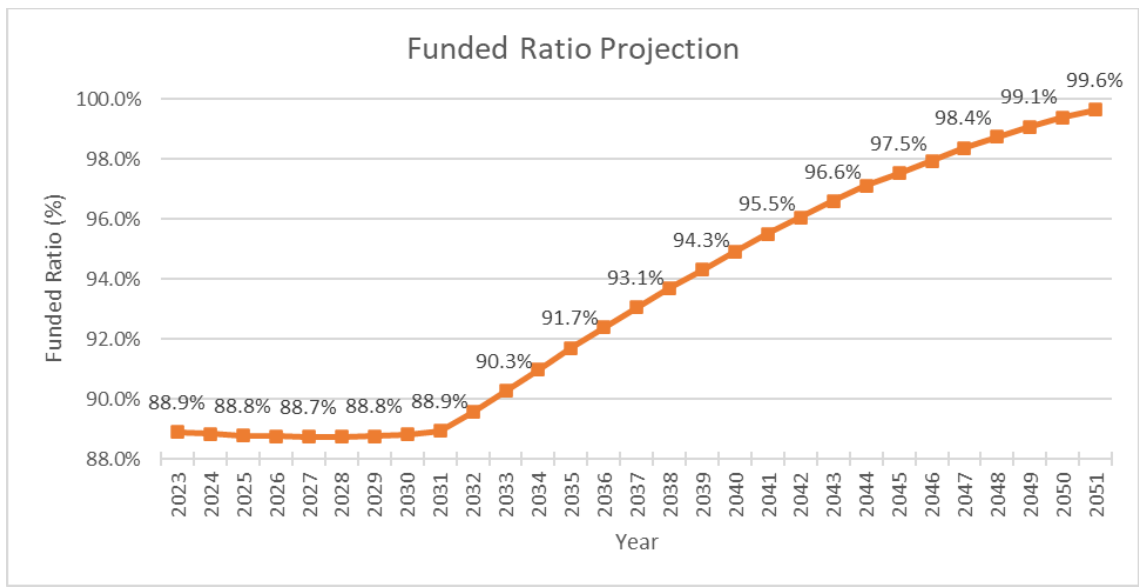
Contribution Rate and Projected Funded Ratio illustrations below outline the relatively strong fiscal position of the Plan:

Illustration 3.3



Source: GRS Projections 2022

Illustration 3.4



Source: GRS Projections 2022

Recommendations:

None.

Section 4. Investment Manager Selection and Monitoring Process

Activities Completed:

NEPC reviewed the following documents:

- Investment Policy Statement
- Investment Guidelines
- Staff Investment Committee Charter
- Staff Investment Committee Due Diligence Principles
- Due Diligence Procedures
- Investment Manager Principles
- Investment Staff and Investment Consultant Presentations to the IC and Board

Standard of Comparison:

TMRS' manager selection and monitoring process was compared against that of other public pension fund clients advised by NEPC and against industry prevailing standards.

Findings:

Investment Manager Selection per the IPS

TMRS' IPS delegates to Staff (with Executive Director approval) the authority to invest the System's assets subject to limits as a percentage of the Trust Fund above which Board approval is required. Investment limitations at the asset class level are set forth in the Investment Guidelines. Staff manages the System's assets according to the Investment Guidelines which are developed in conjunction with the General Investment Consultant. Any revisions to the Investment Guidelines are provided to the Board. Investment compliance staff is responsible for ensuring the System remains in compliance with IPS and the Investment Guidelines. The Investment Guidelines are concise, clear, and empower Staff to effectively manage the System's assets.

TMRS has developed six Due Diligence Principles which are used to inform Staff how to objectively identify, analyze, and select investment managers and strategies. The Principles emphasize the importance of completing all required due diligence steps and gathering all required consultant support prior to recommending a strategy to best protect the System's assets. Alignment of interests between investment managers and the System is a key consideration during the due diligence process with net returns earned by TMRS being important when reviewing strategy results and fees charged by investment managers is a prominent consideration. TMRS seeks to avoid performance-chasing behavior and focuses instead on attempting to identify an investment manager's edge over their competitors. Post-investment, TMRS actively monitors investment managers ability to maintain their edge. The Principles state that TMRS should choose to redeem from or not rehire an investment manager if Staff loses conviction in that manager's ability to outperform. Given that recent performance data is a lagging indicator, Staff are instructed to be cognizant that a loss of confidence may come from other qualitative assessments of an investment manager.

The fourth Due Diligence Principle is that effective due diligence pays off, especially in asset classes where there is large dispersion between top and bottom-quartile investment managers. This reinforces the importance of the due diligence process and supports the fifth principle, which is that manager recommendations must be informed by extensive contextual research. Finally, the sixth principle is that TMRS is well-positioned as a large and institutional asset owner, providing it with leverage in negotiations with investment managers. TMRS' size and the maturity of the Investment

Staff's process also enables it to be an effective partner to its investment managers, giving it legitimacy when it brings up concerns for investment managers to address.

NEPC finds that the six Due Diligence Principles are clear, well organized, and are effective for aligning TMRS' Investment Staff towards the common goal of identifying top-tier investment managers, conducting thorough due diligence, and investing with the goal of meeting or exceeding the System's return target. The due diligence process that TMRS has developed and is described below provides Staff with the steps to put these Due Diligence Principles into action.

Primer on Investment Manager Selection

TMRS' investment manager selection process has evolved since the last IPPE review in 2020. In 2020, there were five processes listed for hiring a manager as follows:

- Single manager recommendation
- "Premier List" or "Bench" Process
- Short-list candidate search
- Long-list candidate search/request for information
- Formal request for proposal

Staff explained that having multiple approaches to investment manager selection was cumbersome, and as a result, in 2021 Staff removed several of the above processes from their recognized procedures. As of 2021, the vast majority of investment managers are hired using the "Single Manager Recommendation" process, and occasionally Staff will utilize formal requests for proposal for public market asset classes.

The evolution of TMRS' Investment Staff and the maturity of their process makes the reliance on the Single Manager Recommendation process viable and utilizing one process for the vast majority of hiring decisions helps maintain consistency within the due diligence process. Staff must justify their due diligence efforts at multiple points in the process prior to Staff Investment Committee meetings and they are actively monitored by other team members to ensure the process is correctly followed in each instance. The Due Diligence Procedures Manual clearly describes steps that must be followed, the documentation that must be collected, reviewed, and the format in which they must be saved, and the ongoing monitoring that must be performed.

Single Manager Recommendation Process

The Due Diligence Procedures Manual states that Staff follows a three Pillar process which include Standardized Due Diligence Documentation, a Staged Process for approving new hiring decisions, and Standardized Staff Investment Committee Recommendation Documentation. Staff is responsible for completing each of these Pillars to be able to hire a new investment manager or strategy.

Staff is organized with experienced individuals responsible for specific asset classes (public equity, credit/fixed income, private equity, infrastructure, etc.) and these individuals and their support staff are responsible for the "top of the funnel" where compelling managers and strategies are initially identified. Staff makes use of quantitative review through database searches, due diligence questionnaires, and investment consultant reports to identify potential investment manager candidates for further due diligence, and these are presented at Team Pipeline meetings at which the CIO is in attendance. If there is CIO and staff consensus to continue diligence, then three Staff members are assigned to a "deal team": the primary Staff member who brought the deal, a formal due diligence process reviewer, and an individual whose role is to challenge the investment case. Multiple people working on the same deal, reviewing, and signing off on the work completed builds

accountability and ensures that the depth of due diligence completed on a manager is generally the same.

The deal must go through two further stage gates, each requiring a higher standard of documentation, at subsequent Staff meetings prior to being presented to the Staff Investment Committee. During the process, Investment Staff must collect numerous documents from investment managers, including a process whereby Managers sign the System's Investment Principles which can be found on the System's website. The Investment Principles are straightforward and making sure investment managers understand TMRS' contractual requirements upfront ensures more efficient use of TMRS' human capital resources and better contractual outcomes.

Staff must prepare a final due diligence package to present to the Staff Investment Committee which includes the following required elements:

- Staff Investment Committee Recommendation Memorandum
- Investment Consultant Support
- Consultant Investment Due Diligence Memorandum and Consultant Operational Due Diligence Memorandum for all private markets strategies being recommended, both of which must reference the specific vehicle Staff and generally should have been completed within 18 months of the Staff Investment Committee Meeting.
- Background Checks completed within 18 months of the Staff Investment Committee meeting.

Formal Request for Proposal Process

The formal request for proposal process has not changed from the 2020 IPPE and is typically used to help identify investment managers in public asset classes. TMRS develops a request for proposal for specific asset classes or mandates and selects investment managers for further due diligence from the pool of respondents that meet required minimum qualifications. Occasionally, TMRS or an investment consultant will formally score the RFP responses. Top candidates are then brought through the standard due diligence process for single manager recommendation listed above.

Monitoring Process

Investment Staff is responsible for monitoring the investments and the investment managers. The monitoring program is made up of three components: 1) Annual Asset Class Review for the Board and the Staff Investment Committee, 2) Annual Administrative Review dealing with operational matters; and 3) ongoing monitoring dealing with manager/investment vehicle culminating in the completion of a manager scorecard. The Asset Class Review Presentation for the Board includes said manager scorecards prepared by Investment Staff presenting an overview of the manager, recent and long-term performance, terms and guideline changes, and any significant changes at the manager, including any changes in rating by the investment consultant. The Annual Asset Class Administrative Review is a thorough review which includes a manager/investment checklist to be completed by Staff, regulatory reviews (i.e., review of Form ADV and other regulatory filings), audited financial statement reviews, annual compliance certifications, and other items. In addition to the above steps, Investment Staff has regular check-ins with Albourne, the specialized investment consultant, who communicates any significant findings from reviews of TMRS' investment strategies or any changes at the investment managers of which they become aware.

Legal Review Process for Manager Contracts

The Investment Fund Legal Review Process starts off with Investment Staff asking the investment manager under consideration to sign TMRS' Investment Principles. While this can be an impediment in the due diligence process due to the legal nature of asking an investment manager to agree to and sign the Investment Principles, it is important for the investment manager to understand TMRS' goals

and strategic priorities. With the signed Principles in hand and after a formal written request from the investment team to commence a legal review process, TMRS Legal then engages an outside law firm to review legal documents while also undertaking an internal review of the documents. TMRS Legal and the Outside Counsel then address any issues that arise and prepare an Executive Summary of the proposed investment which is included in the Fund Documents that must be signed by the Executive Director when approving the investment. NEPC finds this process to be clear and has no comments or concerns.

NEPC found that TMRS' Investment Manager selection and monitoring process is well documented in the IPS and the Due Diligence Procedures Manual. The Investment Staff is primarily responsible for the process and appropriately leverage the expertise of specialized Investment Consultants for support in the selection and monitoring process.

Specialized Investment Consultant Review

As per the IPS, the Board may retain one or more Specialized Investment Consultants to collaborate with Investment Staff and to provide independent support for delegated investment decisions. As of 2020, Albourne America, LLC currently is the only specialized investment consultant hired in this capacity and it works with Investment Staff to provide initial due diligence and monitoring services on TMRS' hedge fund, real return, real estate, private equity, and private credit portfolios. This takes the form of monthly formal interactions between TMRS' Staff and Albourne to go over the portfolio and any initiatives, as well as more frequent informal interactions throughout the month.

As part of NEPC's review, we reached out to Albourne to understand their process for performing initial and ongoing due diligence on TMRS' investment managers and strategies. We found that Albourne's processes have not changed substantially since the 2020 review. While not directly part of the scope of this review, NEPC found that Albourne is extremely diligent and thoughtful in its approach to manager monitoring and selection and views Albourne as a top-tier provider in alternative investment consulting. Albourne provided NEPC with a detailed description of its selection and monitoring process, most of which has been included below for further context.

Albourne

Albourne's due diligence is based on our independent rating scheme. Factors are evaluated by the relevant IDD or ODD Analyst, including manager's personnel and organization, investment philosophy, investment style(s) and products, research capabilities, financial condition, assets under management, type of clients, client service, back office capabilities, management fees and carried interest. The manager due diligence process can be summarized as follows:

- *Scan universe for new opportunities daily via news, announcements, and word of mouth*
- *Ascertain trends and best practices*
- *Enter opportunities into Albourne database*
- *Assign responsibilities*
- *Screen strategy*
- *Review Albourne legacy information*
- *Initiate contact with managers*
- *Review materials*
- *Screen against peers*
- *Have initial call or meeting & log notes*
- *Begin report draft*
- *Examine key issues & strengths*

- *Conduct onsite meeting*
- *Hold additional calls to answer questions*
- *Complete report*
- *Present to Committee(s)*
- *Refine report as needed*
- *Publish in database*
- *Update database for:*
 - *Monthly/ quarterly data*
 - *News, periodicals*
 - *Newsletters & memos*
 - *Quarterly summary*
- *Update report as needed*

Albourne's overall approach is to perform ODD on a broad range of funds, and make ODD reports available to clients online at any time. We do not keep a narrow "positive list" of funds; rather our philosophy is to have an open door policy whereby we will review any fund on request subject to our resources and availability.

Between scheduled onsite visits (typically every three years), Albourne's Analysts continue to monitor funds through dialogue, regular meetings and news monitoring to determine whether Albourne's opinion and rating should be changed. Intra-cycle meetings or calls may be appropriate in response to certain events/requests. Broader information is constantly being updated by Albourne's Analysts.

For those funds Albourne covers on an ongoing basis, the process is repeated periodically, with a view to understanding any evolution in process, discipline and risk taking. The analyst updates and varies the rating as necessary.

Typically, a rating change stems from one of many factors changing our view of the fund's future prospects or the emergence of better alternatives. Investment and Operational Due Diligence decisions to downgrade a fund can occur for numerous reasons, including regulatory actions, litigation, staff turnover/departures, underperformance, style drift (which would include changes in volatility, market exposures and positioning vs. peers), asset class dislocation, operational changes, changes in terms and conditions, gates, redemption suspensions, restructuring, or lack of transparency - late reporting, poor communication, or failure to make appropriate disclosures (if discovered). Clients can agree with their Portfolio Analyst to place the fund on a watch list, or to redeem from the fund.

We monitor the managers and funds in a client's portfolio on an ongoing basis, which typically includes monitoring for news directly distributed from the managers (such as updates on portfolios and/or performance) or from clients, news headlines specific to the manager or fund as well as the region and strategy. Clients are informed of this new information through emails and can also find it in one place on the Funds News pages on the Castle.

Further information was provided in a call between NEPC and Albourne as follows:

Investment Due Diligence and Operational Due Diligence reports contain ratings of A through E. IDD ratings are supported with ratings on three sub-categories: Strategy and Investment Process, Risk Process, and Management Team. Additionally, IDD reports are given Conviction ratings of 1 through 4, with 1 being the lowest conviction level and 4 being the highest. Both ODD and IDD ratings are considered in relation to peer managers or strategies. A review of the Executive Summaries of funds presented to the Staff Investment Committee revealed that for funds in which Albourne was asked to

provide consultant support, nearly all of them were rated B (above average) with a small number rated C (average), and none were rated lower than C.

Recommendations:

None.

Section 5. Review of the Appropriateness of Fees and Commissions Paid

Activities Completed:

NEPC reviewed the following documents and data:

- Investment Policy Statement
- SMA Manager Fee Schedules
- Annual Comprehensive Financial Report (ACFR)
- Trading Cost Analysis
- Internal Procedures Manual
- Investment Operational SOPs
- Investment Process Manual

Standard of Comparison:

NEPC compared the System's externally managed advisor fees and private market fees to industry averages using industry-recognized vendors who specialize in aggregating fee data across public and private markets.

Findings:

Investment Fees

The direct and indirect fees and commissions paid by the System include fees that are paid by the System and fees that are netted against returns. The System pays management fees, performance/carried interest, and brokerage fees. Additionally, the System pays custodian fees, investment consultant fees, internal staff salaries, and other administrative and investment-related expenses.

The ACFR discloses fees for externally advised portfolios in addition to all expenses related to investment related activities. Fees are summarized and compared in the chart below. The comparison is subject to several important biases including investment strategy bias (the extent to which the System's strategies are different than the universe data) and scale bias (the extent to which an investor may be able to negotiate fees based on their size); however, we believe that, in aggregate, the universe data is sufficiently robust and provides an appropriate comparison. Given the data in Illustration 5.1, below, we conclude that the System has the ability to access complex asset classes that are expected to outperform on a forward-looking basis at attractive investment management fee structures. This is a function of scale, investment program structure, investment process/governance and strong oversight by Staff and consultants.

Illustration 5.1
TMRS Manager Fees in Context of Universe Data

Asset Class	Asset Value	Management Fees (\$)	Management Fees (%)	Median Universe Management Fee	Median Universe Carried Interest	Universe	Number of Observations
Global Equity	11,698,166,966	13,620,094	0.12%	0.50%	--	eVestment All Global Equity	1,103
Core Fixed Income	1,815,570,254	605,945	0.03%	0.17%	--	eVestment US Core Fixed Income	219
Non-Core Fixed Income	6,752,039,419	46,226,950	0.68%	1.50%	20.00%	Pitchbook Private Credit	966
Other Public and Private Markets	4,097,219,220	45,166,913	1.10%				
				1.50%	20.00%	Pitchbook Infrastructure	62
Real Estate	4,859,213,829	47,241,978	0.97%	1.50%	20.00%	Pitchbook Global Real Estate	415
Hedge Funds	2,222,425,281	38,731,657	1.74%	1.28%	17.00%	JP Morgan	781
Private Equity	3,721,742,006	59,213,421	1.59%	2.00%	20.00%	Preqin Global Private Equity	1,965

Source: TMRS, NEPC calculations

Citing Table F-19 on page 46 of the TMRS 2022 ACFR, we find that the itemization of fees related to administrative and investment expenses is thorough and within prevailing industry standard. This list includes expenses for Personnel Services, Professional Services, Facilities, Information Technology, and Other Administrative services. As compared to plans of similar size and investment programs the expenses are reasonable and represent a significant cost savings when considering asset size and prevailing investment management fees that external investment managers may charge.

Commissions – Trading Cost Analysis

TMRS engaged with an outside vendor to analyze trading costs coming from the System’s public equity portfolios. NEPC recognizes that this is a prudent approach as part of the System’s fiduciary responsibility to monitor costs and understand performance results from its investment managers. NEPC reviewed the most recently available report, which was prepared by Global Trading Analytics and covers the one-year period ending June 30, 2023. The report provides the overall fee in addition to a detailed breakout by manager, fund, country, broker, sector, and individual trade.

NEPC notes that the total cost for the period was found to be low within an acceptable range.

Overall Results (Q3 2022 to Q2 2023)

- Principal traded during the four quarters analyzed: \$1.1 billion
- Trades executed during the four quarters analyzed: 6,104
- Net market impact cost (vs. iPAC) in basis points: (3.46)
- Net commission benefit (vs. Commission Universe) in basis points: 2.77
- Total cost, net market impact plus net commission, in basis points: (0.70)
- Total cost, net market impact plus net commission, in dollars: (\$79,309)

Illustration 5.2

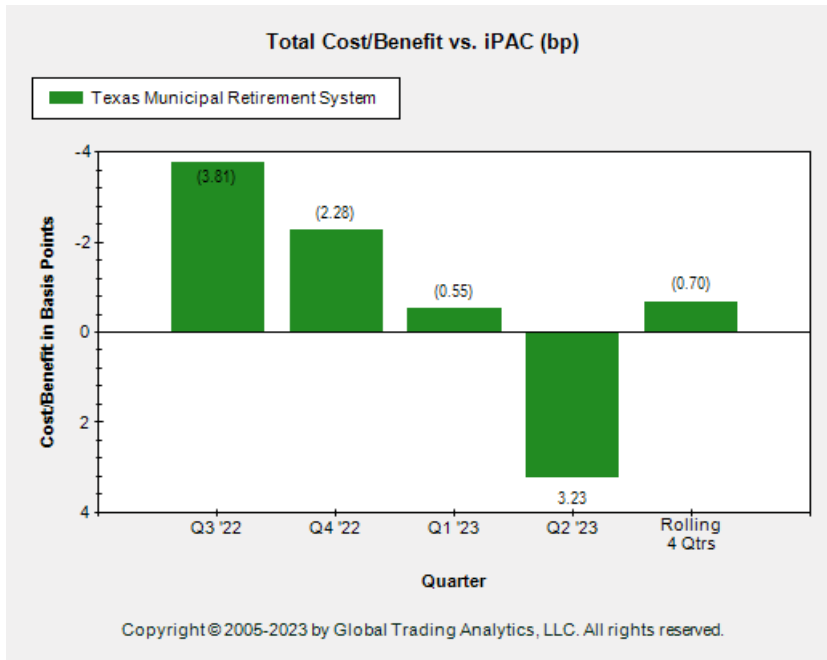
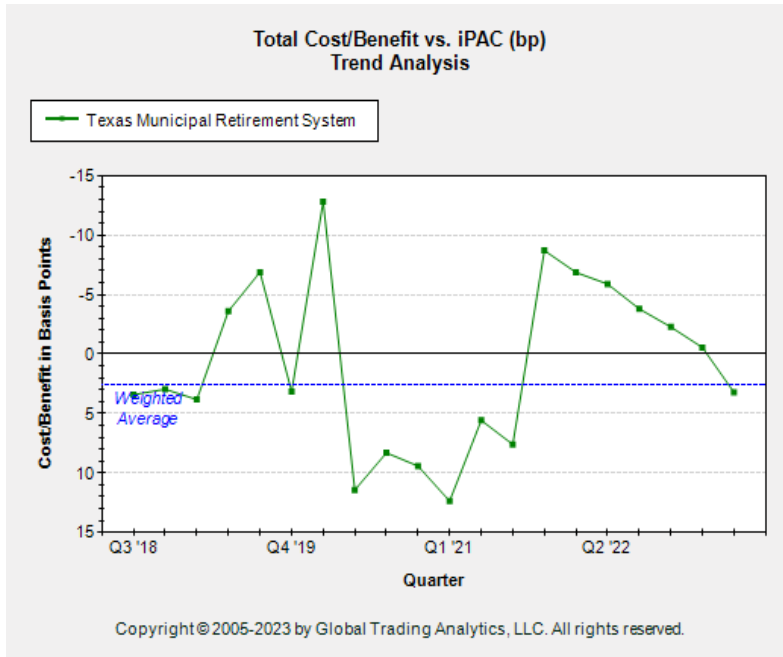


Illustration 5.3



Source: Global Trading Analytics' Executive Summary Report dated July 21, 2023

TMRS' Internal Procedures Manual and Investment Operational SOPs detail the process by which manager fees are validated. Before a payment is wired, a fee needs to go through a multi-level approval process. On an annual basis, the Investment Operations team reaches out to all external managers to request fee information and other related financial information. This process results in the Annual Manager Certification which is also reviewed by Asset Class Directors.

As part of the auditing process for private funds, Operations selects a sampling of funds from each asset class to calculate fees and expenses in accordance with agreements in place. Any differences are noted and explained. The Asset Class Teams also review manager fee/structure information as part of their annual asset class reviews.

Recommendations:

None.

Section 6. Qualifications of NEPC to Prepare IPPE Report

Texas Government Code §802.109 stipulates that “a public retirement system shall select an independent firm with substantial experience in evaluating investment practices and performance to evaluate the appropriateness, adequacy, and effectiveness of the retirement system’s investment practices and performance and to make recommendations for improving the retirement system’s investment policies, procedures and practices.” Each evaluation must include the elements, below, which are confirmed by NEPC.

(1) A summary of the independent firm’s experience in evaluating institutional investment practices and performance and a statement that the firm...meets the experience required.

NEPC, LLC has been providing investment consulting services since 1986. As of October 1, 2023, NEPC advises 420 retainer clients with \$1.6 trillion in assets, including 71 public fund clients with \$775 billion in assets. Our services for many of these clients include evaluation of investment practices and performance. We assess our clients’ progress against their own unique goals and objectives as well as versus peer group results across multiple metrics.

Our specific experience in the type of evaluation codified in Texas Government Code §802.109 includes preparation of IPPE reports in 2020 and 2024 for ERS Texas and for San Antonio Fire & Police Pension Fund.

(2) A statement indicating the nature of any existing relationship between the independent firm and the public retirement system and confirming that the firm and any related entity are not involved in directly or indirectly managing the investments of the system.

Texas Municipal Retirement System engaged NEPC as General Investment Consultant in June 2022. NEPC is not involved, either directly or indirectly, in managing the investments of TMRS.

(3) A list of the types of remuneration received by the independent firm from sources other than the public retirement system for services provided to the system.

NEPC receives no remuneration from sources other than TMRS for services provided to the Trust.

(4) A statement identifying any potential conflict of interest or any appearance of a conflict of interest that could impact the analysis included in the evaluation due to an existing relationship...”

There are no conflicts of interest or an appearance of a conflict of interest impacting the analysis included in the evaluation. NEPC takes pride in our 38-year record of providing independent, objective analysis to our clients.

NEPC assembled the following team of investment professionals who assisted in preparing this IPPE report.

Sam Austin – Partner, Public Fund Team, Lead Consultant for TMRS

Michael Malchenko – Consultant, Public Fund Team, Secondary Consultant for TMRS

Thao Nguyen – Senior Consulting Specialist, Public Fund Team

Kevin Lau-Hansen – Head of Operational Diligence Team

Appendix A

NEPC Overview

Company Overview

NEPC has been providing investment consulting services since 1986. As of October 1, 2023, we advise 420 retainer clients with \$1.6 trillion in assets. Today, the firm has formal offices in Atlanta, Boston, Charlotte, Chicago, Las Vegas, Portland and San Francisco. Our growth is attributed to the high quality results our clients have achieved and our high service model. We have a dedicated public fund team that advises 71 public funds representing \$775 billion in assets. NEPC is a Limited Liability Company (LLC).

NEPC receives 100% of its revenue exclusively from providing advisory consulting and discretionary investment services to our clients. NEPC does not have any conflicts of interest with TMRS and does not, directly or indirectly, manage assets or select managers for TMRS.

NEPC is neither an affiliate nor a subsidiary of any organization. NEPC's equity plan is designed to ensure the continued stability of our professional staff by allowing future employees to share in the profits of the company and in the long-term appreciation of its equity. As of January 1, 2024, ownership is shared among 51 Partners; and no single Partner owns more than 6% of the firm. Individual ownership percentages are not disclosed.

Ownership of NEPC, LLC

Name of NEPC, LLC Owner	Owner Since
Richard Charlton, Chairman Emeritus	1986
Michael Manning, CFA, CAIA, Managing Partner	1998
Samuel Austin, III, Partner	2017
Josh Beers, Partner, Head of Private Equity Investments	2023
Margaret Belmondo, Partner, Public Fund Team Leader	2021
Ross Bremen, CFA, Partner	2008
Tim Bruce, Partner, Head of Portfolio Construction	2014
Mike Cairns, CEBS, Partner	2011
Richard Ciccione, Partner	2024
Steve Charlton, CFA, Head of Client Solutions	2001
KC Connors, CFA, CAIA, Partner, Chief Consulting Officer	2010
Rose Dean, CFA, Partner	2024
Brian Donoghue, Partner, Sr. Director of Portfolio Strategy	2013
Chenae Edwards, CPA, Partner	2021
John Elliot, Partner, Taft-Hartley Team Leader	2006
Oliver Fadly, Partner, Head of Private Debt Investments	2024
Will Forde, CFA, CAIA, Partner, Head of Marketable Equity	2022
Sebastian Grzejka, CAIA, Partner	2023
Kristi Hanson, CFA, Partner	2017
Karen Harding, CFA, Partner, Private Wealth Team Leader	2017
Rhett Humphreys, CFA, Partner	2006
Kellie Kane, Chief Operating Officer	2022
Chris Klapinsky, CFA, Partner, Sr. Director of Portfolio Strategy	2008
Kevin Leonard, Partner, Practice Group Director	2011

Name of NEPC, LLC Owner	Owner Since
Tim McCusker, CAIA, CFA, FSA, Chief Investment Officer	2011
David Moore, Partner, Healthcare Team Leader	2010
Doug Moseley, Partner	2007
Judy Murphy, SPHR, Partner, Chief Human Resources Officer	2021
Joe Nankof, ASA, Partner	2024
Phillip Nelson, CFA, Partner, Head of Asset Allocation	2018
Dulari Pancholi, CFA, CAIA, Partner, Head of Credit & Multi-Asset Investments	2023
Kristine Pelletier, Partner, Endowment and Foundation Team Leader	2019
Scott Perry, CAIA, Partner, Head of Portfolio Strategy	2012
Samuel Pollack, CAIA, Partner	2020
Kelly Regan, Partner	2023
James Reichert, CFA, Partner, Sr. Director of Portfolio Strategy	2013
Kristin Reynolds, CFA, CAIA, Partner, Practice Group Director	2012
Matt Ritter, CAIA, Partner, Head of Real Assets Investments	2023
Deirdre Robert, CFA, CAIA, Partner	2024
Brian Roberts, CAIA, Partner, Corporate Team Leader	2018
Jay Roney, CTP, Partner	2007
Dan Runnals, CFA, CAIA, Partner	2024
Bill Ryan, CAIA, SPHR, Partner, Head of DC Solutions	2021
Sarah Samuels, CFA, CAIA, Partner, Head of Investment Strategy Selection	2019
Neil Sheth, Partner, Head of Global Research	2012
Brad Smith, CFA, CEBS, Partner	2012
Carolyn Smith, Partner	2008
Michael Sullivan, Partner	2017
Craig Svendsen, CFA, Partner, Practice Group Director	2009
Elton Thomaj, CAIA, Partner	2023
Gary Wyniemko, CFA, Partner	2020

Appendix B

Institutional Investors Included in Peer Universe for TMRS

- Arkansas Teacher Retirement System website:
<https://www.artrs.gov/>
- Employees Retirement System of Texas website:
<https://www.ers.texas.gov/>
- Illinois Municipal Retirement Fund website:
<https://www.imrf.org/>
- Minnesota State Employees Retirement System website:
<https://www.msrs.state.mn.us/>
- Missouri Local Government Employees Retirement System website:
<https://www.molagers.org/>
- Nebraska Investment Council website:
<https://nic.nebraska.gov/>
- South Dakota Retirement System website:
<https://www.sd.gov/sdrs>
- Tennessee Consolidated Retirement System
<https://treasury.tn.gov/Retirement/>
- Texas County & District Retirement System
<https://www.tcdrs.org/about-us/>
- Teacher Retirement System of Texas
<https://www.trs.texas.gov/>
- Utah Retirement Systems
<https://www.urs.org/>