Investment Policy

ERS

Employees Retirement System of Texas

May 23, 2018

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

INVESTMENT POLICY

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Executive Director

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

INVESTMENT POLICY

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INVESTMENT POLICY

Section 1. Scope

This policy applies to the funds of the retirement plans (Trust or Funds) administered by the Employees Retirement System of Texas (ERS or system). ERS is a constitutional trust fund established as mandated by Article XVI, Section 67 of the Texas Constitution, and further organized pursuant to Title 8, Subtitle B, Texas Government Code, as well as Title 34, Texas Administrative Code, Part 4. ERS administers the retirement system and invests the system's funds in such securities as the Board of Trustees may consider prudent investments.

Pursuant to the Texas Insurance Code, the Board of Trustees also administers all funds within the Texas Employees Group Benefits Program (TEGBP). ERS administers the TEGBP funds for several classes of public servants, including elected officials, appointed public officers, state employees, employees of certain state institutions of higher education and other state employees and their dependents. In accordance with Texas Insurance Code §§1551.406 and 1551.407, ERS may manage, invest and reinvest the TEGBP fund(s) along with the retirement funds so long as separate accounting of such funds is maintained.

The system administers the trust funds with a fiduciary obligation to more than 228,000 members and more than 100,000 retirees. The ERS, the Law Enforcement and Custodial Officer Supplemental Retirement Fund (LECOS) and the Judicial Retirement System of Texas Plan II (JRS II) are single employer defined benefit pension plans. For investment purposes, as provided by Texas Government Code §815.301, the trust funds are commingled but separate accounting records are maintained.

Section 2. Philosophy and Strategy

The investment philosophy and strategy for the Funds is as follows:

2.1. Investment Philosophy.

The assets of ERS are held in trust for the benefit of the trust fund's members and retirees and may not be diverted. This "exclusive benefit" rule must be followed when making any investment decisions. Moreover, the assets of ERS shall be invested and reinvested without distinction as to their source in accordance with Art. XVI, §67, Texas Constitution. This "whole portfolio" approach, in addition to the exclusive benefit rule, shall be the basis upon which investment decisions will be made as provided in the Texas Constitution and Texas Government Code §815.307.

Consistent with the foregoing requirements, the Board of Trustees shall establish investment policies, objectives, and strategies for the purpose of obtaining the optimum return on the Funds' portfolios in keeping with the assumption of prudent risk.

2.2. Investment Strategy.

A. **Primary Investment Goal.** The goal of the investment program is to earn an appropriate risk adjusted return, net of fees, that provides for the benefit payments due to or on behalf of members, retirees and beneficiaries of the retirement plans (Plan Beneficiaries) at a reasonable administrative cost.

B. **Asset Allocation.** The most important component of an investment strategy is the asset mix, or the resource allocation among the various classes of securities available to ERS for investment purposes. The Board of Trustees shall set long-term asset allocation targets or ranges that will prudently meet the needs of the Plan Beneficiaries.

Formal asset allocation studies will be conducted at least every four years in connection with the actuarial experience study. The actuarial experience study will be conducted every four years pursuant to the adoption of Texas Government Code §815.206(c). There will be ongoing annual reviews of the adopted asset allocation based on updated capital market assumptions.

Within each asset class, the Chief Investment Officer, in consultation with the Executive Director, shall adopt portfolio implementation strategies and investment styles to meet the overall investment objective of each asset class.

ERS Investments staff is directed to rebalance at least quarterly the asset allocation of the investment portfolios to remain within the target allocation bands indicated for the major asset classes as set forth in the following table. These bands have been established to minimize risk relative to the asset allocation target while allowing staff the ability for a tactical asset allocation that maximizes returns until the asset allocation may be fully implemented. Because of the inherent difficulty in rebalancing illiquid assets, such as private market asset classes, ERS Investments staff will manage the portfolio in a manner to remain as close to target allocations as reasonably and prudently possible within the guidelines provided in this policy.

Certain asset classes (as indicated in the following table) may be implemented through hedge fund structures through investment vehicles that are primarily limited liability entities such as limited partnerships or limited liability companies.

This policy is supplemented with Asset Class Guidelines and Procedures along with Tactical Plans for each asset class. All Asset Class Guidelines and Procedures shall be consistent with this policy. In the event there is any inconsistency, this policy will supersede the individual Asset Class Guidelines and Procedures. This policy is also supplemented by procedures for Socially Constrained Investments and Emerging Managers. In the event there is any inconsistency of these aforementioned procedures, this policy will supersede.

This policy and any adopted guidelines and procedures will be approved by the ERS Board, and staff recommended changes will be presented to the Board and IAC for approvals.

ASSET ALLOCATION ADOPTED 8/23/17

Asset Class	Benchmark	Long Term Target
Return Seeking Assets:		**83.00%**
Global Equity[1]		**50.00%**
Public Equity[2]	MSCI ACWI IMI	**37.00%**
Private Equity[3]	MSCI ACWI IMI + 300 bps[4]	**13.00%**
Global Credit[1, 2]	Barclays US HY 2% Issuer Cap	**11.00%**
Real Assets[1]		**19.00%**
Public Real Estate[2]	FTSE EPRA/NAREIT	**3.00%**
Private Real Estate[3]	NCREIF – ODCE	**9.00%**
Private Infrastructure[3]	CPI + 400 bps	**7.00%**
Special Situations		**0 - 5%**
Opportunistic Credit[3]	S&P LTSA Leveraged Loan Index[5]	**3%**
Risk Reduction/Liquidity Assets:[3]		**17.00%**
Fixed Income - Rates	Barclays Intermediate Treasury Index	**11.00%**
Cash (approximately)	91 Day Treasury bill	**1.00%**
Hedge Funds/Absolute Return[3]	U.S. 3-Month Treasury bill + 400 bps	**5.00%**
Global Total		**100.00%**

[1]May be implemented through hedge funds

[2]Asset class band of +/- 0 to 10% of trust beyond long target allocation.

[3]Asset class band of +/- 0 to 5% of trust beyond long target allocation.

[4]The 300 basis point premium is over 10 years.

[5]The benchmark will at a future date have a premium added as appropriate for portfolio construction.

C. **Return Seeking/Risk Reduction (Liquidity) Framework.** The Board of Trustees has adopted the asset allocation reflected in this policy to improve long-term expected return and sharpe ratio of the Trust. This framework for the asset allocation between return seeking and risk reduction/liquidity assets in the form presented provides broader diversification, improved returns in disparate economic regimes, improved long-term economic cost profile, a clearer distinction of the separate roles different fixed income segments play and an increase in less liquid investments.

D. **Asset Classes Defined.** Asset classes employed by ERS may include, but not be limited to, the following that are categorized broadly into either Return Seeking Assets or Risk Reduction/Liquidity Assets.

RETURN SEEKING ASSETS.

i. **Global Public Equity.** The global public equity asset class is a combination of a variety of strategies across different geographies and market capitalization ranges with aggregate portfolio holdings and characteristics similar to the broader market as represented by the established benchmark (MSCI ACWI IMI). The portfolio will be managed in accordance with ERS Global Public Equity Guidelines and Procedures.

ii. **Global Private Equity.** Private equity investments involve the purchase of illiquid equity and debt securities of companies that, in most instances, are not publicly traded. Investments in private company securities are made primarily through blind pool limited liability vehicles such as limited partnerships. The private equity portfolio will be managed in accordance with ERS' Private Equity Guidelines and Procedures.

iii. **Global Credit.** The Global Credit mandate's objective is to maximize yield via exposure to an opportunistic combination of below investment grade high yield bonds, loans, and emerging market debt strategies, each invested either internally or externally via traditional advisory relationships, managed accounts, or hedge fund structures. The global credit portfolio will be managed in accordance with ERS' Fixed Income Guidelines and Procedures.

iv. **Real Assets - Global Real Estate**. The global real estate portfolio includes domestic and international private, public and debt investments. Vehicles established to own interests in real property and related assets primarily through limited liability entities such as limited partnerships or limited liability companies may be used. The real estate portfolio will be managed in accordance with ERS' Real Estate Guidelines and Procedures.

v. **Real Assets - Infrastructure.** Infrastructure investments refer to the investment in large-scale public systems, services, and facilities that are necessary for economic activity. An infrastructure investment is typically focused on generating income (often with inflation linkage) with some capital appreciation. The low liquidity investments are often made in essential services, with high barriers to entry, and predictable cash flows.

vi. **Opportunistic Credit.** Opportunistic Credit is a strategy that seeks attractive risk-adjusted returns through multiple underlying asset classes using a diverse set of investments that may include both debt and equity. The Opportunistic Credit mandate should act as a complement to existing fixed income holdings residing in the Trust. In most instances, the underlying investments will be illiquid and long-term in nature. Expectations are that for the bulk of the underlying investments, the majority of the return will come from current income and not capital appreciation.

RISK REDUCTION/LIQUIDITY ASSETS

vii. **Fixed Income - Rates.** The Fixed Income - Rates mandate's primary objective is to provide the Trust with liquidity and capital preservation in most likely market environments while earning the highest yield possible consistent with this objective. It accomplishes this goal by investing in historically highly liquid instruments. This portfolio will be managed in accordance with ERS' Fixed Income Guidelines and Procedures.

viii. **Cash and Cash Equivalents.** The cash portfolio is managed to maintain liquidity and preserve principal with a maximum final maturity of 18 months and with a minimum credit quality rating of A.

ix. **Global Hedge Funds/Absolute Return**. This strategy includes private investment vehicles that (1) issue securities only to accredited investors or qualified purchasers through limited liability vehicles such as limited partnerships or limited liability companies; and (2) engage primarily in the trading of securities and other financial instruments. In this policy, hedge fund also includes any private investment fund of funds or other vehicle that itself invests in hedge funds. The global hedge funds portfolio will be managed in accordance with ERS' Global Hedge Fund/Absolute Return Guidelines and Procedures.

E. **Special Situations.** Special Situations exist to promote innovation and facilitate improving total fund risk-adjusted returns with new investment strategies and mandates. Special Situations encompass a broad range of investment strategies that may fall outside of traditional asset classes. This category is intended to comprise a small portion of the total Funds, and will grow as suitable investments are identified based on extensive due diligence and a high level of comfort and knowledge on the part of the ERS staff and Board of Trustees.

Investments in Special Situations will be approved using ERS' existing processes for the most similar asset classes for both diligence and approval of the investment. Any potential investment not aligned with an asset class included in this policy would require approval by the Board of Trustees. Special Situations may range from 0% to 5% of the Trust and require a corresponding reduction to the asset class that most closely matches the risk/return tradeoff of the Special Situations investment. Special Situations investments may be considered for permanent inclusion into an established asset classes when and if an appropriate asset class is adopted upon the recommendation of the CIO.

F. **Investment Time Horizon.** In making investment strategy decisions for the Funds, the focus shall be on a long-term investment time horizon of at least 10 years. For evaluation of individual asset classes or portfolios, rolling five-year periods will be used with the exception of private equity, private real estate investments and private infrastructure investments, which will focus on rolling ten-year periods.

2.3. **Policy Interpretation and Review.** It is intended that this policy and all addenda hereto, be construed and administered such that they comply with all applicable federal and state laws and regulations, as such may be amended from time to time. ERS' Executive Director is authorized to approve from time to time variances from the policies set forthherein in furtherance of such compliance or as she deems to be in the best interest of ERS and consistent with both ERS' fiduciary responsibilities and the purpose and scope of this policy. The Executive Director must report any variances to the Board of Trustees at the next quarterly meeting. If the Executive Director believes any revisions to this policy would be prudent in light of the variance(s) previously granted, the Executive Director shall inform the Board of Trustees of such suggested revisions, and the Board of Trustees may vote to amend this policy accordingly. The ERS staff shall also, on an annual or as needed basis, review and recommend changes to this policy and all addenda attached to and included within this policy.

Section 3. Performance

3.1. **Performance Evaluation.** Performance evaluation of the Funds is designed to monitor the asset allocation implementation plan and investment advisor selection decisions. The purpose is to test the continued validity of these decisions and to trigger an analysis of underperformance or undue volatility.

The Investments staff, in consultation with the Executive Director, shall provide to the Board of Trustees in writing, on a quarterly basis, a summary of the Funds' performance as calculated by an outside performance measurement service. This report shall include a comparison to performance benchmark objectives as well as the investment performance of other appropriate funds. It is expected that reporting for both private equity and real estate will lag public markets reporting by one or more quarters. The Board of Trustees expects the Chief Investment Officer to identify and rectify any deficiencies in the portfolio's process.

3.2 **Advisor Evaluation.** ERS hires external investment managers to serve as advisors to assist ERS in investing the assets of the system, but these advisors are not granted full discretion. Advisor performance will include a description of each advisor's style, standard of performance measurement, actual rates of return, and the level of volatility of returns and comments as to its acceptability.

The performance objective for the externally advised portfolios is to achieve a total time-weighted rate of return over rolling five-year periods both in excess of their stated benchmarks without undue volatility on a risk/reward basis. Although peer group rankings are reviewed, it is often very difficult to establish meaningful peer group comparisons and, therefore, the primary focus is on risk-adjusted performance.

The performance of each actively managed portfolio within the Funds is evaluated regarding the following investment objectives as provided in the investment guidelines to which the advisors must contractually agree:

A. its performance relative to its stated benchmark and representative peer group;
B. its consistent adherence to its stated management style;
C. the discipline of its investment decision-making process;
D. its stability of staff and organization; and
E. its consistent adherence to the investment policies and objectives as adopted by the Board of Trustees.

An Excess Return Ratio below expectations or underperformance over any rolling 36-month time frame or otherwise meaningful time frame requires an analysis by the Investment staff, with recommendations from the Asset Class Director, to the Chief Investment Officer. If the analysis and/or circumstances indicate any of the following, then partial or complete defunding will be considered by ERS Investments staff:

A. the causes of underperformance are likely to persist;
B. advisor's failure to comply with the *ERS Investment Policy* and/or other applicable procedures;
C. advisor has experienced material organizational or personnel changes; and/or
D. matters that may, in ERS Investment staff's opinion, distract the advisor from effectively performing its responsibilities to ERS, including an actual or potential conflict of interest or reputation risk.

In addition to the comprehensive performance reports provided by ERS' plan consultant and monthly investment summaries, the Chief Investment Officer will periodically update the Board of Trustees with respect to additions to and deletions from the select pool (as further discussed in Section 4.5(B)), including significant changes in the funded status of any advisor in the select pool.

3.3. **Internal Portfolio Evaluation.** The performance of the internal portfolios is evaluated regarding the following investment objectives:

A. performance relative to the stated benchmark;
B. adherence to tracking error and/or other risk constraints; and
C. adherence to the investment policies and objectives as adopted by the Board of Trustees.

Performance outside of the defined tracking error tolerance set for each monthly rolling 36-month time frame requires an analysis by Investments staff, with recommendations by the Asset Class Director, to the Chief Investment Officer of the performance and a report to the Executive Director and Board of Trustees. In addition, the Chief Investment Officer will report on performance below the benchmark over rolling three-year periods. Defined tracking error tolerance is set forth in the Active Risk Budget, which is attached as Addendum I.

3.4. **Performance Benchmark Objectives.** The following performance benchmark objectives are established by the Board of Trustees:

A. **Total Trust.** The performance objective is to obtain overall investment returns over rolling five-year periods equal to the weighted average of the adopted benchmark returns or stated return objective, plus active returns over the public market benchmark returns proportionate to the amount of active risk (tracking error or other appropriate risk measurement metric) assumed. At a minimum, active returns are expected to exceed the cost of management. Returns are weighted according to the adopted asset allocation. .

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B. **Asset Classes.** Similar to the total Trust, the performance objective is to obtain overall investment returns over rolling five-year periods in excess of the adopted benchmark returns or stated return objective established in the adopted asset allocation and further described in the Active Risk Budget. Active returns over the adopted benchmark returns are expected to exceed the cost of management (including external Advisors and managers) and be proportionate to the amount of active risk (tracking error) assumed at the asset class level. The expected excess returns for the public market investments are a function of the active return expected per unit of active risk established in the Active Risk Budget. Private market investments are evaluated over rolling ten-year periods or other meaningful time period using realized internal rates of return (IRR) and gross realized multiples.

C. **Special Situations.** The performance objective of Special Situations is to improve the risk-adjusted returns of the total Funds and explore new investment strategies. Each investment strategy used in Special Situations will have an explicit benchmark used for performance evaluation. The total Special Situations performance objective is to achieve a rate of return in excess of the weighted average return of the benchmarks of the underlying investment strategies.

D. **Transition Period for Asset Allocation Implementation.** Staff will target reaching an interim portfolio represented by the interim allocation on or before Fiscal Year 2019. As of September 1, 2019, the portfolio will target the final allocation targets of the Final Target Portfolio within the following two years.

During the implementation from the current portfolio to the Final Target Portfolio as defined below, staff will regularly present to the Board and IAC views on the tactical aspects of implementation based on current market environments and manage based on the opportunities that arise and liquidity needs of the Trust. Staff will prudently implement the asset allocation with flexibility allowed within this policy. See following implementation timeline for further detail.

Implementation Timeline | **FY 2017** | **FY 2018 - 2019** | **FY 2020 - 2021**

Asset Class	Current	Interim	Final Target
Global Equity	45.0%	40.0%	37.0%
Private Equity	10.0%	12.0%	13.0%
Global Credit	10.0%	11.0%	11.0%
Real Estate	10.0%	11.0%	12.0%
Infrastructure	4.0%	6.0%	7.0%
Opportunistic Credit	--	2.0%	3.0%
Total Return-Seeking Assets	**79.0%**	**82.0%**	**83.0%**
Rates	15.0%	12.0%	11.0%
Absolute Return	5.0%	5.0%	5.0%
Cash	1.0%	1.0%	1.0%
Total Risk-Reducing Assets	**21.0%**	**18.0%**	**17.0%**

E. **Performance Measurement.** The total return concept, using market price valuations and income, is used in evaluating the investment results of the Funds. In addition, time-weighted rates of return are used in order to measure performance unaffected by the timing of contributions and distributions. The performance of the private market investments will, in addition, be measured by the internal rate of return (IRR) calculation, gross realized multiple, among other commonly used metrics in each asset class, as further detailed in the respective Asset Class Guidelines & Procedures.

Section 4. Implementation

4.1. **Duty of Care.** The Board of Trustees, as fiduciaries of the Funds, shall:

A. Manage the assets for the exclusive benefit of the Plan Beneficiaries;
B. Establish prudent investment policies defining investment objectives and strategies;
C. Seek to maximize investment returns while maintaining the safety of principal;
D. Diversify the assets to reduce risk of loss;
E. Monitor investment performance;

F. Efficiently manage the costs associated with implementation of its investment program; and
G. Establish committees as necessary and prudent to fulfill its duties to the Funds pursuant to Texas Government Code §815.509.

Investments shall be made in securities that are considered prudent investments, exercising the judgment and care, under the circumstances prevailing at the time of the investment, 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 from the disposition and the probable safety of their capital. However, the Board of Trustees shall not participate in individual investment selections unless it is specifically provided for herein this policy or in individual Asset Class Guidelines and Procedures because that responsibility has been delegated to the Executive Director and ERS Investments staff, with oversight by the Board of Trustees.

Every investment will be subject to strict due diligence. Notwithstanding the performance of such due diligence, the determination of whether prudence has been exercised with respect to an investment decision shall be made by taking into consideration the investment of all the assets of the Trust or all the assets of the collective investment vehicle, as applicable, over which the Board of Trustees has management and control, rather than considering the prudence of a single investment of the Trust or collective investment vehicle, as applicable.

4.2. **Delegation of Authority.**

A. **The Board of Trustees.** The Board of Trustees shall (i) invest the Funds as a single fund without distinction as to their source and (ii) hold securities purchased with such funds collectively for the proportionate benefit of ERS, LECOS, JRS II and TEGBP.The Board will approve alternative investments over 0.6% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report pursuant to Texas Government Code Section 815.3016.

B. **The Executive Director.** In accordance with Texas Government Code §815.301(b), the Executive Director is delegated full authority and responsibility by the Board of Trustees to perform the responsibilities specified in Section 4.2.A. and in the implementation and administration of its investment programs subject to Board of Trustees policies, rules, regulations, and directives consistent with constitutional and statutory limitations.

In accordance with Texas Government Code §815.202(f), the Executive Director may delegate to another employee of the retirement system any right, power or duty assigned to the Executive Director in this policy. Such delegation may include, but not be limited to, the Executive Director's delegation to the Chief Investment Officer to supervise and oversee the performance of any responsibilities delegated to ERS Investments staff specified in Section 4.6 or as otherwise set forth in this policy. Any reference to ERS Investments staff responsibilities in this policy, including any addendum to this policy, should be construed to mean that the Chief Investment Officer has supervisory and oversight authority of such delegated responsibilities.

The Executive Director will establish procedures and controls for efficient implementation of investment programs by ERS Investments staff.

i. ERS Investments staff shall evaluate and monitor securities purchased by the Funds, as recommended by external advisors and/or ERS staff, and may recommend to the Executive Director that securities not be purchased, or sold if owned, if the securities are deemed to lack sufficient investment merit or do not meet the criteria set forth in this policy.
ii. Investment dealers and brokers who do business with the ERS and the trade allocation process will be approved by the Chief Investment Officer.

C. **The Deputy Executive Director.** The Board of Trustees also delegates to the Deputy Executive Director any right, power, or duty imposed or conferred on the Executive Director.

4.3. **The Investment Advisory Committee.** The Investment Advisory Committee (IAC) was established at the discretion of the Board of Trustees in Texas Administrative Code §63.17(b) and is composed of at least five and not more than nine members. The members are selected by the Board of Trustees on the basis of experience in the management of a financial institution or other business in which investment decisions are made or as a prominent educator in the fields of economics, finance or other investment-related area. A person is not eligible for appointment to the IAC if the person or the person's spouse (a) is employed by or participates in the management of a business entity or other organization receiving funds from ERS, (b) owns or controls, directly or indirectly, more than a 10% interest in a business entity or other organization receiving funds from ERS, or (c) is a paid officer, employee, or consultant of a Texas trade association (as defined in Texas Government Code §815.0031) in the field of insurance or investment or if the person is required to register as a lobbyist under Chapter 305 of the Texas Government Code because of the person's activities for compensation on behalf of a business or an association related to the investment of the assets of the state or of ERS.

The IAC members serve at the pleasure of the Board of Trustees for staggered terms of three years at a compensation and reasonable reimbursement as determined by the Board of Trustees. Compensation and expense reimbursements for the IAC are payable from ERS' expense account. The IAC selects a chair and vice chair from its members, for a two-year term, to serve as liaison to the Board of Trustees and to preside over IAC meetings.

A quorum of the IAC committee meets at the discretion of the Board of Trustees. Individual members meet as appropriate with ERS staff and current or prospective external advisors and consultants. ERS staff may utilize the expertise of IAC members to assess investment strategies and advisors to participate on ad-hoc selection and review committees and to provide insights from such participation to the Board of Trustees.

The IAC assists the Board of Trustees in carrying out its fiduciary duties with regard to the investment of the assets of the system and related duties. The IAC reviews investment strategies and related policies of ERS to provide comments and recommendations to assist the Board of Trustees in adopting prudent and appropriate investment policies. In addition, from time to time, together with the ERS staff and investment consultants or advisors, they recommend to the Board of Trustees asset mix, portfolio strategy, investment policies, and eligible securities. Certain IAC members will be designated as members of asset class internal investment committees from time to time as determined by the CIO, in consultation with the Executive Director.

The Board of Trustees shall at least annually review the eligibility status of members of the IAC. It is a ground for removal from the IAC that a person is (a) not qualified for appointment to the IAC under this Section 4.3, (b) unable to discharge the person's duties on the IAC because of illness, disability, or other personal circumstances, or (c) absent from more than half of the scheduled meetings of the IAC that the person is eligible to attend during a calendar year. If the Executive Director or a member of the IAC has knowledge that a potential ground for removal exists, the Executive Director or IAC member shall notify the Chair of the Board of Trustees of the potential ground for removal.

Pursuant to Texas Government Code §815.5093(e), the Board of Trustees adopts the following process for removal of a person from the IAC based on any ground for removal described in the above paragraph. Any member of the IAC with any ground for removal noted shall, based on applicable circumstances and at the discretion of the Board of Trustees, either be (a) removed from the IAC or (b) notified a ground for removal exists and be given an opportunity to cure the ground for removal to the extent such ground for removal is capable of being cured. Any person notified that he/she is being given an opportunity to cure a ground for removal must affirm to the Board of Trustees that he/she will make a good faith attempt to cure all grounds for removal. Following this affirmation, the IAC member may be allowed to continue to serve on the IAC until the next following annual review unless it is apparent prior to the next annual review that the IAC member is not able, not willing or not making reasonable efforts to cure the ground for removal. If any ground for removal is not going to be, or capable of being, cured, the Board of Trustees shall remove this person from the IAC. Members of the IAC may be removed at any time at the discretion of Board.

4.4. **Investment Consultants.** ERS may retain from time to time, professional investment consultants to assist and advise the Board of Trustees and ERS staff. Consultants are selected based on experience and the ability to provide competent advice consistent with the investment philosophy and goals of the Board of Trustees. Any conflict of interest disclosures that a consultant is required to file pursuant to state law and federal securities laws must also be filed with and acceptable to ERS staff, and ERS may request additional conflict of interest disclosures. Such disclosures will not be acceptable if they are perceived by ERS to show any conflicts of interest or otherwise reflect a loss of independence and objectivity by the consultant.

4.5. **External Advisors.** ERS may retain professional external investment advisors (Advisors) to assist and advise the Board of Trustees, the IAC, and ERS staff on specific sectors of the investment portfolio

A. **Selection.** Advisors are selected on the basis of desired investment style, investment philosophy, experience, past investment results, and the ability to provide competent economic and investment advice consistent with the investment philosophy and goals of the Board of Trustees. Any conflict of interest disclosures that Advisors are required to file pursuant to state law and federal securities laws must also be filed with and acceptable to ERS staff and ERS may request additional conflict of interest disclosures. Such disclosures will not be acceptable if they are perceived by ERS to show any conflicts of interest or otherwise reflect a loss of independence and objectivity by the Advisor.

Advisors must satisfy the following criteria to be considered in the selection process:

i. must be a bank, insurance company, or investment adviser as defined by the Investment Advisers Act of 1940;
ii. must be registered and in good standing with the Securities and Exchange Commission;
iii. should have a minimum of three years with the desired investment style, demonstrate continuity of key personnel, have institutional fund experience, and offer a reasonable fee schedule;
iv. must have a clearly defined investment philosophy and decision-making process;
v. must demonstrate generally favorable consistent historical performance, calculated on a time-weighted basis, based on a composite of all of their fully discretionary accounts of similar investment style relative to a predetermined benchmark;
vi. must have key personnel governed by the Standards of Professional Conduct established by the CFA Institute.
vii. must possess a robust asset base with a diverse client base to ensure ongoing viability; and
viii. must have an established, competent back office environment.

B. **Select Pool.** ERS hires external investment managers to serve as advisors without granting full investment discretion through the ERS External Advisor Program. The ERS External Advisor Program is administered within each asset class. There is a process, as determined by each asset class, resulting in a Select Pool of advisors that may be funded by Investments staff on an as needed basis. The selection and monitoring process is detailed in the respective asset class' Policies and Procedures. External investment managers are approved by an Internal Investment Committee (IIC) that includes the Executive Director, the Chief Investment Officer (CIO), and at least one IAC member. Due diligence and monitoring of the select pool follows internal procedures developed for the select pool and includes mandatory on-site visit(s), and documentation of the entire process.

Selected advisors selected will work with ERS Investments staff collaboratively to share value-added services and research that will complement and enhance ERS' staff skill sets, infrastructure and further best practices. The select pool may also include managers selected through hedge fund structures if appropriate for the asset class and otherwise allowed by this policy. Funding, de-funding or removal of an advisor or other actions regarding external advisors in the select pool will be recommended by ERS Investments staff for action by the CIO, in consultation with the Executive Director. ERS Investments staff will report to the Board of Trustees and IAC the status of funding for external advisors in monthly summaries, and the CIO will report significant changes to the Board and IAC at least quarterly.

C. **Investment Selection/Trading.** ERS Investments staff evaluates and monitors investments, as recommended for purchase by Advisors, and may recommend to the Chief Investment Officer that securities not be purchased, or sold if owned, if the securities are deemed to lack sufficient investment merit or do not meet the criteria set forth in this policy.

In most cases, ERS retains trading execution. Advisors' trade recommendations are communicated to ERS for review. Once reviewed by staff, the Chief Investment Officer or a designee appointed by the Chief Investment Officer approves or rejects the trade recommendations. Each asset class director is responsible for monitoring all trading in such directors' asset class on a daily basis. All accounting and operational functions, including proxy voting, are also performed by ERS. Advisors that are selected for hedge fund structures may have alternative trading processes depending upon the investment mandate, but the trading process will comply with this policy, all applicable laws and regulations and any additional guidelines determined prudent by staff as documented in the respective contractual agreement.

In certain circumstances, two alternative trading processes may be considered when working with external Advisors, but in either case, Advisors must have the requisite ERS approval before executing any trades and comply with all requirements that would be applicable of an internal trade. The ministerial allowance for external advisors to execute trades allows for ERS to maximize the alpha performance of external advisors and to supplement ERS' existing infrastructure and resources.

i. *Pre-Approved Buy List*. Under the first alternative, an Advisor would be allowed to execute (1) buys during a month from a monthly pre-approved buy list that is approved in advance by the Chief Investment Officer, or a designee appointed by the Chief Investment Officer; and (2) sells after a mandatory pre-trading two-hour review by ERS Investments staff with approval by the Chief Investment Officer, or a designee appointed by the Chief Investment Officer.

ii. *Mandatory Pre-Trading Review*. The second alternative would allow an Advisor to execute all trades (1) with daily notification in accordance with ERS-approved concentrated investment guidelines or (2) after a mandatory pre-trading two-hour review by ERS Investments staff with approval by the Chief Investment Officer, or a designee appointed by the Chief Investment Officer.

Each Advisor will provide a monthly review of the entire segment of the portfolio for which it is responsible. The External Advisor IIC will approve the trading process when approving the selection of an Advisor.

4.6. **ERS Investments Staff.** In accordance with Texas law, the ERS Investments staff is retained and authorized by the Executive Director to provide professional investment analysis and support, exercising reasonable care consistent with ERS' fiduciary duty, and to maintain the integrity of the investment program. Responsibilities include portfolio management; company and investment analysis and research; review and monitoring of external investment consultants and advisors and their recommendations; trade execution; voting of proxies and maintenance of the ERS Proxy Voting Guidelines; and the development, recommendation and implementation of this policy, asset allocation, portfolio structure, advisor/consultant selection, and custodian selection.

In striving for management quality, it is the policy of the Board of Trustees to attract and retain qualified ERS Investments staff and to promote, encourage, and provide continuing education for the staff.

4.7. **Trade Execution and Commission Sharing.** The ERS Investments staff shall allocate trades for the benefit of the Funds based on the relative ability of broker/dealers to add value to the Funds through: (A) products or services of benefit to the investment program, such as research products or portfolio analytics that are used in ERS' investment decision-making process; (B) trade execution; or (C) a commission sharing agreement.

Trades allocated strictly for execution purposes must be executed at discounted commission rates acceptable to ERS. All currency and security trade orders must be placed with firms that meet all of the requirements listed below. In order for a firm to be approved or remain approved, all information must be satisfactory to ERS and must be provided to ERS upon request.

A. Firms must be in good standing with the Securities and Exchange Commission;
B. Firms and their designated agents must be members in good standing with the Financial Industry Regulatory Authority (FINRA);
C. Firms must be registered and in good standing with the Texas State Securities Board;
D. Firms must demonstrate a proven, effective execution platform for institutional investors that has been utilized by the firm for a minimum of three years; their designated agents may not have to be registered so long as such designated agents are in good standing with the Texas State Securities Board;
E. The firm or its executing broker and the clearing agent must each have minimum excess net capital of $2,500,000; and
F. Firms must demonstrate an ability to add value to the investment process.

Firms used strictly as crossing networks may be exempt from these requirements with the approval of the Chief Investment Officer. Notwithstanding the above, orders to effect currency exchanges may also be placed with a banking institution that has at least a five-year history of serving institutional clients in this capacity and short-term debt that is highly rated by at least two nationally recognized statistical rating organizations such as Moody's Investor Services (Moody's), Standard & Poor's and Fitch Ratings (NRSROs).

The Board of Trustees is aware of the need to maximize ERS' resources, including, but not limited to commission dollars generated through trade activity. Commission sharing arrangements are commissions from trades that are paid to non-executing firms to produce research or beneficial services that are used in the investment process. . All payments made with commission sharing agreements will be fully documented, and the process for the use of commission sharing will be subject to approval by the Chief Investment Officer.

4.8. **Implementation Plan.** A strategic implementation plan for the Funds, considering the expected growth of the Funds and the cost of the implementation of alternate strategies, will be recommended by ERS staff in the respective asset class policies and procedures and approved by the Board of Trustees on a periodic basis.

4.9. **Permissible Investments.** The Board of Trustees will consider investment instruments appropriate for the Funds and deemed to be prudent based on:

A. the definition of “securities” set forth in Texas Government Code §815.301(f) (see Addendum II);
B. their consistency with investment policy and portfolio objectives;
C. their application to the portfolio's diversification;
D. staff and/or advisor competency in evaluating and trading the securities;
E consideration of their liquidity within the portfolio; and
F. the cost of including them in the program.

Securities will be screened by staff to ensure that they meet the above standards, and any non-routine transactions will be reviewed by ERS legal staff.

4.10. **Eligible Securities.** Eligible securities are as follows:

A. Except as described in the Fixed Income Policies and Procedures for the credit portfolio, global fixed income securities, subject to a minimum credit rating of “CCC-, Caa3,” or their equivalent as rated by two (NRSROs), as included in the Barclays Capital Universal Index or successor index. Investments with a credit rating below “CCC-/Caa3” will be limited to the benchmark weight. Fixed income and short-term securities that have been downgraded to below the acceptable rating described in the above paragraph and which are expected to continue to deteriorate will be exchanged or sold within one year of the downgrade, but special exceptions may be permitted. These exceptions will be reported to the Board of Trustees.

B. Cash and cash equivalents. The eligible securities for cash and cash equivalents are asset backed securities, certificates of deposit, commercial paper, time deposits, repurchase agreements, treasury and government agency securities, bank notes, institutional money market funds, supranational/sovereigns, corporate bonds and floating rate notes (FRNs).

C. Interests in private securities exempted from registration under federal and state securities laws, including certain limited liability securities and vehicles, such as limited partner interests in limited partnerships, trusts and limited liability corporations as deemed appropriate by ERS Investments staff with review by ERS legal staff.

D. Global publicly traded real estate equities subject to the quality standards set forth in this policy.

E. Foreign currencies transactions and foreign currency derivatives are permitted as necessary to facilitate the settlement of foreign security transactions, consistent with industry best practice. Foreign currency transactions are also permitted to settle private market transactions, meet capital calls or exchange distributions back into U.S. dollars.
F. Forwards, futures and options, subject to the restrictions set forth in this policy.

4.11. **Bond Exchanges**. Bond-for-bond exchanges may be executed when determined to be in the best interest of the Funds upon consideration of yield, quality, marketability, and long-term investment objectives for the Funds.

Both ends of the transaction must be in sight, that is, the sale must be made in clear contemplation of reinvesting the proceeds and substantially all of the proceeds of the sale must be reinvested.

4.12. **Risk Management.**

A. **Strategic Objective.** The purpose of risk monitoring and risk management within the Investments division is to identify the uncertainties that could make the biggest differences to Trust performance, and then, to measure, monitor and manage those identified risks.

B. **Definition of Risk.** Risk is often defined in terms of market volatility or potential for loss. For the Trust, risk is also defined in terms of the probability of not meeting the primary investment goal.

C. **Risk Committee.** The Trust uses a Risk Committee to consider relevant information and to recommend actions that will either minimize negative outcomes or enhance positive outcomes. A second but equally important function of the Risk Committee is to assure that risk constraints, established by the Board of Trustees in this policy, are being observed. The Risk Committee is comprised of the Chief Investment Officer and senior Investment staff. The Risk Committee works closely with staff to look both within and across the asset classes to develop a comprehensive view of Trust risk. This approach also allows the Risk Committee to make informed recommendations on changes that should be considered to existing strategies or tilts. The Risk Committee is charged with investigating best practices in the area of risk management and developing methods and tools necessary to implement strategic decisions.

D. **Tactical Asset Allocation.** The Risk Committee oversees the Tactical Asset Allocation (TAA) process. The TAA process systematically evaluates the relative attractiveness of different asset classes, strategies and specific exposures to produce recommendations for short-term changes to these exposures. The TAA process is intended to enhance the long-term performance of the asset allocation adopted by the Board of Trustees.

E. **Risk Constraints.** Investment and risk management activities are subject to the following constraints:

i. Financial Leverage. Financial leverage is restricted at the Trust level to risk management as described further in this section. Financial leverage is implicit in certain investments and many derivative transactions, which is not strictly prohibited so long as activities do not materially increase the risk level of the ERS portfolio. In addition to gross notional exposure, net exposure levels will be monitored at the asset class level and at the Trust level. Financial leverage is permitted under this policy as a result of the following permissible activities:

a. Derivative overlay strategies in accordance with the asset allocation of this policy;

b. Foreign exchange hedging;

c. Embedded leverage within limited partnership investments; and

d. Collateralized fundings including securities lending activities, repurchase agreements and reverse repurchase agreements.

ii. Diversification. The assets of the Funds will be broadly diversified in order to minimize the risk of large losses in individual investments. Investments are restricted by the Texas Constitution to securities such as, but not limited to, cash equivalents, bonds, common stocks keep limited partner interests as further referenced in the statutory definition of securities in Addendum II. The Funds will have beneficial ownership[1] of:

a. no more than 3% of the Funds' assets at market value in the securities of any one corporation;

b. no more than 5% of any class of voting securities of any one public corporation; and

c. no more than 15% of an advisor's high yield bond portfolio, based on market values, in combined Deferred Interest, Contingent Interest and Pay-In-Kind bonds.

iii. Counter-party Requirements. Counter-party creditworthiness will be managed closely and transactions will only be made with banks or financial institutions with a credit quality rating of at least A+ or the equivalent as rated by two NRSROs. The use of unrated counter-parties is prohibited.

iv. Constraints on Use of Derivative Instruments. The following derivative instruments are allowable, subject to the constraints listed below: futures, forwards, structured notes, and options. These instruments are allowed to prudently implement risk control strategies and in place of cash market transactions, but they shall not be used solely for the purpose of return enhancement. The only authorized uses of derivative transactions are (1) to efficiently manage portfolios and reduce risk and (2) to implement investment strategies authorized by this policy more effectively and at a lower cost. External advisors may only engage in derivatives that are consistent with their investment guidelines and applicable laws and regulations. Specifically these instruments may be used for:

a. Efficiently managing the total Trust by altering the market (systematic) exposure in lieu of trading the underlying cash market securities through purchases or short sales, or both, of appropriate derivatives;

b. Constructing portfolios with risk and return characteristics that could not be created with cash market securities consistently with the objectives in this policy and in compliance with applicable law;

c. Hedging and controlling risks so that the total Funds' risk-return profile is more closely aligned with the Funds' targeted risk-return profile through purchases or short sales, or both, of appropriate derivatives; and

d. Facilitating transition trading when holdings must be rebalanced or reallocated among permissible investments as a result of changes to applicable benchmark indices or policy changes.

[1] Beneficial ownership is determined pursuant to Rule 13d-3 of the Securities Exchange Act of 1934, which provides that a beneficial owner of a security includes any person who, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares: (a) voting power which includes the power to vote, or to direct the voting of, such security; and/or (b) investment power which includes the power to dispose of, or to direct the disposition of, such security.

v. Futures Commission Merchants. Futures Commission Merchants (FCM) shall be in good standing with the CFTC, the National Futures Association (NFA) and, to the extent required, the SEC. FCMs must have a history of serving institutional clients for a minimum of five years and must demonstrate adequate capitalization to handle ERS business.

vi. Options Dealers. Options dealers shall be in good standing with the Options Clearing Corporation (OCC), which is the clearinghouse for listed options and, to the extent required, the SEC.

F. **Reporting.** The Trust's risk profile and any risk management positions are reported monthly to the Board of Trustees in the Monthly Investment Summary.

4.13. **Securities Lending.** The Board of Trustees may contract with an entity to act as agent in the lending of the Funds' securities, provided the securities lending agent meets the requirements set forth in Texas Government Code §815.303, including but not limited to, indemnification against borrower default. Collateral that the securities lending agent receives from borrowers must be delivered in the form of cash or United States government securities. Lent securities and initial collateral delivered to the securities lending agent by the borrower shall be marked to market at the close of each business day. The initial collateral delivered to secure a loan must have a market value of at least 102% of the initial market value for lent domestic securities and at least 105% for lent international securities. If, while the loan is outstanding, the current market value of the collateral initially delivered by the borrower decreases to less than 100% of the current market value of the lent securities, then the securities lending agent must require the borrower to deliver additional collateral to restore the value of the collateral to at least 100% of the market value of the lent securities. Eligible instruments for the investment of cash collateral shall be consistent with ERS' written directives and its fiduciary duty. This is intended to reinforce the conservative nature of the pool. The list of eligible borrowers shall be the responsibility of the lending entity, subject to ERS Investments staff approval. ERS may determine from time to time that it is prudent to true up the securities lending cash collateral pool. If losses impact the dedicated cash collateral pool such that the portfolio may experience realized losses, or otherwise "break the buck," ERS may make an allocation into the pool to make that pool whole for any losses. ERS' securities lending program shall be administered to comply with all applicable federal and state laws and regulations, as such may be amended from time to time

4.14. **Divestment of Plan Assets on Non-Economic Factors.** The investment program is to be conducted so as to abide by federal and state laws while investing and managing the Funds for the exclusive benefit of the Plan Beneficiaries. It is not the policy of the Board of Trustees to knowingly support terrorist activities or other similar hostile threats that could be detrimental to ERS' investment program. The Board of Trustees recognizes that an industry or company's behavior may be deemed unacceptable or as negatively impacting society at large due to its product(s), locations in which it conducts its business, and/or its environmental or social practices. While it may appear straightforward to just divest or prohibit new investment in such a company's securities, the Board of Trustees has a fiduciary obligation to act for the exclusive benefit of the Plan Beneficiaries. For the Board of Trustees, as fiduciaries of the Funds, to make investment decisions based solely on non-economic or collateral considerations could be construed as making investment decisions in a manner that is not for the exclusive benefit of Plan Beneficiaries. The Board of Trustees recognizes there are a variety of approaches to deal with unacceptable business practices through shareholder activism such as proxy voting, direct engagement with company management, etc. To this end, ERS Investments staff shall review investments to ensure that they comply with this policy and follow Socially Constrained Investment Program Procedures (attached as Addendum VII) consistent with Texas Government

Code Chapters 2270 and 808, and determine the most prudent method to protect the Funds and invest the Funds' assets consistent with procedures approved by the Board related to socially constrained investing. In the event staff determines that a socially constrained activity presents a potentially unique investment risk to the Funds, then staff shall present the issue to the Board of Trustees for its consideration in light of the fiduciary duty and requirement of investment prudence of the Board of Trustees.

4.15. **Economically Targeted Investments (ETI's).** ETI's are generally defined as investments that have a secondary goal, such as to promote economic growth in a specific industry or geographic region through a targeted investment that creates or supports housing, jobs, infrastructure, etc. The Board of Trustees has a fiduciary duty to manage and invest the assets of the Funds for the exclusive benefit of the Plan Beneficiaries. This fiduciary responsibility does not allow investment decisions to be made solely on non-economic or collateral considerations. Therefore, ETI's, like all investments, will be evaluated on their investment merits without consideration of the purpose of any secondary objectives. All investments shall be evaluated as part of the Funds' overall strategy and structure and must meet investment policy guidelines for permissible investments and demonstrate the ability to achieve a market rate of return on a risk adjusted basis while incurring no singular cost to implement or monitor.

4.16. **Emerging Investment Service Providers**. In selecting advisors, consultants, and other financial service providers, the Board of Trustees shall make a good faith effort to evaluate qualified emerging firms as candidates to award contracts to or acquire services from when acquiring private financial services as set forth in Sections 815.301 (g), (h), and (i) of the Texas Government Code. An emerging fund manager is defined as a private professional investment manager with assets under management of not more than $2 billion. Private financial services include pension fund management, consulting, investment advising, brokerage services, hedge fund management, private equity fund management, and real estate investment. ERS must report to its Board of Trustees the methods and results of its efforts to hire emerging fund managers, including data disaggregated by race, ethnicity, gender and fund size.

4.17. **Securities Litigation Policy.** As a large institutional investor, the Funds frequently hold securities that are the subject of individual and class action securities litigation. The Board of Trustees recognizes that there are a number of litigation options available when a company has violated federal or state securities laws that result in losses to the Funds. Investments staff shall manage the Funds' interest in securities litigation matters as an asset of the Funds and shall review the materiality of the financial loss, if any, that resulted in litigation. Investments staff will consider the cost and benefits of the litigation options available in adherence with the fiduciary obligation to act for the exclusive benefit of the Plan Beneficiaries.

In most cases, the Funds' interest in securities litigation claims will be adequately addressed solely through ERS' participation as a class member, rather than taking a lead plaintiff role in such litigation. In such event, the filing of any claim shall be prepared, processed and managed by the Funds' custodian on behalf of ERS, at the direction and with the oversight and approval of ERS Investments staff.

In securities class action cases where the materiality of the financial loss to the Funds is exceptional and/or where it is determined that the Trustee's fiduciary obligation requires active participation or separate prosecution of claims, after consulting legal staff, the case may be referred to appropriate legal counsel approved by ERS for evaluation and recommendation to the Board of Trustees.

4.18. **Voting of Proxies.** The right to vote proxies for securities held by ERS has economic value, and the fiduciary act of managing ERS' securities includes the management of the voting rights appurtenant to those securities. In voting proxies, ERS shall consider only those factors that relate to the economic value of ERS' investment, and such votes should be cast in accordance with ERS' economic best interest.

In accordance with the delegation of authority under Texas law and this policy, the Board of Trustees approves the Executive Director's delegation of authority to vote the proxies of the Funds to the ERS Investments staff who are qualified to analyze proxy issues and exercise prudence when discretion is required to vote proxies pursuant to the ERS Proxy Voting Policy (attached as Addendum III to this policy). ERS Investments staff will maintain and annually review the ERS Proxy Voting Guidelines, which are detailed instructions based upon the ERS Proxy Voting Policy that have been developed by ERS Investments staff to vote proxies, consistent with ERS' fiduciary duty. The Board of Trustees further approves the Executive Director authorizing ERS Investments staff to use an independent advisory service to consult on ERS Proxy Voting Guidelines and to facilitate voting proxies in accordance with the ERS Proxy Voting Policy and the ERS Proxy Voting Guidelines.

ERS Investments staff shall maintain records of proxy voting, with a summary of the proxy voting process presented annually to the Board of Trustees. The quarterly compliance report will be presented to the Board of Trustees with information regarding the votes cast that were exceptions to the ERS Proxy Voting Policy and the ERS Proxy Voting Guidelines. Any vote cast that was an exception must be documented to indicate why such vote was necessary and in the best economic interest of ERS.

Proxy issues not specifically mentioned in the ERS Proxy Voting Policy or ERS Proxy Voting Guidelines will be voted in ERS' economic best interest.

4.19. **Reporting Requirements.** Information reported to the Board of Trustees includes, but is not limited to, the following:

A. **Monthly Reports.** The Executive Director or designee shall report to the Board of Trustees in writing on a monthly basis:

i. a summary of the Funds' investments, including the balance of all externally advised portfolios;
ii. a listing of all purchase and sale transactions affecting the investment portfolios;
iii. results of the risk management program;
iv. a report of the Funds' net leverage levels; and
v. other information as requested by the Board of Trustees from time to time.

B**.** **Quarterly Reports.** The Executive Director or designee shall provide to the Board of Trustees in writing or present at a meeting on a quarterly basis:

i. a summary of investment performance as described in Section 3 of this policy; and
ii. a report on any violations or exceptions of this policy.

C. **Annual Reports.** The Executive Director or designee shall provide to the Board of Trustees in writing or present at a meeting on an annual basis:

i. a listing of all investment holdings by the Funds;
ii. a year-to-year comparison of the Funds' investments;

v. a summary, by broker, of the commissions on all stock transactions, the volume of directed commission activity and services funded and a summary, by broker, of all fixed income transactions;

vi. a summary of securities lending income;

v. a report on the Funds' liquidity levels;

vi. a report on ERS' methods, efforts and results in hiring emerging fund managers, including data disaggregated by race, ethnicity, gender and fund size; and

vii. a summary of the proxy voting process for the year.

Section 5. Code of Ethics and Personal Investment Activities

5.1 Code of Ethics and Personal Investment Activities. All ERS Investment-related Staff (which includes all ERS Investments staff, Investment Accounting staff, Investment Accounting staff supervisors, Internal Auditor and any other ERS staff who the Executive Director determines have access to confidential ERS investment trading information), all members of the Board of Trustees and IAC, the Executive Director and the Deputy Executive Director shall be governed in their personal investment activities by the Standards of Professional Conduct established by the CFA Institute (CFAI) and applicable state statutes, and each such person shall sign a yearly affirmation of compliance with this policy and with the Code of Ethics of the CFAI (attached hereto as Addendum IV). The broad purposes of this section are to maintain integrity in the management and oversight of ERS investments and prevent the misuse of material, non-public information.

Except as otherwise noted in Section 5.1.A. regarding personal transactions, these provisions apply to all trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff, and these provisions apply only in connection with their service, relationship or employment with ERS. The personal transactions provisions do not apply to trustees and IAC members because they do not participate in the selection of individual securities; however, the Insider Trading and Confidentiality Policy does apply to trustees and IAC members.

Pursuant to Texas Government Code §815.210, except for an interest in retirement funds as a Plan Beneficiary, a trustee or employee of the Board of Trustees may not have a direct or indirect interest in the gains or profits of any investment made by the Board of Trustees and may not receive any pay or emolument for services other than the person's designated compensation and authorized expenses.

A. **Personal Transactions.** Section 5.1.A of this policy applies only to the Executive Director, Deputy Executive Director and ERS Investment-Related Staff (all of whom may be collectively referred to in this subsection as "Covered Person"). All ERS Investment-Related Staff shall obtain the approval of the Chief Investment Officer or a designee appointed by the Chief Investment Officer prior to making personal trades in securities in which ERS is invested or is considering investment. Similarly, the Chief Investment Officer, the Deputy Executive Director, and the Executive Director shall obtain approval from the Internal Auditor or a designee appointed by the Internal Auditor. Such trade approval is only valid for the trading day on which the approval is requested.

For purposes of the pre-clearance requirement described above, the term "security" is defined as publicly traded stocks, bonds, and certain derivative instruments but does not include (A) open-end mutual funds, closed-end funds or exchange traded funds ("ETFs") that are based on broad-based securities indices or (B) derivatives linked to the performance of such closed-end funds or ETFs. Furthermore, the pre-clearance requirement described above does not apply to any acquisitions or dispositions of any security that are not deliberate or willful on the part of the Covered Person, including, without limitation: (A) the purchase or sale of any security that is effected in an account over which a Covered Person has no direct or indirect influence or control; (B) the acquisition of any security pursuant a dividend reinvestment program;

or (C) the acquisition of any security through a stock dividend, stock split, reverse stock split, merger, consolidation, spin-off, or other similar corporate reorganization or distribution that is generally applicable to all holders of the relevant class of securities.

For purposes of the foregoing paragraph, a securities index will be considered “broad-based” if it satisfies the criteria adopted by both the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission; namely: (1) if it has more than nine component securities; (2) none of its component securities comprises more than 30% of its weighting; (3) no group of five of its component securities together comprise more than 60% of its weighting; and (4) the lowest weighted component securities comprising, in the aggregate, 25% of the index's weighting have an aggregate dollar value of average daily trading volume ("ADTV") of more than $50 million (or in the case of an index with 15 or more component securities, $30 million).

"Personal Trades" mean (a) a transaction for a Covered Person's own account, including a retirement or self-directed account (e.g., an IRA), in which the Covered Person has direct or indirect influence or control over the timing of the trade of the security or derivative on a security, or (b) a transaction for an account in which a Covered Person has indirect beneficial ownership as recommended by Standard VI (A) of the CFAI Standards of Practice Handbook and/or direct or indirect influence or control or discretion over the timing of the trade of the security or a derivative on a security. Indirect beneficial ownership applies to accounts held by immediate family members. “Immediate family member” means a Covered Person’s spouse, minor children, and adults residing with such Covered Person, and any trust or estate in which such Covered Person or any other member of his/her immediate family is a trustee or has a substantial beneficial ownership interest, unless such Covered Person or other member of his/her immediate family has fully delegated all authority over such accounts and, therefore, does not control or participate in the investment decisions of such trust or estate.

Front running is prohibited. For purposes of this section of the policy, "front running" occurs when a Covered Person buys or sells a security or a derivative on a security for personal financial gain or the financial gain of a third party other than ERS with advance knowledge of an ERS decision or recommendation to buy or sell a security or a derivative on a security. The preclearance requirements for a personal trade are intended to prevent front running.

Obtaining preclearance for a personal trade does not prevent the transaction from constituting front running under this policy if the Covered Person knows or should have known that a recommendation or decision for ERS to trade a security or a derivative on the security is pending or has been made but an order to trade has not yet been communicated to the ERS trading desk. All Covered Persons assume the risk of a conflict or violation of this policy by initiating any personal transactions that may be covered under this policy despite any lack of intent by the individual to violate this policy. A determination that this policy was violated may be based on circumstantial evidence of such intent.

It is a violation of this policy for a Covered Person to delay, hinder, modify, or cancel any internal ERS recommendation, decision or trading order with the intent to facilitate a personal trade.

Covered Persons shall also not personally participate in private market investment transactions that benefit from action taken by ERS.

All ERS Investment-Related Staff (except for the Investment Compliance Auditor), the Executive Director and the Deputy Executive Director shall report to the Internal Auditor on a quarterly basis regarding all personal investment activities. Similarly, the Investment Compliance Auditor shall report to the General Counsel and Chief Compliance Officer on a quarterly basis regarding all personal investment activities. An internal investigation will be promptly conducted into any questionable trade for violations of trading policy. If it is determined that the Covered Person violated this policy, then any personal transactions at issue may be reversed, at the expense of the individual, he/she may be required to disgorge all profits, and he/she is subject to the full range of disciplinary actions under the ERS Personnel Policy and Procedure Manual and/or may be reported to applicable regulatory or law enforcement agencies when appropriate.

B. **Gifts, Benefits, or Favors.** Trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff shall not solicit, accept, or agree to accept any gifts, personal benefits, or personal favors. The terms "gifts," "personal benefits" and "personal favors" include, without limitation, anything reasonably regarded as pecuniary gain or pecuniary advantage, including gifts or other economic benefits to any other person in whose welfare the trustee, IAC member, Executive Director, Deputy Executive Director or ERS Investment-Related Staff has a direct and substantial interest.

This prohibition does not apply to the following, except there is absolutely no exception for any gifts, personal benefits, or personal favors from Placement Agents, as defined in Addendum V:

i. gifts of books, pamphlets, articles or other such materials that contain information directly related to and used in performing the official ERS duties of the individual (provided that such items are less than $50 in value);
ii. gifts of nominal value (non-cash items of less than $50.00 in value), modest items of food and refreshments on infrequent occasions so long as the donor is present, unsolicited advertising or promotional material and other items of nominal intrinsic value;
iii. a fee prescribed by law to be received by an individual or any other personal benefit to which the individual is lawfully entitled or which is given as legitimate consideration in a capacity other than the individual's position with ERS; and
iv. a gift or other personal benefit conferred on account of kinship or a personal, professional, or business relationship independent of the official status of the individual's position with ERS.

C. **Attendance at Business Meetings/Functions.** Trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff are prohibited from accepting invitations to functions, the costs of which will be borne by brokers, dealers, corporations, or the Funds' master trust custodian, consultants or external advisors (donors) except as provided herein.

i. Invitations, including meals, transportation, and lodging to seminars and conferences when such event has a presentation or discussion of topics pertinent to the investment of the Funds' assets or relates to the official ERS duties of the individual and is not otherwise prohibited by law. This exception applies only where the services rendered by ERS Investment-Related Staff are more than merely perfunctory as in accordance with applicable laws, such as when ERS Investment-Related Staff speak at or actively plan the seminar or conference with specific approval from the Chief Investment Officer.

ii. Invitations, including meals and ground transportation, to receptions and business meals when the donor or a representative of the donor is present and such event has a presentation or discussion of topics pertinent to the investment of the Funds' assets or relates to the official ERS duties of the individual and is not otherwise prohibited by law.

iii. This prohibition also does not apply to the acceptance of meals, transportation and lodging in connection with private market advisory committee meetings, seminars, and conferences, where the services rendered by ERS Investment-Related Staff are more than merely perfunctory as in accordance with applicable laws.

iv. Attendance by ERS Investment-Related Staff at events sponsored by donors that may incidentally involve entertainment or recreation may in some cases be in the best interest of ERS. However, those ERS Investment-Related Staff must obtain specific approval of their attendance at such events from the Chief Investment Officer. The Chief Investment Officer must obtain such approval from the Deputy Executive Director. This approval will not be given for elaborate or expensive entertainment events.

iv. All persons to whom this policy applies shall use reasonable care and judgment not to place themselves in a situation that might cause, or be perceived to cause, a loss of independence or objectivity.

D. **Conflict of Interest.** All trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff who become aware of a personal conflict of interest that affects their duty owed to ERS have an obligation not only to disclose that conflict, but to cure it. Conflicts of interest may include, but not be limited to the following:

i. Trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff may not under any circumstances accept offers, by reason of their service, relationship or employment with ERS, to trade in any security or other investment on terms more favorable than those available to the general investing public or, in the case of private market investments, a similarly situated investor.

ii. Trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff may not participate in outside employment and/or business activities where the activity interferes with the efficiency of the individual's performance of, or could be considered to be in conflict with, the individual's service, relationship or employment with ERS, unless such outside employment and/or business activities have previously been disclosed and approved. The Executive Director will provide such approval in the case of ERS Investment-Related Staff, the Deputy Executive Director and IAC members, and the Board of Trustees will provide such approval in the case of the Executive Director or a trustee.

iii. In accordance with Texas Government Code § 572.054, Trustees and the Executive Director may not for two years after ceasing to be in their respective positions at ERS (Former ERS Official) make any communication to, or appearance before, an officer or employee of ERS, on behalf of the Former ERS Official or on behalf of any other person or entity, with the intent to influence agency action to benefit the person seeking such action. This restriction does not apply to the Former ERS Official merely providing information to ERS so long as such communication is done without the intent to influence any actions by ERS. A violation of this prohibition is a Class A misdemeanor.

iv. Furthermore, ERS may not enter into a contract with a former ERS Executive Director for four years after such former ERS Executive Director leaves ERS, or with a person or entity that employs such former ERS Executive Director, unless the Board of Trustees approves the contract and otherwise complies with Texas Government Code §669.003.

v. In accordance with Texas Government Code § 572.054, Trustees, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff may not at any time represent any person or entity, or receive compensation for services rendered on behalf of any person or entity, regarding a "particular matter" after such individual leaves his/her position at ERS. This prohibition applies if, during such individual's tenure at ERS, that individual "participated" in the particular matter, either through personal involvement or because the particular matter was within such individual's official responsibility. This prohibition does not prevent an individual from working on similar matters after leaving ERS that are not the exact matter on which an individual worked during his/her tenure at ERS.

For purposes of clarification of this prohibition, (1) "participated" means to have taken action as an officer or employee through making a decision, providing approval or disapproval, making a recommendation, giving advice, investigating, or similar action; and (2) "particular matter" means a specific investigation, application, request for a ruling or termination, rulemaking proceeding, contract, or judicial or other proceeding.

The Board of Trustees, or the Executive Director in the case of ERS Investment-Related Staff or the Deputy Executive Director, may provide an exception to this prohibition if not doing so would be imprudent on the part of ERS and such exception is not a violation of state law. A violation of this prohibition is a Class A misdemeanor.

vi. A person may cure a conflict of interest by promptly addressing it in the following manner. If the person may prudently withdraw from action on a specific issue in which a conflict exists, he/she may cure the conflict in that manner provided that:

(a) the person may be and is effectively separated from influencing the action taken;
(b) the action may properly be taken by others; and
(c) the nature of the conflict is not such that the person must regularly and consistently withdraw from decisions that are normally his/her responsibility with respect to ERS. Trustees must disclose any conflicts regarding matters that are before the Board of Trustees and not vote on the matter.

E. **Use of Placement Agents.** See Addendum V for Placement Agent and Political Contributions Policies and Procedures.

F. **Insider Trading and Confidentiality.** See Addendum VI for the Insider Trading and Confidentiality Policy.

G. **Ethics Training.** All trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff shall receive periodic ethics training at least annually.

H. **Compliance and Enforcement**

i. The Board of Trustees will enforce this policy through the Executive Director, who is responsible for its implementation with respect to ERS Investment-Related Staff, the Deputy Executive Director and IAC members.

ii. The full range of disciplinary options under the ERS Personnel Policy and Procedure Manual may be used with respect to employees of ERS who violate this policy, up to and including termination.

iii. The Board of Trustees is responsible for the enforcement of this policy with respect to violations by individual trustees or the Executive Director through resolutions of reprimand, censure, or other appropriate parliamentary measures, including requests for resignation.

iv. ERS trustees, IAC members, the Executive Director, the Deputy Executive Director and ERS Investment-Related Staff with knowledge of a violation of this policy must report such violations to the ERS General Counsel and Deputy Executive Director. No retaliatory action will be taken for any such report made in good faith.

v. A violation of this policy may be reported to applicable regulatory or law enforcement agencies when appropriate.

vi. Anyone scrutinizing a transaction for compliance with this policy and applicable laws and regulations will be undertaking such review after the fact, with the benefit of hindsight. As a practical matter, before engaging in any transaction, an individual should carefully consider how the Executive Director, General Counsel and Deputy Executive Director, Internal Auditor and state and federal enforcement authorities and others might view the transaction in hindsight.

Section 6. Investment Objectives and Guidelines for the TEGBP Funds

This section defines the investment objectives and guidelines for the assets of the TEGBP Funds (for both active members and retirees) administered by ERS.

6.1. **Primary Investment Goal.** The goal of the investment program is to earn a return consistent with the investment assumptions used to set insurance premiums at a reasonable cost to the members while providing liquidity and minimal principal risk.

A. **Liquidity.** The emphasis on liquidity shall be an investment consideration to provide for the timely payment of all claims and projected cash flow needs. Managing liquidity to meet the TEGBP Funds' needs will be met by structuring the investment portfolio to maintain a sufficient allocation of funds in highly liquid, short-term instruments.

B. **Minimal Principal Risk.** The emphasis on minimizing principal risk shall be governed by the prudent management of interest rate risk, credit risk and liquidity of the investment holdings.

6.2. **Return Objectives.** The return objective is to earn an appropriate risk-adjusted return pursuant to the Investment Guidelines below while ensuring adequate liquidity to meet cash flow needs.

6.3 **Investment Guidelines.** The allocation among different mandates set forth below will be determined by ERS staff considering the investment goals and return objectives of the TEGBP Funds.

A. **Short-term Cash and Cash Equivalents.** A portion of TEGBP Funds will be invested in short-term cash and cash equivalents as listed in Addendum II.

B. **Interest Rates Portfolio.** A portion of the TEGBP Funds will be invested in the Interest Rates portfolio as further discussed in the Fixed Income Policies and Procedures and benchmarked against the Barclays Intermediate Treasury Index.

C. **Credit Portfolio.** A portion of the TEGBP Funds will be invested in the Credit portfolio as further discussed in the Fixed Income Policies and Procedures and benchmarked against the Barclays U.S. High Yield – 2% Index.

D. **True Up.** If losses impact short-term investment pools, including securities lending pools, such that the portfolio may experience realized losses, or otherwise "break the buck," ERS may determine it is prudent to make an allocation from the TEGBP Funds into the pool to make that fund or pool whole for any losses within the TEGBP Funds. This is intended to reinforce the conservative nature of these portfolios

Following are the asset allocations and expected real returns with inflation for the TEGBP Funds.

	Active Members			Retirees		
Asset Class	**Target Allocation**	**Expected Real Return**	**Weighted Expected Real Return**	**Target Allocation**	**Expected Real Return**	**Weighted Expected Real Return**
Short-Term Fixed Income	30.00%	2.40%	0.72%	100.00%	2.40%	2.40%
Intermediate Treasuries (Rates)	50.00%	2.60%	1.30%			
Global Credit	20.00%	5.20%	1.04%			
Totals	100.00%		3.06%	100.00%		
Inflation			2.40%			2.40%
Expected Nominal Rate of Return			5.46%			4.80%

ADDENDUM I

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
ACTIVE RISK BUDGET SUMMARY
Adopted December 3, 2015

RETURN SEEKING ASSETS	PERFORMANCE BENCHMARK	TRACKING ERROR TARGET	TRACKING ERROR LIMIT	EXPECTED EXCESS RETURN RATIO
GLOBAL PUBLIC EQUITY[2]	MSCI ACWI IMI Index	150	300	0.25
GLOBAL CREDIT[1,2]		200	300	0.35
High Yield	Barclays U.S. High Yield – 2% Issuer Cap			
REAL ASSETS				
Public Real Estate	FTSE EPRA/NAREIT Index	200	300	0.30
RISK REDUCTION / LIQUIDITY ASSETS				
Fixed Income Intermediate Treasuries	Barclays Intermediate Treasury Index	50	100	0.20

While historical returns are used to calculate tracking error for purposes of this policy, forward looking tracking error estimates may be used and these measures may differ from time to time. The historical tracking error based on trailing 36 months of returns will be the primary measure of compliance with the Active Risk Budget.

The ERS custodian will provide the monthly returns and the investment consultant will present the tracking error calculations when monitoring the *Active Risk Budget* on an ongoing basis.

During the implementation of the asset allocation, the benchmarks for the asset class will reflect the current weight of the underlying portfolios and the related benchmarks.

Certain asset classes are not reflected in the active risk budget because tracking error and expected excess return ratio cannot be used to monitor risk in private markets (private equity, private real estate, hedge funds) and infrastructure (asset class that may heavily be implemented through private equity and private real estate).

ADDENDUM II

STATUTORY DEFINITION OF "SECURITIES"

Pursuant to Texas Government Code Section 815.301(f), the term "securities" means any investment instrument within the meaning of the term as defined by Section 4, The Securities Act (Article 581-4, Vernon's Texas Civil Statutes)[1], 15 U.S.C. Section 77b (a) (1) – 1933 Act[2], or 15 U.S.C. Section 78c (a) (10) – 1934 Act[3], which includes:

- any limited partner interest in a limited partnership, [1]
- share, [1]
- transferable share[2 3]
- stock, [1 2 3]
- treasury stock, [1 2 3]
- stock certificate under a voting trust agreement, [1]
- voting trust certificate [2 3]
- collateral trust certificate, [1 2 3]
- equipment trust certificate, [1]
- preorganization certificate or receipt, [1]
- preorganization certificate or subscription [2 3]
- subscription or reorganization certificate, [1]
- certificate of deposit for a security[2 3]
- note, [1 2 3]
- bond, [1 2 3]
- debenture, [1 2 3]
- security future, [2 3]
- any put, call, straddle, option or privilege on any security, certificate of deposit, or group or index of securities (including any interest therein or based on the value thereof) [2 3]
- or any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a "security", or any certificate of interest or participation in, temporary or interim certificate for, receipt for, [guarantee of,][2] or warrant or right to subscribe to or purchase, any of the foregoing;[2] [but shall not include currency or any note, draft, bill of exchange, or banker's acceptance which has a maturity at the time of issuance of not exceeding nine months, exclusive of days of grace or any renewal thereof the maturity of which is likewise limited][3]
- certificate of interest[2 3] or
- mortgage certificate[1] or
- other evidence of indebtedness, [1 2]
- any form of commercial paper, certificate in or under a profit sharing or participation agreement, [1]
- participation in any profit-sharing agreement[2 3]
- certificate or any instrument representing any interest in or under an oil, gas or mining lease, [1]
- fractional undivided interest in oil, gas, or other mineral rights[2]
- *participation* in any oil, gas or other mineral royalty or lease[3]
- fee or title, or any certificate or instrument representing or secured by an interest in any or all of the capital, property, assets, profits or earnings of any company, [1]
- investment contract, [1 2 3]
- or any other instrument commonly known as a security, whether similar to those herein referred to or not. [1]

The term applies regardless of whether the "security" or "securities" are evidenced by a written instrument. Provided, however, that this definition shall not apply to any insurance policy, endowment policy, annuity contract, optional annuity contract, or any contract or agreement in relation to and in consequence of any such policy or contract, issued by an insurance company subject to the supervision or control of the Texas Department of Insurance when the form of such policy or contract has been duly filed with the Department as now or hereafter required by law. [1]

[1] Section 4, The Securities Act (Article 581-4, Vernon's Texas Civil Statutes)
[2] 15 U.S.C. Section 77b (a) (1) - 1933 Act
3 15 U.S.C. Section 78c (a) (10) – 1934 Act

ADDENDUM III

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
PROXY VOTING POLICY
(Effective: 2/22/2011)

OBJECTIVE

The right to vote proxies for securities held by the Employees Retirement System of Texas ("ERS") has economic value, and the fiduciary act of managing ERS' securities includes the management of voting rights appurtenant to those securities. In voting proxies, ERS shall consider only those factors that relate to the economic value of ERS' investment, and such votes should be cast in accordance with ERS' economic best interest. In the case of overlapping or conflicting interests within the fund (e.g., ERS ownership of both equity and debt securities), Staff will consider *all* holdings and seek to maximize the expected value of the combined position.

The objective of this policy is to provide direction in voting proxies in a manner that gives the most benefit to the participants and beneficiaries of ERS and is consistent with the stated goals and objectives of ERS.

The objective of this policy will be accomplished by voting proxies:

- To ensure that management and boards of directors are acting in the best interest of ERS as a shareholder;
- To ensure compliance with all local laws and regulations of countries in which the company does business; and
- To ensure accountability to shareholders, board responsiveness, board independence and director competence.

SCOPE

The *ERS Proxy Voting Policy* is designed primarily to cover publicly traded securities. Other investment forms, such as privately held equity, limited liability corporations, privately held REITs, and bond indentures, are not specifically covered by this policy; although, broad application of this policy can be used for these more specialized forms of equity and debt investments when needed.

ERS maintains voting authority for proxies of both the internally managed public equity portfolios and the externally advised public equity portfolios in the External Advisor Program, which will be voted in accordance with the *ERS Proxy Voting Policy* and *ERS Proxy Voting Guidelines*. Voting authority for proxies of the public equity portfolios that are investments of a limited partnership in which ERS is the sole limited partner will be specified in the governing documents of the respective limited partnerships.

Because ERS conducts a securities lending program, securities may be on loan when proxies must be voted. Lent securities will be recalled for purposes of voting proxies only when it is determined that the proxy requires a vote on a merger, an acquisition, a reorganization or an issue that will significantly affect the rights of ERS as a shareholder. Recalling lent securities for proxy voting purposes is expected to represent the exception rather than the general rule.

Proxy voting policies will be applied to the fullest extent possible for companies domiciled in foreign countries, recognizing that differences in jurisdiction may make it impossible to follow this policy exactly.

The policy classifies management and shareholder proposals included in proxies into the following six strategies: Routine/Miscellaneous; Board of Directors; Shareholder Rights and Defenses; Capital/Restructuring; Compensation; and Social/Environmental Issues. The *ERS Proxy Voting Guidelines* are consistent with the strategies outlined below and provide further detail on voting proposals most likely to be presented in a proxy.

1. ROUTINE/MISCELLANEOUS

Routine and miscellaneous items concern company standard operating procedures including, but not limited to, the following: routine bylaw amendments, changes to the company name, changes in the date, time and location of the annual meeting, auditor ratification, adjournment of the meeting and “other business.”

Operational issues proposed by management will be supported unless ERS’ review of proposals reveals attempts to limit shareholder rights, increase takeover protections or reduce shareholder value.

Auditor independence from client firms is essential to achieve an objective and impartial review of financial statements. Independence of other professional service providers, such as actuaries and law firms, is also essential to companies receiving objective and impartial service and advice. Proposals to indemnify or limit the liability of auditors or other similar service providers will be opposed. Proposals to limit non-audit services will be supported.

2. BOARD OF DIRECTORS

The composition and structure of the board of directors of a public company (“board”) have a direct impact on its effectiveness.

Votes on the composition of the board, including director nominees and slates of directors, will be evaluated on a case-by-case basis considering the following important elements of an effective board:

- **Board Accountability:** The board should be accountable to shareholders. Policies that promote accountability include transparency of governance practices, annual board elections, shareholder ability to remove problematic directors and shareholder vote on takeover defenses and other charter/bylaw amendments.
- **Board Responsiveness:** The board should be responsive to shareholders, particularly in regard to shareholder proposals that receive a majority vote and to tender offers where a majority of shares are tendered.
- **Director Independence:** The board should be independent from management and should be, therefore, willing and able to effectively set company strategy and scrutinize performance and executive compensation. The audit, compensation and nominating/corporate governance committees should be composed entirely of independent directors.
- **Director Competence:** Directors should have specific skills or expertise that add value to the board and should devote sufficient time and resources to oversight of the company. Directors who are unable to attend board and committee meetings or who are overextended (i.e., serving on too many boards) raise concern on their ability to effectively serve shareholder interest. Arbitrary limits such as age or term limits may not be effective measures of director performance.

Votes on management and shareholder proposals regarding board structure will be cast to promote board accountability, responsiveness to shareholders, board independence and director competence.

3. SHAREHOLDER RIGHTS AND DEFENSES

Shareholder rights and defenses items pertain to anti-takeover devices and the proxy voting process.

The majority of historical evidence regarding individual corporate anti-takeover devices indicates that companies with management teams more accountable to shareholders and the market outperform companies with heavily entrenched management teams. Proposals designed to instate or increase takeover protection or that eliminate, restrict or inhibit shareholder rights will be opposed.

Proposals that promote a one-share, one-vote standard and the equal treatment of all shareholders will be supported.

The integrity of the proxy voting process depends on a voting system that protects voters from potential coercion and reduction of voting power. Proposals that provide a shield against management pressure, re-solicitation and fraudulent vote tabulation will be supported.

4. CAPITAL/RESTRUCTURING

Proposals involving capital raises, debt restructurings, spin-offs, asset sales and purchases and mergers and acquisitions will be evaluated on a case-by-case basis.

Financing decisions can have a significant impact on shareholder value when they involve the issuance of additional common stock, preferred stock or debt facilities. Financing proposals will be opposed that dilute investment value or include potential anti-takeover measures.

Restructuring proposals where the disadvantages of dilution of future earnings and/or change of control outweigh the prospective survival of the company will be opposed.

Proposals relating to real or potential mergers and acquisitions, asset sales and purchases, spin-offs and tender offers will be scrutinized to determine if they are detrimental to ERS. Any proposal, response by management or outside interests deemed to be detrimental to ERS will be opposed. Those management proposals where existing shareholders receive fair remuneration or shareholder value is increased will be supported.

5. COMPENSATION

Proposals involving executive and director compensation programs will be evaluated on a case-by-case basis for adherence to the following five global principles:

- **Maintain appropriate pay-for-performance alignment, with emphasis on long-term shareholder value.** Compensation should be designed to attract, retain and appropriately motivate key employees. The link between pay and performance, the mix between fixed and variable pay, performance goals and equity-based plan costs should all be considered.
- **Avoid arrangements that risk "pay for failure."** Long or indefinite contracts, excessive severance packages and guaranteed compensation should be avoided.
- **Maintain an independent and effective compensation committee.**
- **Provide shareholders with clear, comprehensive compensation disclosures.**

- **Avoid inappropriate pay to non-executive directors.** Excessive compensation could potentially compromise an outside director's independence and ability to make appropriate judgments with respect to management pay and performance.

Management and shareholder proposals that fail to meet these guiding principles will be opposed.

6. SOCIAL/ENVIRONMENTAL ISSUES

Intangible factors such as social and environmental issues are increasingly being incorporated into valuation models to better quantify the risks and opportunities of long-term investing in a company.

ERS' voting of social and environmental proposals will be based solely on enhancing or protecting long-term value to ERS and not on establishing or endorsing social policy. As part of its fiduciary duty, ERS shall consider only those factors that relate to the economic value of ERS' investment and shall not subordinate the interests of ERS' participants and beneficiaries to unrelated objectives.

CFA Institute

CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT

PREAMBLE

The CFA Institute Code of Ethics and Standards of Professional Conduct are fundamental to the values of CFA Institute and essential to achieving its mission to lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society. High ethical standards are critical to maintaining the public's trust in financial markets and in the investment profession. Since their creation in the 1960s, the Code and Standards have promoted the integrity of CFA Institute members and served as a model for measuring the ethics of investment professionals globally, regardless of job function, cultural differences, or local laws and regulations. All CFA Institute members (including holders of the Chartered Financial Analyst® [CFA®] designation) and CFA candidates must abide by the Code and Standards and are encouraged to notify their employer of this responsibility. Violations may result in disciplinary sanctions by CFA Institute. Sanctions can include revocation of membership, revocation of candidacy in the CFA Program, and revocation of the right to use the CFA designation.

THE CODE OF ETHICS

Members of CFA Institute (including CFA charterholders) and candidates for the CFA designation ("Members and Candidates") must:

- Act with integrity, competence, diligence, respect and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
- Place the integrity of the investment profession and the interests of clients above their own personal interests.
- Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
- Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
- Promote the integrity and viability of the global capital markets for the ultimate benefit of society.
- Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

STANDARDS OF PROFESSIONAL CONDUCT

I. PROFESSIONALISM

A. Knowledge of the Law. Members and Candidates must understand and comply with all applicable laws, rules, and regulations (including the CFA Institute Code of Ethics and Standards of Professional Conduct) of any government, regulatory organization, licensing agency, or professional association governing their professional activities. In the event of conflict, Members and Candidates must comply with the more strict law, rule, or regulation. Members and Candidates must not knowingly participate or assist in and must dissociate from any violation of such laws, rules, or regulations.

B. Independence and Objectivity. Members and Candidates must use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Members and Candidates must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonably could be expected to compromise their own or another's independence and objectivity.

C. Misrepresentation. Members and Candidates must not knowingly make any misrepresentations relating to investment analysis, recommendations, actions, or other professional activities.

D. Misconduct. Members and Candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

II. INTEGRITY OF CAPITAL MARKETS

A. Material Nonpublic Information. Members and Candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information.

B. Market Manipulation. Members and Candidates must not engage in practices that distort prices or artificially inflate trading volume with the intent to mislead market participants.

III. DUTIES TO CLIENTS

A. Loyalty, Prudence, and Care. Members and Candidates have a duty of loyalty to their clients and must act with reasonable care and exercise prudent judgment. Members and Candidates must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.

B. Fair Dealing. Members and Candidates must deal fairly and objectively with all clients when providing investment analysis, making investment recommendations, taking investment action, or engaging in other professional activities.

C. Suitability.

1. When Members and Candidates are in an advisory relationship with a client, they must:
   - **a.** Make a reasonable inquiry into a client's or prospective client's investment experience, risk and return objectives, and financial constraints prior to making any investment recommendation or taking investment action and must reassess and update this information regularly.
   - **b.** Determine that an investment is suitable to the client's financial situation and consistent with the client's written objectives, mandates, and constraints before making an investment recommendation or taking investment action.
   - **c.** Judge the suitability of investments in the context of the client's total portfolio.
2. When Members and Candidates are responsible for managing a portfolio to a specific mandate, strategy, or style, they must make only investment recommendations or take only investment actions that are consistent with the stated objectives and constraints of the portfolio.

D. Performance Presentation. When communicating investment performance information, Members and Candidates must make reasonable efforts to ensure that it is fair, accurate, and complete.

E. Preservation of Confidentiality. Members and Candidates must keep information about current, former, and prospective clients confidential unless:

1. The information concerns illegal activities on the part of the client or prospective client,
2. Disclosure is required by law, or
3. The client or prospective client permits disclosure of the information.

IV. DUTIES TO EMPLOYERS

A. Loyalty. In matters related to their employment, Members and Candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer.

B. Additional Compensation Arrangements. Members and Candidates must not accept gifts, benefits, compensation, or consideration that competes with or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved.

C. Responsibilities of Supervisors. Members and Candidates must make reasonable efforts to ensure that anyone subject to their supervision or authority complies with applicable laws, rules, regulations, and the Code and Standards.

V. INVESTMENT ANALYSIS, RECOMMENDATIONS, AND ACTIONS

A. Diligence and Reasonable Basis. Members and Candidates must:

1. Exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, and taking investment actions.
2. Have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action.

B. Communication with Clients and Prospective Clients. Members and Candidates must:

1. Disclose to clients and prospective clients the basic format and general principles of the investment processes they use to analyze investments, select securities, and construct portfolios and must promptly disclose any changes that might materially affect those processes.
2. Disclose to clients and prospective clients significant limitations and risks associated with the investment process.
3. Use reasonable judgment in identifying which factors are important to their investment analyses, recommendations, or actions and include those factors in communications with clients and prospective clients.
4. Distinguish between fact and opinion in the presentation of investment analysis and recommendations.

C. Record Retention. Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

VI. CONFLICTS OF INTEREST

A. Disclosure of Conflicts. Members and Candidates must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and employer. Members and Candidates must ensure that such disclosures are prominent, are delivered in plain language, and communicate the relevant information effectively.

B. Priority of Transactions. Investment transactions for clients and employers must have priority over investment transactions in which a Member or Candidate is the beneficial owner.

C. Referral Fees. Members and Candidates must disclose to their employer, clients, and prospective clients, as appropriate, any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services.

VII. RESPONSIBILITIES AS A CFA INSTITUTE MEMBER OR CFA CANDIDATE

A. Conduct as Participants in CFA Institute Programs. Members and Candidates must not engage in any conduct that compromises the reputation or integrity of CFA Institute or the CFA designation or the integrity, validity, or security of the CFA Institute programs.

B. Reference to CFA Institute, the CFA Designation, and the CFA Program. When referring to CFA Institute, CFA Institute membership, the CFA designation, or candidacy in the CFA Program, Members and Candidates must not misrepresent or exaggerate the meaning or implications of membership in CFA Institute, holding the CFA designation, or candidacy in the CFA program.

PLACEMENT AGENT AND POLITICAL CONTRIBUTIONS POLICIES AND PROCEDURES

Purpose and Scope

ERS recognizes that Placement Agents work to establish dialogue and facilitate communication between private investment funds and investors. However, ERS requires transparency and accountability of the roles Placement Agents play in sourcing investment opportunities for ERS. To this end, ERS' Placement Agent and Political Contributions Policies and Procedures (these "Policies and Procedures") require (a) the broad, timely, and updated disclosure, by both ERS' consultants and by Funds in which ERS invests, of all Placement Agent relationships and Placement Fees and (b) certain practices by Funds with respect to Placement Fees.

Furthermore, these Policies and Procedures also apply to attempts to influence ERS investment decisions through contact with members of the Board of Trustees or IAC or contact with, or Contributions made for the benefit of, Texas Elected Officials.

The goals of these Policies and Procedures are to help ensure that ERS investment decisions are made exclusively on the merits of the investment opportunity by individuals who owe a fiduciary duty to ERS and to ensure that all investment decisions and recommendations are free from improper influence or the appearance thereof. Any capitalized terms used but not defined herein have the meanings ascribed to such terms in the ERS Investment Policy.

Required Disclosures

Consultants: These Policies and Procedures apply to all third party consultants assisting in the diligence on any Fund in which ERS invests or is considering investing. Prior to performing any substantive business diligence on a Fund to make an investment recommendation to ERS, a consultant must submit to ERS a disclosure statement regarding any business arrangements such consultant has with such Fund or with any Placement Agents used by such Fund, including Placement Fees that are paid or payable, services that are performed, and any other pertinent information about such business arrangements. The disclosure statement shall include, but not be limited to, any arrangement under which a Fund compensates the consultant or under which a Placement Agent compensates the consultant. If any such business arrangement is described in the disclosure statement, the consultant must also provide ERS access to a copy of any written agreement governing such business arrangement or, in the event there is no written agreement, a written summary of the material terms of the business arrangement.

The disclosure statement shall further state whether the consultant has compensated or has any agreement or arrangement to compensate any ERS officer, director, member of the Board of Trustees or IAC, or employee with respect to any investment recommendation made by the consultant, and any such compensation, agreement or arrangement will bar the consultant from performing any services for or on behalf of ERS and from receiving any further compensation from ERS.

The disclosure statement shall also include information regarding any payment of or the incurrence of an obligation to pay by the consultant any Contribution to any Texas Elected Official during the prior two years or the engagement in any Bundling with respect to any Texas Elected Official during the prior two years. The disclosure statement must also contain information regarding any communications relating to any recommendation that ERS invest in the Fund that the consultant had with any Texas Elected Official or any member of the Board of Trustees or IAC during the prior two years.

With respect to the disclosures described above, the disclosure statement shall cover the consultant and the consultant's affiliates and their respective officers, directors, principals, partners, managers, members, shareholders, employees, and consultants, as well as any political action committee controlled by any of the foregoing. Further, the disclosure statement shall include any actions taken indirectly which, if taken directly, would be required to be disclosed under these Policies and Procedures.

Funds: These Policies and Procedures also apply to all Funds in which ERS invests. Any Fund in which ERS is considering investing must submit to ERS a disclosure statement regarding the payment of or the incurrence of an obligation to pay any Placement Fees. If the disclosure statement states that any Placement Fees were paid or are payable, the Fund must also provide ERS access to a copy of any written agreement under which the Fund has agreed to pay such Placement Fees or, in the event there is no written agreement, a written summary of the material terms of the agreement, including at least the name of the person receiving the Placement Fee (including the names of its principals if an entity), the amount of the Placement Fee, the anticipated date of payment of the Placement Fee, and the services to be rendered to receive the Placement Fee. The disclosure statement must further state whether the Fund and/or its Placement Agent is or has been subject to any present or past civil or criminal litigation, administrative proceeding, or, to the Fund's knowledge, inquiry or investigation related to the payment of or the incurrence of an obligation to pay any Placement Fees.

Any Fund in which ERS is considering investing must also submit to ERS a disclosure statement regarding (a) any payment of or the incurrence of an obligation to pay any Contribution by the Fund and/or its Placement Agent to any Texas Elected Official within the two year period prior to ERS' investment in the Fund or (b) the engagement in any Bundling with respect to any Texas Elected Official within the two year period prior to ERS' investment in the Fund. Such disclosure statement must also contain information regarding any communications regarding ERS' potential investment in the Fund that the Fund and/or its Placement Agent had with any Texas Elected Official or any member of the Board of Trustees or IAC during the two year period prior to ERS' investment in the Fund. The disclosure statement must further state whether the Fund and/or its Placement Agent is or has been subject to any present or past civil or criminal litigation, administrative proceeding, or, to the Fund's knowledge, inquiry or investigation related to the payment of or the incurrence of an obligation to pay any Contribution to, or any Bundling with respect to, any Texas Elected Official or any public pension official in any other state.

ERS Staff will provide each Fund in which ERS may invest a copy of these Policies and Procedures at the commencement of due diligence. A Fund must make the disclosures described above to ERS promptly thereafter. The disclosures must be made again, with any relevant updates since the time of the initial disclosures, contemporaneously with ERS' investment in such Fund. Further, all disclosure statements must include any actions taken indirectly which, if taken directly, would be required to be disclosed under these Policies and Procedures. ERS hereby notifies Funds and Placement Agents that ERS is subject to the Texas Public Information Act, and they should be aware that information provided to ERS under these Policies and Procedures may not be confidential.

Placement Agent Registration, Compliance with Laws, and Relationships

Placement Agents used by Funds must register with the U.S. Securities and Exchange Commission or the Financial Industry Regulatory Authority in accordance with applicable law, and a copy of such registration must be delivered to ERS along with the disclosures described above. A Placement Agent that is not so registered may not receive a Placement Fee in connection with an investment in a Fund by ERS. If a Placement Agent is registered as a lobbyist with any state or federal governmental agency, such registration must be disclosed as well, and such Placement Agent must certify that it is in compliance with all applicable state and federal laws regulating lobbyists.

Funds and Placement Agents must certify that they are in compliance with all applicable laws and regulations, including, but not limited to, the Investment Advisers Act of 1940 and any rules or regulations promulgated thereunder,[1] as such may be amended from time to time.

A Fund must further disclose whether any person or entity included in the definition of Placement Agent herein is a current or former member of the Board of Trustees or IAC; employee of ERS;

[1] Such rules or regulations to include, but not be limited to, 17 C.F.R. 275.206(4)-5, 17 C.F.R. 275.204-2, and 17 C.F.R. 275.206(4)-3, as such may be amended from time to time.

officer, director, principal, partner, manager, member, shareholder, employee, consultant, or affiliate of an ERS consultant; or member of the immediate family of any such natural person.

Placement Fee and Contribution Practices by Funds

Unless such amounts are completely offset by reductions to management fees or other fees payable by ERS to a Fund, neither ERS nor any ERS investment in a Fund may be burdened with or liable for any Placement Fee or any expenses or other amounts paid, payable, reimbursed, or reimbursable to a Placement Agent (including with respect to indemnification of a Placement Agent for any reason).

No ERS investment may be made in a Fund if it is determined by ERS that (a) any contacts with any Texas Elected Official or member of the Board of Trustees or IAC, (b) any Contributions to any Texas Elected Official, either directly or through Bundling, or (c) any payments to or relationships with an ERS consultant assisting ERS with the investment in such Fund have created an unacceptable risk to, or the appearance of impropriety with respect to, the integrity or reputation of ERS or its investment program or have been made in violation of these Policies and Procedures or applicable laws or regulations.

Violations

All Funds in which ERS invests shall agree in writing upon ERS' admittance to such Fund that, should any of the disclosures made by the Fund be found to be materially false or misleading or should any aspect of these Policies and Procedures be materially violated by the Fund or its Placement Agent (any such occurrence, as determined by ERS, being a "Violation"), ERS shall have the option to exercise any or all of the following remedies, which shall be cumulative rather than exclusive and which shall be in addition to any other remedies available pursuant to applicable law:

(a) ERS shall have the right to withdraw without penalty from the Fund;

(b) ERS shall have the right to cease making any further capital contributions to the Fund (including for management fees, expenses, investments, and recalls of previously distributed amounts) without penalty; and/or

(c) ERS shall have the right to require the Fund to repay to ERS the aggregate amount of management fees paid by ERS to the Fund for the two-year period preceding either the Violation or the discovery by ERS of the Violation, whichever is greater, along with any carried interest payable to the Fund for investments made during the two-year period.

In addition to ERS' remedies set forth above, any Fund or Placement Agent that ERS determines has committed a Violation shall not solicit new investments from ERS for a period of five years after such Violation is discovered by ERS.

If at any time after initial disclosures are made pursuant hereto, any consultant, Fund, or other party subject to these Policies and Procedures discovers or reasonably should have discovered that there has been a Violation, such party shall immediately deliver written notice of such Violation to ERS. For purposes of this paragraph, "Violation" shall refer to a materially false or misleading disclosure or a material violation of these Policies and procedures by any consultant, Fund, Placement Agent, or other party subject to these Policies and Procedures.

Policy Interpretation

It is intended that these Policies and Procedures be construed and administered so that they comply with all applicable federal and state laws and regulations, as such may be amended from time to time. ERS' Executive Director is authorized to approve from time to time variances from the disclosures and procedures set forth above in furtherance of such compliance or as she deems to be in the best interest of ERS, consistent with both ERS' fiduciary responsibilities and the purpose and scope of these Policies and Procedures.

All parties responsible for complying with and making disclosures pursuant to these Policies and Procedures should consider the spirit as well as the literal text hereof. In cases where uncertainty exists as to whether a particular disclosure should be made to ERS, these Policies and Procedures should be interpreted to require disclosure.

Definitions

"Bundling" means to coordinate Contributions from one or more persons, entities, or political action committees or to solicit any person, entity, or political action committee to make any Contribution.

"Contribution" means any payment, gift, subscription, loan, advance, or deposit of money or anything of value made for the purpose of influencing any election for any federal, state, or local office; paying a debt incurred in connection with any such election; or paying the transition or inaugural expenses of a successful candidate for office. The size of a Contribution shall not be taken into account when determining whether a disclosure of a Contribution must be made, and the entitlement of the contributor to vote for a Texas Elected Official likewise shall not be taken into account. Any Contribution that has been returned by a Texas Elected Official shall be included in disclosure statements as well.

"Fund" means a private equity fund, a private real estate fund, a separate account, a hedge fund, or any other type of private investment vehicle and, with respect to the disclosures to be made pursuant hereto, also refers to any such Fund's general partner, sponsor, manager, and affiliates, and the respective officers, directors, members, principals, partners (other than unaffiliated limited partners who are investors only), employees who perform policy-making functions or who solicit ERS for business, and managers of each, as well as any political action committee controlled by any of the foregoing. Any time periods set forth herein applicable to any person or entity described in this definition of "Fund" shall fully apply to such person or entity, even if such person or entity was not associated with the private investment vehicle for the entire time period.

"Placement Agent" means any placement agent, finder, or other party, whether or not affiliated with a Fund, that receives a Placement Fee or that is a party to an agreement or arrangement, written or oral, to receive a Placement Fee. The term Placement Agent also includes affiliates of the Placement Agent and the officers, directors, principals, partners, managers, members, and shareholders of both the Placement Agent and such affiliates. The term Placement Agent also includes any employees of any such entities who solicit ERS for investment in a Fund. Any party that shares in any amount of a Placement Fee or that has an agreement or arrangement, written or oral, to share in any amount of a Placement Fee, and such party's officers, directors, principals, partners, managers, members, and shareholders, is also included in the term Placement Agent. Any person or group of people who become employees of a Fund or an affiliate of a Fund for a temporary period during such Fund's fund-raising period and who would be a Placement Agent under these Policies and Procedures if not so hired are included in the term Placement Agent as well.

"Placement Fees" means placement fees, finder's fees, brokerage fees, retainer fees, success fees, commissions, incentive compensation, or any other compensation or consideration, or any obligation or liability, contingent or otherwise, for any such compensation or consideration.

"Texas Elected Official" means (a) any elected official of the State of Texas, including, but not limited to, the Governor, the Lieutenant Governor, the Comptroller of Public Accounts, the Attorney General, any member of the Texas Supreme Court, or any member of the Texas Legislature (or any candidate for any such office), (b) any election committee, campaign fund or political action committee for any person described in subsection (a) that funds or is eligible to fund such person's candidacy for any political office (federal, state, or local), or any political party, to the extent any contributions thereto are earmarked for such person's candidacy for any political office (federal, state, or local), (c) any spouse, ex-spouse, parent, child (including by adoption or in a step-relationship), sibling, niece, nephew, aunt, or uncle of any person described in subsection (a), or (d) any person employed under any Texas state political office named in subsection (a).

INSIDER TRADING AND CONFIDENTIALITY POLICY

Applicability
All Restricted Persons having access to any ERS Information or any other Material, Non-public information are subject to this Insider Trading and Confidentiality Policy.

Definitions
"ERS Information" means any Material, Non-public information regarding specific ERS investment transactions or proposals and related activity; potential ERS contracts with outside consultants, advisors, contractors, or vendors; or any other Material, Non-public information arising out of a person's work for ERS.

"Material," with respect to any information, means any information that a reasonable investor would consider important in making a decision to buy, hold, or sell securities. For purposes of this policy, any information that could be expected to affect the price of a security, whether it is positive or negative, should be considered Material.

"Non-public," with respect to any information, means information that is not widely available to the public. In the event that there is any question about whether or not information is considered Non-public, such question should immediately be brought to the attention of the Chief Compliance Officer ("CCO"). The CCO, upon review of applicable facts, laws, regulations, and/or after consultation with outside counsel or other appropriate persons, shall make the determination of whether the information is Non-public for purposes of this policy.

"Restricted Persons" means all members of the ERS Board of Trustees, IAC members, ERS Investment-Related Staff, the Executive Director, and the Deputy Executive Director.

Insider Trading and Confidentiality Policy
Any information that is Non-public and whose premature disclosure could affect ERS, an actual or potential business opportunity or relationship of ERS, or a company the securities of which ERS owns or is considering buying shall be confidential. Restricted Persons should assume that all Non-public information gained as a result of association with ERS is confidential. Restricted Persons must safeguard this Non-public information whether generated internally or acquired from outside sources and must use it only for ERS-related matters. In order to control access to this Non-public information, business-related communications between ERS investment staff and other employees in different divisions of ERS should be kept to a minimum. ERS employees should generally be highly sensitive to the potential for disclosure of any Non-public information when discussing ERS matters with persons outside of their own divisions.

Each Restricted Person having access to any ERS Information or any other Material, Non-public information:

- shall consider the information to be proprietary to ERS and confidential in nature and must safeguard that information as such person would any other property of ERS;
  - must be aware that:
    - any purchase or sale
      - by ERS of securities as a result of such person's actions while he/she is aware of Material, Non-public information relating to those securities or
      - by such person of securities while aware of Material, Non-public information relating to those securities, and
    - any disclosure of that information to others ("tippees") who may then trade in those securities

is prohibited by the federal securities laws as "insider trading" and punished severely by both civil (money) and criminal penalties, including:

- for Restricted Persons (or their "tippees") who trade or cause ERS to trade on Material, Non-public information, a civil penalty of up to three times the profit gained or loss avoided, a criminal fine of up to $1,000,000 (no matter how small the profit), and a jail term of up to ten years; and

- for ERS and its supervisory personnel, if applicable, if any such person fails to take appropriate steps to prevent insider trading, a civil penalty of up to $1,000,000 or, if greater, three times the profit gained or loss avoided as a result of the Restricted Person's violation; and a criminal penalty of up to $2,500,000.

A Restricted Person who tips information to a person ("tippee") who then trades is subject to the same penalties as the tippee, even if the Restricted Person did not trade and did not profit from the tippee's trading.

No Restricted Person having access to ERS Information or any other Material, Non-public information related to particular securities may, directly or through family members or other persons or entities, (a) use that information in making decisions related to buying or selling securities, or engaging in other actions, on behalf of ERS, (b) buy or sell those securities or engage in any other action to take personal advantage of that information, or (c) pass that information on to others outside ERS, including family and friends, in each case until the information is no longer Non-public or is no longer Material.

The use of Non-public information is also restricted by Texas Penal Code §39.06 in the following ways:

- A person commits an offense if such person, in reliance on Non-public information to which he/she has access by virtue of his/her state office or state employment:

  - acquires or aids another to acquire a pecuniary interest in any property, transaction, or enterprise that may be affected by the information;

  - speculates or aids another to speculate on the basis of the information; or

  - as a public servant, coerces another into suppressing or failing to report that information to a law enforcement agency.

- A person commits an offense if, with intent to obtain a benefit or with intent to harm or defraud another, he/she discloses or uses Non-public information for a nongovernmental purpose that he/she has access to by means of such person's state office or state employment.

- An offense described in Texas Penal Code §39.06 is a felony of the third degree, provided that a public servant coercing another into suppressing or failing to report information to a law enforcement agency is a Class C misdemeanor.

Compliance and Enforcement

ERS has designated a CCO who is responsible for enforcement of this policy, including oversight of training for Restricted Persons and periodic review of this policy to determine its effectiveness and the adequacy of its implementation. In the event the CCO has any conflict or appearance thereof in enforcing or administering any aspect of this policy, the Internal Auditor shall perform any act that the CCO is required to perform.

At the time of hiring or other association with ERS, each Restricted Person shall be provided with a copy of this policy, and each such Restricted Person shall sign a certification that he/she has received and read the policy and has agreed that he/she is responsible for compliance. Thereafter, on a yearly basis, each Restricted Person will be required to re-certify that he/she has read and will comply with this policy. In addition, the CCO shall conduct or arrange for training sessions to discuss compliance with this policy no less than once per year.

ERS' Internal Audit division shall also maintain the following records:

- updated and historical archival copies of this policy as amended and supplemented from time to time;

- signed acknowledgements of receipt of this policy by all Restricted Persons;

- records of any violations of this policy by Restricted Persons and the corrective action taken in response;

- complaint files containing complaints from employees or others having dealings with ERS Restricted Persons related to this policy and

- any other records in connection with the maintenance or enforcement of this policy as may be deemed necessary by the CCO or Internal Auditor.

The CCO shall be responsible for ensuring that ERS and its Restricted Persons are informed of their requirement to comply with this policy.

Any Restricted Person or other ERS employee who has information that he/she believes tends to indicate a violation of this policy shall promptly bring this information to the direct attention of the CCO, who may decide to enlist the aid of outside counsel or other appropriate person to further evaluate the circumstances and decide on any further action.

If, upon investigation, the CCO determines that a Restricted Person has violated any provision of this policy, the full range of disciplinary options under ERS' Personnel Policy and Procedure Manual may be used against such Restricted Person, up to and including termination. The CCO may also refer the violation to the relevant state or federal enforcement authorities for civil or criminal prosecution.

Anyone scrutinizing a transaction for compliance with this policy and the securities laws will be undertaking such review after the fact, with the benefit of hindsight. As a practical matter, before engaging in any transaction, a Restricted Person should carefully consider how the CCO (or Internal Auditor, when applicable) and state and federal enforcement authorities and others might view the transaction in hindsight.

SOCIALLY CONSTRAINED INVESTMENT PROGRAM PROCEDURES(To be updated following legal review of recent legislation passed and related implementation)

FOR CERTAIN COMPANIES DOING BUSINESS IN SUDAN

(All stages of process shall comply with the ERS *Investment Policy* and Texas Constitution, including the ERS Board of Trustees fiduciary duty, and shall be consistent with prudence requirements and best practices)

I. <u>Constraint Criteria</u>

The Constraint Criteria for this program are established by law Chapter 806 of the Texas Government Code.

II. <u>Possibly Constrained Companies</u>

A. Secure Credible List of Scrutinized Companies from Comptroller of Public Accounts (“Listed Companies”). Chapter 806 of the Texas Government Code imposes on the Comptroller’s office the obligation to create and maintain this list

B. Within 14 days of receiving Comptroller’s list, ERS Staff will notify Comptroller and Board of Trustees of managed investments that match Listed Companies

III. Investment Limits for Investment Categories

A. Publicly traded securities: All investments in the publicly traded securities of Listed Companies are subject to engagement and divestment

B. ERS direct ownership: All direct ownership of Listed Companies is subject to engagement and divestment

C. ERS managed portfolios: Subject to engagement and divestment as required by law

IV. <u>Invitations for Listed Companies to Respond</u>

If a Listed Company indicates that it is not engaged in a Constrained Activity, provide that information to the Comptroller’s office

V. <u>Engagement With Listed Companies</u>

A. For Listed Companies that have only inactive scrutinized business operations, write letters to Listed Companies every six months informing them of status on list and asking for the Listed Companies to continue to refrain from initiating active business operations in Sudan

B. For Listed Companies that have active scrutinized business operations:

1. Write letters to Listed Companies informing them of status on list, warning that they may become subject to divestment, and offering the Listed Companies an opportunity to clarify their activities and to cease (or convert to inactive) their active scrutinized business activities not later than the 90^{th} day after the date the company receives notice (“90 day notice”)

2. Analyze Responses

   a. If Listed Company response attests to no active scrutinized business operations, no further direct engagement with company unless ERS learns of new information
   b. If response attests to inactive business operations, write letter encouraging company to continue to refrain from initiating active scrutinized business operations
   c. If response confirms active scrutinized business operations or there is no response, consider divestment process following 90 day notice

C. For Listed Companies that have been identified as complicit in genocide:

   1. Write letters to Listed Companies informing them of status on list, warning that they may become subject to divestment, and requiring the Listed Companies to refrain from taking further action that would make them complicit

   2. Analyze Responses
      a. If Listed Company response attests to no complicit acts, no further direct engagement with company unless ERS learns of new information
      b. If, after receiving notice under C.1. above, the Listed Company takes additional action that makes the company complicit or there is no response, consider divestment process

VI. Divestment Process

A. ERS Staff must determine whether an equal or superior alternative investment can be identified, when judged solely on the basis of its economic value, considering ERS' *Investment Policy*, the Board of Trustees constitutional fiduciary duty and exclusive benefit rule, the transaction costs associated with the divestment and alternative investment, and other relevant criteria including, but not limited to the role of the investment in the fund's portfolio and the economic impact to the Trust fund ("Suitable Replacement")

B. If Suitable Replacement is available, divest publicly traded securities and invest in Suitable Replacement

   1. Divestment executed in a prudent manner so as not to adversely impact Trust fund
      a) Can entire position be sold without adverse impact to Trust fund
         i) If yes, proceed with sale of at least 50% of holdings of Constrained Listed Companies under ERS management not later than 270 days from the 90 day notice, and 100% of holdings under ERS management not later than 450 days from the 90 day notice
         ii) If no, can partial sale be executed without adverse impact to Trust fund
            (a) If yes, execute partial sale of Constrained Listed Company and execute partial purchase of Suitable Replacement
            (b) If no, continue engagement process and advise ERS Board of Trustees, presiding officer of each house of the Legislature and the Attorney General stating the reasons and justification for not divesting of any Constrained Listed Company within above time periods

   2. Subsequent investment in Suitable Replacement executed in a prudent manner so as not to adversely impact Trust fund

C. If Suitable Replacement is not available, continue engagement and advise ERS Board of Trustees, presiding officer of each house of the Legislature and the Attorney General stating the reasons and justification for not divesting of any Constrained Listed Company within above time periods

D. If value for all assets in Trust fund becomes equal to or less than 99.7% of hypothetical value of the fund had ERS not divested from Constrained Listed Companies, divestment may cease and reinvestment may commence as provided in Tex. Gov't Code § 806.058

VII. <u>Monitor Program</u>

A. Impact on Performance
   1. Absolute
   2. Relative

B. Benchmarks
   1. Are constrained benchmarks required
   2. Are appropriate constrained benchmarks available

C. Expenses

D. Are intended goals being accomplished

E. File public report by December 31 of each year with presiding officer of each house of the Legislature, the Attorney General and the U.S. presidential special envoy to Sudan:
   1. All investments sold, redeemed, divested or withdrawn
   2. All prohibited investments
   3. Summary of changes made under Tex. Gov't Code § 806.056

VIII. <u>Cessation of Process</u>

A. Socially Constrained Investment Program Procedures for Certain Companies Doing Business in Sudan shall end upon:
   1. The expiration of Chapter 806, Tex. Gov't Code;
   2. Applicable federal law or presidential order that preempts Chapter 806, Tex. Gov't Code; or
   3. As otherwise required by law

B. Board of Trustees may require that process end if it determines that Constrained Listed Companies should no longer be constrained

SOCIALLY CONSTRAINED INVESTMENT PROGRAM PROCEDURES
CERTAIN COMPANIES CONDUCTING DIRECT BUSINESS WITH IRAN

(All stages of process shall comply with the ERS *Investment Policy* and Texas Constitution, including the ERS Board of Trustees fiduciary duty, and shall be consistent with prudence requirements and best practices)

I. <u>Constraint Criteria</u>

The Constraint Criteria for this program are established by law in Chapter 807 of the Texas Government Code

II. <u>Possibly Constrained Companies</u>

A. Secure Credible List of Scrutinized Companies ("Listed Companies") from the Pension Review Board ("PRB"). Chapter 807 of the Texas Government Code imposes on the PRB's office the obligation to create and maintain this list

B. Within 14 days of receiving the PRB's list, ERS Staff will notify PRB and the Board of Trustees of managed investments that match Listed Companies

III. <u>Investment Limits for Investment Categories</u>

Under this Addendum, the investment limits for investment in Constrained Companies would be as follows:

1. Publicly traded securities: All investments in the publicly traded securities of Constrained Companies are subject to engagement and divestment. ERS direct ownership: All direct ownership of Constrained Companies is subject to engagement and divestment. Actively managed portfolios: All ERS direct ownership of Constrained Companies in its actively managed portfolios is subject to engagement and divestment.

All other elements of the Socially Constrained Investment Program Procedures apply.

ADDENDUM VIII

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

EMERGING MANAGER GUIDELINES AND PROCEDURES

Last Updated: August 18, 2015

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

EMERGING MANAGER
POLICIES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

EMERGING MANAGER PROGRAM
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I. BACKGROUND

Texas Government Code §815.301 (g), (h) and (i) requires the Employees Retirement System of Texas ("ERS" or "the System") to make a good faith effort to acquire financial services from emerging managers. Emerging managers are defined in the statute as private professional investment managers with less than $2 billion in assets who provide pension fund management, consulting, investment advising, brokerage services, hedge fund management, private equity management, and real estate investment.

For additional information, see *Section 4.16, Emerging Investment Service Providers*, of the *Investment Policy.*

II. PROGRAM OBJECTIVES

The objective of the Emerging Manager Program ("Program") is to find smaller managers that can benefit the trust by enhancing ERS' risk-adjusted returns, net of fees. Staff has determined that, over the long term, inclusion of emerging managers as part of external investment management should enhance and diversify ERS' expected trust portfolio and complement ERS' internal investment management. ERS seeks to provide open access to all managers and ensure an inclusive approach when investing the trust's capital. ERS' philosophy is that broadening the investment opportunity set of external managers to include smaller, newer, and more diverse managers will have many benefits for the trust. First and foremost, smaller managers have proven to deliver competitive risk-adjusted investment returns. Second, employee-owned firms tend to have a stronger alignment of interest with investors. Third, these entrepreneurial managers can provide ERS with unique investment strategies and diversity of thought. Fourth, this program can provide ERS with long-term access to the next generation of talent.

The System's investment policies are determined by the Employees Retirement System of Texas Board of Trustees ("Board" or "Board of Trustees"). In general, ERS' long-term goal for the Total Portfolio is to earn a return that will insure the payments due to members of the System's retirement plans and their beneficiaries at a reasonable cost.

ERS' Emerging Manager Program investments shall be made in a manner consistent with the whole portfolio approach, and the exclusive benefit requirements of the Texas Constitution. The selection and management of emerging managers will be guided to maintain prudent diversification of assets, to maximize management responsibility, and to preserve the System's investment capital. The diversification objective is required to manage overall market risk and the specific risks inherent in any single investment or single manager.

The assets of ERS are held in trust for the benefit of the trust fund's members and retirees and may not be diverted. This exclusive benefit rule must be followed when making any investment decisions. The Board of Trustees has delegated responsibility of individual investment selections to the Executive Director and ERS Investments staff, with oversight by the Board of Trustees.

III. PROGRAM STRUCTURE

There are two distinct industry-wide structures – direct and indirect – commonly used when investing with emerging managers. The first structure of direct investing is used when an investor would like to source, due diligence, hire and monitor the performance of emerging managers on a direct basis. Alternatively, an investor can invest indirectly through an intermediary where a manager of emerging managers or a fund of funds acts as an extension of staff. ERS staff believes that taking a hybrid approach and utilizing both structures will bring the most benefit to the trust.

Primarily, ERS will use managers of emerging managers as they have demonstrated to have the resources, experience, relationships, and industry knowledge to identify and evaluate emerging managers. These partners are adequately staffed to complete due diligence on newer managers and have investment committees and infrastructure uniquely set up to evaluate and hire emerging managers. ERS primarily looks to the manager of emerging managers to monitor the underlying managers on a day-to-day basis. ERS staff will formally review the manager of managers on a regular basis to discuss the portfolio and the underlying managers. In addition, staff plans to meet with each funded underlying manager on at least an annual basis to discuss the firm and strategy.

The fund of funds will act as an intermediary and extension of ERS staff to discover and cultivate emerging managers for ERS' Emerging Manager Program. Historically, emerging managers have faced barriers in gaining access to significant assets under management because of limited track records, perceived operational and business risks, limited marketing resources and small asset bases. ERS staff expects the fund of fund partners to:

- Commit to an equal opportunity access policy with respect to meeting with emerging managers;
- Introduce emerging managers to best-in-class service providers and professionals;
- Provide timely, frank feedback to emerging managers on behalf of ERS;
- Focus efforts on emerging managers that have not been hired by ERS to mentor and help them grow for future consideration by ERS or other investors;
- Represent ERS' best interests in regards to identifying, reviewing, and monitoring emerging managers;
- Identify and introduce emerging managers to ERS to increase ERS' universe of viable firms for fund management;
- Perform full qualitative and quantitative due diligence before committing capital to emerging managers;
- Construct a portfolio of emerging managers that meets the needs of ERS and clearly communicate with ERS about the mandate;
- Prudently monitor ERS' investments with emerging managers and provide ERS with full analysis of this monitoring function;
- Assist emerging managers post-closing;
- Encourage managers to graduate to direct, established relationship with ERS or other investors when appropriate;
- Initiate and sponsor outreach activities to the emerging manager community;
- Keep abreast of developments within the emerging manager investment space; and
- Share best practices of other emerging manager programs with ERS and assist ERS in developing ERS' Emerging Manager Program.

Secondarily, ERS will look for prudent ways to invest directly with emerging managers. Direct relationships with emerging managers are dependent on the ability of the strategy to meet ERS' strategic and tactical goals of the respective asset class. ERS will make a good faith effort to "graduate" managers, where ERS defines graduation as the process of a manager moving from an indirect relationship (i.e., underlying manager in a fund of funds portfolio) to a direct relationship. Staff expects that the vast majority of emerging managers that graduate to a direct relationship with ERS will have originally been funded through an ERS manager of managers' portfolio.

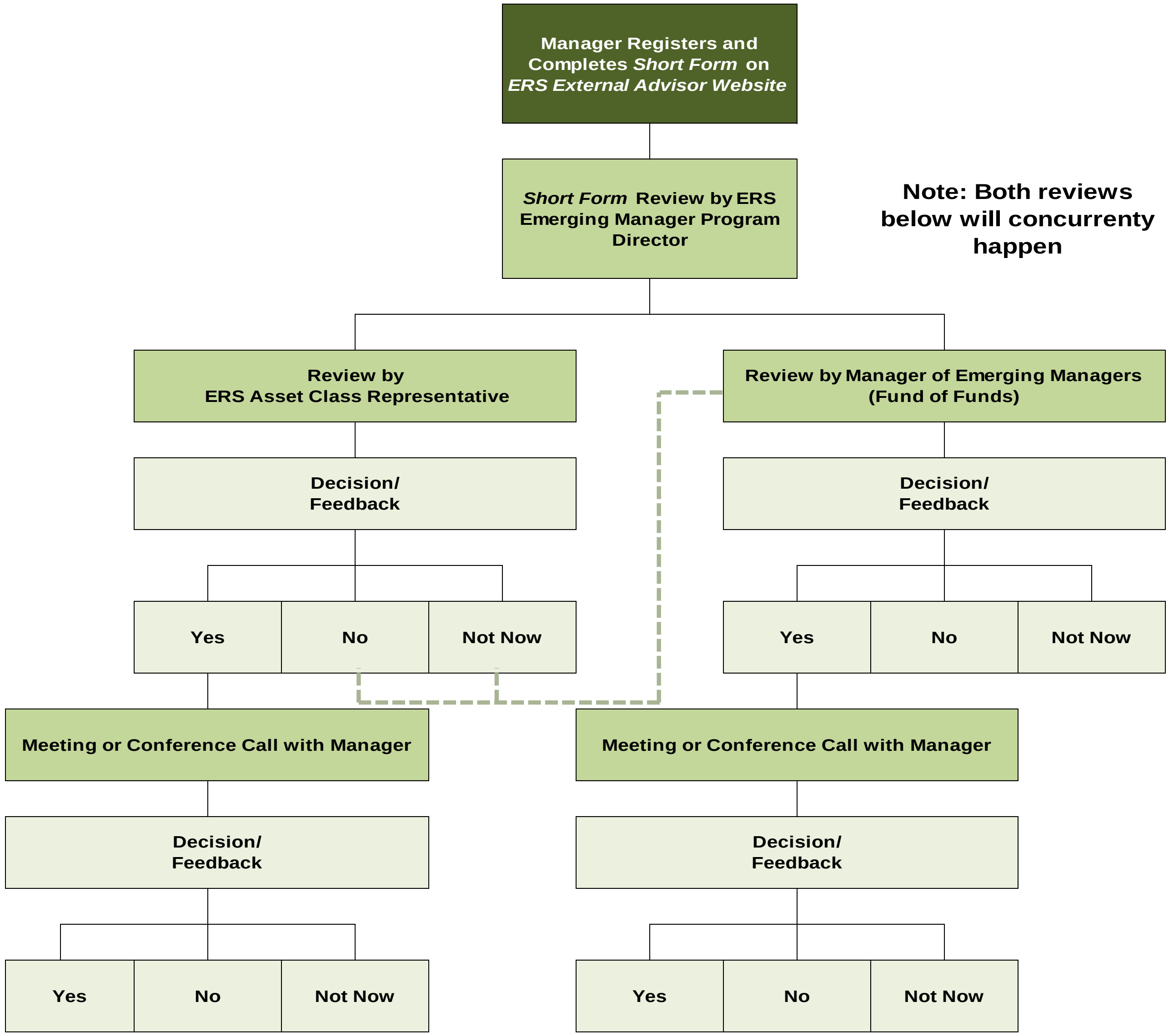
IV. PROCESS

A. MANAGER OUTREACH

ERS is committed to equal opportunity access for all managers. The Emerging Manager Program Director encourages all managers to review the manager outreach process[1] as detailed in *Exhibit A*. If a manager has a strategy that meets the strategic and tactical goals of an ERS' portfolio, the manager should register with ERS and complete a short questionnaire. ERS' goal is to review all submitted questionnaires and provide frank feedback in a timely matter. In addition, ERS is committed to introducing emerging managers to the appropriate fund of funds partner required by ERS to meet with all viable candidates.

Exhibit A – Manager Outreach

[1]While the manager outreach process is presented as sequential steps, in practice the process is neither static, nor sequential, but ongoing.



1. <u>First Step: *External Advisor Website*</u>

   ERS developed the ERS *External Advisor Website* ("External Advisor Website" or "website") to encourage managers to begin a direct dialogue with ERS. This dedicated website details helpful information and has a portal for interested firms to register with ERS. The first step in the manager outreach process is for a manager to register on the website and complete a *Short Form* on the strategy. There are currently six unique forms on the website—Public Equity, Private Equity, Private Real Estate, Hedge Funds, Fixed Income and Brokerage Services. Each questionnaire has about 20 questions and is broken up into five different sections—Firm, Management, Strategy, Fees and Attachments. The last part of the form is related to the firm's status as an emerging manager. If the firm is a qualified emerging manager, it must report staff and ownership information by gender, race and ethnicity.

The *Short Form* serves two purposes. First, staff believes that providing pertinent information about a firm's services and strategies via the questionnaire submission is an efficient use of time for both the manager and ERS staff. By allowing a review of the manager and performance, ERS will be able to provide timely, frank feedback. Second, the information submitted through the website is compiled in a database. This database is a primary source for ERS' searches and once a *Short Form* is submitted, a manager will receive automatic updates for relevant ERS bidding opportunities and communication.

2. Second Step: Short Form Review

This *Short Form* will be reviewed by the Emerging Manager Program Director and then forwarded to the appropriate asset class representative, where the strategy will be reviewed for strategic and tactical fit in the ERS portfolio. Concurrently, ERS will forward the form to the appropriate external fund of funds. The fund of funds will review the strategy for fit in the ERS portfolio.

3. Follow Up: Manager Requested Meeting

Due to limited time and resources, staff will only be able to have a meeting or conference call with those managers that have a current portfolio fit. Please note that follow-up is not automatic and it is the manager's responsibility to request a meeting with ERS staff, which can be done by sending an email to advisorsearch@ers.state.tx.us. ERS staff is not responsible for scheduling meetings with fund of funds but will facilitate introductions if needed.

B. INDUSTRY OUTREACH

ERS will seek out industry strategic partners who can provide insight and access to smaller, newer, and more diverse managers. Staff, together with ERS managers of emerging managers, ERS consultants, and ERS industry strategic partners (collectively, known as "Partners") will regularly attend and sponsor industry conferences to attract, meet and mentor emerging managers and discuss best practices. ERS is committed to providing opportunities for emerging managers and welcomes innovative ideas for being helpful to the development of emerging managers. ERS staff, in collaboration with their Partners, is committed to promoting quality emerging managers by working with them to become institutional quality so that they may have access to a broader institutional investor base.

C. COMMITMENT TO QUALITY OF PROCESS

ERS staff, together with their Partners, is committed to achieving the goals of the Program as highlighted by the acronym, **PATH**.

Process: Develop clear policies and procedures for emerging managers to follow.

Access: Encourage any and all emerging managers to register and complete an introductory questionnaire.

Transparency: Give full disclosure on ERS' process and investments through the ERS *Investment Policy* and website.

<u>H</u>elpful: Provide support to smaller and newer managers even when an investment is not feasible.

Any comments to the quality of process or ideas for innovation should be addressed to the Emerging Manager Program Director.

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V. ASSET CLASS POLICIES

The most important component of an investment strategy is the asset mix, or the resource allocation among the various classes of securities available to ERS for investment purposes. The Board of Trustees sets long-term asset allocation targets that will prudently meet the needs of the beneficiaries. Within each asset class, the Chief Investment Officer, in consultation with the Executive Director, adopts portfolio implementation strategies and investment styles to meet the overall investment objective of each asset class. Taking into account the different risk return profile of each asset class, the Emerging Manager Program will be implemented depending on asset class objectives. See *Exhibit B* for the Asset Allocation adopted February 26, 2013. See *Exhibit C* for an overview of the Emerging Manager Program by asset class.

Exhibit B – Asset Class Allocation

Asset Class	**Benchmark**	**Long Term Target**
Return Seeking Assets:		**79.0%**
Global Equity[1]		**55.0%**
Public Equity[2]	MSCI ACWI IMI	**45.0%**
Private Equity[3]	MSCI ACWI IMI +300 bps	**10.0%**
Global Credit[1, 2]	Barclays US HY 2% Issuer Cap	**10.0%**
Real Assets[1]		**14.0%**
Public Real Estate[2]	FTSE EPRA/NAREIT	**3.0%**
Private Real Estate[3]	NCREIF – ODCE	**7.0%**
Private Infrastructure[3]	CPI + 450 bps	**4.0%**
Special Situations:		**0 - 5%**
Risk Reduction/Liquidity Assets:[3]		**21.0%**
Fixed Income – Rates	Barclays Intermediate Treasury Index	**15.0%**
Cash (approximately)	91 Day Treasury bill	**1.0%**
Hedge Funds/Absolute Return	U.S. 3-Month Treasury bill +400 bps	**5.0%**
Global Total		**100.0%**

[1]May be implemented through hedge fund structures
[2]Asset class band of 10% +/- of target
[3]Asset class band of 5% +/- of target

Exhibit C – Program Structure by Asset Class

	Public Equity	Private Equity	Private Real Estate	Hedge Funds	Fixed Income
Current Formal EM Program	Yes	Yes	Yes	No	No
Proposed Program Structure	Hybrid	Hybrid	Hybrid	Direct	Direct
EM Requirements:					
Firm AUM	< $2 billion	< $2 billion	< $2 billion	< $2 billion	< $2 billion
Registration	SEC Registration	n/a	n/a	SEC Registration	SEC Registration
Track Record	3 Years	Prefer 3 Years	Prefer 3 Years	3 Years	3 Years
Fund	n/a	I, II, III	I, II, III	n/a	n/a
Fund Size	n/a	< $1 billion	< $500 million	n/a	n/a

A. PUBLIC EQUITY

The global public equity is both internally managed and externally advised. ERS manages the majority of public equity internally because it is cost-effective and prudent for the trust. To complement internal management, ERS may retain professional external investment advisors to assist and advise on specific sectors of the investment portfolio. Advisors are selected on the basis of desired investment style, investment philosophy, experience, past investment results, and the ability to provide competent economic and investment advice consistent with the investment philosophy and goals of the Board of Trustees. Typically, ERS will partner with external firms when the agency lacks the resources, expertise or capabilities investing in a particular strategy. In general, ERS does not want to constitute more than 20% of any firm or product assets under management. For additional information on ERS' global public equity portfolio, *Global Public Equity Policies and Procedures,* of the *Investment Policy*.

As stated in Section 4.5 of the *Investment Policy*, advisors must satisfy the following criteria to be considered in the selection process:

ix. must be a bank, insurance company, or investment adviser as defined by the Investment Advisers Act of 1940;
x. must be registered and in good standing with the Securities and Exchange Commission (SEC);
xi. should have a minimum of three years with the desired investment style, demonstrate continuity of key personnel, have institutional fund experience, and offer a reasonable fee schedule;
xii. must have a clearly defined investment philosophy and decision-making process;
xiii. must demonstrate generally favorable consistent historical performance, calculated on a time-weighted basis, based on a composite of all of their fully discretionary accounts of similar investment style relative to a predetermined benchmark;
xiv. must have key personnel governed by the Standards of Professional Conduct established by the CFA Institute;
xv. must possess a robust asset base with a diverse client base to ensure ongoing viability; and
xvi. must have an established, competent back office environment.

ERS will use a hybrid emerging manager structure for the global equity asset class. Initially, ERS will contract with a manager of emerging managers to access the universe and construct a diversified portfolio. The fund of funds will have a discretionary mandate that is closely reviewed by ERS. The portfolio will be diversified between managers where each underlying fund allocation ranges in size from $5-20 million.

In addition to the manager of managers' mandates, ERS will look for ways to work with emerging managers on a direct basis. All bidding opportunities issued by ERS for external global equity advisory services will be in the form of a Request for Qualification or Request for Proposal (RFQ/RFP). These ERS bidding opportunities are posted on the ERS website and various existing state resources, including the Electronic State Business Daily (http://esbd.cpa.state.tx.us/). A simple registration by firms on the Centralized Masters Business List (http://www.window.state.tx.us/procurement/registration/) or the ERS *External Advisor Website* will ensure automatic notice of any bidding opportunities**.** All qualified managers are encouraged to submit a response to an RFQ/RFP posting. All qualified candidates, whether established or emerging, will be evaluated by the standard due diligence process.

B. PRIVATE EQUITY

Based on prudent management of the main private equity portfolio, ERS staff has to maintain a limited number of direct relationships. Per policy, ERS is not permitted to own more than 25% of any commingled partnership. For additional information on ERS' private equity portfolio, see *Private Equity Guidelines and Procedures,* of the *Investment Policy*.

ERS will primarily use a manager of emerging managers for the private equity asset class to supplement the main direct relationships. ERS chose to commit to emerging managers via the fund of funds structure because it was determined that this was the best way to source funds in the private equity space and build a diversified portfolio. The current focus of ERS' private equity fund of funds mandate is firms raising their 1st, 2nd, or 3rd fund with a fund size under $1 billion. On a case by case basis, there will be opportunities for direct relationships.

C. PRIVATE REAL ESTATE

Based on prudent management of the main private real estate portfolio, ERS staff has to maintain a limited number of direct relationships. For additional information on ERS' private real estate portfolio, see *Real Estate Policies and Procedures*, of the *Investment Policy*.

ERS will primarily use a manager of emerging managers for the private real estate asset class to supplement the main direct relationships. ERS chose to commit to emerging managers via the fund of funds structure because it was determined that this was the best way to source funds in the private real estate space and build a diversified portfolio. The current focus of ERS' private real estate fund of funds mandate is firms raising their 1st, 2nd, or 3rd fund with a fund size under $500 million. On a case by case basis, there will be opportunities for direct relationships.

D. HEDGE FUNDS

Based on prudent management of the main hedge fund absolute return portfolio, ERS staff has to maintain a limited number of direct relationships. For additional information on ERS' hedge fund portfolio, see *Hedge Fund Guidelines and Procedures*, of the *Investment Policy*.

A formal emerging manager program has yet to be implemented in the hedge fund asset class. The primary approach to investing with hedge funds will be on a direct basis and will follow the standard due diligence process. At this time, ERS requires that all managers, regardless of size, are covered by ERS' hedge fund consultant before due diligence may commence. In addition, ERS requires that all hedge fund managers be registered with the SEC. A manager of managers structure may be employed in the future to better access smaller and newer hedge fund managers.

E. FIXED INCOME

The fixed income allocation is comprised of separate, but complimentary mandates: rates and global credit. The rates portfolio consists of liquid U.S. Treasury Notes with maturities ranging between 1 to 10 years and is internally managed in its entirety because it is cost-effective and prudent for the trust. The global credit allocation is comprised of three sub-asset classes, i.e., high yield, bank loans, emerging market debt. For additional information on ERS' fixed income portfolio, see *Fixed Income Guidelines and Procedures*, of the *Investment Policy*.

A formal emerging manager program has yet to be implemented in the fixed income asset class. Currently, ERS fixed income staff is exploring utilizing external advisors to complement internal management of the global credit portfolio. Most likely, because of the expected lower allocation to external advisors in fixed income, any commitment to emerging managers will be made on a direct basis as part of the global credit allocation and will follow the standard due diligence process.

VI. BROKER/DEALER POLICIES

Staff shall allocate trades for the benefit of the trust based on the relative ability of broker/dealers to add value to the trust through: (i) products or services of benefit to the investment program, such as research products or portfolio analytics that are used in ERS' investment decision-making process; (ii) trade execution; or (iii) a commission sharing agreement. Trades allocated strictly for execution purposes must be executed at discounted commission rates acceptable to ERS.

All currency and security trade orders must be placed with firms that meet all of the requirements listed below. In order for a firm to be approved or remain approved, all information must be satisfactory to ERS and must be provided to ERS upon request.

- Firms must be in good standing with the Securities and Exchange Commission;
- Firms and their designated agents must be members in good standing with the Financial Industry Regulatory Authority (FINRA);
- Firms and their designated agents must be registered and in good standing with the Texas State Securities Board;
- Firms must demonstrate a proven, effective execution platform for institutional investors that has been utilized by the firm for a minimum of three years;
- The firm or its executing broker and the clearing agent must each have minimum excess net capital of $2,500,000; and
- Firms must demonstrate an ability to add value to the investment process.

The approval process for all broker/dealers is separate and unique from any of the manager approval processes. The first step in the process is to complete a *Short Form* on the ERS *External Advisor Website*. Once a *Short Form* has been submitted, it will be forwarded to the broker/dealer committee for review. A firm must be sponsored by someone on staff to be considered for approval. ERS will contact your firm's sales representative and/or compliance officer if there is an interest in your firm.

See Section 4.7 of the *Investment Policy* for additional information.

VII. INVESTMENT PROCEDURES

On an annual basis, staff will prepare a tactical plan which reviews the current status of the portfolio and steps to be taken over the next 12-month period to further implement the long-term strategic plan. The *Annual Tactical Plan,* provided in *Appendix A,* will be provided for review and approval from the Board.

VIII. REPORTING REQUIREMENTS

On an annual basis, the Executive Director or designee shall provide to the Board of Trustees a report on ERS' methods, efforts and results in hiring emerging fund managers, including data disaggregated by race, ethnicity, gender and fund size.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

EMERGING MANAGER PROGRAM
ANNUAL TACTICAL PLAN

I. CURRENT ALLOCATION

ERS began a formal emerging manager program in 2010. As of June 30, 2015, ERS had invested or committed over $891 million to emerging managers. Initially, ERS hired four managers of emerging managers in three asset classes (public equity, private equity and private real estate). Since those initial allocations, ERS has committed to two sidecar deals[4] in the real estate fund of funds structure and invested with several managers on a direct basis. These investments/commitments are outlined in *Exhibit A* on the next page.

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[4] A sidecar is a parallel investment alongside the fund of fund.

Exhibit A

Firm	Allocation as of June 30, 2015	
Public Equity	**$**	**178,200,165**
Leading Edge Investment Advisors	$	84,832,432
Leading Edge - Brookmont	$	9,412,157
Leading Edge - Lombardia	$	7,839,906
Leading Edge - Mar Vista	$	20,104,504
Leading Edge - Markston	$	18,583,379
Leading Edge - Nicholas	$	9,514,507
Leading Edge - BRC INV	$	10,662,224
Leading Edge - Redwood	$	8,715,755
Legato Capital Management	$	93,367,733
Legato - Affinity	$	20,714,357
Legato - Dean Capital Mgmt	$	6,469,498
Legato - High Pointe	$	13,768,605
Legato - Ithaka	$	15,800,346
Legato - Mar Vista	$	19,652,254
Legato - Nichols	$	6,350,956
Legato - Twin	$	10,611,717
Private Equity	**$**	**100,000,000**
GCM Grosvenor - Fund I	$	50,000,000
GCM Grosvenor - Fund II	$	50,000,000
Private Real Estate	**$**	**176,000,000**
Oak Street Real Estate Capital	$	50,000,000
Oak Street Real Estate Capital - Sidecar	$	20,000,000
Oak Street Real Estate Capital - Sidecar	$	20,000,000
Pennybacker Capital Fund III	$	15,000,000
Abacus Capital Group Fund III	$	50,000,000
Abacus Capital Group - Co-Invest	$	6,000,000
Singerman Real Estate Opportunity Fund II	$	15,000,000
Hedge Funds	**$**	**437,144,762**
Southpaw Asset Management	$	96,359,579
Stone Lion Capital Partners LLSD LP*	$	63,236,963
Stone Lion Capital Partners LLSD II LP*	$	15,685,375
Castle Creek Arbitrage LLC	$	103,189,626
Northwest Investment Management (HK), Ltd	$	78,490,752
Gerchen Keller Capital, LLC*	$	28,728,132
Glazer Capital LLC*	$	51,454,337
Total	**$**	**891,344,927**

Funds marked with * are as of 5/31/15

II. TACTICAL PLAN

The goal of the Emerging Manager Program is to commit 10% of externally advised/managed assets to emerging managers. These investments/commitments will be made across asset classes and within the limits authorized by the Board of Trustees in the System's asset allocation, as established in the System's *Investment Policy* based on invested net asset value.

As detailed in *Exhibit B* and *Exhibit C* below, ERS plans on building a $1 billion program by FY2019. This program will be across asset classes and will use a hybrid approach of fund of funds and direct investments. All commitments will be made in conjunction with the asset class directors and will follow their respective *Policies and Procedures* and *Annual Tactical Plans*. This *Annual Tactical Plan* is a guiding reference only, and it is not intended to overrule prudent investment decision-making. The targeted commitments below are intended to provide a degree of flexibility to accommodate varying market opportunities and the availability of ERS' resources.

Exhibit B

	Public Equity	Private Equity	Private Real Estate	Hedge Funds	Fixed Income (Credit)	Total
Long-Term Target Asset Allocation (%)	45%	10%	7%	5%	10%	
Long-Term Target Asset Allocation ($MM)	$11,700	$2,600	$1,820	$1,300	$2,600	$20,020
Externally Advised Target ($MM)*	$3,510	$2,600	$1,820	$1,300	$780	$10,010
Emerging Manager Target ($MM)**	$351	$260	$182	$130	$78	$1,001
Current Emerging Manager Allocation ($)	$178	$100	$176	$437	$0	$891

**Based on $26 billion Trust*

***Target is for externally advised assets to be 30% of Public Equity and Fixed Income (Credit) and 100% of Private Equity, Private Real Estate and Hedge Funds.*

****Target is for 10% of externally advised assets to be allocated to emerging managers.*

Exhibit C

	Structure	Strategy	Investment/ Commitment ($MM)	Status Update
Public Equity				The Public Equity team continues to look for ways to work with small managers.
FY2016	Under Review	International/Small Cap	$100	Under Review
Private Equity				The Private Equity team began a new mandate with GCM Grosvenor in December 2014. The team will continue to look for

	Structure	Strategy	Investment/ Commitment ($MM)	Status Update
				ways to invest with managers on a direct basis.
FY2015	Fund of Funds	Diversified	$50	Completed
FY2017	Fund of Funds	Diversified	$50	
Private Real Estate				The Real Estate team is considering a new fund of funds mandate and continues to deploy capital directly.
FY2016	Fund of Funds	Diversified	$50	Under Review
FY2019	Fund of Funds	Diversified	$50	
Hedge Funds				The Hedge Funds team has allocated on a direct basis to small managers. The Absolute Return portfolio has over 30% allocated to small managers.
FY2016	Direct	Various	To be determined based on portfolio needs	
Fixed Income				The Fixed Income team is currently looking for opportunities to prudently invest with external advisors for global credit mandates on a direct basis. Staff is making a good faith effort to find small managers as part of this search.
FY2016	Direct	High Yield	To be determined based on portfolio needs	

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
FIXED INCOME
GUIDELINES AND PROCEDURES

Last Updated: August 23, 2017

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

FIXED INCOME
GUIDELINES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

FIXED INCOME GUIDELINES AND PROCEDURES

Last Updated:
August 23, 2017

I. INVESTMENT OBJECTIVES

The Employees Retirement System of Texas ("ERS") has determined that the inclusion of fixed income assets enhances the ERS Trust's total portfolio ("the Trust") investment characteristics by increasing its liquidity and diversifying its return sources. Combining fixed income assets with other assets creates greater risk-adjusted returns. The System's investment policies are determined by its Board of Trustees ("Board") with the general, long-term goal of the Trust earning a return that will insure benefit payments due to members and their beneficiaries at a reasonable cost to the System's members and the taxpayers of the state of Texas.

ERS' Fixed Income Portfolio of investments ("Fixed Income" or "Fixed"), shall be managed in a manner exclusive to the benefit requirements of the Texas Constitution. The selection and management of assets will be guided to maintain prudent diversification of assets to preserve the System's investment capital, preserve liquidity, and produce cash flow to fund the obligations of ERS.

The Fixed allocation is composed of separate, but complimentary mandates: Interest Rates and Credit. The Interest Rates mandate's primary objective is to ensure the Trust has adequate liquidity to meet its operational and investment cash flow needs, and the Credit mandate's objective is to earn as high an overall yield as is prudent for the risk incurred, subject to the limitations in the ERS *Investment Policy*.

The ERS investment approach is one of active participation in the investment decision process with ERS retaining control over the selection of assets, advisors, and partnerships. This active approach requires continual Staff involvement. An important additional goal for Fixed is to structure the portfolio to maintain a flexible investment strategy, which allows it to take advantage of opportunities as capital market conditions change.

A. THE INTEREST RATES MANDATE

The Interest Rates ("Rates") mandate's primary objective is to provide the Trust with liquidity and capital preservation in most likely market environments while earning the highest yield possible consistent with this objective. It accomplishes this goal by investing in historically highly liquid instruments: U.S. Treasury Notes, Bonds, and Bills. The Rates mandate is intended to avoid credit risk, and consistent with its primary objectives may also invest in U.S. Government backed Agencies ("Agencies"), Agency Mortgage Backed Securities ("MBS"), Agency Asset Backed Securities ("ABS"), as well as potentially highly rated and extremely liquid foreign government bonds ("Sovereigns"). Further, the portfolio may also use exchange traded Treasury futures ("Futures") and options on Futures to manage its duration in the most efficient way possible. As part of the overall investment program's review and analysis on the use of derivatives, it is possible at some point Interest Rate Swaps ("IRS"), Options on Swaps ("Swaptions"), and Asset Swaps could also be considered to manage portfolio rate risk if legal restrictions limiting the use of swaps were revised.

The mandate is to be benchmarked to the Barclays Intermediate Treasury Index given its limited interest rate risk and liquid, creditless composition. The absence of longer dated securities reduces the downside risk to all but funding concerns of the U.S. Treasury and Government Agencies.

B. THE CREDIT MANDATE

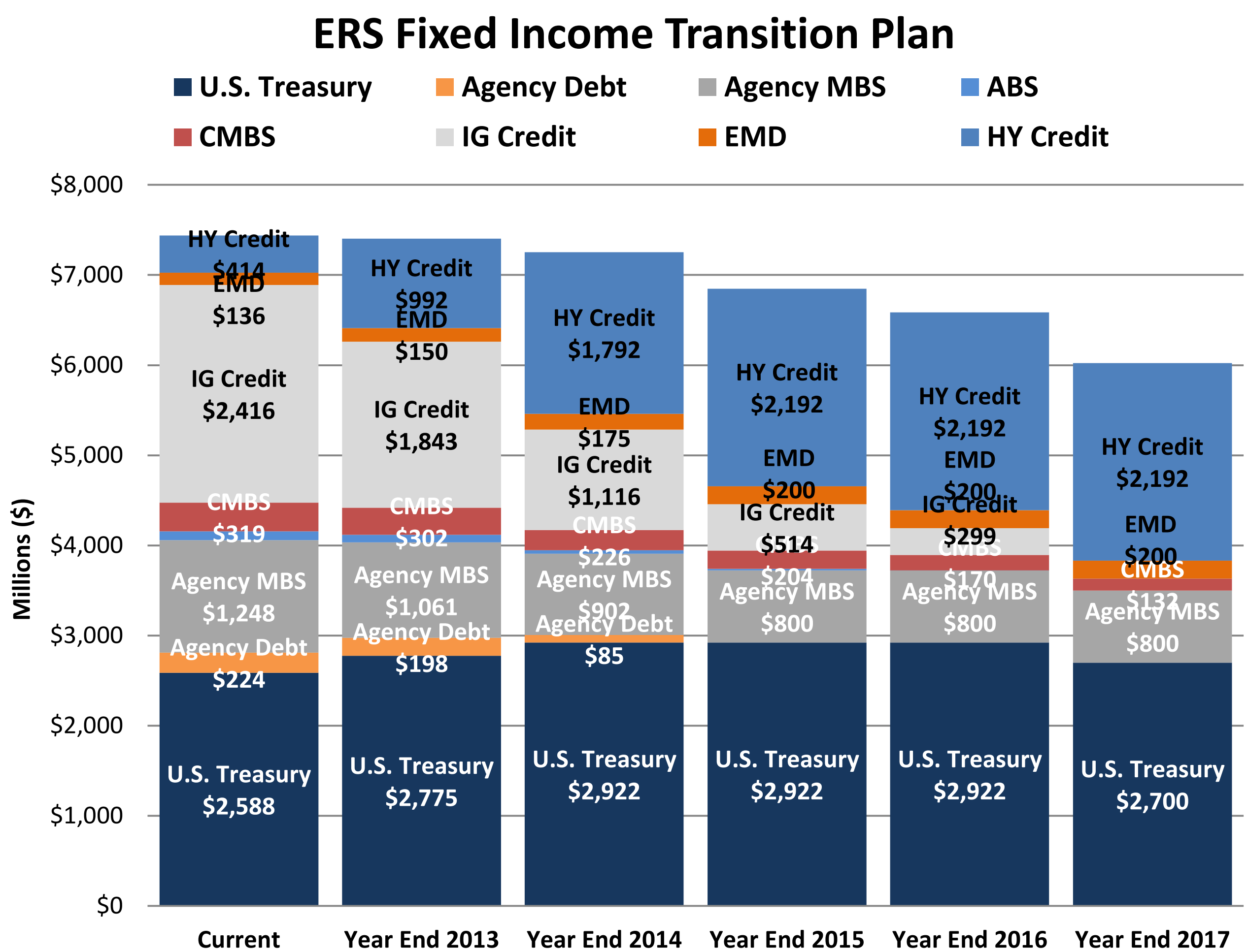
The Credit mandate's objective is to maximize yield via exposure to an opportunistic combination of below investment grade High Yield ("HY") bonds, Loans, Emerging Market Debt ("EMD") strategies invested either internally or externally via traditional advisory relationships in managed accounts or hedge fund structures. At various times riskier Investment Grade ("IG") bonds may also be held. Credit's short term total returns are expected to correlate highly with the Trust's other return seeking assets, but by the nature of the under-lying instruments, have predictable monetization routes without the need to sell assets. Given the Rates mandate's primary objective, Credit's investments at the limit rely upon maturity and interest schedules. Consistent with its primary objective and the diverse nature of investable assets, its focus is expected to exhibit high tracking error to its benchmark. Initially, that benchmark is the Barclays U.S. 2% Capped Corporate High Yield Index. As ERS develops Credit resources, its benchmark is expected to adjust to reflect the broader opportunity set.

C. TRANSITION MANDATES

The Trust has at the time of this writing, legacy IG corporate, ABS, and CMBS securities which will be liquidated prudently based upon their liquidity and the opportunity afforded in other asset classes. Given the nature of transitions, benchmarks are difficult to assign. The most appropriate is an intermediate credit benchmark, but assets are to be managed to their terminal value, not to a tracking error target of the benchmark. If there are additional Transition mandates for assets which are owned by the Trust which fit into neither Rates nor Credit, they will be managed as prudently as possible based upon their liquidity, risk and return forecast, and the funding needs of the Trust. Such future Transition mandates will have an appropriate benchmark given the nature of the investment that will be presented to the Board of Trustees and IAC for approval. The ERS Fixed Income transition plan is shown below, although steps are being taken to accelerate this process prudently.

Immediately, staff intends to liquidate transition assets based upon the uses of the proceeds. So long as the Rates portfolio is at or above its target allocation, transition assets will be liquidated as needed to fund Credit and Alternatives. Staff is exploring options to add greater liquidity and diversification by swapping a substantial portion of its transition assets in-kind for liquid ETFs. Such a swap would add a layer of management fees, but substantially increase the liquidity options available to ERS. Staff is always concerned with liquidity as the primary dealers have decreased their capital commitments making markets 75% of the capitalization from pre-crises levels, and subsequent financial regulations make it doubtful that this amount will increase again. The amount of assets which rely upon this commitment to broker has risen steadily, resulting in noticeably poor liquidity in non-benchmark, or off-the-run credit issues. Staff believes that exchange provided liquidity will increase, as ETPs (Exchange Traded Products) evolve and a greater number of participants embrace them. They typically trade at a small premium to their net asset value ("NAV") marked to their bid, but below the cost of buying the under-lying portfolio.

As of March 31st, 2013, ERS held $2.9 billion in transition assets; $2.5 billion of which are IG corporates. Staff expects to utilize maturity schedules over the next three years to transition approximately $1 billion. It further estimates exchanges in-kind to ETFs, which will be sold either as needed or opportunistically, for an additional $1.0 - $1.5 billion, and outright sells or longer maturities for the remainder. As of May 20, 2014, the remaining $662 million in transition assets will be moved to the Rates mandate. Staff acknowledges that these assets do not fit the Rates mandate, but are moved because these assets are expected to materially decline during fiscal year 2015 and will be managed to minimize their impact.



II. PORTFOLIO MANAGEMENT

Given the bifurcated objectives of the individual mandates, performance of ERS' Fixed investments should focus upon each individually. Meaningful deviations from policy allocations to the Rates portfolio will depend upon the opportunity set in other asset classes rather than upon interest rates themselves and likewise for Transition mandates. Credit's allocation is to remain +/- 10% of Policy once adequate resources to manage it are established. Credit is expected to remain within 300 basis points of its ex-ante tracking error.

Additional considerations in the construction and management of the Fixed program are as follows:

1. Internal and External Management:

- Internal management is necessary to better understand the environment and risks taken by external managers, as well as to serve as a risk mitigant.
- The allocation between internal and external management will consider the resource needs and cost of a particular strategy and its expected excess return ratio.
- The need to diversify across managers to mitigate idiosyncratic and organizational risk.
- Fees and incentives charged by managers must be reasonable and provide an alignment of interest with ERS.

2. **Due Diligence.** The due diligence process for external investments will include both operational and investment aspects. Areas of review will include at a minimum: an evaluation of the organization, business culture, background checks on key people, governance, analysis of performance, analysis of exposures, investment process, risk management and control, position review, compliance, operational infrastructure, document review, trade operations, custody and counterparties, financing, valuation practices, legal, reporting, auditors, information technology capabilities, and disaster recovery. Additionally, ERS's Risk Committee will review new mandates before funding to ensure Trust level risks are considered.

3. **Institutional Quality.** Any underlying external investments must be of institutional investment quality. Institutional quality will be defined as being of a quality whereby the investment would be considered acceptable by other prudent institutional investors of comparable size to ERS.

4. **Leverage** is discussed in Section 4.14.D. of the main body of the ERS *Investment Policy*.

5. **Transparency.** To meet fiduciary obligations, Staff will demand transparency with respect to underlying investments. Such information may be subject to the respective confidentiality provisions to the extent permitted.

6. **Emerging Fund Managers.** ERS will make a good faith effort to award contracts to or acquire services from qualified emerging fund managers when acquiring private financial services pursuant to Section 4.16 of the ERS *Investment Policy* Statement and as set forth in Section 815.301 (g), (h), and (i) of the Texas Government Code.
   An emerging fund manager is defined as a private professional investment manager with assets under management of not more than $2 billion. Private financial services include pension fund management, consulting, investment advising, brokerage services, private equity fund management, and real estate investment.

   ERS must report to its Board of Trustees the methods and results of its efforts to hire emerging fund managers, including data disaggregated by race, ethnicity, gender, and fund size.

III. RISK MANAGEMENT AND MONITORING

Staff will monitor the quantitative risk characteristics at the fund and portfolio levels. ERS may utilize internal as well as third party risk measurement services for monitoring and management. Risk management will be integrated in every step of ERS' investment process.

IV. CORE/SATELLITE APPROACH

ERS intends to construct its Credit portfolio using a *Core/Satellite* approach:

1. **Core Investments.** ERS will seek to allocate to Core group of investments, comprised of diversified assets with returns and risks roughly comparable with the underlying benchmarks. In Credit, this may include levered "beta" strategies that offer greater speed and lower cost of implementation than traditional cash purchases of assets. In addition, internally and externally advised or managed portfolios of assets which are believed to be priced below their intrinsic value will be accumulated and managed to form the majority of holdings. The Core allocation to credit is expected to range from 70%-90% of the mandate after it is fully invested.

2. **Satellite Investments.** *Satellite* strategies will typically utilize greater concentration in more risky credits, more volatile credit instruments, long and short exposure to different positions in a capital structure, and specific regional or industry focus. They may be used opportunistically to augment the risk/return/beta profile of the core managers to higher yields. Satellite Investments are more

likely to be opportunistic rather than strategic. The Satellite allocation is expected to range from 10%-30% of the mandate after it is fully invested. This allocation is expected to shift with the opportunity set.

Opportunistic investments generally satisfy at least one of the following conditions: (1) enhance returns of the portfolio, (2) display a positive asymmetric return profile (i.e., upside potential with limited downside), (3) have an identifiable exit point (typically five years or less, likely achieved through investment in a limited-life vehicle structure), and (4) be sourced primarily, though not exclusively, through existing relationships. They may include investment opportunities from other parts of the Trust. The investments may be in a sub-strategy or niche strategy, but are likely to result from a market dislocation and display greater volatility or risk characteristic than other investments in the portfolio. The vehicles may be funded with one-time investments or via a commitment/capital call drawdown mechanism.

At Credit strategy level, ERS will attempt to opportunistically increase and decrease Credit exposure based on the overall risks of the Trust and its tactical views.

V. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

The externally managed Fixed Income Portfolio shall be implemented and monitored through the coordinated efforts of the Board, Investment Advisory Committee, Executive Director, Chief Investment Officer ("CIO"), Fixed Income Investment Committee, and either the Deputy CIO or another member of the senior investment staff , and ERS Staff ("Staff"). It will be done in co-ordination with the internally managed portfolio. Delegation of responsibilities for each participant is described in the following sections.

1. **Board of Trustees ("Board").** The Board shall approve the investment policies and objectives that are judged to be appropriate and prudent to implement the strategic plan for the investment of Trust assets; review the performance criteria and policy guidelines for the measurement and evaluation of the mandate; and supervise the investment of the Trust's assets to ensure that the investments remain in accordance with intended strategic plans and the ERS *Investment Policy* and these *Fixed Income Guidelines and Procedures* documents.

   The Board will guide the long-term execution of the portfolio through approval of these *Fixed Income Guidelines and Procedures*, which will be updated and revised as appropriate. It will additionally monitor the Fixed Income Portfolio's progress and results through a performance measurement report prepared quarterly by the Staff.

   Pursuant to Texas Government Code Section 815.3016, the Board will approve investments in lieu of the Fixed Income Internal Investment Committee (as defined below) when for an "alternative investment" as defined in Tex. Government Code Section 815.3015 and the investment is greater than 0.6% of the System's total market value of assets as reported in the most recent ERS Comprehensive Annual Financial Report pursuant to Texas Government Code Section 815.3016.

2. **Investment Advisory Committee ("IAC").** The IAC shall review the System's investments to ensure that they conform to the investment objectives and policies adopted by the Board. Staff may utilize the expertise of IAC members in assessing investment strategies and will request IAC members to participate on the Fixed Income Investment Committee as well as ad-hoc project committees and provide insights from such participation to the Board.

3. **Executive Director.** The Executive Director is granted full authority and responsibility by the Board in the implementation and administration of its investment programs subject to Board policies, rules, regulations, and directives consistent with constitutional and statutory limitations. The Executive Director shall participate and review investment decisions and, together with the other members of the Fixed Income Investment Committee, will make the fiduciary investment decisions regarding investments, based on information provided by and recommendations offered by Staff.

4. **The Fixed Income Investment Committee.** The Fixed Income Investment Committee will review the Trust's prospective investments to ensure that they conform to the investment objectives outlined by these *Fixed Income Guidelines and Procedures* approved by the Board and to ensure they are appropriate given current and anticipated market dynamics. The Fixed Income Investment Committee will be comprised of the Executive Director, CIO, an IAC member, and either the Deputy Chief Investment Officer or another senior member of ERS investments staff, and it shall review investment recommendations forwarded by Staff. The Fixed Income Investment Committee will make the fiduciary investment decisions regarding investments in fixed income based on information provided by and recommendations offered by Staff up to the aforementioned Board approval authority..

5. **ERS Staff.** Staff will develop investment objectives and policy language that include strategic and tactical plans. Staff will identify opportunities for investment and the appropriate investment vehicles for implementation, perform proper due diligence, and vet them through the ERS Risk Committee both prior to presentation to the Fixed Income Investment Committee or Board of Trustees, and periodically thereafter to ensure the Risk Committee thinks it does not create systemic risks to the Trust at the proposed allocation.

VI. STAFF RESPONSIBILITIES

A. Implementation and Administration. Staff is responsible for the following implementation and administration responsibilities. This section designates certain fixed income portfolio management responsibilities that the Staff will perform or cause to be performed.

1. **Investment Selection.** Staff will be responsible for evaluating investment opportunities and submitting their recommendations for investment to be approved by the Fixed Income Investment Committee or Board of Trustees:

(1) Monitor existing holdings and opportunities available and reviewed in the market over time.

(2) Screen and evaluate opportunities to identify investments that provide attractive risk and return characteristics and are aligned with objectives.

(3) Conduct full and proper due diligence on prospective investments and document the due diligence process.

(4) Summarize findings of the due diligence process on each prospective externally managed investment in a formal investment recommendation and present those findings to the Fixed Income Investment Committee or Board of Trustees for approval.

(5) Negotiate investment terms and conditions, investment management agreements, limited partnership and limited liability company agreements, and other closing documents on ERS' behalf, for investments approved by the Fixed Income Investment Committee. Staff will coordinate legal, tax, and any other required professional reviews. Although ERS is not subject to ERISA, Staff should obtain terms and conditions in such negotiations for ERS investments to operate in the same manner as investments made by "employee benefit plans" under ERISA, to the extent such terms and conditions (a) are not in conflict

with applicable laws/regulations to which ERS is subject, (b) are not in conflict with these *Fixed Income Guidelines and Procedures*, (c) do not interfere with ERS maintaining its favorable tax qualification status, and (d) are not opted out of by the Fixed Income Investment Committee or Board of Trustees because to do so would be in ERS' best interest.

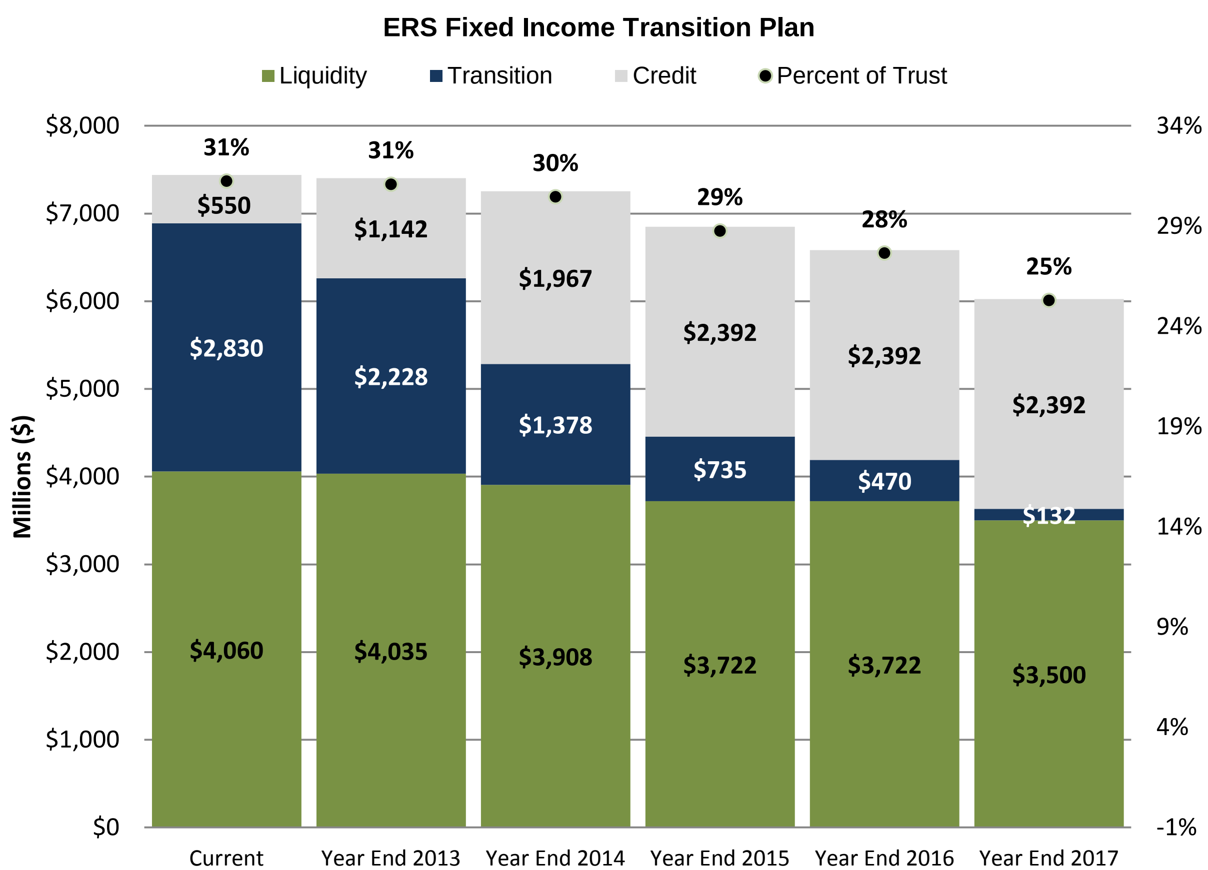
2. **Ongoing Operations**. Staff will stay informed of the overall market conditions relative to Fixed investments and their competitive position. Staff will also be responsible for attending to all such activities undertaken with a view toward maximizing the Fixed portfolio's value.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

FIXED INCOME
TACTICAL PLAN
(TRANSITION FOR FISCAL YEARS 2014 – 2015)

EFFECTIVE
MAY 20, 2014

Staff's primary focus in its tactical plan is to maintain flexibility to respond to market opportunities, thus the emphasis of the transition is build-in as much contingent liquidity as possible without forgoing returns so that it can re-deploy assets were a market disruption to occur. In the absence of such disruptions, assets are expected to be transitioned as outlined in the chart below.



Further, the three individual mandates within Fixed Income (Rates, Credit, and Transition) will be managed to remain within their respective risk budgets of 100, 300, and 300 basis points respectively. There is a considerable risk of exceeding that limit in Credit as the book is built out and high idiosyncratic risk exists and in the Transition portfolio as it is wound down and idiosyncratic risk increases. Staff understands it to be the Board's intention for staff to focus on maximizing the Trust's risk adjusted return at these points rather than control tracking error for the sake of tracking error.

The following data summarizes how each of the three portfolios were positioned as of March 31, 2013.

Fixed Income Portfolio Statistics			
	Rates	**Credit**	**Transition**
Total Portfolio Market Value ($)	4,059,809,751	549,688,106	2,830,062,360
Tracking Error Forecast (bps)	150	124	58
Monte Carlo Daily VaR @ 95% ($)	7,702,232	494,903	1,967,047
Historical 1 Year Daily VaR @ 95% ($)	6,908,737	323,663	1,601,268
Interest Rate Duration (% of Benchmark)	154	112	104
Option Adjusted Spread (Active, bps)	21	-56	-8
Yield To Maturity	1.43	5.77	1.87
Convexity (Active, bps)	-0.02	-0.05	0.28

As previously discussed, ERS' current Fixed Income allocation has been divided into three separate portfolios.

- A **"Rates"** portfolio comprised of government-backed securities, benchmarked against the Barclay's Intermediate Treasury Index (LT08TRUU on Bloomberg), will serve as a risk-reducing source of liquidity. This portfolio will house the Transition mandate detailed in Section I.A. of this policy. Staff acknowledges that these assets do not fit the Rates mandate, but are moved because these assets are expected to materially decline during fiscal year 2015 and will be managed to minimize their impact.

- A **"Credit"** portfolio, currently benchmarked against the Barclay's U.S. Corporate High Yield 2% Issuer Cap Index (LF89TRUU), will seek returns that are more consistent with the long-term requirements of the Trust. The Credit portfolio will be structured to achieve higher expected returns through investments in fixed income asset classes like High Yield, Leveraged Loans, and Emerging Markets.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

GLOBAL PUBLIC EQUITY
GUIDELINES AND PROCEDURES

Last Updated: February 22, 2017

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

GLOBAL PUBLIC EQUITY GUIDELINES AND PROCEDURES

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GLOBAL PUBLIC EQUITY
GUIDELINES AND PROCEDURES

Last Updated:
February 22, 2017

I. INVESTMENT OBJECTIVES

A. INVESTMENTS IN GLOBAL PUBLIC EQUITY

The Employees Retirement System of Texas ("ERS" or "the System") has determined that inclusion of the Global Public Equity asset class will enhance ERS' expected total portfolio ("Total Portfolio") investment characteristics. The objective of the System's Global Public Equity asset class is to help meet the return assumptions for the Trust and to enhance risk-adjusted performance.

The Global Public Equity asset class invests in the publicly traded equity securities of both foreign and domestic issuers. Investments will be made in a manner consistent with the whole portfolio approach and the exclusive benefit requirements of the Texas Constitution. The selection and management of Global Public Equity assets will maintain prudent diversification of assets, maximize management responsibility, and preserve the System's investment capital. Diversification is required to manage overall market risk and the specific risks inherent in any single investment or single manager.

Global Public Equity investments are both internally managed and externally advised or managed using a variety of strategies as later described.

B. ASSET ALLOCATION

ERS' allocation to the Global Public Equity asset class will remain within the limits authorized by the Board of Trustees in its allocation as established in Section 2.2B of the *ERS Investment Policy* based on invested net asset value.

In addition, the following allocation constraints are deemed prudent:

1. Not more than 50% of the Global Public Equity asset class will be allocated to external international equity advisors.
2. Not more than 35% of the Global Public Equity asset class will be allocated to the mid and small capitalization segments of the market as defined as portfolios with average market capitalizations as defined by the benchmark.
3. Not more than 20% of the Global Public Equity asset class will be allocated to strategies focused on emerging market equities.
4. Not more than 10% of the Global Public Equity asset class will be allocated to the Best Ideas Program. The Best Ideas Program is formed to facilitate internal idea generation and provide an institutional-grade framework for analysis, viability and incubation and funding of internal portfolios.
5. Not more than 6% of the Global Public Equity asset class, or 3% of the total Fund, may be invested in a single corporation.
6. Not more than 5% of any class of voting securities of any one public corporation may be owned by the Global Public Equity asset class or the Fund.

C. PERFORMANCE

The performance objective of the Global Public Equity Composite is to achieve a total time-weighted rate of return over rolling five-year periods in excess of the MSCI All Country World Index - Investable Market Index (MSCI ACWI IMI) or successor index. The Active Risk Budget, as set forth in Addendum III to the ERS *Investment Policy*, identifies portfolio benchmarks, establishes tracking error targets and limits, as well as the expected ratio of excess return to tracking error for each portfolio (Expected Excess Return Ratio).

1. Internally Managed Portfolios

The performance objective of all internally managed portfolios is to achieve a total time-weighted rate of return over rolling five-year periods in excess of their stated benchmarks. Portfolios are expected to adhere to tracking error and/or other risk constraints and to all other policies and objectives adopted by the Board of Trustees. Performance outside of the defined tracking error limits, or a negative excess return over any rolling 36-month time frame requires an analysis by the Investment staff, with recommendations from the Director of Public Equity, to the Chief Investment Officer. The Board of Trustees expects the Chief Investment Officer and the Director of Public Equity to identify and rectify any deficiencies in the investment process.

2. Externally Advised Portfolios

The performance objective for the externally advised portfolios is to achieve a total time-weighted rate of return over rolling five-year periods in excess of their stated benchmarks without undue volatility on a risk/reward basis. Although peer group rankings are reviewed, it is often very difficult to establish meaningful peer group comparisons; therefore, the primary focus is on risk-adjusted performance.

In time periods when an externally advised portfolio performs below expectations, the Board of Trustees expects the Chief Investment Officer, in conjunction with the Director of Public Equity and Deputy Chief Investment Officer, to address the advisor to identify and rectify any deficiencies. In addition, the performance of externally advised portfolios is evaluated according to the following investment objectives, as provided in the investment guidelines to which the advisors must contractually agree:

a. adherence to its stated management style;
b. the discipline of its investment decision-making process;
c. its stability of staff and organization; and
d. Consistent adherence to the investment policies and objectives as adopted by the Board of Trustees.

ERS Investments staff has developed comprehensive portfolio evaluation tools with reporting that are used for portfolio assessment. These tools utilize a wide variety of statistical measurements to assess performance and portfolio characteristics, which are reviewed on a quarterly basis, or more frequently as otherwise needed.

The characteristics considered most important in the portfolio evaluation process include:

a. stock, industry, sector, region/country, and currency exposures;
b. size, value, growth, liquidity, and momentum tilts; and
c. tracking error, active share, concentration, and intra-portfolio correlation.

The performance measurements considered most important in the portfolio evaluation process include:

a. Expected Excess Return Ratio (similar to an Information Ratio);
b. hit rates in strong, weak, and style-driven markets;
c. cumulative information ratio, cumulative sum or "CUSUM" analysis and
d. return distribution measurements such as kurtosis and skewness.

An Excess Return Ratio below expectations or underperformance over any rolling 36-month time frame requires an analysis by the Investment staff, with recommendations from the Director of Public Equity and Deputy Chief Investment Officer, to the Chief Investment Officer. If the analysis and/or circumstances indicate any of the following, then partial or complete defunding and/or removal from the Select Pool will be considered:

a. the causes of underperformance are likely to persist;
b. advisor failure to comply with the ERS *Investment Policy* and/or other applicable procedures;
c. advisor has experienced material organizational or personnel changes; and/or
d. matters that may, in ERS Investments staff's opinion, distract the advisor from effectively performing its responsibilities to ERS, including an actual or potential conflict of interest or reputation risk.

Advisor portfolios may be temporarily defunded or resized as part of the portfolio management process. If a particular advisor's strategy in the Select Pool becomes too highly correlated with other portfolios, introduces undesirable characteristics or staff loses confidence in the ability of the advisor or its strategy to achieve positive risk-adjusted performance, the strategy may be removed from the Select Pool. Advisors may also be defunded or removed from the Select Pool for reasons not listed above, including but not limited to changes in ERS' investment strategy and asset allocation.

In addition to the comprehensive performance reports provided by ERS' plan consultant and monthly investment summaries, the Chief Investment Officer or designated staff will periodically update the Board of Trustees with respect to additions and deletions from the Select Pool, including significant changes in the funded status of any advisor in the Select Pool.

D. RISK MANAGEMENT

1. DEFINING ABSOLUTE AND RELATIVE (ACTIVE) RISK

Portfolio risk can be divided between the absolute risk of loss, which is generally understood in the context of making investments, and relative risk, which is less understood. Relative risk in the context of managing a fund or an asset class against a benchmark becomes a primary focus of attention. Relative risk or active risk, also frequently referred to as "tracking error," is the risk of not achieving the same return as a benchmark. In the case of ERS Global Public Equity, it is the risk of not meeting the return on the MSCI ACWI IMI as established in the Active Risk Budget.

Each of the constituent portfolios within the Global Public Equity asset class has an assigned benchmark derived from the Active Risk Budget. These portfolios carry relative risk to their assigned benchmarks and, in combination, will have some degree of misfit risk. Misfit risk is another form of active risk that measures the difference between the characteristics of the combined portfolio benchmarks and the primary benchmark for the asset class.

Global Public Equity uses statistical probability risk models to forecast active risk. Forecasted active risk, or tracking error, tends to move up and down with market volatility and cross sectional correlations. In addition to providing a single estimate of tracking error (representing the 95% confidence interval around the benchmark return), risk models show the sources of tracking error, such as industry, size or geographic tilts. Understanding and managing the sources of tracking error is critical to risk management.

2. USING THE ACTIVE RISK BUDGET

The Active Risk Budget is important guidance for ERS Investments staff on the risk tolerance of the Board of Trustees and establishes reasonable excess return goals for the Global Public Equity asset class. The performance goal for Global Public Equity is to outperform its benchmark. Some amount of active risk is necessary to outperform the benchmark. This is a basic observation that a portfolio must be different from a benchmark in order to have a return different from the benchmark. The amount of deviation from the benchmark that the Board of Trustees is willing to tolerate will drive the amount of excess return that can reasonably be generated from the asset class.

Historical observation has established that successful portfolio managers should, over time, be able to achieve an excess return that is proportional to their level of active risk. For the more efficient sectors of the market, such as large cap domestic equity, the observed proportion is low (0.20) and for the more inefficient sectors of the market, such as small cap domestic equity or emerging market equity, the proportion is a little higher (0.30). This ratio of expected excess return to active risk (tracking error) is referred to as the Expected Excess Return Ratio.

The Board of Trustees is regularly updated on the realized and forecasted tracking errors for the internal portfolios and the portfolio composites relative to the targets and limits established in the Active Risk Budget.

3. MANAGING ACTIVE RISK

Global Public Equity manages tracking error at both the portfolio and asset class level. The primary internal investment process, discussed later in this policy, is not designed to produce a specific level of active risk. Like most investment strategies, the internal process produces portfolios with consistent characteristics and stable active risk profiles, but the actual and forecasted active risk move up and down with the general level of market volatility and cross sectional correlations. Stable active risk profiles are necessary because constantly adjusting the portfolios to achieve a specific level of active risk would result an excessive amount of trading without adding to risk-adjusted performance.

The principle mechanism for achieving the targeted active risk levels for the asset class, domestic and international portfolios is through management of the internal and external portfolio allocations. Each of the externally advised strategies carries a different risk profile and level of active risk which is typically twice or more the level of active risk carried by the internal strategies. By mixing the portfolios in the appropriate proportions, the total asset class and the domestic and international composites can achieve their targeted risk (and return) levels.

ERS Investments staff monitors other quantitative risk characteristics of the portfolios using external and internally developed equity risk models. Risk management is integrated in every step of the investment process. In addition to risks associated with portfolio characteristics, ERS Investments staff also closely monitors organizational risk and personnel risk of external advisors and other counterparties.

4. USE OF DERIVATIVES

Section 4.14 of the ERS *Investment Policy* allows the use of derivatives to facilitate risk management and to provide efficiency in investment implementation through lower transaction costs and lower portfolio turnover or to provide higher correlation to the benchmark index returns. ERS Investments staff continues to review the use of derivatives in the Global Public Equity asset class.

II. INVESTMENT STRATEGIES AND PROCESSES

A. INVESTMENT STRATEGIES

The Global Public Equity asset class consists of multiple portfolios. The internal portfolio strategies use lower tracking error (core) in combination with higher tracking error externally advised portfolios (satellites) to achieve the overall investment objectives for the asset class.

In an attempt to achieve superior risk-adjusted performance, multiple styles and strategies are used to diversify the sources of excess return. Traditional styles of value, growth and market capitalization based strategies are complemented with quantitative, rules-based, risk premium, macro, opportunistic, quality, thematic, and regionally-focused strategies (as examples) to achieve the greatest diversification possible while producing consistent and meaningful excess return at the composite level.

Below are descriptions of the principal styles and strategies utilized within the asset class. The list is not intended to be exhaustive. In addition, significant performance differences can emerge between strategies which seem categorically similar. The Individual biases and talents of the portfolio manager's implementation of any investment strategy contribute significantly to its success or failure. For the international portfolios, portfolio managers are responsible for regional and country tilts.

1. **Low Risk Core – Index Replication Strategy**. This strategy, which seeks to replicate the performance of an underlying index, is the lowest cost strategy to implement. At ERS, this strategy is deemed most appropriate for the highly efficient large capitalization domestic equity market. A small amount of portfolio manager latitude is allowed to take advantage of small inefficiencies in the market with respect to the timing of trades and weighting of some securities in the portfolio.

2. **Low Risk Core – Relative Value Strategy**. This is the predominant strategy used for the internal portfolios, including the domestic Large Cap Active, Mid Cap, and Small Cap portfolios as well as the international Europe, Australia and Far East (EAFE) and Emerging Market (EM) portfolios. The strategy is based on overweighting and underweighting securities, sectors, and regions relative to their benchmark weights in order to take advantage of relative value opportunities. Implementation of this strategy is discussed in more detail in Section II.B of this policy.

3. **Growth and Value Strategies**. This is a collection of strategies focused on stock selection on securities that show either growth or value characteristics. These are the most predominant investment styles for external advisors, and implementation can vary significantly from advisor to advisor. ERS implements a growth strategy using our relative value discipline, which illustrates that strategies frequently overlap or can be combined in a single portfolio

4. **Opportunistic Strategies**. These strategies focus on opportunities created by specific corporate events or perceived market dislocations.

5. **Quantitative Strategies**. Quantitative strategies can be rules based or factor based, but the objective is to use statistical analysis of historical relationships to forecast security returns without the distortions created by human biases. Quantitative strategies are frequently combined with other strategies to improve expected performance.

6. **Macro Strategies**. Sometimes referred to as top-down strategies, these strategies seek to exploit insights from macroeconomic analysis to position portfolio exposures.

7. **Concentrated Strategies**. Any strategy with a small number of holdings or with risk concentrated across only a few positions (usually 50 or fewer) can be considered concentrated. These strategies are characterized by high levels of active risk.

8. **Thematic Strategies**. Similar to macro strategies, thematic strategies seek to exploit investable opportunities arising from fundamental changes in the economy or society.

9. **Regionally Focused Strategies**. Single country or regional strategies.

10. **Market Capitalization Focused Strategies**. These strategies focus on a specific range of market capitalization within one or more markets. Large Cap and Small Cap strategies are the most common in this category.

11. **Hedge Fund Structures**. Some hedge fund structures may be appropriate for the Global Public Equity asset class. The Hedge Fund Guidelines and Procedures provides the investment and operational due diligence procedures that would be used to vet any potential manager.

B. INTERNAL INVESTMENT PROCESS

1. STRATEGIES UTILIZED

a. Low Risk Core – Index Replication Strategy

The core S&P 500 portfolio is managed with a modest tracking error and seeks to out-perform the benchmark by three or more bps annually. The tracking error budget is higher than allowed for most index replication strategies; however, this small amount of flexibility has allowed sufficient discretion in the timing of new index additions and the weighting of individual positions to generate meaningful and consistent excess return.

b. Low Risk Core / Quantitative – Factor Based Strategies

As previously noted, quantitative strategies can be deployed with other strategies, which in the internally-managed portfolios focused on low-risk core. The Canada portfolio was added to the portfolio mix to help minimize mismatch risk between the existing portfolios in the international portfolio with a low tracking error and uses the ERS proprietary factor-scoring model to rank stocks. Stocks with better scores are slightly over-weighted in the portfolio.

The Large Cap Growth portfolio also employs a quantitative strategy using a proprietary factor scoring model derived from internal research.

c. Low Risk Core – Relative Value Strategy

This strategy seeks to exploit relative value opportunities through fundamental analysis with a quantitative overlay and awareness of behavioral biases. The strategy is used for Large Cap Core, Mid Cap Core, Small Cap Core, International Core and the Emerging Market Core portfolios. The portfolios are generally balanced by sector and industry versus their benchmarks. Portfolio managers may introduce some sector, industry, and other common factor tilts. Analysts are encouraged to look for attractive companies outside of the benchmarks, assuming the investment is otherwise suitable for the portfolio.

2. RELATIVE VALUE DISCIPLINE

ERS uses a relative value discipline with respect to the management of most of the internal portfolios. Starting with an indexed portfolio, stocks are over and underweighted relative to the index based on a determination of relative value, favorable operating trends and technical characteristics. The intention is to add value primarily through stock selection, with sector or industry exposures secondary.

Analysts, and the team as a whole, will take macro-economic and industry trends into consideration as part of the investment process; however, the bottom-up fundamental analysis drives portfolio exposures to these factors.

Starting with the stocks and weightings of the index, each analyst is responsible for making overweight, underweight or market weight recommendations. The analyst performs this function on a company-by-company basis with the general objective of maintaining industry and sector weightings within three percentage points of the index. Generally, a market-weight recommendation represents a neutral opinion with respect to a particular stock and its industry. This is appropriate because at market-weight, the performance of the stock will have the same impact on the portfolio as it has on the index.

Overweight and underweight positions are generally recommended with a maximum over/underweight of 100 bps. This may vary if the portfolio manager, supported by an appropriate justification, agrees to a more significant exposure. This limit refers to the initial overweight or underweight, and may be exceeded due to the price movement of the stock. The amount of an overweight or underweight will reflect the level of conviction the analyst has with respect to the recommendation in combination with the relative volatility of the stock.

In order to help establish relative value, the analyst, with the help of the quantitative team, scores stocks in his/her universe as an input to the determination of potential for relative outperformance. The scoring process considers appropriate valuation as well as other key factors. In determining relative attractiveness, analysts are encouraged to use multiple factors.

Analysts are also expected to perform basic fundamental analysis. Businesses with deteriorating margins, increasing balance sheet accruals, or similar fundamental characteristics frequently appear inexpensive relative to companies in the same industry that have higher valuation multiples. As such, analysts will also evaluate the operating health of a company, taking into consideration trends in key operating metrics for the business. Companies that have favorable operating metrics and appear undervalued should have an increased likelihood of realizing the analyst’s expectations for relative outperformance.

Finally, in recognition that stock prices are established in a market environment that can be distorted by short-term selling and buying pressure, analysts are encouraged to consider the technical factors for determining favorable entry and exit points.

Although valuation, operating, and technical characteristics capture a significant amount of information relevant to an investment decision, it would be impossible to capture all relevant facts within these three parameters. Therefore, analysts may consider other factors impacting a company’s prospects for relative outperformance, and if that reason is not supported by valuation and operating trends, then another compelling reason should exist.

Opportunities usually arise when an analyst, through a combination of quantitative and qualitative techniques, is convinced the stock should be valued materially higher or lower than its current market price. Although not all inclusive, examples of situations that may be considered by an analyst in seeking relative value opportunities include changes in revenues, earnings estimates, operating margins, inventory levels, cash flow, and debt relative to market expectations. Also, markets frequently over or under react to a missed earnings estimate, potential lawsuit, accounting concern, or other event, which can present a good opportunity to either build or reduce a position.

As noted above, perceived market over/under reactions to news and events surrounding a company can provide attractive investment opportunities. At the same time, it is important for the analyst to appreciate his/her own behavioral biases and not fall victim to the same mistakes that he/she is attempting to exploit.

Analysts will submit recommendations to the primary portfolio managers when changes are suggested for the portfolios. Analysts will periodically be expected to explain and defend their portfolio decisions at regularly scheduled team meetings.

C. PORTFOLIO TRADING

1. TRADING POLICIES

Trade execution and commission sharing are handled consistent with Section 4.7 of the ERS *Investment Policy*. Global Public Equity does use commission sharing agreements to pay independent research providers or some broker/dealers that do not qualify to trade directly with ERS' trading desk. The commission sharing arrangement used by ERS allows commissions to be directed on a trade by trade basis. The primary reasons for using commission sharing are as follows:

a. ERS can maintain control of trade executions by using our preferred trading algorithms and trading platforms.

b. The process allows a better match of the payment with the value of service provided.

c. It allows ERS to pay for research from a more diversified group of research providers. This is also consistent with SEC policies encouraging the use of more independent research.

As with firms that seek to become approved broker/dealers, one or more members of the Global Public Equity team must sponsor any firm seeking to establish a research relationship. Approved research providers are included in the regular semi-annual broker vote and are allocated a percentage of commission dollars in the same manner as the approved broker dealers.

Traders are allowed to pay up to 4 cents per share for trades involving commission sharing, although it may be possible to negotiate a lower rate, and the traders are encouraged to negotiate the best possible rate. Commission sharing may only be used to pay for investment research services and the payments will be appropriate relative to the value of services provided. No other goods or services will be paid for with the use of commission sharing. This policy is in compliance with the SEC and CFAI commission polices. The process for the use of commission sharing will be subject to approval by the Chief Investment Officer. All payments made with commission sharing will be fully documented.

2. COMMISSION ALLOCATION

Brokers are rated semi-annually by the research staff based on level and quality of services provided such as written research, sales coverage, analyst interactions, conferences, and corporate access.

Fifty percent of the targeted commissions are devoted to core research product including written reports, sales coverage, and routine contact with analysts. A voting system is used to determine the allocation under which portfolio managers, analysts, and the Chief Investment Officer each receive 100 voting units. These units are allocated to brokers based on research attributes in any combination as long as the total does not exceed the allocated 100 units. Voting criteria is based on the firm's research quality, service intensity, and coverage breadth. Combined scores for each firm are then tallied, with the combined percentage of the aggregate score for all of the firms receiving votes used to determine the rankings.

The other fifty percent of the targeted Commissions are devoted to specific value-added services including in-person analyst meetings, investment conferences, site visits, expert calls and bespoke research.

In-house meetings are tracked using records maintained by the facilities coordinator. Conferences and field trips are tracked using travel memos and other travel records maintained by administrative personnel. Firms are notified of the results of the analysis as a means to encourage appropriate service levels.

Traders may participate in the research vote for informational purposes, but these votes are not used in the calculations for firm rankings. Trading service and execution quality is managed by adopting an overriding policy of seeking best execution for every trade based on the particular characteristics of the trade.

The Global Public Equity team meets semi-annually after each vote to review and adjust the commission targets. The use of targets, as opposed to allocating commissions solely based on the raw vote and service points, allows the team to take into consideration practical matters such as the level of commissions deemed necessary to maintain the current level of service, expand the level of service, or reduce the level of service.

Brokers and research providers who receive no votes for three consecutive voting periods (18 months) will have their outstanding balance of targeted commissions, if any, reduced to zero.

III. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

Global Public Equity will be implemented and monitored through the coordinated efforts of the Board of Trustees, the Investment Advisory Committee (IAC), the Executive Director, the Chief Investment Officer, the Global Public Equity External Advisor Internal Investment Committee (Public Equity IIC); Public Equity Investments staff, and ERS' plan consultant (Consultant). As set forth in Section 4.2 of the ERS *Investment Policy*, the Executive Director is delegated full authority and responsibility to implement and administer the investment program subject to Board of Trustees policies, rules, regulations and directives consistent with constitutional and statutory limitations. In turn, the Executive Director may delegate to another employee of the retirement system any right, power, or duty assigned to the Executive Director in this policy. Such delegation may include, but not be limited to, the Executive Director's delegation to the Chief Investment Officer to supervise and oversee the performance of any responsibilities delegated to ERS Investments staff. Delegation of responsibilities for each participant is described in the following sections.

B. BOARD OF TRUSTEES AND INVESTMENT ADVISORY COMMITTEE

The Board will approve this policy that will guide the long-term execution of Global Public Equity asset class as appropriate and prudent to implement the strategic plan for the investment of Trust assets; review the performance criteria and policy guidelines for the measurement and evaluation of the Global Public Equity asset class; and ensure that the investments remain in accordance with intended strategic plans and the ERS *Investment Policy* and these guidelines and procedures. The Board of Trustees will also monitor progress and results for the asset class through performance measurement reported by the Consultant and ERS Investments staff with an annual review of the progress of achievements and initiatives by ERS Investments staff. The Board of Trustees will annually review this policy and revise as it deems appropriate.

The IAC will review the System's investments to ensure that they conform to the investment objectives and policies adopted by the Board of Trustees. ERS Investments staff will utilize the expertise of IAC members in assessing investment strategies, asset allocation transition and ad-hoc project committees and provide insights from such participation to the Board.

C. GLOBAL PUBLIC EQUITY INTERNAL INVESTMENT COMMITTEE

The Global Public Equity Internal Investment Committee (IIC) will review the recommendations from the Global Public Equity team for additions and deletions from the Select Pool. The Global Public Equity IIC will include the. Executive Director, Chief Investment Officer, a member of the IAC, and either the Deputy Chief Investment Officer or another senior member of ERS investments staff and limited by approval authority of the Board of Trustees. Deletions from and funding decisions within the Select Pool will be recommended by staff for action by the CIO, in consultation with the Executive Director, and as further detailed in Section III.F.

D. PUBLIC EQUITY STAFF

The Global Public Equity team is responsible for developing and implementing this policy and managing investment strategies and composite allocations in the portfolios. The Global Public Equity team is also responsible for portfolio management, company and investment research, monitoring advisor recommendations, and trade approval/execution. The Global Public Equity Team, in consultation with the Chief Investment Officer, will present for an annual review by the Board of Trustees achievements and new initiatives and this policy with recommendations as deemed appropriate by the Board of Trustees

E. PLAN CONSULTANT

The Consultant will advise the Board of Trustees on best practices and trends in the Global Public Equity asset class appropriate for ERS' investment program. The Consultant will report to the Board of Trustees quarterly on the performance of the asset class and on adherence to the *ERS Investment Policy*, including this policy. In addition, the Consultant will assist the Global Public Equity Team in investment identification (including providing recommendations for potential advisor additions to the Select Pool), due diligence evaluation (including providing prudence opinions on advisors being considered for addition to the Select Pool), and provide special project research as requested by ERS Investments staff, the Executive Director, or the Board of Trustees.

F. GLOBAL PUBLIC EQUITY EXTERNAL ADVISOR TEAM

The Global Public Equity External Advisor Team (External Advisor Team), in coordination with the Global Public Equity Team, manages external management. It requires collaboration among the Investments staff and is supported by ERS consultants and the Global Public Equity Internal Investment Committee (IIC). The multifaceted approach is comprised of five phases: (1) Research, (2) Select, (3) Implement, (4) Monitor and (5) Rebalance.

1. ***Research Phase.*** Staff takes a comprehensive approach to understand how external management can best support the needs of the Global Public Equity asset class. Members of the External Advisor Team conduct research about strategies that might complement internal portfolios. Once a strategy has been identified that could add value, staff researches managers in that particular strategy. ERS sources managers through the ERS External Advisor Website, third-party databases, ERS' general plan consultant, conferences, and manager meetings.

2. ***Select Phase.*** The Select Phase is a four-step process that begins with a formalized search and culminates in the placement of managers into the Select Pool. This process is designed to provide transparency into external advisor selection and is a critical aspect of the Investment Process because it permits staff to be tactical with external management by allowing external advisors' portfolios to be funded and defunded, as needed, in conjunction with staff's ongoing monitoring of the Select Pool. The steps of the Select Phase are as follows: (1) RFP - Staff initiates a Request for Proposal (RFP) when there is a strategy need. (2) Due Diligence - Staff goes through a multi-staged investment and operational due diligence process during the selection phase and presents recommendations to the IIC. (3) Approval - Based on Investments staff a recommendation, the IIC grants approval for managers to be placed in the Select Pool. Once a manager has been placed in the Select Pool, Investments staff work with Legal to contract with the manager. (4) Monitor - The Select Pool is monitored on an ongoing basis. Under direction of the CIO, staff revisits whether external advisors in the Select Pool are meeting the needs of the Trust or if other managers need to be considered for the Select Pool by conducting new searches. The Select Pool is refreshed for unfunded external advisors on an as needed basis, but no less than three years from selection.

3. ***Implement Phase.*** In coordination with the Global Public Equity Team, staff constructs an optimized portfolio consisting of both external and internal strategies. The funding decisions are based on staff recommendations and authorized by the CIO, in consultation with the Executive Director.

4. ***Monitor Phase.*** Staff proactively performs ongoing monitoring on funded external advisors on a daily, monthly, quarterly, semi-annual and annual basis. This includes both investment and operational monitoring.

5. ***Rebalance Phase.*** The External Advisor Team, in consultation with the Global Public Equity Team, reviews portfolio construction and the internal/external mix and rebalances as appropriate.

   Selected external advisors will work with ERS Investments staff collaboratively to share value-added services and research that will complement and enhance ERS' staff skill sets, infrastructure and further best practices. The Select Pool may also include managers selected through hedge fund structures, if appropriate for the asset class and otherwise allowed by this policy.

   Funding, defunding or removal of an advisor or other actions regarding external advisors will be recommended by ERS Investments staff for action by the CIO, in consultation with the Executive Director. ERS Investments staff will report to the Board and IAC the status of funding for external advisors in monthly summaries, and the CIO will report significant changes to the Board and IAC at least quarterly.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

GLOBAL PUBLIC EQUITIES
TACTICAL PLAN
(FISCAL YEARS 2018-2019)

EFFECTIVE
March 7, 2018

The Employees Retirement System (ERS) Investments Division has a mission to achieve competitive returns at a reasonable cost. As part of this pursuit, the Investments Division established the External Advisor Program to seek quality external management. The objective of the program is to find external advisors that can complement internal management efforts and expand the investment opportunity set with higher conviction, broader differentiation, and more opportunistic strategies than internally managed portfolios. The goal is to find managers that provide diversification benefits for risk reduction and increased returns.

The allocation of the Global Public Equity asset class as of December 31, 2017 had 76% of the asset class under internal management and 24% externally advised. (Note: This asset allocation excludes any managers in the Global Public Equity Directional Growth Portfolio, which is monitored by the Hedge Fund Team and will be presented at the May 2017 Joint Meeting of the Board and IAC).

Calendar Year 2018 will focus on hiring external advisors in international small cap and emerging markets small cap. Staff is also focused on seeking out firms in other areas where high conviction active management may be advantageous.

Global Public Equity External Advisor Program Overview (AS OF 12/31/2017)

Funded External Advisors

	Strategy	Selection Date	Portfolio Inception	Funded Status as of 12/31/2017	Monitoring Status
Acadian Assset Management	Emerging Markets	12/2/2011	11/1/2017	Funded	Good
Barrow, Hanley, Mewhinney & Strauss	Large Cap Value	12/2/2010	4/1/2011	Funded	Good
BlackRock	International	12/2/2011	3/1/2015	Funded	Good
Brandywine GIM	Large Cap Value	12/2/2010	4/1/2017	Funded	Good
Fisher Investments	International	1/24/2006	7/1/2008	Funded	Good
Lazard Asset Management	International	8/23/2011	12/1/2011	Funded	Good
Templeton	International	11/19/2002	4/1/2003	Funded	Good
Legato Capital Management	International Small Cap	5/25/2010	2/1/2017	Funded	Good

The Select Pool has been refreshed to take out mandates that have not been funded to date. The External Advisor Team is currently searching for international small cap managers through an RFP published in October 2017. The Global Public Equity team also is seeking a Japan-focused manager with the assistance of the Hedge Fund team.

Future searches planned will include other international and emerging market strategies, including country focused or regional mandates.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

HEDGE FUND PROGRAM GUIDELINES AND PROCEDURES

Last Updated: August 23, 2017

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

HEDGE FUND PROGRAM
GUIDELINES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

HEDGE FUND PROGRAM
GUIDELINES AND PROCEDURES

Last Updated:
August 23, 2017

I. HEDGE FUND INVESTMENT OBJECTIVES

A. INVESTMENTS IN HEDGE FUNDS

The Employees Retirement System of Texas ("ERS" or "the System") utilizes hedge funds to enhance ERS' total portfolio ("Total Portfolio") investment characteristics. The objectives of the System's Hedge Fund Program are (1) to preserve the System's capital, (2) to enhance the System's Total Portfolio risk-adjusted returns, (3) to further diversify the System's Total Portfolio, and (4) to reduce the System's Total Portfolio volatility. The underlying philosophy of the program is to attain risk adjusted returns that are aligned with these objectives.

Consistent with Section 2.2 of the ERS Investment Policy; hedge funds may be utilized within individual portfolios including the Global Equity, Global Credit, Real Assets, and Special Situations portfolios; and more specifically, within Hedge Fund Portfolios such as the Absolute Return Portfolio and the Directional Growth Portfolio.

The System's investment policies are determined by ERS' Board of Trustees ("Board" or "Board of Trustees"). In general, ERS' long-term goal for the Total Portfolio is to earn a return that will insure the payments due to members of the System's retirement plans and their beneficiaries at a reasonable cost to the System's members and the taxpayers of the State of Texas.

ERS' hedge fund investments will be made in a manner consistent with the whole portfolio approach and the exclusive benefit requirements of the Texas Constitution. The selection and management of hedge fund investments will be guided to maintain prudent diversification of assets with regard to the selection of hedge funds and to preserve the System's investment capital. The diversification objective is required to manage overall market risk and to manage the specific risks inherent to any single investment strategy or single manager.

For purposes of these *Guidelines and Procedures*, hedge funds differ from traditional investment strategies in that they derive a particular return from the skill of the hedge fund manager, and allow the use of investment vehicles not otherwise utilized for the Trust. In turn, traditional investment strategies derive a return that captures a traditional risk premium associated with a particular asset class/sub-asset class, e.g., domestic large cap equities and fixed income securities. While there are many different hedge funds available, ERS categorizes the various hedge fund strategies into four broad classes, plus a fifth Opportunistic category.

1. Relative Value
2. Event Driven
3. Equity Long/Short
4. Macro
5. Opportunistic

ERS' investments in hedge funds are designed to enhance long-term investment performance, diversify the asset base and enhance the risk adjusted returns for the entire ERS investment portfolio. The ultimate objectives are to preserve capital, provide competitive returns, enhance risk adjusted returns and act as a diversifier to the total ERS portfolio.

The ERS investment approach is one of active participation in the investment decision process, with ERS retaining control over the selection of hedge funds. Such an active approach will require a level of necessary Staff involvement in addition to accessing third-party professional expertise.

Hedge fund investments are subject to the Procedures for Investment as detailed in these *Hedge Fund Program Guidelines and Procedures.* Each year, the hedge fund program will be implemented and modified in accordance with an *Annual Tactical Plan* prepared by hedge fund Staff and approved by the Board of Trustees.

B. ASSET ALLOCATION

ERS' allocation to hedge fund investments will remain within the limits authorized by the Board of Trustees in its allocation as established in Section 2.2B of the ERS *Investment Policy* based on invested net asset value.

An important goal for the System is to make hedge fund allocations in a prudent manner, while maintaining a flexible investment strategy that allows ERS to take advantage of opportunities as capital market conditions change.

C. PROGRAM MANAGEMENT

The selection and management of assets within the Hedge Fund Program will be structured to generate returns that meet or exceed the benchmark with prudent diversification of assets. Specific considerations of importance in the construction and management of the program are as follows:

1. The following overall principles will guide the selection of investment managers:

    a. Diversify across managers to mitigate idiosyncratic and organizational risk.
    b. Diversify by strategy and geography to mitigate systematic risk and decrease correlations within the program.
    c. Emphasize qualitative evaluation of managers, as a manager's quantitative characteristics may change over time and in different market conditions.
    d. Fees and incentives charged by managers must be reasonable and provide an alignment of interest with ERS.

2. **Due Diligence**. The due diligence process for each hedge fund investment will include both operational and investment due diligence. Areas of review will include at a minimum: an evaluation of the organization, business culture, background checks on key people, governance, analysis of performance, analysis of exposures, investment process, risk management and control, position review, compliance, operational infrastructure, document review, trade operations, custody and counterparties, financing, valuation practices, legal, reporting, auditors, information technology capabilities, and disaster recovery.

3. **Institutional Quality**. All underlying hedge fund investments must be of institutional investment quality. Institutional quality is defined as being of a quality whereby the investment would be considered acceptable by other prudent institutional investors of comparable size to ERS when considering an investment in a similar size and strategy hedge fund.

4. **Leverage** is a condition where the net potential monetary exposure of an obligation exceeds the value of the underlying assets which support the obligation. Net leverage is calculated as the difference between (A) the sum of (i) the market value of all long cash market positions, (ii) the notional value of all long derivative positions, and (B) the sum of (i) the absolute market value of all short cash market positions, and (ii) the absolute notional value of all short derivative positions divided by (C) the net market value of the fund. Gross Leverage is the total of (A) the sum of (i) the market value of all long positions, (ii) the notional value of all long derivative positions, (iii) the absolute market value of all short cash market positions, and (iv) the absolute value of all short positions divided by (B) the net market value of the fund.

   The underlying funds in the hedge fund portfolio may use leverage in a prudent manner that is consistent with leverage applied in similar hedge fund strategies.

5. **Liquidity/Redemption**. Staff will seek to maintain a relatively liquid portfolio of hedge funds and will typically favor managers offering more favorable liquidity terms. However, Staff is conscious of, and will seek to avoid, potential asset liability mismatches. In each case, Staff will evaluate the appropriateness of allowing longer term redemption periods. Factors considered in this determination will include, but not be limited to, potential fee concessions, availability of capacity, and consistency with terms offered by similar funds. Notwithstanding a fund's stated redemption schedule, Staff recognizes that such timetables for liquidity may be suspended under certain circumstances, such as periods of unusual financial stress either within markets or within underlying hedge funds.

6. **Transparency**. To meet fiduciary obligations, Staff will demand as much transparency as necessary with respect to underlying hedge fund investments. At a minimum, this transparency will include information with respect to all underlying hedge fund names, hedge fund strategies, background information on hedge fund principals, and historical performance information. All information will be subject to the respective hedge fund's confidentiality provisions to the extent permitted under applicable state law. Furthermore, transparency for the sake of transparency will not be the goal; but rather, the purpose of requesting transparency will be to provide insight regarding the integrity of the hedge fund manager's investment process, and for Staff to monitor and manage the risk of ERS' hedge fund investments.

7. **Emerging Fund Managers**. ERS will make a good faith effort to award contracts to or acquire services from qualified emerging fund managers when acquiring private financial services pursuant to Section 4.16 of ERS' *Investment Policy* Statement and as set forth in Section 815.301 (g), (h), and (i) of the Texas Government Code.

   An emerging fund manager is defined as a private professional investment manager with assets under management of not more than $2 billion. Private financial services include pension fund management, consulting, investment advising, brokerage services, private equity fund management, and real estate investment.

   ERS must report to its Board of Trustees the methods and results of its efforts to hire emerging fund managers; including data disaggregated by race, ethnicity, gender, and fund size.

D. RISK MANAGEMENT AND MONITORING

Staff and the Consultant will monitor the quantitative risk characteristics of hedge funds both at the fund and portfolio level. ERS may utilize the following tools to help manage risk within its hedge fund program: a third party risk measurement service, internal risk management tools, and monitoring and ongoing due diligence services of its Consultant. Risk management will be integrated in every step of ERS' investment process. The four constituent parts to be focused on will include operational risk, management risk, strategy risk and portfolio risk.

II. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

The Hedge Fund Program will be implemented and monitored through the coordinated efforts of the Board, Investment Advisory Committee ("IAC"), Executive Director, Hedge Fund Investment Committee, Hedge Fund Staff ("Staff"), and the Hedge Fund Consultant ("Consultant"). The Hedge Fund Program will be internally managed by ERS Board and Staff. Delegation of responsibilities for each participant is described in the following sections.

1. **Board of Trustees ("Board").** The Board will approve the investment policies and objectives that are judged to be appropriate and prudent to implement the strategic plan for the investment of Trust assets; review the performance criteria and policy guidelines for the measurement and evaluation of the Hedge Fund Portfolio and investments; and supervise the investment of the Trust's assets to ensure that the investments remain in accordance with intended strategic plans and the Employees Retirement System of Texas *Investment Policy* and these *Hedge Fund Program Guidelines and Procedures* documents. The Board will guide the long-term execution of the Hedge Fund Program through approval of these *Hedge Fund Program Guidelines and Procedures*, which will be updated and revised as appropriate. The Board will hire the hedge fund Consultant. The Board will guide the short-term execution of the Hedge Fund Program through approval of an *Annual Tactical Plan* prepared by Staff and the Consultant, which details goals and objectives for the upcoming twelve month-period or longer, as reasonable. The Board will monitor the Hedge Fund Program's progress and results through a performance measurement report prepared quarterly by the Consultant and Staff. The Board will approve investments over 0.6% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report pursuant to Texas Government Code Section 815.3016.

2. **Investment Advisory Committee ("IAC").** The IAC will review the System's investments to ensure that they conform to the investment objectives and policies adopted by the Board. Staff may utilize the expertise of IAC members in assessing investment strategies, and may request IAC members to participate on ad-hoc project committees and provide insights from such participation to the Board.

3. **Executive Director.** The Executive Director is granted full authority and responsibility by the Board in the implementation and administration of its investment programs subject to Board policies, rules, regulations, and directives consistent with constitutional and statutory limitations. The Executive Director will participate and review investment decisions; and together with the other members of the Hedge Fund Investment Committee, will make the fiduciary investment decisions regarding investments in hedge funds. These decisions will be based on information provided by and recommendations offered by Staff.

4. **Hedge Fund Investment Committee.** The Hedge Fund Investment Committee will review the Trust's hedge fund prospective investments to ensure that they conform to the investment objectives outlined by these *Hedge Fund Program Guidelines and Procedures* and *Annual Tactical Plan* approved by the Board, and to ensure they are appropriate given current and

anticipated hedge fund market dynamics. The Hedge Fund Investment Committee will be comprised of the Executive Director, Chief Investment Officer, a member of the IAC, and either the Deputy Chief Investment Officer or other senior members of ERS Investments Staff, and is granted the fiduciary responsibility of approving Hedge Fund Portfolio investments recommended by Staff and limited by approval authority of the Board of Trustees described above.

5. **Hedge Fund Staff ("Staff").** Staff will develop investment objectives and policy language that includes a long-term strategic plan. Hedge Fund Program documentation will be updated and revised annually or as appropriate. Staff will prepare an *Annual Tactical Plan*, which details goals and objectives for the upcoming twelve-month period. Staff will review the quarterly Hedge Fund Program performance reports prepared by the Consultant.

   Staff, assisted by the Consultant, will identify eligible hedge funds for investment and, as appropriate, identify other investment vehicles that are in compliance with ERS' investment policies and current *Annual Tactical Plan*, which details goals and objectives for the next twelve months. Staff will review the quarterly hedge fund performance reports prepared by the Consultant.

6. **Hedge Fund Consultant ("Consultant").** In cooperation with Staff, the Consultant will advise on hedge fund compliance and will assist in the implementation of the hedge fund program. Additionally, as requested, the Consultant will assist in developing the long-term hedge fund strategic plan, composed of the *Hedge Fund Program Policies and Procedures* and *Annual Tactical Plan*, and will review and annually update hedge fund documentation. The Consultant will also assist Staff in investment identification, screening, due diligence evaluation, monitoring and documentation activities; prepare the quarterly performance measurement reports; advise on investment amendments; and provide special project research as requested by ERS.

B. INVESTMENT PROCEDURES

Hedge fund investments in compliance with ERS' Investment Objectives (Section I) and Hedge Fund Asset Allocation Decisions (Section II) will be acquired through the following process:

1. **Annual Tactical Plan.** Each year, Staff will work with the Consultant to prepare an *Annual Tactical Plan* which reviews the current status of the hedge fund program and recent historical and prospective market conditions. The *Annual Tactical Plan* will propose the steps to be taken over the next twelve-month period to further implement the long-term strategic plan. The *Annual Tactical Plan* will develop a dollar commitment target for the upcoming twelve-month period. The *Annual Tactical Plan* will be provided to the Board for review and approval. The *Annual Tactical Plan for Fiscal Year 2018* is provided in Appendix A.

2. **Hedge Fund Portfolio Investments.** Staff, with the assistance of the Consultant, will identify and evaluate hedge fund investments, as appropriate, that are in compliance with these *Hedge Fund Program Policies and Procedures* and *current Annual Tactical Plan*.

Hedge Fund Staff, with assistance of the Consultant, will be responsible for the due diligence evaluation of the prospective investments. Hedge Fund Staff and/or the Consultant will prepare a written summary analysis and investment recommendation based on findings from due diligence. Recommendations will include background checks and criminal checks. For investments approved by the Hedge Fund Investment Committee or Board of Trustees, Hedge Fund Staff will be responsible for all aspects of negotiation, documentation, and legal reviews and closings. All hedge fund investment vehicle structures will be subject to review by ERS' legal counsel. Staff may request the Consultant to assist in various aspects of its duties.

C. HEDGE FUND STAFF RESPONSIBILITIES

1. **Implementation and Administration.** Staff is responsible for the following implementation and administration duties. This section designates certain hedge fund portfolio management responsibilities that the Staff will perform or cause to be performed.

   a. Investment Selection. Hedge Fund Staff ("Staff") will be responsible for evaluating investment opportunities and submitting their recommendations for investment to be approved by the Hedge Fund Investment Committee or Board of Trustees.

   The screening and selection of hedge fund investments will be made with a view to meet or exceed the policy benchmark, within the parameter constraints and allocations as set by the Board of Trustees in these *Hedge Fund Program Guidelines and Procedures*.

   The *Annual Tactical Plan* process will be used for determining targets for the number and types of investments to be made for a given year. Staff will also take into consideration relevant overall portfolio diversification considerations as set forth in the Investment Objectives and Investment Policies statement of these *Hedge Fund Program Policies and Procedures*. The process will include, but not be limited to, the following duties:

   (1) Prepare the *Annual Tactical Plan*. This *Annual Tactical Plan* outlines the steps ERS will take during the upcoming twelve-month period to further implement ERS' adopted Hedge Fund Program strategic plan. *The Annual Tactical Plan* will include a review of the current status of the Hedge Fund Program, the perceived hedge fund investment environment, the types and number of hedge funds to be sought, the underlying rationale for these potential hedge fund allocations, and the goals for other management responsibilities (e.g., situations being monitored and planned refinements to the Hedge Fund Program management process).

   (2) Review and maintain records of hedge fund opportunities available and reviewed in the market over time.

   (3) Screen and evaluate hedge fund opportunities to identify investments that provide attractive risk and return characteristics and are a fit with the Hedge Fund Program's long-term and short-term objectives.

   (4) Conduct full and proper due diligence on prospective hedge fund investments and document the due diligence process. Prospective investment due diligence will include evaluating areas such as: (a) organization and personnel, (b) research, (c) due diligence and underwriting, (d) internal investment decision process, (e) documentation, (f) monitoring, (g) track record, (h) investment terms and conditions, (i) investor reporting, (j) corporate governance protections, (k) background checks and other investment specific items as determined by Staff and the Consultant. Onsite visits at a manager's office by Staff will be a mandatory part of investment due diligence.

   (5) Summarize findings of the due diligence process on each prospective hedge fund investment in a formal investment recommendation, and present those findings to the Hedge Fund Investment Committee or Board of Trustees for approval.

   (6) Pursuant to Texas Government Code section 815.3016, The Board of Trustees will approve investments in lieu of the Hedge Fund Investment Committee when greater than 0.6% of the System's total market value of assets as reported in the most recent ERS Comprehensive Annual Financial Report.

   (7) Negotiate investment terms and conditions, limited partnership and limited liability company agreements, and other closing documents on ERS' behalf, for

investments approved by the Hedge Fund Investment Committee or Board of Trustees. Staff will coordinate legal, tax, and any other required professional reviews. Although ERS is not subject to ERISA, Staff should obtain terms and conditions in such negotiations for ERS investments to operate in the same manner as investments made by "employee benefit plans" under ERISA, to the extent such terms and conditions (a) are not in conflict with applicable laws/regulations to which ERS is subject, (b) are not in conflict with these *Hedge Fund Program Policies and Procedures*, (c) do not interfere with ERS maintaining its favorable tax qualification status, and (d) are not opted out of by the Hedge Fund Investment Committee or Board of Trustees because to do so would be in ERS' best interest.

b. Ongoing Operations. Staff will conduct or supervise the following services with respect to each hedge fund investment:

(1) Monitoring and Voting. Maintain communication with the managers of hedge fund investments and maintain an awareness of the progress and level of performance of each hedge fund investment. This will include, as appropriate, meeting with managers, attendance at investment meetings, and when possible sitting on advisory boards. This maintenance will also involve voting on hedge fund matters. Material voting issues will be brought to the Hedge Fund Investment Committee for approval.

Staff will stay informed of the overall market conditions relative to hedge fund investments and their competitive position. Staff will also be responsible for attending to amendments, resolutions, and other investment-related matters. All such activities will be undertaken with a view toward maximizing the hedge fund investment's value.

(2) Disbursement, Receipt, and Cash Management. Fund commitments on a timely basis and coordinate the receipt of cash distributions from hedge fund investments.

(3) Books and Records. Maintain, or cause to be maintained, records regarding the management of the hedge fund investments. These will include receipts, disbursements, and other investment-related records, including limited partnership and limited liability company agreements, amendments, correspondence, and other documentation as appropriate. Books and records will be made available to ERS auditors as reasonably required.

(4) Manager Review/Redemption. Staff and Consultant will review each manager on an ongoing basis. Reasons for a manager to be placed on the watch list for possible redemption include but are not limited to the following:

a) Persistent underperformance relative to specified benchmarks or peer groups.
b) A significant change in the firm's ownership and/or structure.
c) A loss of one or more key personnel.
d) Significant loss of assets under management and/or loss of clients.
e) A shift in the firm's investment philosophy or process.
f) Persistent lack of responsiveness to ERS requests for information.
g) Regulatory investigations.
h) A violation of the *Investment Policy*, investment guidelines or instructions.
i) Any issue or situation of which either Staff or Consultant becomes aware that is deemed material.

Staff will have the authority to terminate a manager relationship upon approval by the CIO, in consultation with the Executive Director.

2. Reporting Requirements

a. Investment Financial Statements. On at least a quarterly basis, Staff and the Consultant will receive from hedge funds unaudited financial statements. On an annual basis, Staff and the Consultant will receive from hedge funds audited financial statements. Valuations will be computed using the values provided by the managers in the most recent financial statements.

b. Quarterly Report. As soon as is practicable after quarter-end, the Consultant will produce a report on the hedge fund investments which will address activities that occurred during the quarter including an industry review, strategy review, portfolio review (e.g., performance, risk, portfolio composition, Consultant ratings), fund review, and all other items of which ERS should be apprised. Because of the time-lag associated with hedge fund valuation processes, these quarterly reports are typically produced with a one-quarter lag.

c. Custodian. The custodian will collect information regarding the System's account cash flows and valuations, and any other information reasonably requested.

D. HEDGE FUND CONSULTANT RESPONSIBILITIES

The hedge fund Consultant will provide hedge fund consulting services to the Board, Executive Director and Staff to assist in the management of hedge fund assets. These services will be subject to reasonable deadlines, and the Consultant will be responsible to and take direction from the ERS Executive Director, the CIO, the Hedge Fund Director and/or designated Staff. ERS will not provide workspace, furniture, computer terminal access or telephone services.

The scope of work will include providing advice and assistance to ERS on developing a long-term hedge fund investment strategy that is consistent with and integrated into the ERS *Investment Policy,* as well as an annual implementation plan. It will encompass all aspects of the program including program development, identification of investment opportunities, screening and partnership due diligence, and general assistance related to the program. The Consultant will also provide investment and economic research with respect to the hedge fund asset class, which will include domestic and international hedge funds. Additionally, the Consultant will provide other such related hedge fund consulting services as requested by the ERS Executive Director, the CIO, or the Hedge Fund Director and agreed upon by the Consultant.

The Consultant will provide deliverables/services and staff, and otherwise do all things reasonably necessary to perform the work, as set forth below:

1. Work with Staff to develop a long-term hedge fund investment strategy and related policies and procedures utilizing best practices and highest fiduciary standards for entities of a similar type to ERS as is consistent with existing ERS *Investment Policy*.

2. Develop an annual plan to implement the hedge fund allocation, including:

   a. Assess overall plan allocations and objectives;
   b. Assist staff with the documentation of investment guidelines, determination of optimal program size and strategy mix;

c. Assist in the development of the hedge fund implementation plan (including policies, procedures and tactical plan), incorporating best practice recommendations; and
d. Conduct analysis and prioritization using such factors as prospective levels of risk and return, current and near term investment opportunities based on preferred managers or market environment, and other relevant investment factors.

3. Assist Staff with search activities including the identification, screening, and due diligence (front office and back office) of prospective "best in class" hedge fund investments.

4. Assist Staff with risk models on the proposed portfolio for ongoing quantitative assessment and validation of portfolio characteristics.

5. Work with Staff, as needed, to analyze available investment managers and investment products, including but not limited to providing access to a broad database of hedge fund managers/partnerships, including their investment strategy, performance, organizational characteristics, etc.

6. Work with Staff to develop a due diligence process for analyzing prospective investments and managers utilizing best practices and maintaining the highest fiduciary standards.

7. Assist in the interview process of prospective managers and provide research and analysis to evaluate prospective investment opportunities and hedge fund managers/partnerships consistent with the services provided by the Consultant.

8. Assist Staff in the preparation of written investment recommendations for the Hedge Fund Investment Committee or Board of Trustees, providing investment recommendations in writing for the Hedge Fund Investment Committee or Board of Trustees and required disclosures for the ERS *Placement Agent and Political Contributions Policies and Procedures*.

9. Provide information, research and analysis related to emerging hedge fund investment concepts or strategies, which may be of benefit to ERS.

10. Monitor portfolio performance against the designated benchmark(s) and provide peer comparisons. Provide quarterly and annual quantitative and qualitative assessment of each partnership/hedge fund investment and the hedge fund portfolio as a whole. Performance data will be provided by custodian. Consultant will report timely on key events that may materially impact the portfolio's value such as market changes, geo-political, political, personnel issues with a manager (to the extent Consultant is aware of such change), or regulatory changes.

11. Periodically review the existing benchmark(s) for the hedge fund program and recommend changes as appropriate.

12. Assist Staff with ongoing due diligence, monitoring, and evaluating performance relative to appropriate benchmarks.

13. Work with Staff in providing advice and feedback on strategic initiatives, policies, counterparty risk, and risk analysis, including but not limited to monthly calls and quarterly meetings which may be conducted by telephone conference, if appropriate.

14. Provide customized monthly risk models at the total portfolio level and customized Board reporting on ERS' hedge fund investments.

15. The Consultant may also be requested to perform special projects which will be mutually agreed upon by Consultant and ERS.

16. Upon reasonable advance notice to Consultant, attend ERS Board, Hedge Fund Investment Committee meetings or legislative hearings as requested.

17. Maintain regular communications with the Chief Investment Officer or the Hedge Fund Director, which would include reasonably frequent telephone consultations as well as a reasonable number of on-site consultations as required by ERS, in order to effectively accomplish all of the services required by this Contract.

III. HEDGE FUND PORTFOLIOS

Hedge fund allocations are made either individually within asset classes, i.e. Public Equity, Credit, Public Real Estate; or within dedicated hedge fund portfolios, i.e. Absolute Return Portfolio, as defined in Section 2.2 of the Investment Policy.

A. INDIVIDUAL HEDGE FUND ALLOCATIONS

Hedge funds may be used tactically within asset classes to complement internal capabilities and as an alternative to traditional external managers. Individual Hedge Fund Allocations are made within the framework of the asset class' performance objectives. As outlined in these Policies and Procedures, the hedge fund team will manage and monitor the hedge fund exposure to the objectives of the asset class in conjunction with the asset class' staff.

B. ABSOLUTE RETURN PORTFOLIO

The Absolute Return Portfolio is a Risk-Reducing Hedge Fund Portfolio with the mandate described below.

1. PORTFOLIO CONTRUCTION METHODLOGY

ERS manages the Absolute Return Portfolio using a Core/Satellite approach:

a. Core Investments**.** Core investments will include low correlation and low volatility managers implementing a single or multiple strategies that, in aggregate, are expected to achieve a stable return in line with the Absolute Return Portfolio's target return.

b. Satellite investments. Satellite investments typically utilize higher beta and/or implement a single strategy with a sub-strategy or regional focus. They are used opportunistically to augment the risk/return/beta profile of the *core* managers such that the Absolute Return Portfolio, in aggregate, is expected to achieve a stable return in line with its performance objectives.

ERS will determine tactical allocations at the hedge fund strategy level. These tactical allocations will be based on the performance expectations of Staff and those of its Consultant for the underlying hedge fund strategy. These tactical allocations will be reviewed, and where necessary, modified on an annual basis in the *Annual Tactical Plan*.

2. PORTFOLIO PERFORMANCE

Performance of ERS' Absolute Return Portfolio will be monitored at the portfolio level. The performance objective of the Absolute Return Portfolio is to achieve a total time weighted rate of return over rolling–five year periods of at least the annualized U.S. 3-month Treasury bill yield plus 400 basis points, net of all investment management fees and expenses. The program's value-added return will be primarily derived from strategy selection, and to a lesser degree, manager selection.

In addition, ERS will monitor the performance of the Absolute Return Portfolio relative to the HFRI Fund-of-Funds Diversified Index.

From a risk perspective, the portfolio will be structured to provide diversification to the Trust with returns that are relatively uncorrelated with other asset classes. Volatility, defined as the annualized standard deviation of monthly hedge fund portfolio returns, should fall within a 4% to 8% range. Beta will be no more than 0.40 relative to the Trust.

At the fund level, Staff will monitor the performance of individual investments versus the Consultant's database of peer group hedge fund investments. Quartile rankings will be calculated and monitored for each ERS investment over various look back periods and against both broad and sub-strategy hedge fund peer groups. Rankings based on risk adjusted measures (e.g., risk, return, correlation and beta) to ERS' Absolute Return Portfolio and the ERS Trust will be monitored.

3. STRATEGIC ALLOCATIONS

The target ranges and upper policy limits for the Absolute Return Portfolio strategy allocations are specified to ensure that the portfolio remains sufficiently diversified by strategy.

Staff is required to notify the Board if strategy allocations violate the approved target ranges. The Board may approve a request from Staff to allow exceeding target ranges for a limited time with a strategy proposed by Staff and consistent with the *Annual Tactical Plan* to move the Absolute Return Portfolio strategy in compliance within a reasonable period of time, depending on market conditions.

The target range is determined based on the expected return, risk, market exposure of each strategy and the strategic objectives of the Absolute Return Portfolio:

Strategy Class	Targeted Range	
Relative Value	20%	60%
Event Driven	0%	60%
Equity Long/Short	0%	30%
Global Macro	10%	40%
Opportunistic	0%	30%

*Targets refer to percentage of total Absolute Return Portfolio allocation.

The *Annual Tactical Plan* will specify a tactical allocation to each strategy class within the approved target ranges. These tactical allocations will be opportunity weighted to take into account short to medium-term expectations for the performance of the underlying strategies.

Opportunistic Investments. This strategy is differentiated from the rest of the hedge fund portfolio because it is designed to accommodate investments in a variety of strategies which share a very specific set of investment objectives. At any given time, the opportunistic investments sub-portfolio may have a 0% allocation. Maximum capital that would be committed to the sub-portfolio is limited to 30% of total Absolute Return Portfolio assets. The maximum allocation of 30% of the Absolute Return Portfolio will apply to the percent of current and uncalled capital commitments to the opportunistic investments sub-portfolio.

C. DIRECTIONAL GROWTH PORTFOLIO

The Directional Growth Portfolio is a Return-Seeking Hedge Fund Portfolio with the mandate described below.

1. PORTFOLIO CONSTRUCTION METHODOLOGY

As of FY2017, the Directional Growth Portfolio is comprised of one individual hedge fund allocation. The allocation is benchmarked to an appropriate equity index. The portfolio is managed as a collection of individually benchmarked investments. With increased diversification, the portfolio will be managed using a Core/Satellite approach as described above.

2. PORTFOLIO PERFORMANCE

As of FY2017, the Directional Growth Portfolio is comprised of one individual hedge fund allocation. Each allocation is benchmarked to an appropriate equity index. Therefore, the portfolio is expected to meet or exceed the underlying equity indices over a market cycle.

3. STRATEGIC ALLOCATIONS

The target ranges and upper policy limits for the Directional Growth Portfolio allocations are specified to ensure that the portfolio remains sufficiently diversified by strategy.

Staff is required to notify the Board if strategy allocations violate the approved target ranges. The Board may approve a request from Staff to allow exceeding target ranges for a limited time with a strategy proposed by Staff and consistent with the Annual Tactical Plan to move the Directional Growth Portfolio strategy in compliance within a reasonable period of time, depending on market conditions.

The target range is determined based on the expected return, risk, market exposure of each strategy and the strategic objectives of the Directional Growth Portfolio:

Strategy Class	Target Range*	
Relative Value	0%	30%
Event Driven	0%	30%
Equity Long/Short	30%	100%
Global Macro	0%	50%
Opportunistic	0%	50%

*Targets refer to percentage of total Directional Growth Portfolio allocation.

The Annual Tactical Plan will specify a tactical allocation to each strategy class within the approved target ranges. These tactical allocations will be opportunity weighted to take account of short to medium-term expectations for the performance of the underlying strategies.

Opportunistic Investments. This strategy is differentiated from the rest of the hedge fund portfolio because it is designed to accommodate investments in a variety of strategies which share a very specific set of investment objectives. At any given time, the opportunistic investments sub-portfolio may have a 0% allocation. Maximum capital that would be committed to the sub-portfolio is limited to 50% of total Directional Hedge Fund Portfolio assets. The maximum allocation of 50% of the Directional Hedge Fund Portfolio will apply to the percent of current and uncalled capital commitments to the opportunistic investments sub-portfolio.

IV. DEFINITIONS OF APPROVED HEDGE FUNDS

ERS categorizes the various hedge funds into five broad classes:

1. Relative Value
2. Event Driven
3. Equity Long/Short
4. Global Macro
5. Opportunistic

Described below are the five representative hedge fund strategies noted above. These hedge funds do not constitute the entire universe of potentially suitable hedge funds.

1. **Relative Value Strategies.** *Relative value* strategies seek returns by capitalizing on the mispricing of related securities or financial instruments. Generally, *relative value* strategies avoid taking a directional bias with regard to the price movement of particular securities or markets. Representative *relative value* strategies include *convertible arbitrage*, *fixed income arbitrage* and *equity market neutral* strategies.

a) **Convertible Arbitrage.** Classic *convertible arbitrage* involves buying undervalued convertibles in order to gain exposure to stock volatility at cheap levels and/or credit improvement or revaluation, while hedging out unwanted risks like equity directional risk (delta), interest rate risk (rho) and currency risk (chi).

Traditionally, the source of value has been cheap new issuance of convertible bonds, which has permitted the manager to move the portfolio towards lower levels of implied volatility. Secondary market opportunities also occur due to the appetite of different types of investors for convertible bonds as their premium and yield vary over their life.

In response to less attractive conditions for *convertible arbitrage*, some managers have become “multi-strategy”, incorporating synergistic strategies such as *capital structure arbitrage* and *relative credit*. Other managers are placing an increasing emphasis on fundamental stock research, and not just credit research, to take a more “bottom-up” approach to avoid volatility and event driven situations, by taking limited views on the individual names within the portfolio (by under- or over-weighting equity hedges).

As a result, *convertible arbitrage*, as practiced today, may overlap with *capital structure arbitrage*, *equity long/short*, *event driven*, and *distressed* investing to some degree. In addition, some of the managers may take directional interest rate bets, by under- or over-weighting the interest rate exposures within the portfolio.

b) **Fixed Income Arbitrage.** In general, *fixed income arbitrage* traders do not aim to profit from expected movements in the general level of interest rates. The following are broadly common characteristics of the *fixed income arbitrage* managers.

Fixed income arbitrage managers take long and short positions in fixed income assets and derivatives to profit from arbitrage, mean-reversion or positive carry. Most traders aim to be either duration neutral or "risk-neutral", i.e., matching the U.S. dollar value of a basis point across long and short positions.

Most *fixed income arbitrage* traders use a significant amount of leverage as an integral part of their trading. One risk faced by fixed income managers stems from the liquidity mismatch between long and short positions. A manager may own (be long) more illiquid securities and hedge with shorts in more liquid securities. There is the risk of a break from the past mean-reverting relationship between particular securities. There is also the risk that lenders will withdraw the funding that supports the strategy's leverage.

In the past, managers have concentrated on developed markets in the U.S., Japan, and Western Europe, but the strategy space now encompasses all fixed income sovereign issues. There are many variations on the fixed income theme, with managers trading mortgage backed securities, municipal securities and other investment grade credits.

c) **Equity Market Neutral Strategies.** These strategies can be fundamental and/or quantitative in nature. Traditional *quantitative equity market neutral* takes fundamental data, in the form of analyst earnings estimates, balance sheet and cash flow statement statistics, etc., and ranks or scores stocks against several of these metrics in varying proportions. These proportions may be fixed or dynamic. The characteristics are generally described as factors, or more accurately as attributes, so as not to confuse them with risk factors, which have historically been found to correlate to excess return or alpha.

Portfolios may be constructed using an optimizer or by the application of simpler rules combined with risk constraints. The objective in either case is to create a portfolio, which is dollar and/or beta neutral, has minimal sector exposures, and is tilted towards these favorable stock attributes, without being style-biased.

The main risks to these strategies include evolution in the attributes that are rewarded by the market, misspecification of or the emergence of new risk factors, changes in investor behavior and risk appetite, corporate events and increasing competition.

2. **Event Driven Strategies.** *Event driven* strategies focus on identifying and analyzing securities that can benefit from the occurrence of an extraordinary corporate transaction or event, e.g., restructurings, takeovers, mergers, spin-offs, bankruptcy. Representative *event driven* strategies include *merger arbitrage*, *event driven equity* and *distressed* investing.

(1) Merger Arbitrage. *Merger arbitrage* (sometimes called *risk arbitrage*) involves taking 'long' positions in the securities of a company being acquired in a merger or an acquisition. The arbitrageur is able to buy securities at a discount of the consideration to be received when the deal actually closes. If the acquisition consideration is in the form of cash, any discount to the amount of the cash bid will be taken as a profit on conclusion of the deal. If the acquisition consideration is in the form of shares of the acquirer, the merger arbitrageur will short stock of the acquirer in the correct proportions and extract the spread, assuming the bid goes through successfully.

The merger arbitrageur may adjust stock ratios or use options to account for the possibility that the deal may not go through, which would result in a fall in the target company's price, and potentially a rally in the stock of the failed acquirer.

The strategy's main risk is that of deal failure as this is difficult to completely hedge. A deal may fail for many reasons. For example, shareholders may have voted against it or not tendered their shares to the bidder, a government agency or regulatory body may have refused to approve the transaction, or one of the companies might pull out of the agreement unexpectedly. The bidder may withdraw for a variety of reasons, e.g., if equity markets fall, or interest rates rise making deal financing more costly. This is an indirect source of market risk.

Sector risk can be high because merger activity may be concentrated in certain sectors. Typically, leverage is employed and this magnifies the impact of losses. Note that the manager is in competition with other merger arbitrageurs to secure borrowing facilities in the shares of the acquirer. In addition, companies targeted for acquisition become widely held among arbitrageurs.

b) **Event Driven Equity.** Event driven equity investing is typically a value-oriented, event driven investment strategy focusing on companies considering or implementing strategic change. It involves purchasing securities of companies involved in extraordinary corporate transactions. These types of situations can act as a catalyst to drive the price toward a valuation target. The opportunities for *event driven* investing are:

(1) Inefficient Markets: *Event driven* situations are often mispriced and misunderstood by mainstream investors and analysts.
(2) Unlimited Idea Flow: Corporate events are always plentiful and the broad based strategy does not go "out of favor." In other words, *event driven* managers are not solely dependent on merger and acquisition activity or the frequency of bankruptcies.
(3) *Event driven* situations have an advantage in that this strategy responds more to catalysts and less to market swings, so overall there is a modest correlation to the market.

Extraordinary corporate transactions include: going private transactions, corporate takeovers, restructurings, tender offers, liquidation processes, Dutch auction tender offers, recapitalizations, public LBOs, liquidations and busted deals.

New and under-followed securities quite often emerge as a result of some of these types of corporate transactions. Examples include: spin-offs, reorganizations, demutualizations and late-stage distressed/post-bankruptcy.

Other examples might be a company involved in a pending litigation or regulatory matter that could have an impact on its share price, or a company being the subject of a proxy war, or some form of shareholder activism.

Some managers will hedge all holdings using a peer company, a basket of stocks or an exchange traded fund (ETF). Other managers do not actively hedge if they feel that their investment process provides a margin of safety on each of their investments. Because most *event driven* managers are usually long-biased, performance is prone to suffer during market downturns, albeit with much less volatility than the overall market.

c) **Distressed/Restructuring.** Performing corporate debt appeals to "real money" investors due to its seniority, certainty of cash flow and lower volatility. Such investors are often ill-equipped to deal with debt when it trades substantially below par due to stress, and often become price insensitive sellers. Accordingly, as companies stumble, the composition of creditors often changes from passive "real money" to aggressive "distressed" buyers looking to capitalize on uneconomic selling, with a view to a higher ultimate recovery.

The appeal of the strategy is that by buying at cheap valuations, downside is limited. In addition, each situation is idiosyncratic, meaning that returns of a portfolio should be relatively independent of the market (although in reality the strategy correlates with general credit markets).

The basis for evaluation is the interplay between the company's sustainable cash flow, debt load (at current prices) and residual asset values. Enterprise valuation (i.e., combined value of debt and equity less cash) is commonly measured as a multiple of cash flow or EBITDA.

Distressed buyers look to buy a company at a low implied multiple. The art of the strategy is forecasting cash flow, particularly in light of all of the business and legal uncertainty the company faces in reorganization. *Distressed* managers vary widely in terms of style. For example, some focus on liquidity, seniority, diversification, passivity, and/or hedging. Others are purely long, seeking to maximize upside by playing lower in the capital structure, “playing” for illiquid restructured equity, or taking concentrated bets in a small number of activist situations.

3. **Equity Long/Short Strategies.** *Equity long/short* strategies will maintain some level of market exposure (either net long or net short); however, the level of market exposure may vary through time.

   a) Equity Long/Short. This strategy seeks to combine long and short equity positions to benefit from security selection while offsetting systematic market risk (to varying degrees). Portfolios are typically constructed using a “fundamental, bottom-up approach” encompassing detailed financial modeling, industry research and company due diligence.

   b) Some managers will include macro and/or quantitative screens to focus idea generation and help manage risk.

   c) The main components of risk management are (in general order of importance):

      (1) Diligent security selection

      (2) Managing exposures to specific industries, factors, market caps, and positions.

      (3) Portfolio scenario analysis and stress testing.

   d) Several trends that have emerged recently include:

      (1) An increased reliance on internal networks and boutique consultants to generate ideas, as street research currently seems to be primarily used for “gauging consensus.”
      (2) The utilization of individual shorts as pure “alpha generators” rather than hedges. The difficulty of finding good shorts has led many managers to utilize synthetic solutions, such as ETFs, to offset long exposures.

   e) Please note that it is common to classify *equity long/short* managers by regional exposure, sector focus, investment style (value/growth), market capitalization and/or market exposure [i.e., to differentiate between “long biased” funds (+/-50% or more net long, 75% of the time), “market indifferent” (+/- 35%, 75% of the time), and market neutral (+/- 10%, 75% of the time)].

4. **Global Macro Strategies.** The tactical/directional classification is a catch-all, but generally refers to strategies that are more directional in nature, although they can shift opportunistically between those strategies having a directional bias and a non-directional bias. Representative tactical/directional strategies include *Global Tactical Asset Allocation* (“*GTAA*”) and *global macro* strategies, where the manager tends to invest at the asset class level such as fixed income, equities and commodities rather than individual corporate securities.

   a) Global Macro–Discretionary. These funds take directional positions in currencies, bonds, equities and commodities. The investment decisions are based on a manager’s top-down or macro views of the world: analysis of the economy, interest rates, inflation, government policy and geopolitical factors. The relative valuations of financial instruments within, or between asset classes, can also play a role in investment decisions.

   The trades can be classified broadly as outright directional trades or macro relative value, (e.g., U.S. bonds vs. European bonds) although some funds also have exposure to micro relative value strategies (arbitraging anomalies between similar instruments).

Primarily, the area of focus is in the liquid instruments of the G10 countries; however, some funds will tend to have a bias towards emerging markets positions. Many *macro* managers have only a handful of themes in the portfolio at any one time. Successful managers have been those who know how to size their bets and manage their risk.

b) **Global Macro–Systematic–Global Asset Allocation.** *Global Asset Allocation* ("*GAA*") is a quantitative style of trading, which takes in a lot of information based on economic data, as well as some price related information.

Many of the GAA models used in building portfolios are usually tailored to specific sectors or asset classes in which they trade, and take into account the economic and fundamental differences that apply. These sectors will include global stock markets, global bond markets and money markets, foreign exchange, and occasionally commodity markets.

GAA funds tend to be relative value in nature and may encompass many styles of arbitrage. Most models are built on economic principles rather than price action; however, some momentum models may be included. Large amounts of data are collected, and correlations as well as cross correlations are calculated. Most participants have large research teams and considerable technology resources. The infrastructure required to process such large quantities of information means that many *GAA* funds are offered by large investment firms including investment banks. Some of the smaller funds concentrate on fewer models and/or sectors.

c) **Global Macro–Systematic–CTA.** *Commodity Trading Advisor* ("*CTA*") is a term defined by the Commodity Futures Trading Commission ("CFTC") as "a personal firm, who for compensation profit, directly or indirectly advises as to the advisability of buying or selling commodities, futures or option contracts". In most cases the *CTA* has to register with the CFTC and the National Futures Association ("NFA").

Generally *CTA* trading is systematized and orders are generated by computer programs, but this is not always the case. Trading can vary in style from discretionary, systematic price based and fundamental based. Trading can also vary in time horizon, from a holding period covering a matter of minutes to well over a year.

The *CTA* usually trades a wide spectrum of markets and is by no means restricted to the commodity markets. For the most part, the information taken in is price based. Many of the large *CTAs* restrict themselves to the most liquid financial markets, where they will be able to execute large orders. In addition to futures, most *CTAs* trade cash, foreign exchange contracts and forwards as well.

The median *CTA* is a medium-term systematic trend follower who takes directional trades in any market when a trend establishes itself. These trends are often identified through break out or moving average systems, often waiting for the trend to reverse before exiting the trade.

5. **Opportunistic Investments.** Opportunistic investments should generally satisfy the following conditions: (1) enhance returns of the hedge fund portfolio, (2) display a positive asymmetric return profile (i.e., upside potential with limited downside), (3) have an identifiable exit point (typically five years or less, likely achieved through investment in a limited-life vehicle structure), and (4) be sourced primarily, though not exclusively, through existing relationships. The investments may be in any sub-strategy or niche strategy, but are likely to result from a market dislocation and display greater illiquidity, beta and volatility than other investments in the absolute return portfolio. The vehicles may be funded with one-time investments or via a commitment/capital call drawdown mechanism. The opportunistic investments sub-portfolio is not meant to be viewed as a diversified stand-alone portfolio; rather, it is a collection of opportunistic investments with unique characteristics.

Total capital commitments to the *opportunistic investments* sub-portfolio may not exceed 40% of total hedge fund portfolio assets. There is no minimum required allocation to the *opportunistic investments* category, and it is anticipated that at times the allocation to this sub-portfolio will be 0%.

It is anticipated that the equity beta of the *opportunistic investments* sub-portfolio may be measurably higher than the rest of the hedge fund portfolio. Volatility, as measured by standard deviation, is a less applicable metric given the longer time horizon and illiquid nature of these investments. These investments will likely be subject to short-term unrealized losses (volatility), though the principal risk is the permanent impairment of capital.

Appendix A

HEDGE FUND PROGRAM

ANNUAL TACTICAL PLAN FOR FISCAL YEAR 2018

EFFECTIVE August 23, 2017

I. EXECUTIVE SUMMARY

The Employees Retirement System of Texas ("ERS" or "the System") utilizes hedge funds to enhance ERS' total portfolio ("Total Portfolio") investment characteristics. The objectives of the System's Hedge Fund Program are as follows: to preserve the System's capital, to enhance the System's Total Portfolio risk-adjusted returns, to further diversify the System's Total Portfolio, and to reduce the System's Total Portfolio volatility. The underlying philosophy of the program is to attain risk adjusted returns that are aligned with these objectives.

The Hedge Fund Program Annual Tactical Plan for Fiscal Year 2018 ("Annual Tactical Plan") has been prepared by ERS staff and the hedge fund consultant to ERS, Albourne America LLC ("Albourne" or "Consultant"). It is intended to be a planning document which outlines the steps to be taken over the next twelve (12) months. The objective of the Annual Tactical Plan is to further meet the objectives of the Hedge Fund Program along with addressing considerations relevant to the administration and success of the Hedge Fund Program. This Annual Tactical Plan is a guiding reference only. It is not intended to overrule prudent hedge fund investment allocation decisions.

While this Annual Tactical Plan is considered prudent and effective for the implementation of the ERS Hedge Fund Program, it may require amending based upon the opportunities available in the market. This Annual Tactical Plan highlights significant capital commitments during the 2018 fiscal year, but not all of the capital committed may be invested by ERS due to factors beyond ERS' control. The ranges given provide flexibility to the targeted commitment amount so as to provide for varying market opportunities as well as availability of ERS' resources. Moreover, the ERS Hedge Fund team and the Consultant may request a change of pace of investment in subsequent Annual Tactical Plans in order to better take advantage of market opportunities.

II. GENERAL ALLOCATION OVERVIEW

Consistent with Section 2.2 of the ERS *Investment Policy*, hedge funds may be utilized within both Return Seeking and Risk Reducing portfolios. Hedge funds are utilized within asset classes to complement external managers and support the asset class in achieving its individual objectives. The Directional Growth Portfolio is considered a Return Seeking portfolio while the Absolute Return Portfolio is a Risk Mitigating portfolio. These two portfolios are solely comprised of hedge funds as described below. All hedge fund allocations are subject to the Hedge Fund Program Policies and Procedures.

1. Risk-Reducing

A. Absolute Return Portfolio

Initial allocations for the Absolute Return Portfolio were made on August 1, 2012. The portfolio reached its target allocation of 5% of the System's Total Portfolio as of FY2015. Currently, The Absolute Return Fund is approximately 4% of the System's Total Portfolio as of May 31st, 2017. Several redemptions occurred at the end of calendar year 2016 and into Q1 of 2017. Redemptions occurred across Relative Value, Event Driven, and Equity Long/Short strategies. Additional allocations to Event Driven and Global Macro occurred in Q4 of 2016. Relative Value and Event Driven strategies remain an overweight within the Absolute Return Portfolio. As of May 31st, 2017, their combined exposure stands at 75% of the Absolute Return Portfolio. For comparison purposes, last year's aggregate exposure was around 72%.

The primary reason for the recent redemptions was to reduce the overall exposure to merger arbitrage. Within the Absolute Return Portfolio, merger arbitrage had both dedicated manager exposure along with indirect exposure through multi-strategy hedge fund allocations. The portfolio's historical overweight to merger arbitrage became too concentrated and led to a return profile that was highly sensitive to potential "deal break" risk. Overall exposure to equity oriented strategies has been deemphasized given the ongoing performance of equities and the perception of elevated valuations by market participants. In addition, redemptions also focused on more simplistic views such as excessive turnover at an organization, ongoing poor performance, and an increasing lack of transparency.

The Absolute Return Portfolio remains diversified by strategy, region, and by the number of managers. Factors influencing the number of managers include the following: fund and/or strategy capacity, conviction, alignment of interests, risk management, and transparency. It is anticipated that the portfolio will consist of 15 to 20 allocations when fully invested. The current number of managers is 13. It should be noted that 3 of these managers reside in the Opportunistic sleeve and have reached maturity. At this time, these 3 investments are distributing capital and should be fully liquidated within the next 6-18 months, depending on the strategy. As a reminder, the first of these three investments was made back in the middle of 2013. Target allocations by geographic region are not specified, as allocations are strategy driven.

B. Other Risk-Reducing Hedge Fund Allocations

An Opportunistic investment was approved in late June 2017 to replenish this portion of the portfolio. The new investment is structured as a closed-end vehicle and focuses on risk sharing/synthetic regulatory capital trades along with co-lending opportunities.

The ERS Hedge Fund team is in the later stages of sourcing a new discretionary global macro hedge fund focused on developed markets. Expectations are for this opportunity to be presented later in calendar year 2017. The focus of the search has been on hedge funds that primarily trade foreign exchange (FX) and interest rates.

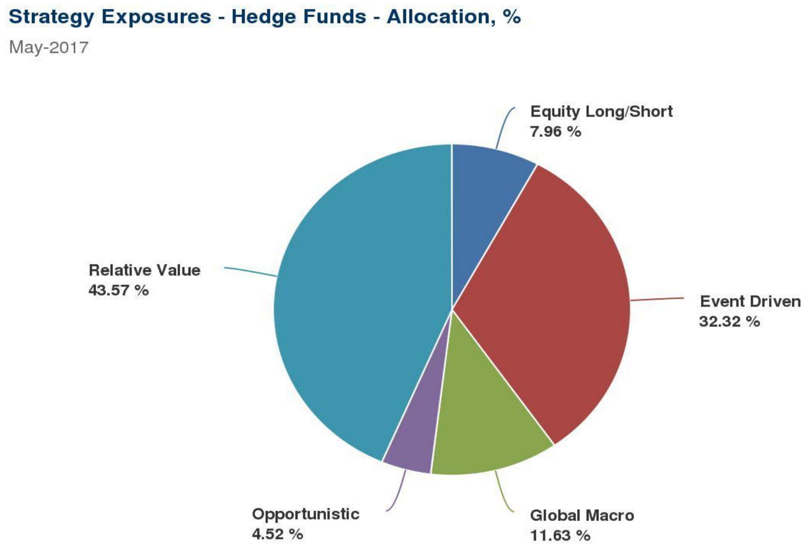
2. Return-Seeking

A. Directional Growth Portfolio

As a Return-Seeking counterweight to the Absolute Return Portfolio, the Directional Growth Portfolio is comprised of individually benchmarked hedge fund allocations with significant market beta. The Directional Growth Portfolio is comprised of one hedge fund allocation that is benchmarked to an appropriate equity index. As described in the Hedge Fund Program Policies and Procedures, the portfolio will be managed as a collection of individually benchmarked allocations. With increased diversification, the portfolio may be managed using a Core/Satellite approach similar to the Absolute Return Portfolio. The portfolio is expected to either meet or exceed the asset-weighted benchmarks of the underlying allocations over a market cycle.

III. FUNDING TABLES

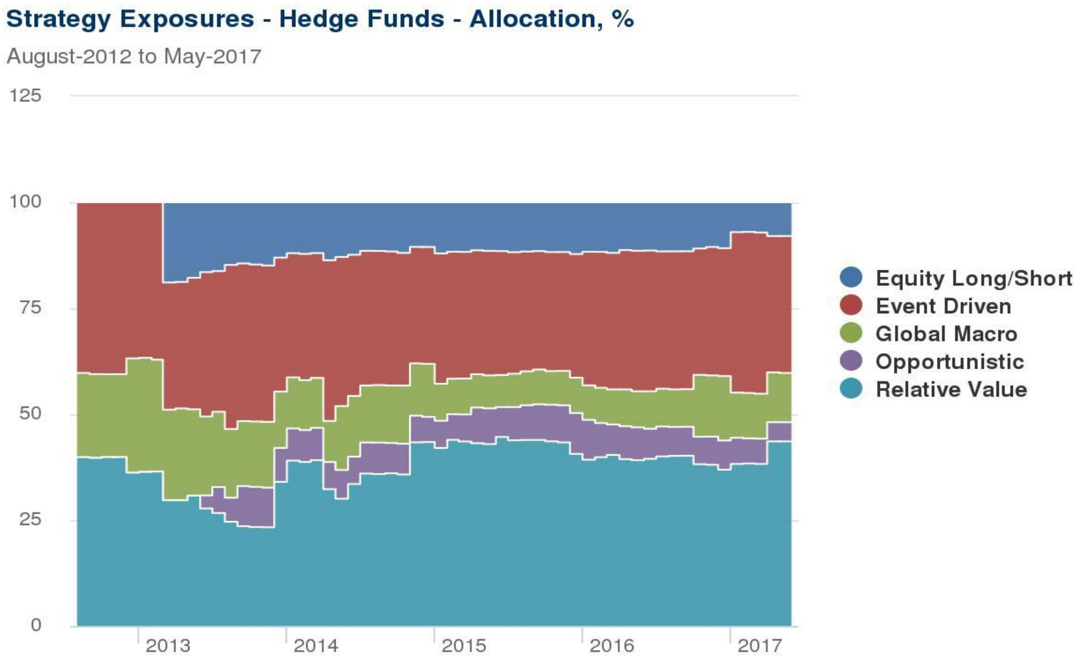
Absolute Return Portfolio



Strategy Targets			
Relative Value		**Event Driven**	
Minimum	20%	Minimum	0%
Maximum	60%	Maximum	60%
Equity Long/Short		**Global Macro**	
Minimum	0%	Minimum	10%
Maximum	30%	Maximum	40%
Opportunistic			
Minimum	0%		
Maximum	40%	30%	

As of May 31st, 2017, the Absolute Return Portfolio is within its guidelines for each strategy classification. The ongoing underweight to Global Macro has been brought back into its targeted exposure guidelines given a new Global Macro investment in late 2016. This new investment was to an Asian discretionary global macro manager.

The Absolute Return Portfolio remains overweight both Relative Value and Event Driven strategies. These allocations fall within the proposed guidelines for the Absolute Return Portfolio. The underlying composition of the Event Driven exposure within the Absolute Return Portfolio has gradually shifted from an emphasis on merger arbitrage to credit strategies that focus on late cycle opportunities. Expectations are for these strategies to remain overweight within the near-term. The following charts are through May 31st 2017.



Returns and Risk

Return	Absolute Return Portfolio – Pension Plan Sleeve	T-Bills + 400 bps	HFRI FOF: Diversified Index
LTD Annualized Return	5.57%	4.63%	3.70%
LTD Compounded Return	29.97%	24.45%	19.19%
Largest Month Gain	1.79%	0.65%	2.05%
Largest Month Loss	-1.07%	0.31%	-1.98%
% Positive Months	75.86%	100.00%	68.97%
LTD Value of $1000	$1,299.71	$1,244.55	$1,191.87

Risk	Absolute Return Portfolio – Pension Plan Sleeve	T-Bills + 400 bps	HFRI FOF: Diversified Index
Standard Deviation	2.45%	0.26%	3.11%
Sharpe Ratio*	2.2	22.74	1.13
Max Drawdown (Start/Recovery)	Jun 2015 - Jun 2016	-	Jun 2015 - May 2017**
Max Drawdown Depth	-2.57%	-	-6.52%
Months in Maximum Drawdown	13	-	24
Months to Recover	4	-	15

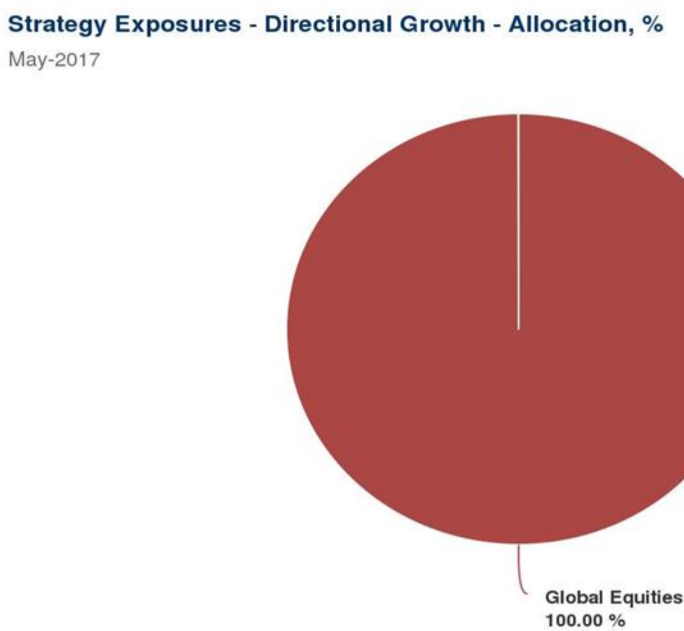
Benchmark Comparison	T-Bills + 400 bps	HFRI FOF: Diversified Index
Annualized Alpha	5.54%	3.19%
Beta	0.01	0.63
Correlation	0	0.8
R-Squared	0	0.63

Risk Free Rate: TreasuryConstant3Month

The Absolute Return Portfolio continues to outperform its stated benchmark of T-Bills + 4%. The standard deviation of the portfolio remains below its stated minimum risk guideline of 4%. The maximum standard deviation for the Absolute Return Fund is 8%. Expectations are for standard deviation of the portfolio to move higher over time as monetary stimulus is removed from the global financial system coupled with a normalization of interest rates.

Given the recent changes, the Absolute Return Portfolio is below its target allocation of 5% to the Trust's assets. Expectations are for the ERS Hedge Fund team to continually source new opportunities over FY2018 to further populate the portfolio with attractive risk adjusted exposures. At this time, focus is on Opportunistic, Global Macro, and Relative Value strategies. As of May 31st, 2017, the current AUM for the Absolute Return Portfolio was $1,022,231,210. This amount equates to around 4% of the Trust.

Directional Growth Portfolio



As of May 31st, 2017, the Directional Growth Portfolio is comprised of a single allocation to Marshall Wace World Equities (US) Fund (150-50) and is benchmarked against the MSCI All Country World Daily Net Total Return Index (ACWI TR). The strategy allocation remains 100% Equity Long/Short. Expectations are for up to two new allocations for FY2018. Currently, the Directional Growth Portfolio remains focused on allocating to extension strategies (i.e. 130/30), but other strategies may be considered. The portfolio is expected to complement existing external managers and to also provide tactical/opportunistic exposures that are appropriate within a return-seeking context. Below is a chart displaying relevant risk and return attributes of the portfolio. The chart is as of May 31st, 2017.

Returns and Risk

Return	ERS Directional Growth Portfolio	MSCI AC World Daily Net Local (Total Return)
LTD Annualized Return	15.05%	8.67%
LTD Compounded Return	55.89%	30.13%
Largest Month Gain	7.82%	7.63%
Largest Month Loss	-6.69%	-6.64%
% Positive Months	71.05%	65.79%
LTD Value of $1000	$1,558.85	$1,301.30

Risk	ERS Directional Growth Portfolio	MSCI AC World Daily Net Local (Total Return)
Standard Deviation	9.79%	9.54%
Sharpe Ratio*	1.52	0.89
Max Drawdown (Start/Recovery)	Aug 2015 - Jul 2016	Jun 2015 - Nov 2016
Max Drawdown Depth	-8.98%	-12.01%
Months in Maximum Drawdown	12	18
Months to Recover	5	9

Benchmark Comparison	MSCI AC World Daily Net Local (Total Return)
Annualized Alpha	5.87%
Beta	1.01
Correlation	0.98
R-Squared	0.96

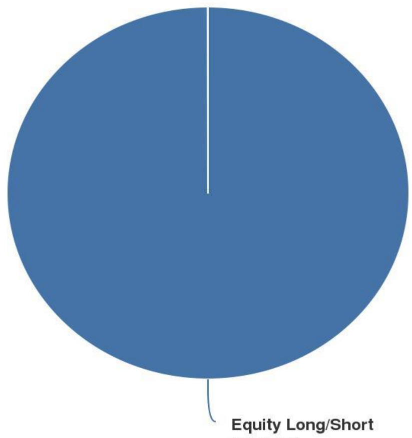
Risk Free Rate: TreasuryConstant3Month

Opportunistic Portfolio

As of May 31st, 2017, the Opportunistic Portfolio is comprised of a single allocation to OrbiMed Global Healthcare Fund L.P. This investment is benchmarked against the MSCI World Healthcare Net Return USD Index. The strategy allocation remains 100% Equity Long/Short. No new allocations are expected for FY2018. It should be noted that this investment will be transferred into the Directional Growth Portfolio on September 1st, 2017. This particular portfolio will cease to exist upon the transfer of these assets.

Strategy Exposures - Hedge Funds - Allocation, %

May-2017



Returns and Risk

Return	ERS Opportunistic Portfolio	MSCI World Healthcare Net Return Index (USD)
LTD Annualized Return	0.97%	7.78%
LTD Compounded Return	0.97%	7.78%
Largest Month Gain	6.22%	5.78%
Largest Month Loss	-9.18%	-6.90%
% Positive Months	50.00%	75.00%
LTD Value of $1000	$1,009.74	$1,077.80

Risk	ERS Opportunistic Portfolio	MSCI World Healthcare Net Return Index (USD)
Standard Deviation	15.18%	11.90%
Sharpe Ratio*	0.03	0.61
Max Drawdown (Start/Recovery)	Aug 2016 - May 2017**	Aug 2016 - Apr 2017
Max Drawdown Depth	-12.10%	-10.89%
Months in Maximum Drawdown	10	9
Months to Recover	7	6

Benchmark Comparison	MSCI World Healthcare Net Return Index (USD)
Annualized Alpha	-7.20%
Beta	1.16
Correlation	0.91
R-Squared	0.83

Risk Free Rate: TreasuryConstant3Month

IV. STRATEGY ALLOCATION COMMENTS

Forward-looking strategy forecasts are dependent on longer term micro and macro-economic factors, where some strategies and sub-strategies are more sensitive to these assumptions than others. The commentary below will highlight the key assumptions by strategy and provide guidance on the expected use of strategies and sub-strategies in FY2018.

Relative Value

Relative value sub-strategies typically demonstrate a high degree of dispersion in return forecasts due to the various underlying factors that drive the differing sub-strategy performance. However, a common characteristic among relative value sub-strategies is a lower net exposure that helps moderate risk and market exposure. Relative value sub-strategies can benefit from heightened or increasing intra-market volatility, spreads, and/or rates. Therefore, ERS expects relative value sub-strategies to preserve capital in many baseline/down market scenarios.

In FY2018, Relative Value strategies will remain an overweight Core allocation in the Absolute Return Portfolio. New Relative Value strategies will be considered against current allocations and will be substituted where appropriate.

Event Driven

Through their primary exposure to idiosyncratic corporate events, event driven strategies typically provide a moderate and positive long-term beta to equity markets. Sub-strategies such as distressed/high yield typically have a higher beta than others like merger arbitrage. Event driven sub-strategies can provide a lower volatility exposure since leverage is typically not a key characteristic of the strategy. Event driven sub-strategies can perform well in calm markets as deals close, or in recovering markets where distressed risk premium is cheaply available.

In FY2018, Event Driven strategies may receive a small reduction within the Absolute Return Portfolio. New Event Driven strategies will be considered against current allocations and will be substituted where appropriate. Current allocations are focused on late cycle credit events.

Equity Long/Short

Equity long/short provides the highest correlation and beta of the four main strategies. Rarely does the strategy provide absolute returns above equity benchmarks in bull markets. Equity long/short strategies often provide lower net exposure with lower overall volatility. This strategy will provide for varying degrees of downside protection in negative markets. Most global equity markets offer both a high degree of liquidity along with access to local equity markets. This provides for and access to a variety of niche strategies and industry/region specialists. Equity long/short strategies are not characterized by typical leverage bands or net exposures; rather, they typically reflect the overall risk-on/risk-off market environment.

In FY2018, Equity Long/Short strategies will remain an underweight allocation in the Absolute Return Portfolio. New Equity Long/Short strategies will be considered against current allocations and will be substituted where appropriate. The ERS Hedge Fund team remains diligent in looking for attractive low net and market neutral equity strategies.

Global Macro

There is a diverse array of macro sub-strategies which, for purposes of this discussion, are broken into systematic (often generically referred to as CTA) and discretionary strategies. In summary, systematic strategies are often negatively correlated to other hedge fund sub-strategies and often exhibit very low correlation to individual markets. Systematic sub-strategies typically provide a high level of diversification within a hedge fund portfolio and provide their highest value-add in extended downward trending markets. Discretionary macro sub-strategies are used to either provide specific directionality or can act as a specific hedge to macroeconomic events/misalignments. They can be used to provide diversification or directionality to a hedge fund portfolio. Both strategies often use a high degree of leverage through futures.

Historically, Global Macro strategies have been an underweight allocation for the Absolute Return Portfolio. At this time, The Absolute Return Portfolio is within its strategy exposure guidelines for Global Macro. For FY2018, expectations are for an increase to Global Macro strategies as these types of strategies are often less correlated to both traditional equity and credit markets.

Opportunistic

Opportunistic strategies are likely to result from either a market dislocation or structural market issue. Opportunistic strategies can have a core strategy either resembling any single strategy mentioned or may also be long-only in nature. Opportunistic strategies can be used as either Core or Satellite exposures depending on the dislocation and the opportunity set of the strategy. An Opportunistic strategy is expected to provide an asymmetric risk/return profile that helps the portfolio achieve returns within the risk constraints of the portfolio.

In FY2018, new Opportunistic strategies will be considered individually.

V. SUMMARY

- The Absolute Return Portfolio experienced changes over the last 12 months and redemptions occurred across all strategies. The reasons for these redemptions included but were not limited to key employee turnover, challenging performance, lack of transparency, and asset allocation decisions.

- At this point, the Absolute Return Portfolio has gone back to its Core holdings and is looking to increase allocations to strategies that offer attractive risk/reward characteristics. Currently, the Absolute Return Portfolio represents 4% of the Trust as of May 31st, 2017. This should provide the ERS Hedge Fund team with dry power to deploy over the coming months.

- The Absolute Return Portfolio remains overweight Relative Value and Event Driven strategies. Expectations are for an additional allocation to Global Macro as it is seen as a less correlated strategy to traditional equity and debt markets. Equity Long/Short exposure has been reduced and will have a lower weighting within the portfolio until further notice. The ERS Hedge Fund team is actively sourcing low net and market neutral strategies for future equity allocations. Overall, the Absolute Return Portfolio remains broadly diversified by the number of hedge fund strategies.

- The Directional Growth Portfolio will remain focused on Return Seeking exposures that complement Public Equity.

- At this time, expectations are for a portion of the Opportunistic Credit sleeve within the Trust to be allocated to the ERS Hedge Fund team. In FY2018, the ERS Hedge Fund team will focus additional time on this portfolio.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

PRIVATE INFRASTRUCTURE GUIDELINES AND PROCEDURES

Last Updated: March 7, 2018

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

PRIVATE INFRASTRUCTURE
GUIDELINES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

PRIVATE INFRASTRUCTURE GUIDELINES AND PROCEDURES

Last Updated:
March 7, 2018

II. INVESTMENT OBJECTIVES

A. INVESTMENTS IN INFRASTRUCTURE EQUITY AND DEBT ASSETS

The Employees Retirement System of Texas ("ERS") has determined that, over the long term, inclusion of infrastructure equity and debt investments (herein after referred to collectively as "Infrastructure Portfolio") would enhance ERS' expected total portfolio ("Trust") investment characteristics. The objectives of the ERS' Infrastructure Portfolio include (1) preserving the Trust's capital, (2) enhancing the Trust's risk-adjusted returns, (3) further diversifying the Trust's investments, (4) reducing the Trust's volatility, and (5) providing a hedge against inflation.

For purposes of these *Private Infrastructure Guidelines and Procedures*, "Infrastructure" includes private equity and debt, domestic and international infrastructure and similar real asset investments. ERS has authorized its infrastructure consultant (the "Infrastructure Consultant") to provide expertise and advice related to ERS' investment strategy, guidelines, and practices and to work co-operatively with ERS, ERS staff, and ERS' primary investment consultant when providing advice concerning the ERS' Infrastructure Portfolio investments. Private infrastructure investments ("Private Infrastructure Investments") are made primarily through institutional limited partnership vehicles, further described in Section 1.D. The private infrastructure strategies to be pursued are further described in Section II.A.

The Trust's investment Guidelines are determined by the Employees Retirement System of Texas Board of Trustees ("Board"). In general, ERS' long-term goal for the Trust is to earn a return that will ensure the payments due to members of the ERS' retirement plans and their beneficiaries at a reasonable cost to the ERS' members and the taxpayers of the State of Texas.

ERS' Infrastructure Portfolio investments will be made in a manner consistent with the whole portfolio approach and the exclusive benefit requirements of the Texas Constitution. The selection and management of Infrastructure Portfolio assets will be guided to maintain prudent diversification of assets, to maximize management responsibility, and to preserve the Trust's investment capital. The diversification objective is required to manage overall market risk and the specific risks inherent in any single investment or single manager.

B. ASSET ALLOCATION

ERS' Infrastructure Portfolio allocation will remain within the limits authorized by the Board in the System's asset allocation, as established in the Trust's *Investment Policy* based on invested net asset value. Due to the nature of closed-end Infrastructure Funds drawing committed capital on an unscheduled basis, ERS may over-commit to the Infrastructure Portfolio in order to achieve intended investment amounts based upon pacing analyses conducted by the ERS Infrastructure Staff ("Infrastructure Staff") and/or the Infrastructure Consultant.

An important implementation goal for the Infrastructure Portfolio is to spread out the timing of new commitments so as to avoid an undue concentration of commitments in any one fiscal year, known as "vintage year diversification." Over the long-term, it is expected that approximately equal amounts of new funding will be committed each fiscal year to garner the benefits of vintage year diversification.

C. INFRASTRUCTURE PORTFOLIO PERFORMANCE

The Trust will use the following rate of return tests to evaluate the performance of the Infrastructure Portfolio:

1. Private Infrastructure Total Return

Private Infrastructure Total Return will be calculated adding realized and unrealized capital appreciation gains and losses plus income. The performance objective of the Private Infrastructure Portfolio is to achieve a total return over rolling ten-year periods in excess of the CPI + 4.0%, net of all management fees and expenses. ERS will measure the return of the Private Infrastructure Portfolio employing a dollar-weighted, internal rate of return ("IRR") calculation.

It is expected that the Private Infrastructure Portfolio investments will employ multiple strategies. Infrastructure investments will have dual investment goals of capital appreciation and income generation, although some may focus primarily on income generation. Other investments may not provide any meaningful predictable cash flow and will be dependent upon non-recurring events, such as the disposition of assets, to generate realized capital appreciation returns.

2. Risk With Regard to Individual Investments

Infrastructure investing entails risk of sustaining a loss on individual investments. It is the Trust's expectation that, while specific investments may incur losses of invested capital, a diversified portfolio of Private Infrastructure assets will produce a positive rate of return in comparison to the benchmarks set forth in Sections I.C.1. above.

D. INFRASTRUCTURE PORTFOLIO MANAGEMENT

The selection and management of assets in the Infrastructure Portfolio will be guided to generate a maximum risk-adjusted return while maintaining prudent diversification of specific investments. Eligible Private Infrastructure investments will include both open-ended and closed-end commingled funds and asset specific special purpose vehicles focused on core, value-added and opportunistic infrastructure strategies as described in Section II.C. The Trust will manage the investment risk associated with the Infrastructure Portfolio in several ways:

1. Institutional Quality

All assets must be of "institutional quality." Institutional quality is defined as being of a quality whereby the investment would be considered acceptable by other prudent institutional investors (e.g., insurance company general accounts and separate accounts, commercial banks and savings institutions, governmental permanent funds, public employee retirement systems, domestic and foreign corporate employee benefit plans, and other tax-exempt institutions).

2. Diversification

The Infrastructure Portfolio will be diversified as to (1) risk/return mixture, (2) regulatory jurisdiction, (3) geography, (4) industry sector, (5) investment sponsor, (7) timing of investment, among other diversification elements. Diversification reduces the impact on the portfolio of any one investment or any single investment regulatory regime, economic environment or government to the extent that any adversity affecting any one particular area will not impact a disproportionate share of the total portfolio.

Average investment size will be monitored compared to the number and size of individual commitments. Interim investment goals toward the implementation of the Infrastructure Portfolio will be set forth in an *Infrastructure Annual Tactical Plan* ("*Annual Tactical Plan*").

3. Ownership Structure

a. ***Investment Structure:*** For the Private Infrastructure Portfolio, Infrastructure Staff will primarily make commitments to infrastructure limited partnerships and special purpose vehicles ("SPV"). Limited partnership investments will be defined as including direct partnerships, fund-of-one and/or commingled fund-of-funds vehicles. Infrastructure Staff, with the assistance of the infrastructure consultant, will source, evaluate and recommend investments to a Private Infrastructure Investment Committee or Board of Trustees with the relevant body voting to approve or decline Infrastructure Staff's recommendations. The investments will be subject to portfolio diversification targets established in the *Private Infrastructure Guidelines and Procedures*, and approval of an *Annual Tactical Plan* by the Board. All vehicle structures will be subject to review by ERS' legal counsel.

b. ***Co-Investments/Direct Investments:*** In addition to Infrastructure Funds and Separate Accounts, the Private Infrastructure Portfolio may also consist of co-investments and direct investments. Co-investments entail providing additional funding to specific infrastructure investments being made by the Infrastructure Funds. Typically, co-investment opportunities arise when the general partner of an Infrastructure Fund invites limited partners to provide additional capital when an investment is of a size that exceeds the fund's diversification parameters. Direct investments, or asset specific investments through special purpose vehicles, may also be pursued without necessarily being a limited partner alongside an Infrastructure General Partner.

In these instances, Infrastructure Staff, with the assistance of the Infrastructure Consultant, will evaluate and recommend co-investments/direct investments to the Private Infrastructure Investment Committee on a non-discretionary basis, with the Private Infrastructure Investment Committee or Board of Trustees voting to approve or to decline Infrastructure Staff's recommendations. The co-investments/direct investments will be subject to portfolio diversification targets established in these *Private Infrastructure Guidelines and Procedures* and approval of an *Annual Tactical Plan* by the Board.

4. Reporting System

There will be a reporting and monitoring system for the Infrastructure investments. Utilizing the reporting system, situations of underperforming investments, portfolio diversification deficiencies, or other violations of the *Private Infrastructure Guidelines and Procedures* and *Strategic Portfolio Structure* can then be identified. Further definition of this reporting system is provided in Sections III.C.1.b. "Ongoing Operations" and III.C.2 "Reporting Requirements."

5. Performance Measurement

Performance will be calculated on a time-weighted basis for the Private Infrastructure Portfolio for purposes of calculation of Trust's performance. A dollar-weighted (i.e., internal rate of return or IRR) basis calculation and multiple of invested capital will be used to evaluate the Private Infrastructure Portfolio. All calculations will be net of fees and expenses.

6. Lines of Responsibility

Well-defined lines of responsibility and accountability will be required of all participants in ERS' infrastructure investment program as defined in III.A "General Allocation of Responsibilities". Participants are identified as:

Participant	Responsibility
Board	Fiduciaries elected by the employee and retiree beneficiaries of the Trust and those appointed by the Governor, the Speaker of the Texas House of Representatives, and the Chief Justice of the Texas Supreme Court. The Board will approve investments over 0.6% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report pursuant to Texas Government Code Section 815.3016.
Investment Advisory Committee	The Investment Advisory Committee ("IAC") was created to consult with and advise the Board on investments and investment-related issues. The IAC is composed of at least five and not more than nine members and are selected on the basis of experience in the management of a financial institution or other business in which investment decisions are made or as a prominent educator in the fields of economics or finance. The IAC members serve at the pleasure of the Board.
Executive Director	The Executive Director is granted full authority and responsibility by the Board in the implementation and administration of its investment programs subject to Board policies, rules, regulations, and directives consistent with constitutional and statutory limitations.
Private Infrastructure Investment Committee	The Private Infrastructure Investment Committee consists of the Executive Director, the CIO, a member of the IAC, and either the Deputy Chief Investment Officer or another senior member of the ERS Investments staff, and is granted the fiduciary responsibility of approving Infrastructure Portfolio investments recommended by Infrastructure Staff and limited by approval authority of the Board of Trustees described above. For co-investments with New Relationships, the Private Infrastructure Investment Committee will approve the general partner, as well as approve the co-investment.
Infrastructure Staff	Investment professionals on the ERS staff responsible for the infrastructure investment program's design, implementation (including due diligence and investment recommendation and approval), administration, and monitoring. Investments will be managed by the ERS Private Infrastructure team.

Infrastructure Consultant

Professionals retained to support Infrastructure Staff and Board through the provision of infrastructure and alternative investment program knowledge and technical support, and to conduct investment due diligence, to make fiduciary investment recommendations on a non-discretionary basis, and conduct performance measurement of the infrastructure portfolio.

The Consultant must also adhere to ERS' Standard of Conduct, as follows: Any conflict of interest disclosures that a consultant is required to file pursuant to state law and federal securities laws must also be filed with and acceptable to Infrastructure Staff. Such disclosures will not be acceptable if they are perceived by ERS to show any loss of independence and objectivity by the Infrastructure Consultant.

III. INVESTMENT GUIDELINES

Private Infrastructure Portfolio investments will be guided by these *Private Infrastructure Guidelines and Procedures*. Each year the infrastructure program will be further implemented and modified in accordance with an *Annual Tactical Plan* prepared by Infrastructure Staff and approved by the Board.

A. RISK/RETURN MIXTURE AND TARGET ALLOCATIONS

Infrastructure assets refer to large-scale public systems, services and facilities that are essential for economic activity. Given their essential nature, high barriers to entry, large and long-term capital requirements, they are subjected to a high degree of regulation. The regulatory framework under which the assets operate determines the risk return parameters of the infrastructure asset. Infrastructure Staff will seek to manage the allocations to the mid-point of the ranges, understanding that the Infrastructure Portfolio may deviate from these ranges as it allocates capital over the next several years to achieve the full Infrastructure Portfolio allocation within the Trust. Infrastructure assets can be broadly characterized in the following classes:

1. **Core:** (25% +/- 15%) – Equity or debt investment in operating assets with strong inelastic cash flows with low exposure to growth and business cycles. Core infrastructure assets typically provide long-term stable yields and a hedge against inflation. Net returns historically have been in the 8-10% range (net of all fees).

2. **Value-added**: (50% +/- 15%) – Equity or debt investment in infrastructure assets which exhibit greater operational or economic risk. Buy and build, assets exposed to greater volume risk, assets in need of redevelopment or recontracting. Net returns historically have been in the 10-14% range (net of all fees).

3. **Opportunistic**: (25% +/- 15%) – Equity or debt investment in infrastructure properties, operating companies, and other investment vehicle involving development risk, significant volumetric risk or political risk. Returns have minimal cash yield rather are reliant on capital appreciations. Net returns historically have been in the 15% or higher range (net of all fees).

B. GEOGRAPHICAL LOCATION DIVERSIFICATION

Investments in ERS' Private Infrastructure Portfolio will seek geographic diversification to minimize political, regulatory, economic and tax risks. The currency exposure to ERS from the non-dollar aspect of the Infrastructure Portfolio will not be hedged, unless hedging is deemed appropriate by Infrastructure Staff, Infrastructure Consultant, and/or the Trust's primary investment consultant.

As domestic infrastructure assets outside of energy are limited and many core infrastructure funds operate under a global mandate broad geographic targets will be outlined as follows:

1. **Developed Markets:** (50% +/- 20%) – Developed markets refer to countries with high income level, high levels of industrialization and general standard of living. Classification is also dependent upon the presence of large public markets with strong custodial and settlement history. Infrastructure Staff will utilize MSCI classification for geographic categorization as guidance for country classification. MSCI is a leading provider of investment decision support tools including indices, portfolio risk, performance analytics and governance tools.

2. **Emerging Markets:** (50% +/- 20%) – Infrastructure Portfolio investments in emerging markets will be considered to provide diversification. The emerging market infrastructure investments will be further diversified by geographic region such as Latin America, Europe, Asia and Africa.

   Emerging markets are growing much faster than developed countries. The need for new infrastructure is escalated as a rising middle class demand electricity, roads and clean water, and improved environmental conditions. Despite improved asset quality, transparency and governance, inherent risks still exist.

C. INFRASTRUCTURE SECTOR DIVERSIFICATION

Infrastructure assets are defined as much by the regulatory characteristics as the industry. The Infrastructure Portfolio may contain investment opportunities within but not limited to, the various infrastructure sectors as follows:

i) Energy Resources and Utilities: Electric transmission and distribution, power generation, gas distribution, oil and gas pipelines, gas midstream assets, hydrocarbons, and so forth
ii) Transportation Assets: Bridges, Roadways, Transit, Railways, Tunnels, ports, etc.
iii) Water and Waste – water distribution, storage and treatment, desalination, waste management, water rights, farmland and so forth
iv) Other infrastructure investments that are aligned with ERS strategic objectives of inflation protected assets including social infrastructure, communication assets such as towers, natural resources, and so forth

D. INVESTMENT MANAGER DIVERSIFICATION

The Infrastructure Portfolio will seek to diversify by managers of Infrastructure Funds and Separate Accounts. No more than 20% of ERS' Private Infrastructure Portfolio, based on net asset value plus uncalled commitments, will be invested with any one investment management organization with a target of 10%. Net asset value is defined as the carrying value of the investments reported by the Infrastructure Fund and Separate Accounts in the quarterly financial statements. It is also recognized that during the Infrastructure Portfolio development and wind-down stages full investment parameters may not be met.

The Trust is permitted to own up to 25% of any particular Infrastructure Fund, subject to the manager limitation above. ERS may own up to 100% of infrastructure "funds-of-one" and SPVs.

E. LIFE CYCLE DIVERSIFICATION

Commitments to partnership investments will be staged over time. It is ERS' long-term goal to spread out investment timing such that new commitments will be made each fiscal year. This policy will have the effect of dollar-cost-averaging the Infrastructure Portfolio over business cycles and will help to insulate the Private Infrastructure Portfolio from event risk. Annual commitments will be allotted in accordance with an *Infrastructure Portfolio Pacing Analysis* maintained by Infrastructure Staff and the Infrastructure Consultant, the results of which will be updated and incorporated as part of the *Annual Tactical Plan*.

F. INVESTMENT LEVERAGE

While prudent leverage can enhance returns, careful consideration will be given when reviewing investment strategies to the impact of leverage on investment and portfolio risk. Infrastructure Staff will underwrite and monitor leverage levels in assets and practices of general partners.

G. REGULATORY JURISDICTION DIVERSIFICATION

Due to the highly regulated nature of infrastructure, it is important to be diversified across regulatory regime and type of regime. Regulatory jursidictions are often based upon geography (state or national) and sector (electricity vs water). Regulatory regimes vary with regard to duration, volumetric risk, inflation protection mechanisms and overall return.

IV. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

The Infrastructure Portfolio investments will be implemented and monitored through the coordinated efforts of the Board, Investment Advisory Committee, Executive Director, CIO, Private Infrastructure Investment Committee, Infrastructure Staff, and the Infrastructure Consultant. The Infrastructure Portfolio will be internally managed by the Infrastructure Staff. Delegation of responsibilities for each participant is described in the following sections.

1. Board

The Board will approve the investment guidelines and objectives that are judged to be appropriate and prudent to implement the strategic plan for investment of the Trust's assets; review the performance criteria and policy guidelines for the measurement and evaluation of the Trust's investments; and supervise the investment of the Trust's assets to ensure that the Trust's investments remains in accordance with intended strategic plans and the ERS' *Objectives and Guidelines* and these *Private Infrastructure Guidelines and Procedures* documents.

The Board will guide the long-term execution of the Infrastructure Portfolio through approval of these *Private Infrastructure Guidelines and Procedures*, which will be updated and revised annually or as appropriate. The Board will guide the short-term execution of the Infrastructure Portfolio through approval of an *Annual Tactical Plan* prepared by Infrastructure Staff and the Infrastructure Consultant, which details goals and objectives for the upcoming Fiscal Year. The Board will monitor the Infrastructure Portfolio's progress and results through a performance measurement report prepared quarterly by the Infrastructure Consultant.

Pursuant to Texas Government Code section 815.3016, The Board of Trustees will approve investments in lieu of the Private Infrastructure Investment Committee when greater than 0.6% of the System's total market value of assets as reported in the most recent ERS Comprehensive Annual Financial Report.

2. Investment Advisory Committee ("IAC")

The Investment Advisory Committee ("IAC") will review the Trust's investments to ensure that they conform to the investment objectives and guidelines adopted by the Board. Infrastructure Staff may utilize the expertise of IAC members in assessing investment strategies and may request IAC members to participate on ad-hoc project committees and provide insights from such participation to the Board.

3. Executive Director

The Executive Director is granted full authority and responsibility by the Board in the implementation and administration of its investment programs subject to Board policies, rules, regulations, and directives consistent with constitutional and statutory limitations. The Executive Director will participate and review investment decisions and, together with the other members of the Private Infrastructure Investment Committee, will make the fiduciary investment decisions regarding investments in Infrastructure Funds and Separate Accounts, based on information provided by and recommendations offered by the Infrastructure Staff.

4. CIO

The CIO will participate and review investment decisions and, together with the other members of the Private Infrastructure Investment Committee, will make the fiduciary investment decisions regarding investments in Infrastructure Funds and Separate Accounts, based on information provided by and recommendations offered by the Infrastructure Staff.

5. Private Infrastructure Investment Committee

The Private Infrastructure Investment Committee will review the Trust's Infrastructure Portfolio prospective investments to ensure that they conform to the investment objectives outlined by these *Private Infrastructure Guidelines and Procedures* and *Annual Tactical Plan* approved by the Board and to ensure they are appropriate given current and anticipated infrastructure market dynamics. The Private Infrastructure Investment Committee will review investment recommendations forwarded by Infrastructure Staff. The Private Infrastructure Investment Committee is granted the following fiduciary responsibilities to approve: (i) in the case of Infrastructure Funds investing in diversified portfolios of assets or other funds, up to 0.6% of the Trust's assets; and (ii) in the case of co-investments and direct investments, up to 0.5% of the Trust's assets.

6. **Infrastructure Staff**

Infrastructure Staff will develop investment objectives and policy language that includes a long-term strategic plan. Infrastructure Portfolio documentation will be updated and revised annually or as appropriate. Infrastructure Staff will prepare an *Annual Tactical Plan*, which details goals and objectives for the upcoming Fiscal Year. Infrastructure Staff will review the quarterly Infrastructure Portfolio performance reports prepared by the Infrastructure Consultant.
Infrastructure Staff, assisted by the Infrastructure Consultant, will identify eligible Infrastructure Funds and Separate Accounts for the Infrastructure Portfolio, conduct due diligence on prospective investments, and prepare formal investment recommendations to the Private Infrastructure Investment Committee or Board of Trustees. Infrastructure Staff will coordinate program compliance among all participants, will communicate the investment guidelines and objectives, and will coordinate the receipt and distribution of capital.

7. **Infrastructure Consultant**

In cooperation with the Infrastructure Staff, the Infrastructure Consultant will advise on Infrastructure Portfolio compliance and will assist in the implementation of the Infrastructure Portfolio. Additionally, as requested, the Infrastructure Consultant will assist in developing the long-term infrastructure strategic plan, composed of the *Private Infrastructure Guidelines and Procedures* and *Annual Tactical Plan*, and will review and annually update Infrastructure Portfolio documentation. The Infrastructure Consultant will also assist Infrastructure Staff in investment identification, screening, due diligence evaluation, and documentation activities; prepare the quarterly performance measurement reports; advise on investment amendments; and provide special project research pertaining to technical infrastructure and alternative investments issues as requested by ERS.

B. INVESTMENT PROCEDURES

Infrastructure investments in compliance with ERS' Investment Objectives (Section I) and Investment Policies (Section II) will be acquired through the following process:

1. **Annual Tactical Plan**

Each year, Infrastructure Staff will work with the Infrastructure Consultant to prepare an *Annual Tactical Plan* which reviews the current status of the Infrastructure Portfolio and recent historical and prospective market conditions. The *Annual Tactical Plan* will propose the steps to be taken over the next Fiscal Year to further implement the long-term strategic plan. Employing a projection model pacing analysis, the *Annual Tactical Plan* will develop a dollar commitment target for the upcoming Fiscal Year. The *Annual Tactical Plan* will be provided to the Board for review and approval.

2. **Infrastructure Portfolio Investments**

Infrastructure Staff, with assistance of the Infrastructure Consultant, will identify and evaluate Infrastructure Funds, Separate Accounts and, as appropriate, Co-Investments and other investment vehicles that are in compliance with these *Private Infrastructure Guidelines and Procedures* and *Annual Tactical Plan*. The ERS *Private Infrastructure Portfolio Evaluation Criteria* are attached as Appendix A.

Infrastructure Staff, with assistance of the Infrastructure Consultant, will be responsible for the due diligence evaluation of the prospective investments. Infrastructure Staff and/or the Infrastructure Consultant will prepare a written summary analysis and investment recommendation based on findings in due diligence. For investments approved by the Private Infrastructure Investment Committee or Board of Trustees, Infrastructure Staff will be responsible for all aspects of negotiation, documentation, and legal reviews and closings. Infrastructure Staff may request the Infrastructure Consultant to assist in various aspects of its duties.

C. INFRASTRUCTURE STAFF RESPONSIBILITIES

1. Implementation and Administration

Infrastructure Staff is responsible for the following implementation and administration responsibilities. This section designates certain Infrastructure Portfolio management responsibilities that the Infrastructure Staff will perform or cause to be performed.

a. ***Investment Selection*** *– Infrastructure Staff will be responsible for evaluating investment opportunities and submitting their recommendations for investment to be approved by the Private Infrastructure Investment Committee or Board of Trustees.*

The screening and selection of Infrastructure Portfolio investments will be made with a view to maximize the Trust's risk-adjusted rate of return, within the parameters and allocations as set by the Board in these *Private Infrastructure Guidelines and Procedures*.

The *Annual Tactical Plan* process will be used for determining targets for the number and types of investments to be made for a given year. Infrastructure Staff will also take into consideration relevant overall portfolio diversification considerations as set forth in the Investment Objectives and Investment Guidelines statement of these *Private Infrastructure Guidelines and Procedures*. The process will include, but not be limited to, the following duties:

(1) Prepare the *Annual Tactical Plan*. This *Annual Tactical Plan* outlines the steps ERS will take during the upcoming Fiscal Year to further implement ERS' adopted Infrastructure Portfolio strategic plan. The *Annual Tactical Plan* will include a review of the current status of the Infrastructure Portfolio, perceived infrastructure investment environment, the types and number of Infrastructure Funds and Separate Accounts to be sought and underlying rationale, and goals for other management responsibilities (e.g., situations being monitored and planned refinements to the Infrastructure Portfolio management process).

(2) Review and maintain records of infrastructure opportunities available and reviewed in the market over time.

(3) Screen and evaluate infrastructure opportunities to identify investments that provide attractive risk and return characteristics and are a fit with the Infrastructure Portfolio's long-term and short-term objectives.

(4) Conduct full and proper due diligence on prospective infrastructure investments and document the due diligence process. Prospective investment due diligence will include evaluating areas such as (a) organization and personnel, (b) research, (c) due diligence and underwriting, (d) internal investment decision process, (e) documentation, (f) monitoring, (g) track record, (h) investment terms and conditions, (i) investor reporting, (j) corporate governance protections, and other investment specific items as determined by Infrastructure Staff and the Infrastructure Consultant. On-site visits at a manager's office by Infrastructure Staff and the Infrastructure Consultant will be a mandatory part of investment due diligence.

(5) Summarize findings of the due diligence process on each prospective Infrastructure Portfolio investment in a formal investment recommendation and present those findings

to the Private Infrastructure Investment Committee or Board of Trustees for approval.

(6) Negotiate investment terms and conditions, limited partnership and limited liability company agreements, and other closing documents on ERS' behalf, for investments approved by the Private Infrastructure Investment Committee or Board of Trustees. Infrastructure Staff will coordinate legal, tax, and any other required professional reviews. Although ERS is not subject to ERISA, Infrastructure Staff will seek to obtain terms and conditions in such negotiations for ERS investments to operate in the same manner as investments made by "employee benefit plans" under ERISA, to the extent such terms and conditions (1) are not in conflict with applicable laws/regulations to which ERS is subject; (2) are not in conflict with these *Private Infrastructure Policies and Procedures*; (3) do not interfere with ERS maintaining its favorable tax qualification status; and (4) are not opted out of by the Private Infrastructure Investment Committee or Board of Trustees because to do so would be in ERS' best interest.

b. ***Ongoing Operations –*** Infrastructure Staff will conduct or supervise the following services with respect to each Infrastructure Portfolio investment:

(1) Monitoring and Voting – Maintain communication with the managers of Infrastructure Portfolio investments and maintain an awareness of the progress and level of performance of each Infrastructure Portfolio investment. This will include, as appropriate, meeting with managers, attendance at annual investment meetings, and sitting on advisory boards. This maintenance will also involve voting on Infrastructure Fund and Separate Account portfolio matters. Material voting issues will be brought to the Private Infrastructure Investment Committee for approval.

(2) Infrastructure Staff will keep itself informed of the overall market conditions relative to Infrastructure Portfolio investments and their competitive position. Infrastructure Staff will also be responsible for attending to amendments, resolutions, voting proxies, and other investment-related matters. All such activities will be undertaken with a view toward maximizing Infrastructure Portfolio value.

(3) Disbursement, Receipt, and Cash Management – Fund commitments will be made on a timely basis and all efforts will be made to coordinate the receipt of cash distributions from the Infrastructure Portfolio investments.

(4) Books and Records – Infrastructure Staff will maintain, or cause to be maintained, records regarding the management of the Private Infrastructure Portfolio investments. These will include receipts, disbursements, and other investment-related records, including limited partnership and limited liability company agreements, amendments, correspondence, and other documentation as appropriate. Books and records will be made reasonably available to ERS auditors as reasonably required.

2. Reporting Requirements

a. ***Investment Financial Statements*** – On a quarterly basis, Infrastructure Staff and the Infrastructure Consultant will receive from Infrastructure Funds and Separate Accounts unaudited financial statements and, on an annual basis, audited financial statements. Valuations will be computed using the values provided by the managers in the most recent financial statements.

b. ***Quarterly Report*** – On a quarterly basis, as soon as is practicable after quarter-end, the Infrastructure Consultant will produce a report on the Infrastructure Portfolio which will address activities that occurred during the quarter, including cash flows, valuations, internal rates of return ("IRR"), multiple of invested equity returns, and any and all other items of which ERS will be apprised. The Infrastructure Consultant will also reconcile with the custodian bank at least quarterly. Because of the time-lag associated with infrastructure valuation processes, these quarterly reports are typically produced with a one-quarter lag.

c. ***Custodian*** – The custodian will collect information regarding the Trust's account cash flows and valuations and any other information reasonably requested.

D. INFRASTRUCTURE CONSULTANT RESPONSIBILITIES

1) The Infrastructure Consultant will assist with the ongoing review and recommendation of revisions to these *Private Infrastructure Guidelines and Procedures* and will assist Infrastructure Staff with the preparation of the *Annual Tactical Plan*.

2) As requested, the Infrastructure Consultant will assist Infrastructure Staff with completing any of the duties including but not limited to the following duties:

   a. Establish procedures for conducting prospective investment identification and due diligence.

   b. Search activities including the initial identification and screening of prospective infrastructure investments.

   c. Conduct various activities required in evaluating and conducting and due diligence on prospective investments, including documentation of the process.

   d. Prepare written investment recommendations or finalist presentation materials. The Infrastructure Consultant, as requested, will be responsible for making fiduciary investment recommendations in writing to be provided to the Private Infrastructure Investment Committee or Board of Trustees for consideration on investments.

   e. Prepare quarterly performance measurement reports on the Infrastructure Portfolio investments, including reconciliation with the custodian.

   f. Perform special projects, as requested.

PRIVATE INFRASTRUCTURE PORTFOLIO ANNUAL TACTICAL PLAN FOR FISCAL YEARS 2018-2019

The Employees Retirement System of Texas

Presented: March 7, 2018

II. Executive Summary

This Private Infrastructure Portfolio Annual Tactical Plan for Fiscal Years 2018-2019 ("Annual Tactical Plan") has been prepared by Infrastructure Consultant, Pavilion Alternatives Group ("Pavilion") for the Employees Retirement system of Texas ("ERS"). It is intended to be a planning document which outlines the steps to be taken during the upcoming fiscal year to further the Infrastructure Portfolio objectives and address issues relevant to the administration and success of the Infrastructure Portfolio. This Annual Tactical Plan is a guiding reference only, and it is not intended to overrule prudent infrastructure investment decision-making.

As of December 31, 2017, the Private Infrastructure Portfolio stands at an estimated NAV of $503 million, thereby requiring capital commitments to achieve the full private infrastructure allocation—now 7.0% of the total portfolio—by the end of fiscal year 2023.

This Annual Tactical Plan may be deviated from based upon market conditions and opportunities. The proposed commitment ranges provide flexibility to allow for varying market opportunities as well as availability of ERS' resources.

Importantly, while this Annual Tactical Plan highlights capital commitments, not all of the capital committed over the next several years may be deployed by the selected infrastructure funds. Capital will also be invested in co-investments and direct investments, which can provide better control over capital deployment and greater net returns to the Private Infrastructure Portfolio. Moreover, Infrastructure Staff and the Infrastructure Consultant may request a change of pace of investment in subsequent Annual Tactical Plans in order to better take advantage of market opportunities.

III. Review of Progress since Inception

Since the inception of the Private Infrastructure Portfolio through December 31, 2017, $863 million of commitments have been made into 10 funds and eight co-investments. In addition, the Portfolio inherited three legacy co-investments with a cost of $150 million.

This past calendar year has been a very active year for the ERS Infrastructure staff. Investments made since the February 2017 board meeting include:

- $50 million commitment to New American Bridges Fund
- $65 million commitment to ISQ Global Infrastructure Fund II
- $100 million commitment to Stonepeak Infrastructure Fund III
- A$20 million to QIC Infrastructure Portfolio Fund
- $30 million to two co-investments alongside Stonepeak II

Funded Positions as of December 31, 2017
($ millions)

Total Fund Market Value	$	28,519
Infrastructure Allocation Target of 7.0%	$	1,996
Private Infrastructure Net Asset Value (est)	$	503
Private Infrastructure Value Deficit/(Surplus)	$	1,493

IV. Funding Levels for Fiscal Years 2018-2022

Pavilion recommends an average annual commitment of $470 million over the next five years to attain the targeted 7% private infrastructure allocation by FY 2023, assuming an annual growth rate of 4% for the Trust. The ranges below provide flexibility to allow for varying market opportunities as well as availability of ERS' resources. As the portfolio develops over the coming years, this analysis should be regularly updated to best achieve and maintain the desired private infrastructure investment level.

Fiscal Year	**Commitment**	**Ranges (+/-30%)**		
2018	$400,000,000	$280,000,000	-	$520,000,000
2019	$450,000,000	$315,000,000	-	$585,000,000
2020	$500,000,000	$350,000,000	-	$650,000,000
2021	$500,000,000	$350,000,000	-	$650,000,000
2022	$500,000,000	$350,000,000	-	$650,000,000
Total	$2,350,000,000			
Yearly Average	**$470,000,000**			

The table below summarizes projected funding levels approximately five years from now.

Projected Funding Position as of Fiscal Year-End 2023
($ millions)

Projected Total Fund Market Value	$	36,560
Projected Total Private Infrastructure Allocation of 7.0%	$	2,559
Projected Private Infrastructure Net Asset Value	$	2,615
Projected Private Infrastructure Value Deficit/(Surplus)	$	(56)

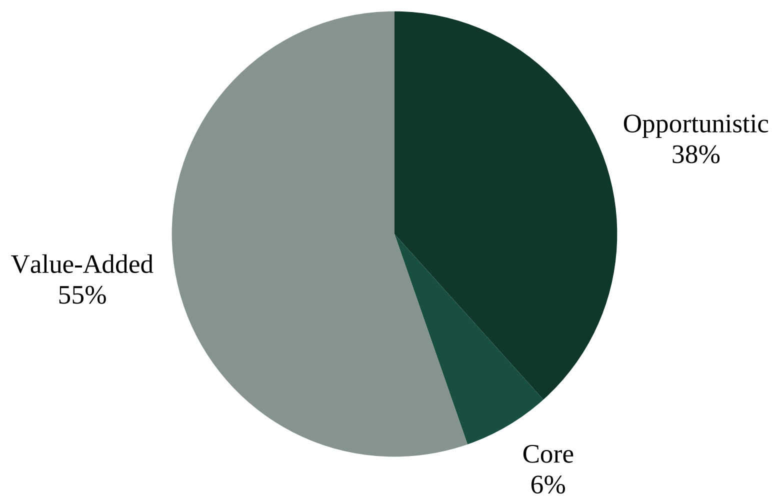
It is important to note that actual figures will deviate from projections as a) managers may not deploy all of the capital allocated; b) capital may be deployed faster or slower than modeled; c) realizations may happen sooner or later than projected, and d) total ERS fund market value may grow at a different rate than projected. Future Annual Tactical Plans will be adjusted to reflect actual allocations and projections will be updated accordingly.

V. Diversification

Infrastructure Staff and Pavilion believe that prudent diversification by vintage year, strategy, regulatory structure, geography, and sector is important. We recognize that during the early years of building the infrastructure program, the portfolio may not fall within the target ranges prescribed by the Private Infrastructure Policies and Procedures. However, future commitments should be made that will move the portfolio towards approved targets.

A. Strategy Diversification

Diversification by Strategy



Note: Figures are based on estimated NAV as of December 31, 2017

Commentary

These strategy targets and ranges as approved by the Board are currently as follows:

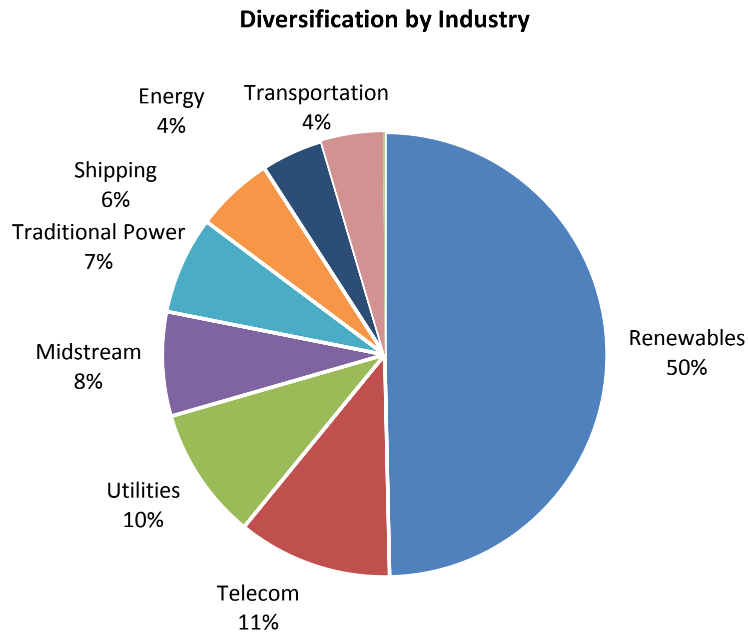
Core:	25%	(+/- 15%)
Value-added:	50%	(+/- 15%)
Opportunistic:	25%	(+/- 15%)

As one can see from the pie chart above, Value-Added and Opportunistic strategies are within their target ranges. The Core strategy, however, remains below the lower end of its target range. The 2016 commitment to QIC Global Infrastructure Fund, of which $37 million remains unfunded, will increase the dollars invested in Core. Core strategies have attracted plenty of capital and core assets are generally fully-priced. This makes it difficult to profitably deploy capital in Core strategies. Still, as ERS continues to build the portfolio, Pavilion recommends committing more to Core strategies to reach the lower end of the long-term strategy targets approved by the Board.

Infrastructure Portfolio Investments to Date

Fund Investments	Sector	Strategy	Vintage
Actis Energy III	Power	Opportunistic	2013
ISQ Global Infrastructure Fund	Diversified	Value-Added	2014
Stonepeak Infrastructure Fund II	Diversified	Value-Added	2015
QIC Global Infrastructure Fund I	Diversified	Core	2016
Actis Energy IV	Power	Opportunistic	2016
Northern Shipping III	Shipping	Value-Added	2016
ISQ Global Infrastructure Fund II	Diversified	Value-Added	2017
New American Bridges Fund	Transportation	Value-Added	2017
QIC Infrastructure Portfolio Fund	Diversified	Core	2017
Stonepeak Infrastructure Fund III	Diversified	Value-Added	2017
Co-Investments	**Sector**	**Strategy**	**Vintage**
Co-investment #1	Power	Value-Added	2015
Co-investment #2	Power	Value-Added	2015
Co-investment #3	Telecom	Value-Added	2015
Co-investment #4	Midstream	Value-Added	2016
Co-investment #5	Midstream	Value-Added	2016
Co-investment #6	Utility	Value-Added	2016
Co-investment #7	Telecom	Value-Added	2017
Co-investment #8	Midstream	Value-Added	2017
Legacy Portfolio	**Sector**	**Strategy**	**Vintage**
Three Texas-based co-invests	Power	Opportunistic	2012/13

B. *Industry Diversification*

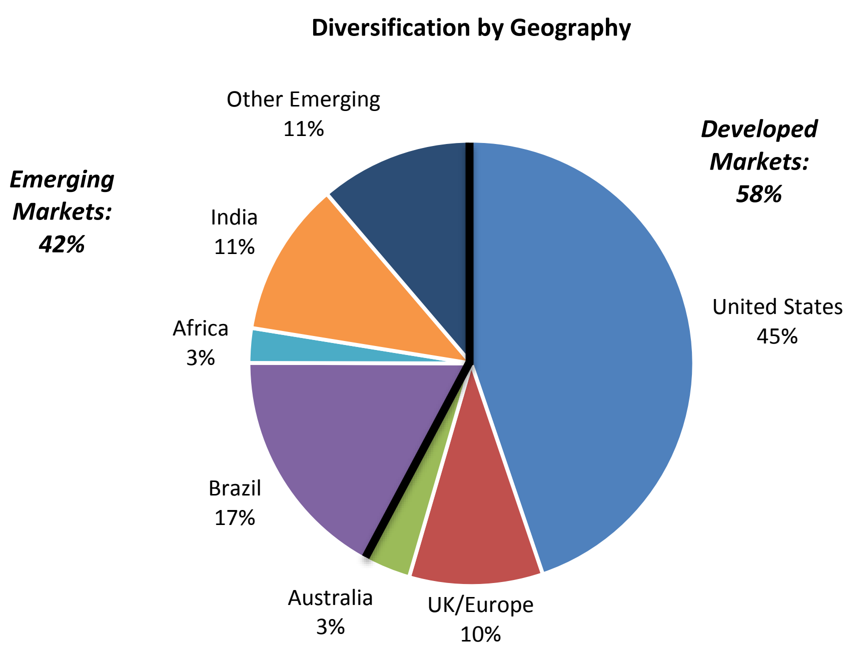


Note: Figures are generated by portfolio company based on recent valuations

Commentary

A long-term goal of the program is to create a private infrastructure portfolio that is diversified across industry sectors. The fund commitments in the program are still relatively young and while the funds are in various stages of deploying capital, the pie chart above clearly illustrates the large allocation to renewable power generation. Pavilion recommends that ERS avoid new commitments to funds which anticipate a large allocation to renewables and co-investments in this sector**.**

C. *Geographic Diversification*



Note: Figures are generated by portfolio company based on recent valuations

Commentary

A long-term goal of the program is to create an infrastructure portfolio that is well diversified by the geographic location of the underlying investments. Even though ERS is in the early stages of building the infrastructure program, the portfolio is in compliance with the board-approved global Policy targets, which are currently as follows:

Developed markets:	50%	(+/- 20%)
Emerging markets:	50%	(+/- 20%)

For the best risk/reward profile, Pavilion continues to recommend an allocation to developed markets at the upper end of the permitted range and, therefore, an allocation near the lower end of the targeted range for emerging markets.

The current portfolio has exposure to companies or assets around the globe, with the United States comprising the largest geography by far. Pavilion recommends additional commitments to funds investing in Europe, which represents a large portion of the global infrastructure market and is underweighted in ERS' current infrastructure portfolio**.**

D. *General Partner Concentration*

General Partner	% of Total NAV	% of Total NAV + Unfunded
Actis Energy	30%	29%
I Squared	22%	22%
Stonepeak	25%	25%
QIC	6%	7%
Northern Shipping	4%	5%
United Bridge Partners	1%	6%
Panda	5%	3%
Glenfarne	6%	3%
Total	100%	100%

Commentary

The table above presents the current net asset value (NAV) and current NAV plus unfunded commitments by General Partner (including the co-investments made alongside them). ERS' Private Infrastructure Policies and Procedures caps the allocation to any one investment management organization at 20%, with a target of 10%. As ERS continues to make additional commitments, General Partner exposure will be further diversified and likely come into compliance with the Policy. Today, however, three General Partners exceed this cap. This is due largely to the recent re-up with these managers in subsequent funds. Pavilion recommends that ERS consider raising the target and the cap by five percentage points or so to avoid manager proliferation.

VI. Existing Private Infrastructure Portfolio

As of December 31, 2017, the Private Infrastructure portfolio was comprised of 10 funds (excluding side-car co-invest vehicles), eight co-investments, and three legacy assets. Commitments total over $1 billion, with about 56% of that called to date.

Infrastructure Portfolio

($ Millions)

Fund investments	Commitment Date	Committed	Drawn	Distributed	Valuation	Net IRR
Fund Portfolio						
Actis Energy 3	Aug-13	75	54	-	71	14%
Actis Energy 3 Co-invest Fund	Aug-13	50	45	-	69	23%
Actis Energy 4	Sep-16	50	15	-	14	n/m
Actis Energy 4 Co-invest Fund	Sep-16	50	15	-	15	n/m
ISQ Global Infrastructure Fund	Jan-15	75	52	6	57	13%
ISQ Global Infrastructure Fund II	Aug-17	65	-		-	n/m
New American Bridges Fund	Aug-17	50	5	-	4	n/m
Northern Shipping Fund III	Dec-16	45	23	1	23	6%
QIC Global Infrastructure Fund I	Oct-16	50	13	-	14	8%
QIC Infrastructure Portfolio Fund	Apr-17	15	15	-	16	n/m
Stonepeak Infrastructure Fund II	Nov-15	68	38	6	40	16%
Stonepeak Infrastructure Fund III	Oct-17	100	-	-	-	n/m
Fund Portfolio Subtotal		**693**	**275**	**13**	**323**	**15%**
Co-Investment Portfolio						
Co-investment #1	Sep-15	40	29	2	34	13%
Co-investment #2	Mar-15	30	30	-	23	-13%
Co-investment #3	Jun-16	10	10	4	7	10%
Co-investment #4	Jun-16	10	10	4	8	16%
Co-investment #5	Jun-16	40	30	-	44	25%
Co-investment #6	Jun-16	10	10	3	12	33%
Co-investment #7	Mar-17	20	15	-	15	n/m
Co-investment #8	Dec-17	10	10	-	10	n/m
Co-Investment Subtotal		**170**	**144**	**13**	**153**	**10%**
Legacy Portfolio Subtotal	**2012/13**	**150**	**150**	**-**	**27**	**-28%**
PORTFOLIO TOTAL		**1,013**	**569**	**26**	**503**	**-3%**

Valuations and Net IRRs estimated as of December 31, 2017

VII. Investment Objectives: Through the End of Fiscal Year 2019

ERS will continue to focus on a combination of funds, co-investments, and direct investments, with a strong emphasis on co-investments and direct investments.

The following areas should be pursued in FY 2019 to bring the portfolio closer to its target allocations:

A. *Core exposure in developed, non-US markets* – Europe, Canada, and Australia all have a long history of private investments in infrastructure. As a result, there are a number of quality core managers operating in these geographies. Although expected returns are modest, given current asset valuations, risks should be lower as well, and core assets can provide a solid cash yield.

B. *European exposure* – There are a number of quality managers focused on Europe. ERS should look to add at least one such manager to its line-up in FY 2019.

C. *Other* – Managers focused on small and mid-market deals are a promising area. Greenfield and buy-and-build opportunities may present a good opportunity to earn a premium return relative to brownfield assets.

VIII. Miscellaneous

Given the greater focus on co-investments and direct investments, Pavilion believes ERS would benefit from an additional staff member to support the efforts of the Infrastructure team to source, analyze, and execute such deals. Direct and co-investments generally require substantially more resources than traditional fund investments.

Pavilion supports staff's recommendation to adjust the infrastructure benchmark from CPI+4.5% to CPI+4.0%. Future expected returns have declined in many asset classes, including infrastructure. The new benchmark is well within market norms, as Pavilion's research has shown that the majority of large pension plans that use a CPI+ benchmark use a premium of 400 basis points or less. We also expect inflation to creep up, so that that the reduction in premium may be offset somewhat by an increase in CPI.

IX. Summary

The existing portfolio is heavily exposed to the renewable power generation sector and the U.S. Pavilion recommends diversifying the Infrastructure Portfolio away from these areas in FY 2019. The portfolio is also underweight Core assets. Pavilion recommends adding a Core manager in FY 2019.

Infrastructure Staff expects to make five to ten new infrastructure commitments totaling approximately $450 million in fiscal year 2019 with the primary objective of creating a portfolio that exceeds its return target.

Infrastructure Staff and Pavilion Alternatives Group will continue to work and build relationships with high quality general partners as well as source direct and co-investments to prudently build ERS' private Infrastructure Portfolio toward its 7% target allocation.

Attachment A - Projected Private Infrastructure Portfolio Model

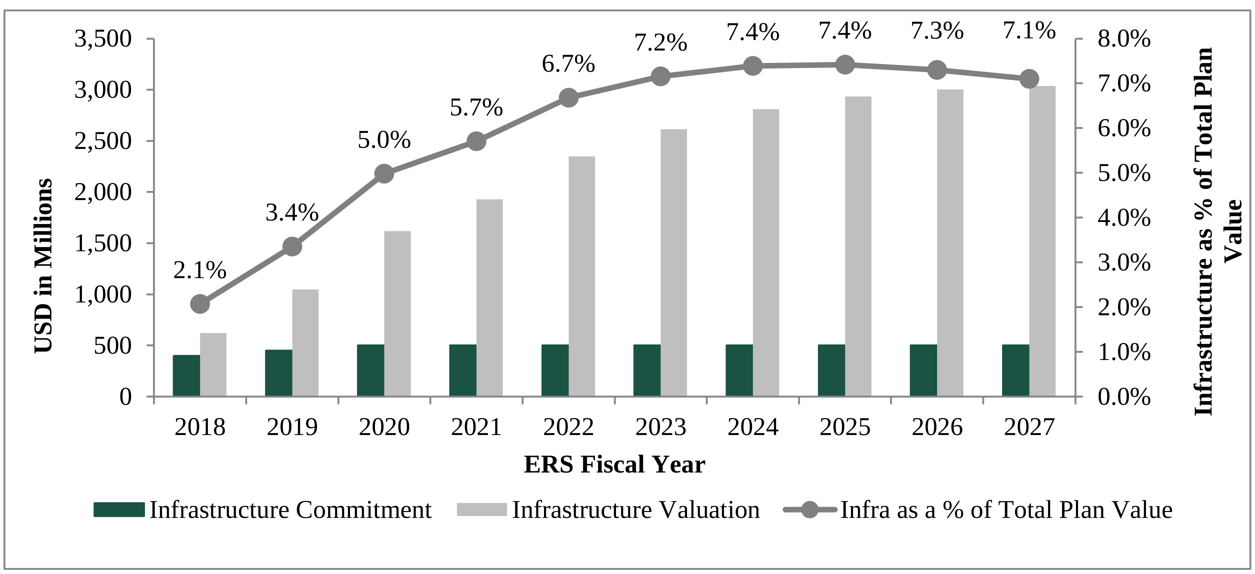
Using December 31, 2017 Total Fund Market Value of $28.5 billion

The private Infrastructure Portfolio is modeled using cash flow assumptions similar to other private equity investments. Infrastructure is an immature asset class and therefore lacks robust historical data. Infrastructure funds often have longer terms and tend to have longer hold periods than traditional private equity. The Trust had a plan value of $28.5 billion as of December 31, 2017 and here it is assumed to grow at 4% annually. The following chart outlines the projected private infrastructure commitments necessary to reach the targeted allocation in a reasonable time.

	($ in Millions)						
Fiscal Year	Annual Commitment	Rolling 10-Year Aggregate Commitment	Uncalled Commitments	Cumulative Distributions	Projected Market Value (NAV)	Projected ERS Plan Market Value	NAV as a % of Plan Value
2018	400	1,209	505	101	622	30,050	2.1%
2019	450	1,659	563	191	1,049	31,252	3.4%
2020	500	2,159	582	217	1,619	32,505	5.0%
2021	500	2,659	607	533	1,928	33,802	5.7%
2022	500	3,089	616	791	2,348	35,154	6.7%
2023	500	3,384	623	1,242	2,615	36,560	**7.2%**
2024	500	3,884	626	1,792	2,809	38,027	7.4%
2025	500	4,384	628	2,435	2,934	39,544	7.4%
2026	500	4,706	629	3,138	3,003	41,125	7.3%
2027	500	4,350	630	3,887	3,037	42,770	7.1%

As outlined above, the projected private infrastructure commitments should result in the targeted 7% private infrastructure allocation being reached in 2023.

Projected Infrastructure Plan Value Progression



DISCLAIMER: The cash flow forecast are estimates made by Pavilion Alternatives Group based on a specific set of assumptions regarding each underlying fund and therefore may be subject to change. These estimates are for purely indicative purposes only. Pavilion Alternatives Group does not expect the funds to exactly mimic these cash flow patterns, and the figures above are presented as an estimated guide only.

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS PRIVATE INFRASTRUCTURE PARTNERSHIP EVALUATION CRITERIA

I. Introduction

A key characteristic of the Private Infrastructure Portfolio is its illiquid nature. This illiquidity can benefit the total Infrastructure Portfolio and the System's total portfolio, as investors often shy away from illiquid investments allowing for attractive pricing for investors who are willing to take on private infrastructure's inherent liquidity risk.

Aside from the difficulty of unwinding Private Infrastructure Portfolio Investments due to their inherent nature, there is difficulty in tracking unrealized investment values. Private infrastructure valuations are conducted by valuation experts, who typically utilize a combination of valuation methodologies including: 1) discounted cash flow analysis, 2) replacement cost analysis, 3) comparative analysis using publicly traded securities and recent private transactions. Each of these approaches is susceptible to significant lag effect, as market pricing moves more quickly than private valuations. Private infrastructure is valued/appraised, at most, on a quarterly basis. Some investments are only appraised once per year.

II. Qualitative and Quantitative Evaluations

Intensive due diligence is essential prior to investment given the illiquidity of private infrastructure. Given both the lack of daily pricing and representative passive indices, the evaluation criteria applied to infrastructure investment opportunities is less statistically-driven than the evaluation of publicly-traded infrastructure. While significant analysis of past investments and realizations is performed, there are limited historical return series to analyze given the emerging asset class. The limited track record requires the evaluation of Private Infrastructure Investments to be more reliant on qualitative evaluation. A number of qualitative measures, similar to those used for public security managers, are available for analysis. Such factors include experience and tenure of professionals, turnover, organizational structure, client base, and investment process. Considerations specific to ERS' investment program, such as an infrastructure partnership's role or fit within the infrastructure portfolio, is also important.

III. Evaluation Criteria

The evaluation criteria are a first step in screening and identifying attractive investment candidates. Few Private Infrastructure Portfolio investments will achieve all the desired characteristics below. However, the evaluation criteria will provide insight into the identifiable strengths and weaknesses of partnerships, and the ability to conduct meaningful in-depth due diligence on investment opportunities. The evaluation criteria are a first step in screening and identifying attractive investment candidates. Partnerships that compare favorably to the evaluation criteria become candidates for full due diligence.

A. Track Record

Desirable characteristics include:

- The track record is ideally of sufficient length and number of companies to be meaningfully analyzed.
- The rate of return on prior investments, especially fully realized investments, should be attractive on both an absolute basis and in comparison to peers.
- There should be a pattern of steady capital deployment in each vintage year by number of companies and total disbursed.

- There should be a meaningful, analyzable number of realizations in the portfolio, preferably both through private sale and public offering, and during a variety of market conditions.
- Realizations should evidence reasonable holding periods and timely execution of business strategies.
- The historical track record must be attributable to the general partners who will manage the partnership going forward.
- The track record information must be consistent with and applicable to the proposed strategy for future investments.

B. Investment Professionals

Infrastructure partnerships are typically dependent on a small number of key professionals, accordingly:

- The investment professionals should have relevant and applicable backgrounds to the strategies and industries being pursued.
- Complimentary backgrounds and skill sets (e.g., investment banking, management consulting, and operating company experience) are viewed as positive in bringing different perspectives and experiences to the investment selection process and assisting companies in the execution of their business plans.
- Key personnel should have a long tenure of working together, and low or no turnover of key personnel is desirable.
- Infrequent selective additions of senior personnel to fill specific needs are desirable, as well as a demonstrated ability to promote from within are viewed as positive.
- The periodic addition of highly qualified junior professionals, at various skill levels, in a rational manner is viewed as positive.

C. Organization

As the organizational and administrative infrastructure must support the investment professionals' success, desirable characteristics include:

- Sufficient support staffing to provide a strong platform for the investment professionals, including accounting and finance, information systems, administrative support, and other back-office personnel as required.
- The firm should demonstrate controlled growth over time, as assets under management increase.
- The managing partnership should have a well-articulated plan to build resources to meet future requirements.
- Turnover in the non-professional ranks should be low.

D. Investment Strategy

Infrastructure partnerships typically approach investment strategies based on the general partners' specific business acumen and experience, so desirable indicators of a successful investment strategy include:

- The partnership should have a well-articulated and documentable investment approach that is consistent with the partners' business backgrounds and past investment successes.
- The strategy must be one that can be logically expected to continue to be successful in the future (e.g., investment opportunities persist, financial structures are viable, and continued commercial and capital market acceptance is expected).

- The investment professionals should have established successful methods of sourcing high quality transactions and/or unique sources of relatively proprietary deal flow.
- The investment strategy must have an identifiable value-creation proposition, including activist involvement with portfolio companies at the board and strategic planning levels.
- The partnership should be able to demonstrate a unique franchise or competitive advantage with respect to sourcing investments and/or executing strategy.
- Generally, partnerships sought will be well diversified by industry, geography, and number of companies, although there is flexibility to consider niche or specialty funds.

E. Assets Under Management

- The manager should have an institutional client base, preferably with other sophisticated pension fund investors, and preferably public pension funds.
- There should be evidence that prior investors will invest in the new partnership.
- Past partnerships and the proposed vehicle should be of sufficient size to be considered a truly institutional partnership, typically $200 million or more.

F. Business Practice Management

While not a key initial evaluation criterion, the manager must demonstrate that it has the ability to perform all tasks necessary to be a successful business entity ongoing, including:

- Ability to be credible in the market place and raise sufficient assets for the proposed fund and future partnerships.
- Performance of all portfolio management functions associated overseeing the individual company investments and total portfolio through to a timely realization.
- Demonstrate responsive reporting and client service for investors.
- Evidence a cohesive corporate culture and stable organization.

G. Fit Within Strategic and Tactical Plans

ERS has a substantial portfolio with relationships in most strategies. New relationships are evaluated as to whether:

- They fill an identified under-weighting in the portfolio's strategic portfolio structure.
- They are identified as an area of focus in the Annual Tactical Plan.
- They are partnerships with a top tier franchise, which have the potential to improve the portfolio's overall rate of return.

H. Terms and Conditions

- Partnership Size – The prospective partnership must be of a size that is consistent with the historical investment run rate of the firm, adjusted for reasonable growth as determined by an assessment of the firm's capacity to manage new investments.
- Economic Terms – The economic terms of the fund must be market-based taking into account factors such as the firm's size, strategy, and track record.
  Governance Provisions – While primarily conducted by ERS' legal counsel in final documentation, the initial term sheet should include investor rights that are market-based taking into account factors such as the firm's size, strategy, and track record. Examples of typical governance provisions viewed as favorable would include key person clauses, change of control clauses, limited partner advisory boards, and general partner carried interest clawbacks, among others.

I. Consideration of Emerging Fund Managers

- ERS will make a good faith effort to award contracts to or acquire services from qualified emerging fund managers when acquiring private financial services as directed by House Bill 2559 from the 81st Legislature, which added subsections (g), (h), and (i) to Section 815.301 of the Texas Government Code.
- An emerging fund manager is defined as a private professional investment manager with assets under management of not more than $2 billion. Private financial services include pension fund management, consulting, investment advising, brokerage services, hedge fund management, Infrastructure fund management, and infrastructure investment.
- ERS reports to its Board of Trustees the methods and results of its efforts to hire emerging fund managers, including data disaggregated by race, ethnicity, gender, and fund size.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

OPPORTUNISTIC CREDIT INVESTMENTS GUIDELINES AND PROCEDURES

EFFECTIVE: December 12, 2017

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

OPPORTUNISTIC CREDIT INVESTMENTS
GUIDELINES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

OPPORTUNISTIC CREDIT INVESTMENTS
GUIDELINES AND PROCEDURES

EFFECTIVE
December 12, 2017

I. OPPORTUNISTIC CREDIT INVESTMENT OBJECTIVES

A. OPPORTUNISTIC CREDIT INVESTMENTS

The Employees Retirement System of Texas ("ERS" or "the Trust") will utilize various partnership structures (not excluding limited liability companies and offshore corporations) associated with Opportunistic Credit investments to enhance the total return of the Trust. The Trust's investment guidelines are determined by ERS' Board of Trustees ("Board" or "Board of Trustees"). In general, ERS' long-term goal for the Trust is to earn a return that will ensure coverage of payments due to members of the Trust's retirement plan(s) and their beneficiaries at a reasonable cost to the Trust and ultimately, to the taxpayers of the State of Texas.

The objectives of the Opportunistic Credit allocation is as follows: (1) To enhance the overall return of the Trust, (2) To further diversify the Trust's portfolio, and (3) To reduce the Trust's overall volatility. The underlying philosophy of the investment program is a strategy that seeks attractive risk-adjusted returns throughout the fixed income universe using a diverse set of investments. In addition, these investments should act as a complement to existing fixed income holdings residing in the Trust.

In most instances, the underlying investments will be illiquid and long-term in nature. Expectations are that for the bulk of the underlying investments, the majority of the return will come from current income and not capital appreciation with a few exceptions. The nature of the underlying investment may be structured as either debt or, in some instances, the underlying investment may have characteristics that resemble equity holdings (i.e. warrants, convertible debt, direct equity participation, etc.). In other instances, equity holdings may be a by-product of a formal judicial outcome, particularly on distressed asset strategies.

Opportunistic Credit investments will be made in a manner consistent with a portfolio approach within the Trust. The selection and management of Opportunistic Credit investments will be focused on return enhancement, but will strive to provide a degree of diversification across strategies. The diversification objective is required to manage overall market risk and to manage the specific risks inherent to any single investment strategy or single manager. The allocation will entail private credit strategies related to underlying investments with similar characteristics to a variety of traditional asset classes (i.e. Global Credit, Private Real Estate, Infrastructure, and Private Equity) so collaboration across asset class teams will be required.

For purposes of these *Guidelines and Procedures*, Opportunistic Credit differs from other areas within traditional alternative investment strategies. Allocations within the strategy will be broadly focused on credit opportunities that exist for the following reasons: (1) Opportunities that are driven by a lack of availability of credit due to inefficient markets or to market dislocations (2) An investment may seek to take advantage of a structural market change. (3) A potential investment may become available given a mispricing either within a market and/or industry. (4) Seeks out an ability to capture an illiquidity premium relative to liquid market investments (5) A potential investment may provide a desirable risk-adjusted return that is lower than the asset class for which the underlying investment would be related.

The landscape for Opportunistic Credit is broad, ERS categorizes the strategies into seven sleeves, but within each sleeve there are various sub-strategies that define the investment category. The respective Opportunistic Credit strategies are as follows:

1. Direct Lending
2. Distressed & Special Situations
3. Specialty Finance
4. Structured Credit
5. Real Estate Credit
6. Real Assets Credit
7. Mezzanine Finance

The ERS investment approach is one of active participation in the investment decision making process. This will entail ERS retaining control over the selection of Opportunistic Credit investments. Such an active approach will require a level of necessary staff involvement in addition to accessing third-party professional expertise.

Potential investments are subject to the Procedures for Investment as detailed in these Opportunistic Credit *Guidelines and Procedures.* Each year, the ERS Opportunistic Credit portfolio will be modified in accordance with an *Annual Tactical Plan* prepared by the ERS Hedge Fund team and approved by the Board of Trustees.

B. ASSET ALLOCATION

An important goal for the Trust is to make opportunistic credit allocations in a prudent manner given that in most instances these investments will be to multi-year investment vehicles that offer ERS an ability to capture an illiquidity premium.

These multi-year investment vehicles will have capital committed over a specified time period where a manager will draw down capital from the Trust to fund new investments. The vehicle will have a defined investment period along with a period of time to dispose/sell mature investments. Expectations are for most of these investments to mature and return capital prior to their full term. It should be noted that these vehicles often have lives (term) ranging from 5 to 10 years.

C. PROGRAM MANAGEMENT

The selection and management of assets within the Opportunistic Credit portfolio will be structured to generate returns that either meet or exceed the stated benchmark. Specific considerations of importance in the construction and management of the program are as follows:

Prudent Investor. All investments will be made in a prudent manner. As to be expected, diversification is a core component to this tenant. ERS will diversify across investment manager/general partner, investment sub-strategy, geography, and vintage year. With regards to fees, ERS will seek to minimize fees and ensure fees are deemed prudent and reasonable to maintain an alignment of interest between parties. In many instances, management fees will only be paid on invested capital and not on committed capital.

1. **Due Diligence.** The due diligence process for each opportunistic credit investment will include both operational and investment due diligence. Areas of review will include at a minimum: an evaluation of the organization, business culture, background checks on key personnel, governance, analysis of past performance including exposures (i.e. geographic, industry, and position sizing/review), investment process, risk management, internal controls, compliance, operational infrastructure, document review, trade operations, custody and counterparties, financing, valuation practices, legal, reporting, auditors, information technology capabilities, and disaster recovery.

2. **Institutional Quality.** All underlying opportunistic credit investments must be of institutional investment quality. Institutional quality is defined as being of a quality whereby the investment would be considered acceptable by other prudent institutional investors of a comparable size to ERS when considering an investment in a similar size and/or strategy.

3. **Leverage.** Gearing/leverage is a condition where the net potential monetary exposure of an obligation exceeds the value of the underlying assets which support the obligation. Net leverage is calculated as the difference between (A) the sum of (i) the market value of all long cash market positions, (ii) the notional value of all long derivative positions, and (B) the sum of (i) the absolute market value of all short cash market positions, and (ii) the absolute notional value of all short derivative positions divided by (C) the net market value of the fund. Gross Leverage is the total of (A) the sum of (i) the market value of all long positions, (ii) the notional value of all long derivative positions, (iii) the absolute market value of all short cash market positions, and (iv) the absolute value of all short positions divided by (B) the net market value of the fund.

   The underlying funds in the Opportunistic Credit portfolio may use leverage in a prudent manner that is consistent with leverage applied in similar opportunistic credit strategies. The use of leverage is not a consideration for meeting short-term funding needs. Expectations are for the use of leverage to be not more than 2.5x the LMV (long market value) of a holding. In most instances, leverage expectations are to be much lower. It should be noted that some underlying assets may have inherent leverage that would be greater than 2.5 times the underlying value of the assets. For example, this is most prevalent with Structured Credit.

4. **Liquidity.** Expectations are for the vast majority of the underlying assets residing within the Opportunistic Credit portfolio to be illiquid. In most instances, the underlying investments will reside in multi-year lock investment vehicles that are structured as closed-ended investment vehicles. Typically, these investment vehicles will have a term life of 5-8 years with the potential for extension (i.e. two 1 year extension periods). In some instances, the term life of a vehicle could be shorter than 5 years given a market dislocation. As with all illiquid investments, ERS is seeking an illiquidity premium for providing its capital over a multi-year timeframe.

5. **Transparency.** To meet fiduciary obligations, transparency will be required into the underlying opportunistic credit investments. At a minimum, this transparency will include information with respect to all underlying holdings, underlying strategies (if applicable), background information on the principals of the organization, prior fund historical performance, prior transactions, pipeline discussion, and financing arrangements. All information will be subject to confidentiality provisions to the extent permitted under applicable state law. Furthermore, transparency for the sake of transparency will not be the goal. The goal of transparency will be to provide insight regarding the integrity of the manager's investment process and for internal staff to monitor the underlying risks associated with these illiquid investments.

6. **Emerging Fund Managers.** ERS will make a good faith effort to invest with qualified emerging fund managers when acquiring private financial services pursuant to Section 4.16 of ERS' *Investment Policy* Statement and as set forth in Section 815.301 (g), (h), and (i) of the Texas Government Code. An emerging fund manager is defined as an investment manager with assets under management of not more than $2 billion.

D. RISK MANAGEMENT AND MONITORING

The ERS Hedge Fund team along with the Consultant will monitor the ongoing embedded risks of all Opportunistic Credit allocations. Risk will be assessed at both the fund and portfolio level. ERS will rely heavily upon the Consultant for many of the underlying due diligence aspects. This includes both operational and investment due diligence. The reliance upon the Consultant does not preclude ERS from conducting its own due diligence on each respective investment.

The ERS Hedge Fund team, taking into account insight from other asset classes, will incorporate the same investment process used for all hedge fund allocations for all opportunistic credit allocations overseen by the team. The process will specifically focuses on operational risk, management/firm risk, strategy risk, and portfolio risk.

Given the broad nature of Opportunistic Credit, at times, a specialized consultant may be utilized in the underwriting of a specific investment opportunity. This specialized asset class consultant will already have an existing relationship with ERS through an existing asset class within the Trust. For example, the Consultant used for Private Real Estate may be called upon for providing the underwriting services for a specific real estate investment that could reside within Opportunistic Credit.

II. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

The Opportunistic Credit portfolio will be implemented and monitored through the coordinated efforts of the Board, Investment Advisory Committee ("IAC"), Executive Director, Opportunistic Credit Asset Class Investment Committee, ERS Hedge Fund team (inclusive of other ERS asset class teams) ("Staff"), and the ERS Hedge Fund Consultant and/or specialized asset class consultants ("Consultant"). The Opportunistic Credit portfolio will be internally managed by ERS Staff with Board oversight. Delegation of responsibilities for each participant is described in the following sections.

1. **Board of Trustees ("Board").** The Board will approve the investment guidelines and objectives that are prudent to implement a strategic plan for the investment of Trust assets. It is expected that the Board will review the performance criteria and policy guidelines for the measurement and evaluation of the Opportunistic Credit portfolio and investments. This will also include supervising the investment of the Trust's assets to ensure that the investments remain in accordance with intended strategic plan. With approval of the Opportunistic Credit *Guidelines and Procedures*, this will guide the long-term execution of the portfolio. The approval of the tactical plan will guide the short-term execution of the portfolio. These documents will be prepared and approved at a minimum of an annual basis. Preparation of these documents will be done by the ERS Hedge Fund team with input from other ERS asset class teams. The Board will monitor the ongoing progress of the portfolio through a performance measurement report prepared quarterly.

2. **Investment Advisory Committee ("IAC").** The IAC will review the Trust's investments to ensure that they conform to the investment objectives and policies adopted by the Board. Staff may utilize the expertise of IAC members in assessing investment strategies. This may include requesting IAC members to participate on ad-hoc project committees and provide insights from such participation to the Board.

3. **Executive Director.** The Executive Director is granted full authority and responsibility by the Board in the implementation and administration of its investment programs subject to Board

policies, rules, regulations, and directives consistent with constitutional and statutory limitations. The Executive Director will participate in the review of investments and will make investment decisions based on information provided by Staff in conjunction with the Consultant.

4. **Opportunistic Credit Asset Class Investment Committee.** The Opportunistic Credit Investment Committee will review the Trust's potential opportunistic credit investments to ensure that they conform to the investment objectives outlined by the *Opportunistic Credit Guidelines and Procedures* and the *Annual Tactical Plan.* These two documents *are* approved by the Board on an annual basis. The Opportunistic Credit Asset Class Investment Committee will be comprised of the following positions: Executive Director, Chief Investment Officer, a member of the IAC, and either the Deputy CIO or a senior member of the ERS Investments staff. The Committee will review all investment recommendations put forward by the ERS Hedge Fund team and other asset class teams. The Opportunistic Credit Asset Class Investment Committee has authority to authorize individual investments up to 0.60% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report and limited by approval authority of the Board of Trustees pursuant to Texas Government Code Section 815.3016.

5. **ERS Hedge Fund team ("Team").** The ERS Hedge Fund team will develop investment objectives and policy language that includes a long-term strategic plan. These documents will be reviewed and revised on an annual basis. The ERS Hedge Fund team will prepare an *Annual Tactical Plan* which details goals and objectives for the upcoming twelve-month period. On a quarterly basis, the ERS Hedge Fund team will review the necessary performance reports associated with the Opportunistic Credit managers.

   Collectively, the ERS Hedge Fund team and the Consultant will identify eligible opportunistic credit funds for investment. The ERS Hedge Fund team does not solely rely upon the Consultant for any investment recommendation. ERS has its own investment process which drives the investment selection.

6. **Opportunistic Credit Consultant ("Consultant").** In cooperation with the ERS Hedge Fund team, the Consultant will advise on opportunistic credit compliance and will assist in the implementation of the Opportunistic Credit portfolio. As requested/needed, the Consultant will assist in developing the long-term strategic plan for the *Opportunistic Credit Guidelines and Procedures* and *Annual Tactical Plan.* This information will be reviewed and updated on an annual basis. The Consultant will also assist the ERS Hedge Fund team in investment identification, screening, due diligence evaluation, monitoring, and documentation activities. This may include but is not limited to preparing quarterly performance measurement reports, advising on investment amendments, and executing special projects based on request. As noted earlier in this guidelines and procedures, a specialized consultant may be utilized in the underwriting of a specific investment opportunity. This specialized asset class consultant will already have an existing relationship with ERS through an existing asset class within the Trust.

B. INVESTMENT PROCEDURES

Opportunistic Credit investments in compliance with ERS' Investment Objectives (Section I) and Opportunistic Credit Asset Allocation Decisions (Section II) will be acquired through the following process:

1. **Annual Tactical Plan.** Each year, the ERS Hedge Fund team will work with the Consultant to prepare an *Annual Tactical Plan. This plan* reviews the current status of the Opportunistic Credit portfolio along with recent historical and prospective market conditions. The *Annual Tactical Plan* will propose the steps to be taken over the next twelve-month period to further

implement the long-term strategic plan. The *Annual Tactical Plan* will develop a dollar commitment target for the upcoming twelve-month period. The *Annual Tactical Plan* will be provided to the Board for review and approval. The *Annual Tactical Plan for Fiscal Year 2018* is provided in Appendix A.

2. **Opportunistic Credit Investments.** Collectively, the ERS Hedge Fund team along with other ERS asset class teams and the Consultant will identify and evaluate various opportunistic credit investments. These potential investments will be in accordance with the ERS Opportunistic Credit *Guidelines and Procedures* and *current Annual Tactical Plan*.

Collectively, the ERS Hedge Fund team along with the Consultant will be responsible for evaluating each respective investment based on the due diligence conducted for the potential investment. The Consultant will prepare a written summary analysis including an investment recommendation based on findings from due diligence. In addition, background and criminal checks are conducted on all investments. The ERS Hedge Fund team will also conduct its own due diligence review and present its findings in a document for review by the Opportunistic Credit Asset Class Investment Committee. For investments approved by the Opportunistic Credit Asset Class Investment Committee, the ERS Hedge Fund team will be responsible for all aspects of negotiation, documentation, and legal reviews including closings. All investment vehicle structures will be subject to review by ERS' legal counsel. ERS Staff may request the Consultant to assist in various aspects of its due diligence duties. It should be noted that as appropriate, other asset class teams within ERS may take the lead on certain asset class/strategy specific due diligence and monitoring. Each respective asset class team within the Trust has its own unique process that is both diligent and robust for making investment selections.

C. STAFF RESPONSIBILITIES

2. **Implementation and Administration.** The ERS Hedge Fund team, in collaboration with other asset class teams, is responsible for the following implementation and administration duties. This section designates certain Opportunistic Credit portfolio management responsibilities that the Staff will either perform or engage a third party to perform.

a. Investment Selection. The ERS Hedge Fund team ("Team") will be responsible for evaluating investment opportunities and submitting their recommendations for investment to be approved by the Opportunistic Credit Asset Class Investment Committee.

The screening and selection of opportunistic credit investments will be made with a view to either meet or exceed the policy benchmark. Investments will fall into the stated parameters, constraints, and asset allocation guidelines as set by the Board of Trustees in these Opportunistic Credit *Program Guidelines and Procedures*.

The *Annual Tactical Plan* process will be used for determining targets for the number and types of investments to be made for a given year. Internal staff will also take into consideration relevant overall portfolio diversification considerations as set forth in the Investment Objectives and Investment Policies statement of these *Opportunistic Credit Program Guidelines and Procedures*. The process will include, but not be limited to, the following duties:

(1) The *Annual Tactical Plan* outlines the steps ERS will take during the upcoming twelve-month period The *Annual Tactical Plan* will include the following: a review of the current status of the portfolio, the perceived current investment environment relevant to opportunistic credit, potential investment opportunity strategies, the underlying rationale behind potential allocations, and other goals and objectives related to managerial oversights related to opportunistic credit investments (e.g., situations being monitored and planned refinements to the overall process).

(2) Review and maintain records of potential opportunities available along with investments that don't meet the due diligence requirements set forth for the stated program.

(3) Screen and evaluate potential opportunities to identify investments that provide attractive risk and return characteristics. These potential investments should fit the program's long-term and short-term investment objectives.

(4) Conduct full and proper due diligence on prospective investments which also entails both a greater understanding and documentation of the underlying investment process. Prospective investment due diligence will include evaluating the following areas: organization and personnel, research, due diligence and underwriting, internal investment decision process, documentation, monitoring, track record, investment terms and conditions, investor reporting, corporate governance protections, background checks and other investment specific items as determined by either the ERS Hedge Fund team or the Consultant. Onsite visits at a manager's office by a Team member will be a mandatory part of investment due diligence. This will be required for all potential investments including ongoing due diligence efforts.

(5) Summarize findings of the due diligence process on each prospective investment in a formal investment recommendation and present those findings to the Opportunistic Credit Asset Class Investment Committee or Board of Trustees for approval

(6) It is expected that all investments will be fully negotiated by internal legal staff along with oversight by the ERS Hedge Fund team. Common areas of negotiation include the following: full negotiation of investment terms (including fees) and conditions, limited partnership and limited liability company agreements, and other closing documents on ERS' behalf. Staff will coordinate legal, tax, and other required professional reviews. ERS will seek out comparable fees/terms to both public and private plan peers. Comparable terms/fees are often obtained through most favored nation (MFNs) clauses negotiated prior to investment.

b. Ongoing Operations. The ERS Hedge Fund team will either conduct or supervise the following services with respect to each hedge fund investment:

(1) Monitoring and Voting. Maintain communication with managers of underlying investments and continually assess the ongoing performance of each respective investment. This will include, but is not limited to the following: regular calls/meetings with managers to discuss performance attribution, discussion on current market environment and opportunity set with the manager, onsite investment meetings which includes ongoing due diligence monitoring, and when applicable sitting on advisory boards. Board participation will involve voting on applicable matters relating to the underlying investment (i.e. governance issues, valuation issues, etc.). ERS Staff will always vote in the best interest of the Trust in accordance with its fiduciary duties.

(2) Disbursement, Receipt, and Cash Management. Fund commitments on a timely basis and coordinate the receipt of cash distributions from all investments.

(3) Books and Records. Maintain records regarding the management of investments. This should include capital flows such as subscriptions, commitments, capital calls, disbursements/distributions, and return of capital. In addition, ERS Staff will obtain and review all relevant legal documents such as limited partnership and limited liability company agreements, amendments, correspondence, and other documentation as appropriate. Books and records will be made available to ERS auditors as reasonably required.

(4) Manager Review/Redemption. ERS Staff will review each manager on an ongoing basis. Reasons for a manager to be placed on the watch list for possible redemption include but are not limited to the following:

- j) Persistent underperformance relative to either a specified benchmark(s) or peer groups.
- k) A significant change in the firm's ownership and/or structure.
- l) A loss of either one or more key personnel (including general staff turnover).
- m) A significant change in assets under management and/or loss of clients.
- n) A shift in the firm's investment philosophy or process.
- o) Persistent lack of responsiveness to ERS requests for information (i.e. lack of transparency).
- p) Regulatory investigations.
- q) A violation of the *Investment Policy*, investment guidelines, ERS side letter, or other instructions provided that are relevant to an investment made by the Trust.
- r) Any issue and/or situation of which is deemed material upon review.

The ERS Hedge Fund Team will also have the authority to terminate a manager outside of the stated points noted above based on a recommendation made to both the Chief Investment Officer and Executive Director. ERS will seek a timely exit from any investment where it has contractual ability and a manager has violated any relevant term of the contract that is deemed material. In the case of closed-end investment vehicles with limited contractual redemption rights, ERS Staff will evaluate all appropriate liquidation options, including secondary transactions.

2. Reporting Requirements

a. Investment Financial Statements. On at least an annual basis, ERS Staff and the Consultant will receive from the underlying investments audited financial statements. At times, underlying investments may produce unaudited financial statements either quarterly or semi-annually. In most instances, financial statements will be in accordance with GAAP (Generally Accepted Accounting Principles) or IFRS (International Financial Reporting Standards). These accounting methodologies are widely recognized and used by the majority of private partnership investment vehicles.

b. Quarterly Report. As soon as is practicable after quarter-end, the Consultant will produce a report on the opportunistic credit investments held by ERS which will address activities that occurred during the quarter including an industry review, strategy review, portfolio review (e.g., performance, risk, portfolio composition, Consultant ratings), fund review, and all other items of which ERS should be apprised.

c. Custodian. The custodian will collect information regarding the program's account cash flows, valuations, and any other information reasonably requested and needed to record performance of the underlying investments.

D. CONSULTANT RESPONSIBILITIES

The Consultant responsibilities will be provided by ERS' Hedge Fund Consultant or other specialized asset class consultants as appropriate. The Consultant will provide private credit/opportunistic credit investment consulting services to the Trust including any affiliated entities (i.e. ERS Board) to assist in the management of these assets. These services will be subject to reasonable deadlines and the Consultant will be responsible to take direction from ERS personnel which include the following: Executive Director, Chief Investment Officer, Deputy Chief Investment Officer, Director of Hedge Funds, and/or other designated ERS investment personnel. ERS will not provide workspace, furniture, computer terminal access, and/or telephone services to the Consultant.

The Consultant will provide all the necessary resources to properly evaluate both prospective and existing investment opportunities. This includes staff of the Consultant including other deliverables/services. Below is a potential list of work to be performed by the Consultant and its staff.

1. Work with internal ERS Staff to develop a long-term opportunistic credit investment strategy and related guidelines and procedures utilizing best practices and highest fiduciary standards for entities of a similar type to ERS as is consistent with existing *ERS Investment Policy*.

2. Develop an annual plan to implement the opportunistic allocation, including:

    a. Assess overall plan allocations and objectives; Assist internal ERS Staff with the documentation of investment guidelines, determination of optimal program size and strategy mix; Assist in the development of the opportunistic credit implementation plan (including guidelines and procedures along with a tactical plan), incorporating best practice recommendations; and

b. Conduct investment analysis and help to prioritize various investment opportunities based on such factors: the degree of risk and return associated with a strategy, the evaluation of the current opportunity set given the current market environment, and other relevant investment factors.

3. Assist internal ERS Staff with search activities including the identification, screening, and due diligence of prospective "institutional quality" opportunistic credit investments.

4. When applicable, assist ERS Staff with risk models on the proposed portfolio for ongoing quantitative assessment and validation of portfolio characteristics. In most instances, this will not be applicable given the illiquid nature of the underlying investments.

5. As needed, the Consultant will work with internal ERS Staff to analyze available investment managers/products. This analysis will include but is not limited to providing access to a broad database of hedge fund managers/partnerships.

6. The Consultant will continually work with ERS to improve upon its due diligence process for analyzing prospective investments. Emphasis will be placed on implementing best practices and maintaining the highest fiduciary standards.

7. Assist in the screening of prospective investment managers. This will include providing research and analysis to evaluate prospective investment opportunities.

8. For all investments, the Consultant will provide written investment recommendations for the Opportunistic Credit Asset Class Investment Committee or Board of Trustees along with a formal disclosure statement which highlights any potential conflicts of interest.

9. The Consultant will provide ongoing information relating to emerging manager investment concepts and/or strategies.

10. Monitor portfolio performance against the designated benchmark(s) and provide peer comparisons. Provide a quarterly assessment of each partnership investment and as a whole portfolio. This assessment will review both qualitative and quantitative aspects. Performance data will be provided by the custodian to the Consultant. The Consultant will report timely on key events that may materially impact the portfolio's value such as structural market changes, geopolitical events, personnel issues with a manager (to the extent Consultant is aware of such change), and regulatory changes.

11. Periodically review the existing benchmark(s) for the opportunistic credit portfolio and recommend changes as appropriate.

12. Assist ERS Staff with ongoing due diligence, monitoring, and evaluating performance relative to appropriate benchmarks.

13. Work with internal ERS Staff in providing the following activities: advice and feedback on strategic initiatives and guidelines, counterparty risk, risk management. Expectations are for monthly calls to occur across both parties where the noted topics above will be discussed amongst other relevant investment oriented issues.

14. Provide customized risk models at the total portfolio level and customized Board reporting on ERS' opportunistic credit investments when applicable/needed.

15. The Consultant may also be requested to perform special projects which will be mutually agreed upon by the Consultant and ERS.

16. Upon reasonable advance notice, the Consultant will be asked to attend ERS Board meetings, Opportunistic Credit Asset Class Investment Committee meetings, and legislative hearings when requested.

17. The Consultant will maintain regular communications with the Chief Investment Officer, Deputy Chief Investment Officer and the Director of Hedge Funds. These communications can include phone conversations, onsite meetings, and other forms of written communications.

III. OPPORTUNISTIC CREDIT PORTFOLIO

Opportunistic Credit allocations will solely reside within the dedicated portfolio. Opportunistic Credit investments will generally consist of opportunities that fit outside of the mandate of existing asset classes of the Trust, but offer attractive risk/return profiles and compelling fixed income qualities such as a higher percentage of return from current income and other downside protection qualities often associated with fixed income. However, it is possible that Investments of similar characteristics and structuring may reside within the other asset classes of the Trust if those investments are a fit for those asset classes as well (i.e. Global Credit, Private Real Estate, Infrastructure, and Private Equity). Currently, up to 3% of the Trust's assets will be allocated to Opportunistic Credit. Expectations are for a 1-5 year implementation plan. ERS plans to be thoughtful and prudent to allocations that reside within this specialized portfolio.

A. INDIVIDUAL ALLOCATIONS

The Opportunistic Credit Portfolio will complement the overall Trust by providing an opportunity to allocate to unique credit oriented strategies. Positions will range in size based on both the opportunity set along with the underlying risk/reward characteristics of the opportunity. Emphasis will be placed on opportunities that provide the Trust with a yield component along with collateral attached to the underlying investment. These underlying investments should often have reasonable covenants along with other protective measures. These core principals should provide ERS with a degree of downside protection along with the potential for generating attractive risk adjusted returns. As outlined in these Guidelines and Procedures, the ERS Hedge Fund team will manage and monitor the underlying exposures to the objectives of the asset class in conjunction with other internal asset class staff.

B. OPPORTUNISTIC CREDIT PORTFOLIO

The Opportunistic Credit Portfolio is a Risk-Seeking portfolio within the Trust. Further characteristics are described below.

1. PORTFOLIO CONTRUCTION METHODOLOGY

ERS will manage the Opportunistic Credit Portfolio using a Core/Satellite approach:

a. Core Investments. Core investments will focus on opportunities that primarily have known cash flows where a significant portion of the total return will be associated with a yield earned on the underlying investment. These investments will often carry contractual cash flows with various covenants associated with the investments.

b. **Satellite investments**. Satellite investments will carry a higher risk/reward return profile. These will often have uncertain cash flows associated with the underlying investment. These opportunities will most likely occur given either cyclical or structural issues residing in a particular market. These investments will often be purchased at a significant discount to their fair market value where a significant portion of the total return associated with this investment will come from price appreciation of the security/asset. At times, these investments may be associated with stressed/distressed investing. These particular allocations will receive smaller allocations to coincide with the underlying risks associated with the investments.

c. **Co-Investments.** Co-investment opportunities may occur on a periodic basis and will be evaluated on a deal-by-deal basis. These investments will be made in partnership with an existing relationship to an underlying investment within the Trust. In most instances, these transactions will be outsized for the existing manager/investment based on portfolio diversification and risk management requirements. Fees and terms associated with each co-investment will vary, but ERS will on a best efforts basis seek out additional fee concessions for providing capital. The overweight to each respective co-investment opportunity should provide ERS with outsized return potential. It should be noted that deal risk will be significant for any one investment.

ERS will determine tactical allocations at the fund strategy level. These tactical allocations will be based on the performance expectations of ERS Staff. These tactical allocations will be reviewed and modified on an annual basis in the *Annual Tactical Plan*.

2. PORTFOLIO PERFORMANCE

Performance of the Opportunistic Credit Portfolio will be monitored at the portfolio level. The performance objective of the portfolio is to achieve a total time weighted rate of return over rolling–five year periods of at least the annualized S&P LTSA Leveraged Loan Index (net of all investment management fees and expenses) plus a premium to be determined by staff per further review of potential portfolio construction and presented to the Board of Trustees and IAC with the Fiscal Year 2019 Tactical Plan. Consistent with ERS' implementation of new allocations, the early stages of the portfolio will be benchmarked to actual performance until meaningful development of the portfolio. Underlying managers will be benchmarked to their respective investment strategy benchmarks.

At the fund level, Staff will monitor the performance of individual investments versus the Consultant's database of peer group private credit including opportunistic credit investments. Quartile rankings will be calculated and monitored for each ERS investment over various look back periods and against both broad and sub-strategy peer groups as available.

3. STRATEGIC ALLOCATIONS

The target ranges and upper policy limits for the Opportunistic Credit portfolio by strategy are specified to ensure that the portfolio remains sufficiently diversified.

Staff is required to notify the Board if strategy allocations violate the approved target ranges. The Board may approve a request from ERS Staff to allow exceeding the specified ranges for a period of time. On a best efforts basis, ERS Staff will rectify deviations from the stated ranges in a timely manner when considering current market conditions.

The target range is determined based on the expected return, risk, market exposure of each strategy, and the strategic objectives of the Opportunistic Credit Portfolio:

Strategy Class	Target Range*	
Direct Lending	0%	40%
Mezzanine Financing	0%	20%
Specialty Financing	0%	50%
Distressed & Special Situations	0%	15%
Structured Credit	0%	15%
Real Estate Credit	0%	40%
Real Asset Credit	0%	5%

*Targets refer to the percentage of total capital allocated to the Opportunistic Credit portfolio. This will include both invested and committed capital.

The *Annual Tactical Plan* will specify a tactical allocation to each strategy class within the approved target ranges. These tactical allocations will be opportunity weighted to take into account short to medium-term expectations for the performance of the underlying strategies.

IV. DEFINITIONS OF APPROVED PRIVATE CREDIT/OPPORTUNISTIC CREDIT FUNDS

ERS categorizes the opportunity set into seven broad strategies:

1. Direct Lending
2. Distressed & Special Situations
3. Specialty Finance
4. Structured Credit
5. Real Estate Credit
6. Real Assets Credit
7. Mezzanine Finance

Described below are the seven representative private credit/opportunistic credit strategies noted above. These strategies do not constitute the entire universe of potentially suitable opportunities.

Direct Lending. Direct lending focuses on providing loans to private companies. These loans are often senior within the capital structure. In addition, the loan will have various forms of collateral and covenants associated with the specific transaction to protect the underlying investor/lender. Many of these borrowers have been displaced given the structural changes within the banking industry (i.e. Dodd Frank and Basel III). Frequently, these borrowers operate small to medium sized business and may be of a lower credit quality relative to larger more established industry leaders. This particular strategy is primarily executed within developed markets such as both the United States and the European Union. Emerging markets may be considered, but they would never constitute a significant portion of any potential portfolio.

Distressed & Special Situations. Distressed and special situations is a strategy that focuses on a specific event occurring. This particular strategy focuses on identifying and analyzing securities that can benefit from the occurrence of an extraordinary corporate transaction such as either a restructuring or bankruptcy/liquidation. The appeal of the strategy is that by buying at cheap valuations this should limit the potential downside to the strategy. In addition, each situation is idiosyncratic which means that returns of a portfolio should be relatively independent of the market (although in reality the strategy correlates with general credit markets). The basis for evaluation is the interplay between the company's sustainable cash flow, debt load (at current prices), and residual asset values. Enterprise value (i.e., combined value of debt and equity less cash) to either cash flow or EBITDA is a common valuation multiple. This particular strategy will be deemphasized within the Opportunistic Credit portfolio given existing exposure to the strategy within the Trust (i.e. Private Equity and Credit).

Specialty Finance. Specialty finance is a strategy that provides financing to niche areas within private markets. These are often smaller transactions and frequently structured as loans. At times, the investments may have additional equity upside associated with a transaction through the use of warrants and other forms of equity interest. Investments within the space may also involve contributing capital into a platform rather than on a loan by loan basis. Platform investments often involve providing equity into an underlying business that is operated by a select team of professionals that specializes in a certain area of finance. The platform will continually recycle capital back into the organization for further loans. Other areas of interest within this particular strategy sleeve include the following: factoring and receivables, regulatory capital relief/risk sharing, royalties, healthcare lending, venture lending, insurance linked, etc.

Structured Credit. Structured credit is a broad term which is used to describe the pooling of credit obligations. The pooled loans are further divided into tranches along with a predefined payout schedule called a “waterfall payment”. The waterfall payment is a payment scheme that coincides with a tiering of investors based on their desired risk/return appetite. The more certain the cash flow then the lower the coupon. Defaults on the underlying pool of loans will impact investors very differently from where they sit across the various tranches. The most common form of structured credit would be a CLO (collateralized loan obligation). Other forms of structured credit include RMBS (residential mortgage back securities) and ABS (asset backed securities). This particular strategy will be deemphasized within the Opportunistic Credit Portfolio given existing exposure to the strategy within the Trust (i.e. Credit and to a lesser extent Hedge Funds).

Real Estate Credit. Real estate credit will focus on lending activities that may not fit the risk/return profile within the Trust's dedicated Private Real Estate asset class. These opportunities may exist within both developed and emerging economies. Frequently, these opportunities are done as bridge financing, first mortgage lending and mezzanine on commercial real estate transactions. There may be instances where other real estate related lending opportunities could exist such as builder financing, NPLs, agency and non-agency B-piece strategies, construction lending, and other niche strategies. These opportunities will have a significant focus on asset backed opportunities where there is a portion of collateral attached to each investment to lower the inherent risk on each transaction.

Real Assets Credit. Real assets credit will focus on niche strategies that have direct and indirect links to the Real Assets asset class within the Trust. Areas of focus will be on opportunistic lending to infrastructure assets, energy, trade finance, metals and mining finance, and agriculture. These opportunities will have a significant focus on asset backed opportunities where there is a portion of collateral attached to each investment to lower the inherent risk on each transaction. This particular strategy will be deemphasized within the Opportunistic Credit portfolio given existing exposure to the strategy within the Trust (i.e. Real Assets).

Mezzanine Finance. Mezzanine debt is generally the financing that sits between a company's senior debt and equity within the capital structure of a company. Mezzanine debt can take the form of straight debt, preferred shares, and convertible debt. Frequently, the debt may have some form of warrants embedded in the structure. Mezzanine debt is often used by companies to finance further growth through acquisitions, recapitalizations, management buy-out (MBO), and leveraged buy-out (LBO). This type of debt is often either fixed or floating rate with a predefined term.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

PRIVATE EQUITY GUIDELINES AND PROCEDURES

EFFECTIVE: December 12, 2017

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
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GUIDELINES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

PRIVATE EQUITY
GUIDELINES AND PROCEDURES

EFFECTIVE
February 23, 2016

I. INVESTMENT OBJECTIVES

A. INVESTMENTS IN PRIVATE EQUITY AND DEBT ASSETS

The Employees' Retirement System of Texas ("ERS" or "the System") has determined that, over the long term, inclusion of private equity and debt investments (herein after referred to collectively as "private equity") would enhance ERS' expected portfolio investment characteristics. Specifically, as a result of the possibility of enhanced rates of return over publicly traded securities and returns that have low correlation with those associated with other major asset classes, the use of private equity investments tends to increase the portfolio's overall long-term expected real return, and reduce year-to-year portfolio volatility.

Private equity investments involve the purchase of unlisted, illiquid common and preferred stock, and to a lesser degree, subordinated and senior debt of companies that are in most instances privately held. Investments in company private securities are made primarily through institutional blind pool limited partnership vehicles, further described in Section I.D. The private equity strategies to be pursued are further described in Section II.A.

The System's investment policies are determined by the Board of Trustees. In general, ERS' long-term goal for the total portfolio is to earn a return that will insure the payments due to members of the retirement plans and their beneficiaries at a reasonable cost to the members and the taxpayers of the State.

ERS' private equity investments will be made in a manner consistent with the whole portfolio approach and the exclusive benefit requirements of the Texas Constitution. The selection and management of private equity assets will be guided to maintain prudent diversification of assets and management responsibility, and to preserve investment capital. The diversification objective is required to manage overall market risk and the specific risks inherent in any single investment or management selection.

B. ASSET ALLOCATION

ERS' allocation to private equity investments will remain within the limits authorized by the Board of Trustees in its asset allocation as established in Section 2.2B of the ERS *Investm3ent Policy* based on invested net asset value. ERS recognizes that it will be necessary to make capital commitments in excess of the target allocation in order to achieve and maintain its asset allocation.

An important implementation goal for the System is to spread out the timing of new commitments so as to avoid an undue concentration of commitments in any one fiscal year. Over the long-term, it is expected that approximately equal amounts of new funding will be committed each fiscal year to garner the benefits of time diversification.

C. PORTFOLIO PERFORMANCE

The System will use the following rate of return tests to evaluate the performance of the private equity asset class:

1. Total Return (Realized and Unrealized Gain/Loss Plus Income)

   Over the long-term (rolling 10-year periods) the private equity portfolio is expected to generate a minimum time-weighted return of the MCSI ACWI IMI plus 300 basis points, net of all investment management fees and expenses. The ERS will also measure the portfolio employing a dollar-weighted, internal rate of return (IRR) calculation. The portfolio and individual investments will be benchmarked against peer universe databases as recommended by Private Equity Staff and Consultant and as available.

   The primary investment strategies included in the allocation will provide the opportunity for long term capital gains. It is expected that the private equity investments will not provide any meaningful predictable cash flow and will be dependent on non-recurring events, such as the permanent disposition of assets, to generate returns.

2. Risk With Regard to Individual Investments

   In private equity investing there is the risk of sustaining a loss on any of the individual investments. It is the System's expectation that, while specific investments may incur losses of all or part of capital invested, a diversified portfolio of holdings will produce a positive rate of return in the expected range set forth in Section I.C.1., above.

D. PROGRAM MANAGEMENT

The selection and management of assets in the private equity portfolio will be guided to generate a high level of risk adjusted return, provide a moderate amount of current income, and maintain prudent diversification of assets and specific investments.

With private equity investments, there is an inherent risk that the actual return of capital, gains and income will vary from the amounts expected. The System will manage the investment risk associated with private equity investments in several ways:

1. Institutional Quality

   All assets must be of institutional investment quality. Institutional quality will be defined as being of a quality whereby the investment would be considered acceptable by other prudent institutional investors (e.g. insurance company general accounts and separate accounts, commercial banks and savings institutions, public employee retirement systems, corporate employee benefit plans - domestic and foreign, and other tax-exempt institutions).

2. Diversification

   The private equity portfolio will be diversified as to investment strategy, timing of investment, size and life cycle of investment, industry sector, investment sponsor organization (e.g., general partner group), capital structure and geographical location. Diversification reduces the impact on the portfolio of any one investment or any single investment style to the extent that any adversity affecting any one particular area will not impact a disproportionate share of the total portfolio.

Investments will be made such that at full investment a maximum of 20% of the total private equity allocation, based on combined net asset value and uncalled commitments, can be invested at any point in time with any single general partner, entity, related organization, or associated co-investments. No single private equity investment strategy will comprise more than 70% of the allocation, based on combined net asset value and uncalled commitments. It is also recognized that during the portfolio development or wind-down stages the full investment parameters may not, of necessity, be met. The System is permitted to own up to 25% of any particular commingled partnership, or a combined 25% of a single commingled partnership and its affiliated co-investment vehicles in which ERS has participated, subject to the partnership sponsor limitation above. The ERS may own up to 100% of fund-of-funds vehicles that invest in partnerships, not directly in companies (i.e., fund-of-one vehicles).

Long-term diversification targets among eligible investment strategies will be set forth in the Section II.A of these *Guidelines and Procedures* and reviewed annually or as necessary. Interim investment goals toward the implementation of the private equity program will be set forth in an *Annual Tactical Plan* (Appendix A) as described herein.

3. Ownership Structure

Investment Structure: The System's ownership structure will be an internally managed program whereby the System will make commitments to private equity limited partnerships. Limited partnership investments will be defined as including direct partnerships, fund-of-one and/or commingled fund-of-funds vehicles. ERS Private Equity Staff, with the assistance of a non-discretionary private equity consultant, will source, evaluate and recommend investments to an Investment Committee composed of ERS' Executive Director and members of ERS Senior staff on a non-discretionary basis, with the Investment Committee voting to approve or decline Private Equity Staff's recommendations. The investments will be subject to portfolio diversification targets established in the *Guidelines and Procedures*, and approval of an annual *Tactical Plan* by the Trustees. Other commingled vehicles or separate account investments, which are not limited partnership units, may also be purchased by ERS, if such vehicles are deemed to provide appropriate liability, tax, and governance characteristics. All vehicle structures will be subject to review by ERS' legal counsel.

Co-investments: Co-investments entail providing additional funding to specific company investments made by general partner sponsors. The defining characteristics of co-investments in which ERS may invest are: 1) offered by general partners in which ERS has made a limited partnership investment ("Existing Relationships") or by general partners with whom ERS has not invested ("New Relationships"), 2) a discretionary investment with the right, but not the obligation, to invest, 3) are offered "deal by deal" in an other than pro-rata manner alongside the main limited partnership, typically leading to greater deal concentration, 4) are typically controlled by the sponsor in a special purpose vehicle governed by terms substantially similar to the main limited partnership other than the economic terms which generally call for low or no fees and carry for the general partner.

Co-investments will operate under the same Guidelines and Procedures established for ERS' limited partnership investing. Specifically, ERS' co-investments, combined with ERS' limited partnership investments, will follow the Investment Policies outlined in Section II of this document, and will be bound by the target allocations, geographical diversification, industry sector diversification, life cycle diversification, investment sponsor diversification, and capital structure diversification defined therein. Consistent with Section I.D.2. "Diversification", the combined net asset value and uncalled commitments of limited partner investments and co-investments with any single general partner: (i) cannot exceed 20% of the total private equity allocation, and (ii) may not exceed 25% of any particular co-mingled partnership together with its affiliated special purpose co-investment vehicles in which ERS owns an interest.

No more than 50% of any individual year's investment activity, based on combined commitments and co-investments, can be invested in co-investments; and no more than 20% of all co-investments can be invested with New Relationships. No individual co-investment, including follow-on investments in the same company, may be greater than the following, without ERS Board of Trustees approval: (i) $50 million in size for Existing Relationships; (ii) $100 million in size for secondary co-investment transactions; or (iii) $20 million in size for New Relationships.

Co-investments will follow the Procedures for Investment defined in Section III of this document. Staff, assisted by Consultant, will screen co-investment opportunities, conduct due diligence, prepare formal investment recommendations, and seek approval from the Private Equity Investment Committee. The Consultant will assist Staff in the due diligence and evaluation of co-investments and prepare investment recommendations to be shared with the Private Equity Investment Committee as requested.

Direct Investments: Direct investments entail investments in companies that are independently sourced and underwritten by the System. Direct investments are excluded from the scope of the private equity investment program.

4. Reporting System

There will be a reporting and monitoring system for the portfolio and individual investments. Situations of underperforming investments, portfolio diversification deficiencies from the *Guidelines and Procedures* and *Strategic Portfolio Structure* can then be identified. Further definition of this reporting system is provided in Sections III.C.2.b. "Investment Management Ongoing Operations" and III.C.3. "Investment Management Portfolio Accounting and Financial Control."

5. Performance Measurement

Performance will be calculated on both a time-weighted and dollar-weighted (internal rate of return or IRR) basis, with primary emphasis being placed on the internal rate of return. The rate of return calculations will be net of all partnership fees and expenses.

In-kind Distributions: Partnerships will be valued on the distribution price of the in-kind security or other valuation method stipulated in the partnership agreement. Any change from distribution price to realized price of the in-kind distributions will then be monitored as a separate component of the total portfolio return.

Benchmarks: For IRR calculations, the Vintage Year methodology developed by Venture Economics, Inc. will be used for purposes of performance comparisons to the industry.

6. Lines of Responsibility

Well-defined lines of responsibility and accountability will be required of all participants in ERS' private equity investment program. Participants are identified as:

Board of Trustees -	The fiduciaries elected by the employee and retiree beneficiaries of the System and those appointed by the Governor, the Speaker of the Texas House of Representatives and the Chief Justice of the Texas Supreme Court.
Investment Advisory Committee -	The Investment Advisory Committee ("IAC") was created to consult with and advise the Board on investments and investment-related issues. The IAC is composed of at least five and not more than nine members and are selected on the basis of experience in the management of a financial institution or other business in which investment decisions are made or as a prominent educator in the fields of economics or finance. The IAC members serve at the pleasure of the Board of Trustees.
Executive Director -	The Executive Director is granted full authority and responsibility by the Board of Trustees in the implementation and administration of its investment programs subject to Board policies, rules, regulations, and directives consistent with constitutional and statutory limitations.
Private Equity Investment Committee -	The Private Equity Investment Committee consists of the Executive Director, Chief Investment Officer, a member of the Investment Advisory Committee, and either the Deputy CIO or a Senior member of ERS investments staff and is granted the following fiduciary responsibility: (i) approving Private Equity Portfolio investments recommended by Private Equity Staff up to 0.6% (combining limited partnership commitments and any associated co-investments) of the System's assets in the case of partnerships that invest in companies. For co-investments with New Relationships, the Private Equity Investment Committee will approve the general partner, as well as approve the co-investment.
Private Equity Staff -	Investment professionals on the staff of ERS responsible for the private equity investment program's design, implementation

including due diligence and investment recommendation and approval, administration, and monitoring.

Private Equity Non-Discretionary Consultant - Professionals retained to support ERS' Staff and Trustees through the provision of private equity and alternative investment program knowledge and technical support, and to conduct investment due diligence, make fiduciary investment recommendations on a non-discretionary basis, and conducting performance measurement of the private equity portfolio.

The Consultant must also adhere to ERS' Standard of Conduct, as follows: Any conflict of interest disclosures that a Consultant is required to file pursuant to state law and federal securities laws must also be filed with and acceptable to ERS staff. Such disclosures will not be acceptable if they are perceived by ERS to show any loss of independence and objectivity by the Consultant.

The responsibilities, with respect to the private equity portfolio, of the parties cited above are outlined in Section III.A.1-4. Unless otherwise stated, the remainder of the guidelines contained herein pertain to the limited partnership investments entered into by ERS.

II. INVESTMENT POLICIES

The private equity program will be guided by *Private Equity Guidelines and Procedures*. Each year the program will be further implemented and modified in accordance with an *Annual Tactical Plan* prepared by Staff and approved by the Board of Trustees.

A. ELIGIBLE INVESTMENTS AND TARGET ALLOCATIONS

The following private equity strategies and investment types will be considered eligible for the ERS' portfolio. Long-term ranges are established for each strategy to be achieved at full investment. The Staff and Consultant will seek to manage the allocations to the mid-point of the ranges.

1. **Venture Capital and Growth Equity:** (10% to 30%) – Investments in newer high growth companies typically addressing technology, life sciences and other specialty growth industries. Venture capital and growth equity partnerships will be allocated into four categories and the manager will endeavor to select partnerships that represent the strategies in the appropriate amounts and diversity.

Early-Stage: Seed or start-up equity investments in private companies.

Later-Stage: Investments in more mature companies (e.g., with developed products, revenues, and in many instances profitable) to provide funding for growth and expansion.

Multi-Stage: Investments in venture capital companies at various stages of company development, including early-, late- and any other interim stages of development. **Growth Equity:** Investments in growth-stage companies that generally exhibit strong growth (typically greater than 10% revenue growth) and have often reached profitability. Investments are typically but not always minority interests, and in some instances modest leverage is used in the capital structure.

2. **Buyouts/Acquisition:** (35% to 60%) – Partnerships which provide funding to acquire majority or controlling interests in a business or product lines from either a public or private company. These partnerships are generally diversified by industry and other relevant measures. Buyout partnerships cover company size ranges from very large to small-market. Control-oriented restructuring funds are also included here.

3. **Subordinated, Senior and Distressed Debt:** (0% to 15%) – Partnerships that make debt-oriented investments.

   Subordinated Debt: Partnerships that make debt-related investments in unsecured or junior obligations in financings. These generally take the form of subordinated debentures or preferred stock. They typically earn a current coupon or dividend or a pay-in-kind coupon, and have warrants on common stock or conversion features.

   Senior Debt: Partnerships that make debt-related investments in senior secured obligations in financings. They typically earn a current coupon and the obligations are secured by a lien on the underlying assets of the business.

   Distressed Debt: Non-control investments made in distressed or poorly performing companies, with the intent of initiating a recovery via financial restructuring or the introduction of management expertise. Partnership's investments may include debt and/or equity securities.

4. **Secondaries:** (5% to 30%) – Partnerships that have been acquired from other limited partners and typically have had their capital called to greater than 50% of commitments. These partnerships can include any of the Private Equity strategies.

5. **Energy and Natural Resources:** (5% to 20%) – Partnerships whose underlying investments focus on oil and gas, mining and minerals, power, timber, agriculture, and water.

6. **Special Situations:** (0% to 5%) Partnerships with private corporate finance investment strategies that do not fall under the prior categories or do not justify a separate long-term strategic allocation. The manager will seek to diversify the portfolio across various sub-strategies. Examples include:

   Hybrid Partnerships: Funds that have broad strategy mandates and may invest materially in non-control investment structures or a variety of strategies that would preclude a simple venture capital or buyout categorization.

   Other: There are on occasion private equity/corporate finance partnerships that pursue strategies different from those cited above (e.g., royalties) that the manager may, in its discretion, seek to participate.

Exposures to these strategies may be pursued through direct partnership investments, co-investment, fund-of-one, and/or commingled fund-of-funds vehicles.

B. GEOGRAPHICAL LOCATION DIVERSIFICATION

Although the priority of the portfolio should be to achieve diversification by investment strategy, another measure of diversification is by geographical location. Over the long-term, ERS' portfolio should seek portfolio diversification with regard to major regional areas both domestically (e.g., Northeast, Mid-Atlantic, Southeast, Midwest/Plains, Southwest/Rockies, West Coast, Pacific Northwest), and internationally (e.g., Europe, Pacific Basin, and Latin America).

International private equity investments will comprise no more than 50% of the private equity investment allocation, and will be diversified in the context of the total portfolio. The currency exposure to ERS from the non-dollar aspect of the allocation should be negligible.

C. INDUSTRY SECTOR DIVERSIFICATION

ERS' portfolio will seek to diversify by industry sector (e.g., Biotechnology, Computers, Financial Services, Healthcare, Medical, Media/Communications, Electronics, Software, Consumer/Retail, Basic Industry, Other, etc.). If any one industry classification represents more than 20% of the private equity portfolio, a review of the System's holdings and exposures in that industry category will be undertaken.

The Staff and Non-discretionary Consultant will review industry classification methodology to develop satisfactory categories, and modify categories from time to time as appropriate.

D. LIFE CYCLE DIVERSIFICATION

Commitments to partnership investments will be staged over time. It is ERS' long-term goal to spread out investment timing such that new commitments will be made each fiscal year. This policy will have the effect of dollar-cost-averaging ERS' portfolio over business cycles and helps insulate the portfolio from event risk. Annual commitments will be allotted in accordance with a *Private Equity Portfolio Projection Model* maintained by Staff and the Non-discretionary Consultant, the results of which will be updated and incorporated as part of the *Annual Tactical Plan*, described here-in, or as necessary.

E. INVESTMENT SPONSOR (GENERAL PARTNERSHIP GROUP) DIVERSIFICATION

ERS' portfolio will seek to diversify by issuer of limited partnership securities, and other specific investments sponsors. No more than 10% of ERS' private equity portfolio, based on net asset value plus uncalled commitments (including all associated co-investments), will be invested with any one investment sponsor organization. Net asset value is defined as the carrying value of the investments reported by a partnership's general partner in the quarterly financial statements.

It is also recognized that during the portfolio development and wind-down stages the full investment parameters may not, of necessity, be met. The System is permitted to own up to 25% of any particular commingled partnership and its affiliated co-investment vehicles in which ERS has participated subject to the partnership sponsor limitation above. The ERS may own up to 100% of fund-of-funds vehicles that invest in partnership, not directly in companies (i.e., fund-of-one vehicles).

F. CAPITAL STRUCTURE DIVERSIFICATION

While the majority of investment opportunities in the private investment area are equity-oriented in nature, ERS will seek portfolio diversification such that both equity as well as more senior securities (e.g., those that are higher in a company's capital structure than common stock) are included in the portfolio. Senior securities may incorporate a current, predictable cash income component such as a regular dividend or interest coupon. These securities should also be senior to common and preferred equity, and can be in the form of preferred stock, subordinated debt, senior debt, or lease financing, etc

III. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

The private equity partnerships program will be implemented and monitored through the coordinated efforts of the Board of Trustees, ERS' Staff (the "Staff") and the Private Equity Consultant ("Consultant"). The portfolio will be internally managed by ERS' Board of Trustees and Staff. Delegation of responsibilities for each participant is described in the following sections.

1. Board of Trustees and Investment Advisory Committee ("IAC")

The Board of Trustees will approve the investment policies and objectives that are judged to be appropriate and prudent to implement the strategic plan for the investment of ERS' assets; review the performance criteria and policy guidelines for the measurement and evaluation of ERS' portfolio and investments; and supervise the investment of the System's assets to ensure that ERS' investments remains in accordance with ERS' strategic planning and Texas Employees' Retirement System' Objectives and Policies and the Private Equity *Guidelines and Procedures* documents.

The Board of Trustees will guide the long-term execution of the program through approval of the Private Equity *Guidelines and Procedures*, which will be updated and revised annually or as appropriate. The Board of Trustees will hire the Private Equity Consultant. The Board of Trustees will guide the short-term execution of the program through approval of an *Annual Tactical Plan* prepared by the Staff and Consultant, which details goals and objectives for the next twelve months. The Board will monitor the program's progress and results through a performance measurement report prepared quarterly by the Consultant.

The IAC will review the System's investments to ensure that they conform to the investment objectives and policies adopted by the Board of Trustees. Staff may utilize the expertise of IAC members in assessing investment strategies and may request IAC members to participate on ad-hoc project committees and provide insights from such participation to the Board of Trustees.

2. Staff

The Staff will develop investment objectives and policy language that includes a long-term strategic plan. Program documentation will be updated and revised annually or as appropriate. The Staff will prepare a short-term *Annual Tactical Plan*, which details goals and objectives for the next twelve months. Staff and Consultant will create a Private Equity Valuation Policy for the portfolio and annually review compliance with the policy. The Staff will review the quarterly private equity portfolio performance reports prepared by the Consultant.

The Staff, assisted by the Consultant, will identify eligible partnership investments and co-investments for the implementation of the private equity investment program, conduct due diligence on prospective investments, and prepare formal investment recommendations. A Private Equity Investment committee will review and make the fiduciary investment decisions regarding investments in limited partnerships and co-investments, based on information provided by, and recommendations offered by Private Equity Staff and Consultant.

The Staff will coordinate program compliance among all participants and communicate the investment policies and objectives. The Staff will coordinate the receipt and distribution of capital.

3. <u>Consultant</u>

In cooperation with the Staff, the Private Equity Consultant will advise on program compliance; assist in the implementation of the private equity program; assist, as requested, in developing the long-term strategic plan, composed of the *Private Equity*

Guidelines and Procedures and *Annual Tactical Plans*; review and annually update program documentation; assist in investment identification, screening, due diligence evaluation and documentation activities; prepare the quarterly performance measurement reports; advise on partnership amendments, and provide special project research pertaining to technical private equity and alternative investments issues as requested by ERS.

B. INVESTMENT PROCEDURES

Private equity investments in compliance with ERS' Policies (Section II), the Investment Objectives (Section I) will be acquired through the following process:

Annual Tactical Plan: Annually, Staff will work with the Consultant to prepare a tactical plan which reviews the current status of the portfolio, recent historical and prospective market conditions, and proposes the steps to be taken over the next 12 month period to further implement the long-term strategic plan. Employing a projection model, the plan will develop a dollar commitment target for the year. The *Annual Tactical Plan* will be provided to the Board for review and approval. The *Annual Tactical Plan* is provided in Appendix A.

Specific Investments: ERS Staff, assisted by the Consultant, will identify and evaluate limited partnerships, co-investments, and, as appropriate, other investment vehicles that are in compliance with ERS' investment policies and current *Annual Tactical Plan*. *Private Equity Partnership Evaluation Criteria* are attached as Appendix B.

ERS Staff, assisted by the Consultant, will be responsible for the due diligence evaluation of the prospective investments. Staff and/or the Consultant will prepare a written summary analysis and investment recommendation based on its findings in due diligence. For investments approved by the Private Equity Investment Committee, Staff will be responsible for all aspects of negotiation, documentation and legal reviews and closings. Staff may request the Consultant to assist in various aspects of its duties.

C. SPECIFIC STAFF RESPONSIBILITIES

1. <u>Implementation and Administration</u>

Staff is responsible for the following implementation and administration responsibilities. This section designates certain portfolio management responsibilities that the Staff will perform or cause to be performed.

a. Investment Selection -- Staff will be responsible for evaluating investment opportunities and selecting, on a non-discretionary basis, for approval by the Investment Committee, private equity investments to be made on behalf of ERS.

The screening and selection will be made with a view to maximize the System's risk adjusted rate of return, within the parameters and allocations of each private equity strategy as set by the Board of Trustees in the *Guidelines and Procedures*. *Private Equity Partnership Evaluation Criteria* are attached in Appendix B.

An *Annual Tactical Planning* process will be used for determining targets for the number and types of investments to be made within each strategy for a given year. The Staff will also take into consideration relevant overall portfolio diversification considerations as set forth in the Objectives and Policies statement and Program Management (Section I.B.) of this document. The process will include, but not be limited to, the following duties:

(1) *Annual Tactical Plan* preparation. This report outlines the steps ERS will take during the next fiscal year to further implement ERS' adopted strategic plan.

The *Annual Tactical Plan* will include a review of the current status of the portfolio, perceived investment environment, the types and number of investments to be sought and underlying rationale, and goals for other management responsibilities (e.g., situations being monitored and planned refinements to the private equity portfolio management process).

(2) Review and maintain records of opportunities available and reviewed in the market over time.

(3) Screen and evaluate opportunities to identify investments that provide attractive risk and return characteristics and are a fit with the portfolio's long-term and short-term objectives.

(4) Conduct full and proper due diligence on prospective investments and document the process. Limited partnership investment research will include investment and portfolio management processes, evaluating areas such as: 1) organization and personnel, 2) research, 3) due diligence and underwriting, 4) internal investment decision process, 5) documentation, 6) monitoring, 7) track record, 8) investment terms and conditions, 9) investor reporting, and other investment specific items as determined by ERS Staff and/or the Consultant. On-site visits at the General Partners' office by Staff and/or Consultant will be a mandatory part of investment due diligence. Co-investment research will include evaluating areas such as: 1) investment environment, 2) sponsor and deal team track record and return volatility, 3) sector history and expertise, 4) investment thesis, 5) company management 6) transaction structure, and 7) sponsor underwriting assumptions. On-site visits to portfolio companies by Staff and/or Consultant will be undertaken when feasible and practical.

(5) Findings of the due diligence process will be summarized in a formal investment recommendation and presented to Private Equity Investment Committee for approval.

(6) For limited partnership investments approved by the Private Equity Investment Committee, ERS Staff will negotiate investment terms and conditions, partnership agreements and other closing documents on ERS' behalf; and make investments on ERS' behalf. Staff will coordinate legal, tax and any other professional reviews required. Although ERS is not subject to ERISA, ERS Staff should obtain terms and conditions in such negotiations for ERS investments to operate in the same manner as investments made by "employee benefit plans" under ERISA, to the extent such terms and conditions (1) are not in conflict with applicable laws/regulations and this policy to which ERS is subject; (2) do not interfere with ERS maintaining its favorable tax qualification; and (3) so long as the Private Equity Investment Committee does not elect toopt out of such terms and conditions because to do so would be in ERS' best interest. For co-investments approved by the Private Equity Investment Committee, ERS Staff will review transaction documents to the extent necessary to confirm investment is made through a special purpose vehicle governed by terms substantially similar to the main limited partnership.

b. Ongoing Operations – The Staff will conduct or supervise the following services with respect to each investment:

(1) Monitoring and Voting – Maintaining communication with the general partners of the investments, maintaining an awareness of the progress and level of performance of each partnership investment. This will include, as appropriate, meeting with general partners, attendance at annual partnership meetings and, sitting on limited partner advisory boards. It will also involve voting on partnership and other portfolio securities matters, on ERS' behalf as need arises. Staff will present voting matters that are material or of a financial nature to the Investment Committee for approval.

The Staff will keep itself informed of the overall market conditions relative to the investments and the investments' competitive position in the applicable investment strategies. The Staff will also be responsible for attending to amendments, resolutions, voting proxies, and other investment related matters. All such activities will be undertaken with a view toward maximizing value to ERS.

(2) Disbursement, Receipt and Cash Management – Funding commitments on a timely basis and coordinating the receipt of cash distributions from the partnership investments.

(3) Books and Records – The Staff will maintain, or cause to be maintained, records regarding the management of the investments. These will include receipts, disbursements and other investment-related records, including partnership agreements, amendments, correspondence, and other documentation as appropriate. Books and records will be made reasonably available to ERS' auditors as reasonably required.

(4) Disposition Review – The Staff will be responsible for administering the orderly liquidation of any in-kind (i.e., security) distributions received from the partnership investments. ERS' policy is to liquidate in-kind distributions as soon as practicable through brokers designated by general partners or ERS approved managers or brokers, as appropriate.

2. Reporting Requirements

   a. Investments' Financial Statements – On a quarterly basis, the Staff and Consultant will receive from investee partnerships unaudited financial statements, and annually, audited financial statements. Portfolio and company valuations will be computed using the values provided by the general partners in the most recent financial statements.

   b. Quarterly Report – On a quarterly basis, as soon as is practicable after quarter-end, the Consultant will produce a report on the portfolio which will address activities that occurred during the quarter, including cash flows, valuations, IRR, and any and all other items of which ERS should be apprised. The Consultant will also reconcile with the custodian bank at least quarterly.

   c. Custodian Bank – The Custodian will collect information regarding the System's account cash flows and valuations, and any other information reasonably requested.

   d. Annual Tactical Plan – In conjunction with each fiscal year, the Staff will submit an *Annual Tactical Plan* for review and approval by the Board, for the upcoming fiscal year. The *Annual Tactical Plan* will include a review of the current status of the portfolio and outline the steps anticipated toward portfolio development over the course of the coming fiscal year.

D. CONSULTANT RESPONSIBILITIES

The Private Equity Consultant will assist with the ongoing review and recommendation of revisions to the *Private Equity Guidelines and Procedures*. The Consultant will assist Staff with the preparation of the *Annual Tactical Plan*.

The Consultant, as requested, will assist Staff with establishing procedures for conducting investment identification and due diligence. The Consultant will assist Staff, as requested, with search activities including the initial identification and screening of prospective private equity investments. The Consultant will assist staff, as requested, with various activities required in evaluating and conducting and due diligence on prospective investments, including documentation of the process. The Consultant, as requested, will assist Staff in the preparation of written investment recommendations or finalist books. The Consultant, as requested, will be responsible for making fiduciary investment recommendations in writing to be provided to the Private Equity Investment Committee for consideration on investments.

The Consultant will prepare quarterly performance measurement reports on ERS' private equity investments, including reconciliation with the custodian bank. The Consultant may also be requested to perform special projects.

EXHIBIT A

PRIVATE EQUITY
ANNUAL TACTICAL PLAN

Prepared for
The Employees Retirement System of Texas

ERS
EMPLOYEES RETIREMENT SYSTEM OF TEXAS

December 2017

This document outlines the proposed Private Equity Annual Tactical Plan (the "Tactical Plan") for the Private Equity Program (the "Program") of the Employees Retirement System of Texas ("ERS" or the "System"). The Tactical Plan period covers ERS' fiscal year 2018 that commenced on September 1, 2017 and ends on August 31, 2018.

I. FUNDING LEVEL

Annual Tactical Plan Period: September 1, 2017 through August 31, 2018

Table I: Funding Positions

The following tables outline the Program's current funding position as of August 31, 2017 as well as the projected funding positions in FY 2021 and target commitment allocations assuming two scenarios of annual Trust Growth: 7.5% and 3.75%.[5]

Projected funding commitments are based on Pavilion's Projected Private Equity Portfolio Model.

Current Funding Position As of August 31, 2017 (USD thousands)	
ERS Total Market Value	27,531,799
Total PE Allocation at 13.0%	3,579,134
Current Net Asset Value	3,389,938
Current Net Asset Value Deficit/(Surplus)	189,196

[5] Both scenarios assume target fund-level returns.

Projected Funding Position[2] FY 2021 (USD thousands)	
7.5% Trust Growth:	
Five-Year Projected Market Value (2021) @ 7.5% Trust Growth	36,767,868
Total PE Allocation at 13.0%	4,779,823
Projected Net Asset Value (2021) @ 7.5% Trust Growth	5,109,154
Projected Net Asset Value Deficit/(Surplus)	(329,331)
3.75% Trust Growth:	
Five-Year Projected Market Value (2021) @ 3.75% Trust Growth	31,899,730
Total PE Allocation at 13.0%	4,146,965
Projected Net Asset Value (2021) @ 3.75% Trust Growth	4,405,238
Projected Net Asset Value Deficit/(Surplus)	(258,273)

New Commitment Allocation FY 2018 (USD thousands)	
7.5% Trust Growth:	
Target Commitment for FY 2018 (+/-25%) @ 7.5% Trust Growth	1,000,000
3.75% Trust Growth:	
Target Commitment for FY 2018 (+/-25%) @ 3.75% Trust Growth	700,000

[2] Per Appendix A Projected Private Equity Portfolio Model assuming fund-level target returns. Initial underlying fund valuations estimated as of June 30, 2017, based on March 31, 2017 final valuations adjusted for cash flows.

Appendix A projects the following commitment requirements over the next five years.

Table II: Annual Projected Commitments (7.5% Trust Growth Scenario Assumed)

Projected Commitment Requirements (USD thousands)			
Year	**Target Commitment[3]**	**Range**	
2018	1,000,000	750,000	1,250,000
2019	1,000,000	750,000	1,250,000
2020	1,000,000	750,000	1,250,000
2021	1,500,000	1,125,000	1,875,000
2022	1,500,000	1,125,000	1,875,000
5-Year Total	**6,000,000**		
Yearly Average	**1,200,000**		

Commentary
As outlined in the model provided in Appendix A, ERS is currently under its targeted Private Equity allocation of 13.0%. The current proposed pacing plan projects ERS to maintain a constant allocation between 12.0-14.5% over the next 10 years of the Program while incorporating a smooth and natural increase in annual commitments. The targeted commitments going forward provide a degree of flexibility to accommodate varying market opportunities and the resources available to ERS. As the portfolio continues to develop, it will be possible to adjust forward commitment levels to achieve or maintain the desired Private Equity investment level.

[6] Targeted commitments (and relevant ranges) are inclusive of capital for potential co-investment opportunities. The model assumes that 20.0% of total commitments per year are allocated to co-investments.

Table III: Funding by Strategy

The following table displays the current fund allocations by strategy. A comprehensive categorization of each fund's strategy can be found in Appendix B.

Strategy Allocation Analysis
As of June 30, 2017 (USD thousands)

Strategy	No. of Funds	% Target Allocation[4]	Target Allocation	Uncalled Commitments	Current NAV	Current Exposure (NAV + Unfunded)	Target Variance Deficit/(Surplus)[5]
Buyouts	55	45-70%	1,968,524	870,488	1,437,501	2,307,988	(339,465)
Funds	33	35-55%	1,377,967	793,850	1,207,371	2,001,220	(623,254)
Co-Investments	22	10-15%	590,557	76,638	230,130	306,768	283,789
Venture Capital & Growth	10	10-30%	715,826.76	224,094	328,842	552,937	162,890
Funds	10	10-30%	715,827	224,094	328,842	552,937	162,890
Co-Investments	0	0.0%	-	-	-	-	-
Senior, Sub., & Distressed Debt	8	0-15%	268,435.04	143,342	351,964	495,306	(226,871)
Funds	8	0-15%	268,435	143,342	351,964	495,306	(226,871)
Co-Investments	0	0.0%	-	-	-	-	-
Special Situations[6]	33	5-30%	626,348.42	1,293,133	1,066,042	2,359,174	(1,732,826)
Funds	25	5-20%	501,079	1,259,580	955,611	2,215,191	(1,714,112)
Co-Investments	8	0-10%	125,270	33,553	110,431	143,984	(18,714)
Total (Funds)	**76**	**75%**	**2,863,307**	**2,420,866**	**2,843,788**	**5,264,654**	**(2,401,347)**
Total (Co-Investments)	**30**	**25%**	**715,827**	**110,191**	**340,561**	**450,752**	**265,075**
Total (All)	**106**	**100%**	**3,579,134**	**2,531,057**	**3,184,349**	**5,715,406**	**(2,136,272)**

Note: Figures estimated as of June 30, 2017, based on March 31, 2017 valuations adjusted for cash flows.
The % Target Allocation used for formula to generate Target Allocation ($) column is the median of the target range.

Commentary

ERS completed 21 commitments through June 30, 2017 in fiscal year 2017 to eleven funds (including two co-investment funds and one secondary fund) and ten co-investments. Fund commitments included one global buyout fund, one U.S. buyout fund, one U.S. growth fund, three European buyout funds, one credit fund, one energy fund, three global special situations funds (including a secondaries fund).[10] The System completed ten co-investments, two of which were alongside global buyout manager The Carlyle Group and two alongside global special situations manager Energy & Minerals Group. The remainder were made alongside buyout managers focused on the U.S., Europe, Latin America, and Asia.

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[7] The current allocation assumes 30% of dollars invested in all Buyout funds, 20% of dollars invested in Special Situations funds, and 0% of dollars invested in Venture Capital, Growth, and Debt funds will be completed through co-investments.

[8] Target Variance is equal to Target Allocation less Current Exposure. As noted, Total Target Variance (shaded) includes both fund and co-investment exposure, with subtotals listed above.

[9] Special Situations strategy includes: Energy (Real Assets), Resort, Secondaries, and other Special Situations funds.

[10] Fund commitments through June 30, 2017 by strategy included (i) Buyout: Euroknights VII, HgCapital 8, L.P., Riverside Europe Fund V, L.P., Wind Point Partners VIII, L.P., and Castlelake V, L.P. (ii) Growth: RLH Investors IV, L.P., (iii) Subordinated, Senior, & Distressed Debt: KSL Capital Partners Credit Opportunities Fund II, L.P., (iv) Special Situations: Headway Capital Partners III-C, L.P., Inc., Landmark Equity Partners XVI, L.P., Landmark TX ERS Co-Investment II, L.P., Quantum Energy Partners VII, L.P.

Table IV: Proposed Funding Strategy

Proposed Funding by Strategy for ERS Fiscal Year 2018 (USD thousands)			
	No. of	Range	
Strategy	Funds	%	$
Buyouts	9 - 14	45% - 70%	450,000 - 700,000
Special Situations	3 - 8	5% - 30%	50,000 - 300,000
Venture Capital & Growth Equity	2 - 4	10% - 30%	100,000 - 300,000
Subordinated, Senior, & Distressed Debt	0 - 3	0% - 15%	0 - 150,000
Total	**14 - 20**	**100%**	**600,000 - 1,450,000**

Note: Excludes co-investments and ERS fund-of-funds.

Commentary

It is expected that there will continue to be a robust pipeline of quality investment opportunities over the next twelve months. The chart above provides estimated ranges for the anticipated number of fund commitments as well as the targeted range of total commitment sizes for each of the Private Equity sub-strategies. Special Situations includes hybrid partnerships, industry focused funds (e.g. energy funds), secondary funds, and other miscellaneous strategies.

II. DIVERSIFICATION

Table V: Strategy Diversification

Diversification by Strategy: Funds Only
As of June 30, 2017 (USD thousands)

Strategy	% Target Allocation	% Current NAV	% Current Exposure
Buyouts	45-70%	42.5%	38.0%
Special Situations	5-30%	33.6%	42.1%
Venture Capital & Growth Equity	10-30%	11.6%	10.5%
Subordinated, Senior, & Distressed Debt	0-15%	12.4%	9.4%
Total	**100.0%**	**100.0%**	**100.0%**

Note: Excludes co-investments. Figures estimated as of June 30, 2017, based on March 31, 2017 valuations adjusted for cash flows.

Diversification by Strategy: Funds & Co-Investments
As of June 30, 2017 (USD thousands)

Strategy	% Target Allocation	% Current NAV	% Current Exposure
Buyouts	45-70%	45.1%	40.4%
Special Situations	5-30%	33.5%	41.3%
Venture Capital & Growth Equity	10-30%	10.3%	9.7%
Subordinated, Senior, & Distressed Debt	0-15%	11.1%	8.7%
Total	**100.0%**	**100.0%**	**100.0%**

Note: Includes co-investments. Figures estimated as of June 30, 2017, based on March 31, 2017 valuations adjusted for cash flows.

Commentary

ERS continues to build the portfolio's economic exposure towards targeted long-term targets. Through June 30, 2017, ERS has made 21 commitments in fiscal year 2017 to eleven funds and ten co-investments, which has further moved the portfolio to its targeted strategy allocations. Currently, several investments are in various stages of the investment evaluation process, particularly buyouts, growth equity, and emerging market investments. If considered appropriate for investment, these commitments are expected to provide further diversification to ERS' Private Equity program.

The targeted allocations outlined above reflect the needs of the portfolio following the secondary sale and are consistent with ERS' revised target to increase its co-investment activity. These allocations are designed to appropriately balance potential risk and return within the various sub-strategies in consideration of the Program's capacity and allocation constraints.

Table VI: Sector Diversification

Diversification by Sector As of June 30, 2017 (USD thousands)			
Sector	**Net Cost**	**NAV ($)**	**NAV (%)**
Financials	609,936.4	609,392.6	18.7%
Industrials	447,603.9	576,806.6	17.7%
Energy	456,360.4	480,271.5	14.7%
Consumer Discretionary	396,838.1	461,821.7	14.1%
Information Technology	312,480.2	383,324.8	11.7%
Healthcare	243,182.4	325,517.3	10.0%
Materials	72,245.1	151,175.0	4.6%
Opportunistic	177,695.3	148,818.4	4.6%
Consumer Staples	81,263.9	90,531.0	2.8%
Utilities	22,842.4	19,862.2	0.6%
Telecommunication Services	14,862.8	19,580.3	0.6%
Total	**2,835,311.1**	**3,267,101.4**	**100.0%**

Note: Figures calculated at the underlying company level (thus excluding fund level fees) and include co-investment. Figures estimated as of June 30, 2017, based on March 31, 2017 valuations adjusted for cash flows.

Diversification by Sub-Sector As of June 30, 2017 (USD thousands)			
Sub-Sector	**Net Cost**	**NAV ($)**	**NAV (%)**
Energy	456,360.4	480,271.5	14.7%
Software & Services	271,687.8	339,014.4	10.4%
Diversified Financials	277,931.6	282,380.2	8.6%
Consumer Services	204,899.4	224,812.5	6.9%
Healthcare Equipment & Services	162,404.3	219,506.7	6.7%
Commercial & Professional Services	161,521.1	264,452.3	8.1%
Capital Goods	191,824.5	230,935.4	7.1%
Banks	157,671.6	154,597.8	4.7%
Materials	72,245.1	151,175.0	4.6%
Opportunistic	177,695.3	148,818.4	4.6%
Pharmaceuticals, Biotechnology & Life Sciences	80,778.1	106,010.6	3.2%
Transportation	98,231.2	85,391.8	2.6%
Consumer Durables & Apparel	67,049.1	74,217.8	2.3%
Retailing	52,845.3	66,486.3	2.0%
Insurance	63,572.2	78,771.1	2.4%
Real Estate	110,761.0	93,643.5	2.9%
Technology Hardware & Equipment	40,529.7	44,047.8	1.3%
Media	43,286.4	63,780.2	2.0%
Food, Beverage & Tobacco	42,830.4	50,903.5	1.6%
Automobiles & Components	24,785.1	28,552.0	0.9%
Food & Staples Retailing	19,543.4	24,579.4	0.8%
Utilities	22,842.4	19,862.2	0.6%
Telecommunication Services	14,862.8	19,580.3	0.6%
Household & Personal Products	18,890.1	15,048.1	0.5%
Semiconductors & Semiconductor Equipment	262.7	262.7	0.0%
Total	**2,835,311.1**	**3,267,101.4**	**100.0%**

Note: Figures calculated at the underlying company level (thus excluding fund level fees) and include co-investment. Figures estimated as of June 30, 2017, based on March 31, 2017 valuations adjusted for cash flows.

Commentary

A long-term goal of the ERS Private Equity Program is to create a portfolio with broad diversification across industry sectors. As displayed in the previous tables, all sector-wide exposures are below 20.0% NAV and all sub-sector exposures are below 15.0% NAV, representing a well-diversified portfolio. Although there are currently two sub-sector exposures over 10.0%, Energy (14.7%) and Software & Services (10.4%), these areas are inherently broad and the current values are not subsequently viewed as excessive concentration.

Furthermore, many of the Program's fund commitments remain relatively young and in various stages of capital deployment. While exits at the portfolio-company level could cause industry diversification to consolidate over time, anticipated new fund commitments and the continued investment of capital are expected to offset any consolidations and further improve the Programs sector diversification.

Table VII: Geographic Diversification

Diversification by Region
As of June 30, 2017 (USD thousands)

Region	Net Cost	NAV ($)	NAV (%)
United States	1,504,351.9	1,804,563.4	55.2%
Other (52)	688,454.6	709,368.0	21.7%
United Kingdom	106,484.1	112,772.4	3.5%
Germany	115,675.7	111,794.1	3.4%
Spain	78,018.2	110,615.1	3.4%
China	74,222.2	100,096.1	3.1%
Norway	67,853.8	72,090.1	2.2%
India	53,700.5	67,713.1	2.1%
Australia	53,226.6	65,498.9	2.0%
South Korea	48,727.0	59,712.8	1.8%
France	44,596.6	52,877.5	1.6%
Total	**2,835,311.1**	**3,267,101.4**	**100.0%**

Note: Figures calculated at the underlying company level (thus excluding fund level fees) and include co-investment. Figures estimated as of June 30, 2017, based on March 31, 2017 valuations adjusted for cash flows.

Commentary

The table above displays the geographic dispersion of ERS' investments across all active funds. A long-term goal of the Program is to create a Private Equity portfolio that is well-diversified by the geographical location of underlying fund investments. The current portfolio has exposure to companies in 62 countries and regions, with no single location accounting for more than 3.8% of NAV except for the United States, which is the sole exception and accounts for over half of the portfolio's geographic exposure. The Program's portfolio is purposefully weighted more heavily towards the United States with a target concentration of 50.0%. Currently, this exposure is only slightly above the target and represents 55.2% of remaining portfolio NAV, including co-investment.

Table VIII: General Partner Diversification

General Partner Diversification (Top 10 by Committed Capital)
As of June 30, 2017 (USD thousands)

Rank	General Partner	No. of Funds	Committed Capital ($)	Committed Capital (%)
1	LGT Capital Partners Limited	4	475,000.0	8.5%
2	Pavilion Alternatives Group	2	465,000.0	8.3%
3	Landmark Partners	4	450,000.0	8.1%
4	Advent International	4	311,542.7	5.6%
5	KSL Capital Partners	4	300,000.0	5.4%
6	Quantum Energy Partners	6	295,666.9	5.3%
7	Castlelake	3	275,000.0	4.9%
8	Riverside Company	3	239,539.4	4.3%
9	TA Associates	4	237,500.0	4.3%
10	Triton	3	227,189.6	4.1%
Top 10 Total		**37**	**3,276,438.6**	**58.8%**
Other Commitments		**39**	**2,295,594.7**	**41.2%**
Total Commitments		**76**	**5,572,033.3**	**100.0%**

Note: Excludes co-investments.

Commentary

The above table presents the top ten exposures to General Partners calculated by total committed capital. Pavilion Alternatives Group is currently listed as the second highest manager exposure due to two fund-of-funds commitments dedicated to gaining international exposure. The two fund-of-funds commitments of USD165 million and USD300 million were completed in March 2011 and June 2014, respectively. As these are both fund-of-funds investments, the exposure is in fact spread across numerous underlying General Partners in each portfolio.

A 10.0% maximum General Partner concentration is typically advised, and most of the Program's exposures are well below this threshold. As shown above, the three largest exposures are to LGT Capital Partners Limited, Pavilion Alternatives Group, and Landmark Partners. All three of these General Partners represent commitments to fund-of-funds; four with LGT Capital Partners Limited that represent secondary fund-of-funds, two with Pavilion Alternatives Group that target international exposure, and four with Landmark Partners that represent secondary fund-of-funds. A fund-of-funds portfolio is essentially a portfolio of individual fund investments with a variety of General Partners. Subsequently, the effective exposure to each General Partner in the fund-of-funds portfolio is well below the targeted 10% threshold.

As of June 30, 2017, no single General Partner exposure exceeded the targeted 10.0% concentration threshold. As ERS continues to make commitments through fiscal year 2018 and beyond, the portfolio will continue to be diversified. As of June 30, 2017, ERS had 76 active fund commitments across 36 managers. Pavilion will judicially recommend reducing or periodically adding new relationships in order to avoid manager proliferation.

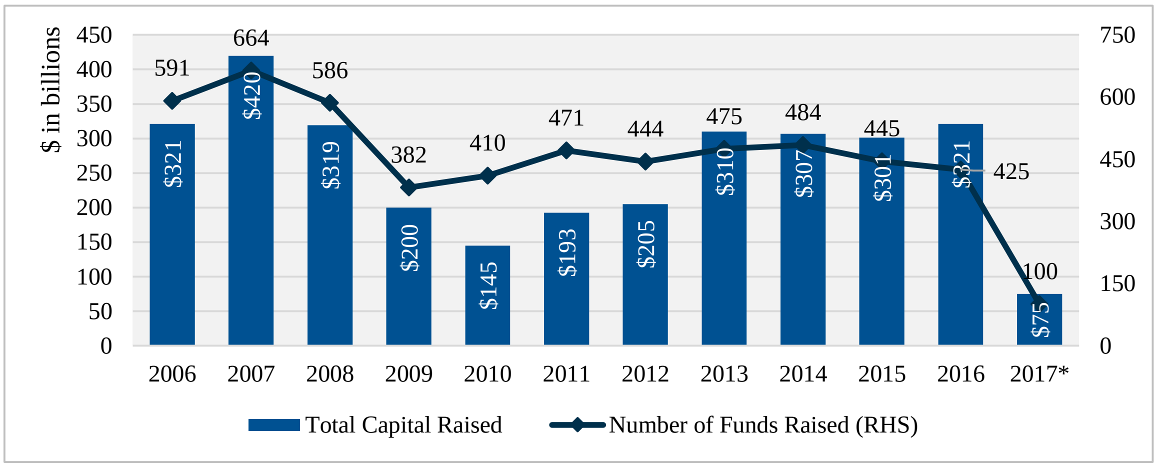
III. MARKET CONDITIONS

<u>Market Conditions: Discussion of Partnership Market</u>

Private Equity funds remain in high demand by investors and existing funds continue to demonstrate strong performance. The following charts and commentary provide a high-level overview of the fundraising environment and performance exhibited in recent years.

<u>Table IX: Private Equity Fundraising</u>

Global Private Equity Fundraising

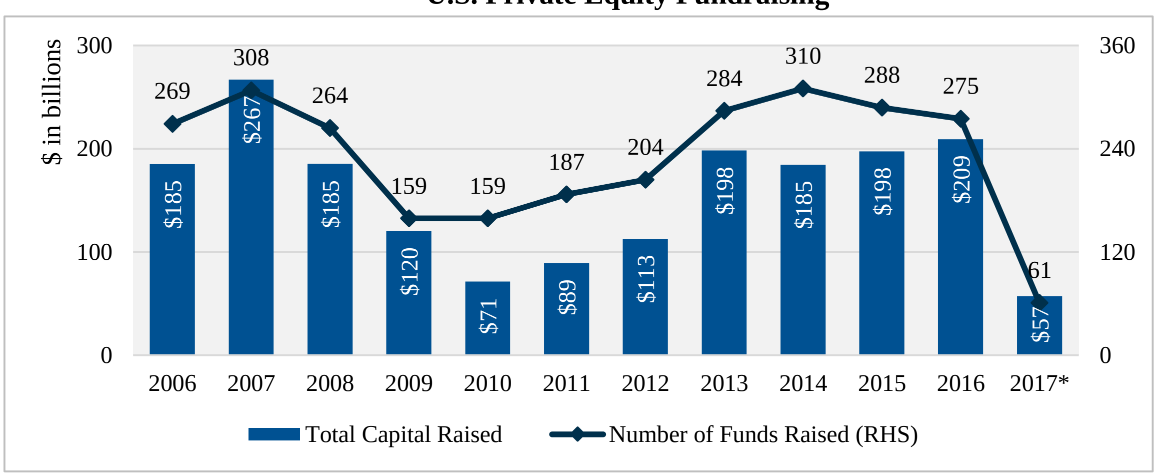


Source: Pitchbook as of March 31, 2017.

Global

According to Pitchbook, global private equity fundraising increased slightly from 2015 to 2016 with approximately USD321 billion raised in 2016 compared to USD301 billion in the prior year. However, 2016 fundraising included approximately 20 fewer funds as compared to 2015, suggesting that although fewer funds were raised, fund sizes were comparably larger on average. This is consistent with GP commentary and Pavilion's observations over the past year.

U.S. Private Equity Fundraising



Source: Pitchbook as of March 31, 2017.

United States

As compared to 2015, fundraising increased slightly in 2016 by aggregate capital raised (USD209 billion vs. USD198 billion) but decreased by number of funds raised (275 vs. 288). This trend of increased capital raised across fewer funds is similar to the global trend mentioned on the previous page. Fundraising has been strong thus far in 2017, with slightly under USD57 billion raised across 61 funds as of March 31, 2017.

Europe

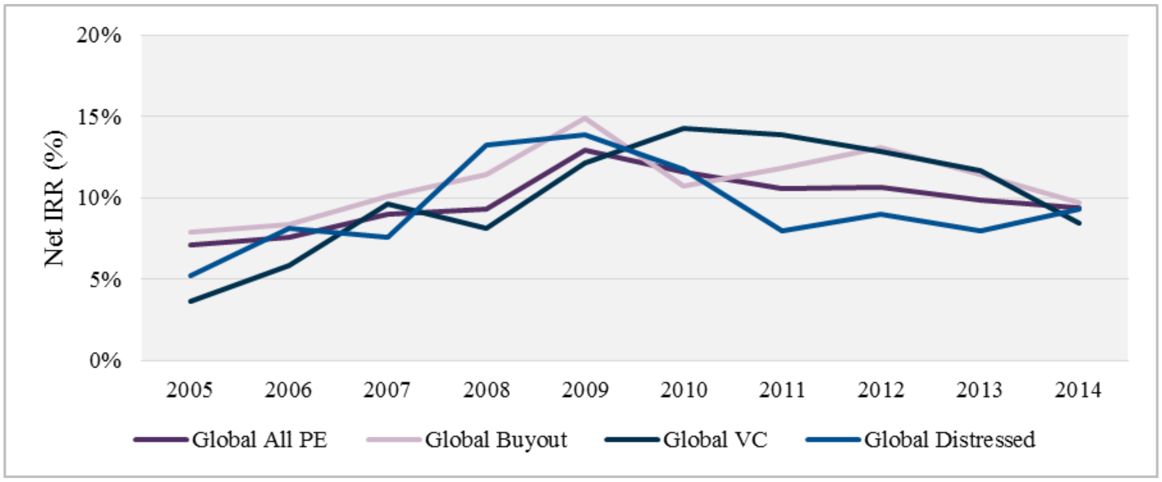
European fundraising in the first quarter of 2017 held relatively steady compared to the first quarter of 2016, with approximately USD15 billion of capital raised across slightly under 30 funds in both years. Capital raised during 2016 increased year-over-year with USD78 billion raised vs. the USD58 billion raised in 2015. This amount of capital was raised over a slightly higher number of funds, with 94 funds raised in 2016 compared to 88 the previous year.

Asia

Asia private equity fundraising totaled USD2.1 billion during the first quarter of 2017 representing a 12% decrease over same quarter the prior year (USD2.4 billion in Q1 2016). Total capital raised in 2016 amounted to USD25 billion, well below the amount raised in 2015 of USD40billion. The number of funds raised in 2016 (37) was also down relative to 2015 (49), a 25% decrease. While both the amount of capital raised and the number of funds raised both fell in 2016 compared to 2015, the magnitude of the decline was smaller when considering the amount of capital raised, indicating that the trend of larger funds being raised during 2016 was also evident in the Asia private equity market.

Table X: Private Equity Performance

Global Private Equity Performance
Top Quartile IRRs by Fund Vintage

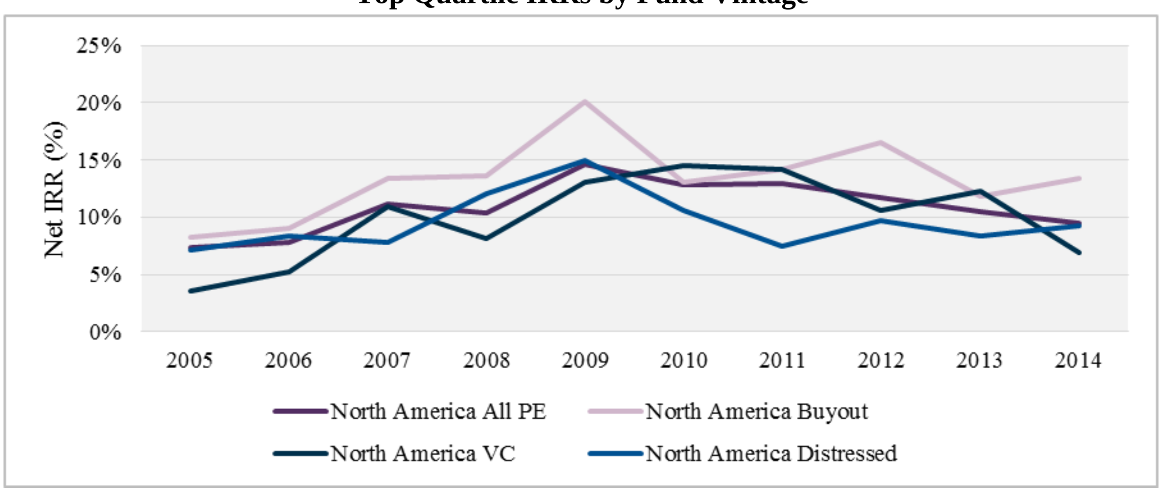


Source: Cambridge Associates as of March 31, 2017.

Global

Private equity funds continue to consistently generate net IRRs upwards of 10%. Top quartile venture funds have typically outperformed both buyout and distressed funds (especially in younger vintages generating IRRs upwards of 20-25%). Similarly, buyout funds have consistently generated higher returns than distressed funds, typically by a margin of 200-1,000 bps. According to Cambridge Associates data through March 31, 2017, median global buyout returns for funds with vintages of 2014, 2012, 2007, and 2002 were equal to 9.71%, 13.07%, 10.08%, and 20.26%, respectively, and top quartile returns were equal to 17.69%, 18.55%, 14.90%, and 31.00%, respectively, over the same vintage years.

North America Private Equity Performance
Top Quartile IRRs by Fund Vintage



Source: Cambridge Associates as of March 31, 2017.

North America

North America private equity funds continue to generate positive IRRs primarily between 10-20% in the short term and 10-25% in the longer term. Similar to global private equity performance, top quartile venture funds typically exhibit the highest returns, followed by buyout funds and then distressed funds. This is consistent with the returns targeted by each of these strategies, and the difference is more overstated during the early years of a fund's life. The following paragraphs outline in more detail the performance exhibited by North America buyout, venture capital, and distressed funds.

- *Buyouts:* According to Cambridge Associates data through March 31, 2017, North America buyout funds with a 2016 vintage exhibited a pooled return of -8.64%, with top quartile funds returning at least -1.51% and bottom quartile funds generating -24.48% or less. Median North America buyout returns for funds with vintages of 2014, 2012, 2007, and 2002 were equal to 13.36%, 16.47%, 13.40%, and 16.91%, respectively, and top quartile returns were equal to or greater than 19.54%, 24.01%, 17.08%, and 26.19%, respectively, over the same time horizons.

- *Venture Capital:* According to Cambridge Associates data through March 31, 2017, North America venture funds with a 2016 vintage returned a pooled -13.34%. Returns for top and bottom quartiles were -2.41% and -22.42%, respectively. Venture funds have the greatest return dispersion of all private equity asset classes (with the potential to gain and lose substantially). Subsequently, for the same one-year period the 95th and 5th percentiles returned 22.95% and -45.05%, respectively. Historical median IRRs for North America venture returns for funds with vintages of 2014, 2012, 2007, and 2002 were equal to 6.91%, 10.54%, 10.96%, and 0.12%, respectively, and top quartile returns were equal to or greater than 15.02%, 18.22%, 15.27%, and 5.93%, respectively, over the same time horizons.

- *Distressed:* According to Cambridge Associates data through March 31, 2017, North America distressed funds with a 2016 vintage generated a pooled IRR of 3.68%. Longer term horizons of funds with lives of 3, 5, 10, and 15-years exhibited median IRRs of 9.28%, 9.67%, 7.78%, and 16.80%, respectively, and top quartile IRRs of 16.65%, 15.19%, 12.98%, and 26.66%, respectively, for the same time horizons.

Europe

According to Cambridge Associates data through March 31, 2017, European buyouts with a 2016 vintage exhibited a pooled return of -11.15%. Median European buyout returns for funds with vintages of 2014, 2012, 2007, and 2002 were equal to 5.81%, 6.23%, 5.91%, and 22.76%, respectively, and top quartile European buyout returns were equal to or greater than 10.38%, 11.57%, 11.58%, and 34.46%, respectively, for the same vintage years.

Asia

According to Cambridge Associates data through March 31, 2017, Asian buyouts and growth equity with a 2016 vintage generated a pooled -7.30% return. Median Asian buyout and growth equity funds with vintages of 2014, 2012, 2007, and 2002 generated median returns equal to 12.28%, 8.72%, 7.06%, and 16.40%, respectively, and top quartile returns were equal to or greater than 20.38%, 18.73%, and 11.79%, respectively, over the same vintage years (with no top quartile return data provided for 2002 vintage funds). Buyout fund returns in Asia remain more widely dispersed as compared to more developed geographies due to the range of manager capabilities as well as understanding of the local market and investment opportunities.

IV. PROSPECTIVE INVESTMENTS: NEXT TWELVE MONTHS

Investment Objectives

Strategic Focus

a. Buyout
b. Venture Capital and Growth Equity
c. Subordinated, Senior, and Distressed Debt
d. Special Situations

Buyout
The targeted commitment to buyout funds for the next twelve months is $450.0-$700.0 million (or 45-70% of the targeted $1,000 million commitment amount for the year). It should be noted that the buyout allocation also includes control-oriented turnaround and restructuring funds.

Venture Capital and Growth Equity
The targeted venture capital and growth equity commitment for the next twelve months will be $100.0-$300.0 million (or 10-30% of the targeted $1,000 million commitment amount for the year).

Subordinated, Senior, and Distressed Debt
The targeted subordinated, senior, and distressed debt commitment for the next twelve months will be $0.0-$150.0 million (or 0-15% of the targeted $1,000 million commitment amount for the year). Depending upon opportunities available, subordinated, senior, and distressed debt will be viewed opportunistically over the coming twelve months.

Special Situations
The targeted special situations commitment for the next twelve months will be $50.0-$300.0 million (or 5-30% of the targeted $1,000 million commitment amount for the year). It should be noted that special situations includes hybrid partnerships, industry focused funds (e.g. energy funds), secondaries, and other miscellaneous strategies.

Timing of Investments

a. Investment Amount
b. Diversification

Investment Amount
The targeted commitment amount for the next twelve months is $1,000 million (+/- 25%). As mentioned previously, fiscal year 2018 commitments will be subject to a range of +/- 25% ($800.0 million – $1,200 million) to account for both available market opportunities and ERS resource availability.

Diversification: Strategy, Geography, Industry, and Other Considerations
Strategy diversification for the coming twelve months will be targeted at approximately 45-70% buyouts; 5-30% special situations (including hybrid partnerships, industry focused funds, secondaries, and other miscellaneous strategies); 10-30% venture capital and growth equity; and 0-15% subordinated, senior, and distressed debt. Geographic, industry, and general partner diversification will also be important considerations, with the long-term goal in mind of creating a well-diversified Private Equity portfolio by vintage year, strategy, geography, industry, and general partner.

Summary

Investment Objectives: Summary of Portfolio Goals for the Next Twelve Months

The primary objective for the portfolio over the next twelve months is to develop the program through commitments to a balanced mix of high quality investment opportunities that will be available over that period. During fiscal year 2018, it is expected that a number of the general partners ERS committed to early in the program will be back in the market to raise subsequent funds. ERS and Pavilion Alternatives Group will re-evaluate each existing relationship. ERS staff and Pavilion Alternatives Group will continue to work to identify and build relationships with high quality general partners that may be raising funds in subsequent years. ERS will continue to execute on co-investment opportunities with general partners in order to strengthen relationships with the general partner and enhance returns through reduction in fees and expenses.

V. APPENDICES:

A) Projected Private Equity Portfolio Model
B) Total Portfolio – Active Partnerships (Listed by Strategy and Vintage Year)
C) Total Portfolio – Chronological Listing (Listed by Vintage Year and Percent Paid-in)
D) Total Portfolio – Summary of Investments (Listed alphabetically)

APPENDIX A

Projected Private Equity Portfolio Model

The Private Equity portfolio is modeled using a cash flow model that assigns typical characteristics to Private Equity funds and models market value out over time. The results were compared to actual Pavilion client cash flows in Private Equity, which were quite similar in profile. The model begins with an opening ERS Plan Asset value of $27.5 billion (as of August 31, 2017) and a projected plan growth rate of 7.5% to calculate the annual Private Equity commitment levels required to reach and maintain the 13.0% target allocation over the longer term.

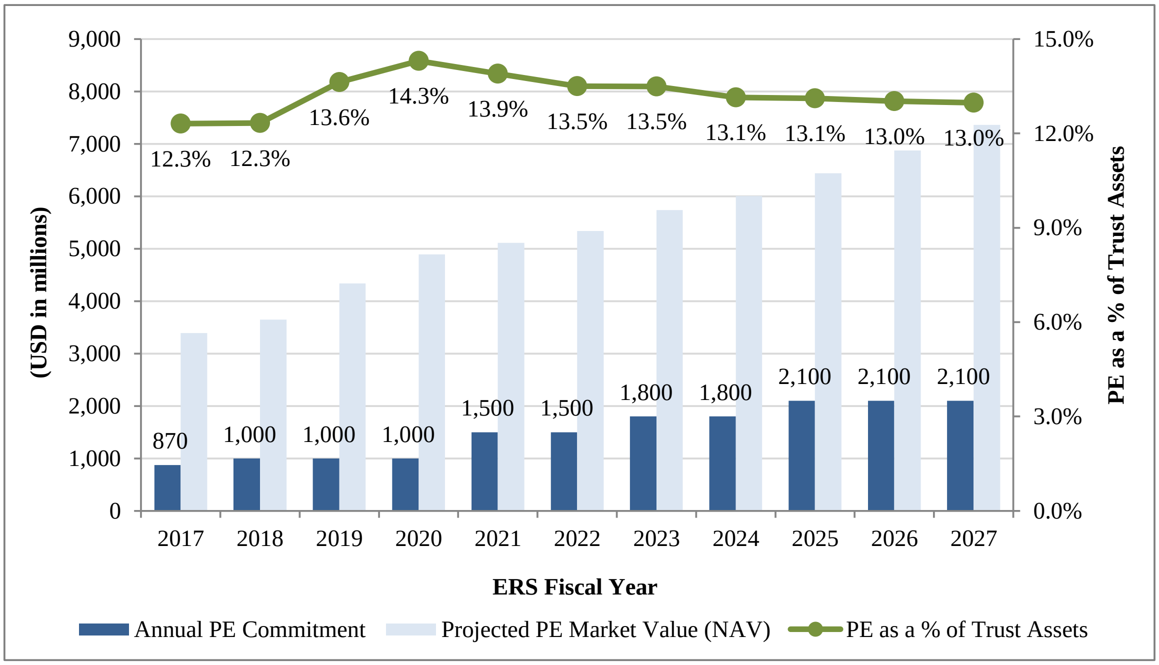
As the plan assets grow over time, Private Equity commitments will need to grow similarly to mirror the underlying plan growth and maintain a consistent asset allocation. The following charts outline projected Private Equity commitments with a 7.5% growth rate as well as the required commitment levels to reach the targeted Private Equity exposure.

	(USD in Millions)					
Fiscal Year	Annual PE Commitment	Uncalled Commitment	Cumulative Distributions	Projected PE Market Value (NAV)	Projected Total Trust Assets	PE as a % of Trust Assets
2017	870	2,469	1,986	3,390	27,532	12.3%
2018	1,000	2,475	3,089	3,648	29,597	12.3%
2019	1,000	2,342	4,186	4,337	31,816	13.6%
2020	1,000	2,264	5,553	4,893	34,203	14.3%
2021	1,500	2,529	7,412	5,109	36,768	13.9%
2022	1,500	2,721	9,319	5,336	39,525	13.5%
2023	1,800	3,006	11,368	5,734	42,490	13.5%
2024	1,800	3,124	13,730	6,006	45,677	13.1%
2025	2,100	3,395	16,228	6,437	49,102	13.1%
2026	2,100	3,501	18,983	6,873	52,785	13.0%
2027	2,100	3,632	21,896	7,360	56,744	13.0%

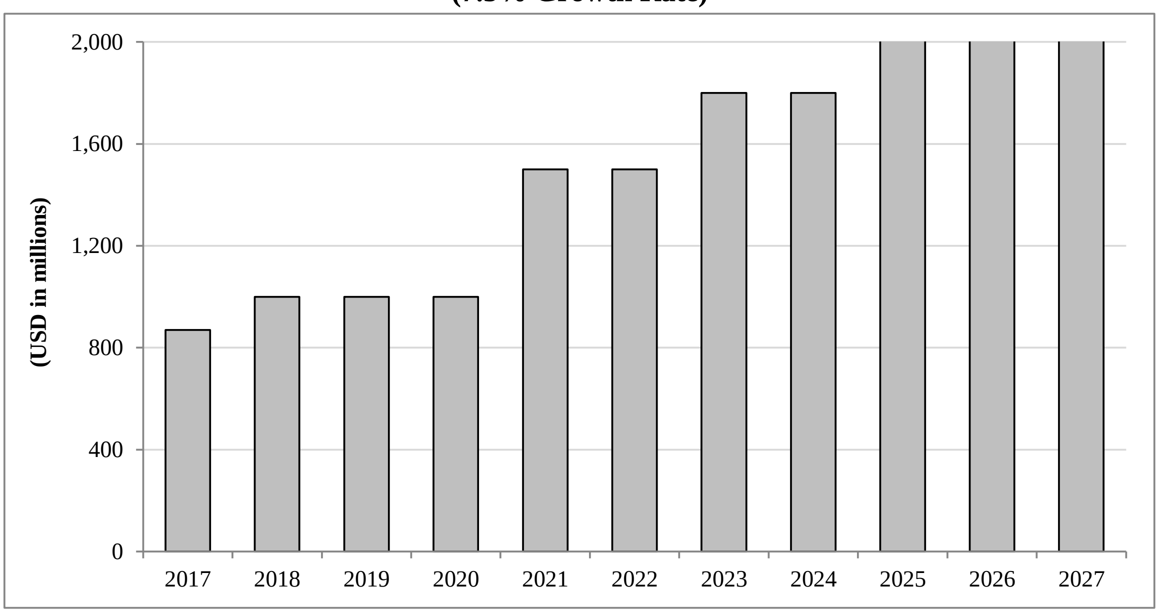
As outlined above, the Program is expected to maintain a consistent Private Equity allocation between 12-14.5% over the next ten years amidst a moderately increasing annual Private Equity commitment.

The following graphs depict the projected growth in the Private Equity portfolio:

Projected Private Equity Plan Value
(7.5% Growth Rate)



Rolling 10-Year Aggregate Private Equity Commitment
(7.5% Growth Rate)



APPENDIX B

Total Portfolio – Active Partnerships (Listed by Strategy and Vintage Year)

As of June 30, 2017

General Partner	Fund Partnership	Vintage
Buyout		
Advent International	Advent International GPE VI-C, L.P.	2008
Advent International	Advent International GPE VII-C LP	2012
Advent International	Advent International GPE VIII-B-1 Limited Partnership	2016
Advent International	Advent Latin America Fund V-H ,L.P.	2010
Argos Soditic	Euroknights VI, L.P.	2011
Argos Soditic	Euroknights VII No 1 L.P.	2016
Baring Private Equity Asia Group	Baring Asia Private Equity Fund V, L.P.	2011
Baring Private Equity Asia Group	Baring Asia Private Equity Fund VI LP	2015
Blue Wolf Capital	Blue Wolf Capital Fund III, LP	2013
Brazos Private Equity Partners	Brazos Equity Fund III, L.P.	2008
The Carlyle Group	Carlyle Global Financial Services Partners II LP	2013
Cotton Creek Capital Partners	Cotton Creek Capital Partners II LP	2014
The Gores Group	Gores Capital Partners III, L.P.	2011
Hellman and Friedman Capital Partners	Hellman & Friedman Capital Partners VIII LP	2015
HgCapital	HGCapital 7 A L.P.	2013
HgCapital	HgCapital 8 LP	2016
KSL Capital Partners	KSL Capital Partners III, L.P.	2011
KSL Capital Partners	KSL Capital Partners IV LP	2016
Littlejohn & Co.	Littlejohn Fund IV, L.P.	2010
Navis Capital Partners	Navis Asia Fund VI, L.P.	2009
Navis Capital Partners	Navis Asia Fund VII LP	2014
New Mountain Capital	New Mountain Partners III, L.P.	2007
Riverside Company	Riverside Capital Appreciation Fund V, L.P.	2008
Riverside Company	Riverside Capital Appreciation Fund VI, L.P.	2013
Riverside Company	Riverside Europe Fund V LP	2017
Southern Cross	Southern Cross Latin America PE Fund IV, L.P.	2010
Southern Cross	Southern Cross Latin America PE Fund IV Secondary, L.P.	2010
Southern Cross	Southern Cross Latin America Private Equity Fund V LP	2016
Summer Street Capital Partners	Summer Street Capital III, LP	2012
TGF Management	Southwest Opps Partners LP	2007
Triton	Triton Fund III, LP	2009
Triton	Triton Fund IV LP	2013
Wind Point Partners	Windpoint VIII, L.P.	2016
Venture Capital & Growth Equity		
Frontier Capital	Frontier Fund III LP	2011
Frontier Capital	Frontier Fund IV LP	2015
Industry Ventures	Industry Ventures Secondary VII LP	2013
Industry Ventures	Industry Ventures Secondary VIII LP	2016
Industry Ventures	Industry Ventures Special Opportunities Fund II-A LP	2014
Industry Ventures	Industry Ventures Special Opportunities Fund III-A LP	2016
Longitude Capital	Longitude Venture Partners II, L.P.	2013
Riordan, Lewis & Haden	RLH Investors III, LP	2011
Riordan, Lewis & Haden	RLH Investors IV, LP	2017
TA Associates	TA XI, L.P.	2010
TA Associates	ERS TA XII LP	2015

General Partner	Fund Partnership	Vintage
Subordinated, Senior, & Distressed Debt		
Castlelake	Castlelake II, LP	2011
Castlelake	Castlelake III LP	2014
Castlelake	Castlelake IV LP	2015
KSL Capital Partners	KSL Capital Partners Credit Opportunities Fund LP	2014
KSL Capital Partners	KSL Capital Partners Credit Opportunities Fund II LP	2017
TA Associates	TA Subordinated Debt Fund III, L.P.	2010
TA Associates	TA Subordinated Debt Fund IV LP	2016
Triton	Triton Debt Opportunities Fund I US LP	2014
Special Situations		
The Carlyle Group	Carlyle Energy Mezzanine Opportunities Fund II LP	2015
Energy & Minerals Group	Energy & Minerals Group Fund III LP	2014
Energy & Minerals Group	The Energy & Minerals Group Fund IV LP	2016
Headway Capital Partners	HCP III-C L.P Inc.	2016
HitecVision AS	HitecVision VI, L.P.	2011
HitecVision AS	HitecVision VII LP	2014
Landmark Partners	Landmark Co Investment Fund II	2014
Landmark Partners	Landmark Equity Partners XV LP	2016
Landmark Partners	Landmark Equity Partners XVI LP	2014
Landmark Partners	Landmark TX ERS Co-Investment Fund I, L.P.	2016
Lexington Partners	Lexington Capital Partners VII, L.P.	2009
LGT Capital Partners Limited	LGT Crown Global Secondaries II PLC	2009
LGT Capital Partners Limited	LGT Crown Global Secondaries III PLC	2012
LGT Capital Partners Limited	Crown Global Secondaries IV plc	2016
LGT Capital Partners Limited	Crown Secondaries Special Opportunities plc	2016
Quantum Energy Partners	Quantum Energy Partners V, L.P.	2008
Quantum Energy Partners	Quantum Energy Partners V, L.P. (Secondary)	2008
Quantum Energy Partners	Quantum Parallel Partners V-C, L.P.	2014
Quantum Energy Partners	Quantum Energy Partners VI LP	2014
Quantum Energy Partners	Quantum Parallel Partners VI-C LP	2015
Quantum Energy Partners	Quantum Energy Partners VII LP	2017
ERS Fund-of-Funds		
GCM Grosvenor	ERS Private Equity Emerging Manager Fund I, L.P.	2010
GCM Grosvenor	ERS Private Equity Emerging Manager Fund II LP	2014
Pavilion Alternatives Group	ERS Private Equity International Fund I, LP	2011
Pavilion Alternatives Group	ERS Private Equity International Fund II LP	2014

APPENDIX C

Total Portfolio – Chronological Listing (Listed by Fund Vintage and Percent Paid-in)

As of June 30, 2017 (USD thousands)

Fund Partnership	Commitment	Capital Called	% Paid-In
2007 Vintage			
New Mountain Investments III, L.P.	60,000.0	55,652.8	93%
Southwest Opps Partners L.P.	60,585.1	57,225.7	94%
2008 Vintage			
Advent International GPE VI-C, L.P.	51,542.7	44,507.1	86%
Brazos Equity Fund III, L.P.	37,500.0	28,793.4	77%
Quantum Energy Partners V, L.P.	50,000.0	43,299.2	87%
Quantum Energy Partners V, L.P. (Secondary)	23,333.5	19,983.1	86%
Riverside Capital Appreciation Fund V, L.P.	100,000.0	90,902.9	91%
2009 Vintage			
Lexington Capital Partners VII, L.P.	100,000.0	79,416.9	79%
LGT Crown Global Secondaries II PLC	75,000.0	61,650.0	82%
Navis Asia Fund VI, L.P.	60,000.0	60,000.0	100%
Triton Fund III, LP	85,350.0	62,137.9	73%
2010 Vintage			
Advent Latin America Fund V-H ,L.P.	50,000.0	47,850.0	96%
ERS Private Equity Emerging Manager Fund I, L.P.	50,000.0	38,989.7	78%
Littlejohn Fund IV, L.P.	82,500.0	76,118.0	92%
Southern Cross Latin America PE Fund IV Secondary, L.P.	24,355.7	22,963.8	94%
Southern Cross Latin America PE Fund IV, L.P.	50,000.0	47,216.2	94%
TA Subordinated Debt Fund III, L.P.	50,000.0	48,750.0	98%
TA XI, L.P.	100,000.0	98,250.0	98%
2011 Vintage			
Baring Asia Private Equity Fund V, L.P.	50,000.0	46,189.7	92%
Castlelake II, LP	75,000.0	69,374.0	92%
ERS Private Equity International Fund I, LP	165,000.0	128,784.3	78%
Euroknights VI, L.P.	46,005.8	45,602.6	99%
Frontier Fund III LP	50,000.0	48,761.3	98%
Gores Capital Partners III, L.P.	100,000.0	83,562.8	84%
HitecVision VI, L.P.	70,000.0	54,490.2	78%
KSL Capital Partners III, L.P.	95,000.0	70,737.4	74%
RLH Investors III, LP	50,000.0	38,980.1	78%
2012 Vintage			
Advent International GPE VII-C LP	100,000.0	90,000.0	90%
LGT Crown Global Secondaries III PLC	100,000.0	56,900.0	57%
Summer Street Capital III, LP	50,000.0	39,246.0	78%

Fund Partnership	Commitment	Capital Called	% Paid-In
2013 Vintage			
Blue Wolf Capital Fund III, LP	50,000.0	32,794.5	66%
Carlyle Global Financial Services Partners II LP	100,000.0	67,387.4	67%
HGCapital 7 A L.P.	47,941.2	71,326.1	100%
Industry Ventures Secondary VII LP	40,000.0	33,800.0	85%
Landmark Equity Partners XV LP	175,000.0	85,674.6	49%
Longitude Venture Partners II, L.P.	50,000.0	44,682.5	89%
Riverside Capital Appreciation Fund VI, L.P.	100,000.0	71,414.7	71%
Triton Fund IV LP	91,509.6	43,392.4	47%
2014 Vintage			
Castlelake III LP	100,000.0	92,540.5	93%
Cotton Creek Capital Partners II LP	31,500.0	17,918.5	57%
Energy & Minerals Group Fund III LP	80,471.0	74,518.6	93%
ERS Private Equity Emerging Manager Fund II LP	50,000.0	23,265.9	47%
ERS Private Equity International Fund II LP	300,000.0	97,589.0	33%
HitecVision VII LP	70,000.0	27,003.8	39%
Industry Ventures Special Opportunities Fund II-A LP	47,500.0	237.5	1%
KSL Capital Partners Credit Opportunities Fund LP	50,000.0	12,595.9	25%
Landmark TX ERS Co-Investment Fund I, L.P.	125,000.0	62,613.5	50%
Navis Asia Fund VII LP	125,000.0	71,400.0	57%
Quantum Energy Partners VI LP	100,000.0	45,633.3	46%
Quantum Parallel Partners V-C, L.P.	25,000.0	10,575.2	42%
Triton Debt Opportunities Fund I US LP	50,330.0	20,069.8	40%
2015 Vintage			
Baring Asia Private Equity Fund VI LP	75,000.0	34,224.8	46%
Carlyle Energy Mezzanine Opportunities Fund II LP	85,000.0	8,352.2	10%
Castlelake IV LP	100,000.0	77,972.7	78%
ERS TA XII LP	62,500.0	22,500.0	36%
Frontier Fund IV LP	60,000.0	35,714.1	60%
Hellman & Friedman Capital Partners VIII LP	82,500.0	4,238.8	5%
Quantum Parallel Partners VI-C LP	14,000.0	4,179.1	30%
The Energy & Minerals Group Fund IV LP	50,000.0	25,805.4	52%
2016 Vintage			
Advent International GPE VIII-B-1 Limited Partnership	110,000.0	25,740.0	23%
Crown Global Secondaries IV plc	200,000.0	9,000.0	5%
Crown Secondaries Special Opportunities plc	100,000.0	30,750.0	31%
HCP III-C L.P Inc.	15,000.0	14,041.6	94%
Industry Ventures Secondary VIII LP	40,000.0	480.0	1%
Industry Ventures Special Opportunities Fund III-A LP	47,500.0	-	0%
KSL Capital Partners IV LP	125,000.0	25,011.9	20%
Landmark Equity Partners XVI LP	87,500.0	-	0%
Southern Cross Latin America Private Equity Fund V LP	60,000.0	32,573.9	54%
TA Subordinated Debt Fund IV LP	25,000.0	8,625.0	35%
Windpoint VIII, L.P.	55,000.0	16,439.4	30%
2017 Vintage			
Euroknights VII No 1 L.P.	42,442.8	-	0%
HgCapital 8 LP	49,793.2	-	0%
KSL Capital Partners Credit Opportunities Fund II LP	30,000.0	-	0%
Landmark Co Investment Fund II CO20170301	62,500.0	5,935.1	9%
Quantum Energy Partners VII LP	85,000.0	6,680.6	8%
Riverside Europe Fund V LP	39,539.4	21,309.8	54%
RLH Investors IV, LP	55,000.0	-	0%

APPENDIX D

Total Portfolio – Summary of Investments (Listed Alphabetically)

As of June 30, 2017 (USD thousands)

Fund Partnership	Vintage	Committed	Called	Distributed
Advent International GPE VI-C, L.P.	2008	51,542.7	44,507.1	66,037.1
Advent International GPE VII-C LP	2012	100,000.0	90,000.0	38,000.0
Advent International GPE VIII-B-1 Limited Partnership	2016	110,000.0	25,740.0	-
Advent Latin America Fund V-H ,L.P.	2010	50,000.0	47,850.0	8,900.0
Baring Asia Private Equity Fund V, L.P.	2011	50,000.0	46,189.7	10,451.8
Baring Asia Private Equity Fund VI LP	2015	75,000.0	34,224.8	112.8
Blue Wolf Capital Fund III, LP	2013	50,000.0	32,794.5	5,425.5
Brazos Equity Fund III, L.P.	2008	37,500.0	28,793.4	28,475.6
Carlyle Energy Mezzanine Opportunities Fund II LP	2015	85,000.0	8,352.2	17.7
Carlyle Global Financial Services Partners II LP	2013	100,000.0	67,387.4	430.0
Castlelake II, LP	2011	75,000.0	69,374.0	38,712.4
Castlelake III LP	2014	100,000.0	92,540.5	3,437.3
Castlelake IV LP	2015	100,000.0	77,972.7	-
Cotton Creek Capital Partners II LP	2014	31,500.0	17,918.5	15,763.2
Crown Global Secondaries IV plc	2016	200,000.0	9,000.0	-
Crown Secondaries Special Opportunities plc	2016	100,000.0	30,750.0	(386.4)
Energy & Minerals Group Fund III LP	2014	80,471.0	74,518.6	1,076.8
ERS Private Equity Emerging Manager Fund I, L.P.	2010	50,000.0	38,989.7	16,548.0
ERS Private Equity Emerging Manager Fund II LP	2014	50,000.0	23,265.9	(410.8)
ERS Private Equity International Fund I, LP	2011	165,000.0	128,784.3	41,756.6
ERS Private Equity International Fund II LP	2014	300,000.0	97,589.0	4,147.0
ERS TA XII LP	2015	62,500.0	22,500.0	2,678.5
Euroknights VI, L.P.	2011	46,005.8	45,602.6	14,998.1
Euroknights VII No 1 L.P.	2017	42,442.8	-	-
Frontier Fund III LP	2011	50,000.0	48,761.3	36,335.1
Frontier Fund IV LP	2015	60,000.0	35,714.1	14,445.6
Gores Capital Partners III, L.P.	2011	100,000.0	83,562.8	65,497.7
HCP III-C L.P Inc.	2016	15,000.0	14,041.6	-
Hellman & Friedman Capital Partners VIII LP	2015	82,500.0	4,238.8	104.6
HGCapital 7 A L.P.	2013	47,941.2	71,326.1	18,554.6
HgCapital 8 LP	2017	49,793.2	-	-
HitecVision VI, L.P.	2011	70,000.0	54,490.2	-
HitecVision VII LP	2014	70,000.0	27,003.8	-
Industry Ventures Secondary VII LP	2013	40,000.0	33,800.0	4,567.0
Industry Ventures Secondary VIII LP	2016	40,000.0	480.0	-
Industry Ventures Special Opportunities Fund II-A LP	2014	47,500.0	237.5	-
Industry Ventures Special Opportunities Fund III-A LP	2016	47,500.0	-	-
KSL Capital Partners Credit Opportunities Fund II LP	2017	30,000.0	-	-
KSL Capital Partners Credit Opportunities Fund LP	2014	50,000.0	12,595.9	763.5
KSL Capital Partners III, L.P.	2011	95,000.0	70,737.4	55,523.7
KSL Capital Partners IV LP	2016	125,000.0	25,011.9	-
Landmark Co Investment Fund II CO20170301	2017	62,500.0	5,935.1	-
Landmark Equity Partners XV LP	2013	175,000.0	85,674.6	36,818.3
Landmark Equity Partners XVI LP	2016	87,500.0	-	-
Landmark TX ERS Co-Investment Fund I, L.P.	2014	125,000.0	62,613.5	19,251.9
Lexington Capital Partners VII, L.P.	2009	100,000.0	79,416.9	84,563.5
LGT Crown Global Secondaries II PLC	2009	75,000.0	61,650.0	89,471.1
LGT Crown Global Secondaries III PLC	2012	100,000.0	56,900.0	18,100.0
Littlejohn Fund IV, L.P.	2010	82,500.0	76,118.0	68,038.7
Longitude Venture Partners II, L.P.	2013	50,000.0	44,682.5	6,098.0

Fund Partnership	Vintage	Committed	Called	Distributed
Navis Asia Fund VI, L.P.	2009	60,000.0	60,000.0	11,708.4
Navis Asia Fund VII LP	2014	125,000.0	71,400.0	13.4
New Mountain Partners III, L.P.	2007	60,000.0	55,652.8	51,304.5
Quantum Energy Partners V, L.P.	2008	50,000.0	43,299.2	21,329.5
Quantum Energy Partners V, L.P. (Secondary)	2008	23,333.5	19,983.1	11,045.2
Quantum Energy Partners VI LP	2014	100,000.0	45,633.3	4,552.4
Quantum Energy Partners VII LP	2017	85,000.0	6,680.6	-
Quantum Parallel Partners V-C, L.P.	2014	25,000.0	10,575.2	945.5
Quantum Parallel Partners VI-C LP	2015	14,000.0	4,179.1	625.3
Riverside Capital Appreciation Fund V, L.P.	2008	100,000.0	90,902.9	93,122.0
Riverside Capital Appreciation Fund VI, L.P.	2013	100,000.0	71,414.7	7,096.7
Riverside Europe Fund V LP	2017	39,539.4	21,309.8	(1,087.1)
RLH Investors III, LP	2011	50,000.0	38,980.1	8,418.5
RLH Investors IV, LP	2017	55,000.0	-	-
Southern Cross Latin America PE Fund IV Secondary, L.P.	2010	24,355.7	22,963.8	888.6
Southern Cross Latin America PE Fund IV, L.P.	2010	50,000.0	47,216.2	1,777.3
Southern Cross Latin America Private Equity Fund V LP	2016	60,000.0	32,573.9	62.6
Southwest Opps Partners LP	2007	60,585.1	57,225.7	115,247.5
Summer Street Capital III, LP	2012	50,000.0	39,246.0	-
TA Subordinated Debt Fund III, L.P.	2010	50,000.0	48,750.0	44,750.0
TA Subordinated Debt Fund IV LP	2016	25,000.0	8,625.0	125.0
TA XI, L.P.	2010	100,000.0	98,250.0	95,855.6
The Energy & Minerals Group Fund IV LP	2015	50,000.0	25,805.4	436.2
Triton Debt Opportunities Fund I US LP	2014	50,330.0	20,069.8	10.0
Triton Fund III, LP	2009	85,350.0	62,137.9	44,989.9
Triton Fund IV LP	2013	91,509.6	43,392.4	4,177.8
Windpoint VIII, L.P.	2016	55,000.0	16,439.4	(210.1)

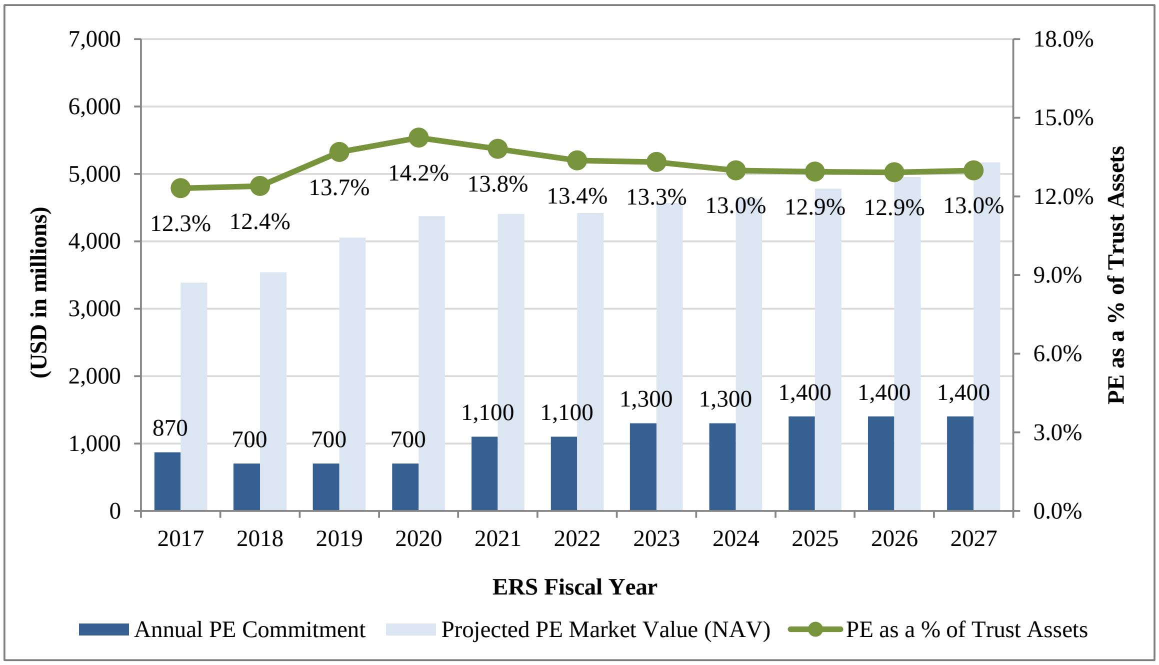
APPENDIX E

Private Equity Portfolio Sensitivity Analysis

<u>Projected Private Equity Portfolio: 3.75% Trust Growth Rate</u>

The following charts outline the estimated commitment levels required to maintain the targeted 13.0% private equity allocation (+/- 5.0%), assuming an underlying projected Trust assets growth rate of 3.75% and targeted fund returns:

	(USD in Millions)					
Fiscal Year	Annual PE Commitment	Uncalled Commitment	Cumulative Distributions	Projected PE Market Value (NAV)	Projected Total Trust Assets	PE as a % of Trust Assets
2017	870	2,469	1,986	3,390	27,532	12.3%
2018	700	2,290	3,084	3,540	28,564	12.4%
2019	700	2,021	4,163	4,055	29,635	13.7%
2020	700	1,856	5,477	4,376	30,747	14.2%
2021	1,100	2,009	7,116	4,405	31,900	13.8%
2022	1,100	2,129	8,749	4,422	33,096	13.4%
2023	1,300	2,309	10,451	4,571	34,337	13.3%
2024	1,300	2,357	12,347	4,627	35,625	13.0%
2025	1,400	2,462	14,292	4,780	36,961	12.9%
2026	1,400	2,452	16,367	4,954	38,347	12.9%
2027	1,400	2,512	18,508	5,168	39,785	13.0%



EMPLOYEES RETIREMENT SYSTEM OF TEXAS
PRIVATE EQUITY PARTNERSHIP EVALUATION CRITERIA

Introduction

A key characteristic that distinguishes private equity from public equity is the lack of daily pricing available for private investments. Given both the lack of daily pricing and representative passive indices, the evaluation criteria applied to private equity investment opportunities is less statistically-driven than the evaluation of public equities. For example, standard deviation, correlation, and rolling time-weighted returns, commonly used in public manager analysis, are not meaningful when calculated for and applied to private investments.

Private equity is more reliant on qualitative evaluation. A number of qualitative measures, similar to those used for public security managers, are available for analysis. Such factors include experience and tenure of professionals, turnover, organizational structure, client base, and investment process. Considerations specific to ERS' investment program, such as a private equity partnership's role or fit within the private equity portfolio, are also important.

The most significant consideration given to private equity partnership investments is the prior track record established by the general partner of the partnerships. Unlike public security managers, where past performance does not necessarily indicate future performance, past success with private equity investments can be an indication of future success. Several reasons for this include:

1) Brand-name partnerships tend to have first call on the best investment opportunities. The entrepreneurs and managers with the best companies, seek out private equity firms that are well known for past successes rather than partner with groups having less proof of principal.
2) Similarly, top tier partnerships can recruit the best professional managers and senior employees. The companies they back are viewed as good bets, and employment arrangements are structured, to build significant personal wealth.
3) Groups that have long successful track records, especially over a market cycle, typically are at the top of the learning curve and can be expected to make fewer mistakes than less tenured groups.
4) Groups with prior records of success get preferential treatment by investment banks, commercial banks and financial intermediaries given past fee generation and future fee revenue potential.

Also, track record analysis is the one area that lends itself to some mathematical evaluation with respect to internal rates of return (IRR) achieved, multiple of invested capital returned, and consistency of results. Track record information also provides insight into how profits were generated (e.g., company profit growth versus multiple expansion) and whether continued success may be reasonably expected.

No partnership will achieve all the desired characteristics of the metrics listed below. However, the evaluation criteria provide insight into the identifiable strengths and weaknesses of partnerships, and the ability to conduct meaningful in-depth due diligence on investment opportunities. The evaluation criteria are a first step in screening and identifying attractive investment candidates. Partnerships that compare favorably to the evaluation criteria become candidates for full due diligence.

1) Track Record

Desirable characteristics include:

- The track record must be of sufficient length and number of companies to be meaningfully analyzed.
- The rate of return on prior investments, especially fully realized investments, should be attractive on both an absolute basis and in comparison to Venture Economics Inc. vintage year peer group data (approximating top quartile).

- There should be a pattern of steady capital deployment in each vintage year by number of companiesand total disbursed, and capital deployed to specific company investments should approximate the size range proposed for future investments.
- There should be a meaningful, analyzable number of realizations in the portfolio, preferably both through private sale and public offering, and during a variety of market conditions.
- Realizations should evidence reasonable holding periods and timely execution of business strategies.
- The historical track record must be attributable to the general partners who will manage the partnership going forward.
- The track record information must be consistent with and applicable to the proposed strategy for future investments.

2) Investment Professionals

Private equity partnerships are typically dependent on a small number of key professionals, accordingly:

- The investment professionals should have relevant and applicable backgrounds to the strategies and industries being pursued.
- Complimentary backgrounds and skill sets (e.g., investment banking, management consulting, and operating company experience) are viewed as positive in bringing different perspectives and experiences to the investment selection process and assisting companies in the execution of their business plans.
- Key personnel should have a long tenure of working together, and low or no turnover of key personnel is desirable.
- Infrequent selective additions of senior personnel to fill specific needs are desirable, as well as a demonstrated ability to promote from within are viewed as positive.
- The periodic addition of highly qualified junior professionals, at various skill levels, in a rational manner is viewed as positive.

3) Organization

As the organizational and administrative infrastructure must support the investment professionals' success, desirable characteristics include:

- Sufficient support staffing to provide a strong platform for the investment professionals, including accounting and finance, information systems, administrative support, and other back-office personnel as required.
- The firm should demonstrate controlled growth over time, as assets under management increase.
- The managing partnership should have a well-articulated plan to build resources to meet future requirements.
- Turnover in the non-professional ranks should be low.

4) Investment Strategy

Private equity partnerships typically approach investment strategies based on the general partners' specific business acumen and experience, so desirable indicators of a successful investment strategy include:

- The partnership should have a well-articulated and documentable investment approach that is consistent with the partners business backgrounds and past investment successes.
- The strategy must be one that can be logically expected to continue to be successful in the future (e.g., investment opportunities persist, financial structures are viable, and continued commercial and capital market acceptance is expected).
- The investment professionals should have established successful methods of sourcing high quality transactions and/or unique sources of relatively proprietary deal flow.

- The investment strategy must have an identifiable value-creation proposition, including activist involvement with portfolio companies at the board and strategic planning levels.
- The partnership should be able to demonstrate a unique franchise or competitive advantage withrespect to sourcing investments and/or executing its strategy.
- Generally, partnerships sought are well diversified by industry, geography, and number of companies, although there is flexibility to consider niche or specialty funds.

5) Assets Under Management

- The manager should have an institutional client base, preferably with other sophisticated pension fund investors, and preferably public pension funds.
- There should be evidence that prior investors will invest in the new partnership.
- Past partnerships and the proposed vehicle should be of sufficient size to be considered a truly institutional partnership, typically $150 million or more.

6) Business Practice Management

While not a key initial evaluation criterion, the manager must demonstrate that it has the ability to perform all tasks necessary to be a successful business entity ongoing, including:

- Ability to be credible in the market place and raise sufficient assets for the proposed fund and future partnerships.
- Performance of all portfolio management functions associated overseeing the individual company investments and total portfolio through to a timely realization.
- Demonstrate responsive reporting and client service for investors.
- Evidence a cohesive corporate culture and stable organization.

7) Fit Within Strategic and Tactical Plans

ERS has a substantial portfolio with relationships in most strategies. New relationships are evaluated as to whether:

- They fill an identified under-weighting in the portfolio *Strategic Portfolio Structure*.
- They are identified as an area of focus in the *Annual Tactical Plan*.
- They are partnerships with a top tier franchise, which have the potential to improve the portfolio's overall rate of return.
- They are deemed to be sufficiently attractive so as to overcome ERS' desire to avoid a proliferation of general partner relationships.

8) Terms and Conditions

- *Partnership Size* – The prospective partnership must be of a size that is consistent with the historical investment run rate of the firm, adjusted for reasonable growth as determined by an assessment of the firms capacity to manage new investments.

- *Economic Terms* – The economic terms of the fund must be market-based taking into account factors such as the firm's size, strategy, and track record.

- *Governance Provisions* – While primarily an evaluation conducted by ERS' legal counsel in final documentation, the initial term sheet should include investor rights that are market-based taking into account factors such as the firm's size, strategy, and track record. Examples of typical governance provisions viewed as favorable would include key person clauses, change of control clauses, limited partner advisory boards, and general partner carried interest clawbacks, among others.

9) Consideration Of Emerging Fund Managers

- ERS must make a good faith effort to award contracts to or acquire services from qualified emerging fund managers when acquiring private financial services as directed by House Bill 2559 from the 81stLegislature, which added subsections (g), (h), and (i) to Section 815.301 of the Texas Government Code.
- An emerging fund manager is defined as a private professional investment manager with assets under management of not more than $2 billion. Private financial services include pension fund management, consulting, investment advising, brokerage services, hedge fund management, private equity fund management, and real estate investment.
- ERS must report to its Board of Trustees the methods and results of its efforts to hire emerging fund managers, including data disaggregated by race, ethnicity, gender, and fund size

EMPLOYEES RETIREMENT SYSTEM
OF TEXAS
REAL ESTATE
GUIDELINES AND PROCEDURES

Last Updated: May 23, 2018

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

REAL ESTATE
GUIDELINES AND PROCEDURES

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EMPLOYEES RETIREMENT SYSTEM OF TEXAS

REAL ESTATE
GUIDELINES AND PROCEDURES

Last Updated
May 23, 2018

I. INVESTMENT OBJECTIVES

A. INVESTMENTS IN REAL ESTATE EQUITY AND DEBT ASSETS

The Employees Retirement System of Texas ("ERS" or "the System") has determined that, over the long term, inclusion of real estate equity and debt investments (herein after referred to collectively as "Real Estate Portfolio") would enhance ERS' expected total portfolio ("Total Portfolio") investment characteristics. The objectives of the System's Real Estate Portfolio include (1) preserving the System's capital, (2) enhancing the System's Total Portfolio risk-adjusted returns, (3) further diversifying the System's Total Portfolio, (4) reducing the System's Total Portfolio volatility, and (5) providing a hedge against inflation.

For purposes of these Real Estate guidelines and Procedures, "real estate" includes private and public, equity and debt, domestic and international real estate investments. The System has authorized its real estate consultant (the "Real Estate Consultant") to provide expertise and advice related to ERS' investment strategy, guidelines, and practices and to work co-operatively with the System, System Staff, and the System's primary investment consultant when providing advice concerning the System's real estate investments. New investments may comprise real estate commingled funds ("Real Estate Funds") and real estate separate accounts ("Separate Accounts"), where the System represents the predominant equity investment in a particular vehicle, as further described in Section I.D.

The System's investment guidelines are determined by the Employees Retirement System of Texas Board of Trustees ("Board" or "Board of Trustees"). In general, ERS' long-term goal for the Total Portfolio is to earn a return that will insure the payments due to members of the System's retirement plans and their beneficiaries at a reasonable cost to the System's members and the taxpayers of the State of Texas.

ERS' Real Estate Portfolio investments shall be made in a manner consistent with the whole portfolio approach and the exclusive benefit requirements of the Texas Constitution. The selection and management of Real Estate Portfolio assets will be guided to maintain prudent diversification of assets, to maximize management responsibility, and to preserve the System's investment capital. The diversification objective is required to manage overall market risk and the specific risks inherent in any single investment or single manager.

B. ASSET ALLOCATION

ERS' Real Estate Portfolio allocation shall remain within the limits authorized by the Board of Trustees in the System's asset allocation, as established in the System's *Investment Policy* based on invested net asset value. Due to the nature of closed-end Real Estate Funds drawing committed capital on an unscheduled basis, ERS may over-commit to the Real Estate Portfolio in order to achieve intended investment amounts based upon pacing analyses conducted by ERS Real Estate Staff and/or the Real Estate Consultant.

An important implementation goal for the System is to spread out the timing of new commitments so as to avoid an undue concentration of commitments in any one fiscal year, known as "vintage year diversification." Over the long-term, it is expected that approximately equal amounts of new funding will be committed each fiscal year to garner the benefits of vintage year diversification.

C. REAL ESTATE PORTFOLIO PERFORMANCE

The System shall use the following rate of return tests to evaluate the performance of the Real Estate Portfolio:

1. Public Real Estate Total Return

Public Real Estate Total Return shall be calculated adding realized and unrealized capital appreciation gains and losses plus income. The performance objective of the Public Real Estate Portfolio is to achieve a total time-weighted rate of return over rolling five-year periods in excess of its stated benchmark, which is the FTSE EPRA/NAREIT Index.

The Public Real Estate Portfolio shall employ a risk-controlled, value-added strategy with portfolio holdings and characteristics similar to that of the broader market as represented by the FTSE EPRA/NAREIT index, with a tracking error of 300 basis points. The dual investment strategies of the Public Real Estate Portfolio are capital appreciation and income generation.

2. Private Real Estate Total Return

Private Real Estate Total Return shall be calculated adding realized and unrealized capital appreciation gains and losses plus income. The performance objective of the Private Real Estate Portfolio is to achieve a total return over rolling ten-year periods in excess of the NCREIF Fund Index-Open Diversified Core Equity ("NCREIF-ODCE"), provided that the Private Real Estate Portfolio maintains an acceptable level of risk when measured by the standard deviation of quarterly returns of the NCREIF-ODCE. ERS will measure the return of the Private Real Estate Portfolio employing a dollar-weighted, internal rate of return ("IRR") calculation, multiple of invested equity, and a time-weighted rate of return calculation (primarily for purposes of computing the System's Total Portfolio returns). Return calculations will be net of all partnership fees and expenses.

It is expected that the Private Real Estate Portfolio investments will employ multiple strategies. Real Estate Funds and Separate Accounts will have dual investment goals of capital appreciation and income generation, although some Real Estate Funds and Separate Accounts may focus primarily on income generation. Other Real Estate Funds and Separate Accounts may not provide any meaningful predictable cash flow and will be dependent upon non-recurring events, such as the disposition of assets, to generate realized capital appreciation returns.

3. Risk With Regard to Individual Investments

Real estate investing entails risk of sustaining a loss on individual investments. It is the System's expectation that, while specific Real Estate Funds and Separate Accounts may incur losses of invested capital, a diversified portfolio of Public Real Estate and Private Real Estate Funds and Separate Accounts will produce a positive rate of return in comparison to the benchmarks set forth in Sections I.C.1. and I.C.2., above.

D. REAL ESTATE PORTFOLIO MANAGEMENT

The selection and management of assets in the System's Real Estate Portfolio will be guided to generate a high level of risk-adjusted return while maintaining prudent diversification of specific investments. Eligible Real Estate Funds will range from core commingled open-end funds to opportunistic commingled closed-end funds, as defined in Sections II.A. and II.D., below, and may also include Separate Accounts with selected managers. Separate Accounts represent opportunities wherein the System would be a predominant equity investor for a real estate fund manager pursuing a specifically-targeted opportunity, typically where the real estate fund manager acts as a general partner and the System acts as a limited partner within a limited partnership.

As a predominant (but not necessarily the majority or exclusive) equity investor, the System would likely be entitled to voting and control rights generally not available tocommingled Real Estate Fund investors. The System shall manage the investment risk associated with the Real Estate Portfolio in several ways:

1. Institutional Quality

All assets must be of "institutional quality." Institutional quality is defined as being of a quality whereby the investment would be considered acceptable by other prudent institutional investors (e.g., insurance company general accounts and separate accounts, commercial banks and savings institutions, governmental permanent funds, public employee retirement systems, domestic and foreign corporate employee benefit plans, and other tax-exempt institutions).

2. Investment Types and Terms

Each Real Estate Fund and Separate Account will consist predominantly of private real estate investments (i.e., private equity and/or private debt interests), primarily within the office, multi-family, retail, industrial, and hotel property types. Other investable property types may include but not be limited to land, for-sale residential, senior housing, student housing, and storage assets. Open-end Real Estate Funds typically will not have stated investment terms, while closed-end Real Estate Funds typically will have terms of approximately ten (10) years, with extension periods provided for proper winding-down of affairs and disposition of assets.

3. Diversification

The Real Estate Portfolio shall be diversified as to (1) risk/return mixture, (2) geography, (3) property type, (4) investment vehicle, (5) investment leverage, (6) vintage year, and (7) investment manager, among other diversification elements. Long-term diversification targets among eligible investment strategies will be set forth in Section II of these *Real Estate Guidelines and Procedures* and reviewed at least annually. Individual Real Estate Funds and Separate Accounts may have a property-type or geographic bias.

While the System has not set a minimum dollar amount per Real Estate Fund and Separate Account, ERS intends to deploy capital efficiently. Average investment size will be monitored compared to the number and size of individual commitments. Interim investment goals toward the implementation of the Real Estate Portfolio will be set forth in an *Annual Tactical Plan* (attached as Appendix A) as described herein.

4. Ownership Structure

a. Investment Structure – For the Public Real Estate Portfolio, the System will primarily employ an internally-managed global publicly-traded real estate securities platform. For the Private Real Estate Portfolio, the System will primarily make commitments to Real Estate Funds and Separate Accounts. Real Estate Fund investments may include (but are not limited to) commingled limited partnerships and limited liability companies, where the System invests alongside other institutional investors, employing a manager which exercises discretion over the Real Estate Fund's individual real estate transactions. Separate Account Investments may include (but are not limited to) limited partnerships and limited liability companies where the System is the predominant source of investment capital, employing a manager which exercises discretion over the Separate Account's individual real estate transactions. Separate Accounts typically afford the System greater amounts of control over a manager's discretionary authority, asset management, incentive compensation, and other factors at the expense of decreased diversification, as the System would be a predominant source of a Separate Account's investment capital.

ERS Real Estate Staff, with the assistance of a non-discretionary Real Estate Consultant, will source, evaluate, and recommend investments to the Real Estate Investment Committee or Board of Trustees, with the relevant body voting to approve or to decline Real Estate Staff's recommendations. The Real Estate Investment Committee is granted authority to approve Real Estate Portfolio investments recommended by Real Estate Staff up to 0.6% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report and limited by approval authority of the Board of Trustees pursuant to Texas Government Code section 815.3016. Real Estate Portfolio investments will be subject to portfolio diversification targets established in these *Real Estate Guidelines and Procedures* and approval of an *Annual Tactical Plan* by the Board of Trustees. Other Real Estate Fund or Separate Account investments, which are not limited partnership or limited liability company units, may also be purchased by ERS, if such vehicles are deemed to provide appropriate liability, tax, and governance characteristics. All vehicle structures will be subject to review by ERS' legal counsel.

b. <u>Co-Investments</u> – In addition to Real Estate Funds and Separate Accounts, the Real Estate Portfolio may also consist of co-investments. Co-investments entail providing additional funding to specific real estate investments being made by the Real Estate Funds and Separate Accounts to which ERS has commitments. Typically, co-investment opportunities arise when the general partner of a Real Estate Fund or Separate Account invites limited partners or other investors to provide additional capital when an investment is of a size that exceeds the Real Estate Fund's or Separate Account's diversification parameters.

The Real Estate team may elect to invest in co-investments that are with general partners with whom ERS has made a limited partnership investment ("Existing Relationships") or with general partners with whom ERS has not invested ("New Relationships").

No individual co-investment, including follow-on investments in the same company, may be greater than the following, without ERS Board of Trustees approval: (i) $50 million in size for Existing Relationships; (ii) $20 million in size for New Relationships; provided any co-investment greater than 0.6% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report will be approved by the Board of Trustees pursuant to Texas Government Code Section 815.3016. (iii) $100 million in size for a portfolio of real estate assets.

For co-investments, ERS Real Estate Staff, with the assistance of the Real Estate Consultant, will evaluate and recommend co-investments to the Real Estate Investment Committee on a non-discretionary basis, with the Real Estate Investment Committee voting to approve or to decline Real Estate Staff's recommendations. The co-investments will be subject to portfolio diversification targets established in these *Real Estate Guidelines and Procedures* and approval of an *Annual Tactical Plan* by the Board of Trustees.

5. Reporting System

There shall be a reporting and monitoring system for the Real Estate Funds, Separate Accounts, and Co-Investments. Utilizing the reporting system, situations of underperforming investments, portfolio diversification deficiencies, or other violations of the *Real Estate Guidelines and Procedures* and *Strategic Portfolio Structure* can then be identified. Further definition of this reporting system is provided in Sections III. D.1.b. "Investment Management Ongoing Operations" and III.D.2. "Reporting Requirements."

6. Performance Measurement

Performance will be calculated on a time-weighted basis for the Public Real Estate Portfolio and Private Real Estate Portfolio. Additionally, both a dollar-weighted (i.e., internal rate of return or IRR) calculation and multiple of invested equity calculation will be used to evaluate the Private Real Estate Portfolio. Internal rate of return calculations will be net of all Real Estate Fund and Separate Account fees and expenses.

7. Lines of Responsibility

Well-defined lines of responsibility and accountability will be required of all participants in ERS' real estate investment program. Participants are identified as:

Participant	Responsibility
Board of Trustees	The fiduciaries elected by the employee and retiree beneficiaries of the System and those appointed by the Governor, the Speaker of the Texas House of Representatives, and the Chief Justice of the Texas Supreme Court. The Board will approve investments over 0.6% of the total market value of the System's assets as reported in the most recent ERS Comprehensive Annual Financial Report pursuant to Texas Government Code Section 815.3016.
Investment Advisory Committee	The Investment Advisory Committee ("IAC") was created to consult with and advise the Board on investments and investment-related issues. The IAC is composed of at least five and not more than nine members and are selected on the basis of experience in the management of a financial institution or other business in which investment decisions are made or as a prominent educator in the fields of economics or finance. The IAC members serve at the pleasure of the Board of Trustees.
Executive Director	The Executive Director is granted full authority and responsibility by the Board of Trustees in the implementation and administration of its investment programs subject to Board guidelines, rules, regulations, and directives consistent with constitutional and statutory limitations.
Real Estate Investment Committee	The Real Estate Investment Committee consists of the Executive Director, Chief Investment Officer, a member of the IAC, and either the Deputy Chief Investment Officer or another senior member of investments staff, and is granted the fiduciary responsibility of approving Real Estate Portfolio investments recommended by Real Estate Staff and limited by approval authority of the Board of Trustees described above. For co-investments with New Relationships, the Real Estate Investment Committee will approve the general partner, as well as approve the co-investment.
Real Estate Staff	Investment professionals on the ERS Staff responsible for the real estate investment program's design, implementation (including due diligence and investment recommendation and approval), administration, and monitoring.

Real Estate Consultant	Professionals retained to support ERS' Real Estate Staff and Board of Trustees through the provision of real estate and alternative investment program knowledge and technical support, and to conduct investment due diligence, to make fiduciary investment recommendations on a non-discretionary basis, and conduct performance measurement of the real estate portfolio. The Real Estate Consultant must also adhere to ERS' Standard of Conduct, as follows: Any conflict of interest disclosures that a non-discretionary consultant is required to file pursuant to state law and federal securities laws must also be filed with and acceptable to ERS Real Estate Staff. Such disclosures will not be acceptable if they are perceived by ERS to show any loss of independence and objectivity by the Real Estate Consultant.

With respect to the Real Estate Portfolio, the responsibilities of the parties cited above are outlined in Section III.A.1- 3.

II. INVESTMENT GUIDELINES

Real Estate Portfolio investments will be guided by these *Real Estate Guidelines and Procedures*. Each year the real estate program will be further implemented and modified in accordance with an *Annual Tactical Plan* prepared by Real Estate Staff and approved by the Board of Trustees.

A. RISK/RETURN MIXTURE AND TARGET ALLOCATIONS

The Real Estate Portfolio's risk/return mixture is dependent upon the System's risk tolerance as well as return expectations. ERS Real Estate Staff and the Real Estate Consultant will seek to manage the allocations to the mid-point of the ranges, understanding that the System may deviate from these ranges as it allocates capital over the next several years to achieve full Real Estate Portfolio allocation within the ERS Total Portfolio.

1. **Core:** (30% +/- 15%) – Equity or debt investment in operating and fully-leased institutional quality real estate in the traditional property types (office, multi-family, retail, industrial, and hotel). Net returns historically have been in the 8% range (net of all fees).

   Equity: For core equity strategies, returns are typically comprised of greater levels of income with appreciation exceeding inflation.

   Debt: For core debt strategies, the current pay or coupon rate determines the vast majority of the expected return.

2. **Non-Core:** (40% +/- 15%) – Equity or debt investments in real estate properties, operating companies or other investment vehicles that are in need of lease up, repositioning, require extensive capital expenditures or ground up development. Net returns have historically been in the 10%-15%+ range.

   Equity: For non-core equity strategies, returns are typically expected to generate above-core returns through successful execution of each manager's business plan. The returns typically come more from capital appreciation than a core investment but income can contribute a meaningful portion of the returns for some lower risk non-core investments.

   Debt: For non-core debt strategies, the focus is on debt investments with greater coupon rates or purchases to par value, generally attributed to debt collateralized by lower quality real estate or debt proceeds exttedend at greater loan-to-value ratios than core real estate strategies.

3. **<u>Global Publicly-Traded Real Estate Securities</u>:** (30% +/- 10%) – Equity or debt investments in global publicly-traded real estate securities. Investments may be made in securities owning stabilized properties with substantial in-place income, as well as securities owning non-traditional properties, including those with little or no income, e.g., land banks. Net returns historically have been in the 8.50% range (net of fees).

4. **<u>Infrastructure</u>:** (0% - 10%) – Equity or debt investments in infrastructure, including both stabilized core cash-producing assets, i.e., brownfields, and value-added and opportunistic assets with less stabilized income-generating potential and more capital appreciation potential, i.e., greenfields. Institutional quality infrastructure asset categories include, but are not limited to, the following:

   Transportation, e.g., bridges, toll roads, airports,

   Utilities and Regulated Industries, e.g., electricity lines, gas pipelines,

   Communication, e.g., communication towers, satellites, cable systems,

   Social Infrastructure, e.g., school buildings, hospitals, court houses, and

   Natural Resources, e.g., coal mines, water aquifers, mineral rights. The System shall review any infrastructure investments with respect to its private equity portfolio, to prevent any inadvertent over-allocation to any infrastructure category and to ensure proper diversification of the infrastructure portfolio.

B. GEOGRAPHICAL LOCATION DIVERSIFICATION

Over the long-term, ERS' Private Real Estate Portfolio should seek geographic diversification with regard to major regional areas both domestically, e.g., Northeast, Mid-Atlantic, Southeast, Midwest/Plains, Southwest/Rockies, West Coast, Pacific Northwest, and internationally, e.g., Asia, Europe, Latin America. The currency exposure to ERS from the non-dollar aspect of the Real Estate Portfolio need not be hedged, unless hedging is deemed to be appropriate by ERS Real Estate Staff, Real Estate Consultant, and/or the System's primary investment consultant. ERS Real Estate Staff and the Real Estate Consultant will seek to manage allocations to the mid-point of the ranges, understanding that the System may not be able to achieve these ranges as it allocates capital in the early stages of implementing the Real Estate Portfolio investments.

A portion of the Real Estate Portfolio is targeted to international real estate to take advantage of secular growth in real estate demand in non-U.S. markets and for diversification benefits. Although historical international real estate returns have been more volatile than domestic real estate returns, this target is premised upon the belief that the United States' share of world economic output will decline relative to that of other countries over the long-term (although it will still grow in absolute terms).

1. **<u>Domestic</u>:** (70% +/- 15%) – Domestic Real Estate Portfolio investments shall be considered those inside the continental United States, Alaska, and Hawaii. For smaller investments with multiple locations, the System may use the headquarters location when classifying the investment for geographical location diversification.

   With respect to the System's domestic real estate investments, the distribution by geographic region will target a +/- 20% weight to the NCREIF Property Index ("NPI") regional areas of West, Midwest, South and East.

   In the event that ERS' Domestic Private Real Estate portfolio exceeds a 20% weight from the respective NPI regional weights, staff will communicate the reasons for the regional over and underweights. An actionable plan to bring the regional weights back into the respective +/- 20% suggested target range of the NCP will be presented to the Executive Director and to the Board.

2. **<u>International</u>:** (30% +/- 15%) – International Real Estate Portfolio investments shall be considered those outside of the continental United States, Alaska, and Hawaii.

3. For smaller investments with multiple locations, the System may use the headquarters location when classifying the investment for geographical location diversification.

The international real estate investments will be further diversified by geographic region. Emerging countries are growing much faster than developed countries and are projected to become a significant portion of the overall institutional market. Despite improved asset quality, transparency, and governance, inherent risks still exist. While no formal limit is imposed on investing in these countries, an emerging country target of up to 40% of the international portfolio which equates to just 12% of the overall real estate portfolio will be followed.

Geographic Region	
Asia:	20% – 50%
Europe:	20% – 50%
Americas:	0% – 30%
Other International:	0% – 20%

C. PROPERTY TYPE DIVERSIFICATION

Property-type ranges are based on the universe of available real estate investments, institutional investor portfolio information, and available indexes. ERS may occasionally overweight certain property types when appropriate strategies and opportunities with top-tier managers exist. While traditional real estate property types of office, multi-family, retail, industrial, and hotel are provided, other emerging property types may provide significant opportunities for outperformance. The policy ranges with respect to the System's domestic property type exposure will target a +/- 20% weight to the NPI property type weightings of Office, Multi-family, Retail, Industrial and Hotel. An "Other" property type category (e.g. healthcare, self-storage, etc.) can be up to 30% in aggregate and infrastructure can be up to 10% of the portfolio.

In the event that ERS' Domestic Private Real Estate portfolio exceeds a 20% range limit from respective NPI property type weights, staff will communicate the reasons for the property type over and underweights. An actionable plan to bring the property type weights back into the respective +/- 20% suggested target range of the NPI will be presented to the Executive Director and to the Board.

D. INVESTMENT VEHICLE AND LIQUIDITY EXPOSURE DIVERSIFICATION

The allocation range for investment vehicle type is shown below along with their historical liquidity levels. It should be noted that even ostensibly liquid vehicles have, on occasion, experienced significant illiquidity, thereby affecting exit pricing for some investors. Thus, the allocation ranges are intended to provide maximum flexibility to achieve ERS' Real Estate Portfolio goals:

Commingled Closed-End Real Estate Funds (Illiquid): Up to 100%
Commingled Open-End Real Estate Funds (Moderate Liquidity): Up to 75%
Separate Accounts (Ranging from Liquid to Illiquid): Up to 50%
Global Publicly Traded Real Estate Securities (Liquid): Up to 40%

E. INVESTMENT LEVERAGE

Leverage is a significant risk factor. While leverage can enhance returns, the potential negative impact of leverage is magnified during an economic downturn, when decreasing property values and stricter lending terms can lead to unexpectedly increased leverage levels and, at times, forced deleveraging. The Private Real Estate Portfolio, as a whole, shall not employ leverage greater than 65% on loan-to-value basis. On an individual investment basis, leverage can surpass this limitation. Within each Real Estate Fund and Separate Account, leverage should be applied primarily on a non-recourse basis to the Real Estate Fund/Separate Account, allowing for significant flexibility regarding provisions for debt maturations. With respect to the System's risk/return mixture, the limitations on leverage (on a loan-to-value basis) will be compared to the following ranges:

Core: Up to 50%
Non-Core: Up to 70%
Separate Accounts (Ranging from Liquid to Illiquid): Up to 70%

F. VINTAGE YEAR DIVERSIFICATION

Commitments to partnership investments will be staged over time. It is ERS' long-term goal to spread out investment timing such that new commitments will be made each fiscal year. This policy will have the effect of dollar-cost-averaging the Real Estate Portfolio over business cycles and will help to insulate the Real Estate Portfolio from event risk. Annual commitments will be allotted in accordance with a *Real Estate Portfolio Pacing Analysis* maintained by Real Estate Staff and the Real Estate Consultant, the results of which will be updated and incorporated as part of the *Annual Tactical Plan*.

G. INVESTMENT MANAGER DIVERSIFICATION

If a manager is unable to fully implement its strategy based upon factors internal to the organization, e.g., credit agency downgrades, key person risk, it affects the returns that can be expected from the Real Estate Portfolio. The Real Estate Portfolio will seek to diversify by managers of Real Estate Funds and Separate Accounts. No more than 15%, with a target of 10%, of ERS' Real Estate Portfolio, based on net asset value plus uncalled commitments, will be invested with any one investment manager organization. Net asset value is defined as the carrying value of the investments reported by Real Estate Fund and Separate Accounts in the quarterly financial statements. ERS' Real Estate Portfolio (combined private and listed securities) is defined as the one-year forward-looking value presented in the ERS Real Estate Annual Tactical Plan. It is also recognized that during the Real Estate Portfolio development and wind-down stages the full investment parameters may not be met.

ERS will always look for a strong alignment of interest with its managers. The preferred guideline is 3% or greater for a manager to be invested alongside the investors in a fund or other investment vehicle. ERS may own up to 100% of real estate fund-of-fund vehicles that invest in real estate partnerships, not properties (i.e. fund-of-one vehicles).

H. OTHER DIVERSIFICATION ELEMENTS

While no formal diversification ranges are set forth for other risk attributes, Real Estate Staff and the Real Estate Consultant shall monitor other investment diversification risks affecting the Real Estate Portfolio. Examples of these risks include:

1. **Life Cycle.** Unentitled land, development projects, redevelopment projects, operating properties.

2. **Property-Level Investment Size.** Less than $10 million single asset equity investments vs. greater than $100 million single asset equity investments.

3. **Property-Level Investment Concentration.** Proportion of each investment fund in a particular asset or group of assets.

4. **Direct or Indirect Ownership Basis.** Manager interests and their claims to property title.

III. PROCEDURES FOR INVESTMENT

A. GENERAL ALLOCATION OF RESPONSIBILITIES

The Real Estate Portfolio investments shall be implemented and monitored through the coordinated efforts of the Board of Trustees, Investment Advisory Committee, Executive Director, Real Estate Investment Committee, Real Estate Staff, and the Real Estate Consultant. The Real Estate Portfolio will be internally managed by the Board of Trustees and Real Estate Staff. Delegation of responsibilities for each participant is described in the following sections.

1. Board of Trustees

The Board of Trustees shall approve the investment guidelines and objectives that are judged to be appropriate and prudent to implement the strategic plan for the investment of the System's assets; review the performance criteria and policy guidelines for the measurement and evaluation of the System's Total Portfolio and investments; and supervise the investment of the System's assets to ensure that the System's investments remains in accordance with intended strategic plans and the Employees Retirement System of Texas *Objectives and Guidelines* and these *Real Estate Guidelines and Procedures* documents. The Board of Trustees will guide the long-term execution of the Real Estate Portfolio through approval of these *Real Estate Guidelines and Procedures*, which will be updated and revised annually or as appropriate. The Board of Trustees will hire the Real Estate Consultant. The Board of Trustees will guide the short-term execution of the Real Estate Portfolio through approval of an *Annual Tactical Plan* prepared by ERS Real Estate Staff and the Real Estate Consultant, which details goals and objectives for the upcoming twelve month-period. The Board will monitor the Real Estate Portfolio's progress and results through a performance measurement report prepared quarterly by the Real Estate Consultant.

Pursuant to Texas Government Code section 815.3016, The Board of Trustees will approve investments in lieu of the Private Real Estate Investment Committee when the investment is greater than 0.6% of the System's total market value of assets as reported in the most recent ERS Comprehensive Annual Financial Report.

2. Investment Advisory Committee ("IAC")

The Investment Advisory Committee ("IAC") shall review the System's investments to ensure that they conform to the investment objectives and guidelines adopted by the Board of Trustees. Real Estate Staff may utilize the expertise of IAC members in assessing investment strategies and may request IAC members to participate on ad-hoc project committees and provide insights from such participation to the Board of Trustees.

3. Executive Director

The Executive Director is granted full authority and responsibility by the Board of Trustees in the implementation and administration of its investment programs subject to Board policies, rules, regulations, and directives consistent with constitutional and statutory limitations. The Executive Director shall participate and review investment decisions and, together with the other members of the Real Estate Investment Committee, shall make the fiduciary investment decisions regarding investments in Real Estate Funds and Separate Accounts, based on information provided by and recommendations offered by Real Estate Staff.

4. Real Estate Investment Committee

The Real Estate Investment Committee shall review the System's Real Estate Portfolio prospective investments to ensure that they conform to the investment objectives outlined by these *Real Estate Guidelines and Procedures* and *Annual Tactical Plan* approved by the Board of Trustees and to ensure they are appropriate given current and anticipated real estate market dynamics. The Real Estate Investment Committee will review investment recommendations forwarded by Real Estate Staff. The Real Estate Investment Committee shall make the fiduciary investment decisions regarding investments in Real Estate Funds and Separate Accounts, based on information provided by and recommendations offered by Real Estate Staff. The Real Estate Investment Committee has authority to authorize individual investments up to 0.6% of the System's assets as determined at the time of the Real Estate Investment Committee meeting. For co-investments with New Relationships, the Real Estate Investment Committee will approve the general partner, as well as approve the co-investment.

5. Real Estate Staff

Real Estate Staff will develop investment objectives and policy language that includes a long-term strategic plan. Real Estate Portfolio documentation will be updated and revised annually or as appropriate. Real Estate Staff will prepare an *Annual Tactical Plan*, which details goals and objectives for the upcoming twelve-month period. Real Estate Staff will review the quarterly Real Estate Portfolio performance reports prepared by the Real Estate Consultant.

Real Estate Staff, assisted by the Real Estate Consultant, will identify eligible Real Estate Funds and Separate Accounts for the Real Estate Portfolio, conduct due diligence on prospective investments, and prepare formal investment recommendations to the Real Estate Investment Committee or Board of Trustees. Real Estate Staff will coordinate program compliance among all participants, will communicate the investment guidelines and objectives, and will coordinate the receipt and distribution of capital.

6. Real Estate Consultant

In cooperation with the Real Estate Staff, the Real Estate Consultant will advise on Real Estate Portfolio compliance and will assist in the implementation of the Real Estate Portfolio. Additionally, as requested, the Real Estate Consultant will assist in developing the long-term real estate strategic plan, composed of the *Real Estate Guidelines and Procedures* and *Annual Tactical Plans*, and will review and annually update Real Estate Portfolio documentation. The Real Estate Consultant will also assist Real Estate Staff in investment identification, screening, due diligence evaluation, and documentation activities; prepare the quarterly performance measurement reports; advise on investment amendments; and provide special project research pertaining to technical real estate and alternative investments issues as requested by ERS.

B. INVESTMENT PROCEDURES

Real estate investments in compliance with ERS' Investment Objectives (Section I) and Investment Policies (Section II) shall be acquired through the following process:

1. Annual Tactical Plan

Each year, Real Estate Staff will work with the Real Estate Consultant to prepare an *Annual Tactical Plan* which reviews the current status of the Real Estate Portfolio and recent historical and prospective market conditions. The *Annual Tactical Plan* will propose the steps to be taken over the next twelve-month period to further implement the long-term strategic plan. Employing a projection model pacing analysis, the *Annual Tactical Plan* will develop a dollar commitment target for the upcoming twelve-month period. The *Annual Tactical Plan* will be provided to the Board for review and approval. The *Annual Tactical Plan* is provided in Appendix A.

2. Real Estate Portfolio Investments

ERS Real Estate Staff, with assistance of the Real Estate Consultant, will identify and evaluate Real Estate Funds, Separate Accounts and, as appropriate, Co-Investments and other investment vehicles that are in compliance with these *Real Estate Guidelines and Procedures* and current *Annual Tactical Plan*. The ERS *Private Real Estate Portfolio Evaluation Criteria* are attached as Appendix B.

ERS Real Estate Staff, with assistance of the Real Estate Consultant, will be responsible for the due diligence evaluation of the prospective investments. Real Estate Staff and/or the Real Estate Consultant will prepare a written summary analysis and investment recommendation based on findings in due diligence. For investments approved by the Real Estate Investment Committee or Board of Trustees, Real Estate Staff will be responsible for all aspects of negotiation, documentation, and legal reviews and closings. Real Estate Staff may request the Real Estate Consultant to assist in various aspects of its duties.

C. REAL ESTATE STAFF RESPONSIBILITIES

1. Implementation and Administration

ERS Real Estate Staff is responsible for the following implementation and administration responsibilities. This section designates certain Real Estate Portfolio management responsibilities that the Real Estate Staff will perform or cause to be performed.

a. <u>Investment Selection</u> – Real Estate Staff will be responsible for evaluating investment opportunities and submitting their recommendations for investment to be approved by the Real Estate Investment Committee.

The screening and selection of Real Estate Portfolio investments will be made with a view to maximize the System's risk-adjusted rate of return, within the parameters and allocations as set by the Board of Trustees in these *Real Estate Guidelines and Procedures*. ERS *Private Real Estate Portfolio Evaluation Criteria* are attached in Appendix B.

The *Annual Tactical Plan* process will be used for determining targets for the number and types of investments to be made for a given year. Real Estate Staff will also take into consideration relevant overall portfolio diversification considerations as set forth in the Investment Objectives and Investment Policies statement of these *Real Estate Guidelines and Procedures*. The process will include, but not be limited to, the following duties:

(1) Prepare the *Annual Tactical Plan*. This *Annual Tactical Plan* outlines the steps ERS will take during the upcoming twelve-month period to further implement ERS' adopted Real Estate Portfolio strategic plan. The *Annual Tactical Plan* will include a review of the current status of the Real Estate Portfolio, perceived real estate investment environment, the types and number of Real Estate Funds and Separate Accounts to be sought and underlying rationale, and goals for other management responsibilities (e.g., situations being monitored and planned refinements to the Real Estate Portfolio management process).

(2) Review and maintain records of real estate opportunities available and reviewed in the market over time.

(3) Screen and evaluate real estate opportunities to identify investments that provide attractive risk and return characteristics and are a fit with the Real Estate Portfolio's long-term and short-term objectives.

(4) Conduct full and proper due diligence on prospective real estate investments and document the due diligence process. Prospective investment due diligence will include evaluating areas such as (1) organization and personnel, (2) research, (3) due diligence and underwriting, (4) internal investment decision process, (5) documentation, (6) monitoring, (7) track record, (8) investment terms and conditions, (9) investor reporting, (10) corporate governance protections, and other investment specific items as determined by ERS Real Estate Staff and the Real Estate Consultant. On-site visits at a manager's office by Real Estate Staff and the Real Estate Consultant will be a mandatory part of investment due diligence.

(5) Summarize findings of the due diligence process on each prospective Real Estate Portfolio investment in a formal investment recommendation and present those findings to the Real Estate Investment Committee or Board of Trustees for approval.

(6) Negotiate investment terms and conditions, limited partnership and limited liability company agreements, and other closing documents on ERS' behalf, for investments approved by the Real Estate Investment Committee or Board of Trustees. Real Estate Staff will coordinate legal, tax, and any other required professional reviews. Although ERS is not subject to ERISA, Real Estate Staff should obtain terms and conditions in such negotiations for ERS investments to operate in the same manner as investments made by "employee benefit plans" under ERISA, to the extent such terms and conditions (1) are not in conflict with applicable laws/regulations to which ERS is subject; (2) are not in conflict with these *Real Estate Guidelines and Procedures;* (3) do not interfere with ERS maintaining its favorable tax qualification status; and (4) are not opted out of by the Real Estate Investment Committee or Board of Trustees because to do so would be in ERS' best interest.

b. **Ongoing Operations** –Real Estate Staff will conduct or supervise the following services with respect to each Real Estate Portfolio investment:

(1) **Monitoring and Voting** – Maintain communication with the managers of Real Estate Portfolio investments and maintain an awareness of the progress and level of performance of each Real Estate Portfolio investment. This will include, as appropriate, meeting with managers, attendance at annual investment meetings, and sitting on advisory boards. This maintenance will also involve voting on Real Estate Fund and Separate Account portfolio matters. Material voting issues will be brought to the Real Estate Investment Committee for approval.

Real Estate Staff will keep itself informed of the overall market conditions relative to Real Estate Portfolio investments and their competitive position. Real Estate Staff will also be responsible for attending to amendments, resolutions, voting proxies, and other investment-related matters. All such activities will be undertaken with a view toward maximizing Real Estate Portfolio value.

(2) **Disbursement, Receipt, and Cash Management** – Fund commitments on a timely basis and coordinate the receipt of cash distributions from the Real Estate Portfolio investments.

(3) **Books and Records** – Maintain, or cause to be maintained, records regarding the management of the Real Estate Portfolio investments. These will include receipts, disbursements, and other investment-related records, including limited partnership and limited liability company agreements, amendments, correspondence, and other documentation as appropriate. Books and records will be made reasonably available to ERS auditors as reasonably required.

2. Reporting Requirements

a. **Investment Financial Statements** – On a quarterly basis, Real Estate Staff and the Real Estate Consultant will receive from Real Estate Funds and Separate Accounts unaudited financial statements and, on an annual basis, audited financial statements. Valuations shall be computed using the values provided by the managers in the most recent financial statements.

b. **Quarterly Report** – On a quarterly basis, as soon as is practicable after quarter-end, the Real Estate Consultant will produce a report on the Real Estate Portfolio which will address activities that occurred during the quarter, including cash flows, valuations, internal rates of return ("IRR"), multiple of invested equity returns, and any and all other items of which ERS should be apprised. The Real Estate Consultant will also reconcile with the custodian bank at least quarterly. Because of the time-lag associated with real estate valuation processes, these quarterly reports are typically produced with a one-quarter lag.

c. **Custodian** – The custodian shall collect information regarding the System's account cash flows and valuations and any other information reasonably requested.

D. REAL ESTATE CONSULTANT RESPONSIBILITIES

The Real Estate Consultant will assist with the ongoing review and recommendation of revisions to these *Real Estate Guidelines and Procedures* and shall assist Real Estate Staff with the preparation of the *Annual Tactical Plan*. As requested, the Real Estate Consultant shall assist Real Estate Staff with completing any of the duties listed under Section III.D., including but not limited to the following duties:

1. Establish procedures for conducting prospective investment identification and due diligence.
2. Search activities including the initial identification and screening of prospective real estate investments.
3. Conduct various activities required in evaluating and conducting and due diligence on prospective investments, including documentation of the process.
4. Prepare written investment recommendations or finalist presentation materials. The Real Estate Consultant, as requested, will be responsible for making fiduciary investment recommendations in writing to be provided to the Real Estate Investment Committee or Board of Trustees for consideration on investments.
5. Prepare quarterly performance measurement reports on the Real Estate Portfolio investments, including reconciliation with the custodian.
6. Perform special projects, as requested.

APPENDIX A

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
PRIVATE REAL ESTATE PORTFOLIO
ANNUAL TACTICAL PLAN FOR FISCAL YEAR 2019

EFFECTIVE : MAY 23, 2018

Funding Levels for Fiscal Years 2019-2021

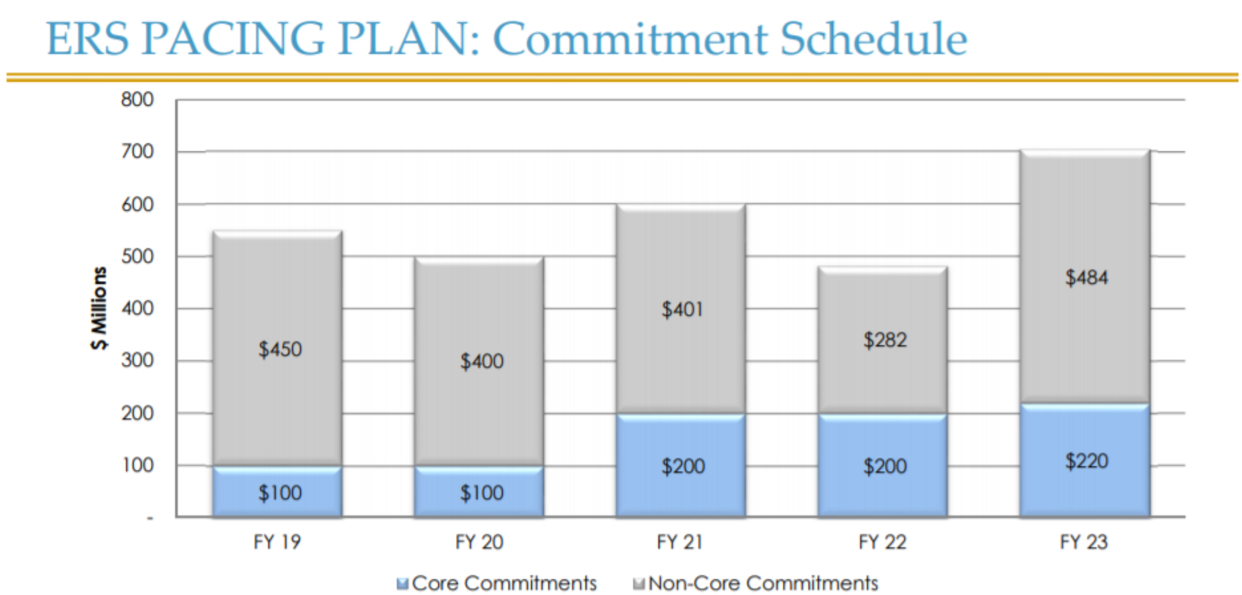
Staff will continue committing capital to private real estate on a selective basis, and currently targets $550 million in commitments for fiscal year 2019. Although staff are cautious given the later stage in the cycle, the economic outlook is positive in the near-term, and real estate fundamentals on both the demand and supply side remain favorable.

As of March 31, 2018, the current private real estate portfolio stands at 6.9% of the overall System's assets, below the revised target of 9%. With this proposed commitment amount, ERS should continue its "steady state" real estate allocation going forward and eventually increase the weight to the target weight. In addition, the recommended funding level seeks to replace returned capital as managers from early vintage years complete fund liquidations.

For fiscal year 2019, staff believe that opportunities to target non-core real estate will be the most attractive area in which to focus, similar to the strategy for the current fiscal year. Recognizing the importance that income plays in long-term real estate returns, staff will focus on strategies and managers where the portion of return derived from income, as opposed to capital appreciation, is significant relative to the respective risk return strategy. Opportunities in niche sectors (medical office, timber, agriculture and international core) in both the core and non-core space, including strategies with lower correlations to traditional core property, will be selectively reviewed. Additionally, staff seeks to continue to diversify and increase its international exposure closer to the target level of 30% of the Private Real Estate Portfolio.

Separate accounts and co-investments will continue to be an area of focus as well.

The proposed Private Real Estate Portfolio Annual Tactical Plan for Fiscal Year 2019 was prepared by Pension Consulting Alliance in collaboration with staff.



Executive Summary

The annual tactical plan presented herein was created in collaboration with the Employees Retirement System of Texas (the System) Staff and PCA. The plan highlights the following investment themes for the System Staff to consider in Fiscal Year 2019:

1. Maintain focus on effective execution and portfolio management. Continue to seek and build relationships of scale with strong partners to leverage staff resources, align interests with those of the System and reduce fees.

2. In FY 2019 commitments, overweight strategies that are likely to be more resilient, and to some degree defensive, through the next market correction (e.g., less levered strategies, income-oriented strategies, affordable and senior housing, multi-tenant industrial, medical office, storage, etc.).

3. Consider adding select additional separate accounts and/or small club deals and additional co-investments as a way of leveraging strategic partnerships to access attractive investments at favorable governance and fee structures.

4. Acquire, when available, additional core assets in growth markets with strong fundamentals.

5. For non-core allocations, assess select build-to-core and/or lease-to-core strategies in markets with strong demographics and barriers to entry, including the next tier of 18-hour cities attractive to millennials for job and quality of life metrics.

6. De-risk investments wherever possible, including those not denominated in USD. Prioritize memberships in advisory committees and emphasize the need to realize investment gains with existing general and limited partners. Advocate with commingled fund general partners the need for laddering of leases, debt maturities, capital expenditure plans, etc. Review leverage and other key risk parameters in relationships with more control.

7. Focus on developed markets. The System's exposure to emerging markets is concentrated in Secondary Emerging markets (as defined by FTSE) and is adequately committed/funded until capital is returned. Any potential additional near- to mid-term emerging markets exposure should consider Advanced Emerging countries.

Over the next fiscal year, the System will need to balance making progress toward reaching the increased target allocation with maintaining discipline in committing capital into seemingly fully-priced markets, as more fully described in the Markets section below. Indeed**, the System may want to tactically adjust to:**

- **(i)** **harvest some of the unrealized gains;**
- **(ii)** **make somewhat smaller commitments over the next year or two; and**
- **(iii)** **consciously remain on the lower end of its interim target range to manage vintage year exposure and be positioned to take advantage of potential dislocations in the markets in the future.**

Introduction

This memo serves as the Private Real Estate Portfolio Annual Tactical Plan (Annual Tactical Plan). Private real estate investments are illiquid, long duration commitments of System capital. Investing indirectly, through funds and co-investments, reduces the liquidity aspects even more than direct ownership. Thus, while an Annual Tactical Plan covers a finite period, most of the decisions made in FY 2019 will have longer term consequences, and 2019 performance is a primarily a function of decisions made in previous years.

This memo describes current market trends and portfolio developments that PCA considers material to the ongoing formulation and execution of the Employees Retirement System of Texas private real estate portfolio. In particular, this memo highlights areas of opportunity and concern relative to the System's real estate investment program. This Annual Tactical Plan is a guiding reference only, and is not intended to overrule prudent real estate investment decision-making. Even within an annual plan, real estate and capital market conditions may vary to a degree that warrant revision in a tactical plan.

By Policy, the objectives of the System's Real Estate Portfolio include:

1. preserving the System's capital;
2. enhancing the System's Total Portfolio risk-adjusted returns;
3. further diversifying the System's Total Portfolio;
4. reducing the System's Total Portfolio volatility; and
5. providing a hedge against inflation.

As of December 31, 2017, according to the custodial report, the market value of the Private Real Estate Portfolio equals approximately $1.9 billion or 6.5% of the System's assets. The total economic exposure of the Portfolio, which includes (i) the market value plus (ii) the currently committed yet uncalled capital, is approximately $3.5 billion or approximately 12.2% of the System's assets. On a static basis, the System would need to have approximately $300 million more actively invested in real estate as of December 31, 2017 to reach the lowest end of the funded interim target allocation range of 7.6%. As reference, PCA has relied upon the following documents to frame this discussion:

- Investment Policy, updated December 2017;
- Total Plan Quarterly Investment Review, Fourth Quarter 2017; and
- Direct cash flow reported directly to PCA by ERS' fund mangers

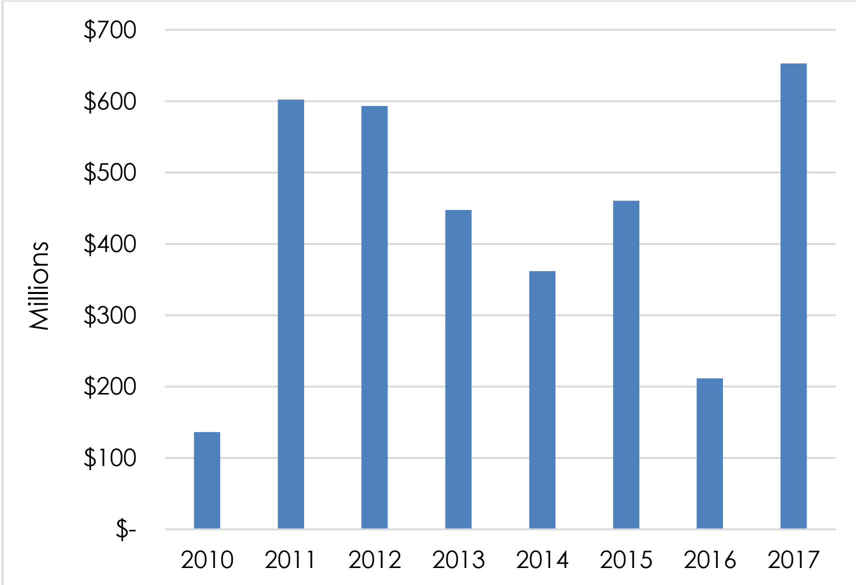
The real estate program has achieved many milestones at this point in support of its role within the overall portfolio. It has committed and deployed capital at a steady, albeit fairly aggressive, pace to meet its initial target allocation. It is currently well diversified by strategy (including core and non-core levels of risk and return), manager, property type and geography. The portfolio metrics are all within program policy guidelines. The program has been executed on a relatively cost-effective basis, compared to market investment management rates, in part due to scale, existing relationships and willingness to invest earlier in the capital formation process than other investors. And while many investments remained unrealized, the performance of the portfolio is meeting expected risk adjusted returns and exceeding its benchmark.

In August of last year, as part of the regular asset allocation review process, the long-term target amount for private real estate was increased from 7.0% to 9.0%, while an 8% target was set as an interim target for Fiscal Year 2019. The Pacing Plan prepared as part of this Tactical Plan will present potential ranges for both the core and non-core real estate commitment activity required to meet the new target allocation during the next five years. In the next fiscal year, the System will need to balance making progress toward the increased target allocation with maintaining discipline in committing capital into seemingly fully-priced markets, as more fully described in the Markets section below.

Portfolio Snapshot

The Private Real Estate Program was initiated in fiscal year 2010. Since then, the System has made a total of approximately $3.5 billion in 55 commitments to open-end funds, closed-end funds, separate accounts and co-investments, through more than 32 third-party managers as seen in Exhibit 1. The System does not manage private real estate directly, but employs a variety of structures in order to maximize efficiency of resources, achieve diversification and manage risk.

Exhibit 1- ERS Commitment Amounts by Vintage Year*



*Calendar year commitment amounts

Vintage year pacing since 2010 has been fairly steady despite a deliberate 'ramping up' of program. In May 2017, the ERS Board of Trustees approved the Tactical Plan for FY 2018, which included a target of $525mm in new capital commitments, within an identified range of $250mm to $787mm, and with the majority of capital targeting non-core strategies. As shown in the table below, through March 31, 2018, the System has committed $417 million to eight new investments or follow-on investments of which most are non-core strategies as seen below in exhibit 2.

Exhibit 2 – Fiscal Year 2018 Commitments

Fund		Commitment
Latitude Management Real Estate Capital IV Inc	Non-Core	$ 100,000,000
Madison NYC Core Retail Partners II LP	Core	$ 12,000,000
Waterton Residential Property Venture XIII LP	Non-Core	$ 65,000,000
Xander JV Fund II (top up commitment)	Non-Core	$ 9,000,000
Abacus Multi-Family Partners IV LP	Non-Core	$ 75,000,000
BPE Asia Real Estate Fund II LP	Non-Core	$ 101,000,000
Torchlight Debt Opportunity Fund VI LLC	Non-Core	$ 50,000,000
Project Diesel Co-Investment (BPE I Asia)	Non-Core	$ 5,000,000
Total		**$ 417,000,000**

As seen in exhibit 3, currently the portfolio is within all policy guidelines

Exhibit 3- Portfolio in Compliance

Private Real Estate Asset Category	Risk/ Return Strategy Allocation	Allocation as of September 30, 2017	In Compliance
Core	21% to 64%	33%	Yes
Non-Core	36% to 79%	67%	Yes

The program is diversified by risk profile, investment manager, property type and geography. New investments should be diversification- and/or benchmark-aware but can be more tactical and take advantage of more specific opportunities as they present themselves.

Performance and Benchmark

The timing of the decision to begin the program in 2010 was fortunate, if not prescient. Post Great Financial Crisis (GFC), the program has benefited from significant market tailwinds, cap rate compression, recovering fundamentals, increased demand for current yield in the face of insufficient fixed income returns and lower than historic new supply, resulting in a strong net total return of 13.3% since inception as of September 30, 2017. Per exhibit 4 below, the System's real estate portfolio has posted strong performance both gross and net of fees across all time periods, on both an absolute basis and relative to the System's benchmark[1], outperforming on a net basis the NFI-ODCE by approximately 150 basis points since inception, a core risk property index which also has benefited strongly from the factors cited above. The System's willingness to consider and invest in vehicles which undertook higher returns and higher risks has been rewarded when compared to a core-only strategy. At the same time, there has been continued progress towards growing and rebalancing the System's real estate portfolio to be closer to the previous 7% target allocation, now an interim target 8% and aiming for a new long-term 9% target allocation, and the real estate sub-asset classes' ranges, hewing consistently to the role of real estate in the overall portfolio.

Exhibit 4 – Time Weighted Returns as of September 30, 2017

Time Weighted Gross Total Returns as of September 30, 2017	1 Year	3 Years	5 Years	Since Inception	Inception Date
Core Composite - Gross	11.7	12.5	12.6	12.8	07/01/2010
Non Core Composite - Gross	19.4	19.8	20.1	22.0	01/01/2011
Texas ERS Total Plan Composite - Gross	17.1	17.0	16.5	16.1	07/01/2010
NCREIF Fund Index-ODCE (VW) (Gross)	7.7	10.9	11.6	12.9	07/01/2010
Over/Under Performance	**9.4**	**6.1**	**4.9**	**3.2**	

Time Weighted Net Total Returns as of September 30, 2017	1 Year	3 Years	5 Years	Since Inception	Inception Date
Core Composite - Net	10.2	11.3	11.4	11.8	07/01/2010
Non Core Composite - Net	14.8	15.2	15.0	14.6	01/01/2011
Texas ERS Total Plan Composite - Net	13.6	13.9	13.4	13.3	07/01/2010
NCREIF Fund Index-ODCE (VW) (Net)	6.7	9.8	10.6	11.8	07/01/2010
Over/Under Performance	**6.9**	**4.1**	**2.8**	**1.5**	

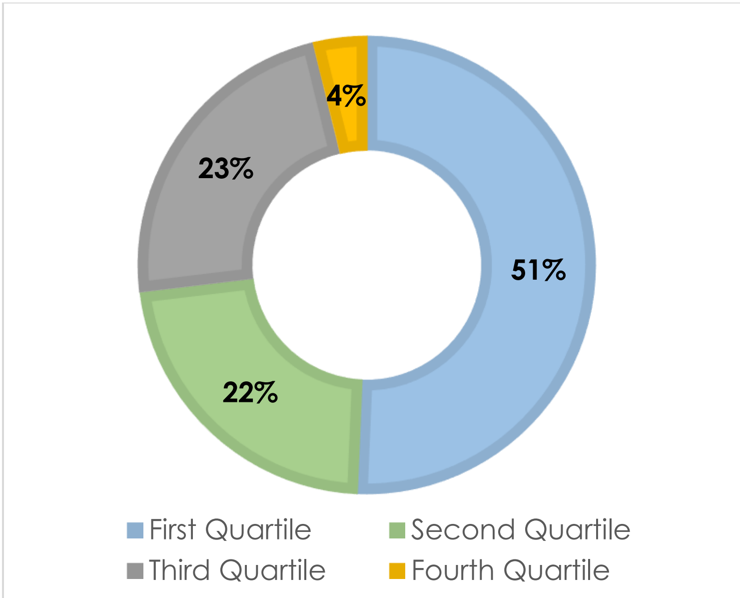
Returns generated during the last five years are unlikely to be sustained, however, and the ability to identify attractively priced new investments on a risk adjusted basis will prove to be more challenging than it has been. As cited, the lack of distress in most markets, and the large amounts of capital committed, but not invested, to non-core strategies, has pushed acquisition prices to the point where manager selection, operational value add skills and exit timing must be close to exquisite in order to achieve appropriate risk adjusted returns.

Performance will likely continue to be positive in absolute and relative results, although the rate of growth in valuations is slowing and is projected by many forecasts to decline. Core properties should continue to perform reasonably, as strong demand (and the availability of attractive financing) continues from institutional investors, sovereign wealth funds and HNW families.

The System's non-core private equity real estate performance is also strong relative to peers. Exhibit 5 shows that 73% of the original commitments are in first and second quartile funds, reflecting good manager selection across vintage years.

[1] The System's private real estate benchmark is the NCREIF ODCE net of fees.

Exhibit 5- ERS Non-Core Private Equity Real Estate Commitments vs. Burgiss Peer Universe as of September 30, 2017*



*The System's Debt Funds were excluded from the analysis. The Burgiss universe is for private equity real estate.

Real Estate Market Outlook and Investment Implications

ERS and its discretionary fiduciary investment managers face a challenging and highly competitive investment market for new acquisitions domestically, as well as in Europe. Opportunities in Asia are more available, notwithstanding the higher risks attendant thereto. Competition is not likely to abate anytime soon, and several major players have now entered the arena, both in debt and equity funding. As expected, the rate of private real estate investment performance decelerated in 2017 compared to 2016 and 2015.

The System's benchmark, the NFI ODCE index, has generated eight consecutive years of positive appreciation, and the cumulative appreciation since the trough in 2010 totals 74.5% or approximately 12.9% annually.

Fundamentals:

Overall, the space markets have been at or near equilibrium and the transaction market for high quality properties remains healthy. Many past real estate cycles have ended due to overbuilding, overleveraging or both. While starts are up from their lows post GFC, and mortgage underwriting terms have loosened slightly, neither condition appears present today. There have been some exceptions to this view: pockets of overbuilding in multi-family residential, anxiety about the viability of brick and mortar retail; however, discipline in supply and lending has so far been maintained.

Strong employment growth and high consumer confidence levels have contributed to robust tenant demand in most markets. Supply-side concerns, to the extent they exist, are moderate and isolated to markets where significant development has been mostly justified by sustained demand.

Shifts in tenant demand patterns and technology, most prominent in the changing dynamics of how office tenants use space, the rationalization of retail footprints, and e-commerce related distribution and fulfillment, require constant evaluation. New technologies are also radically changing the way people interface with the building environment and warrant close monitoring for impacts to existing investments which will require capital expenditures to remain competitive, and new investment opportunities.

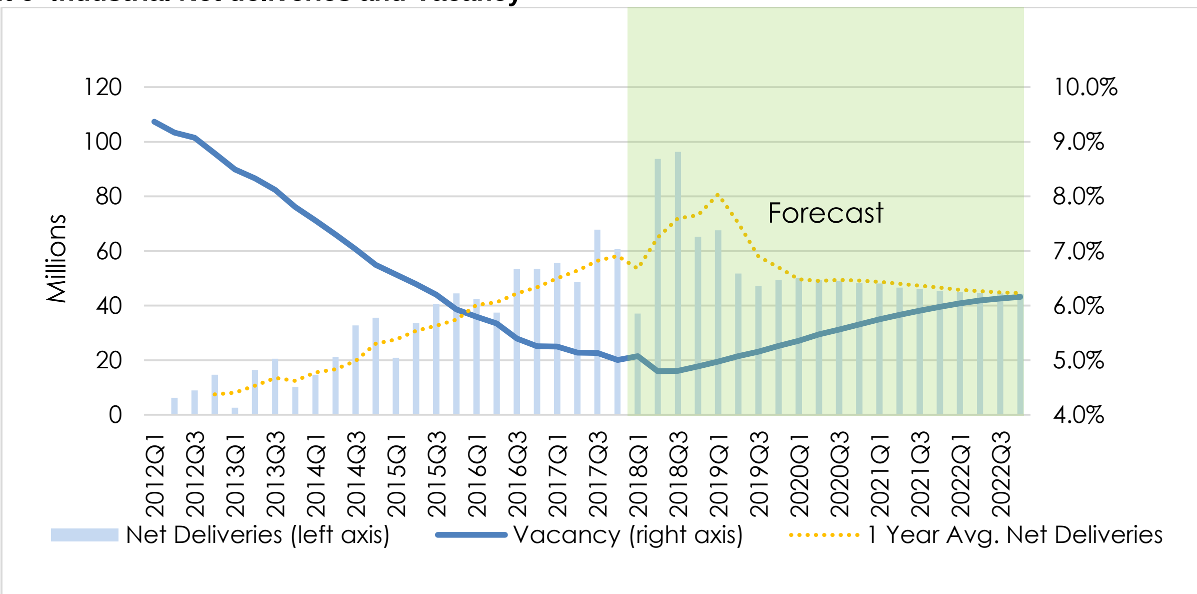
While pockets of overbuilding in the luxury apartment market are weighing on rent growth and big box retail sales are under significant pressure from the growing prevalence of e-commerce, the real estate space markets have been generally healthy with stable or increasing occupancies and rents in 2017.

Sector Outlook

Industrial

Industrial's strong run continues into 2018 as the ecommerce industry expands into uncharted territories. Some perceive this asset type as cycle-proof due to a fundamental change in the way Americans consume products, which has driven construction higher than for all other property types. Leasing has kept up with supply, though much of the product delivered prior to 2016 was built-to-suit. In turn, rents have grown vigorously since15Q1. However, spec projects now account for a greater proportion of recent deliveries and projects under construction, and while leasing velocity has been impressive, the waters will be tested in 2018 when significant new supply enters the market. Since hitting a peak in 16Q4, sales volume has moderated through 17Q4, while prices reached new highs. Exhibit 6 shows the net deliveries and vacancy for the sector.

Exhibit 6 -Industrial Net deliveries and Vacancy



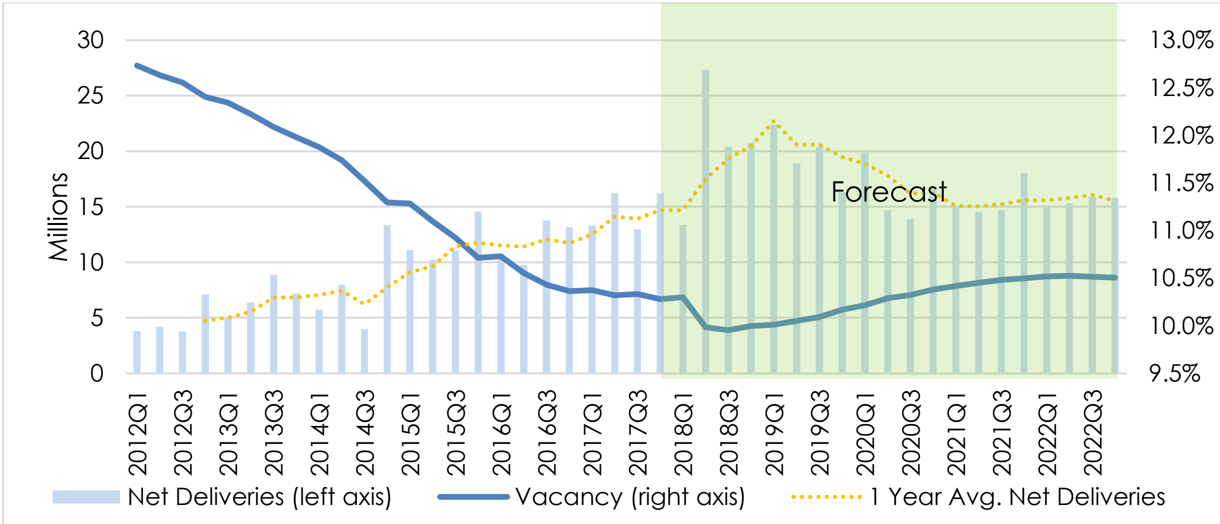
Source: CoStar

Office

Growing headwinds approach the United States office market, particularly non-distinctive suburban product, but the impacts of peak supply, near-full employment, and slowing absorption will differ across the nation. A few high-profile areas may undergo notable occupancy and rent drops—New York and the Bay Area stand out, as do Chicago and a handful of tech hubs—but a majority of the metro areas CoStar Group tracks remain landlord-friendly. In fewer than 10% such as San Francisco CA, Seattle WA and Washington D.C. ongoing construction exceeds 2% of inventory entering 18Q2, and a similar number have experienced year-over-year rent losses.

Justified or not, concerns surrounding the property type may be weighing down investment activity. Annual sales volume for office properties was down more than 10% from 2016 to 2017, but it still exceeded all categories but multifamily. Frothy pricing is also likely reining in deal flow: Despite recent drops, the CoStar Repeat Sales Index puts value-weighted pricing at all-time highs. Foreign investors continue to play a significant role in capital markets, especially in Gateway markets, but the disparity between what sellers think they should get and what buyers are willing to offer is widening. Exhibit 7 shows the net deliveries and vacancy for the sector.

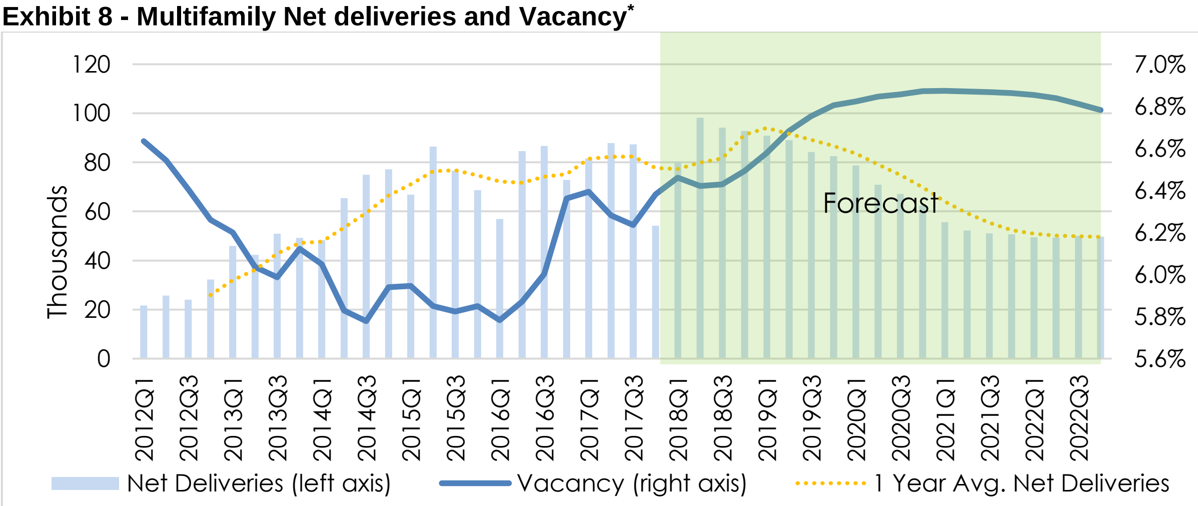
Exhibit 7 - Office Net deliveries and Vacancy*



Multifamily

After a slowdown in demand in 2016, the multifamily sector rebounded last year, with demand approaching the highest level on record. Despite supply-side pressures, rent growth in 2017 had not slowed materially from the previous year's pace. Transaction volume continued to be strong, prices increased, and cap rates appeared to have leveled off. However, supply is expected to outpace demand in 2018, putting upward pressure on vacancies and keeping rent growth muted, especially in higher end properties where the new deliveries occur. Exhibit 8 shows the net deliveries and vacancy for the sector.

Exhibit 8 - Multifamily Net deliveries and Vacancy*

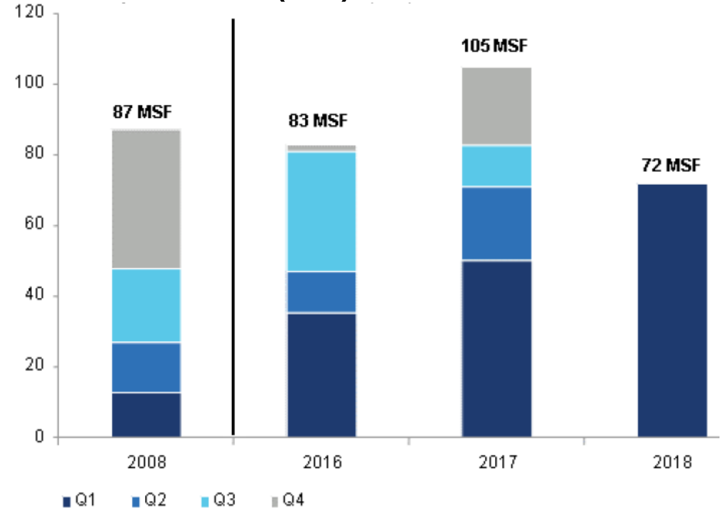


* Source CoStar

Retail

The retail market continued its stable, slow-burn recovery through 2017. Notwithstanding changes wrought from e-commerce, and noticeable bankruptcies of over leveraged retailers, at about 5%, vacancies were down slightly from a year ago, and retail remains the tightest of the major property types. Despite vacancy's continued downtrend, 2017's rent growth slowdown has emerged, with gains over the past 12 months the slowest since 2012. The retail sector is now transitioning from the early- to late-expansion phase of the cycle, and despite occupancy gains rent growth is slowing. For most of 2017, retailer comparable-store growth stalled. Investment performance is likely to be stratified by location quality—retailers are disproportionately targeting their less-productive locations for closure, while demand for strong locations remains robust and unmet by new supply. The closure of stores like Toys "R" Us signifies significant increase to the lower quality location retail supply, potentially increasing the pain to be felt in that segment of the market as seen in the chart below. Exhibit 9 shows that 2018 might set a record in retail space closures.

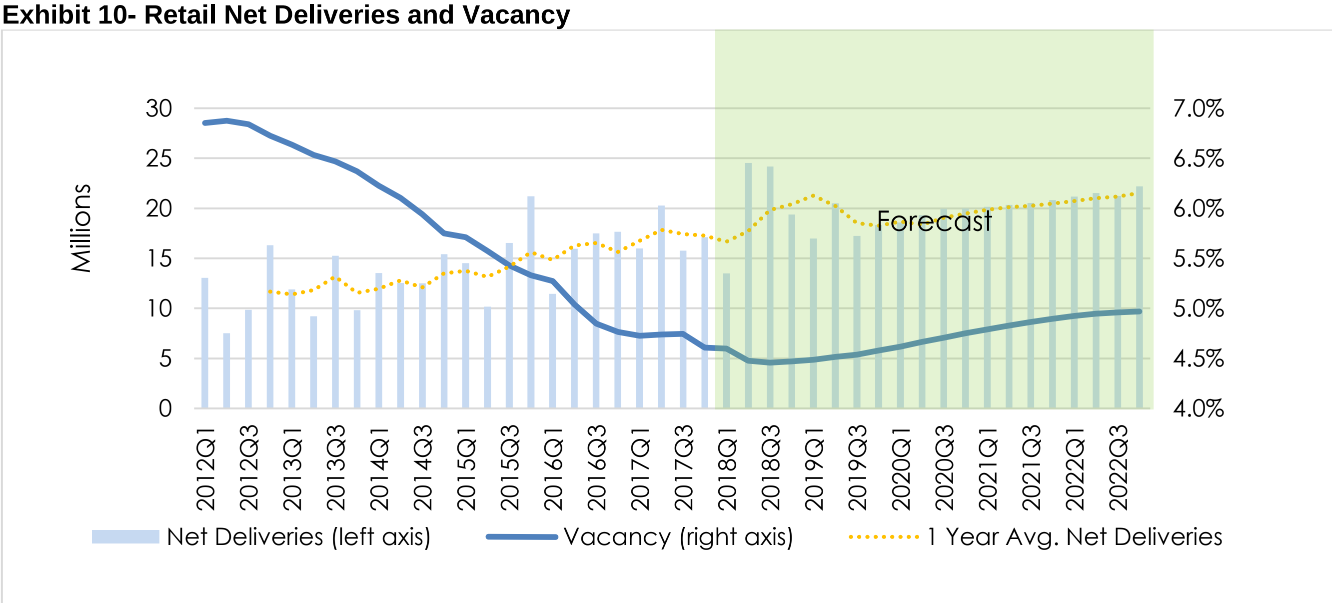
Exhibit 9- Retail Space announced for Closure (MSF)



Source: CoStar, 2018 announcement through March 31

However, the top 25% of the market is unlikely to be fazed by the upcoming round of store closures and therefore represents the best opportunity to outperform the national benchmark over the coming year. Exhibit 10 shows the net deliveries and vacancy for the sector.

Exhibit 10- Retail Net Deliveries and Vacancy



Source CoStar

Capital Markets:

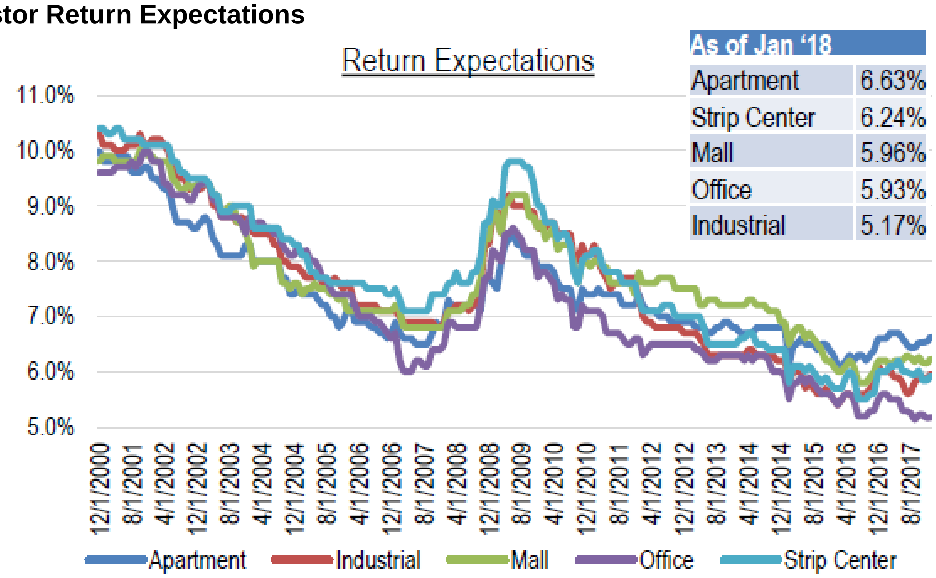
Capital markets remain disciplined, with lenders maintaining scrutiny on proposed projects, extending reasonable loan proceeds, and requiring meaningful borrower covenants. This discipline has acted as a governor on new supply.

In light of generally healthy real estate fundamentals, it seems that potential areas of concern for the overall real estate space markets lie primarily in exogenous factors, such as trade wars, international conflicts or further regulatory changes.

Looking forward at the Federal level, care must be employed to see whether a changing regulatory and enforcement environment, the rolling back of Dodd Frank provisions, and changes in trade policies will affect the currently healthy supply of new product and demand for space. A less regulated, (read less disciplined) commercial bank network could quickly create an unhealthy (for investors) level of speculative construction lending, as has been seen in previous cycles.

The Federal Open Market Committee has signaled its intent to tighten monetary policy with additional Fed Funds Rate hikes. As such, short-term interest rates are likely to be higher at the end of 2018. Long-term interest rates remain low by historical standards. Any increase in long-term rates would likely be in response to stronger growth and inflation, both of which are generally positive for the economy and real estate fundamentals. Exhibit 11 shows the declining return expectations across property types.

Exhibit 11- Investor Return Expectations



Source: Real Capital Analytics, Green Street Advisors, Federal Reserve, CalPERS Investment Office

Despite moderating returns, capital flows remain strong as real estate investments represent good risk-adjusted return relative to investments in other risk assets. Annual transaction volume decreased in the U.S. by approximately 10% in 2017 to $432bn[2]. While lower than 2016 volume, this level of transaction activity is high from a historical context and demonstrates a healthy and liquid market. Both domestic and foreign buyers enter 2018 with unmet acquisition needs, which is likely to result in another above average year of transaction volume in 2018.

Pacing Plan:

The annual pacing plan is a tool to help the System update its estimate of the annual investment volume needed to meet target allocations. The pacing plan is a model based on assumptions and estimates and should be used as a guide rather than a directive. Data is collected on the existing funded portfolio from the System's managers, including their estimates of prospective capital calls, acquisitions and dispositions, re-financings, capital improvements and distributable cash flow. Then, PCA aggregates these to see what may remain for Staff in a "budget" for new commitments during the next several years. Exhibits 12 and 13 present the estimated cash flows for the plan and the commitments needed over the next five years to approach the target allocation. Input from Staff informs the relative size of the annual commitments within the five-year pacing plan window.

[2] Real Capital Analytics

Exhibit 12 – Projected Total Cash Flows

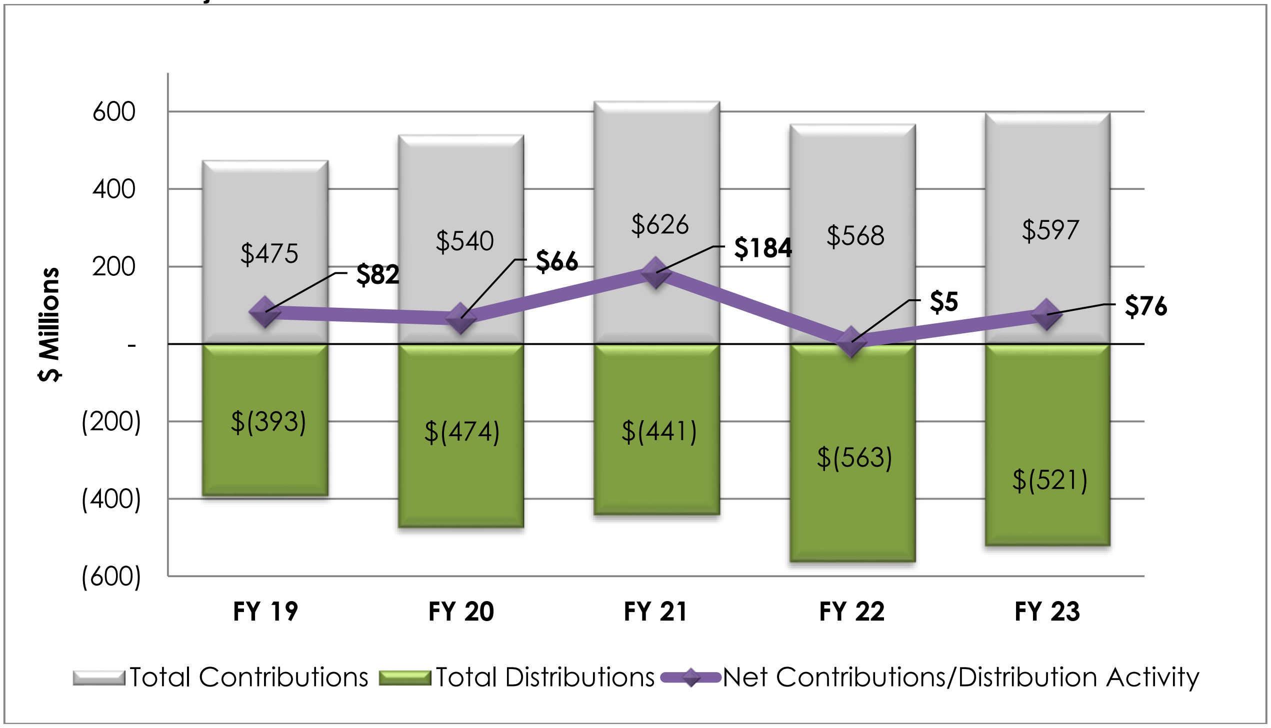
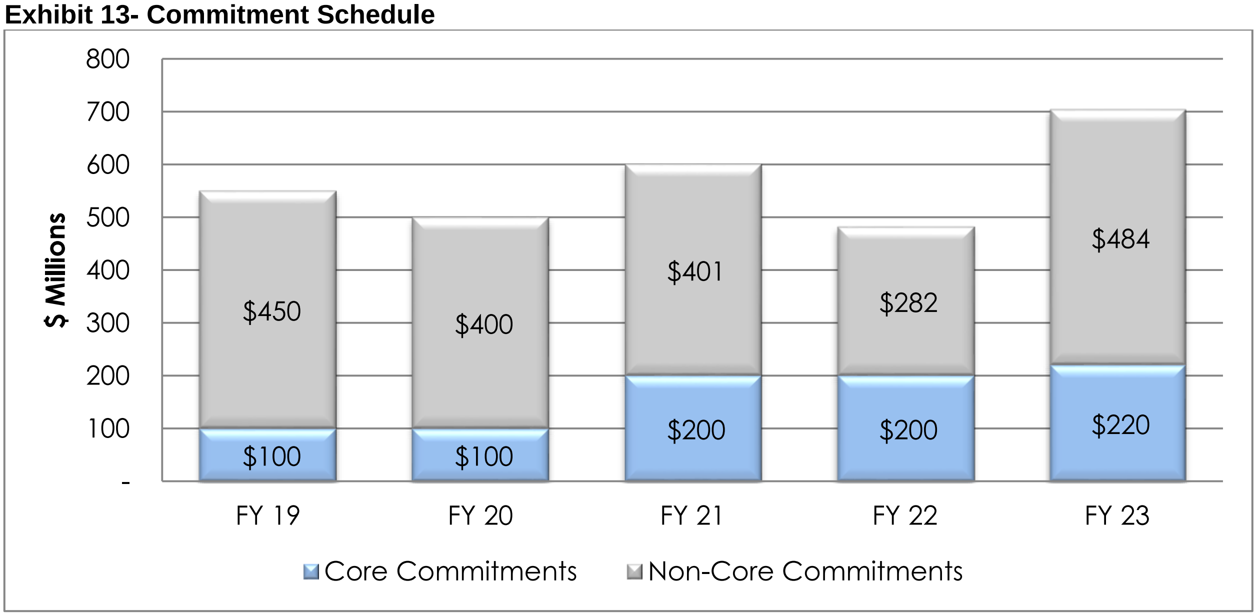


Exhibit 13- Commitment Schedule



Post GFC, the pace of distributions of invested capital and profits from closed-end fund investments back to investors have accelerated, and arrived "earlier" than managers originally forecast at the outset of the funds' lives, as a result of strong fundamentals, rising valuations, enhanced risk management on the part of fund managers, and the intrinsic nature of IRR based promotes. This means that investors like ERS are having to re/underwrite investments more frequently and make commitments at a faster pace to reach/maintain target allocations. In some instances, the practical result may be that while the IRRs on the round-trip investments are quite handsome, the actual multiples of investment may be slightly lower than expected due to the shorter holding periods. However, ERS' equity multiples appear to be holding up better than average.

Additionally, more volatility is expected in the markets during the next 12-24 months. This compounds the need for flexibility and ranges around new commitments for FY 2019 and beyond, as the value of the real estate portfolio and of the total portfolio experience potentially greater than historic year to year fluctuations.

Near-Term Investment Themes

From a tactical perspective, with a moderating return outlook, the real estate equivalent of equity markets' sector and stock selections (i.e., property type and sub-markets) and partner selection are likely to determine relative performance. PCA believes this will be particularly true in new allocations to non-core assets/vehicles. Because of the fully leased nature of most core properties, with low to moderate long term fixed rate leverage, a more laddered exposure to vacancies, lower re-tenanting costs and capital expenditures, the exposure to diminished cash flow, and therefore lower valuations, is modulated.

With cap-rate compression appreciation slowing, maintaining focus on durability and credit quality of leases, and potential for growth of net operating income, as drivers of investment strategy value proposition will be crucial. Thus, an even higher focus on manager selection, including verification of the managers' abilities to execute their strategies, and confirmation of alignment between the System and the general partners' appetites for risk, goals and outcomes. Examination of how managers survived and defended portfolios during previous market declines will be an important part of due diligence for FY 2019 selections.

Points to Consider

PCA suggests that the System:

1. Maintain focus on effective execution and portfolio management. Continue to seek and build relationships of scale with strong partners to leverage staff resources and align interests with those of the System.

2. In FY 2019 commitments, overweight strategies that are likely to be more resilient, and to some degree defensive, through the next market correction (e.g., less levered strategies, income-oriented strategies, affordable and senior housing, multi-tenant industrial, medical office, storage, etc.).

3. Consider adding select additional separate accounts and/or small club deals and additional co-investments as a way of leveraging strategic partnerships to access attractive investments at favorable fee structures.

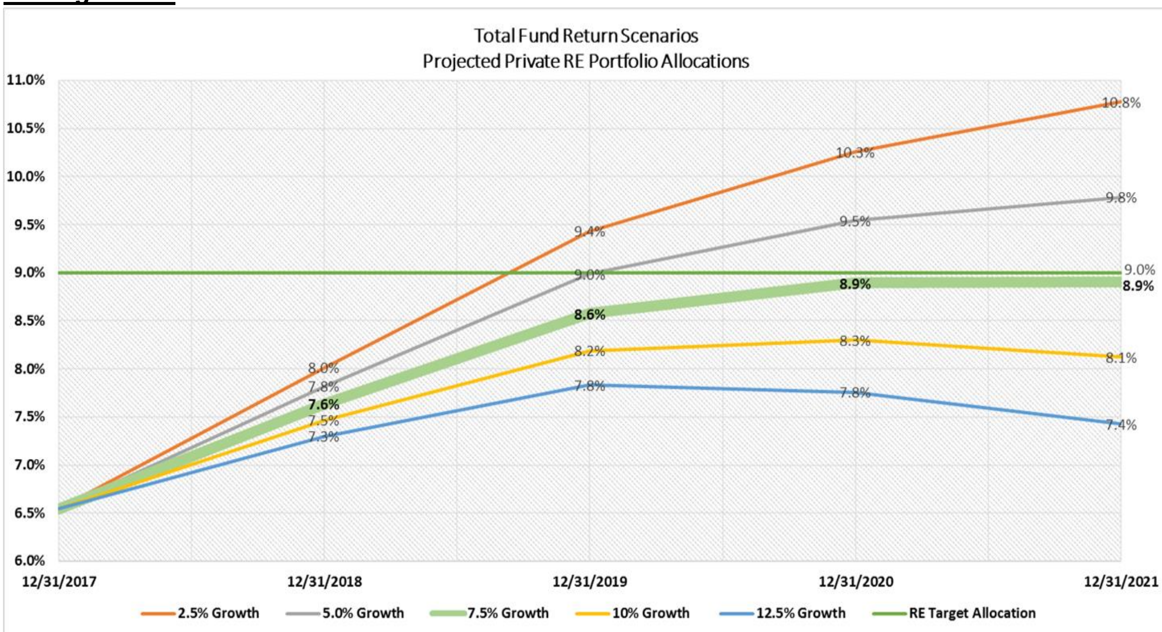
4. Acquire additional core assets in growth markets with strong fundamentals.

5. For non-core allocations, assess select build-to-core and/or lease-to-core strategies in markets with strong demographics and barriers to entry, including the next tier of 18-hour cities attractive to millennials for job and quality of life metrics.

6. De-risk investments wherever possible, including those not denominated in USD. Prioritize memberships in advisory committees and emphasize the need to realize investment gains with existing partners. Advocate with commingled fund general partners the need for laddering of leases, debt maturities, capital expenditure plans, etc. Review leverage and other key risk parameters in relationships with more control.

7. Focus on developed markets. The System's exposure to emerging markets is concentrated in Secondary Emerging markets (as defined by FTSE) and is adequately committed/funded until capital is returned. Any potential additional near- to mid-term emerging markets exposure should consider Advanced Emerging countries.

Pacing Model



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An investment in the Fund is speculative and involves a degree of risk and no assurance can be provided that the investment objectives of the Fund will be achieved. Investment in the Fund is suitable only for sophisticated investors who are in a position to tolerate such risk and satisfy themselves that such investment is appropriate for them. The Fund may lack diversification, thereby increasing the risk of loss, and the Fund's performance may be volatile. As a result, an investor could lose all or a substantial amount of its investment. The Fund's governing documents will contain descriptions of certain of the risks associated with an investment in the Fund. In addition, the Fund's fees and expenses may offset its profits. It is unlikely that there will be a secondary market for the shares. There are restrictions on redeeming and transferring shares of the Fund. In making an investment decision, you must rely on your own examination of the Fund and the terms of the offering.

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
PRIVATE REAL ESTATE PORTFOLIO EVALUATION CRITERIA

I. Illiquidity and Valuation Difficulties Make Intensive Due Diligence Essential

A key feature of the Private Real Estate Portfolio is its illiquid nature. This illiquidity can benefit the total Real Estate Portfolio and the System's total portfolio, as investors often shy away from illiquid investments allowing for attractive pricing for investors who are willing to take on real estate's inherent liquidity risk. In order to most benefit from this illiquidity, however, intensive due diligence is needed to prevent the System from making costly mistakes that would take years to unwind.

Aside from the difficulty of unwinding Private Real Estate Portfolio investments due to their inherent illiquidity, there is difficulty in tracking unrealized investment values. Private real estate valuations are conducted by appraisers, who typically employ one of three analytical methodologies: (1) a discounted cash flow analysis, (2) replacement cost analysis, or (3) comparative sales analysis. Each of these approaches is susceptible to significant lag effect, as market pricing moves more quickly than appraisals. Private real estate is appraised, at most, on a quarterly basis. Some value-added and opportunistic real estate investments, however, are appraised less frequently. Most investments are appraised only once per year. This difficulty in tracking real estate values also calls for significant due diligence to mitigate valuation risks.

II. Qualitative and Quantitative Evaluations

In order to benefit from private real estate investment illiquidity premiums, valuation difficulties, and other qualities, intensive due diligence is essential prior to investment. Evaluation criteria applied to Private Real Estate Portfolio investment opportunities is less statistically-driven than the evaluation of Public Real Estate Portfolio investments. Rather, evaluation of potential Private Real Estate Portfolio investments is more reliant on qualitative evaluation. Such factors include experience and tenure of professionals, organizational structure, client base, and investment process. Considerations specific to the System's total Real Estate Portfolio, such as a prospective real estate investment's role or fit within the Real Estate Portfolio, e.g., geographical focus, property type focus, are also important.

The most significant consideration given to a prospective investment in the Private Real Estate Portfolio is the prior track record of a manager and the likelihood of that manager's success going forward. Track record analysis is the one area that lends itself to quantitative evaluation with respect to internal rates of return ("IRRs"), multiple of invested capital, and return consistency. Track record information also provides insight into how profits were generated, e.g., leverage versus net operating income growth, and whether continued success may be reasonably expected. Essentially, part of the analysis is determining whether the prior success was based on skill or luck. Furthermore, qualitative adjustment for the amount and types of risk utilized in previous investments is vital in this analysis. For example, a real estate manager who successfully used substantial leverage during a period of rising real estate values may not be appropriate for investment in today's environment

III. Margin of Safety Principals

Because real estate markets experience cyclical activity and the cycles tend to be difficult to predict with any certainty, a significant margin of safety should be employed with regard to the System's Private Real Estate Portfolio investments. These "margin of safety" principals allow for the System to benefit from the Private Real Estate Portfolio's inherent traits without being forced out of the market during substantial downturns from the effects of uncompensated risk. Several "margin of safety" principals include:

- Employing modest leverage ratios within each risk/return category.
- Limiting risk to other manager real estate investments by utilizing non-recourse leverage obligations.

- Focusing on debt maturities within each investment vehicle and for the Real Estate Portfolio as a whole.
- Analyzing debt levels for each investment vehicle's portfolio and asset levels.
- Focusing on the aggressiveness of a real estate manager's underwriting criteria and reevaluating investments with more conservative assumptions.
- Maximizing the amount of net returns to the System through analysis of gross-to-net spreads at various anticipated return thresholds.

IV. Evaluation Criteria

Few Private Real Estate Portfolio investments will achieve all the desired characteristics of the metrics listed below. However, the evaluation criteria provide insight into the identifiable strengths and weaknesses of real estate opportunities. These evaluation criteria are a first step in screening and identifying attractive investment candidates. Opportunities that compare favorably to the evaluation criteria become candidates for full due diligence.

A. Investment Structure and Strategy

- Investment vehicles are typically structured as limited partnerships ("LPs") or limited liability companies ("LLCs") with pass-through tax efficiency.
- The investment size and preferred terms should be appropriate for the size of the total Real Estate Portfolio. The System should also focus on other potential investors in the vehicle, including those investors' risk/returns tolerances and possibility for conflicts.
- Investment in a particular investment vehicle should be appropriate given the current and anticipated real estate market conditions.
- The System should be entitled to "most favored nation" status, i.e., ability to participate on the most preferred terms provided to any other investor.
- The investment term should be similar to those of other investment vehicles in the given risk/return category, providing sufficient time to implement the particular investment manager's strategy.
- Investment limitations regarding individual asset exposures, geographic concentrations, and property type exposures should be appropriate and should take into account ERS' overall Real Estate Portfolio diversification targets.

B. Manager Qualifications

- Focus should be on various manager qualifications, including stability of ownership; strong firm financial condition; organizational depth in research, acquisitions, and asset management; as well as resource support in IT and backroom operations.
- Managers should have a history of investing allocated funds on a timely basis, selling investments on a timely basis, and proprietary sourcing capabilities and substantiation of such sourcing capabilities.
- Employment of superior forward-looking strategy, including risk-adjusted projected returns, reasonableness of strategy given market conditions, history of performance in the given strategy, experience with personnel in implementing strategy, and return performance under that strategy.
- Managers should have a clean litigation and regulatory investigations history.
- Guidelines should be written to address potential or actual conflicts of interest, e.g., investment allocation, self-dealing).

C. Consideration of Emerging Managers

ERS must make a good faith effort to award contracts to or acquire services from qualified emerging fund managers when acquiring private financial services pursuant to Section 815.301 subsections (g), (h), and (i) of the Texas Government Code and consistent with ERS Emerging Manager Guidelines and Procedures, Addendum VIII of the ERS *Investment Policy*.

- An emerging fund manager is defined as a private professional investment manager with assets under management of not more than $2 billion. Private financial services include pension fund management, consulting, investment advising, brokerage services, hedge fund management, private equity fund management, and real estate investment.
- ERS must report to its Board of Trustees the methods and results of its efforts to hire emerging fund managers, including data disaggregated by race, ethnicity, gender, and fund size.

D. Manager Co-Investment

- In order to properly align interests of the manager with the System, there should be substantial co-investment by the manager and its affiliates. However, large co-investment amounts from financial institutions may not be as meaningful as lower amounts by non-financial institutions. Lower co-investment amounts are acceptable only if those amounts represent a significant portion of each key professional's net worth.
- A substantial proportion of a manager's contribution should come from the operating general partner(s)/member(s), including its management and employees. If management and employees are investing, these funds should come from the personal funds of the manager and employees to more fully align interests.
- The manager should make available contractual co-investment rights to investors and should be apportioned on a pro-rata basis.

E. Advisory Board Participation and Control Rights

- Lead investors should require a seat on limited partner advisory and valuation committees, along with the right to appoint a successor to its member. The committees should possess rights to act on certain matters but not so as to step into the role of General Partner.
- Expenses incurred in attending advisory/valuation committee meetings and partnership annual meetings should be reimbursed by the investment vehicle.
- Limited partners should be able to remove the manager for cause at any time, with no payment of as-earned promoted interest if the manager is removed for fraud or malfeasance.

F. Fee/Return Structures

- If the System participates as a lead investor, it should expect a reduced management fee. Acquisition, financing, and disposition fees should be avoided in most situations. If such fees are paid, preferred return hurdles should be higher, promoted interest percentages should be lower, and/or manager co-investment must be higher to compensate for this. Due diligence should be conducted to review how much of a profit center these fees/returns are for the investment vehicle. Any fees charged should be based upon "arms-length" negotiations and should be paid to unaffiliated entities.
- Incentive compensation should be appropriate for the investment vehicle, minimizing the application of "catch-up" incentive compensation. "Catch-up" compensation may be appropriate under certain circumstances.

- Partial promoted interest payment may be made after initial period based upon realizations to date and appraised values. Final payment should be based on realized portfolio performance at the end of investment.

G. Clawback

- Investment managers should provide a clawback vehicle to address a situation in which the investment manager has the potential of ultimately receiving more than the specified amount of incentive compensation.
- This can be accomplished through an incentive fee reserve or holdbacks, i.e., fee escrows that retain an agreed-upon percentage of any incentive fee prior to the end of the agreement and guarantees, i.e., guarantees provided by the manager and/or its principals to repay the limited partners any prepaid incentive fee determined not to be earned at the end of the agreement and based upon the portfolio return after all assets are sold.
- Incentive fee reserves or holdbacks should be preferred over guarantees.

H. Key Person Provision and Allocation Procedures

- The investment vehicle should operate with a key person provision that gives investors the option to discontinue capital contributions in the event that one or more designated persons are no longer involved in the investment at the prescribed participation levels.
- Additionally, ERS may require that certain key individuals commit to spend a certain proportion of time on the investment vehicle. Ideally, these key individuals should have personal stakes in the co-investment vehicle and be entitled to a portion of the incentive compensation. Additionally, performance-based bonuses should be tied directly to the performance of the vehicle.
- The System may require that the manager, its affiliates, and its key personnel not start a competing vehicle or follow-on vehicle until the vehicle is substantially invested. Additionally, properly documented allocation procedures should be in place in order to ensure fair distribution of investment opportunities among vehicles sponsored by the same manager.

I. Asset Valuation and Compliance

- The manager should complete internal annual estimates of market value for each asset in the portfolio. External evaluations should be completed every third year or less.
- The investment vehicle should issue financial statements on a Generally Accepted Accounting Principles (GAAP) basis.