## 1.1 INVESTMENT POLICY

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#### I. INTRODUCTION

This document provides a framework for the investment management of the assets of the Los Angeles City Employees' Retirement System ("LACERS," and hereafter known as the "System"). Its purpose is to assist the Board of Administration (the "Board") in effectively supervising and monitoring the investments of the System. Specifically, it will address:

- A. The general goals of the investment program;
- B. The policies and procedures for the management of the investments;
- C. Specific asset allocations, rebalancing procedures, and investment guidelines;
- D. Performance objectives; and
- E. Responsible parties.

The System establishes this investment policy in accordance with Section 1106 of the Charter of the City of Los Angeles for the systematic administration of the City Employees' Retirement Fund. Since its creation, the Board's activities have been directed toward fulfilling the primary purpose of the System, as described in Section 1106:

"...to provide benefits to system participants and their beneficiaries and to assure prompt delivery of those benefits and related services; to minimize City contributions; and to defray the reasonable expenses of administering the system."

The System is a department of the City government and is governed by a seven member Board of Administration and administrative general manager. In the formation of this investment policy and goal statement, a primary consideration of the Board has been its awareness of the stated purpose of the System. The Board's investment activities are designed and executed in a manner that will fulfill these goals.

This policy statement is designed to allow for sufficient flexibility in the management oversight process to capture investment opportunities as they may occur, while setting forth reasonable parameters to ensure that prudence and care is taken in the execution of the investment program.

#### II. INVESTMENT GOAL STATEMENT

The System's general investment goals are broad in nature. The following goals, consistent with the above described purpose, City Charter citations, and State Constitution are adopted:

- 1. The overall goal of the System's investment assets is to provide plan participants with post-retirement benefits as set forth in the System documents. This will be accomplished through a carefully planned and executed investment program.
- A secondary objective is to achieve an investment return that will allow the percentage of covered payroll the City must contribute to the System to be maintained or reduced, and will provide for an increased funding of the System's liabilities.

- 3. The System's assets will be managed on a total return basis. While the System recognizes the importance of the preservation of capital, it also adheres to the principle that varying degrees of investment risk are generally rewarded with compensating returns. The Board's Investment Policy has been designed to produce a total portfolio, long-term real (above inflation) return of 5%. Consequently, prudent risk-taking is warranted within the context of overall portfolio diversification. As a result, investment strategies are considered primarily in light of their impacts on total plan assets subject to the provisions set forth in Section 1106 the City Charter with consideration of the Board's responsibility and authority as established by Article 16, Section 17 of the California State Constitution.
- 4. The System's investment program shall, at all times, comply with existing and future applicable city, state, and federal regulations.
- 5. All transactions undertaken will be for the sole benefit of the System's participants and beneficiaries and for the exclusive purpose of providing benefits to them and defraying reasonable administrative expenses associated with the System.
- 6. The System has a long-term investment horizon and uses an asset allocation, which encompasses a strategic, long-run perspective of capital markets. It is recognized that a strategic long-run asset allocation plan implemented in a consistent and disciplined manner will be the major determinant of the System's investment performance.
- 7. Investment actions are expected to comply with "prudent person" standards as described:
  - "...with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims." 8

The "standard of care" will encompass investment and management decisions evaluated not in isolation but in the context of the portfolio as a whole and as part of an overall investment strategy having risk and return objectives reasonably assigned. The circumstances that the System may consider in investing and managing the investment assets include any of the following:

- A. General economic conditions;
- B. The possible effect of inflation or deflation;
- C. The role that each investment or course of actions plays within the overall portfolio;
- D. The expected total return from income and the appreciation of capital;
- E. Needs for liquidity, regularity of income, and preservation or appreciation of capital:
- F. A reasonable effort to verify facts relevant to the investment and management of assets

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<sup>&</sup>lt;sup>8</sup> ERISA 404(a)(1) (B).

#### III. POLICIES AND PROCEDURES

The policies and procedures of the Board's investment program are designed to maximize the probability that the investment goals will be fulfilled. Investment policies will evolve as the fund's conditions change and as investment conditions warrant. The Board reviews the Asset Allocation Policy strategically approximately every three years and on a tactical basis more frequently.

### A. Asset Allocation Policy

The Board adopts and implements an asset allocation policy that is predicated on a number of factors, including:

- 1. A projection of actuarial assets, liabilities, benefit payments, and required contributions;
- 2. Historical and expected long-term capital market risk and return behavior;
- 3. An assessment of future economic conditions, including inflation and interest rate levels; and
- 4. The current and projected funding status of the System.

This policy provides for diversification of assets in an effort to maximize the investment return of the System consistent with market conditions. Asset allocation modeling identifies the asset classes the System will utilize and the percentage that each class represents of the total fund. Due to the fluctuation of market values, positioning within a specified range is acceptable and constitutes compliance with the policy. It is anticipated that an extended period of time may be required to fully implement the asset allocation policy and that periodic revisions will occur. The Board will monitor and assess the actual asset allocation versus policy and will rebalance as appropriate.

The Board will implement the asset allocation policy using investment managers to invest the assets of the portfolios components subject to investment guidelines.

Equity managers may not hold more than 10% of the market value of their portfolios in cash without Board approval, unless otherwise specified in their manager guidelines. The long-term asset allocation targets and ranges for the investments of the System's assets are shown in Appendix One.

The Board will allocate segments of the System's assets to each investment manager and specify guidelines, objectives and standards of performance, which are to apply to each manager's portfolio. These decisions will encompass allocating segments of the System assets, and segments of individual asset classes, between active and passive investment management, the active risk of the portfolio and to provide broad market exposure.

## B. Risk Management

The Board implements its risk management policy by monitoring the portfolio's compliance through the adoption of investment policies, guidelines, and procedures for determining the strategic management of investment risk, while allowing flexibility in capturing investment opportunities as they may occur and establishing reasonable risk parameters to ensure prudence and care in the management of the System's assets.

Staff reviews the portfolio performance and asset allocation on a daily basis, as determined by the Board for adherence to the policies and compliance guidelines. Staff also reviews the compliance alerts indicating a variance to the manager's proscribed investment guidelines.

Each quarter, staff reviews a holdings-based methodology risk report supported by Barra's Total Risk system. This analysis is based on the month-end positions in the individual portfolios and the manager's assigned benchmarks. The key observations of this service monitor the total risk and active risk of the System's portfolio versus its policy benchmark. The reports provide the expected volatility and Value at Risk ("VAR") of the System's invested and policy portfolios. The analysis forecasts absolute levels of risk and risks relative to benchmarks.

### C. Portfolio Component Definitions

The Board will utilize the following portfolio components to fulfill the asset allocation targets and total fund performance goals established in this document.

- <u>Domestic Equities</u> The Board expects that over the long run, total returns of equities will be higher than the returns of fixed income securities, but they may be subject to substantial volatility during shorter periods. There are nine components of the System's equity holdings:
  - a. Index Funds/Core Stocks This portfolio will provide broadly diversified, core exposure through index funds to the U.S. equity market, primarily in large capitalization companies. Index funds provide primary liquidity for asset allocation.
  - b. Large Value Stocks As a more defensive portion of the equity portfolio, value stocks, covering the upper range of market capitalization, are expected to outperform the broad market during periods of flat or declining trends while underperforming during rising markets. Value stocks typically exhibit higher dividend yield, lower P/E ratios, and lower Price/Book ratios.
  - c. Large Growth Stocks The Board's large growth stock allocation provides exposure to stocks of large capitalization whose valuations are more directly tied to future earnings prospects. Often, growth stocks sell at higher prices relative to expected or historical earnings growth. Growth stock volatility tends to be higher than value stocks, although such stocks generally outperform during rising markets while trailing the market in flat or declining periods.

- d. Small Value Stocks The principal characteristic of the small value stock component is its emphasis in stocks with market capitalization generally ranging from \$200 million to \$1.5 billion, which are generally characterized by faster growth and higher long-term returns during periods of flat or declining trends. Value stocks typically exhibit higher dividend yield, lower P/E ratios, and lower Price/Book ratios.
- e. **Small Growth Stocks** The principal characteristic of the small growth stock component is its emphasis in stocks with market capitalization from \$200 to \$1.5 billion, which are generally characterized by faster growth and higher long-term returns during rising markets. Growth stock volatility tends to be higher than value stocks.

### 2. Non-U.S. Equities

- a. Index Funds/Core International Stocks This portfolio provides broadly diversified equity markets outside the U.S. and, consequently, plays a significant role in diversifying the Board's portfolio. This segment will concentrate on larger companies in established equity markets around the world utilizing a macro approach.
- b. Asia Pacific Stocks This specialty segment concentrates on the equities from countries and companies located in the Pacific region. By segmenting this portion of the non-U.S. equity portfolio from the International Stock component, the System is able to benefit from increased specialization in the selection of stocks with smaller capitalization. Investments in both established and emerging markets in the Pacific region will be permitted.
- c. **European Stocks** This specialty segment concentrates on the equities from established and emerging countries and companies located in Europe. By segmenting this portion of the non-U.S. equity portfolio from the International Stock component, the System is able to benefit from increased specialization in the selection of stocks with smaller capitalization.
- d. Emerging Markets This component is comprised of equity positions in companies located in emerging, rapidly growing countries around the world. Because these are countries that are typically in the early development stages of economic growth, the returns in these countries are higher and more volatile on a year-to-year basis.
- Fixed Income The primary role of the fixed income portfolio is to provide a
  more stable investment return and to generate income while diversifying the
  System's investment assets. The fixed income holdings are comprised of three
  mandates.
  - a. Core Plus Bonds This segment will provide core exposure to the U.S. fixed income market including Treasury and government agency bonds, corporate debt, mortgages, asset-backed securities and non-investment grade issues, and emerging market debt. The portfolio will be primarily comprised of issues with duration of plus or minus one year of the benchmark.

- b. **Index Bonds** This passive fixed income portfolio is intended to track the characteristics of the benchmark.
- c. Intermediate Term Bonds This mandate will be primarily comprised of issues with duration of between two and four years to shorten the duration of the overall bond portfolio.
- d. **Opportunistic Fixed Income** This strategy will take advantage of market mispricing and evaporating liquidity. Examples of investments are: bank loans; collateralized debt obligations; distressed and stressed high yield securities; mezzanine loans, subordinated commercial-backed securities.

#### 4. Real Estate

- a. Real Estate This portfolio is expected to provide portfolio diversification and increase returns due to real estate's low correlation with the returns from equities and fixed income. The real estate policy is stated separately in the real estate investment objectives and investment policy.
- b. Alternative Investments This portfolio is expected to provide portfolio diversification and additional return to the Fund's public markets portfolio. Examples of Alternative Investment holdings will include venture capital, leveraged buyouts, distressed debt, and special situations funds. The alternative investment policy is stated separately in the alternative investment policy statements.

#### IV. INVESTMENT POLICY

The Board will retain external investment managers to manage portfolios using a specific style and methodology. Managers will have authority for determining investment strategy, security selection, and timing subject to the Policy and Manager Guidelines and legal restrictions or other Board direction. Performance objectives will also be developed for each manager. The performance of the portfolio will be monitored and evaluated on a regular basis relative to each portfolio component's benchmark return and, if available, relative to a peer group of managers following similar investment styles.

Investment actions are expected to comply with "prudent person" standards. Each investment manager will be expected to know the rules of the Board and comply with those rules. It is each manager's responsibility to identify policies that have an adverse impact on performance and to initiate discussion toward possible improvement of the rules of the Board.

The Board will also review each investment manager's adherence to its investment policy and any material changes in the manager's organization (e.g., personnel changes, new business developments, etc.). The investment managers retained by the Board will be responsible for informing the Board of such material changes.

Investment managers under contract to the Board shall have discretion to establish and execute transactions with securities broker/dealer(s) as managers may select. The investment managers will attempt to obtain best execution with respect to every portfolio transaction. The following transactions will be prohibited: net short sales; selling on margin; writing options other than covered options; "prohibited transactions" as defined under the Employee Retirement Income Security Act (ERISA); and, transactions that involve a broker acting as a "principal," where such broker is also the investment manager making the transaction. The investments of the Board's assets will be subject to the following general policies.

### A. Manager Selection

The selection of investment managers is accomplished in accordance with all applicable Local, State, and Federal laws and regulations. Each investment manager, consultant, and custodian functions under a formal contract that delineates responsibilities and appropriate performance expectations.

### B. Manager Authority

The Board's investment managers shall direct and manage the investment and reinvestment of assets allocated to its accounts in accordance with this document; Board rules or direction, applicable Local, State, and Federal statutes and regulations and individual management investment plans and executed contracts.

### C. Soft Dollars and Commission Recapture

The Board requires that on a best effort basis, active equity managers direct brokerage transactions for System assets for soft dollar usage and commission recapture only when best execution can be assured. The Board also requires consideration be given to brokerage firms or managers that are doing business with minority and women owned brokerage firms. The Brokerage Policy is set out in a separate document. Soft dollars directed for LACERS' benefits will be used to pay authorized fund expenses. Investment managers are requested to submit quarterly reports to monitor brokerage activity and transaction costs.

#### D. Proxy Voting

Proxy voting rights will be managed with the same care, skill, diligence, and prudence as is exercised in managing other assets. Proxy voting rights will be exercised in the sole interest of the System's members and beneficiaries in accordance with all applicable statutes consistent with the Board proxy policy, which is a separate document from this policy statement.

#### E. Securities Lending

The Board has authorized the execution of a "Securities Lending Program," which will be performed by the Board's custodian. The Board will monitor and review the program. This program is described in the Securities Lending Agreement of the custody contract. The initial collateral levels will not be less than 102% of the market value of the borrowed securities, or not less than 105% if the borrowed securities and collateral are denominated in different currencies. Marking to market is performed every business day, and the borrower is required to deliver additional

collateral when necessary. Stringent cash and non-cash collateral guidelines specify eligible investments, credit quality standards, and diversification, maturity and liquidity requirements.

#### F. Derivatives

The Board's investment managers may be permitted, under the terms of individual investment guidelines, to use derivative instruments as set forth in each manager's investment guidelines to control portfolio risk. Derivatives are contracts or securities whose returns are derived or approved by the Board in writing. The returns are to be consistent with the manager's mandate from the returns of other securities, indices, or allowable derivative instruments that include, but are not limited to, futures and forwards. Examples of appropriate applications of derivative strategies include hedging interest rates and currency risks, maintaining exposure to a desired asset class while effecting asset allocation changes, and adjusting portfolio duration for fixed income. In no circumstances can managers borrow funds to purchase derivatives. Managers must ascertain and carefully monitor the creditworthiness of any third parties involved in derivative transactions.

#### G. Rebalancing (Revised: November 25, 2014)

The investment portfolio shall, on an ongoing basis in accordance with market fluctuations, be rebalanced to remain within the range of targeted allocations and distributions among investment advisors. The Board has a long-term investment horizon and utilizes an asset allocation that encompasses a strategic, long-run perspective of capital markets. It is recognized that a strategic long-run asset allocation plan implemented in a consistent and disciplined manner will be the major determinant of the System's investment performance.

Rebalancing is not intended to be used for tactical asset allocation. The Board will not attempt to time the rise or fall of the investment markets by moving away from long-term targets because (1) market timing may result in lower returns than buyand-hold strategies; (2) there is little or no evidence that one can consistently and accurately predict market timing opportunities; and (3) rebalancing too often may result in excessive transaction costs.

The Board delegates the responsibility of rebalancing to the Chief Investment Officer, who will seek the concurrence of the general fund consultant. Rebalancing generally will occur when the market values of asset classes (e.g., equities, fixed income, etc.) or sub-asset classes (e.g., large cap value, emerging markets, etc.) exceed their respective thresholds as established by the Board's approved asset allocation and asset class risk budgets.

The portfolio will be monitored daily, but reviewed by senior investment staff (i.e., Chief Investment Officer or Chief Operating Officer) at the beginning of each month to determine the need to rebalance asset classes or sub-asset classes to target allocations. Rebalancing will be conducted in a timely manner, taking into consideration associated costs and operational circumstances. Rebalancing will be accomplished by using routine cash flows, such as contributions and benefit payments, and by reallocating assets across asset classes.

Asset classes temporarily may remain outside of their ranges due to operational and implementation circumstances to include, but not limited to, illiquidity that prevents immediate rebalancing of certain asset classes such as private equity and private real estate; potential asset shifts pending in the portfolio over the next 12 months such as hiring/termination of a manager(s); an asset allocation review of the entire portfolio; or a structural review of a given asset class.

The Chief Investment Officer shall inform the Board in a timely manner of all rebalancing activity.

#### V. GENERAL INVESTMENT OBJECTIVES AND GUIDELINES

The general investment objective is to outperform the overall policy portfolio benchmark. The overall policy portfolio benchmark consists of weighted asset class benchmarks for each asset class as determined by the Board. The Board has approved a long term policy benchmark which is scheduled to be met in 2009. Below is the interim 2008 target percentages that apply for the current policy benchmark:

Target Allocations	<u>Benchmark</u>	<u>Target</u>
Fixed Income	Lehman Universal	24%
Cash	90 Day Treasury Bill	1%
U.S. Equity	Russell 3000	43%
Non-U.S. Equity	MSCI EAFE	20%
Real Estate	NCREIF	5%
Alternative Investments	Russell 3000+400 bps	7%
	Total:	100%

The portfolio is monitored quarterly versus its policy benchmark and also compared to the actuarial return target of 8%.

#### A. Equity Portfolios

Equity investment managers retained by the Board will follow specific investment styles and will be evaluated against specific market indices that represent their investment styles. In addition, in the case of active managers, investment results may also be compared to returns of a peer group of managers with similar styles. The benchmarks for the various equity portfolios may include the following indices:

Domestic Equity Portfolio	Russell 3000 Index
Large Cap Core Stocks	S&P 500 Index
Large Cap Value Stocks	Russell 1000 Value Index
Large Cap Growth Stocks	Russell 1000 Growth Index
Small Cap Stocks	Russell 2000 Index
Small Cap Value Stocks	Russell 2000 Value Index
Small Cap Growth Stocks	Russell 2000 Growth Index
International Equity Portfolio	MSCI All Country World ex-U.S. Index
International Stocks	MSCI EAFE Index
European Stocks	MSCI Europe Index
Pacific Basin Stocks	MSCI Pacific Basin Index
Emerging Markets Stocks	MSCI Emerging Markets Free Index

General equity guidelines for active managers include the following:

#### 1. Domestic Equities

- a. No securities shall be purchased on margin or sold short.
- b. American Depository Receipts (ADRs) are permissible investments.
- c. Convertible securities can be held in equity portfolios and will be considered equity holdings.
- d. Managers shall not purchase the stock (or securities convertible into stock) of any single corporation if the purchase would cause this portfolio to include more than 5% of the outstanding voting stock of a company, or more than 2% in (market) value (assuming all shares are converted) of the assets of the Fund.
- e. Exchange listed futures and options on equity instruments may be used only if employed in a risk-reducing fashion.

### 2. Non-U.S. Equities

- a. Portfolios shall be comprised of cash equivalents, debt instruments convertible into equity securities, forward foreign exchange contracts, GDR's, ADRs, and equity securities of companies domiciled outside the U.S. including established and emerging countries.
- b. Non-U.S. equity managers will have discretion to hedge currencies of the countries in which their portfolio is invested to protect the value of the portfolio from currency risk. A manager's hedge ratio may not exceed 100% of the portfolio's value, at market, without obtaining prior approval from the Board.
- c. No securities shall be purchased on margin or sold short.

Any exemption from the general equity guidelines requires prior written approval from the Board.

#### B. Fixed Income Portfolios

The fixed income portfolios will be managed on a total return basis, following specific investment styles and evaluated against specific market indices that represent a specific investment style or market segment. In addition, investment results may also be compared to returns of a peer group of managers investing with a similar style. The benchmarks for the various fixed income portfolios may include the following indices:

U.S. Core Plus Fixed Income

U.S. Index Bonds

Lehman Brothers Universal Bond Index Lehman Brothers Aggregate Bond Index

General fixed income guidelines include the following:

### 1. Core Fixed Income

- a. The total portfolio's average rating will be A or better by Moody's or Standard & Poor's.
- b. No more than 10% of any single portfolio will be invested in any one issuer, with the exception of U.S. Treasury or Federal Agency issues.
- c. No more than 20%, in aggregate, invested in non-dollar denominated bonds and non-investment grade bonds are permitted.
- d. U.S. dollar denominated issues of foreign governments, international organizations, and U.S. subsidiaries of foreign corporations are permitted up to 20% of any single portfolio.
- e. No securities shall be purchased on margin or sold short.

#### VI. MANAGER SEARCH AND SELECTION POLICY

The purpose of the Manager Search and Selection Policy is to provide a comprehensive framework for the manager search and selection decision making process. It specifically defines responsibilities and processes for the LACERS Board, Staff, and Investment Consultant. This Policy is dynamic and expected to be updated periodically with LACERS' plan objectives, technology, and regulatory and/or market environment changes.

#### A. Roles and Responsibilities

#### Board

The Manager Search and Selection Policy is reviewed and adopted by the LACERS' Board. The decision whether to initiate a search rests with the LACERS Board. The Board will review and adopt the LACERS' active and passive public manager minimum qualifications, as articulated in Section VI.C below, based upon the written recommendation provided by LACERS' Staff and Investment Consultant ("Consultant"). The Board will also review and approve additional minimum qualifications as recommended by Staff and the Consultant. Further, the Board will maintain decision making authority as to approval of the active management finalist firm(s) recommended for hire by LACERS Staff and Consultant. The Board will interview recommended active management finalist candidates prior to approval for hire. With respect to passive investment managers, the Board will authorize and sign the contract for the firm selected for hire by Staff and the Consultant.

#### Staff

Staff is responsible for the implementation of the manager search and selection process described herein. They will recommend actions and propose revisions to this policy as needed. Staff, with input from the Consultant, will recommend mandates for hire by the Board. As part of the search initiation recommendation,

Staff will develop, with the assistance of the Consultant, a written set of minimum qualifications for approval by the Board *if* it is deemed prudent to adopt unique minimum qualifications outside of the pre-approved minimum qualifications set forth in Section VI.C below.

Staff will review and conduct due diligence on the semi-finalist firms recommended by the Consultant for each search. Staff and the Consultant will provide the Board a written investment manager candidate evaluation report which will summarize how the list of semi-finalists was arrived at from the initial candidate list produced based upon LACERS' minimum qualifications. Upon completion of the semi-finalist due diligence review activity, Staff will recommend a single finalist, unless the case is that more than one manager is required to fulfill a search mandate. In the case of passive investment managers, per Section VI.B below, Staff and the Consultant will provide the Board a written investment manager candidate evaluation report for information purposes only, which will summarize the search process and hire decision.

#### Investment Consultant

The Consultant will work with staff to develop a manager search initiation recommendation. If deemed necessary outside of LACERS' pre-approved minimum qualifications, the Consultant will jointly develop with Staff additional written minimum qualifications for Board approval. The Consultant will apply LACERS' pre-approved minimum criteria, and any additional Board-approved criteria, to its manager databases in order to arrive at an initial list of search candidates. The Consultant will then employ its manager evaluation process to arrive at a list of semi-finalists for Staff to then review and conduct due diligence upon. The manager evaluation process will be conducted as summarized below.

Evaluation Criteria	Weighting
Qualitative Assessment	70%
Organization/People	30%
Investment Process	40%
Risk Management	30%
Quantitative Assessment ("WHIP")	20%
Expected Fees	10%

#### **B. Passive Investment Management**

Passive investment management lacks active return and risk components and is essentially an operational decision. There are only two key criteria on which to focus in the evaluation of a passive manager: tracking error and fees. Given that passive management is a beta-only decision, the LACERS' Board has delegated authority to select the optimal passive investment manager to staff. The Board retains authority to initiate a passive investment manager search and the ability to contract with the selected passive investment manager, per Section VI.A.

<sup>&</sup>lt;sup>9</sup> A product's performance will be evaluated using the Wilshire Historical Investment Performance or "WHIP" methodology, which is an objective quantitative calculation of varying metrics described more fully in the white paper, "Wilshire Historical Investment Performance (WHIP) Score: A Quantitative-Based Methodology for Summarizing a Manager's Past Returns", October 29, 2009.

### C. Manager Search and Selection Criteria

### Active Investment Managers

Minimum qualifications will be sufficiently broad but will focus on the key characteristics required by the LACERS Board and Staff for a candidate firm to receive serious consideration for hire. The following minimum qualifications will be used for all active, public markets investment manager searches and will <u>not</u> be among the criteria that may require Board approval prior to each search.

- 1. (Evidence of fiduciary status) Firm is registered investment advisor under the Investment Advisors Act of 1940 or possesses bank exemption;
- 2. (Evidence of product viability) Must have a proven and verifiable track record of at least five (5) years as of the most recent quarter end;
- 3. Must conform to CFA Institute's Global Investment Performance Standards ("GIPS");
- (Evidence of risk-adjusted value-adding skill) At least 60% of rolling four (4) quarter information ratios (i.e., excess return divided by excess risk) must be positive versus a mandate-appropriate benchmark, gross of fees, for the last five (5) years (12 of 20 quarters);
- (Evidence of business risk) Firm AUM must be of sufficient size that LACERS' expected mandate size would not comprise more than 20% of the proposed product assets.

Staff and the Investment Consultant will submit revised and/or additional minimum qualifications for each active, public markets investment manager search as deemed appropriate given mandate and asset class.

### Passive Investment Managers

The following minimum qualifications will be used for all passive, public, markets investment manager searches and will <u>not</u> be among the criteria that may require Board approval prior to each search.

- 1. (Evidence of fiduciary status) Firm is registered investment advisor under the Investment Advisors Act of 1940 or possesses bank exemption;
- 2. (Evidence of product viability) Must have a proven and verifiable track record of at least five (5) years as of the most recent quarter end;
- 3. Must conform to CFA Institute's Global Investment Performance Standards ("GIPS");
- 4. (Evidence of business risk) Firm AUM must be of sufficient size that LACERS' expected mandate size would not comprise more than 20% of the proposed product assets.

#### Emerging Managers

The recommendation by Staff and the Investment Consultant to initiate a search will include the expected number of firms that may meet LACERS' investment management search minimum criteria segregated by emerging and non-emerging investment managers. Emerging managers, as defined by LACERS' Emerging Investment Manager Policy, will be highlighted in the active investment management candidate evaluation summary report to the Board.

### D. Criteria for Investment Manager Termination

The Board reserves the right to terminate an investment manager for any reason. Grounds for investment manager termination may include, but are not limited to, the following reasons:

- 1. Failure to comply with the guidelines agreed upon for management of the Board's portfolio, including holding restricted issues.
- 2. Failure to achieve performance objectives specified in the manager's guidelines.
- Significant deviation from the manager's stated investment philosophy and/or process.
- 4. Loss of key personnel.
- 5. Evidence of illegal or unethical behavior by the investment management firm.
- 6. Lack of willingness to cooperate with reasonable requests by the Board for information, meetings or other material related to its portfolios.
- 7. Loss of confidence by the Board in the investment manager.
- 8. A change in the System's asset allocation program, which necessitates a shift of assets to another sector.

The Board will carefully review any one of these factors; however, the presence of any one of these factors may not necessarily result in an automatic termination.

#### VII. DUTIES OF RESPONSIBLE PARTIES

#### A. Duties of the Board or its Designate(s)

The Board has the responsibility for the administration of the Fund for the benefit of plan participants, although it is not the intent of the Board of Retirement to become involved in the day-to-day investment decisions. The Board or its designee(s) will adhere to the following procedures in the management of the Board's assets:

- The Board develops and approves policies and guidelines for the execution of the Board's investment program. Only the Board in its sole discretion can delegate its decision-making authority regarding the investment program. Staff will be responsible for the implementation and administration of these decisions.
- 2. A formal review of the Board's Investment Policy and investment structure, asset allocation, and financial performance will be conducted annually or more frequently as the need arises. The review will include recommended adjustments to the long-term, strategic asset allocation to reflect any changes in applicable regulations, long-term capital market assumptions, actuarial assumptions, or the Fund's financial condition.
- 3. The Board shall review investments quarterly, or as needed, to ensure that policy guidelines continue to be met. The Board shall monitor investment returns on both an absolute basis and relative to appropriate benchmarks, as well as peer group comparisons. The source of information for these reviews shall come from Staff, outside consultants, the custodian, investment managers, etc.

- 4. The Board may retain investment consultants to provide such services as conducting performance reviews, asset allocation, manager reviews, and investment research.
- 5. The Board shall be responsible for taking appropriate action if investment objectives are not being met or if policies and guidelines are not being followed. Reviews for separate portfolios managed by external managers will focus on the following areas:
  - a. Manager compliance to the Policy guidelines.
  - b. Material changes in the managers' organizations, such as investment philosophy, personnel changes, acquisitions or losses of major accounts, etc. The managers will be responsible for keeping the Board advised of any material changes in personnel, investment strategy, or other pertinent information potentially affecting performance.
  - c. Investment performance relative to each manager's stated performance benchmark(s) as set forth in the manager's investment guidelines.
- 6. The Board shall expect Staff to administer the Fund's investments in a costeffective manner subject to Board approval. These costs include, but are not limited to, management, consulting and custodial fees, transaction costs, and other administrative costs chargeable to the Board.
- 7. The Board shall be responsible for selecting qualified investment managers, consultants, and custodian.
- 8. Voting of proxies in stocks held by the System will be done according to Board policy.

#### B. Duties of the Staff

The Board's Investment Staff provides analysis and recommendations to the Board on a wide variety of investments and investment related matters. Additionally, the Investment Staff oversees and directs the implementation of Board policies and manages the Fund on a day-to-day basis. Furthermore, staff responsibilities include the following details:

- 1. Invests the Fund's cash without requiring Board's permission as set forth elsewhere in the Board's Investment Guidelines.
- 2. Monitors investment managers for adherence to appropriate policies and guidelines.
- 3. Evaluates and manages the relationships with brokers, managers, consultants, and custodian(s) to the Fund to ensure that they are providing all of the necessary assistance to Board and to Staff.
- 4. Conducts the manager search process, as approved by the Board, with assistance from consultants as needed.

- 5. The Staff will manage Portfolio restructuring resulting from portfolio rebalancing or manager terminations with the assistance of consultants and managers, as needed.
- 6. The Staff and its designee(s) shall be responsible for organizing and/or participating in any special research for the Board.
- 7. The Staff shall ensure that Investment Managers conform to the terms of their contracts and that performance-monitoring systems are sufficient to provide the Board with the most timely, accurate, and useful information as possible.
- 8. The Staff shall advise and keep the Board apprised of any other events of investment significance.

### C. Duties of the Investment Managers

The Investment Managers shall perform the following duties:

- 1. Contract by written agreement with the Board to invest within approved guidelines.
- 2. Provide the Board with proof of liability and fiduciary insurance coverage.
- 3. Be an SEC-Registered Investment Advisor under the 1940 Act or an authorized bank or trust, and be recognized as providing demonstrated expertise during a number of years in the management of institutional, tax-exempt assets within a defined investment specialty.
- 4. Adhere to the investment management style concepts and principles for which they were retained, including, but not limited to, developing portfolio strategy, performing research, developing buy, hold and sell lists, and purchasing and selling securities.
- 5. Obtain best execution for all transactions for the benefit of the System with brokers and dealers qualified to execute institutional orders on an ongoing basis at the best net cost to the System, and, where appropriate, facilitate soft dollar credits and the recapture of commissions for the System's benefit.
- 6. Reconcile monthly accounting, transaction and asset summary data with custodian valuations, and communicate and resolve any significant discrepancies with the custodian and the Board's Investment Staff.
- 7. Maintain frequent and open communication with the Board and Staff on all significant matters pertaining to the System, including, but not limited to, the following issues:
  - a. Major changes in the Investment Manager's investment outlook, investment strategy, and portfolio structure;

- b. Significant changes in ownership, organizational structure, financial condition, or senior personnel;
- c. Any changes in the Portfolio Manager or other personnel assigned to the System;
- d. Each significant client that terminates its relationship with the Investment Manager, within 30 days of such termination;
- e. All pertinent issues that the Investment Manager deems to be of significant interest or material importance; and
- f. Meet with the Board and/or Staff on an as-needed basis.

#### D. Duties of the Master Custodian

The Master Custodian shall be responsible to the Board for the following duties:

- 1. Provide complete global custody and depository services for the designated accounts.
- Manage a Short Term Investment Fund (STIF) for investment of any un-invested cash, and ensure that all available cash is invested. If the cash reserves are managed externally, full cooperation must be provided.
- 3. Provide in a timely and effective manner a monthly report of the Investment activities implemented by the investment managers. Prepare a quarterly report containing absolute and relative investment performance.
- 4. Collect all income and realized principal realizable, and properly report it on the periodic statements.
- Provide monthly and fiscal year-end accounting statements for the portfolio, including all transactions. The statements should be based on accurate security values for both cost and market. These reports should be provided within acceptable time frames.
- 6. Report situations where accurate security pricing, valuation, and accrued income are either not possible or subject to considerable uncertainty.
- 7. Assist the System to complete such activities as the annual audit, transaction verification, or unique issues as required by the Board.
- 8. Manage a securities lending program to enhance income if directed by the Board. If the securities lending program is managed externally, full cooperation must be provided.

#### E. Duties of the General Investment Consultant

The Investment Consultant shall be responsible for the following:

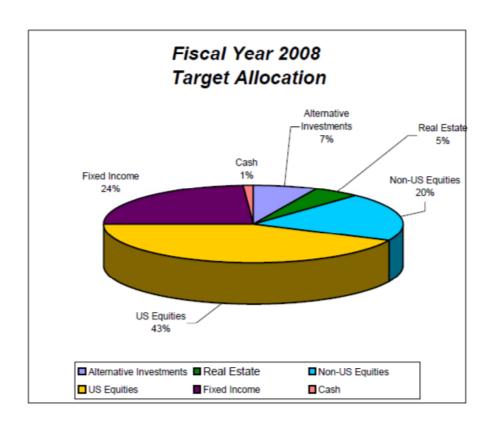
- 1. Review quarterly performance including performance attribution on the Board's managers and total assets, including a check on guideline compliance and adherence to investment style and discipline.
- 2. Make recommendations for Board presentation regarding investment policy and strategic asset allocation.
- 3. Assist the Board in the selection of qualified investment managers and in the review of existing managers, including monitoring changes in personnel, ownership and the investment process.
- 4. Assist the Board in the selection of a qualified custodian if necessary.
- 5. Provide topical research and education on investment subjects as requested by the Board or Investment Staff.

### VIII. APPENDIX 1

The long-term asset allocation targets and ranges for the investments of the System's assets are shown in the following table.

LACERS' 2008
Asset Allocation Targets and Ranges

Asset Allocation Targets and Ranges					
	<u>Targets</u>	Threshold Ranges			
Asset Class	<u>2008</u>	Lower	<u>Upper</u>		
Alternative Investments	7.0%	4.0%	10.0%		
Real Estate	5.0%	3.0%	10.0%		
Non-US Equities	20.0%	17.0%	23.0%		
US Equities	43.0%	39.0%	49.0%		
Fixed Income	24.0%	22.0%	28.0%		
Cash	1.0%	1.0%	1.0%		



### IX. APPENDIX 2: GLOSSARY

### **ASSET CATEGORIES**

**Alternative Investments:** Traditionally those investments that do not trade publicly on an organized exchange. They may include private equity, venture capital, buyout, mezzanine financing, distressed securities, natural resources and hedge funds. These investments are frequently made in some pooled format, usually a limited partnership or limited liability corporation.

Cash/Cash Equivalent: Cash equivalent securities with a maturity less than or equal to fifteen months are considered to include interest bearing or discount instruments, money market funds, corporate issued commercial paper, bank issued Certificates of Deposit, bankers acceptances, fully collateralized repurchase agreements or participation in commingled (cash equivalents) funds managed by a bank, insurance company, or other professional cash equivalents investment manager. Both U.S. and foreign securities issued in U.S. markets are permissible.

**Convertibles:** A preferred stock or bond that can be exchanged for common stock of the issuing company. The conversion is at the investor's option and usually must occur within a specified time limit. Convertibles may be considered fixed income or equity investments when calculating investment returns and determining asset allocation.

**Direct Placements:** Sale of securities to a long-term institutional investor such as a pension fund without the use of underwriters.

**Equities:** Shares that represent ownership of a corporation. Included in this category are publicly traded common stocks, rights, warrants, convertible securities and American and Global Depository Receipts.

**Fixed Income:** Debt instruments of corporations, government or agencies characterized by a fixed or variable interest rate and stated maturity date. Included are marketable bonds, cash equivalents and Rule 144A securities. Certain fixed income assets such as cash equivalents are often categorized separately.

**Preferred Stock:** A security which has preference over common stock (but not bonds) with regard to dividends and the distribution of assets in the event of a corporate liquidation. Preferred stock combines elements of both common stock and bond forms of investment.

**Real Estate:** Land and all physical property related to it, including buildings, landscaping, and all rights to the air above and earth below the property. Assets not directly associated with the land are considered personal property.

**Total Fund:** All assets of the fund including equities, fixed income, cash equivalents, cash and other securities.

**Treasury Inflation Protected Securities (TIPS):** Debt instruments of the U.S. Government that adjust monthly for changes in inflation as represented by the non-seasonally adjusted U.S. CPI-Urban. Similar to other fixed income instruments, TIPS have a fixed interest rate component and stated maturity.

#### **EQUITY TERMS**

American Depository Receipts (ADRs): Negotiable certificate issued by a U.S. bank for shares of stock issued by a foreign corporation. The securities are held in a custodial account, either at the issuing bank or an agent. ADRs are registered with the Securities and Exchange Commission, and give the holder the same benefits of ownership as shareholders. Two types of American Depository Receipts include sponsored ADRs, which are approved and promoted by the issuing corporation; and unsponsored ADRs, which are not backed by the issuer. ADRs are priced in U.S. dollars, and trade on stock exchanges and over-the-counter markets in the same fashion as U.S. issued securities.

**Debt-to-Equity:** Quantifies a firm's financial leverage. It is the long-term debt of the company divided by shareholder's equity. Higher levels of debt are often associated with earnings volatility.

**Dividend:** A payment to owners of common or preferred stock. Dividends are usually paid out of the current earnings of a corporation. On preferred stock shares, the dividend is usually a fixed amount. On common stock shares, the dividend will vary with the fortunes of the corporation. Dividends are usually declared and paid quarterly.

**Dividend Growth:** Measures the average percentage increase, over the trailing five years, of the per share dividend.

**Dividend Yield:** The annual per share dividend divided by the market price of the security. Higher dividend yields tend to support the price of the security.

**Global Depository Receipts (GDRs):** Negotiable certificate held in the bank of one country representing a specific number of shares of a stock traded on an exchange of another country. While American Depositary Receipts allow international companies to offer shares to U.S. citizens, GDR's allow companies in Europe, Asia, the United States and Latin America to offer shares in markets around the world.

**Market Capitalization:** The number of common shares outstanding multiplied by the per share price of the stock which represents the market's valuation of a company.

**Price-Earnings (P/E) Ratio:** The market price of a share of common stock divided by the company's earnings per share.

**Price-to-Book:** The market price of a share of common stock divided by the company's per share book value.

**Return on Equity:** A firm's net profit divided by its shareholder's equity. It is one of two basic factors (the other being earnings retention ratio) that determine a firm's earnings growth rate.

#### **FIXED INCOME TERMS**

**Accrued Interest:** Interest accumulated on a bond since the last interest payment was made. The buyer of the bond pays the market price plus accrued interest.

**Asset Backed Bond:** Securities that are formed when similar assets or receivables, such as credit card receivables, auto loan receivables or home equity receivables, are pooled together and undivided interests in the pool are sold. The principal and interest payments are "passed-through" to the bondholders.

**Banking Demand (Demand Deposit):** Checking account balances or other accounts, which, without prior notice to the bank, can be withdrawn or transferred.

**Bond:** An interest-bearing or discounted certificate of debt issued by corporations, municipalities, governments and governmental agencies that represent a loan to the issuer and obligates the issuer to pay the bondholder a specified sum of money, usually semiannually, and to repay the principal amount of the loan at maturity.

**Certificate of Deposit:** A receipt from a bank for funds deposited for a stated period of time and normally paying a stated rate of interest.

**Coupon:** Interest rate on a bond that the issuer agrees to pay to the bondholder until maturity, expressed as an annual percentage of face value. More simply, the periodic interest payment made to bond owners during the life of a bond.

**Debenture:** A promissory note backed by the general credit of a corporation -- usually not secured by a mortgage or lien on any specified property.

**Duration:** A calculation measuring the price sensitivity of a bond or other financial instrument to changes in interest rates while taking into consideration its coupon and maturity.

**Fed:** The seven-member governing board that oversees Federal Reserve Banks establishes monetary policy (interest rates, availability of credit, etc.) and monitors the economic health of the country.

**Federal Reserve Bank:** One of 12 regional banks in the Federal Reserve System. The role of each bank is to monitor the commercial and savings banks in their region to ensure they follow Federal regulations. The reserve banks also provide central bank services such as check collection, access to the Fed's wire network and credit advances from the Fed's discount window. Reserve banks act as depositories for banks in their region.

**Inflation:** The overall general upward price movement of goods and services in an economy, usually measured by the Consumer Price Index in the U.S. Inflation is one of the major risks to investors over the long term because it erodes the purchasing power of their investments.

**Interest Rate:** Cost of money or credit expressed as a percentage rate per period of time usually one year.

**Maturity:** The date on which a bond becomes due and the issuer redeems or pays the face value or principal.

**Mortgage-Backed Asset:** Securities that are formed when mortgages are pooled together and undivided interests in the pool are sold. The principal and interest payments are usually "passed-through" to the certificate holders.

**Sector Swap:** Exchange of one security or asset for another, often done to alter the quality, change the duration, or increase the yield to maturity.

**Bid-Ask Spread:** The difference between the price a buyer is willing to pay (bid) for a security and the price an owner is willing to receive for the security.

**Yield Curve:** A graph showing the relationship between yields and maturities of fixed income securities issued by the same or similar issuers having the same risk characteristics. Normally, the curve slopes upward and to the right because short-term investments have lower yields than long-term investments. From time to time, the curve may become inverted, when short-term yields are higher than long-term yields.

#### **DERIVATIVE TERMS**

**Cash Settlement Contract:** The feature of certain futures contracts or options that allows delivery or exercise to be conducted with an exchange of cash rather than the physical transfer of assets.

**Covered Option:** A strategy in which the writer sells options while simultaneously owning an equivalent position in the underlying security.

**Credit Default Swap:** A derivative instrument that transfers the credit risk from the buyer to the seller in exchange for a specified premium. The seller receives a quarterly payment from the buyers in exchange for absorbing the risk inherent in owning the credit. The buyer receives payment only when a credit event occurs such as: bankruptcy, failure to pay, obligation acceleration, restructuring or sovereign repudiation/debt moratorium.

**Derivative:** Instruments or contracts whose value is determined by the price of the asset to which the contract is tied.

**Forward Contract:** A customized transaction in which two parties agree to the purchase or the sale of a security, currency or commodity at some future time under such conditions as the two agree upon. Those who use forward contracts often expect to make or take physical delivery of the commodity or financial instrument.

**Futures Contract:** A standardized agreement between two parties to purchase or sell an asset or currency at a later date at a fixed price. The contract trades on a futures exchange and is subject to a daily mark-to-market procedure.

**Interest Rate Swap:** Agreements between two parties to exchange types of cash flows. They are derivative securities because their payoffs are determined by the price of the underlying financial security. Swaps trade in dealer markets or are directly negotiated.

**Option:** A contract that gives one party the right, but not the obligation, to buy or sell an asset, currency, or a futures contract for a fixed price over a specific period of time.

**Naked (uncovered) Option:** A short option position in which the writer does not own an equivalent position in the underlying security.

#### **STATISTICAL TERMS**

**Active Risk:** Annualized standard deviation of the difference between the portfolio return and its benchmark return. Used interchangeably with tracking error.

**Alpha:** A measure of risk adjusted return that represents that part of a return above or below a benchmark and is typically attributed to investment skill.

**Basis Point:** One one-hundredth of one percent, i.e., 100 basis points = 1%.

**Beta:** A measure of the extent to which the returns on a given stock or portfolio move with the stock market.

**Correlation:** A statistic describing the goodness of fit about a linear relationship between two variables (returns). It measures the degree to which two variables (assets) move in tandem, with -1 corresponding to perfect negative correlation (vary inversely) and +1 corresponding to perfect positive correlation (move together). A value of zero would indicate no relationship between the two variables.

**Information Ratio:** A measure of the level of reward per unit of risk. The information ratio is calculated by dividing the alpha (difference between the portfolio return and the benchmark return) by the standard deviation of the alpha.

**Mean:** The traditional average; it is calculated by adding up all the numbers and dividing the total by the number of observations.

**Mean Absolute Deviation:** The average value of differences from the mean, where the differences are evaluated without regard to sign. It is a measure of dispersion.

**Median:** The median is the 50th percentile. The median of the sample would be the rate of return that is greater than 50% of all the returns in the sample. Half the sample has a higher return and the other half a lower return.

**Negative Semi-variance:** This measure considers only downside dispersion. Since measures of dispersion are frequently used to measure risk in securities and portfolios, the amount of uncertainty as to future value is one definition of risk. Some investors find this definition difficult to accept because they feel that only below-average expectations represent risk.

**Range:** The difference between the minimum and maximum in a series.

**R-Squared (R2):** The proportion of a portfolio's variability that is explained by the relation between the portfolio and the market.

**Standard Deviation:** This measure is the square root of the variance. The standard deviation is a useful and widely used measure because, for a normal, or bell-shaped, distribution, 68 percent of the observations fall within one standard deviation and 95 percent fall within two standard deviations. Since it is usually reasonable to suggest that distributions in finance are normal, a good estimate of the dispersion of a distribution around its average is provided by the standard deviation measure. In a portfolio context, the higher the standard deviation, the higher the risk associated with a given level of return on that portfolio.

**Tracking Error:** Annualized standard deviation of the difference between the portfolio return and its benchmark return. Used interchangeably with active risk.

**Variance:** The variance is a true measure of the width of the distribution. Variance relates each observation to the average by squaring each number (multiplying a negative number by itself produces a positive number).

#### **DESCRIPTION OF MANAGER STYLES**

#### **Equity Styles**

**Bottom Up:** A method of analysis that begins with fundamental factors at the company or micro economic level.

**Currency Overlay:** Strategy to use currency futures, forwards, and options as an overlay on existing international portfolios to protect against losses in currency movements.

**Enhanced Index:** In general, a manager utilizing this style attempts to outperform an index by analyzing quantifiable characteristics of a given stock or sector. The strategy is characterized by low to moderate levels of active risk.

**Growth:** Seeks investments whose future potential for growth is above the growth expectation for securities in general. From an analytical perspective, growth portfolios will generally exhibit the following characteristics:

Projected Earnings Growth – greater than the index Price to Earnings Ratio – generally greater than the index Price to Book Ratio – generally greater than the index Five Year Earnings Growth Rate – greater than the index

**Index/Passive:** An index strategy would strive to match the return of the appropriate index by holding a portfolio of securities that closely tracks the index.

International Equity Active Country and Sector/Passive Security Selection: Through an overall review of economic, social, and political issues worldwide, decisions are made with respect to the allocation of investments among countries and sectors. The investment decisions are implemented through passive security selection.

**Large Capitalization Domestic Equity:** Investments in a portfolio of securities that approximate the average market capitalization of the Russell 1000 Index.

**Small Capitalization Domestic Equity:** Investments in a portfolio of securities that approximate the average market capitalization of the Russell 2000 Index.

**Top Down:** A method of analysis that begins with broad macro economic topics associated with an economy and industry.

**Value:** Investments in equities whose potential is temporarily unrecognized by other investors. Value stocks typically are companies whose assets, future cash flows, products, or services are overly discounted relative to the broader market. Typically, value portfolios will exhibit the following characteristics:

Price to Book Ratio – less than the index Price to Earnings Ratio – less than the index Division Yield – greater than the index

#### Fixed Income Styles

**Core:** Seeks investments in the large, more liquid sectors such as governments, mortgage-backs and investment grade corporates, that do not represent significant deviation from a given index in terms of sector, quality, coupon and maturity exposures. While some over/under weighting may occur in the portfolio, these will result from the manager's security selection process and not represent a deliberate attempt to bias the portfolio.

**Core Plus:** A core plus manager has the latitude to invest the portfolio in core sectors as well as high yield (below investment grade) non-dollar denominated and/or the debt of emerging markets.

**Medium-Grade:** Seeks investments from the complete range of global fixed income sectors. The medium-grade manager has broad latitude to invest the portfolio's assets in opportunistic sectors such as high-yield (below investment grade) non-dollar, emerging markets and convertible debt investments. The manager may use investment grade sectors as a defensive alternative to opportunistic sectors.

**Inflation Protected:** Invests in fixed instruments that have a real and inflation-linked return component. The securities are typically issued by government entities. An example would be the Treasury Inflation Protected Securities (TIPS) issued by the United States Government.

### **RATES OF RETURN**

**Capital Appreciation (Depreciation):** Both realized and unrealized gains or losses in the market value of a portfolio from beginning to end of the time period being measured.

**Dollar-Weighted Return:** This rate is also called the internal rate of return (IRR). It is sensitive to the timing and size of cash flows. The rate of return for each sub-period such as a month or a quarter is weighted by the dollars invested in that period. Thus, the cash flows in the fund, as well as investment performance, will have an impact on calculated returns. The dollar-weighted return is important in measuring the actual growth of a fund over time.

**Income Return:** The rate of return attributable to interest and/or dividends.

**Market Value:** The market value of an asset is the realizable value at any point in time. In practice, publicly traded stocks are valued at the day's closing price and bonds are generally valued at the day's final bid price. Different pricing services can result in different market prices especially in the bond market.

**Real Rate of Return:** The rate of return earned from an investment's income/loss and appreciation/depreciation after being adjusted for inflation. The most common measure of inflation is the U.S. Bureau of Labor Statistics' All Urban Consumer Price Index (CPIU).

**Time-Weighted Rate of Return:** The amount and timing of cash flows do not impact time-weighted rates of returns since the returns for each sub-period are equally weighted. Since investment managers have little control over cash flow, time-weighted returns are an appropriate method of analyzing the manager's performance.

**Total Fund Total Rate of Return:** The "overall" rate which reflects the combination of income as well as realized and unrealized appreciation or depreciation for all segments or portfolios in the total plan.

### **TIME PERIODS**

**Annualized:** A rate of return for a time frame that is less than or greater than one year expressed as an average annual return.

**Compound Annual:** A compound average annual rate of return for a period greater than 1 year expressed in annual terms.

**Rolling Time Period:** A series of investment returns each covering a specified period of time with each new return in the series encompassing the most recent return of the period and dropping the oldest return of the period. For example, a rolling one-year return, calculated monthly would consist of the previous 12 monthly returns. The next return in the series would be calculated at the end of the following month. It would consist of the current monthly return and the previous 11 months (dropping the oldest return in the series).

**Trailing Period:** A time period that immediately precedes a specified date. For example, as of December 20X1, the trailing 9 months would include the period April 1, 20X1 to December 31, 20X1.

**Unannualized:** A rate of return for a period of less than one year or greater than one year. An unannualized return that represents cumulative results that is for a month, quarter, five quarters or any other non-twelve month period.

#### **RELATIVE PERFORMANCE RANKING**

**Policy Index (Policy Portfolio):** A weighted combination of two or more indices. The Policy Index is constructed to match a fund by weighting the indices in the same ratio as the fund's target commitment to the different asset classes such as equities, bonds, real estate, and cash.

**Median:** The median is the 50<sup>th</sup> percentile. The median of the sample would be the rate of return that is greater than 50% of all the returns in the sample. Half the sample has a higher return and the other half a lower return.

**Percentile Rank:** Time-weighted rates of return are percentile ranked against the Universe. For example, a fund's rate of return may rank in the 20th percentile of the sample. This value indicates that 80% of the funds in the sample had worse performance. The highest percentile rank is 1 while the lowest is 100. Bar graphs may be divided by percentiles with the top of each bar denoting the tenth percentile followed by lines for the 25th, 50th, 75th and 90th percentiles.

**Quartiles:** Percentile rankings are divided by the first, second and third quartiles. The first quartile is the 25th percentile, the second is the 50th percentile (or median) and the third is the 75th percentile.

Reasonable (as it pertains to a portfolio risk level relative to the Index): A reasonable risk level relative to the Index means that, if portfolio risk is substantially above the risk of the Index, portfolio return should also be substantially above the return of the Index. Conversely, if portfolio return were substantially less than the Index, then portfolio risk would also be expected to be less than that of the Index. Under normal market conditions, reasonable means a combination of risk and return that yields a return to risk ratio for the portfolio that is equal to or greater than that of the Index which serves as the portfolio's performance benchmark.

Typical Market Cycle: A typical market cycle is the recurrence of periods of significant appreciation and depreciation of asset values. One cycle extends from a price or market value baseline through one substantial rise and one decline and back to the base line. The length of a typical or fair market cycle varies across asset classes, depending on the frequency and duration of changes in those economic factors that drive the market value of the assets. For those assets that trade on auction markets and are sensitive to short-term business cycle activity, such as equity and fixed income securities, the typical market cycle has historically been approximately three years. For those assets whose market values are not based on quoted prices and which are sensitive to longer-term demographic changes, such as private real estate or private equity, the typical market cycle has historically been approximately seven to ten years.

#### <u>INDICES</u>

#### Fixed Income

**Lehman Brothers Aggregate:** An aggregate of the Government/Corporate Bond Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index. The index contains fixed rate debt issues with at least one-year maturity, \$100 million par value outstanding, and investment grade ratings by Moodys, S&P or Fitch (in that order). Returns are market-value weighted inclusive of accrued interest.

**Lehman Universal:** This index contains the Lehman Aggregate index bonds plus approximately 10% of the remaining index includes U.S. High Yield, Eurodollar, Emerging Markets, 144A Private Placements, and CMBS bonds.

**Lehman U.S. Govt/Credit Intermediate:** This index is a sub-component of the Lehman Aggregate index. Bonds consist of the U.S. Treasury, U.S. Agency (non-MBS), and U.S. Investment-grade credit holdings with a maturity range of 1 to 10 years.

**Bond Rating Methodology:** Bond ratings are intended to characterize the risk associated with holding a particular bond or categories of bonds. These ratings are the risk assessed by the market and that the bond issuer must pay to attract purchasers to the bond. These ratings are expressed as a series of letters and sequences.

#### Rating Categories in Descending Order:

**AAA:** The best quality rating, stable cash flows, very protective bond covenant, very low probability of default.

Aa: The second best rating. Stable cash flows, less protective bond

covenants, very low probability of default.

A: Stable cash flows, less protective bond covenant, long-term probability of

default is higher than AAA or Aa.

Baa: Medium quality rating, reliable cash flows short term, less-reliable cash

flows long term, bond covenants offer limited protection. Moderate probability of default. Downgrade to a lower rating is also possible. Baa

bonds are the lowest rating still considered 'investment grade'.

Ba thru B: Highly speculative. Long-term assurance of cash flows and protective

elements are low. Purchasers of these bonds generally specialize in assessing credit risk of specific bond issues. Much higher spreads versus investment grade bonds provide the incentive for purchasers.

High default or downgrade risk.

Caa thru C: Poor standing. Either close to default or in default. Highly probable loss

of principal.

**D:** Coupon payments were not paid on the due date which puts the bond in

default. Unless both protective covenants and issuer assets are adequate (not likely), holder loses all likelihood of recovering principal.

### **Equity**

**Down Jones Industrial Average:** This index is the price-weighted average of 30 actively traded blue chip stocks.

**NASDAQ:** A market value weighted index that measures all domestic and non-U.S. based securities, more than 4700 companies listed on the NASDAQ stock market.

**Russell Midcap Value:** Contains Russell Midcap stocks having less than average growth orientation and are included in the Russell 1000 Value Index.

**Russell 1000:** Consists of the 1000 largest securities in the Russell 3000 Index. The Russell 1000 is capitalization-weighted.

**Russell 1000 Growth:** Contains Russell 1000 stocks having greater than average growth orientation. Stocks tend to exhibit lower dividend yields and higher price-to-book ratios, price-earnings ratios and forecast growth values than the Value universe. The index is capitalization-weighted (as opposed to equal-weighted).

**Russell 1000 Value:** Contains those Russell 1000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values than the Growth universe. Russell 1000 Value is capitalization-weighted.

**Russell 2000:** Contains the smallest 2,000 stocks in the Russell 3000 Index, representing approximately 11% of the Russell 3000 total market capitalization. The index is capitalization-weighted (as opposed to equal-weighted).

**Russell 2000 Growth:** Contains those Russell 2000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earnings ratios, lower dividend yields and higher forecasted growth values than the Value universe.

**Russell 2000 Value:** Contains those Russell 2000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Russell 3000:** Measures performance of the 3000 largest U.S. companies based on total market capitalization. This index represents approximately 98% of the investable U.S. equity market. The Russell 3000 is capitalization-weighted.

**Standard and Poor 500:** The S&P, which represents approximately 75% of NYSE market capitalization and 30% of NYSE issues, contains 500 industrial, utility, transportation and financial companies in the U.S. markets (mostly NYSE issues). The S&P is capitalization-weighted (as opposed to equal-weighted), calculated on a total return basis with dividends reinvested.

**FTSE All Share:** An arithmetic, market value-weighted average of approx. 680 securities representing 98-99% of the UK market capitalization, FTSE All-Share is the aggregation of the FTSE 100, FTSE 250 and FTSE Small Cap Indices.

Morgan Stanley All Country World except USA: An arithmetic, market value-weighted average of approx. 1800 securities from outside the United States. The index is calculated on a total return basis, including reinvestment of gross dividends before deduction of withholding taxes.

Morgan Stanley Capital International Emerging Market Free: Contains securities of the following counties which are available to all investors regardless of local status: Argentina, Brazil, Chile, Colombia, Greece, India, Indonesia, Israel, Jordan, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Portugal, South Africa, Sri Lanka, Thailand, Turkey and Venezuela.

**Morgan Stanley Capital International EAFE:** An arithmetic, market value-weighted average of over 900 securities from Europe, Australia, and the Far East. The index is calculated on a total return basis, including reinvestment of gross dividends before deduction of withholding taxes. The following countries are represented: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Malaysia, Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

**Morgan Stanley Capital International Europe:** Includes companies representing 15 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

**Morgan Stanley Capital International Pacific:** Includes companies representing 5 countries: Australia, Hong Kong, Japan, New Zealand and Singapore.

**Morgan Stanley International Pacific x Japan:** Includes companies representing 4 countries: Australia, Hong Kong, New Zealand, and Singapore.

**Morgan Stanley All Country Asia Pacific:** Includes companies representing 14 countries: Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, Korea, New Zealand, Singapore, Thailand, and Taiwan. It is calculated on a total return basis with dividends reinvested.

#### Real Estate

**NCREIF Property Index:** The The NPI contains investment-grade, non-agricultural, income-producing properties which may be financed in excess of 5% gross market value; were acquired on behalf of tax exempt institutions; and are held in a fiduciary environment. Data is collected quarterly from a membership of investment managers and plan sponsors. Returns are gross of fees; include income, realized gains/losses, and appreciation/depreciation; and are market-value weighted. Property values are determined by consistent appraisal methodology and sold properties are removed in the quarter of the sale (the historical data remains). Current quarter performance is preliminary.

#### Cash

**90-Day Treasury Bills:** An average of the last three 90-day treasury bill issues' monthly return equivalents of yield averages, which are not marked to market. Monthend discount yields are converted to bond-equivalent yields, then a simple average is taken, and that number is decompounded to a monthly return using the actual number of days in the month and a 365-day year.

#### Policy Benchmarks

#### **Current:**

U.S. Equity 43% Russell 3000

Non U.S. Equity 20% MS ACWI ex U.S. Net Div

Core Fixed Income 24% Lehman Universal

Real Estate 5% NCREIF

Alternative 7% Russell 3000 plus 400 bps annually.

(Calculated on a dollar-weighted basis, and holding cash

flows at 0% return for the first 36 months.)

Cash 1% 90 day Treasury Bill

TOTAL: 43% U.S. Equity: 20% Non-U.S. Equity; 24% Cored Fixed; 5% Real Estate; 7% Alternative; 1% Cash

#### 1/01/2007 through 6/30/2007:

U.S. Equity 44% Russell 3000

Non-U.S. Equity 20% MS ACWI ex U.S. GD Core Fixed Income 25% Lehman Universal

Real Estate 4% NCREIF

Alternative 6% Russell 3000 plus 400 bps annually

(Calculated on a dollar-weighted basis, and holding cash

flows at 0% return for the first 36 months.)

Cash 1% 90-day Treasury Bill

TOTAL: 44% U.S. Equity; 20% Non-U.S. Equity; 25% Core Fixed; 4% Real

Estate; 6% Alternative; 1% Cash

### 3/31/2006 through 9/30/2006:

U.S. Equity 45% Russell 3000

Non-U.S. Equity 21% MS ACWI ex U.S. GD Core Fixed Income 25% Lehman Universal

Real Estate 3% NCREIF

Alternative 5% Russell 3000 plus 400 bps annually

(Calculated on a dollar-weighted basis, and holding cash

flows at 0% return for the first 36 months.)

Cash 1% 90-day Treasury Bill

TOTAL: 45% U.S. Equity; 21% Non-U.S. Equity; 25% Core Fixed; 3% Real

Estate; 5% Alternative; 1% Cash

#### 6/30/2001 through 3/31/2006:

U.S. Equity 40% Russell 3000

Non-U.S. Equity 18% MS ACWI ex U.S.GD Core Fixed Income 27% Lehman Universal

Real Estate 7% NCREIF

Alternative 7% Russell 3000 plus 400 bps annually

(Calculated on a dollar-weighted basis, and holding cash

flows at 0% return for the first 36 months.)

Cash 1% 90-day Treasury Bill

TOTAL: 40% U.S. Equity; 18% Non-U.S. Equity; 27% Core Fixed; 7% Real

Estate; 7% Alternative; 1% Cash

#### 01/01/2001 through 6/30/2001:

U.S. Equity 40% Russell 3000

Non-U.S. Equity 18% MS ACWI ex U.S.GD U.S. Fixed 25% Lehman Universal

Non-U.S. Fixed 6% JP Morgan World Government Hedged

Real Estate 5% NCREIF Alternative 5% "15%"

Cash 1% 90-day Treasury Bill

TOTAL: 40% U.S. Equity; 18% Non-U.S. Equity; 25% U.S. Fixed; 6% Non-U.S.

Fixed; 5% Real Estate; 5% Alternative; 1% Cash

### 01/01/2000 through 12/31/2000:

U.S. Equity 43% Russell 3000 Non-U.S. Equity 21% MSCI EAFE

U.S. Fixed 25% Lehman Aggregate thru 6/30/00, Lehman Universal

as of 7/1/00

Non-U.S. Fixed 6% JP Morgan World Government Hedged

Real Estate 2% NCREIF Alternative 2% "15"%

Cash 1% 90-day Treasury Bill

TOTAL: 43% U.S. Equity; 21% Non-U.S. Equity; 25% U.S. Fixed; 6% Non-U.S.

Fixed; 2% Real Estate; 2% Alternative; 1% Cash

**Through 12/31/1999**:

U.S. Equity 40% consisting of 33.75% S&P 500; 35.0% Russell 1000

Value; 12.5% Russell 1000 Growth; 12.5% Russell 2000

Value; 6.25% Russell 2000 Growth

Non-U.S. Equity 20% consisting of 25% MSCI EAFE; 22.5% MSCI Pacific;

15% TOPIX; 12.5% MSCI Europe; 25% MSCI Emerging

Markets Free x Malaysia

U.S. Fixed 25.5% consisting of 17.65% Lehman Intermediate

Government Corporate; 11.76% Intermediate Government; 7.84% Lehman Long Government Corporate; 3.92% Lehman Long Government; 58.8%

Lehman Aggregate

Non-U.S. Fixed 7% JPM World Real Estate 3% NCREIF Alternative 3% "15%"

Cash 1.5% 90-day Treasury Bills

TOTAL: 40% U.S. Equity; 25.5% Fixed Income; 20% International Equity; 7% JPM Global Hedged; 3% NCREIF; 3% Alternative "15%"; 1.5% Treasury Bills

**1 Yr:** One-year rate of return. The linked quarterly returns of the previous four quarters.

**X Yr Ann:** X year annualized rate of return. The one-year equivalent return of the X year cumulative return.

**X Yr Cum:** X year cumulative rate of return. The linked quarterly returns of the previous X years.

#### **ASSET ALLOCATION**

Market \$: Net assets at market value including receivables, payables, and accrued interest.

**Market** %: Market value as a percent of the total fund's market value.

Target %: Investment policy.

**Invest** %: Market value excluding cash and equivalents as a percent of total market value.

#### **INVESTMENT PERFORMANCE**

**Time:** The internal rate of return (accounting for daily cash flows) monthly based on trade-date, full accrual accounting, and using market values. For periods of greater than one month, a time series of linked monthly returns is maintained, introducing a time weighted effect. The private investment returns are lagged one quarter. The LACERS total fund return is dollar weighted to include private investments.

**Market at Target:** The weighted return made up of market returns weighted by LACERS' target allocation.

**Market at Actual:** The weighted return made up of market returns weighted by LACERS' actual allocation.

#### **UNIVERSE COMPARISON**

All Universes are gross of fees. Universe breaks are at 10, 25, 50, 75, and 90 percentiles.

#### **TUCS Plan Universe**

Are published on a quarterly basis using monthly observations. Over time, the plan population members will change due to new plans being introduced and other plans closing or leaving the universe.

#### **Public Funds**

Includes the range of performance of all Public Funds greater than 1 billion dollars. Monitored by the Wilshire's Trust Universe Comparison Services Group. Plans include state and municipal plans and systems.

### **Manager Universes**

Are created using the performance of managers used by sponsor subscribers to the Risk & Performance Services Group. Each occurrence of a manager is considered as an observation. The manager universes are used to describe the actual experience of plan sponsors use of the managers; no manager supplied representative portfolios or composites are used in the creation of the universes. All occurrences of a manager are included in the magnitudes they are used by the sponsors; no stratification or judgments are introduced by RPS to alter a manager's representation. Manager portfolios are used from all market segments (ERISA, Public, Foundation & Endowments, and Wealth) since managers are hired to fulfill a specific policy objective that is not unique by plan type. Inclusion in a universe is based upon quantitative screening using the criteria described; an RPS analyst determines the comparison of a manager to this style background for reporting purposes. The portfolio criteria are applied as the average of the values over the time period being observed and not simply the current point in time value.

#### **U.S. Fixed Income: Managers**

Includes all managers, active and passive, investing in U.S. Fixed Income, including high yield fixed income managers.

#### Non-U.S. Fixed Income Managers

Includes all managers investing in non-U.S. Fixed Income.

### **U.S. Equity: Large Cap Value**

Includes portfolios with a portfolio average market capitalization greater than \$10 billion. Portfolios will also display a significant value bias as represented by a Barra Price/Book score in the top 30% of all U.S. equity portfolios monitored by RPS. Most value portfolios display a below market beta and above market dividend yield.

#### U.S. Equity: Large Cap Core

Includes portfolios with a portfolio average market capitalization greater than \$10 billion but not displaying any significant growth or value bias. The Barra Growth and Barra Book to Price risk factors are used to determine style orientation. Most of the portfolios also display a market-like beta.

### **U.S. Equity: Large Cap Growth**

Includes portfolios with a portfolio average market capitalization greater than \$10 billion. Portfolios will also display a significant growth bias as represented by a Barra Growth Risk Factor in the top 40% of all U.S. equity portfolios and a Barra Price/Book score in the bottom 70% of all U.S. equity portfolios monitored by RPS. Most growth portfolios display an above market beta.

### U.S. Equity: Small Cap Value

Includes portfolios with a portfolio average market capitalization of less than \$2 billion. Small Cap Value portfolios will also display a value bias as represented by a Barra Price/Book score in the top 27% and a Barra Growth factor score in the bottom 31% of all U.S. equity portfolios monitored by RPS.

### U.S. Equity: Small Cap Growth

Includes portfolios with a portfolio average market capitalization of less than \$2 billion. Small Cap Growth portfolios will also display a growth bias as represented by a Barra Growth Risk Factor in the top 31% of all U.S. equity portfolios monitored by RPS.

### Non-U.S. Equity: Developed Managers

Includes all managers investing in developed markets outside of North America. The majority of the portfolios in this universe are EAFE-oriented but may contain an opportunistic allocation to emerging markets equity (extended EAFE). There are a few regional non-U.S. equity managers (Europe & Pacific Basin) also represented.

#### Non-U.S. Equity: Emerging Markets

Includes all managers investing in emerging markets. The universe includes emerging markets managers that are diversified across all emerging markets as well as specialists in regional emerging markets.

### **Program Universes**

Are based on the aggregate performance of managers hired to manage within a specific asset class (such as domestic equity) as an observation for each plan in the All Funds Universe. Where manager universes are used to evaluate the ability of managers versus their peers, program universes compare the sponsors' ability to select and implement managers compared to their peers. A Program Universe allows a sponsor to evaluate its ability to create a sector portfolio. It also helps the sponsor understand if any other plan sponsor has been able to create a program capable of beating the market (described using a passive index).

#### **U.S. Equity: Program**

Includes the aggregate performance of each plan's domestic equity group as a single observation.

#### Non-U.S. Equity: Program

Includes the aggregate performance of each plan's non-U.S. equity group as a single observation.

## **U.S. Fixed Income: Program**

Includes the aggregate performance of each plan's U.S. Fixed Income group as a single observation.

#### **INVESTMENT IMPACT**

**Allocation:** Market returns weighted by LACERS' actual asset allocation less market returns weighted by LACERS' target allocation.

**Management:** The difference between a) market returns weighted by LACERS' sector allocation and b) market returns weighted by LACERS' actual asset allocation; added to the difference between c) fund returns and d) market returns weighted by LACERS' sector allocation.

**Overall:** Actual returns less market returns weighted by LACERS' target allocation.

#### <u>RISK</u>

**Mean Rate of Return:** The geometric average of twenty quarterly returns, annualized.

**Standard Deviation:** The standard deviation (one sigma) of twenty quarterly returns, annualized.

#### **CHARACTERISTICS**

**Historic Beta:** The beta of stocks currently owned in the portfolio compared to the S&P 500. The security-level beta is vendor supplied and the index is predetermined. In the U.S., The S&P 500 is traditionally used in beta calculations; other indexes cannot be substituted in the beta calculation. When the index is other than the S&P 500, the index beta is also in comparison to the S&P 500.

**Return on Equity:** The Return on Equity calculation is After-Tax Net Income divided by Owners Equity. The return on equity relates a company's profitability to its shareholder's equity. A high ROE indicates that the portfolio is invested in companies that have been profitable. This measure is also impacted by financial leverage. The portfolio ROE is based on the combined ROE's of all stocks in the portfolio.