City of Los Angeles

RON GALPERIN
CONTROLLER

July 20, 2022

Honorable Members of the Los Angeles City Council
Board of Fire and Police Pension Commissioners

Re: Management Audit Report of the Los Angeles Fire and Police Pensions

As required under City Charter Section 1112, the Los Angeles City Controller, the Office of the Mayor and the Los Angeles City Council regularly conduct a management audit of this pension and retirement system by an independent qualified management auditing firm. The audit examines whether the system is operating in the most efficient and economical manner and evaluates its asset allocation.

Representatives from the Mayor's Office, City Council and Controller's Office (Joint Administrators) identified several audit objectives to be addressed in the current management audit. The attached "Management Audit Report of the Los Angeles Fire and Police Pensions" is the firm’s final report addressing the audit objectives, which cover the following areas:

- Performance of the Los Angeles Fire and Police Pension’s (LAFPP) investments and asset allocation;
- Adequacy and reasonableness of LAFPP administrative expenses;
- Reasonableness of actuarial methods and validity of assumptions;
- Adherence to sound management policies and leading best practices;
- Governance and fiduciary responsibilities; and
- Assessment of the implementation status of the prior audit recommendations.

Attached to the final report is a response from LAFPP which indicates they are in general agreement with the recommendations.

If you have any questions about the report, please contact Devang Panchal, Director of Auditing, at (213) 978-7388 or at devang.panchal@lacity.org.

Sincerely,

RON GALPERIN City Controller	ERIC GARCETTI Mayor	NURY MARTINEZ City Council President

Enclosure

cc: Honorable Michael Feuer, City Attorney
Andre Herndon, Chief of Staff, Office of the Mayor
Raymond P. Ciranna, General Manager, LAFPP
Matthew W. Szabo, City Administrative Officer
Holly L. Wolcott, City Clerk
Sharon Tso, Chief Legislative Analyst
Independent City Auditors

Management Audit Report of the Los Angeles Fire and Police Pensions

RON GALPERIN
LA CONTROLLER

Final Management Audit Report

Los Angeles Fire and Police Pension Fund

July 1, 2022

Empower Results®

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Background

Introduction

The Los Angeles Fire and Police Pension System (System or LAFPP) was established by the City of Los Angeles (City) in 1899 and operates under the provisions of the Los Angeles City Charter and Administrative Code. The System is a single employer public employee retirement system whose main function is to provide retirement benefits to the safety members employed by the City. The City Charter grants authority to the Board of Fire and Police Commissioners, General Manager, and staff to administer a multi-tiered defined benefit retirement plan for almost 13,000 active and about 13,000 retirees/beneficiaries of retired City of Los Angeles sworn employees, including police, fire, and certain harbor port and airport police. Members do not pay into social security. Benefits are based on the member's pension tier, age, years of service, and final average salary.

For the year ending June 30, 2021, the average monthly per retiree/beneficiary benefit amount paid was $6,521. There are currently six tiers of benefits. The LAFPP portfolio of investments that provided support for these benefits payments was valued at approximately $30.8 billion as of June 30, 2021. Investment management expenses were $136 million over this same period. LAFPP has 125 regular authority positions and 2 resolution authority positions, with an administrative expense of $23.5 million.

Section 1112 of the Los Angeles City Charter requires the City, through the Mayor, Council and Controller (Joint Administrators), to jointly conduct a Management Audit of LAFPP every five years. The purpose of the Management Audit is to examine whether LAFPP is operating in the most efficient and effective manner. The Management Audit also requires an evaluation of LAFPP's allocation of assets.

Aon Investments USA Inc. (Aon) was retained by the City through a competitive bidding process to conduct the LAFPP Management Audit. The Agreement between Aon and the City of Los Angeles establishes that the Management Audit covers the time period 2013 to September 30, 2021[1].

The full Scope of Work, including the specific methodology for each of these objectives, is defined by the Agreement between the City of Los Angeles and Aon.

The stages undertaken in developing this Report included document collection, analyses, interviews and discussions, research and report drafting. LAFPP and the Joint Administrators provided comments on both our preliminary observations and draft version of the Report. This Final Report takes into account all relevant comments and represents Aon's independent full findings, analysis, conclusions, and recommendations for enhancements.

[1] September 20, 2021 is the contract attestation date.

Disclaimer

The findings in our Report are based upon the information we received, which we presumed to be accurate and could be relied upon. We sought to verify certain information among different interviewees and the documents reviewed, but the process of cross-checking and verification was limited. We were not retained to detect or investigate fraud, concealments, or misrepresentations, or to conduct a legal investigation or otherwise use judicial processes or evidentiary safeguards in developing the Report.

This Report does not, and is not intended to, provide legal advice. Although the Report considers various legal matters, Aon's findings and recommendations are not intended to provide legal interpretations, legal conclusions, or legal advice. For that reason, action upon legal matters should not be taken without obtaining legal advice addressing the appropriate statutory or regulatory interpretation regarding such matters.

Acknowledgements

Aon thanks the Joint Administrators for their time, diligence, and feedback throughout this project. We also thank the LAFPP Board and Staff for their continued time, cooperation, feedback, and openness.

Executive Summary

This Executive Summary is an abridged version of the key findings and recommendations contained in the Report. It is a high-level summary and is not intended as a replacement for the full Report. We encourage readers to examine the full Report as it provides the technical support for the key findings and recommendations. A recommendation matrix, which aggregates all the recommendations that appear in the Report, can be found at the end of this Executive Summary, and in the Appendix.

An overview of key findings and recommendations for the main sections of the Report is highlighted below.

Actuarial Methods, Assumptions & Funding

Financial sustainability of the pension plan is rooted in three (3) primary drivers:

1. accurate calculations of plan liabilities;
2. thoughtful investment strategy; and
3. sound actuarial contribution policy along with a commitment to such funding.

Accurate Calculations of Plan Liabilities

To understand the numerical values associated with the pension plan (e.g., actuarial liability, funded ratio, contribution levels), one must first evaluate the assumptions and methods used to derive them.

Pension plans are subject to numerous assumptions, both economic and demographic, that impact the calculation of the liability and, by extension, the funding calculations. Optimal management of pension plans necessitates having defined procedures in place to determine if adjustments to those assumptions are needed. The goal is to increase the predictability of the calculations and, as best possible, avoid surprises.

We believe that the plan actuary is relying on actuarial standards of practice in setting assumptions for LAFPP. Those assumptions, highlighted by the investment return assumption, are in-line with U.S. public pension peers. Additionally, the plan actuary conducts an actuarial experience study every three years to assess how actual plan experience has differed from assumptions and whether adjustments to those assumptions are needed in the actuarial valuations.

Thoughtful Investment Strategy

Overall, the Plan's assets and liabilities work in tandem with one another in determining future funded ratio calculations and contribution rates.

Aon's best practice is to conduct asset-liability studies – a comprehensive study that models the possible future results of different asset allocations under a variety of market conditions – every three to five years or as conditions warrant. At the time of collecting information for this management audit, LAFPP has not conducted an asset-liability study since 2015. There is a study expected to be completed in mid-2022. **We recommend** that LAFPP complete the study in 2022, and then every three to five years or as conditions warrant.

We make this recommendation to ensure the asset allocation remains on track to meet the promise of future benefit payments as well as inform stakeholders of the potential pattern of future results. Understanding how an asset allocation and its range of future outcomes will impact contribution rates, funded ratio, and net cash flows will allow stakeholders to make informed decisions to set the Plan up for future success.

Sound Actuarial Contribution Policy Along with a Commitment to Such Funding

Over the last decade, the City has made contributions in-line with the calculated actuarial amounts. Continuing to do so without deviating from the future actuarial contribution schedule will lead to a sustainable pension plan.

The success of LAFPP's funding progress is due to a myriad of reasons, but one key reason is the commitment to the actuarial funding policy that was originally put in place, and not deviating from it. LAFPP is an example of how the actuarial funding principles are designed to work – creating a laddered amortization approach with each valuation cycle to distribute the impact of any single amortization base across the entirety of the plan with the eventual goal of closing the funding gap over time. We have found that plans that have stayed with their original amortization schedules, without making adjustments to refresh (or re-start) components of their amortization schedules, are more likely to be in healthier funded positions. LAFPP is an example of such a plan.

Investment Performance/Asset Allocation

Use of Active and Passive Management

The LAFPP portfolio has materially increased its use of passive investments over time and maintains a level of passive investment exposure greater than its peer public pension plan.

Passive % Total Portfolio (excluding cash investments)		
Asset Class	**LAFPP** 9/30/2021	**Peer Group** (Public Funds +$5B)
U.S. Equity	22.3%	11.5%
Non-U.S. Equity	4.4%	4.1%
Core Fixed Income	2.6%	5.4%
High Yield Fixed Income	0.0%	0.0%
TIPS	4.2%	0.0%

Unconstrained Fixed Income	0.0%	0.0%
Private Real Estate	0.0%	0.0%
REITs	0.9%	0.0%
Commodities	3.2%	0.0%
Other	0.0%	0.0%
TOTAL	**37.6%**	**21.0%**

LAFPP performed two active vs. passive investment management reviews during the scope period (2014 and 2016). The Board Investment Policy does not require that this type of analysis be performed. It is common for Boards to perform this type of analysis on an ad hoc basis and not on a predetermined timeline. We would consider the current practice of LAFPP to be in-line with common practice. Best practice would be to include a review of the usage of active vs passive investment management as a component of ongoing asset allocation reviews.

We recommend adding an active vs passive investment management review to the Asset-Liability study performed every three to five years or during strategic reviews of each investment asset class (at least every three to five years).

We believe the Board should consider performing active risk budgeting analysis in conjunction with the Asset-Liability study, and the active vs. passive review.

Impact of the Use of Active Management

The most efficient way to evaluate the impact of active investment management is through the review of investment results after the fees have been paid (net of fee performance evaluation) for the full 8-year scope period. However, given the availability of data, we ran gross of fee (returns before fees have been paid) attribution for a 5-year period. The table below provides the impact to the Total Fund performance relative to the benchmark for each asset class where passive implementation is viable over the trailing 5-year period. As shown, active implantation has added 0.02% (2 bps) annualized (every year on average) over the period. On a net of fee basis this impact is likely negative.

Asset Class	Gross of Fee Excess Return (5-Years ending 9/30/2021)
Domestic Large Cap	-32
Domestic Small Cap	10
Domestic Micro Cap	-1
International Developed Equity	5
International Emerging Equity	0
Core Fixed Income	10
TIPs	1
REITS	8
Commodities	1
Total	**+2 bps (+0.02%)**

Aon's Advice on Passive Management Moving Forward

We believe some investors are well-suited for active management, and the body of the Report outlines some of the factors that make passive investing more desirable. For those institutional investors who are well equipped to incur active risk, and do so prudently, we believe they can achieve superior outcomes. Boards implementing actively managed investment strategies should be comfortable with:

- The level of active risk within the investment program – Achieved through active vs passive education and risk budgeting discussions
- The ability of its staff and consultant to identify alpha generating investment opportunities – Achieved through ongoing oversight
- Experiencing periods **(potentially long periods)** of underperformance relative to passive implementation – Achieved by understanding the potential of underperformance prior to implementation

If the Board is comfortable with these factors, Aon is supportive of active management within the investment program.

The Investment Policy Statement (IPS) and Associated Processes

The LAFPP Board reviews the IPS on an annual basis. The purpose of the annual reviews is to ensure the document reflects desired long-term asset allocation, the evolving investment portfolio, legal and regulatory developments, and current best practices. We believe the review process could be enhanced by requiring all recommended changes be reviewed by external counsel and the applicable investment consultant.

We recommend adding language to the IPS that states all modifications to the document are to be reviewed by the applicable consultant as well as fiduciary counsel prior to being presented to the Board. **We believe** the Board should consider requiring a memo from the applicable consultant and fiduciary counsel for all amendments of the IPS. The memo would articulate and document their agreement or disagreement with the proposed changes.

Aon evaluated the IPS relative to what we believe to be the key sections of policy and how we think about IPS development. The LAFPP IPS includes all components that we believe a well-structured IPS should have. This includes documentation of the rebalancing process and articulation of the roles and responsibilities of the key parties involved in the investment program.

The Policy document currently outlines policy targets and ranges for each of the 14 various asset classes (Large Cap Equity, Small Cap Equity, etc.) that the Pension Plan invests in. We believe that the risk management inherent in the rebalancing guidelines could be improved by utilizing a broader asset allocation perspective when structuring the rebalancing guidelines.

We believe the Board should consider the use of broader asset class mandates (i.e. public equity) for monitoring asset allocation relative to policy, and potential active risk considerations.

Based on our interviews with Staff, and experience with other clients performing these functions, we believe that LAFPP generally has appropriate controls and procedures in place to regularly review compliance with its policies.

We observed that LAFPP is in compliance with the mandated statutory investment requirements regarding the IPS, and adequately defines the System's annual requirement for adherence to California Government Code Section 7514.7. Aon finds this within best practice for all mandated statutory investment requirements to be explicitly defined within a public system's IPS.

We recommend all federal, state, and local legal requirements be explicitly stated together within the IPS.

Compliance With Established Objectives in the Policy

There is no one true measurement to define the success of a retirement program. We believe the best process for evaluating the success of implementation is to review the results of the program relative to the objectives articulated in the investment policy statement on a net of fee basis. The Policy articulates 8 investment objectives that we believe are in-line with best practice. Our Report provides analysis for the Objectives where quantitative or qualitative review is possible.

- The portfolio has produced gross of fee returns (returns before investment management fees are paid) above the benchmark over recent trailing periods – On a net of fee (after fees are paid) basis it is difficult to determine.
- The portfolio has produced risk adjusted gross of fee returns superior to peer public funds – On a net of fee basis it is difficult to determine.
- As of September 30th, 2021, recent trailing performance was above the legacy actuarially stated rate of return of 7.5%, as well as the current 7% rate.
- Investment performance of the underlying active and passive investment options is difficult to evaluate due to the gross of fee investment reporting standard.

We recommend calculating net of fee returns and maintaining a return history of the actual net of fee investment return achieved during each monthly period.

We recommend the removal of gross of fee investment results in all future performance reporting.

Process to Derive Strategic Asset Allocation

Asset allocation is viewed by many as the single most important factor to a pension fund's investment success over the long-term. The primary importance of asset allocation over other investment decisions is a generally accepted concept in finance theory and practice. The System performed the last asset-liability study in October 2015. This falls outside of the IPS stated policy and best practice of performing a study every three to five years. The process and type of analysis performed during the 2015 study was in line with best practice.

We recommend performing an asset-liability study every three to five years or when there is a material change in the underlying actuarial assumptions, risk tolerance of the Board, or any event that would cause a comprehensive review of Plan assets.

We recommend creating a formal procedure to ensure governance processes articulated in the policy are completed on the mandated cycle.

The strategic asset allocation adopted on August 20, 2020 was a result of an asset allocation study performed by the investment consultant in July and August of 2020. The analysis performed to derive the new asset allocation was viewed from a risk-return perspective without specific analysis related to the unique liability characteristics (distinct actuarial characteristics, statutory mandates, funding targets, time horizon, demographics, cash flow needs, and short-term volatility tolerance levels).

We recommend any future analysis that might materially alter the long-term policy targets of the Plan should incorporate asset-liability projections and consider how the changes may affect the Plan's forward-looking actuarial circumstances.

Aon also evaluated the approach for deriving the forward-looking expected returns, volatility, and assumed correlation of returns. We found the process for deriving capital market assumptions, as well as the final assumptions themselves, to be reasonable.

Appropriateness and Suitability of the Adopted Asset Allocation

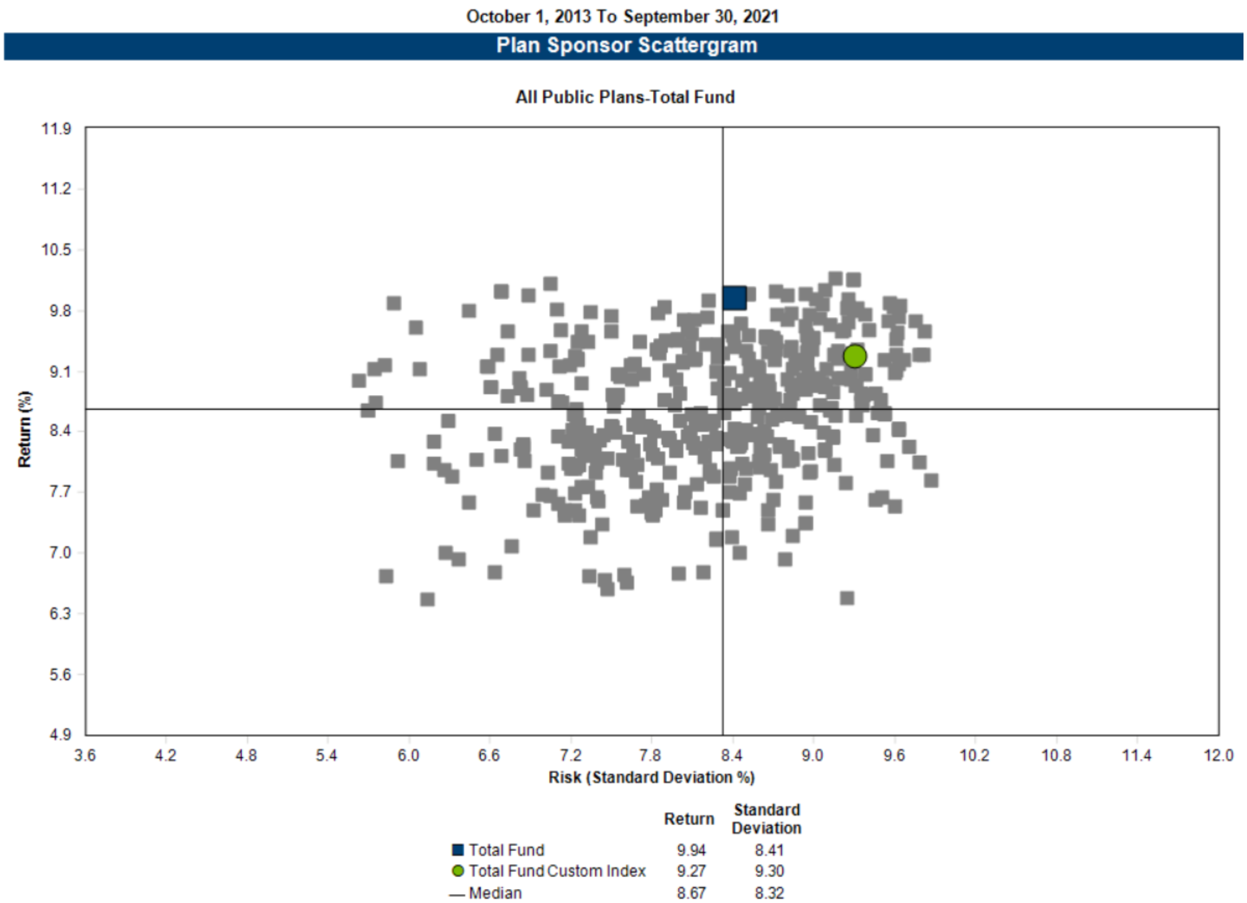
The asset allocation of an investment program should be derived through the asset- liability process (outlined above). However, Aon also evaluated the asset allocation of LAFPP relative to peers and its projected ability to produce the actuarially assumed rate of return.

Asset Allocation relative to peers
The Plan's asset allocation is not materially different than that of other public fund peers. In review of the asset classes utilized by the System, Aon found that they are similar to those commonly utilized in the institutional investor market (i.e., public funds, corporate defined benefit plans, endowments, and foundations).

Ability to produce the actuarially assumed rate of return
Using Aon's 30-year capital market assumptions we expect the portfolio to earn 6.6% over time, with a 44% probability of achieving 7% over 30-years.

Investment Results, Benchmarks and Universe Comparisons

The body of the Report includes an evaluation of Total Fund and asset class performance relative to the primary benchmark and peer performance over various time periods. Additionally, detailed performance attribution for various time periods have been included as appendix E. Generally speaking, Total Fund investment performance has been above the benchmark and the median peer on a gross of fee basis (returns before fees have been paid). Over the scope period the portfolio produced a return above the median peer with a lower standard deviation than the peer median (chart below). Additionally, the portfolio has produced a gross of fee return greater than the benchmark at a lower level of risk (chart below). We believe investment results should only be reviewed on a net of fee basis but have provided gross of fee investment returns due to data availability constraints.



Aon reviewed the benchmarks and universes used throughout the LAFPP performance reporting documents and have found that they are generally adequate in representing the Plan, asset class, and investment manager in which they are compared against. Within the body of the Report we have provided 1 recommendation for a benchmark change, and three considerations for the Board regarding benchmarking.

Administration/Management of the System

The LAFPP Board and Staff are legally required to discharge their duties solely in the interest of members and beneficiaries of the System for the exclusive purpose of providing benefits to those members and beneficiaries, while defraying reasonable expenses of System administration. In order to fulfill this duty, the System has a budgeting process to ensure it has the required resources and staffing necessary to the operation of the System. In reviewing the administrative and investment management expenses over the Scope period, we observed that these two expenses make up a small portion of overall expenditures. The majority of expenditures are for pension and health benefit related expenses. The broad drivers of costs are consistent with what we see represented in other public funds' expenses.

In reviewing actual v. budgeted administrative expenses over the Scope period, actual administrative expenses remained under budget by an average of 9% from FY 2013 to FY 2020. Actual and budgeted investment management expenses increased over the Scope period in accordance with the increase of assets under management.

Benchmarked against peers in a CEM benchmarking study of LAFPP pension administrative costs and according to our customized peer group research, LAFPP pension administrative costs per member appear high. Several drivers are behind the higher costs, including the necessitated administration and processing of six tiers of benefits, two deferred retirement option plans, disability pensions, and service purchase. When reviewing total administrative costs compared to asset size, LAFPP's costs were below the peer averages.

The peer studies also found that the number of administrative staff appear to be high. However, we attribute this to the need for staff to administer the complex tier of benefits and disability pension cases.

LAFPP has a cost sharing arrangement with the Los Angeles Employees' Retirement System (LACERS) and Water and Power Employees' Retirement Plan (WPERP) relative to the City Attorney's Office's representation of the Systems. The three Systems also share legal costs related to investment fund documents when making the same investment. **Aon recommends** LAFPP explore additional cost sharing/saving opportunities relative to a group purchase of management liability insurance.

Governance

We observed that LAFPP exhibits best practices through the adoption of a Board Governance Policies Manual and Board Operating Policies and Procedures Manual, and transparency by posting these governance documents on its public website. In comparing the content of the Board Governance Manual and related governance policies against a best practices policies list, we concluded the LAFPP has adopted most of the policies we expect to find.

In reviewing fiduciary training as part of governance best practices, **we recommend** that LAFPP implement the prior management audit recommendation of establishing a formal orientation and annual training program, in conjunction with the City Attorney's Office, for Staff who have fiduciary obligations. **We also recommend** that LAFPP amend its Board Education Policy to require a minimum number of hours that Board members must complete as part of their annual education.

With respect to independence of the System, **we recommend** that the City consider a change in the City Charter to grant LAFPP the ability to determine its own frequency and timing of its board meetings, and to be able to have independent authority regarding the hiring and compensation of its staff.

Relative to administration of the LAFPP retiree healthcare program, **we recommend** that the Board continue to consult with legal counsel regarding the program and associated delegations and consider its own independent administration of the program in its entirety.

Progress towards prior Management Audit Recommendations

We independently confirmed that LAFPP promptly considered all of the prior Management Audit Recommendations and we discuss our findings in the corresponding section of the Report, along with a matrix of each recommendation and conclusions.

Table of Recommendations

Red= high priority, Blue=medium priority, Green=lower priority

Number	LAFPP Management Audit
	I. Actuarial Methods, Assumptions, Funding and Innovative Strategies
I.1.	**Complete the expected asset-liability study in 2022, and then every three to five years or as conditions warrant.**
I.2.	**LAFPPs should review whether securities lending and agent oversight could result in opportunity cost savings/revenue enhancements or additional risk mitigation benefits.**
	II. Investment Performance/Asset Allocation
II.1.	**Aon recommends adding an active vs passive investment management review to the Asset-Liability study performed every three to five years or during strategic reviews of each investment asset class (at least every three to five years).**
II.2.	**Consider performing active risk budgeting analysis in conjunction with the Asset-Liability study, and the active vs. passive review.**
II.3.	**Aon recommends all federal, state, and local legal requirements be explicitly stated together within the IPS.**
II.4.	**Aon recommends calculating net of fee returns and maintaining a return history of the actual net of fee investment return achieved during each monthly period.**
II.5.	**Aon recommends the removal of gross of fee investment results in all future performance reporting. This will require linking future calculated net of fee investment returns with the gross of fee performance history currently maintained for longer term reporting purposes. The date of the change should be footnoted in performance presentations.**
II.6.	**Aon recommends performing an asset-liability study every three to five years or when there is a material change in the underlying actuarial assumptions, risk tolerance of the Board, or any event that would cause a comprehensive review of Plan assets.**
II.7.	**Aon recommends creating a formal procedure to ensure governance processes articulated in the policy are completed on the mandated cycle.**

II.8.	**Aon recommends adding language to the IPS that states all modifications to the document are to be reviewed by the applicable consultant as well as fiduciary counsel prior to being presented to the Board.**
II.9.	**Consider including a memo from the applicable consultant and fiduciary counsel for all amendments of the IPS stating that they have reviewed the proposed amendments and stating their concurrence or disagreement with the proposed changes.**
II.10.	**Consider the creation of a compliance calendar to facilitate the oversight of compliance with the governance items articulated within the IPS.**
II.11.	**Consider the use of broader asset class mandates (i.e. public equity) for monitoring asset allocation relative to policy, and potential active risk considerations.**
II.12.	**Aon recommends any future analysis that might materially alter the long-term policy targets of the Plan should incorporate asset-liability projections and consider how the changes may affect the Plan's forward-looking actuarial circumstances.**
II.13.	**Aon recommends amending the current U.S. Equity Policy allocation to either replace the S&P 500 Index with the Russell 1000 Index or replace both the S&P 500 Index and Russell 2000 Index with the Russell 3000 Index.**
II.14.	**Consider adding small cap "IMI" exposure to international equity.**
II.15.	**Consider merging international developed and emerging markets and benchmarking against the MSCI ACWI ex-US IMI Index.**
II.16.	**Consider adding regional and market cap diversification to the private equity benchmark (i.e. 67% Russell 3000 Index and 33% MSCI ACWI ex-US IMI Index +2.5%).**
	III. Economy and Efficiency of Administration/Management of the System
III.1.	**Explore additional cost sharing arrangements with LACERS and WPERP regarding management liability insurance.**
	IV. Governance
IV.1.	**We recommend that LAFPP consider adoption of the best practices policies that have not been adopted.**
IV.2.	**LAFPP should establish a formal orientation and annual training program, in conjunction with the City Attorney's Office, for Staff with fiduciary responsibilities.**

IV.3.	**Amend the LAFPP Board Education Policy to require a minimum number of hours that Board members must complete as part of the annual continuing education.**
IV.4.	**We recommend that the City consider changing the City Charter to grant LAFPP independence to determine the frequency and timing of LAFPP board meetings.**
IV.5.	**We recommend that the City amend the City Charter to give LAFPP independent authority regarding LAFPP staff hiring and compensation.**
IV.6.	**We recommend that the Board continue to consult with legal counsel regarding the LAFPP Retiree Healthcare Program, reevaluate the delegation, and consider its own independent administration of the LAFPP healthcare program in its entirety.**

I. Actuarial Methods, Assumptions, Funding, and Innovative Strategies

Background:

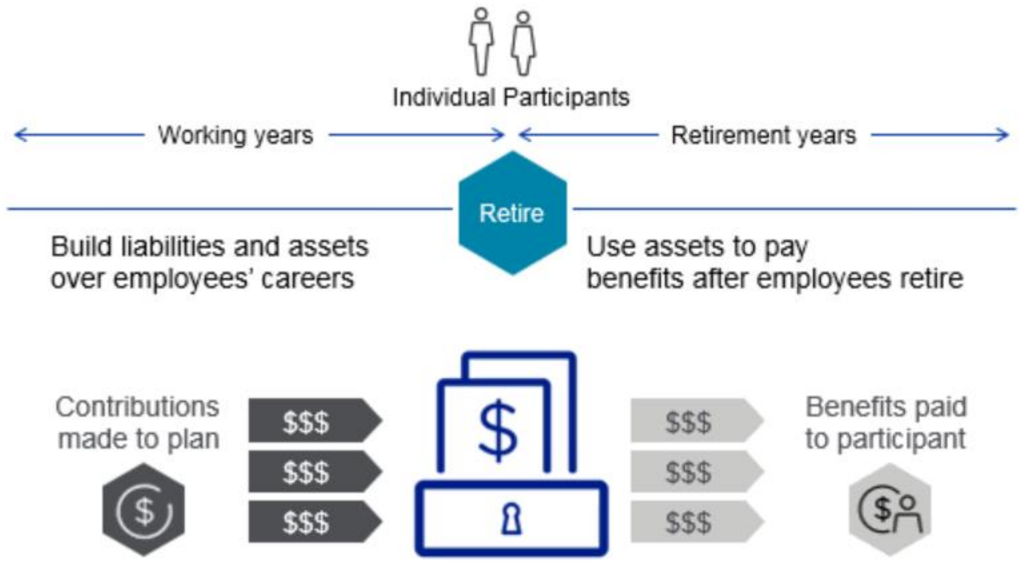
LAFPP is responsible for ensuring the promise of future benefit payments to its plan participants. The expected future benefit payments of all plan participants are calculated annually by the plan actuary. These expected future payments are discounted based on an assumed interest rate to calculate the total pension liability. That liability is compared to the assets held in the plan trust in the annual actuarial valuation report. The plan assets will be used to pay for future benefit payments to plan participants and administrative expenses. Assets are expected to grow by a combination of contributions (from both the plan participants and the City) and investment returns. The cost ultimately borne by the System (and by extension, the City) will be represented by the financing equation shown below (Chart I-1.):

Chart 1-1. Financing Equation of the System's Ultimate Plan Cost

Pension liability is calculated on an individual participant basis and then aggregated in total. To calculate this liability, the plan actuary makes assumptions about the future demographic behavior of each plan participant (e.g., turnover rates, retirement rates, and mortality rates) as well as overall economic assumptions (e.g., future expected asset return and salary growth). One key assumption for public pension plans is the future expected asset return as it also represents the discount rate used to convert the future expected benefit payments to today's dollars. When focusing only on the expected return assumption, a higher expected return will lead to a lower actuarial liability (and vice versa).

Once the total liability is determined and compared to the plan's assets, the actuarial valuation will also specify the annual contribution to be made to the pension plan. In general, the funding of the plan follows the graphic below (Chart I-2.) where contributions are made over a participant's working career, building up assets to match the participant's total liability with expected investment returns, and then paying down that liability in retirement years for the life of that participant.

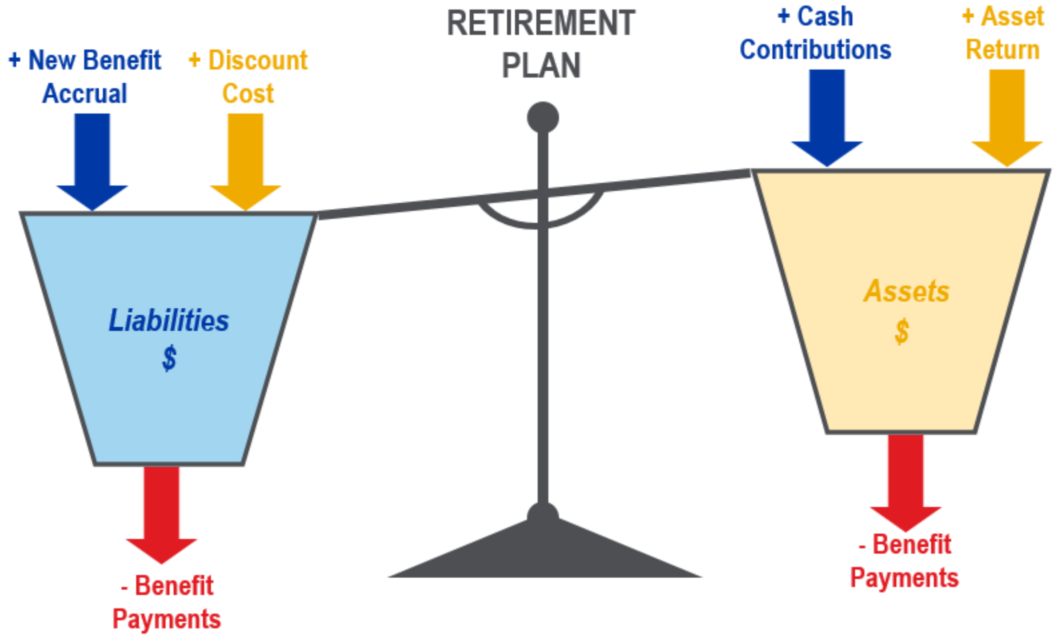
Chart I-2. Funding Cost Recognition



Economic and demographic assumptions are expectations which will differ from actual experience. These differences will impact the total plan liabilities in each successive actuarial valuation, which can also impact the funding calculations. For example, in its own silo, asset returns that are higher than expected in a given year will generally lead to lower contributions going forward (and vice versa). As differences occur over time, those differences are amortized (or smoothed) into the contribution calculations to create more stability in the rates themselves, as opposed to sharp increases/decreases.

Overall, the System's assets and liabilities work in tandem with one another in determining future funded ratio calculations and contribution rates. The illustration below (Chart I-3.) highlights the key factors that influence both the assets and liabilities, which will work overtime to balance one another.

Chart I-3. Balance of Assets and Liabilities



A. Performance of actuarial methods, adequacy and validity of actuarial assumptions and COVID-19 pandemic implications on the pension funds

Background:

Pension plans are subject to numerous assumptions, both economic and demographic, that impact the calculations of the liability and, by extension, the funding calculations. Optimal management of these plans necessitates having defined procedures in place to determine if adjustments to those assumptions are needed.

Specifically, for LAFPP, their actuary (Segal) conducts an actuarial experience study every three years to assess how actual plan experience has differed from assumptions and whether adjustments to those assumptions are needed in the actuarial valuations.

Conclusions:

The most recent actuarial experience study was completed by Segal on May 13, 2020. This study utilized the census data for the period July 1, 2016 to June 30, 2019 and proposed actuarial assumptions, both economic and demographic, to be used in the June 30, 2020 valuation. Per Segal's report, *"The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations" and ASOP No. 35 "Selection of Demographic and Other Non-Economic Assumptions for Measuring Pension Obligations." These Standards of Practice provide* *guidance for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation."*

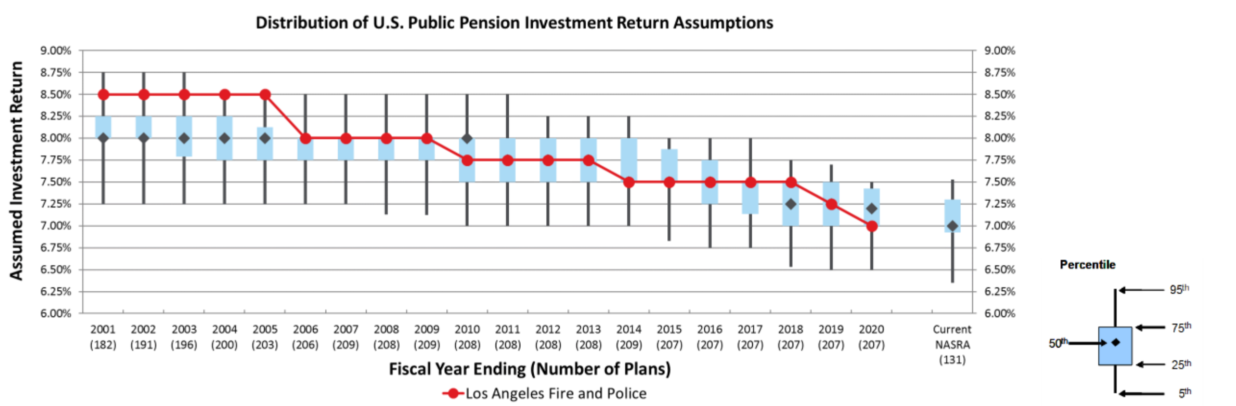
As a result of the actuarial experience study, recommendations were made by Segal to change the following assumptions:

- inflation,
- investment return,
- merit and promotion salary increases,
- administrative expense load,
- retirement from active employment,
- percentage of members with an eligible spouse or domestic partner,
- termination,
- disability incidence, and
- benefit percentage under non-service and service connected disabilities.

Segal noted in their experience study that new pre- and post-retirement mortality assumptions were adopted by the Board in December 2019 for the June 30, 2019 valuation as recommended in their mortality experience study for the period July 1, 2010 through June 30, 2019, dated December 12, 2019. For that reason, Segal did not recommend any changes in mortality assumptions.

One of the most influential assumptions for a public pension fund is the expected return on plan assets. Historically, plans in California have been at the forefront of U.S. public pension plans in lowering their expected return assumption over the past decade. California plans have, on average, been quicker to reduce their expected return assumption with national peers following shortly thereafter. LAFPP's assumption for FYE 2020 was 7.00%, which was slightly below the U.S. public pension median for FYE 2020 (using data from publicplansdata.org as of October 2021 as illustrated in Chart I-4.). Using more recent data tracked by NASRA (provided by NASRA as of October 2021), LAFPP's return assumption is at the median relative to peers.

Chart I-4. U.S. Public Pension Investment Return Assumptions



Additional actuarial methods utilized by Segal are noted below. These methods are reasonable and common approaches for public sector pension plans.

- Actuarial Cost Method: the method used to determine the liability amount
  - Entry Age Cost Method, level percent of salary. Entry age is calculated as age on the valuation date minus years of employment service. Both the normal cost and the actuarial accrued liability are calculated on an individual basis.

- Actuarial Value of Assets (AVA): the method for smoothing asset returns over time
  - Market value of assets (MVA) less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value and is recognized over a seven-year period. The actuarial value of assets (AVA) is limited by a 40% corridor; the AVA cannot be less than 60% of MVA, nor greater than 140% of MVA.

- Funding Policy
  - The City of Los Angeles makes contributions equal to the Normal Cost adjusted by an amount to amortize any Surplus or Unfunded Actuarial Accrued Liability (UAAL). Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age Cost Method on an individual basis.
  - Any Surplus is amortized over an open (non-decreasing) thirty-year period. Any changes in UAAL due to actuarial gains or losses are amortized over separate twenty-year periods as a level percentage of payroll. Any changes in UAAL from plan amendments are amortized over separate fifteen-year periods as a level percentage of payroll. Any changes in UAAL from plan assumption changes are amortized over separate twenty-year periods as a level percentage of payroll.
  - For Tier 1, the UAAL is amortized using level dollar amortization ending on June 30, 2037.
  - For Tiers 2, 3 and 4, the UAAL is amortized using level percent of payroll as a percent of total valuation payroll from the respective employer (i.e., the City).
  - For Tiers 5 and 6, the UAAL is amortized using level percent of payroll as a percent of combined payroll for these tiers from the respective employer (i.e., City, Harbor Department or Airport Department).

COVID Impact: The pandemic is going to have both short and long-term impacts on all pension plans. The magnitude of those impacts will vary by plan and specific circumstances. The actuarial valuation, which represents a snapshot in time of the LAFPP plan, will self-correct annually with new demographic data changes. As experience differs from assumptions, adjustments will be made to the actuarial liabilities and, by extension, the contribution rates.

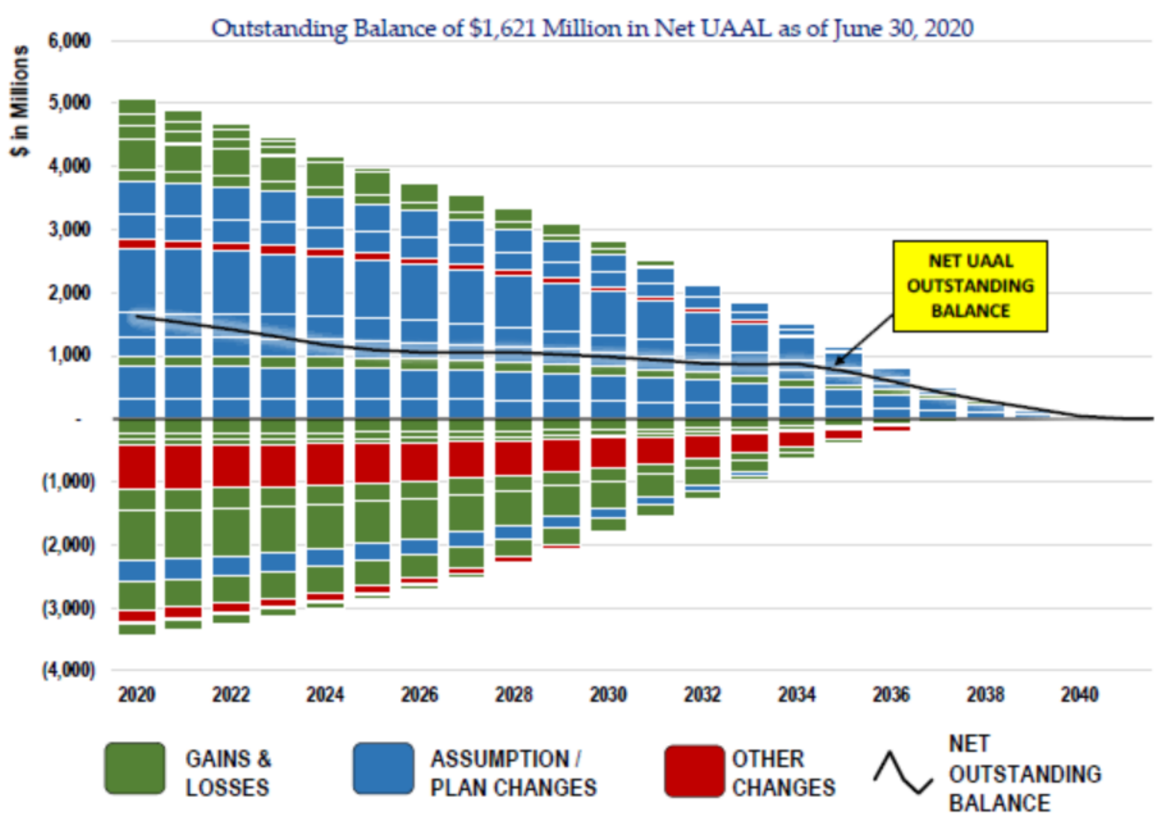
An important note is that while there may be short-term deviations in actual experience, one year does not necessarily make a trend for future liability assumption purposes. **The next experience study conducted by the plan actuary will serve to determine if long-term assumption changes are warranted.**

Overall, the plan actuary is relying on actuarial standards of practice in setting assumptions for LAFPP. Those assumptions, highlighted by the investment return assumption, are in-line with U.S. public pension peers. The policies and procedures are in place, through the triennial actuarial experience studies, to determine if changes to the actuarial assumptions brought on by the COVID pandemic will be needed.

B. Past performance and trajectory of LAFPP investments, actuarial predictions, contributions and unfunded liabilities and comparative benchmarking

Background:
The exhibit below (Chart I-5.) was sourced from the June 30, 2020 actuarial valuation performed by Segal for LAFPP. It illustrates that the projected schedule of actuarial contributions will fully fund LAFPP over time.

Chart 1-5. Segal's Projected Schedule of Actuarial Contributions



Conclusions:
LAFPP is projected to be fully funded as the City adheres to the actuarial contribution schedule, as it has historically done.

LAFPP has not conducted an asset-liability study since 2015. There is a study planned in 2022. Aon's best practice is to conduct asset-liability studies every three to five years or as conditions warrant. Aon recommends LAFPP conduct such studies on a more frequent basis going forward to ensure the asset allocation remains on track to meet the promise of future benefit payments as well as inform stakeholders of the potential pattern of future results.

Recommendation I.1:

High Priority	Medium Priority	Low Priority
	X	

- Complete the expected asset-liability study in 2022, and every three to five years thereafter or as conditions warrant.

C. Opportunities and risks of variances in actuarial assumptions

Background:
Economic and demographic assumptions are expectations which will differ from actual experience. The key is whether policies and procedures are in place to learn from and adjust as deviations occur. LAFPP's annual actuarial valuations along with the triennial actuarial experience studies performed will serve to self-correct assumptions over time as actual experience differs from expectations.

Conclusions:
Based on analysis provided by the plan actuary's annual valuation report, the unfunded liability is projected to be completely settled in the future based on the actuarial contribution policy in place.

D. Funding ratios and Liabilities, employer/employee contributions, and projected pension benefits growth

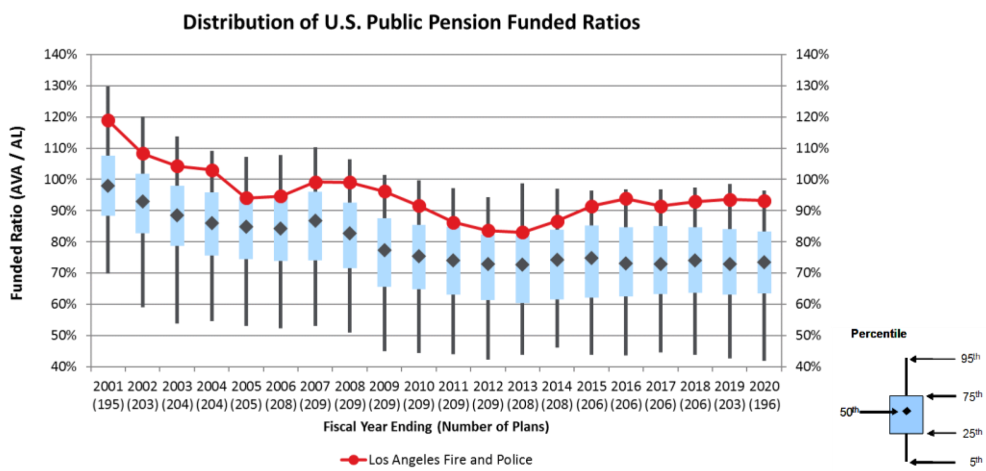
Background:
For purposes of peer comparisons, the data is sourced from Public Plans Data (https://publicplansdata.org/) which is a collaborative Partnership between the Center for Retirement Research at Boston College (CRR), the MissionSquare Research Institute (formerly the Center for State and Local Government Excellence), National Association of State Retirement Administrators (NASRA), and Government Finance Officers Association (GFOA). The Public Plans Data contains detailed annual data on the largest state/local pension in the United States. The sample spans fiscal years 2001 to 2020 and includes 210 plans (119 state-

run and 91 locally-run) which account for 95 percent of state/local pension assets and members in the U.S.

Conclusions:

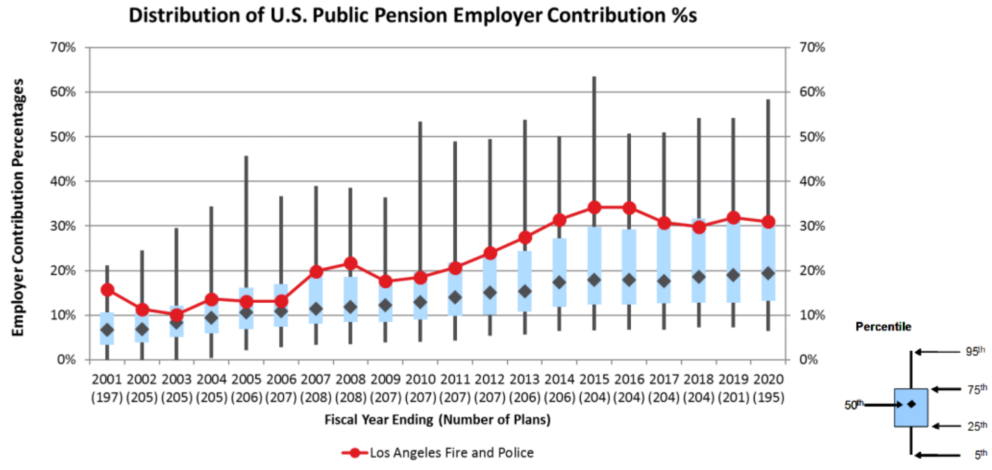
- *Funded Ratio (Chart I-6.):* LAFPP's funded ratio as of 6/30/2020 (based on an actuarial value of plan assets) was between the 75th and 95th percentile relative to peers (using data from publicplansdata.org as of October 2021). The funded ratio is an important data point as any unfunded liability will be systematically incorporated into future contribution amounts. As funded ratio moves lower, future contributions will need to increase (and vice versa).

Chart I-6. U.S. Public Pension Funded Ratios



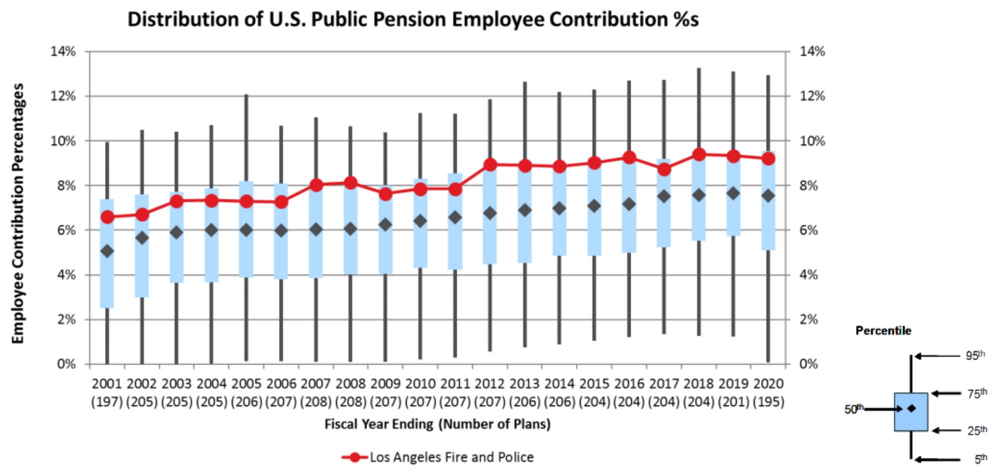
- *Employer Contribution Rate (Chart I-7.):* LAFPP's aggregate employer contribution rate as of 6/30/2020 (as a percent of payroll) was approximately at the 75th percentile relative to peers (using data from publicplansdata.org as of October 2021). Employer contribution rates will be a byproduct of future performance. As funded ratio increases and less unfunded liability exists, contribution rates should tend to decline (and vice versa).

Chart I-7. U.S. Public Pension Employer Contribution Rates



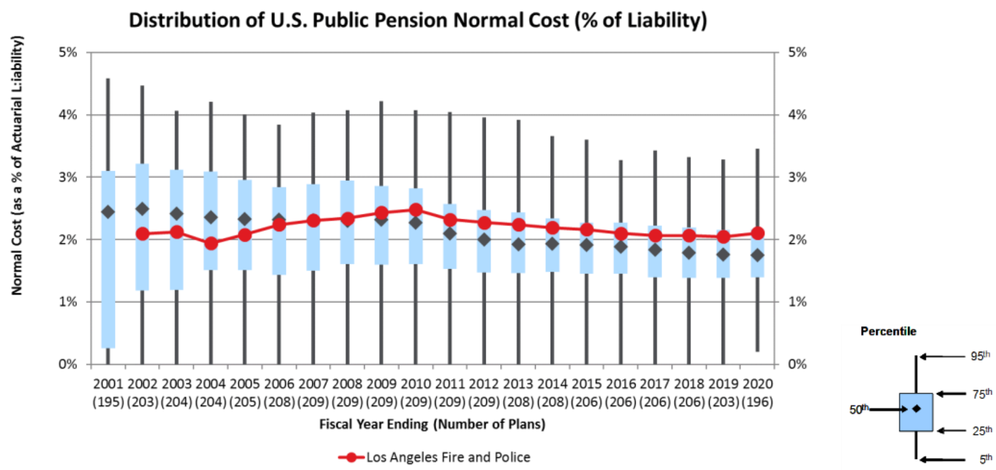
- *Employee Contribution Rate (Chart I-8.):* LAFPP's aggregate employee contribution rate as of 6/30/2020 (as a percent of payroll) was approximately at the 75th percentile relative to peers (using data from publicplansdata.org as of October 2021).

Chart I-8. U.S. Public Pension Employee Contribution Rates



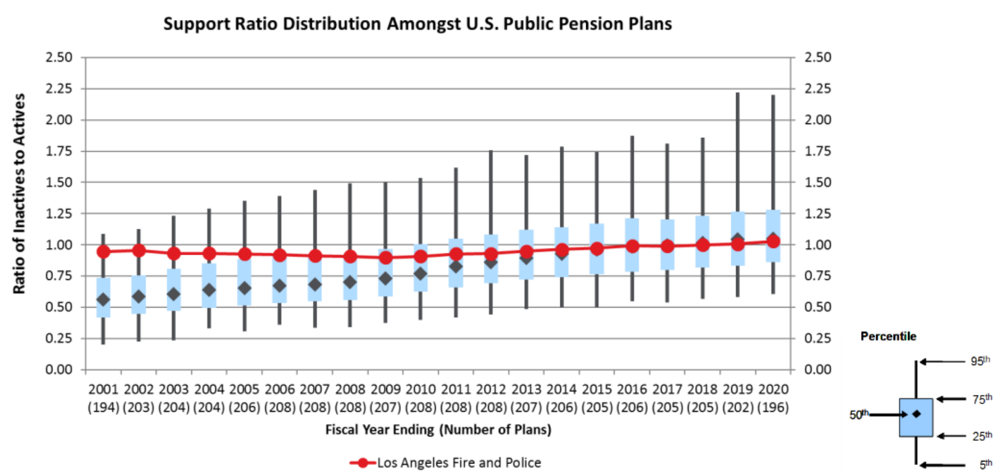
- *Future Benefit Accruals (Chart I-9.):* Future new benefit accruals for the LAFPP plan can be thought of by measuring the level of normal cost (i.e., new benefit accruals) as a percent of the total pension liability. Using this measure as of 6/30/2020, LAFPP's benefits were expected to grow slightly more than the peer median rate (using data from publicplansdata.org as of October 2021). Higher benefit accruals will be directly proportional to higher overall annual costs (and vice versa).

Chart I-9. U.S. Public Pension Future Benefit Accruals



- *Support Ratio (Chart I-10.):* Support ratio is defined as the ratio of inactive participants to active participants. This ratio is relevant when considering contribution percentages. A ratio above 1 implies that active participants support more than their number of inactives and that changes to the unfunded liability associated with all participants could result in sizable adjustments to the active payroll-based contributions. Over time, as seen in the exhibit below (using data from publicplansdata.org as of October 2021), LAFPP has seen its support ratio gradually increase over the last decade.

Chart I-10. U.S. Public Pension Plans Support Ratio



E. Innovative pension fund sustainability strategies

Background:

Financial sustainability of the pension plan is rooted in three primary drivers: 1) accurate calculations of plan liabilities; 2) thoughtful investment strategy; and 3) sound actuarial contribution policy along with a commitment to such funding.

Conclusions:

- *Accurate Plan Liabilities:* LAFPP's annual actuarial valuation utilizes sound actuarial assumptions and methods which have been (and will continue to be) refined through its regular process of actuarial experience studies every three years.

- *Thoughtful Investment Strategy:* LAFPP has not conducted regular asset-liability studies to analyze the risk/reward merits of its investment strategy; however, such a study is expected to occur in 2022. Understanding how an asset allocation and its range of future outcomes will impact contribution rates, funded ratio, and net cash flows will allow stakeholders to make informed decisions to set the Plan up for future success. Aon's best practice is to conduct asset-liability studies every three to five years or as conditions warrant to ensure the asset allocation remains on track to meet the promise of future benefit payments as well as inform stakeholders of the potential pattern of future results.

- *Commitment to Funding:* Over the last decade, the City has made contributions in-line with the calculated actuarial amounts. Continuing to do so without deviating from the future actuarial contribution schedule will lead to a sustainable pension plan.

The success of LAFPP's funding progress is due to a myriad of reasons, but one key reason is the commitment to the actuarial funding policy that was originally put in place, and not deviating from it. LAFPP is an example of how the actuarial funding principles are designed to work – creating a laddered amortization approach with each valuation cycle to distribute the impact of any single amortization base across the entirety of the plan with the eventual goal of closing the funding gap over time. We have found that plans that have stayed with their original amortization schedules, without making adjustments to refresh (or re-start) components of their amortization schedules, are more likely to be in healthier funded positions. LAFPP is an example of such a plan.

Other Innovative Strategies

F. Cybersecurity

Background:
Cybersecurity has always been an important component of protecting member data and is a critical risk that must be properly managed by retirement systems. The Employee Retirement Income Security Act of 1974 (ERISA) governs private pension plans and is administered and enforced by the U.S. Department of Labor (DOL) Employee Benefits Security Administration. ERISA is very influential for public pension funds as it sets forth fiduciary duties and standards, is often modeled by state laws, and serves as guidance in the absence of state precedent with respect to fiduciary matters.

On April 13, 2021, the DOL issued guidance for protecting plan data from internal and external cybersecurity threats. The guidance focuses on cybersecurity obligations in the contact of fiduciary obligations and makes it clear that responsible plan fiduciaries have an obligation to ensure proper mitigation of cybersecurity risks to protect participant data. The guidance was issued in three parts and is good guidance for public pension systems: 1) cybersecurity best practices for plan fiduciaries and record keepers; 2) tips for plan sponsors and fiduciaries in prudently selecting a service provider with strong cybersecurity practices and monitoring their activities; and 3) online security tips for plan participants and beneficiaries who access their accounts online.

The cybersecurity best practices include having a formal, well documented cybersecurity program, conducting risk assessments and annual third-party audits of security controls, having strong access control procedures, and conducting periodic cybersecurity awareness training.

Conclusion:
Through our review of documentation and our interviews, it is clear the LAFPP has recognized the need to prudently manage cybersecurity risks. The 2022-2024 LAFPP Strategic Plan includes a strategic cybersecurity initiative, with the following strategic activities: regularly assess and test systems and processes through periodic audits and risk assessments, and continually enhancing a proactive comprehensive security assurance program. In support of this initiative, LAFPP has adopted a Business Plan with the project objective of developing an enterprise-wide cyber security program focusing on all levels of the organization to improve the System's posture and defense against cyber-attacks. In consultation with specialized outside counsel, LAFPP has begun work that reflects many of the DOL's best practice tips, including conducting vulnerability assessments of the network, ensuring adoption of practices designed to protect member data, and engaging in Board and staff training. The cyber security program is managed by LAFPP Executive Management and is regularly reported to the Board.

LAFPP should continue its ongoing oversight and management of cybersecurity risks for the foreseeable future.

G. Securities Lending Program and Agent Oversight

Why Lend
Assets sitting in an institutional investor's portfolio, such as LAFPP, may have incremental revenue potential beyond dividend payments and market value appreciation. As a beneficial owner, by lending out those assets institutional investors like LAFPP can unlock that potential by collecting fee income from a borrower that wishes to temporarily obtain securities owned by the institutional investor.

Basic parties that are involved with a securities lending transaction:

- **Beneficial Owner/Lender:** Institutional investors, e.g., retirement plans like LAFPP, endowments, foundations, insurance companies, investment managers, etc.
- **Securities Lending Agent:** Typically, the custodian and securities lending agent are one in the same, however, beneficial owners can also utilize a 3rd party to lend their assets. The securities lending agent acts on the beneficial owner's behalf to lend their assets.

- **Borrower:** Generally, a broker, dealer or bank that borrows securities from the beneficial owner to engage in a hedging, arbitrage or other investment strategy.

A securities lending transaction is simply a temporary loan of securities in exchange for acceptable (cash or securities) collateral between a lender and an approved borrower, and one that meets certain requirements that make it unique from a sale. Due to the high volume of loans, collateral and entitlement tracking, the transaction is most typically facilitated by a lending agent.

Securities lending offers a viable way to enhance returns and generate incremental return/alpha. Asset owners consider it a low-risk way to offset pension obligations or custodian fees. Securities lending also plays a significant role in today's capital markets. In general, securities lending is believed to improve overall market efficiency and liquidity. In addition, securities lending plays a critical role in certain hedging strategies, acts as a useful tool in risk management and helps facilitate the timely settlement of securities trades.

Regulators, academia, lenders and borrowers empirically recognize that lending improves market liquidity and price transparency. Some view it as an astute investment management technique to further mitigate downside portfolio risk.

Sizing the Securities Lending Market

Globally, at the end of 2021, there was estimated to be approximately $37 Trillion of client securities enrolled in lending programs approaching $3 Trillion on loan. The largest lenders are asset owners (e.g. corporate and government retirement plans and other governmental entities) comprising about 70%, and asset managers (insurance companies, investment managers, and central banks) comprising another 30% of transactions.

*Source: ISLA March 2022.

2021 marked the highest recorded revenue generating year for securities lending across the industry approaching $11 Billion dollars in revenue and almost $3 Trillion on loan, both driven largely by equities that typically derive the higher returns.

Securities that are Lendable

There are a limited number of lendable securities - global equities (including exchange-traded funds), corporate bonds, sovereign and supranational debt.

Non-Lendable Securities

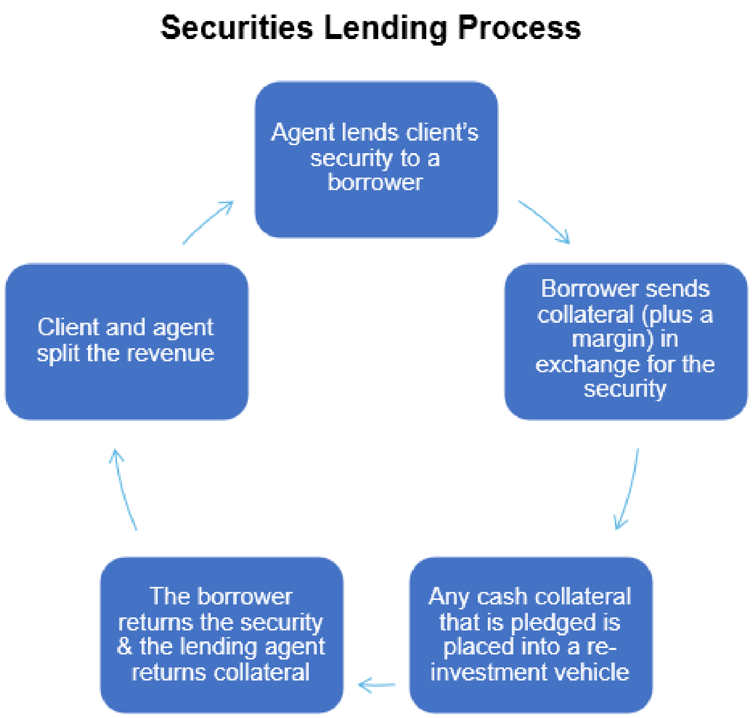
Many securities are not lendable due to tax or other issues such as municipal bonds, commercial paper, money market instruments, comingled funds & other line Items, real estate, and alternative investments.

The Mechanics of Securities Lending

Virtually any long-term, beneficial owner of securities can lend. Owners of securities have an incentive to lend securities as the fees received in return for lending can boost portfolio performance or otherwise offset costs of managing a portfolio. These lenders of securities earn a return in two complementary ways – from fees often received in connection with lending securities, particularly those that are in high demand, and from the investment return on cash collateral received in return for a loan.

Securities lending is, most fundamentally, a collateralized transaction that takes place between two parties. In a loan of securities, the beneficial owner of those securities (the "lender") temporarily transfers title to a security as well as the associated rights and privileges of ownership to a borrower. While the borrower receives all interest, dividends and corporate action rights on the security, the borrower is required to repay the economic value of these benefits back to the lender. The borrower also holds any voting rights attached to the security while the loan.

In return for lending the security, the lender receives collateral from the borrower. The value of the collateral typically exceeds the value of the lent security. This collateral typically takes the form of cash or other highly liquid securities such as short-term government bonds or equities. The typical market practice for the collateral value is 102% (same currency loans and collateral) or 105% (different currency loans and collateral) of the value of the lent security. The margin levels are "marked-to-market," or valued, on a daily basis to ensure that the loan is sufficiently collateralized at all times.



Institutional Investor's Role in Securities Lending
As a beneficial owner lender, the institutional investor (often times in conjunction with a securities lending consultant) stipulates the securities in their portfolio they are willing to lend, identify the types of borrowers to whom they are willing to lend to and the types of acceptable non-cash collateral, and the guidelines that instruct how any cash collateral is reinvested. This cash is invested in short-term money market instruments for the duration of the loan. A borrower instructs the agent that they wish to borrow a lendable asset, posting cash collateral or non-cash collateral against the loan in excess of 100% of the market value of the borrowed securities.

Oversight of Securities Lending Programs
Those responsible for approving and overseeing their securities lending service providers will play a role in defining the parameters of the program and overseeing it on an ongoing basis. The beneficial owner should be satisfied that full due diligence has been undertaken at the commencement of a securities lending arrangement, and that compliance and due diligence are regularly performed as the program continues. On an ongoing basis, the beneficial owner should employ its business judgment to evaluate the nature and quality of the services provided by the securities lending agent, as well as the competitiveness of the fees charged by the agent.

As an institutional investor, a public pension fund's securities lending cash collateral portfolio often becomes its largest, single investment by assets under management. The fund is responsible for overseeing this cash, along with the non-cash collateral, so it is critical for public pension funds to complete daily, monthly and quarterly compliance monitoring on the lending program. Many institutional investment programs, including public funds, often do not have the expertise and holistic view of the lending industry to thoroughly oversee a program. If this is the case, they should employ an independent expert that specializes in securities lending oversight.

Due to the growing complexities and considerations of the securities lending industry and the level of knowledge required to oversee a securities lending program, a recent trend has occurred where beneficial owners are outsourcing the oversight responsibilities of securities lending programs to an independent 3rd party securities lending consultant.

Oversight should include performing an in-depth due diligence on the agent's capabilities and capacities to assess alignment with industry best practices. It should examine a program from a number of perspectives including:

- Contractual provisions to mitigate risk
- Technology systems
- Trading competitiveness
- Risk oversight
- Collateral capabilities and practices
- Applicable benchmarking
- Optimization of portfolio risk-adjusted performance

Regarding risk, the reinvestment of cash collateral introduces a combination of risks including interest rate, credit, market, liquidity, legal, tax, regulatory, and country risk. It is important to have a clear understanding of the risks and the wherewithal of the lender to effectively manage and mitigate those risks through experience, technology, procedural expertise, compliance and control systems.

There are often wide disparities of performance and risk management capabilities and expertise among lending providers. This can lead to significant opportunity costs from lending programs that are implemented without appropriate oversight.

Analysis performed to differentiate lenders is often based on revenue estimates and fee splits. While revenue and fees are important, there should be a thorough review of how the revenue is generated (i.e., risk-adjusted returns) and the detailed practices used to mitigate the risks inherent in any program.

A comprehensive Securities Lending Program and Agent Oversight service would enhance the lending program for many public funds. In Aon's experience of overseeing multiple securities lending programs, there are opportunities to strengthen the contractual risk of loss provisions, and collateral and program guidelines. This mitigates risks for the beneficial owner while increasing revenue earning potential. Through annual oversight, Aon has frequently found a significant increase to securities lending revenue earning potential through program and guideline adjustments.

The value of 3rd party oversight and possible revenue enhancements have the ability to offset securities lending consulting fees. The oversight service should detail how to best mitigate risks with a well-defined, customized program overseen to operate in accordance with the ‘spirit’ of the fund’s appropriate guidelines.

Oversight should include several public pension fund specific reports and compliance checks performed over the course of a year including:

- A detailed annual agent due diligence,
- An analysis for performance optimization and risk mitigation enhancement,
- A performance and benchmarking analysis, and
- A quarterly evaluation of, and compliance with, detailed Key Performance Indicators (KPIs), that should cover the most detailed facets of a lender and the clients program,
- Periodic updates to a board or committee.

Oversight should analyse the risk/reward trade-offs between collateral options, structures, and guidelines for the assets while optimizing parameters that are in the public pension fund ’s best interest.

Recommendation I.2:

High Priority	Medium Priority	Low Priority
		X

- LAFPP should review whether securities lending and agent oversight could result in opportunity cost savings/revenue enhancements or additional risk mitigation benefits.

II. Investment Performance/Asset Allocation

Active and passive management

- ***LAFPP's use of active and passive management of the funds***

Background:
As has been pointed out many times over the years, given an investment universe, active investment management is a zero-sum game. Within any time period an active investment manager is only able to outperform their peers if there are other investment managers who underperform. On an asset weighted basis, the average gross of fee performance of all investment managers has to be the same as that of the market in which they are active. While we acknowledge the average active manager is likely to underperform after fees, we also believe that actively managed, long-only public equities are likely to add value for skilled investors willing to employ well diligenced investment strategies and stick with them over the long-term.

The decision on how much to invest actively and passively in each asset class can be very client specific. The optimal mix depends on factors such as risk control preferences, desired number of managers, level of confidence in active management, propensity to deal with active manager underperformance over short term periods, and sensitivity to investment manager fees. The key is to determine the approach that will maximize the success of the investment program maximizing the net of fee investment return over time.

The key to success is to identify truly skilled investment managers and invest with them. The challenge is to identify such managers on a forward-looking basis. It is not enough that a manager has a proven track record. They have to show that their superior performance came from a solid investment process instead of luck, and that they are able to keep adding value in the future, even as their performance attracts more assets. An investment manager can only identify a finite number of investable opportunities and it may be very difficult to scale up some opportunities and strategies as assets under management grow.

After an active investment manager has been hired, they must be carefully monitored on several dimensions. If they experience personnel changes, the continued integrity of their investment process must be verified. If performance is below expectations for a longer period of time, the validity of their investment process must be reassessed. They may also engage in style creep where, e.g., a small-cap value manager starts investing in large-cap growth stocks, or they may engage in market timing by moving in and out of cash. If serious enough, any of these events should lead to replacement of the manager, which necessitates a costly and time-consuming search process. Passive management, on the other hand, is a relatively more simple mandate that requires much less use of resources to diligence and monitor.

Background on LAFPP's use of passive investments

The quarterly performance reports from LAFPP do not show the active vs. passive breakout by asset class. The information, whether an investment is active or passive is shown by investment in the Comparative Performance table. The two tables below use percentages calculated using market values by investment, as shown in the Comparative Performance table in the performance reports as of 9/30/2013, and 9/30/2021. Cash holdings represents a de minimis portion of most investment programs and are excluded from the Total Fund analysis (far right column) to allow for more direct comparability among portfolios.

Table 2-1. LAFPP Asset Class Weights (9/30/2013 Quarterly Performance Report)

Asset Class	Weight	Policy	Active Share	Passive Share	Passive % of Total Fund ex. Cash
U.S. Equity	37.2%	29.0%	55.5%	44.5%	17.2%
U.S. Large Cap	*30.0%*	*23.0%*	*44.8%*	*55.2%*	*17.2%*
U.S. Small Cap	*7.2%*	*6.0%*	*100%*	*0%*	*0%*
Non-U.S. Equity	20.3%	21.0%	80.0%	20.0%	4.2%
Developed Ex-U.S.	*16.5%*	*16.0%*	*75.4%*	*24.6%*	*4.2%*
Emerging Markets	*3.8%*	*5.0%*	*100%*	*0%*	*0%*
Core Fixed Income	13.0%	14.0%	100%	0%	0%
High Yield Fixed Income	2.4%	3.0%	100%	0%	0%
TIPS	4.3%	5.0%	100%	0%	0%
Unconstrained Fixed Income	3.3%	4.0%	100%	0%	0%
Private Real Estate	6.6%	7.0%	100%	0%	0%
REITs	1.6%	2.0%	100%	0%	0%
Commodities	0.2%	5.0%	100%	0%	0.2%
Private Equity	7.6%	9.0%	100%	0%	0%
Total excl. cash			**78.5%**	**21.5%**	**21.5%**

Table 2-2. LAFPP Asset Class Weights (9/30/2021 Quarterly Performance Report)

Asset Class	Weight	Policy	Active Share	Passive Share	Passive % of Total Fund ex. Cash
U.S. Equity	31.3%	29.0%	30.2%	69.8%	22.3%
U.S. Large Cap	*25.3%*	*23.0%*	*15.6%*	*84.4%*	*21.8%*
U.S. Small Cap	*6.0%*	*6.0%*	*92.2%*	*7.8%*	*0.5%*
Non-U.S. Equity	19.8%	21.0%	78.1%	21.9%	4.4%
Developed Ex-U.S.	*14.9%*	*16.0%*	*70.9%*	*29.1%*	*4.4%*
Emerging Markets	*4.9%*	*5.0%*	*100%*	*0%*	*0%*
Core Fixed Income	9.3%	12.0%	72.4%	27.6%	2.6%
High Yield Fixed Income	2.2%	3.0%	100.0%	0%	0%
TIPS	4.1%	5.0%	0.0%	100.0%	4.2%
Unconstrained Fixed Income	2.2%	2.0%	100%	0%	0%

Private Real Estate	4.9%	7.0%	100%	0%	0%
REITs	6.5%	3.0%	87%	13%	0%
Commodities	3.6%	5.0%	12.6%	87.4%	0.9%
Private Equity	13.9%	12.0%	100%	0%	0%
Total excl. cash			**62.4%**	**37.6%**	**37.6%**

The LAFPP portfolio has significantly increased the aggregate use of passive investments during the review period, going from 21.5% to 37.6%, when excluding cash. All asset classes where passive management is considered a viable alternative saw meaningful increases. High Yield Fixed Income, Unconstrained Fixed Income, and Private Equity did not have passive exposure. The portfolio's increased allocation to those three asset classes slightly offset the net increase in passive management.

Table 2-3. Passive Share of Portfolio as of 9/30/2013 and 9/30/2021

Asset Class	Passive Share of Asset Class 9/30/2013	Passive Share of Asset Class 9/30/2021
U.S. Large Cap Equity	55.2%	84.4%
U.S. Small Cap Equity	0.0%	7.8%
Developed Ex-U.S. Equity	24.6%	29.1%
Core Fixed Income	0%	27.6%
TIPS	0%	100.0%
REITs	0%	13.0%
Commodities	0%	87.4%

Conclusion:
LAFPP has significantly increased its use of passive investments within asset classes where it is considered viable to do so. This shift was slightly offset by the independent decision to increase allocations to asset classes that do not lend themselves to passive investing (private equity, real estate, etc.).

- ***Benchmark and comparison of LAFPP's use of passive management***

Background:
LAFPP's investment consultant performed a Total Fund Comparison & Benchmarking Review in June of 2020. The presentation included a comparison of the use of passive investment management of the portfolio relative to 35 funds within the $5 - $50 billion peer group from the survey (as of 12/31/2019). The survey results only consider the plans that utilize passive investment management, as shown by the sample sizes being less than 35 in the table below. The results of the survey show that LAFPP utilizes slightly more passive management than its median peer from the universe (33% vs. 30%).

Table 2-4. Total and by Asset Class Passive Exposure for LAFPP and Public Fund Peers

	Passive Total Fund	Passive US Equity	Passive Int'l Equity	Passive US Fixed Income
LAFPP	**33.4%**	**60.7%**	**30.3%**	**30.1%**
Median	30.0%	67.8%	33.9%	22.9%
No. of Funds	34	33	27	21

Additionally, we used the Greenwich Associates 2020 Market Trend Data Tables for U.S. Institutional Investors. (The Greenwich Associates data is not part of the documentation provided by LAFPP but was independently sourced.)

When excluding cash we get the following average portfolio allocation to passive investments.

Table 2-5. Total and by Asset Class Passive Exposure for LAFPP and Public Fund Peers

Passive % Total Portfolio ex. Cash		
Asset Class	**LAFPP** 9/30/2021	**Peer Group** (Public Funds +$5B)
U.S. Equity	22.3%	11.5%
Non-U.S. Equity	4.4%	4.1%
Core Fixed Income	2.6%	5.4%
High Yield Fixed Income	0.0%	0.0%
TIPS	4.2%	0.0%
Unconstrained Fixed Income	0.0%	0.0%
Private Real Estate	0.0%	0.0%
REITs	0.9%	0.0%
Commodities	3.2%	0.0%
Other	0.0%	0.0%
TOTAL	**37.6%**	**21.0%**

LAFPP’s implementation style from 2013 was consistent with the 2020 peer group, with ~21% in passive investments. Given their increased exposure to passive investments during the scope period, LAFPP now has a ~17% higher allocation to passive management than its peer universe.

Conclusion:
LAFPP has significantly increased its use of passive investing and uses it to a greater extent than its peers. This move has been consistent with consultant recommendations to mostly seek added value in the less-efficient areas of the capital markets.

- ***LAFPP’s cost benefit analysis of active vs. passive management***

Background:
LAFPP performed two formal reviews (2014 and 2016) on the subject of active vs. passive investment management during the scope period.

In addition to the two reviews performed, there was also a memo written to the Board by the Interim General Manager in February 2013. The memo argues strongly for the use of passive investments but did not include explicit analysis of the LAFPP portfolio. We consider the existence of this type of memo as evidence that the Board was actively evaluating the potential benefit of passive investment management during the 2013-2016 period.

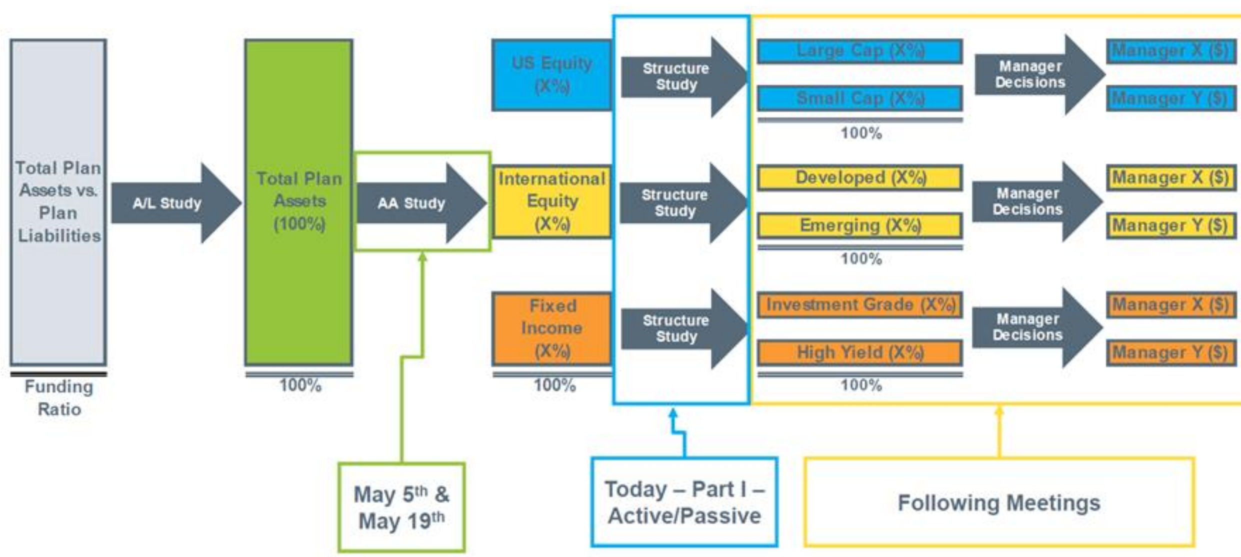
The investment policy statement does not include any formal structure or time period for performing active vs passive reviews. The Risk Policy in the Board Investment Policy (BIP) states:

> *A. An **asset allocation study will be conducted every three to five years**. Analysis has repeatedly shown that 90% to 95% of investment returns are determined solely by asset allocation. The Board acknowledges the critical importance of asset allocation to the success of the investment program and directs that the allocation will be reviewed no less frequently than annually.*
>
> *B. The asset allocation study will utilize the concepts of Modern Portfolio Theory to identify an efficient portfolio given the Board's desired level of return and tolerance for risk, i.e., return, risk, correlations between asset classes, mean variance optimization and constraints to ensure prudent exposures to strategies and risk factors. The Board will approve a level of risk when approving the asset allocation, after due consideration of the potential impact on the System of the failure of the asset allocation to yield the expected return. The Board's tolerance for risk is dependent upon various factors and may change with circumstances, but is based on the knowledge that (1) the investment horizon of the Pension System is very long, (2) investment losses are inevitable but smaller losses are easier to recover from than larger losses, and (3) the Board's risk tolerance is not influenced by the actuarially assumed rate of return.*
>
> *C. The Board will evaluate risk when determining the structure of the asset allocation. **The implementation of the asset allocation involves decisions such as active versus passive management of investments** and the number of investment managers to use in a particular asset class. Passive management usually yields better risk adjusted returns than active management in the more efficient asset classes, while in the less efficient asset classes it is more likely that active managers will be able to deliver returns in excess of those achieved by passive managers. The use of multiple managers in an asset class requires evaluation of the resulting fee structure and the possibility of reduced diversification in overlapping portfolios, versus the increase in manager specific risk with fewer managers.*

The Risk Policy stipulates that an asset allocation study should be performed every three to five years. The study will identify a mean-variance efficient portfolio based on expected asset class returns, risk, correlations, and constraints, as recommended to the Board by the general investment consultant. The policy articulates the need for decisions concerning the active vs.

passive implementation style. These decisions are not required to be performed on any ongoing cycle but are a component of the asset allocation optimization. This is also in line with the 2016 asset allocation review, where the active/passive decision is separated from the asset allocation study ("AA Study"), according to the "Investment Decision Process" provided to the Board.

Chart 2-1. Investment Decision Process As Outlined by the Board's Investment Consultant



Conclusion:
LAFPP performed two active vs. passive investment management reviews during the scope period (2014 and 2016). The BIP does not require that this type of analysis be performed. It is common for Boards to perform this type of analysis on an ad hoc basis and not on a predetermined timeline.

We would consider the current practice of LAFPP to be in-line with common practice. Best practice would be to include a review of the usage of active vs passive investment management as a component of ongoing asset allocation reviews.

Recommendation II.1:

High Priority	Medium Priority	Low Priority
	X	

- Aon recommends adding an active vs passive investment management review to the Asset-Liability study performed every three to five years or during strategic reviews of each investment asset class (at least every three to five years).

- ***Adequacy of the active vs passive analysis performed***

Background:
As a backdrop for our responses to this question, we have provided an overview of our views of active vs passive below. For a more thorough articulation of our views we have attached our white paper "Debating Active vs. Passive" as Appendix D.

Aon's Active vs. Passive Views
The active versus passive management debate is both nuanced and rich. There are good reasons why this is a hotly-debated topic, and reasonable people fall on both ends of the spectrum. Our views are not rigid or ideological: they are based on research, the details of which are contained in several of our white papers we have published and are referenced within our white paper included as an appendix.

We believe some investors are well-suited for active management, while others are likely to perform best with passive investments. Suitability will vary based on both investor circumstance and asset class. While we acknowledge the average active manager is likely to underperform after fees, we also believe that actively managed, long-only public equities are likely to add value for skilled investors willing to employ well diligenced investment strategies and stick with them over the long-term. However, conviction in active equity investment management is challenging to maintain, so most of the world's investors are better off investing equities passively.

Active management in fixed income has higher odds of success than equities, especially for broad, multi-sector mandates. Passive mandates may make sense for those needing a high level of simplicity or liquidity, or those investors who are cost sensitive.

Conclusion:
The cost-benefit analysis of active vs. passive that were performed by LAFPP (2014 and 2016) were more of a qualitative nature and included the following sections:

- Review of LAFPP's current use of passive investments
- Comparison of LAFPP's use of passive investments with a peer universe
- Qualitative analysis of active manager excess return patterns by asset class
- Historical average excess returns by sub-asset class
- Analysis of historical probability that active managers will outperform the benchmark, by sub-asset class

The performed cost-benefit analysis focused mostly on the possibility of active managers to generate returns in excess of their respective benchmarks. This approach is in line with the Risk Policy articulated in the BIP and a common practice in the industry. The cost-benefit analysis could be enhanced by making it a part of an active risk budgeting process, following the completion of the asset-liability study or as a component of ongoing asset allocation reviews.

Recommendation II.2:

High Priority	Medium Priority	Low Priority
	X	

- Consider performing active risk budgeting analysis in conjunction with the Asset-Liability study, and the active vs. passive review.

- ***Recommended frequency of cost/benefit studies***

Conclusion:
It is common practice in the industry to perform active vs passive cost/benefit studies on an ad hoc basis. We would consider it best practice to review the implementation of active vs passive whenever asset allocation is reviewed, so in many scenarios annually. However, we see these annual reviews more as an opportunity to re-affirm the previous decision and ensure that the exposures continue to be in-line with expectations. We do not expect clients to make material changes to their active vs passive implementation on a frequent basis. Furthermore, we believe that the active vs passive decision should be predicated on forward looking expectations and not recent performance.

- ***LAFPP's response to studies***

Conclusion:
As shown in the analysis above, the Board has been significantly increasing its exposure to passive investment management during the scope period in asset classes where passive investment management is most common. Additionally, the portfolio has a larger allocation to passive investment than peers.

- ***Advantages/Disadvantages relative to passive management***

Conclusion:
We believe that actively managed equities are likely to add value for skilled investors who have performed robust diligence and do not over-emphasize short-term performance. However, these characteristics are rare, so most of the world's investors are better off investing equities passively. We apply these views to several specific situations:

Investment committees with turnover: Investors need to remember why they hired each manager and how they expect them to perform in various markets over different time periods. This is especially important for high-conviction managers, whose performance can have large swings. Institutional memory can be short when committees turn over frequently, and committee members may be less knowledgeable about, or patient with underperformance from investment managers they did not select. For investment committees with significant turnover, we suggest possible options to manage this risk:

- Develop a written set of investment beliefs, including the role and expectation for

each manager. When a high-conviction equity manager is experiencing bumpy performance, this could be resurfaced to remind the committee that it was aware such an experience was likely and help them keep a steady hand.
    - Delegate the investment decision to the CIO or consultant. In this approach, the CIO monitors performance and the committee will be less focused on hiring and firing decisions for individual managers.

Investors with external pressures: Most institutional investors have external pressures. For example, it is common to be reviewed by a board, and chief investment officers may have career risk associated with their investment decisions. Public pension plans are often subject to scrutiny from taxpayers, legislators, and the media. These influences can be both good and bad; most notably, it often makes it difficult for investors to be different from the norm. We have seen some investors hire (what we believe are) good investment managers, experience short-term underperformance, then be pressured to terminate the managers. “Know thyself” is key; investors should only pursue strategies that they can implement successfully.

Investors with high return needs: It is tempting to say that investors needing high returns should use active management. It is critical to start by asking whether the investor is likely to add value with active management—active management used poorly is worse than passive management. Is the investor well-suited for active management, including being comfortable with active risk? If not, passive management may be preferable, and the investor may need to find another way to address its return needs.

We believe that actively managed fixed income is likely to add value for skilled investors or strong fee negotiators willing to employ loosely constrained or unconstrained strategies. However, active management is more complex and less liquid, so investors looking for simplicity or liquidity may be better served by investing passively. The primary reason we would consider passive fixed income as a viable alternative is if the client is particularly fee sensitive.

Investors who are particularly fee-sensitive: All investors should be fee-sensitive, as fees erode performance and net-of-fee performance is what truly matters.

- ***Potential cost savings***

Conclusion:
Increased exposure to passive investment management could be utilized to negotiate lower investment consulting, custody, and potentially lower staff costs. However, we believe these gains would be relatively modest and not a compelling rationale for increasing passive investment management. We believe increased exposure to passive investment management would be based on the Board’s views on the topics outlined below in our recommendations going forward on the next page of this Report.

- ***Impacts***

Conclusion:
The most efficient way to evaluate the impact of active investment management is through the

review of net of fee performance attribution for the applicable period. Due to the unavailability of net of fee investment performance, performance attribution was provided by LAFPP's investment consultant on a gross of fee basis. The investment consultant was only able to provide attribution analysis for the trailing 5-year period. The table below provides the impact to the Total Fund performance relative to the benchmark for each asset class where passive implementation is viable over the trailing 5-year period. As shown, active implantation has added 0.02% (2 bps) annualized over the period. On a net of fee basis this impact is likely negative, and likely represents a small shortfall vs choosing to passively invest over the period evaluated.

Table 2-6. Excess Returns Achieved By Active Management (gross of fees) Over the Trailing 5-Year Period

Asset Class	Gross of Fee Excess Return (5-Years ending 9/30/2021)
Domestic Large Cap	-32
Domestic Small Cap	10
Domestic Micro Cap	-1
International Developed Equity	5
International Emerging Equity	0
Core Fixed Income	10
TIPs	1
REITS	8
Commodities	1
Total	**+2 bps**

- ***Performance of passively v. actively managed assets***

Conclusion:

Passive investment management represents an elegant, efficient, and low-cost implementation of market exposure. Over long and short periods of time the exposure can typically replicate the investment results of the market. However, there is often modest underperformance associated with fees and transactions costs. This tracking tends to be small (a few bps), but boards need to understand that the decision to passively implement does not equate to a complete elimination of underperformance. Furthermore, it likely guarantees a very small level of underperformance over time (due to fees and transaction cost; potentially partially offset by securities lending income). The comparison of the success of passively managed assets measured against actively managed assets in the same classes is best articulated in the table in the previous response. Asset classes with a positive value represent areas where active investment decisions have added value, and asset classes with a negative value represent areas where active investment decisions have detracted value (gross of fees). Another method for evaluating this information is by reviewing the asset class attribution provided in Appendix E of this Report.

- ***Our recommendations going forward***

Conclusion:

We believe some investors are well-suited for active management, while others are likely to perform best with passive investments. We have highlighted some of the factors that make passive investing more desirable above. For those institutional investors who are well equipped to incur active risk, and do so prudently, we believe they can achieve incremental return over a passive benchmark over long periods of time. Boards implementing actively managed investment strategies should be comfortable with:

- The level of active risk within the investment program – Achieved through active vs passive education and risk budgeting discussions
- The ability of its staff and consultant to identify alpha generating investment opportunities – Achieved through ongoing oversight
- Experiencing periods (potentially long periods) of underperformance relative to passive implementation – Achieved by understanding the potential of underperformance prior to implementation

If the Board is comfortable with these factors, Aon is supportive of active management within the investment program.

- ***Mandated statutory investment requirements***

Background:

Section 1106(d)(1) of the City Charter requires that LAFPP adopt an Investment Policy Statement (IPS) with the desired rate of return and acceptable levels of risk for each asset class, asset allocation goals, guidelines for the delegation of authority, and information on the types of reports used to evaluate investment performance. LAFPP is required to conduct an annual IPS review and subsequently share with the Mayor and City Council for informational purposes. Furthermore, the Plan is required to disclose fees for all alternative investment vehicles entered into on or after January 1st, 2017.

Conclusion:

We observed that LAFPP is in compliance with the mandated statutory investment requirements regarding the IPS. Furthermore, based on a review of the most recent Investment Policy Statement, dated October 1, 2020, section 2.7 titled "California Government Code" adequately defines the System's annual requirement for adherence to California Government Code Section 7514.7. Aon finds this within best practice for all mandated statutory investment requirements to be explicitly defined within a public system's IPS.

Recommendation II.3:

High Priority	Medium Priority	Low Priority
	X	

- Aon recommends all federal, state, and local legal requirements be explicitly stated together within the IPS.

- ***The Investment Policy Statement ("IPS") and associated processes***

Background:
The IPS outlines various objectives in section 1.2 titled "Investment Objectives". Below we have included a list of each objective (bullets A-H), as well as analysis on the objectives where quantitative or qualitative review is possible.

A. The overall goal of the System's investment asset is to provide plan participants with post-retirement benefits as set forth in the System documents. This is accomplished through a carefully planned and executed investment program.

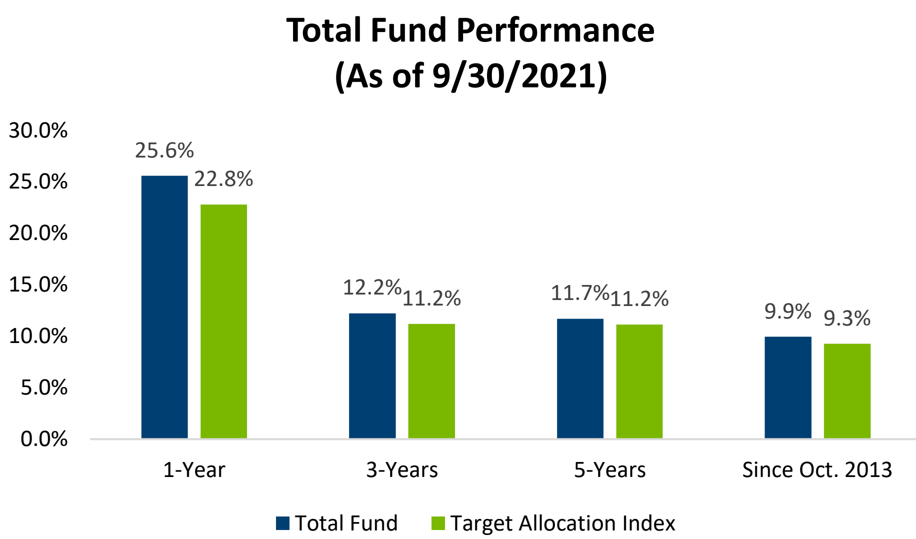
    a. We believe this objective could be best measured in two ways:

        i. The adequacy of the Asset-Liability/Asset Allocation process - Reviewed later in this section of the report.

        ii. Ability to produce investment results commensurate with the strategic asset allocation derived during the Asset-Liability/Asset Allocation process.

            1. The chart below illustrates the gross of fee investment performance of the Total Fund relative to the policy benchmark as of September 30th, 2021. Over the trailing periods shown the Fund has generally produced gross of fee returns in excess of the policy allocation. We believe investment results should only be reviewed on a net of fee basis but have provided gross of fee investment returns due to data availability constraints.

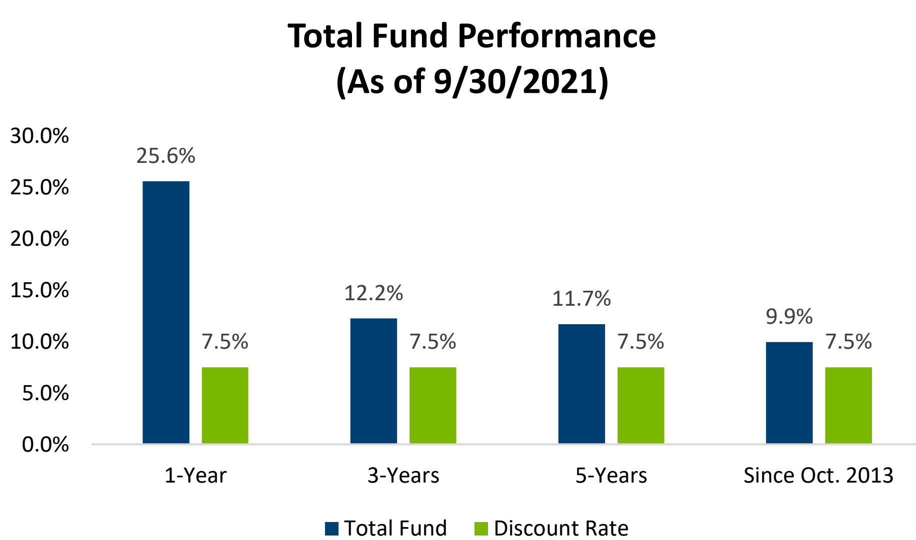
Chart 2-2. Total Fund Performance Relative to the Primary Benchmark



B. 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.

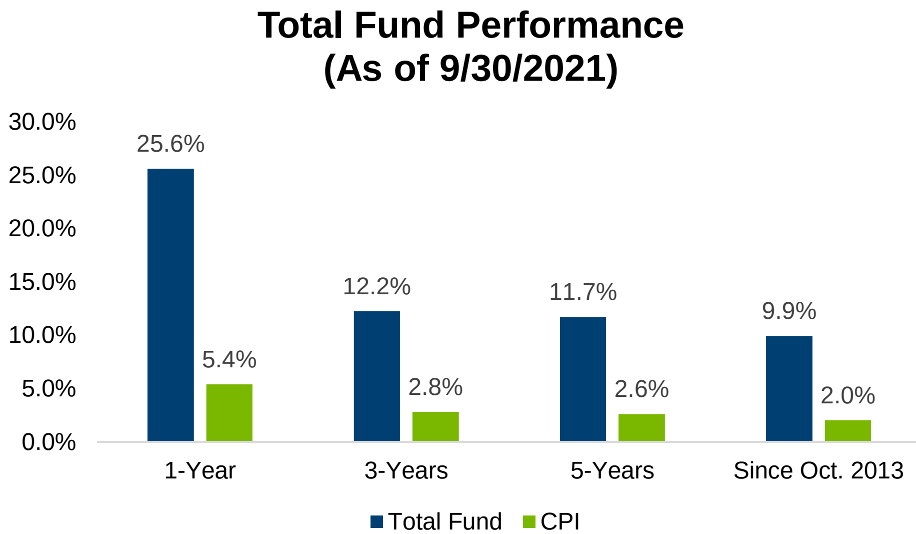
a. We believe this objective is best evaluated by comparing the investment performance of the Plan relative to the actuarially stated rate of return or discount rate. During the scope period the actuarial discount rate ranged from 7.5% to 7.0%. As shown in the table below, the Plan has produced investment returns well in excess of the 7.5% discount rate, as well as the current 7% target.

Chart 2-3. Total Fund Performance Relative to the Higher of the Recent Discount Rates



b. This objective can also be evaluated by comparing the trailing investment results to inflation. The table below reviews the trailing returns of the portfolio against the Consumer Price Index (CPI or inflation). As shown, the portfolio has generated meaningful real rates of return over time (i.e., returns greater than inflation).

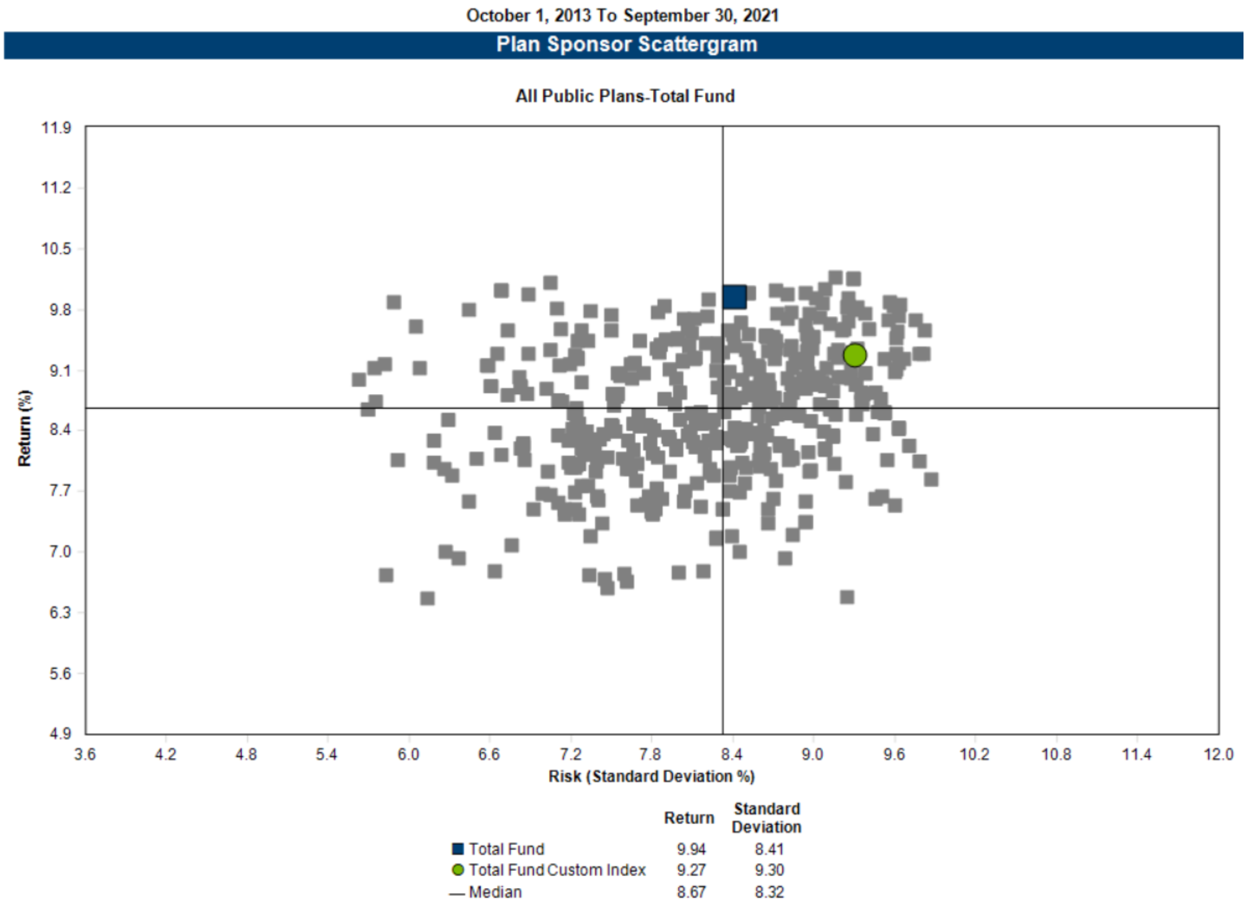
Chart 2-4. Total Fund Performance Relative to Inflation



C. The System's assets are managed in a manner that is cognizant of risk adjusted rates of return. 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. Some risks, such as normal market volatility are generally unavoidable. Other risks, such as investing in emerging markets are knowingly assumed and to a certain degree necessary to implement an Asset Allocation Plan that will meet target returns. Consequently, prudent risk-taking is warranted within the context of overall portfolio diversification. Controlling and eliminating unnecessary risks is important to the Plan. 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 of the City Charter with consideration of the Board's responsibility and authority as established by Article 16, Section 17 of the California State Constitution. Risk is further addressed in Section 6.0 – Risk Management Policy.

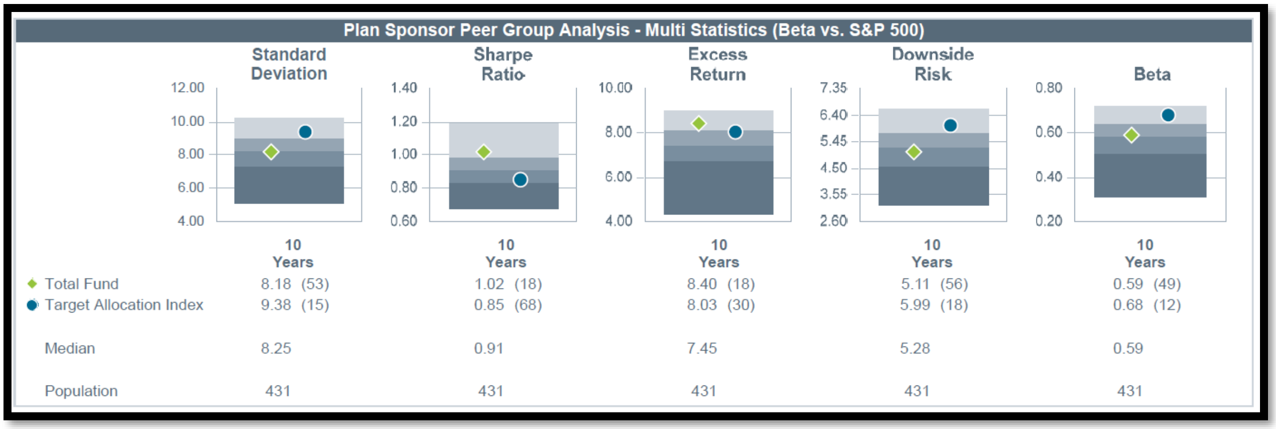
a. We believe this objective is best evaluated by comparing the risk adjusted investment results of the Plan relative to the primary benchmark and peers. The chart below plots the gross-of-fees risk/return characteristics of the System and Policy Custom Index against a peer universe of other public funds for the scope period. As shown, the portfolio has produced a return which is above median but approximates the median portfolio from a risk perspective. Additionally, the portfolio has produced a gross of fee return above the benchmark at a lower level of risk.

Chart 2-5. Risk Adjusted Total Fund Performance Relative the Benchmark and Peers During the Scope Period



b. Section 6.0 “Risk Management Policy” of the IPS provides an overview of the System’s policy regarding how risk should be evaluated in the asset allocation process and liquidity considerations. The consultant’s quarterly investment performance review provides various measures of risk at the Total Fund level for the Board to evaluate, as shown below. The results of this analysis are consistent with the analysis shown above (above median return with a risk level commensurate with median).

Chart 2-6. Risk Analysis from Quarterly Performance Report

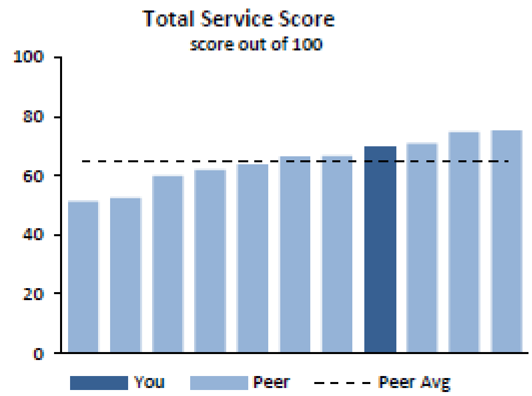


D. The System's investment program shall always comply with existing and future applicable city, state and federal regulations.
   a. See above for review of compliance with statutory requirements

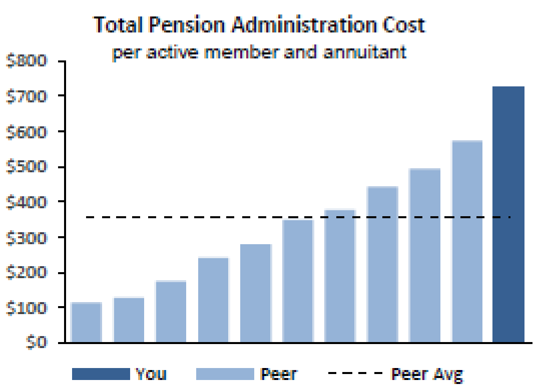
E. All transactions undertaken will be for the sole benefit of the System's participants and beneficiaries and for the exclusive purpose of providing benefits to them and defraying reasonable administrative expenses associated with the System.

   a. LAFPP participates in various CEM benchmarking studies that evaluate the cost of administration. They do not participate in the survey which evaluates the cost of investment management. These studies provide a great source for understanding the relative cost of implementation from an administrative and investment perspective. We more fully discuss the CEM administration expense benchmarking report later in this Report in Section III.
      i. Administrative Cost Findings – CEM Benchmarking 2018 Benchmarking Analysis

Key Takeaways:



Your total service score was above the peer average, and you score above or at the peer average in 10 of CEM's 12 measured activities.
The activities with the biggest impact on your score were pension inceptions, website, news and targeted communication.



Your pension administration cost was $372 above the peer average.

F. 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-term asset allocation plan implemented in a consistent and disciplined manner will be the major determinant of the System's investment performance.
   a. We believe this objective is best evaluated by reviewing the analysis in our review of Investment Objectives A, B, and C above.

G. Investment actions are expected to comply with "prudent expert" standards as described in City Charter Section 1106(c):

> "…with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like

character and with like aims."

H. The investment objective of the total Plan, over a full market cycle, usually 5 - 7 years, is to earn a return on investments matching or exceeding the required actuarial rate of return and an investment performance above the median of a universe of public funds. (Amended 10/06/16)

Active managers should provide value added net of fees. Active management returns should exceed the corresponding index net of fees by an amount commensurate with the risk incurred as well as the other standards set out in the Board's Manager Selection and Retention Policy (Section 8.0).

Passive managers should produce index-like returns for index fees.

a) Performance based components of this objective are evaluated in our review of Investment Objectives A, B, and C above.
b) Evaluating success of this objective, performance of investment managers, is more difficult than it needs to be or should be. Investment results are calculated and reported on a gross fee basis. Net of fee investment results are reported by the Plan's investment consultant, but these returns are not calculated in a manner that we believe to be commensurate with common or best practice. We believe the Plan should be calculating net of fee investment results on a monthly basis and utilizing those returns in all performance presentations provided to the Board. The current process for approximating net of fee returns is outlined at a high level below.

   Gross of fee returns are calculated for each investment, asset class composite, and the Total Fund on a monthly basis and stored to maintain a performance history. The process followed by LAFPP to create these monthly gross of fee returns, and performance history is in-line with the industry standard for performance calculation and the same process that is typically performed to create and maintain a net of fee performance history. The calculated monthly gross of fee returns are geometrically linked to create trailing period returns (1-year, 3-years, etcetera) that are included in the performance report and other analysis. The net of fee returns in the quarterly performance report are not calculated in this manner. These trailing period returns represent the gross of fee calculated return less the current expense ratio at the time the performance report was created. For example, as of 6/30/2020 the fee required to reduce the Total Fund gross of fee return to represent an approximation of the net of fee return was

~0.19%. This same fee was applied to all trailing periods despite the fact that the applicable fee was not 0.19% for the full time period shown (since inception). Due to the fact that expense ratios change over time these returns will not fully reflect the experienced net of fee returns or allow us to perform net of fee performance attribution.

This process also prevents the Plan and its investment consultant from performing more impactful, net of fee, performance analysis

- Total Fund Attribution
- Asset Class Attribution
- Performance Relative to Benchmarks
- Risk Adjusted Performance Evaluation

Evaluating investment success utilizing gross of fee investment results is exponentially more difficult than evaluating net of fee investment results. We find gross of fee reporting to be substandard, and below common and best practice.

Conclusion:
There is no one true measurement to define the success of a retirement program. We believe the best process for evaluating the success of implementation is to review the results of the program relative to the objectives articulated in the investment policy statement on a net of fee basis. The BIP articulates 8 investment objectives (Investment Objectives A-H) that we believe are in-line with best practice. Our review above provides analysis for the Objectives where quantitative or qualitative review is possible. Components of this review are made exponentially more difficult for Aon, the Board, and stakeholders due to the current process of reporting and documenting gross of fee investment results. Our general findings include:

- The portfolio has produced gross of fee returns above the benchmark over recent trailing periods – On a net of fee basis it is difficult to determine.
- The portfolio has produced risk adjusted gross of fee returns superior to peer public funds – On a net of fee basis it is difficult to determine.
- As of September 30th, 2021, recent trailing performance was above the legacy actuarially stated rate of return of 7.5%, as well as the current 7% rate.
- Investment performance of the underlying active and passive investment options is difficult to evaluate due to the gross of fee investment reporting standard.

Recommendation II.4:

High Priority X	Medium Priority	Low Priority

- Aon recommends calculating net of fee returns and maintaining a return history of the actual net of fee investment return achieved during each monthly period.

Recommendation II.5:

High Priority X	Medium Priority	Low Priority

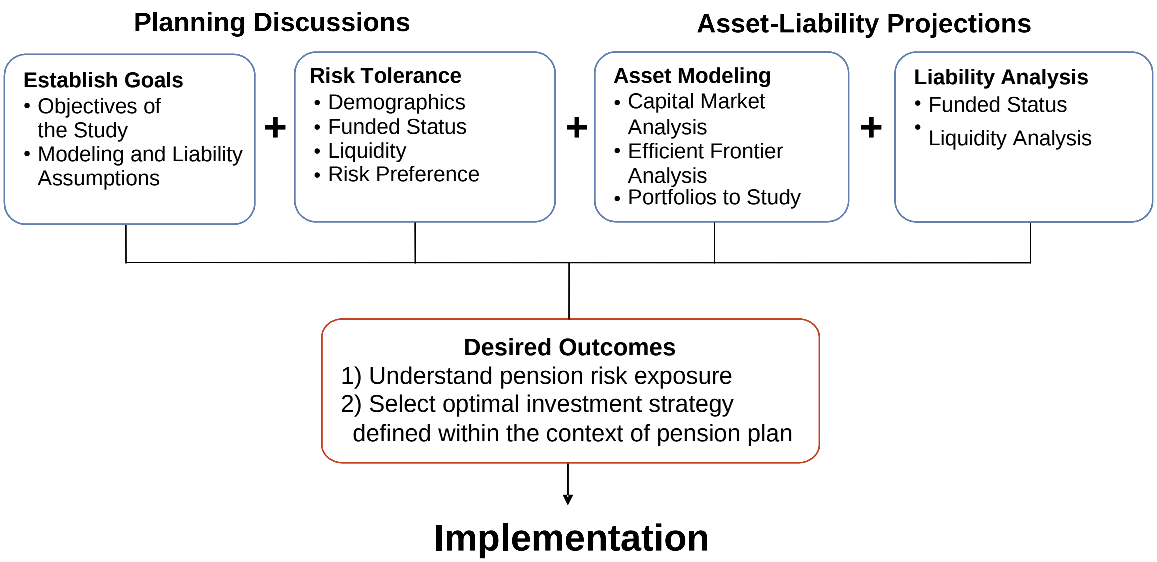
- Aon recommends the removal of gross of fee investment results in all future performance reporting. This will require linking future calculated net of fee investment returns with the gross of fee performance history currently maintained for longer term reporting purposes. The date of the change should be footnoted in performance presentations.

- ***The most recent asset allocation study***

Background:
An asset-liability study is a comprehensive study that models the possible future results of different asset allocations under a variety of market conditions. The modeling of asset allocations does not assume the same conditions during the entire time period but allows for changes in market conditions over the modelled period. Examples of “conditions” include periods of good equity markets, poor equity markets, high inflation, low inflation, and other similar topics. The results are the costs that could be expected to be generated by a specific asset allocation. The study provides information which allows for a more informed discussion about the appropriate asset allocation for an investment program and helps decision-makers understand the worst possible outcomes of a particular asset allocation so they can determine if changes to the current asset allocation are appropriate for the risk exposure. Asset-liability modeling also provides a unique perspective since it incorporates the characteristics of the plan’s cash flows (i.e., cash contributions and benefit payments). If the nature of cash flows for the pension plan is ignored, the review of the plan’s asset allocation would only address risk versus return of the individual asset classes and how they are correlated.

The chart below illustrates the steps in the development of an asset allocation which considers both assets and plan liabilities. This integrated approach provides a more holistic view. In Aon’s experience, asset-liability modeling and a formal asset allocation study are typically performed every three to five years with the best practice being a study done every three years or when material changes are made to the investment program or projected liabilities.

Chart 2-7. Aon's Desired Process for Developing Asset Allocation



Based on the documentation provided and discussion with Staff, the last asset-liability study was performed by the investment consultant in October 2015. This falls outside of the IPS stated policy of performing a study every three to five years and is outside best practice policy of completing a study every three to five years or when material changes are made to the investment program or projected liabilities.

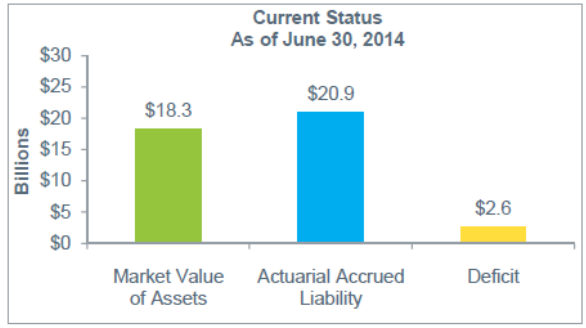
Topics and inputs reviewed in the 2015 study are outlined below.

- Data from the Actuarial Valuation provided by the Plan's actuarial consultant to project liabilities
- Used actuarial cost method and assumptions from the Plan's actuarial consultant
- Stated based line returns and inflation estimates
- Compared the current asset allocation to various other asset allocation scenarios and the risk/return trade-offs of each scenario

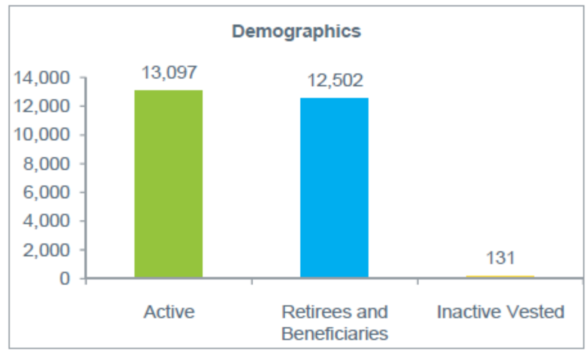
The 2015 asset-liability study provided the initial framework for a comprehensive review of the Plan, starting with the current state of the Plan, as shown below:

Table 2-7. Current State Analysis From the 2015 Asset Liability Analysis

Plan Summary	June 30, 2014 (Valuation Date)	June 30, 2015 (Projected)
Market Value of Assets	$18.3 billion	$18.8 billion
Actuarial Accrued Liability	$20.9 billion	$21.4 billion
Deficit	$2.6 billion	$2.6 billion
Market Value Funded Ratio	88%	88%

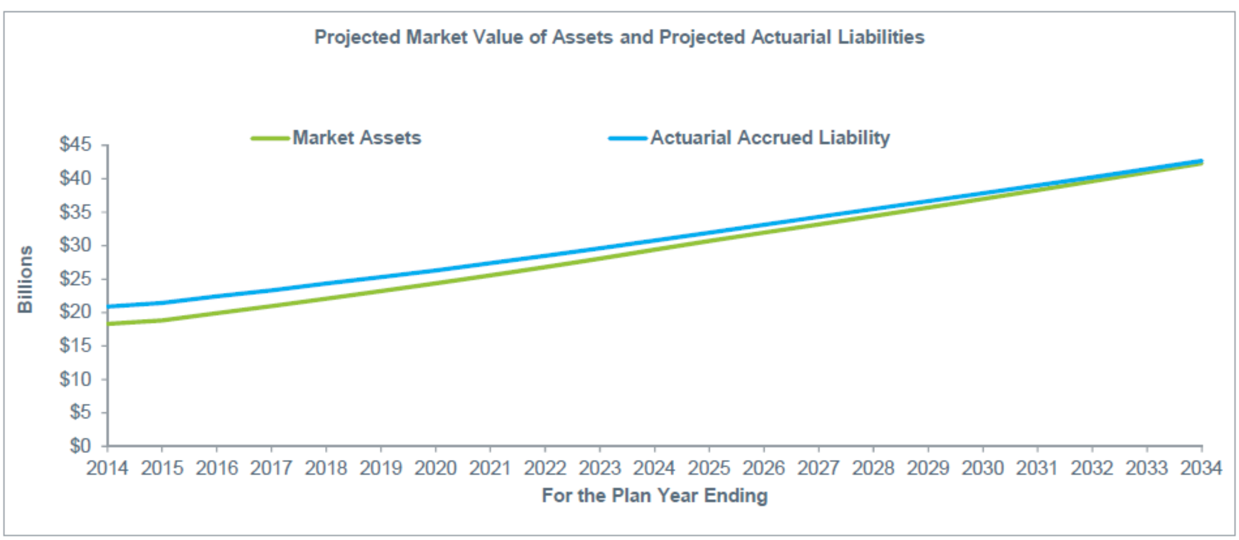


Demographics	Members
Active Members	13,097
Retirees and Beneficiaries	12,502
Inactive Vested	131
Total	**25,724**



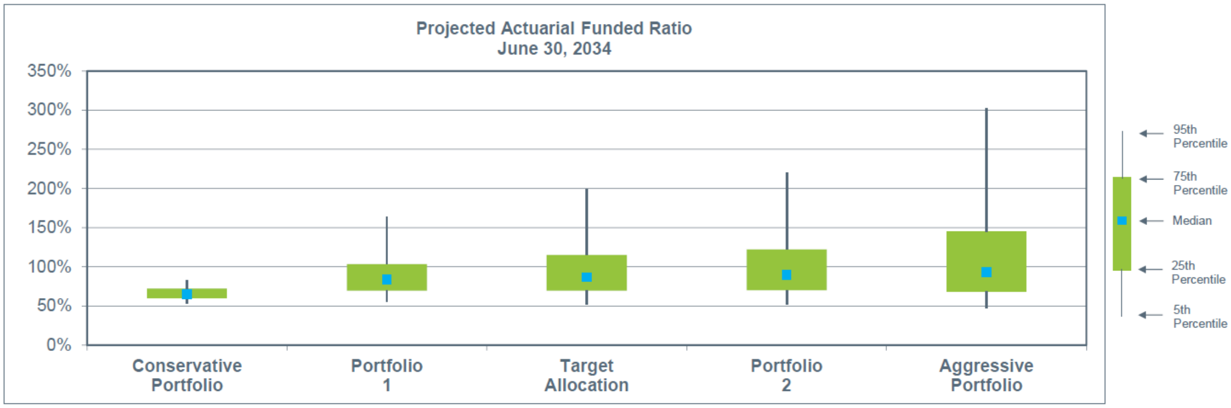
Furthermore, an analysis outlining the projected growth in assets alongside the expected growth in actuarial liabilities is provided to help illustrate forward looking health of the pension fund.

Chart 2-8. Projected Market Value and Liability From the 2015 Asset Liability Analysis



The tables below outline the analysis the Board reviewed when considering what the effect of moving to an alternative asset allocation would have on the long-term outlook of plan liabilities and funding ratio.

Chart 2-9. Projected Funded Ratio From the 2015 Asset Liability Analysis



	Conservative Portfolio		Portfolio 1		Target Allocation		Portfolio 2		Aggressive Portfolio	
	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio
5th Percentile	$21.0	53%	$19.2	55%	$19.9	53%	$20.0	52%	$22.2	47%
25th Percentile	$17.1	60%	$12.4	70%	$12.3	69%	$12.1	70%	$13.0	68%
Median	$14.3	65%	$6.5	84%	$5.2	87%	$4.1	90%	$2.7	93%
75th Percentile	$11.3	72%	($1.5)	103%	($6.2)	115%	($9.1)	122%	($18.9)	145%
95th Percentile	$6.9	83%	($27.5)	164%	($42.7)	199%	($52.5)	221%	($84.6)	302%

We believe the process followed by the investment consultant is in-line with best practice as both the liabilities and assets are viewed in collaboration with each other, and analysis used outlines the effects moving to a new asset allocation might have on the future funded ratio of the Plan.

Subsequent to the asset-liability study done in October 2015, the investment consultant has performed numerous asset allocation studies that have been presented to the Board. These studies have focused solely on the risk/return characteristics of the portfolio without the consideration of the Plan's liabilities.

Conclusion:
The System performed the last asset-liability study in October 2015. This falls outside of the IPS stated policy and best practice of performing a study every three to five years. The process and type of analysis performed during the 2015 study was in line with best practice.

Recommendation II.6:

High Priority	Medium Priority	Low Priority
X		

- Aon recommends performing an asset-liability study every three to five years or when there is a material change in the underlying actuarial assumptions, risk tolerance of the Board, or any event that would cause a comprehensive review of Plan assets

Recommendation II.7

High Priority	Medium Priority	Low Priority
	X	

- Aon recommends creating a formal procedure to ensure governance processes articulated in the policy are completed on the mandated cycle.

- ***IPS- comprehensiveness and compliance process***

Background:
There is no uniform standard for the content and no absolute model to follow when drafting an IPS. The IPS should ideally be a highly customized document that is uniquely tailored to the preferences, attitudes, and situation of the Plan. At LAFPP, the Board reviews the IPS on an annual basis. Staff has the ability to review and recommend changes on an ad-hoc basis. The purpose of such reviews is to ensure the document reflects desired long-term asset allocation, the evolving investment portfolio, legal and regulatory developments, and current best practices. It is up to Staff's discretion to solicit feedback and input from external fiduciary counsel and the Board's investment consultant prior to presenting proposed modifications of the IPS to the Board.

To facilitate our review of the IPS, we have included a table outlining what we believe to be the key sections of an IPS and how we think about IPS development. The table includes a broad title of each section type, the type of information we expect to be included in each section, and any comments on the LAFPP IPS. As shown in the table, the IPS includes all components that we believe a well-structured IPS should have.

Table 2-8. LAFPP Inclusion of Key IPS Components

Section	Purpose of Section	Comments
Introduction	- Reference to the purpose and benefit to be provided by the Trust	No Comment
	- Intended beneficiaries of the Trust	No Comment
	- Overview of fiduciary obligation	No Comment
Statement of Purpose	- Investments made for the exclusive purpose of providing benefits to participants	No Comment
	- Plan fiduciaries must act in the sole interest of plan participants and beneficiaries and for the exclusive purpose of providing benefits	No Comment
	- To preserve the actuarial soundness of the Trust in order to meet benefit obligations	No Comment

Investment Goals or Objectives	- To obtain a long-term rate of return, net of fees, equal to or in excess of the policy benchmark - The policy benchmark and asset allocation targets should be defined	No Comment No Comment
Asset Allocation	- Purpose is to provide an optimal mix of investments to produce desired returns and meet current and future liabilities, with minimal volatility - Frequency and methodology of asset-liability modeling and resetting allocation - Describe permissible asset classes as well as minimum, maximum, and target ranges	No Comment No Comment No Comment
Identification of Roles and Responsibility	- Board of Trustees – general and investment related duties - External investment consultants – advise on best practices, trends and support staff and Board/Investment Committee with fiduciary responsibilities - Other external providers' duties, expectations and fiduciary responsibilities	No Comment No Comment No Comment
Asset Class Guidelines / Benchmarks	- Benchmarks – who sets them and how often they are revisited, and their rationale - Diversification - Provide an overview on the importance of diversification and how it is achieved in the Trust	No Comment No Comment
Rebalancing Policy	- Purpose of rebalancing – to ensure that the investment program adheres to its strategic asset allocation - Describe how often the portfolio will be reviewed for rebalancing and whether a fixed threshold or proportional threshold will be used	No Comment No Comment
Risk Management	- Acknowledgement and definition of risk to be managed in investment portfolio (active risk, credit risk, counterparty risk, market risk, operational risk, etc.) - Define parameters for risk management (what does success look like)	No Comment No Comment
Monitoring and Reporting	- Describe monthly, quarterly and annual reporting - Outline monitoring and reporting process	No Comment No Comment
Shareholder Activity	- Proxy positions – describe the policy and how votes are cast and recorded - Identify core principals of the Board (Board independence, Board management, shareholder rights) and communicate importance of fiduciary duty, integrity, and transparency	No Comment No Comment
Governance	- Identify obligations to the Trust are consistent with the fiduciary obligations of ERISA - Require ongoing review of investment policy statement	No Comment No Comment

Conclusion:

We believe the IPS is robust and follows best practice. The IPS includes sufficient detail on all items we desire in a well-structured IPS, as outlined above.

- ***Processes used to adopt, monitor, periodically review, and update the IPS***

Background:

Within the IPS, section 1.18 titled “Review” outlines that the Investment Policy Statement and subsequent sub-polices shall be reviewed by the Board on an annual basis.

Conclusion:
After discussion with Staff and a review of the supporting documents, Aon determined that the stated policy within the IPS to review on an annual basis is followed, which includes the following process:

- A full IPS review by Investment Officers (“IO”) along with a deeper dive into each IO’s respective asset class with any proposed changes being provided to the IPS review project leader
- After recommended changes are compiled by the IPS review project leader, the changes are sent to the investment consultant and fiduciary counsel for their review and feedback
- After both Staff and investment consultant agree on recommended changes, the CIO will perform a final review and bring the recommended changes to the Board for review and approval
- The revised IPS is provided to the City Attorney

Aon finds the annual and ad hoc process used to adopt, monitor, periodically review, and update the IPS to be robust. The process includes numerous individuals inside the System and typically includes a review by counsel and the applicable investment consultant. We believe the process could be enhanced by including a required review and memo by external counsel and the applicable investment consultant.

Recommendation II.8:

High Priority	Medium Priority	Low Priority
	X	

- Aon recommends adding language to the IPS that states all modifications to the document are to be reviewed by the applicable consultant as well as fiduciary counsel prior to being presented to the Board.

Recommendation II.9:

High Priority	Medium Priority	Low Priority
		X

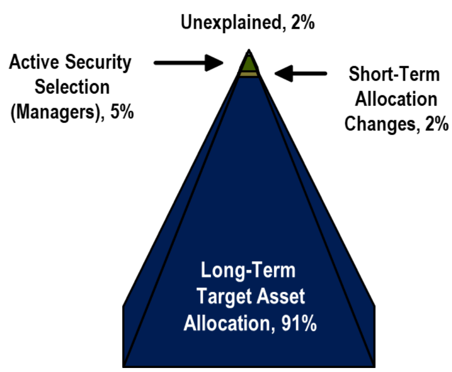
- Consider including a memo from the applicable consultant and fiduciary counsel for all amendments of the IPS stating that they have reviewed the proposed amendments and stating their concurrence or disagreement with the proposed changes.

- ***Process used to set, monitor, and revise the asset allocation, including the need for the retirement system to conduct an asset-liability study***

Background

Asset allocation is viewed by many as the single most important factor to a fund's success over the long-term. The primary importance of asset allocation over other investment decisions is a generally accepted concept in finance theory and practice. Several well-known industry research papers have documented that asset allocation is the primary driver of the level of investment returns, and volatility of investment returns from year to year.

Chart 2-10. Primary Drivers of Difference in Investment Results Among Investors



The above chart outlines research done by Brinson, Singer and Beebower in their 1991 research paper "Determinants of Portfolio Performance II: An Update" which outlines that 91% of the difference in returns among investors is driven by differences in the long-term target asset allocation, or said differently, strategic asset allocation differences drive 91% of the difference in returns across investors.

Conclusion:

Section 1.6 of the IPS (Asset Allocation Plan) sets the policy for conducting an asset-liability study every three to five years, which is line with industry best practice. The last asset-liability study was performed in 2015, which is not within the timeline articulated in the IPS. Aon believes that an asset-liability study should serve as the primary process for reviewing asset allocations.

Once the asset allocation is set, the IPS states the portfolio will be reviewed and evaluated on a quarterly basis with the assistance of an outside performance measurement firm or general investment consultant. It is best practice and industry standard to review investment performance at least quarterly.

- ***Due diligence processes including controls and reporting to ensure adherence to the IPS***

Background:
Maintaining proper compliance controls and monitoring processes are critical components of good governance and effective implementation of the IPS. It is critical that processes are in place to ensure that guidelines that are documented in the IPS and manager agreements are monitored on a regular basis to ensure ongoing compliance. Within many sophisticated investment programs this function is largely performed by the custodian and reviewed by internal investment compliance personnel.

Additionally, there are other important functions that require ongoing monitoring for compliance that are typically outside the scope of the custody relationship. This includes, but is not limited to, ensuring compliance to:

- All applicable federal, state, and local laws
- Internal trading policy
- Internal checklist and requirements for cash movement
- Ethics policy
- Proxy policy
- Soft dollar usage

The LAFPP Investment Policy includes significant detail on the general investment guidelines, manager selection, manager oversight, as well as policies for various investment management and governance items, including:

1. Private Equity Guidelines Policy
2. Real Estate Policy
3. Commodities Policy
4. Emerging Managers Policy
5. Risk Management Policy
6. Proxy Voting Policy
7. Marketing Cessation Policy
8. Securities Litigation Policy
9. Environmental, Social and Governance Policy
10. Iran Policy
11. Sudan Policy
12. Firearms Policy

Based on our interviews with Staff we understand that the monitoring of the various policies and guidelines is performed by the custodian as well as the applicable investment consultant. LAFPP provides the investment guidelines to its custodian, Northern Trust, who tracks compliance with the applicable trading and holdings guidelines on a daily basis. Additionally, the manager monitoring policy is monitored by the investment consultant and included in the quarterly performance report.

In addition to the monitoring of investment managers, their compliance with their guidelines, and their reporting requirements, the IPS includes numerous governance processes that required to be performed over various time periods. Examples of these processes include.

1. The review of strategic asset allocation every three to five years
2. Review of asset allocation no less frequently than annually
3. The Investment Guidelines Policy and its subsequent sub-policies shall be reviewed by the Board annually
4. Reviews the real estate portfolio on a semi-annual basis to evaluate the investment performance and to ensure compliance with policy guidelines and approved Investment Plans.
5. Staff will report to the Board annually regarding any change of status of emerging managers in the Program
6. Performance of the managers (including watch list criteria) on the list will be evaluated annually, with emphasis on the three and five-year returns

Within the review of the most recent asset allocation study, we recommended the creation of a formal procedure to ensure governance processes articulated in the policy (like those outlined above) are completed within the required timeline. Board oversight of these processes could be facilitated through the creation of a governance calendar which outlines each process included in the IPS, the timing requirement, when it was last performed, and when it is expected to be performed next.

Conclusion:
Based on our interviews with Staff, and experience with other clients performing these functions, we believe that LAFPP generally has appropriate controls and procedures in place to regularly review compliance with its policies. LAFPP provides the investment guidelines to its custodian, Northern Trust, who tracks compliance with the applicable trading and holdings guidelines on a daily basis. Having this function performed by the custodian is in-line with best practice. However, we believe the creation of a governance calendar (recommended in the review of the most recent asset allocation study) could assist the Board and Staff in ensuring compliance with the many processes articulated in the policy.

Recommendation II.10:

High Priority	Medium Priority	Low Priority
		X

- Consider the creation of a compliance calendar to facilitate the oversight of compliance with the governance items articulated within the IPS.

- ***Rebalancing processes, controls and reporting to ensure***

adherence to the IPS

Background:
It is expected that over time, changes in capital markets will cause the actual mix of portfolio assets to diverge from target allocations and the need to rebalance the portfolio will occur. Rebalancing is an important tool for controlling the risk of a diversified investment program. The goal of a rebalancing program is to balance tracking risks against rebalancing costs while keeping the administration of the process manageable. Rebalancing may be necessary when the actual allocation falls outside a pre-determined range (e.g., +/-5%). There are two common ways to rebalance:

1. Rebalance to policy target or to policy bands once a breach of an upper or lower limit occurs
2. Periodically rebalance the portfolio based on a specific schedule

Standard institutional best practice is to rebalance when actual allocations deviate materially from target allocations (#1 above), rather than rebalancing at specified time intervals (#2 above). If available, monitoring the portfolio's actual allocation daily for breaches of policy limits is preferred but reviews of actual allocations should be examined monthly or quarterly at a minimum. Having stated policy ranges within the IPS sets the framework for when a rebalancing action is needed. Having narrow ranges (+/-3%) is generally acceptable for publicly traded asset classes while wider ranges (+/-5%) for illiquid asset classes is often necessary.

The IPS in section 1.7 (Rebalancing Policy) provides an outline of the process in which Staff should follow for the rebalancing of the Plan's assets, which includes rebalancing within the policy target ranges if the actual allocation falls outside the predetermined range. In rebalancing, Staff prioritizes the following:

1. Maintaining sufficient cash position for recurring liabilities such as benefit payments, capital contributions related to investment fund commitments and expenses
2. Drawing cash flows out of the portfolio for recurring liabilities from liquid asset classes that are above their range limitations provided cash is deemed inadequate
3. Investing net contributions into asset classes that are below their range limitations
4. Selling overweighted liquid assets and/or buying underweighted liquid assets

It is also the responsibility of Staff to report all rebalancing activities to the Board on a quarterly basis at a minimum. The Board also receives asset allocation relative to the policy targets on a quarterly basis within its performance reports, these serve as a key tool in the Board's ability to oversee the rebalancing process and ensuring compliance with its policy.

The table below outlines the current policy target and allowable ranges for each asset class.

The investment policy requires that these targets be monitored on a monthly basis, but Staff currently reviews these exposures on a weekly to daily basis. This detail is included within the IPS, in-line with common practice.

Table 2-9. LAFPP Policy Allocation and Rebalancing Guidelines

	Policy Allocation	Lower Limit	Upper Limit	% of Asset Class	Nominal Range
Domestic Large Cap Equity	23.00%	20.24%	25.76%	12.00%	+ or – 2.76%
Small Cap. Equity	6.00%	4.71%	7.29%	21.50%	+ or – 1.29%
International Developed Equity	16.00%	13.60%	18.40%	15.00%	+ or – 2.40%
International Emerging Markets	5.00%	3.60%	6.40%	28.00%	+ or – 1.40%
Core Bonds	12.00%	11.28%	12.72%	6.00%	+ or – 0.72%
TIPS	5.00%	4.69%	5.31%	6.25%	+ or – 0.31%
High Yield Bonds	3.00%	2.58%	3.42%	14.00%	+ or – 0.42%
Unconstrained Fixed Income	2.00%	1.80%	2.20%	10.00%	+ or – 0.20%
Private Credit	2.00%	0.00%	2.50%	25.00%	+ or – 0.50%
Real Estate	7.00%	6.00%	8.00%	14.25%	+ or – 1.00%
REITS	3.00%	2.51%	3.50%	16.50%	+ or – 0.50%
Commodities	1.00%	0.76%	1.24%	24.00%	+ or – 0.24%
Private Equity	14.00%	10.50%	17.50%	25.00%	+ or – 3.50%
Cash	1.00%	1.00%	4.00%	300.00%	+ or – 3.00%
Total Fund	**100.00%**				

While the individual asset classes provide narrow ranges themselves, the consolidation of sub-asset classes into broad exposures show that the Plan does allow for more meaningful deviation. As shown in the below table, public equity aggregates to allow a range of 7.85%. However, the risk reducing fixed income component has a fairly tight allocation range, which should allow the level of return seeking and risk reducing assets within the portfolio to be fairly consistent over time, which we see as desirable.

Table 2-10. LAFPP Alternative Rebalancing Guidelines for Consideration

	Policy Allocation	Lower Limit	Upper Limit	Nominal Range
Public Equity	50.00%	42.15%	57.85%	+ or – 7.85%
Risk-Reducing Fixed Income	17.00%	15.97%	18.03%	+ or – 1.03%
Return Seeking Fixed Income	7.00%	4.38%	8.12%	+ or – 1.12%
Real Assets	11.00%	9.27%	12.74%	+ or – 1.74%
Private Equity	14.00%	10.50%	17.50%	+ or – 3.50%
Cash	1.00%	1.00%	4.00%	+ or – 3.00%
Total Fund	**100.00%**			

Conclusion:
Aon finds that the current policy and process of rebalancing followed by Staff to generally be in line with best practice and the transparency to the Board provides adequate detail on the reasoning for rebalancing and the actions taken. We think there is a rationale for thinking about rebalancing and risk control from a broader asset allocation perspective, like the table above, but we are comfortable with the current process being utilized.

Recommendation II.11:

High Priority	Medium Priority	Low Priority
		X

- Consider the use of broader asset class mandates (i.e., public equity) for monitoring asset allocation relative to policy, and potential active risk considerations.

- ***IPS-delineation of roles and responsibilities, due diligence and monitoring***

Background:
The IPS includes section 11.0 (Duties of Responsible Parties), this section of the IPS outlines the roles and responsibilities of the:

1. The Board or its Designate(s)
2. Staff
3. Investment Managers
4. Master Custodian
5. General Investment Consultant

Further defined within section of 11.0, each parties role and responsibilities for the following topics are outlined as:

Investment Program:

– The Board or its Designate(s)
  - The Board develops and approves policies for the execution of the investment program
  - The Board shall review investments quarterly, or as needed, to ensure that policy guidelines are met
  - The Board may retain investment consultants to provide services in aide of managing the investment program
  - The Board shall expect Staff to administer the Plan's investments in a

cost-effective manner

- Staff
  - Invest the Fund's cash without requiring Board's permission
  - Oversee and direct the implementation of Board policies and manage the Fund on a day-to-day basis
  - Organize and/or participate in any special research for the Board
  - Advise and apprise the Board of any other events of investment significance
  - Implement and administer policies made by the Board
- Investment Managers
  - Contract by written agreement with the Board to invest within approved guidelines
  - Provide the Board with proof of liability and fiduciary insurance coverage
  - Be a registered SEC investment advisor under 1940 Act or authorized bank or trust
  - Adhere to investment management style concepts and principles
  - Obtain best execution for all transaction
- Master Custodian
  - Provide complete global custody and depository services
  - Manage Short-Term Investment Fund for investment of any uninvested cash
  - Assist the System to complete annual audit, transaction verification, or other unique issues
  - Manage a security lending program
  - Maintain frequent and open communication with the Board and Staff
- General Investment Consultant
  - Make recommendations for Board presentation regarding investment policy and strategic asset allocation
  - Provide topical research and education on investment topics
  - Communicate information that concerns the Board

The Selection Process:

- The Board or its Designate(s)
  - The Board shall be responsible for selecting qualified investment managers, consultants, and custodian
- General Investment Consultant
  - Assist the Board in the selection of qualified investment managers and a qualified custodian

The Due Diligence Process:

- Staff
  - Provide analysis and recommendation to the Board on a wide variety of investments and investment related matters

- Conduct the manager search process, as approved by the Board
- Negotiate investment management fees and execute contracts

<u>The Monitoring Process</u>:

- The Board or its Designate(s)
  - Voting of proxies in stocks held by the System according to policy
- Staff
  - Monitor investment managers for adherence to polices and guidelines
  - Evaluate and manage the relationships with brokers, managers, and custodians
  - Manage portfolio restricting resulting from rebalancing or terminations with assistance of consultant and managers, as needed
  - Ensure that managers conform to the terms of their contracts and that performance-monitoring systems are sufficient to provide Board with timely, and accurate information
- Investment Managers
  - Reconcile monthly accounting, performance, transaction and asset summary data with custodian
- Master Custodian
  - Provide in a timely and effective manner a monthly report of investment activities
  - Provide monthly and fiscal year-end accounting statements
  - Report situations where accurate security pricing, valuation, and accrued income are either not possible or subject to uncertainty
- General Investment Consultant
  - Review quarterly performance, including performance attribution

Conclusion:
Section 11.0 of the IPS provides a thorough, yet succinct overview of the roles and responsibilities for each applicable group associated with investment decisions and oversight in a level of detail that is appropriate for an investment policy statement. Roles are also further defined throughout the document. We find the IPS documentation of the roles and responsibilities of the key parties involved in the investment program, the selection process, the due diligence process, and the monitoring processes used for purpose of the investment program to be in-line with common practice.

Asset Allocation

- ***Process used to establish the inputs used in the most recent asset allocation study and asset-liability modeling***

Background:

Earlier in this Report, Aon reviewed the process that established the current asset allocation. The following analysis focuses on reviewing the process to establish the inputs that serve as the base for the performed asset allocation reviews and asset-liability modeling.

An asset-liability study stands as the current process for setting the Plan's long-term asset allocation. An asset-liability study is a comprehensive toolkit for making decisions on a Plan's asset allocation and investment risk that align with the liabilities those funds support. The intent of the study is to:

- Provide fiduciaries with an understanding of the dynamic relationship between plan assets and liabilities over time
- Illustrate the impact of various asset allocations on key financial metrics, such as required contributions and funded status, under a range of different macro-economic scenarios
- Identify future trends in the financial health of the fund based on economic uncertainties that may not be evident from an actuarial valuation, which provides only a snapshot at a point in time
- Help determine the level of risk that is appropriate in the context of the Plan's liabilities

At the core of the analysis are the capital market assumptions that make up the long-term outlook for various asset classes currently in the Plan and those for consideration. The evaluation on how a firm develops their capital market assumptions is equally as important as the evaluation of the assumptions themselves.

Across the investment industry there are various ways to approach the development of capital market assumptions. These include the capital asset pricing model (CAPM), historical investment performance, survey data, and the building block approach. The Board's investment consultant develops proprietary capital market assumptions using a building block approach. A building block approach represents a forward-looking estimate of market returns based on the applicable observable components that are believed to drive future investment results. This approach is consistent with Aon's approach, and we believe it to be in-line with best practice.

The consultant's capital market assumptions include assumptions on returns, volatilities (standard deviations), and correlations. They are updated on an annual basis by the Firm's research team and represent the Firm's long-term capital market outlook (>10 years).

The below table provides additional detail on the building blocks utilized by LAFPP's investment consultant. Additional details on these building blocks can be found in the investment consultant's capital market assumptions presentation presented to the Board in March of 2021.

Chart 2-11. Primary Drivers of Expected Return by Asset Class

Building Block Methodology	Income + Inflation + Real Growth ± Valuation Change
Cash Equivalents	Income
Fixed Income	Income + OAS change + Expected interest rate changes (and duration impact)
TIPS	Real Income + Inflation
Public Equity	Income + Inflation + Real GDP/earnings growth + / - Valuation
Core Real Estate	Income + Inflation + / - Valuation – Investment fees
Hedge Funds	Income (collateral return, cash) + Beta return + Alpha return
Commodities	Collateral return (cash assumption) + Spot return (inflation assumption) + Roll return
Spread Methodology	**Beta assumption + Illiquidity premium**
Private Credit	Bank loan assumption + Return premium
Private Equity	US large/mid cap equity assumption + Return premium
Asset Blend Methodology	
GTAA	30% global equity + 25% US Agg fixed income + 5% int'l developed fixed income + 10% EMD (local) + 10% TIPS + 10% high yield + 10% commodities
Diversified Inflation Strategies	1/3 TIPS + 1/3 commodities + 1/3 global REITs

Conclusion:
We find the building block approach utilized by the investment consultant to derive its capital market assumptions to be in-line with best practice. The investment consultant utilized various inputs for determining the expected return of the various asset classes. These methodologies incorporate both quantitative and quantitative inputs. The assumptions reflect current market valuations and future prospects rather than relying solely on historical averages, a particularly important feature when markets move to extremes as they have done over the past few years.

- ***Thoroughness of the asset allocation***

Conclusion:
The strategic asset allocation outlined in the investment policy stated was adopted on August 20, 2020. This new asset allocation was a result of an asset allocation study performed by the investment consultant in July and August of 2020. A review of the analysis and presentation that was provided to the Board during this period shows that the asset allocation of the Plan was viewed from a risk-return perspective without specific analysis related to the unique liability characteristics (distinct actuarial characteristics, statutory mandates, funding targets, time horizon, demographics, cash flow needs, and short-term volatility tolerance levels).

We believe the primary tool for reviewing the items articulated in the scope area is an asset liability study. An asset-liability study was last performed in 2015, and that analysis is expected to be updated in 2022. A review of the analysis performed in 2015 is provided in scope area II.

Recommendation II.12:

High Priority X	Medium Priority	Low Priority

- Aon recommends any future analysis that might materially alter the long-term policy targets of the Plan should incorporate asset-liability projections and consider how the changes may affect the Plan's forward-looking actuarial circumstances.

- ***LAFPP's asset allocation***

Conclusion:

The table below shows the asset allocation of the Plan, as outlined in the most recent IPS dated October 2020, relative to a peer group of public funds with assets greater than $5 billion, represented in the 2019 Greenwich Institutional Market Trends Survey. Relative to peers, the Plan has a slightly higher allocation to equities (public & private) and a lower allocation to more stable allocations such as core fixed income. The Plan also has no exposure to hedge funds, which differentiates it from peers.

Table 2-11. Asset Allocation Relative to Peer Public Funds

	Policy Allocation 10/2020 (%)*	Greenwich 2019 U.S. Institutional Markets Trends Survey
U.S. Equity	29.0%	20.8%
Non-U.S. Equity	21.0%	25.1%
Core Fixed Income	17.0%	22.4%
Opportunistic Credit	7.0%	2.9%
Private Equity	14.0%	11.1%
Real Assets	11.0%	9.7%
Other (Hedge Funds, etc.)	0.0%	6.4%
Cash	1.0%	1.6%
Total Fund	**100.0%**	**100.0%**

*****Although the Board recently adopted a new asset allocation plan that reduced the commodity allocation from five (5) percent to one (1) percent, added a private credit allocation of two (2) percent, and increased the private equity allocation from twelve (12) percent to fourteen (14) percent, the actual monetary changes in the Plan's specific asset classes will occur over a period of time. In the interim, the Investment Policy continues to convey the goals and strategies currently in place with the prior asset allocation plan, including the Commodities Policy.

- ***Overall returns of the investment portfolio relative to risk, including attribution of investment performance***

The table below represents performance for the Total Fund, on a gross of fee basis, relative to the policy benchmark, a peer universe of other public plans, and the Plan's discount rate. On a gross of fee basis, the Fund has been successful in outperforming the return of the policy index, as well as the median public fund peer. As noted earlier in our report, we do not believe evaluating investment results on a gross of fee basis is appropriate, and we have recommended that the LAFPP report only net of fee investment results in the future. Given that we do not have net of fee investment results to evaluate, we have performed our analysis on the gross of fee data that is available.

Table 2-12. Investment Returns Relative to the Benchmark, Peer Public Funds, and the Current Assumed Rate of Return

As of 9/30/2021	1-Year	3-Year	5-Year	Oct. 2013 – Sep 2013
Total Fund	25.6	12.2	11.7	9.9
Policy Benchmark	*22.8*	*11.2*	*11.2*	*9.3*
All Public Plans -Median	20.7	10.6	10.2	8.7
Rank	*6*	*10*	*11*	*9*
Actuarial Discount Rate	7.0	7.0	7.0	7.0

We have also reviewed risk adjusted returns of the investment program. On a risk adjusted basis, the Plan has been able to deliver superior risk-adjusted returns relative to the benchmark and peers (i.e., has produced a higher Sharpe ratio). The below table illustrates the Plan's 10-year Sharpe ratio, which is a measure of risk adjusted returns, relative to the policy benchmark and peer universe.

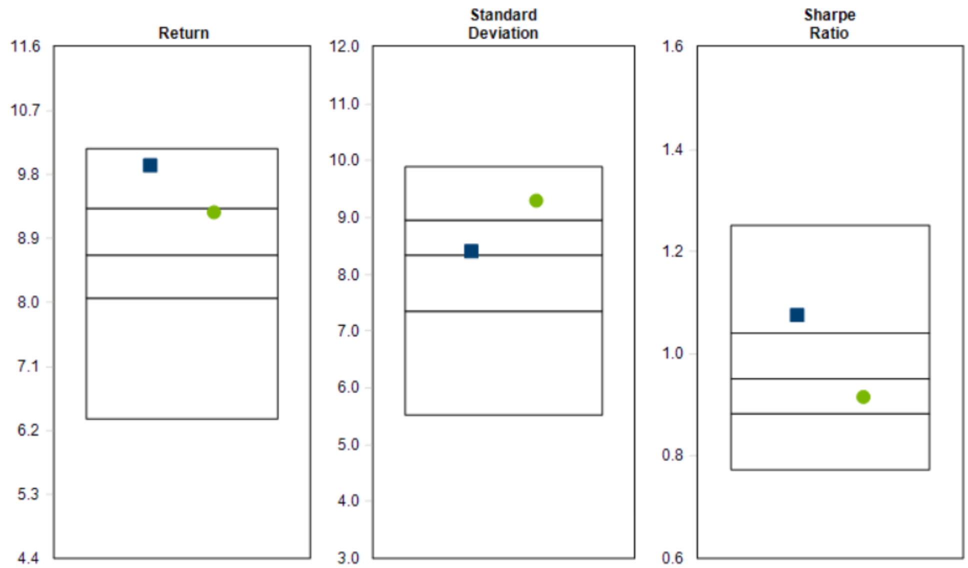
Table 2-13. Risk Adjusted Investment Returns Relative to the Benchmark and Peers

Sharpe ratio As 9/30/2021	5-Year
Total Fund	1.08
Policy Benchmark	*0.92*
All Public Plans -Median	0.95

The chart below outlines the trailing return, standard deviation, and Sharpe ratio of the portfolio relative to the benchmark as well as the rank within the public fund peer group during the scope period. Again, the portfolio has produced strong risk adjust performance relative to the benchmark and peers on a gross of fee basis.

Chart 2-12. Nominal Investment Return, Risk, and Risk Adjusted Returns Relative to the

Benchmark and Peers



	Return Oct-2013 To Sep-2021	Standard Deviation Oct-2013 To Sep-2021	Sharpe Ratio Oct-2013 To Sep-2021
■ Total Fund	9.94 (9)	8.41 (46)	1.08 (18)
● Total Fund Custom Index	9.27 (28)	9.30 (15)	0.92 (64)
5th Percentile	10.18	9.90	1.25
1st Quartile	9.33	8.96	1.04
Median	8.67	8.32	0.95
3rd Quartile	8.06	7.34	0.88
95th Percentile	6.36	5.53	0.77

- ***Reasonableness of the estimates of expected return, volatility, and assumed correlation of returns among included asset classes and subclasses***

Conclusion:
Capital market assumptions are a critical input to the process of setting the asset allocation. There is not a single established methodology to develop capital market assumptions. Different firms may use different approaches to derive their expectations – all of which may be based on capital market theory and practice. Given the importance of capital market assumptions in setting the asset allocation, it is useful to review the assumptions used and compare them to those of others to ensure a degree of reasonableness.

The table below compares the RVK 10-year capital market assumptions relative to Aon and the 2021 Horizon Study Average, which is a collection of capital market assumptions from investment firms to aid in determining reasonable assumptions used by plan's expected return on assets. RVK's assumptions relative to the study's average, in which there is a like-for-like comparison, had the majority of assumptions within the 25% and 75% percentile and only a few asset classes fell within the 5% through 25% and 75% through 95% percentile range. As shown in the table below, the RVK assumptions are generally within the 25%-75% percentile of peers.

We consider the estimates of expected return, volatility, and assumed correlation to be well within the range of reasonableness, and comparable to both Aon's capital market assumptions and peer averages. In general, the RVK assumptions tend to be slightly lower than the Aon assumptions as well as the peer group.

Table 2-14. Capital Market Assumptions Utilized by LAFPP (RVK) Relative to the Aon Assumptions and Peers (2021 Horizon Study Average)

	RVK		Aon Investments USA		2021 Horizon Study Average	
	10-Yr. Expected Return	Expected Volatility	10-Yr. Expected Return	Expected Volatility	10-Yr. Expected Return	Expected Volatility
Large/Mid Cap US Equity	4.8%	16.0%	5.7%	17.0%	5.8%	16.4%
Small Cap US Equity	4.8%	19.0%	5.9%	23.0%	6.3%	20.2%
Broad US Equity	4.9%	16.1%	--	--	--	--
Dev'd Large/Mid Cap Int'l Equity	6.2%	17.0%	6.8%	20.0%	6.4%	18.3%
Dev'd Small Cap Int'l Equity	6.2%	20.0%	--	--	--	--
Emerging Markets Equity	7.3%	25.0%	6.9%	27.0%	7.2%	24.3%
Broad International Equity	6.7%	18.8%	--	--	--	--
Global Equity	5.8%	16.6%	6.5%	18.5%	--	--
US Aggregate Fixed Income	1.9%	5.0%	1.4%	4.0%	2.1%	5.5%
Non-US Dev'd Sovereign FI	0.6%	8.5%	--	--	--	--
EMD-Hard Currency	4.5%	10.0%	2.7%	11.0%	4.2%	11.3%
EMD-Soft Currency	4.4%	11.5%	3.4%	14.0%	--	--
TIPS	1.4%	5.5%	1.0%	3.5%	1.6%	5.6%
Low Duration Fixed Income	1.5%	2.5%	1.1%	1.7%	--	--
Long Duration Fixed Income	2.0%	10.0%	1.7%	7.5%	2.2%	10.4%
High Yield	4.3%	10.0%	2.8%	12.0%	3.8%	9.9%
Bank Loans	4.5%	8.0%	3.8%	7.0%	--	--
Core Real Estate	5.0%	12.5%	5.6%	15.0%	5.5%	17.6%
REITs	4.7%	21.0%	5.9%	18.5%	--	--
MLPs	6.9%	23.0%	--	--	--	--
FoF Hedge Funds	3.8%	9.5%	4.1%	9.0%	4.5%	8.1%
Multi-Strategy Hedge Funds	4.7%	8.5%	--	--	--	--
GTAA	4.6%	9.0%			--	--
Private Credit	6.0%	13.0%	6.4%	16.5%	6.5%	11.4%
Senior Secured Direct Lending	5.4%	9.0%	--	--	--	--
Private Equity	6.6%	22.0%	9.0%	25.0%	8.8%	22.3%
Commodities	3.6%	17.5%	3.2%	17.0%	3.1%	17.3%
Diversified Inflation Strategies	3.8%	11.6%	--	--	--	--
US Inflation	2.0%	1.5%	2.1%	--	2.1%	2.1%

Cash	1.5%	2.0%	0.9%	1.0%	1.2%	1.3%

25% - 75% Percentile	
5% - 25% and 75% - 95%	
>5% and >95%	

- ***Process used for adjusting the asset allocation (e.g., portfolio rebalancing)***

Conclusion:
Earlier in this Report we review the rebalancing policy utilized by the System. The authority to conduct a rebalance has been delegated by the Board to Staff. Asset allocation is monitored on a weekly basis by investment staff, with the CIO maintaining ultimate responsibility to implement a required rebalance. Rebalancing performed by the Plan is driven by actual asset allocation relative to policy weights. Once the need to rebalance has been identified, the CIO will work with Investment Officers to review their respective asset classes for any style or market capitalization drifts to help aid in the rebalancing determination. Once a rebalancing plan is determined and executed, the CIO will report to the Board on what actions were taken and why. The below screenshot provides an example of previously communicated rebalancing actions taken. We believe the process in place is in-line with common practice, and we do not have any concerns.

We believe the process in place is in-line with common practice.

On August 20, 2020, the Board approved the current asset allocation:

Asset Class	Target Allocation	Upper Range	Lower Range	August 31, 2021 Actual Allocation*
Dom. Large Cap Equity	23.00%	25.76%	20.24%	25.86%
Dom. Small Cap Equity	6.00%	7.29%	4.71%	6.23%
Int'l Equity	16.00%	18.40%	13.60%	15.10%
Int'l Emerging Markets	5.00%	6.40%	3.60%	4.95%
Core Bonds	12.00%	12.72%	11.28%	9.16%
TIPS	5.00%	5.31%	4.69%	3.99%
High Yield Bonds	3.00%	3.42%	2.58%	2.18%
Unconstrained Fixed Income	2.00%	2.20%	1.80%	1.92%
Private Credit	2.00%	2.50%	0.00%	0.00%
Real Estate	7.00%	8.00%	6.00%	4.47%
REITS	3.00%	3.50%	2.51%	4.46%
Commodities	1.00%	1.24%	0.76%	3.57%
Private Equity	14.00%	17.50%	10.50%	13.18%
Cash Equivalent	1.00%	4.00%	1.00%	4.92%

***May not add up to 100% due to rounding**

The General Consultant, RVK, and Staff established the upper and lower range limits; the Board subsequently approved them on October 1, 2020.

DISCUSSION

Attachment I illustrates that most asset classes are within their target ranges, except for Core Equity, Cash, and Commodities, which are above their target ranges, and Core and High Yield Bonds, which are under their target ranges. The Staff has been rebalancing the investment portfolio during the last three months. Core Equity was overweight in June, and $600 Million was rebalanced to the REITS and Cash portfolios. The Cash portfolio was overweight in July, and the overweight was reallocated by directing $400 Million to REITS, $100 Million to Unconstrained Fixed Income, $250 Million to International Equity, and $250 Million to Emerging Market Equity. During August, $719.5 Million was rebalanced from Small Cap Equity into the Cash portfolio. The Cash portfolio will be reduced during September by directing additional funds into REITS, Real Estate, and Fixed Income.

Attachments I and II illustrate the allocation status of each asset class and the plan portfolio as of August 31, 2021.

- ***Appropriateness and suitability of the adopted asset allocation and overall investment strategies***

Background:
The below table outlines the broad strategic asset allocation of the Plan, as outlined in the IPS, and compares the allocation to a peer universe of public funds with asset greater than $5 billion in total assets. Previously in this Report, Aon evaluated the appropriateness of the Plan's asset allocation to achieve the System's stated performance objectives.

Table 2-15. Asset Allocation Relative to Peer Public Funds

	Policy Allocation 10/2020 (%)*	Greenwich 2019 U.S. Institutional Markets Trends Survey
U.S. Equity	29.0%	20.8%
Non-U.S. Equity	21.0%	25.1%
Core Fixed Income	17.0%	22.4%
Opportunistic Credit	7.0%	2.9%
Private Equity	14.0%	11.1%
Real Assets	11.0%	9.7%
Other (Hedge Funds, etc.)	0.0%	6.4%
Cash	1.0%	1.6%
Total Fund	**100.0%**	**100.0%**

Additionally, we have evaluated the ability of the current strategic asset allocation to produce a 7.0% return into the future. The chart below shows our expected return of the portfolio (6.6%) as well as the range of potential outcomes. The table below the chart outlines the probability of the portfolio achieving a 7% in each period using the Aon 30-year capital market assumptions. These projections were created using Aon's 12/31/2021 capital market assumptions. Given the rise in interest rates experienced in 2022, our forward-looking expected returns are likely slightly higher.

Chart 2-13. Expected (forward looking) Return of the Current Strategic Asset Allocation

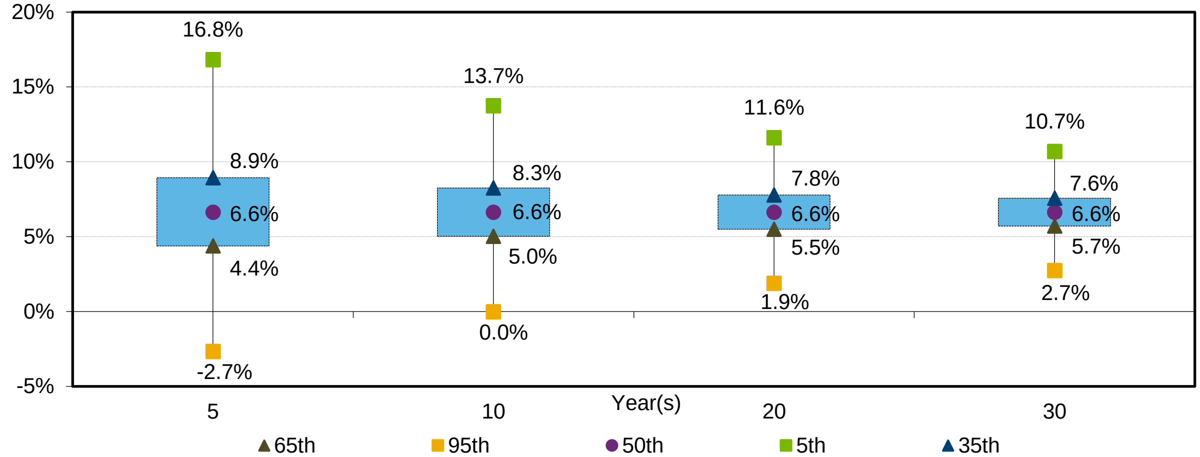


Table 2-16. Probability of Achieving a 7% Rate of Return over Various Time Periods

Probability of Achieving a 7% Rate of Return			
5-Years	**10-Years**	**20-Years**	**30-Years**
48%	47%	45%	44%

Conclusion:
Ultimately, the asset allocation of an investment program should be derived through the asset-liability process. We also evaluated the portfolios:

1. Asset Allocation relative to peers
2. Ability to produce the actuarially assumed rate of return

Asset Allocation relative to peers
The Plan's asset allocation is not materially different than that of other public fund peers. In review of the asset classes utilized by the System, Aon found that they are similar to those commonly utilized in the institutional investor market (i.e., public funds, corporate defined benefit plans, endowments, and foundations).

Ability to produce the actuarially assumed rate of return
Using Aon's 30-year capital market assumptions we expect the portfolio to earn 6.6% over time, with a 44% probability of achieving 7% over 30-years. These projections were created using Aon's 12/31/2021 capital market assumptions. Given the rise in interest rates experienced in 2022, our forward-looking expected returns are likely slightly higher.

- ***Staffing resource considerations***

Background:
Staffing levels of a fund should be commensurate with the structural complexity and needs of the investment program. The number and proficiency of staff required to oversee an institutional investment program is a function of many variables. Some critical factors include:

1. The complexity of the investment program, including:
    a. The number of investment mandates
    b. The use of active versus passive management
    c. The inclusion and level of sophistication of alternative asset classes
    d. Direct vs fund of fund investment exposure
    e. Whether internal asset management is utilized
2. The level of non-investment related administrative functions performed by staff
3. The number of investment meetings held per period
4. The use and reliance on external service providers, including the level of due diligence and selection performed by third-party vendors (i.e. investment consultants) versus those performed by staff
5. The use of software to evaluate compliance and risk levels

If the factors above are adjusted, positively or negatively, the level of staff required to implement and oversee an investment program can be materially impacted. The structure of the organization should match the goals and policies adopted by the Board. For example – If the Board believes better net of fee risk adjusted returns can be achieved by allowing staff to identify active investment strategies, then using passive investments strictly because of staffing constraints may not be viewed as prudent.

Conclusion:
It is critically important for minimizing operational risk and consistent with good governance that the level of investment staff is commensurate with the complexities of the investment program. Their scope of work should reflect the goals of the Board and be consistent with the Board's view on what implementation structure will enhance investment results.

Under the current implementation structure LAFPP Investment staff is not directly managing the assets of the investment program (i.e., they are not buying and selling individual stocks and bonds). The Board, in Aon's understanding, relies greatly on the opinions and advice of the consultant and views staff more as a resource to implement the discussions and decisions that the Board and consultant agree on. Staff also serves the function of handling the day-to-day operations of the portfolio as well as creating the materials for meetings with the Board.

Overall, we found that LAFPP currently employs an investment staff of skilled professionals. Although our assessment is limited primarily to empirical information obtained during the interview process and documents produced by investment staff, we found the LAFPP investment staff to be knowledgeable, insightful, candid, and well equipped to implement the current investment mandate, as dictated by the Board.

- ***Comparison of LAFPP's investment performance for the overall plans, as well as that of each underlying asset class, against the Total Fund and asset class benchmarks, as well as peers***

Conclusion:
The table below outlines the investment performance for the overall Plan and each asset class relative to the applicable benchmark and peer group.

Table 2-17. Portfolio Investment Results Relative to the Applicable Benchmark and Peer Group

As of 6/30/2020	1-Year	3-Year	5-Year	7-Year	10-Year	Since Inception (4/2000)
Total Fund	3.0%	6.4%	6.6%	7.8%	9.1%	5.6%
Policy Benchmark	*2.5*	*6.2*	*6.5*	*7.3*	*8.5*	*5.7*
All Public Plans -Median	3.0	5.7	5.9	6.9	8.0	5.6
Rank	*51*	*29*	*17*	*15*	*15*	*45*
Domestic Equity Comp.	4.8%	9.2%	9.2%	11.0%	13.3%	6.9%
R3000 Index	*6.5*	*10.0*	*10.0*	*11.7*	*13.7*	*6.8*
All Public Plans – U.S Equity Median	4.3	8.7	8.9	10.7	13.2	--
Rank	*37*	*41*	*40*	*40*	*44*	--
Int'l Equity Comp.	-3.8%	1.4%	3.3%	5.0%	6.0%	4.1%
MSCI ACWI ex-US	*-4.4*	*1.6*	*2.7*	*4.2*	*5.5*	*3.6*
All Public Plans – Int'l. Equity Median	-3.1	2.1	3.2	4.9	6.5	--
Rank	*60*	*75*	*49*	*40*	*74*	--
Fixed Income Comp.	10.3%	6.4%	5.5%	5.1%	5.5%	5.7%
Bloomberg U.S. Unv. Bond Index	*7.9*	*5.1*	*4.4*	*4.1*	*4.1*	*5.4*
All Public Plans – U.S Fixed Income Median	7.8	5.2	4.6	4.4	4.7	--
Rank	*14*	*9*	*7*	*19*	*19*	--
Real Estate Comp.	-3.0%	4.0%	6.1%	7.8%	9.2%	7.7%
Custom Index	*-1.8*	*4.2*	*6.1*	*7.8*	*9.6*	*9.0*
Passive Commodities Comp.	-7.1%	3.2%	3.0%	--	--	2.2%
Custom Index	*-8.6*	*2.1*	*1.8*			*1.0*
Commodities Derivatives Composite	-16.6%	-5.5%	--	--	--	-4.8%
Custom Index	*-17.4*	*-6.1*	--	--	--	*-5.7*

- ***Appropriateness of the benchmarks and universe comparisons used by LAFPP and their suitability at the Total Fund level, for each asset class, and for the individual managers***

Background:
Benchmarks are used to measure the performance of the Total Fund, asset classes, and individual managers over various time periods and across methodologies to determine the effectiveness of implementation of an investment program. The table below outlines the CFA Institutes "SAMURAI" characteristics which are often used to evaluate benchmarks:

Table 2-18. Characteristics of an Appropriate Benchmark

Characteristic	Description
Specified in Advance	• Specified prior to the start of an evaluation period
Appropriate	• Consistent with the investment
Measurable	• Return is readily calculable on a frequent basis
Unambiguous	• Identity and weight of securities are clearly defined
Reflective of Current Investment Opinions	• Knowledge of the securities or factor exposures
Accountable	• Manager accepts accountability for the benchmark
Investable	• It is possible to invest in the benchmark

Unlike public market asset classes, benchmarking for private market asset classes provides unique challenges and benchmarking concerns within private market asset classes are shared by institutional investors across plan types and asset sizes. Issues that are unique to private market asset classes include but are not limited to:

- The benchmarks do not meet standard benchmark requirements (CFA Institute "SAMURAI" characteristics)
- Un-investability of the fund universe in the benchmark composite
- Limited ability to invest in smaller and potentially better performing funds
- Determining the "Correct" level of premium over the benchmark is not knowable ex-ante
- Short term investment results are largely driven by longer dated investment decisions
- Maintaining the Policy Target makes pacing potentially uneven

- Incentive compensation for private equity teams is more difficult than most other asset classes

Conclusion:
Aon reviewed the benchmarks and universes used throughout the investment consultant's quarterly investment performance reports and have found that they adequately represent the Plan, asset class, and investment manager in which they are compared against. However, we do include a modest proposed enhancement to the Total Fund Benchmark.

The below table outlines the Plan benchmark as of June 30th, 2020.

Table 2-19. LAFPP Total Fund Policy Benchmark

Total Fund Policy Benchmark	Policy Weight
S&P 500 Index (Cap Weighted)	23%
Russell 2000 Index	6%
MSCI ACWI ex-US Index (Gross)	16%
MSCI EM Index (Gross)	5%
Bloomberg US Aggregate Index	12%
ICE BofAML US High Yield Master II Constrained	3%
Bloomberg US Gov't Inflation Linked Bond Index	5%
ICE 3 Month LIBOR +3%	2%
70% NCREIF ODCE +0.50% 15% FTSE NAREIT All Equity REIT Index 15% FTSE EPRA/NAREIT Dvl'd Index	10%
S&P 500 Index +2.5%	12%
Bloomberg Commodity Index	5%
ICE BofAML 3-Month T-Bill Index	1%

The table on the next page evaluates each component of the Plan benchmark relative to the CFA Institute "SAMURAI" characteristics outlined on the previous page.

Table 2-20. LAFPP Asset Class Benchmark Evaluation

Asset Class	Equity					Fixed Income				Real Estate			CMDTY	Cash
Sub -Asset Class	Domestic Large Cap Equity	Domestic Small Cap Equity	Int'l Developed Equity	Int'l Emerging Equity	Private Equity	Domestic Core Fixed Income	High Yield Fixed Income	TIPS	Unconstr. Fixed Income	Private Real Estate	U.S. REITS	Global REITS	CMDTY	Cash
Benchmark	S&P 500 Index	Russell 2000 Index	MSCI ACWI ex-US Index	MSCI Emerging Markets Index	S&P 500 Index +2.5%	Bloomberg US Aggregate Index	ICE BofA US High Yield Index	Bloomberg US Gov't Inflation Linked Bond Index	ICE 3 Month LIBOR +3%	NCREIF ODCE +0.50%	FTSE NAREIT All Equity REIT Index	FTSE EPRA/NAREIT Dvl'd Index	Bloomberg Commodity Index	ICE BofA ML 3-Month T-Bill Index
Long-Term Target	23%	6%	16%	5%	12%	12%	3%	5%	2%	7%	15%	15%	5%	1%
Specified in Advance														
Appropriate														
Measurable														
Unambiguous														
Reflective														
Accountable														
Investable														
Overall View														
Aon Comments	Benchmark Exposure includes 500 mid-cap stocks		Consider adding small cap "IMI" exposure and merging with a benchmark of MSCI ACWI		Consider adding regional and market cap divers.	Non Aggregate Exposures	None	None	None	None	None	None	None	None
Benchmark for Consideration	Russell 3000		Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current

(green)	Property of the benchmark is valid
(yellow)	Property of the benchmark is nuanced
(red)	Property of the benchmark is not valid

In review of the makeup of the Total Fund Policy Benchmark (outlined on the previous page) Aon has identified a few areas for comment and one area of improvement for consideration:

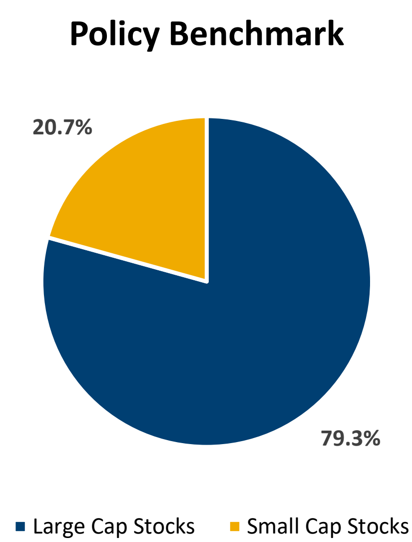
A. The U.S. Equity component of the Policy Benchmark excludes roughly 500 stocks from the opportunity set (as well as the domestic equity benchmark). The breakout solely between the S&P 500 Index and Russell 2000 Index excludes ~500 mid-cap stocks, this leads to an overweight to small cap stocks within the benchmark for the U.S. marketplace. Aon recommends changing U.S. Equity policy weight allocations to either:

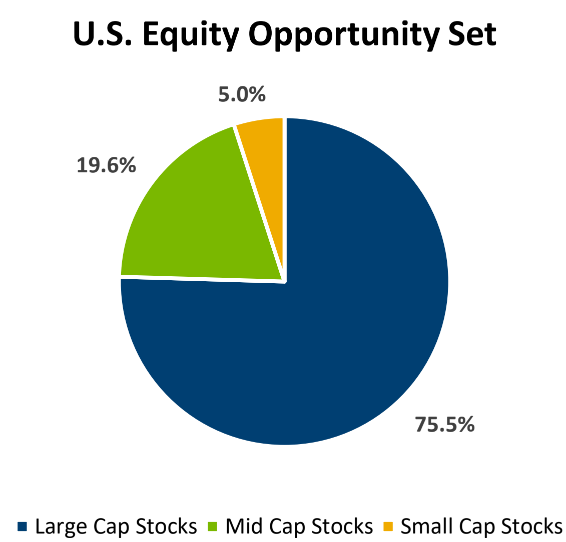
   a. Replace the S&P 500 index with the Russell 1000 Index or,

   b. Benchmark the 29% U.S. Equity policy allocation in the Total Fund benchmark to the broad Russell 3000 Index

The below charts provide an illustration comparing the U.S. Equity component of the Policy Benchmark to the full U.S. Equity opportunity set.

Charts 2-14. LAFPP Equity Benchmark Exposure and Opportunity Set Exposure





The below table outlines the benchmarks and universes used for asset class comparison.

Table 2-21. LAFPP Policy Benchmark and Universe by Asset Class and Strategy

Asset Class	Benchmark	Universe
Domestic Equity Composite	Russell 3000 Index	All Public Funds – US Equity
Domestic Large Cap Equity	S&P 500 Index	IM U.S. Large Cap Equity (SA+CF)
Domestic Small Cap Equity	Russell 2000 Index	IM U.S. Small Cap Equity (SA+CF)
Int'l Equity Composite	MSCI AC World ex-US	All Public Funds – Intl. Equity
Int'l Developed Equity	MSCI AC World ex-US	IM All ACWI ex-US (SA+CF)
Int'l Emerging Equity	MSCI Emg. Mkts. Index	IM Emerging Markets Equity (SA+CF)
Fixed Income Composite	Bloomberg U.S. Universal Index	All Public Plans – US Fixed Income
Domestic Core Fixed Income	Bloomberg US Aggregate Index	IM US Brd. Mkt. Core Fixed Income (SA+CF)
High Yield Fixed Income	Credit Suisse High Yield Index	IM US High Yield Bonds (SA+CF)
TIPS	--	--
Unconstrained Fixed Income	3-Month LIBOR Index +3%	--
Real Estate	70% NCREIF ODCE +0.50% 15% FTSE NAREIT All Equity REIT Index 15% FTSE EPRA/NAREIT Dvl'd Index	--
REITS Composite	50% FTSE NAREIT All Equity REITS Index 50% FTSE EPRA/NAREIT Dvl'd Index	IM Global REITS (SA+CF)
U.S REITS	FTSE NAREIT All Equity REITS Index	IM US REITS (SA+CF)
Global REITS	FTSE EPRA/NAREIT Dvl'd Index	IM Global REIT (SA+CF)
Passive Commodities Composite	Mix of S&P Gbl Natural Res Sect Index (Net), S&P Gbl Timber & Forestry Index (Net), S&P Gbl Water Index (Net), S&P Gbl Clean Energy Index (USD) (Net), DJ Brookfield Gbl Infrastructure Index, and the S&P CP Agribusiness Index (Net).	--
Commodities Derivatives Composite	Bloomberg Commodity Index	--
Cash Composite	ICE BofAML 3-Month US T-Bill	--
Private Equity Composite	S&P 500 +2.5%	--

Below are all the manager benchmarks which are included in the quarterly investment performance reports.

Table 2-23. LAFPP Manager Benchmarks From the Quarterly Performance Report

Benchmarks		
Russell 1000 Value Index	S&P 500 Index	S&P 500 Index (Equal Weighted)
STOXX USA 900 Min Var Index	Russell 1000 Growth Index	Russell 2000 Value Index
S&P 600 Index	Russell 2000 Index	Russell 2000 Growth Index
MSCI EAFE Index	MSCI ACW ex US Index	MSCI EAFE Small Cap Index
S&P Dvl'd ex US Small Cap Index	MSCI Emerging Markets Index	HFRI Macro Index
Bloomberg US Agg Index	Bloomberg US Gov't/Credit LT Index	Bloomberg US MBS Index
High Yield Custom Index	Bloomberg US Gov't Inflation-Linked Bond Index	3-Month LIBOR + 3%
US REITS Custom Index	FTSE EPRA/NAREIT Dvl'd Index	S&P Global Clean Energy Index
S&P CP Agribusiness Index	DJ Brookfield Global Infrastructure Index	S&P Global Natural Resources Sector Index
S&P Global Timber & Forestry Index	S&P Global Water Index	Bloomberg Commodity Index
ICE BofAML 3 Month T-Bill Index	S&P 500 +2.5%	S&P 500 Global Natural Resources Index

Based on our experience with the benchmarks and universes being utilized by the Plan's investment consultant, we are comfortable with their continued use.

Recommendation II.13:

High Priority	Medium Priority	Low Priority
X		

- Aon recommends amending the current U.S. Equity Policy allocation to either replace the S&P 500 Index with the Russell 1000 Index or replace both the S&P 500 Index and Russell 2000 Index with the Russell 3000 Index.

Recommendation II.14:

High Priority	Medium Priority	Low Priority
		X

- Consider adding small cap "IMI" exposure to international equity.

Recommendation II.15:

High Priority	Medium Priority	Low Priority
		X

- Consider merging international developed and emerging markets and benchmarking against the MSCI ACWI ex-US IMI Index.

Recommendation II.16:

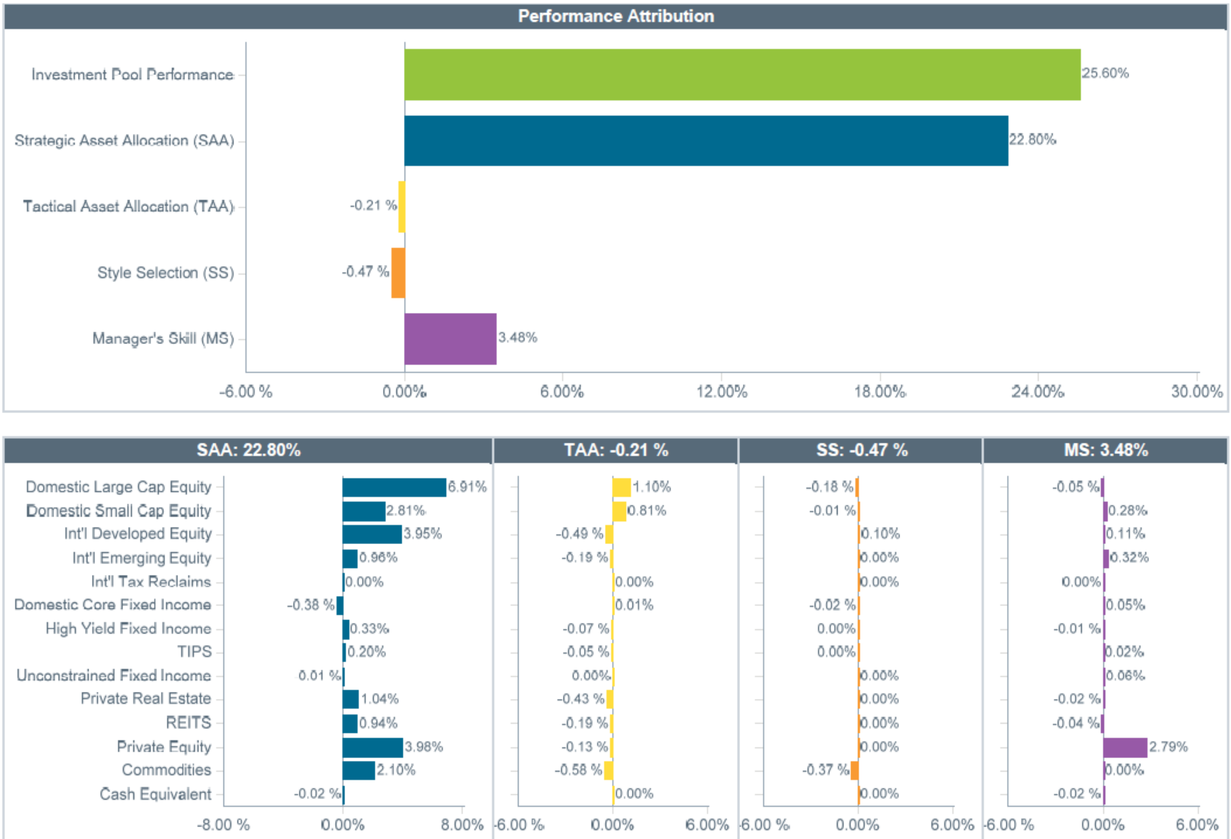
High Priority	Medium Priority	Low Priority
		X

- Consider adding regional and market cap diversification to the private equity benchmark (i.e. 67% Russell 3000 Index and 33% MSCI ACWI ex-US IMI Index +2.5%).

- ***Performance attribution analysis at the Total Fund level***

Conclusion:
Given the unavailability of net of fee investment returns, Aon has provided the gross of fee performance attribution created by LAFPP's investment consultant. The investment consultant utilizes the same performance reporting platform, and therefore the same attribution as Aon. Total Fund attribution can be a valuable tool in the evaluation of relative performance of an investment program. However, we find gross of fee attribution to be less valuable in appraising investment results relative to net of fee performance attribution. The investment consultant's 1-year Total Fund attribution as of September 30, 2021 is shown in the chart below. As Appendix E to our report we have included the additional attribution detail requested.

Chart 2-15. LAFPP Total Fund Performance Attribution

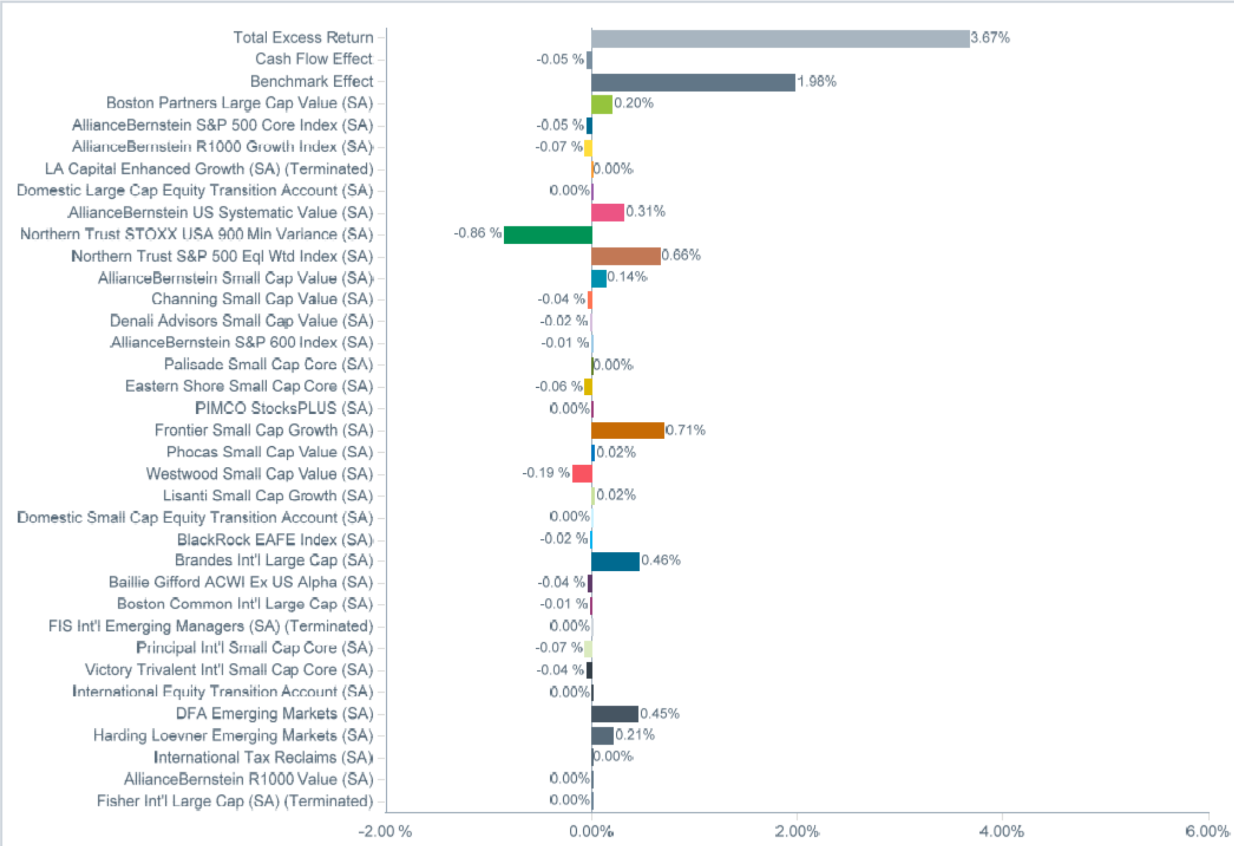


The Total Fund attribution analysis that the investment consultant provides in its quarterly investment performance reports are thorough and provide the Board with important information for its use in monitoring relative investment performance. For instance:

- The Total Fund returned 25.6% over the trailing 1-year period relative the policy index return of 22.8%.
- Manager skill, which is asset classes outperforming their respective benchmarks, added 3.48% of value over the period.
- Tactical asset allocation, which is the value added or lost from not holding exact target weights, detracted 0.21% from performance.
- Style selection, which represents return gained or lost from intentional style biases within each asset class, also detracted from relative performance by 0.47%.

The appendix of the consultant's investment quarterly investment performance report provides detailed descriptions of the categories shown in the attribution reports.

Chart 2-16. LAFPP Asset Class (Total Equity) Performance Attribution



In addition to Total Fund attribution, the investment consultant also calculates attribution by asset class. Below is an example of 1-year asset class attribution for the Fund’s Total Equity allocation.

- The Equity allocation outperformed its benchmark by 3.67%
- Cash flow effect detracted 0.05% from relative performance
- The structure of the asset class’s deviation from the benchmark added 1.98% to relative performance
- Each manager’s contribution/detraction to performance is listed. For example, Boston Trust Large Cap Value added 0.20% to performance

III. Economy and Efficiency of Administration/Management of the System

- ***Operating budget process***

The budget process is described in the LAFPP Board Operating Policies and Procedures Manual. The budget is created by considering LAFPP's strategic goals, annual business plans, and the Mayor's priorities. Prior to April 1 of each year, the General Manager submits a preliminary budget including the City's contribution for the ensuing fiscal year to the LAFPP Board, the Mayor, the City Administrative Officer, and to the Controller. Once the Mayor and Council approve the budget, the LAFPP Board reviews and adopts the final budget no later than June 30 of each year. The LAFPP Board Governance Policies Manual requires that the Board regularly monitor compliance with the administrative budget. In addition, the budget process is part of the new Board member orientation curriculum. The General Manager Performance Evaluation Policy also measures the General Manager's actions in preparing and managing the operating budget in a fiscally responsible manner. The Monitoring and Reporting Policy also provides for the General Manager to include budget compliance as part of monthly reporting. We find the process to be thorough, with appropriate monitoring controls.

- ***Broad drivers of costs***

The total costs of LAFPP's expense include pensions and benefits, administration, and investment management. When looking at the total expenditures, administrative and investment management expenses make up a small portion of the total. The LAFPP 2021 Annual Report reflects that administrative expenses represent 1.57 percent of the total expenses, and investment management expense represents 9.08 percent. The remaining 89.35 percent of total expense was made up of pension and health benefit related expenses, as depicted in the exhibit below created from the 2021 Annual Report:

Chart III-1. 2020-21 Actual Expenses

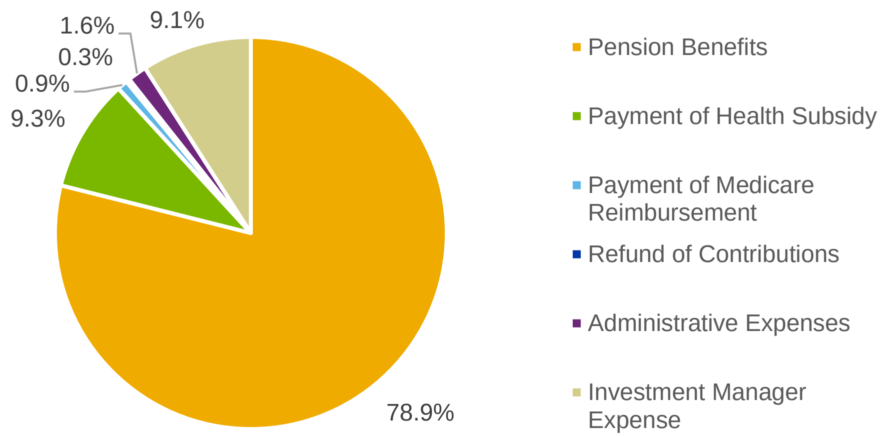
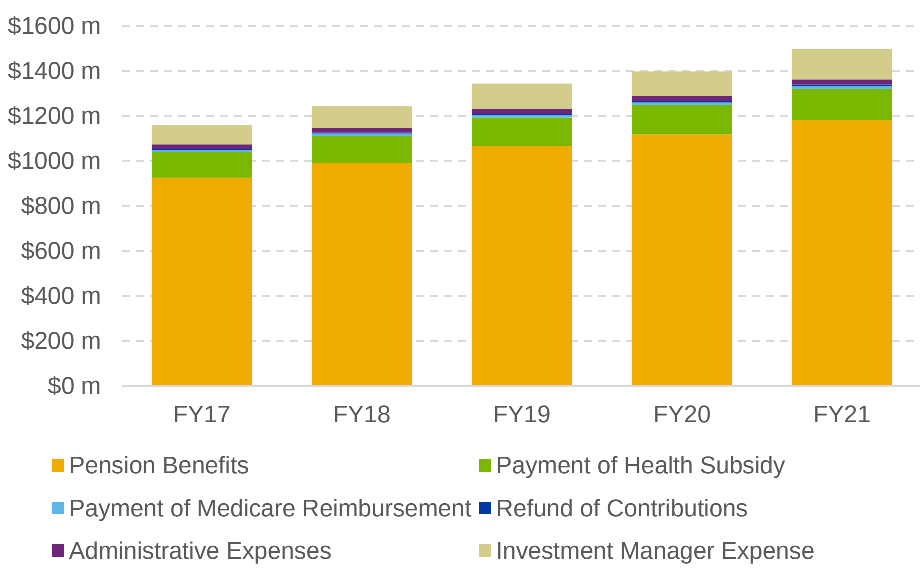


Chart III-2 below created from past Annual Reports depicts a breakdown of total expenditures over a five-year period.

Chart III-2. Five-Year Expenditures History



We observe the broad drivers of costs, including pension and health benefits expenses, investment management expenses and administrative expenses, are consistent with what we see represented in other public fund's expenses.

- ***Expenses over the scope period: administrative and investment management***

A. Administrative expenses

Chart III-3. below shows budgeted administrative expense, actual administrative expense and the number of employees over the scope period. Administrative expense is made up of personnel services, professional services, information technology, training and related travel and office expenses. Generally, increases were observed in both budgeted and actual administrative expense from FY 2013 to FY 2016, before becoming relatively stable from FY 2016 to FY 2020.

Chart III-3. Administrative Expense Budgeted vs Actual

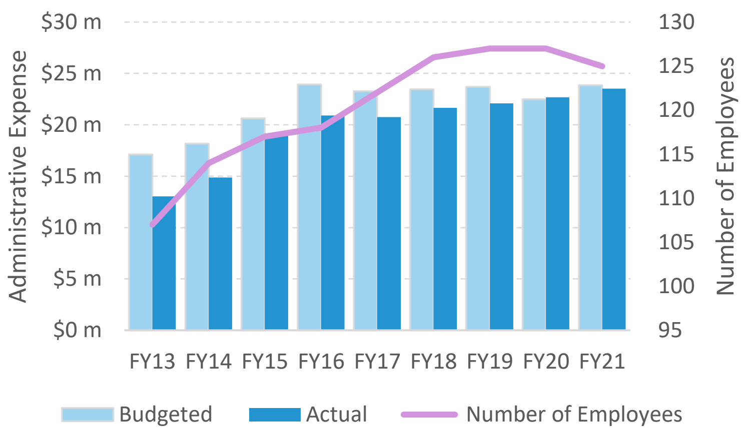


Chart III-4. below displays the percentage increase or decrease in actual and budgeted administrative expense compared to the previous year. Relatively large administrative budget increases were observed in FY 2015 and FY 2016. These increases were 14% and 16% respectively. The increase in FY 2015 reflects the first year LAFPP began payment to LACERS for employer contribution to retirement and the increase in FY 2016 reflects the first-year cost of a pension administration system replacement project. FY 2015 also had the largest increase in actual administrative expense with a 29% increase.

Chart III-4. Administrative Expense YoY Change Budgeted vs Actual

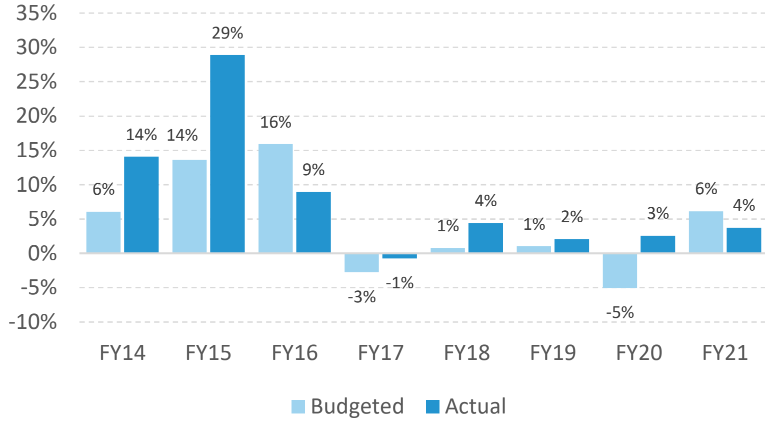
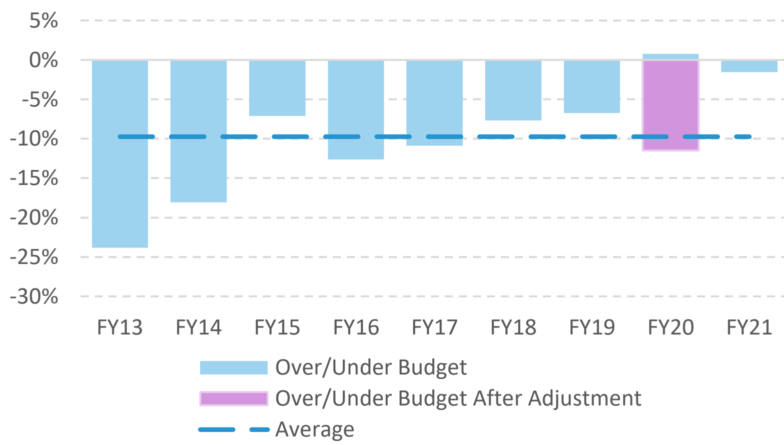


Chart III-5. below displays the percentage that actual administrative expenses were over or under the budgeted administrative expenses. Administrative expenses have been under budget by an average of 9.7% from FY 2013 to FY 2020. Every year remained under budget except for FY 2020 where expenses were 0.75% above the adopted budget before adjustments. However, the FY 2020 budget was adjusted higher to reflect retroactive salary increases paid in FY 2020, bringing expenses below the adjusted budget by 11.5%. Additionally, it should be noted that the spread between actual administrative expense and budgeted administrative expense has narrowed over the scope period.

Chart III-5. Administrative Expense Percentage Over/Under Budget



B. Investment management expenses

Chart III-6. below shows budgeted investment management expense, actual investment management expense and investments at fair value. Investment management expense is made up of investment management fees and consulting fees. Generally, investment management expenses have increased over the scope period as assets under management have increased.

Chart III-6. Investment Management Expense Budgeted vs Actual

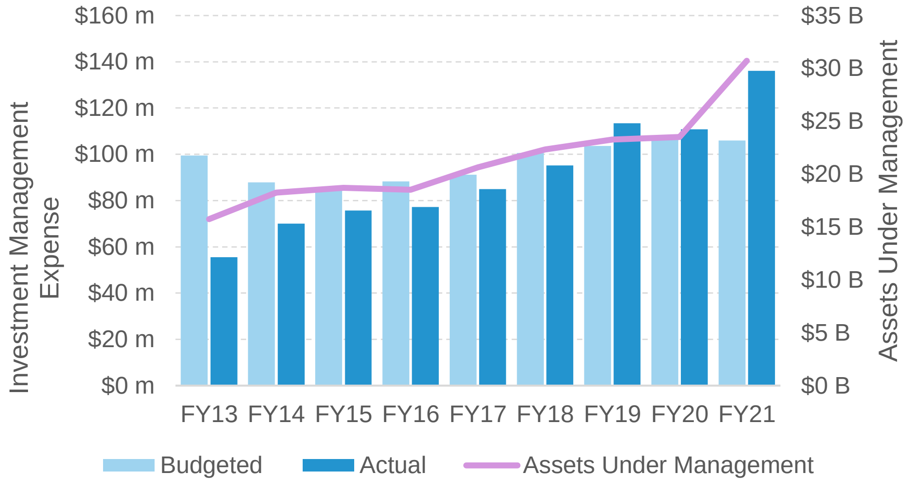
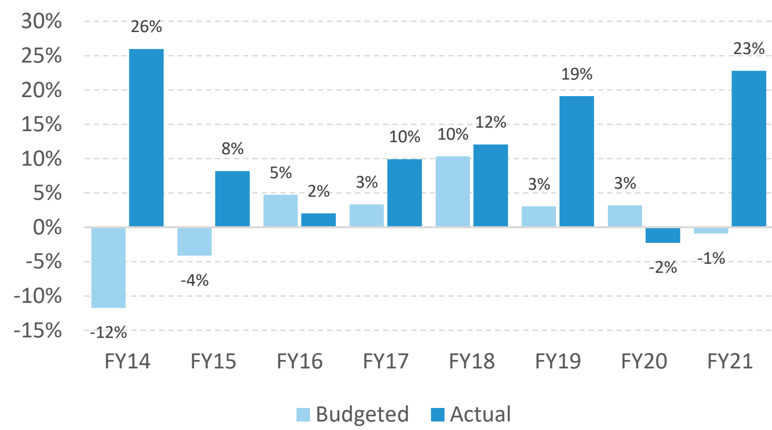


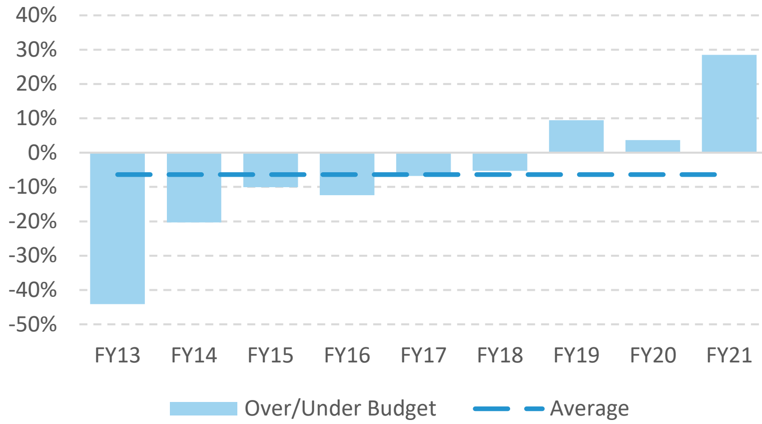
Chart III-7.below shows the percentage that budgeted and actual investment management expenses changed from the previous year.

Chart III-7. Investment Management Expense YoY Change Budgeted vs Actual



As depicted in Chart III-8. below, investment expenses have been under budget by an average of 6.4% over the scope period. The spread between investment expense budgeted and investment expense actual was narrowing from FY 2013 to FY 2018, before investment expense actual exceeded investment expense budgeted in FY 2019. In FY 2013, investment management expense was under budget by 44.1%. In FY 2021 investment management expense was over budget by 28.5%, this can be attributed to higher AUM and increased exposure to private equity.

Chart III-8. Investment Management Expense Over/Under Budget



Sources: LAFPP Final Budgets FY 2013 – FY 2022, Management Commentary, Audited Financial Statements

Conclusion:
Our interviews confirmed that the LAFPP Board and Staff are mindful of properly budgeting and are managing costs in a prudent manner. Generally, over the scope period, increases in budget have been relatively stable and administrative and investment expenses have been under budget.

- ***Expenses compared to Peers***

LAFPP uses CEM Benchmarking to compare various aspects of its administration to peers, including pension administration costs. Comparison to peers is an exercise in prudence. The California Constitution and the City Charter require the LAFPP Board to discharge its duties with the care, skill, prudence and diligence under the then prevailing circumstances that a prudent person 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. This language mirrors ERISA and contemplates comparison to prudent trustees at peer pension systems. The standard does not require that fiduciaries act in the same manner as peers. Rather, it requires that decision-making by fiduciaries be informed by the actions of comparable fiduciaries – like entities with like aims.

We reviewed the CEM Benchmarking study completed in 2018. CEM identified 10 LAFPP peers for purposes of the study. CEM selects peers based upon membership size. Benchmarked against those peers and against California pension systems, LAFPP's administrative costs appear to be the highest per active member and annuitant. LAFPP raised the issue with Aon of whether the identified peer group in the study was appropriate, and we agreed that the CEM peer group may not be as comparable as desired. Therefore, we created and analyzed our own customized peer group of other fire and police pension systems that are more similar to LAFPP.

Table III-1. Customized Peer Group Comparisons

Peer	Year As of 9/30	Asset Size (millions)	Total Membership (Active + Retirees)	Administrative Expenses[1]	Admin Cost Per Member	Admin Cost per Asset Size (bps)	Drop Program	Staffing Size	Admin Cost per Staff Member
Los Angeles Fire and Police Pensions[6]	**2019**	**$24,637**	**27,155**	**$22,099,870**	**$813.84**	**8.97**	**Yes**	123	**$179,674**
	2020	**$25,757**	**27,352**	**$22,667,875**	**$828.75**	**8.80**		121	**$187,338**
Fire & Police Pension Association of Colorado	2019	$5,860	28,294	$7,957,953	$281.26	13.58	Yes		
	2020	$6,250	28,379	$7,988,692	$281.50	12.78		58	$137,736
Ohio Police & Fire Pension Fund[4]	2019	$15,780	58,653	$21,800,000	$371.68	13.81	Yes[3]	148	$147,297
	2020	$15,529	59,542	$19,218,035	$322.76	12.38		148	$129,852
Houston Police Officers' Pension System	2019	$5,662	9,819	$3,580,000	$364.60	6.32	Yes	19	$188,421
	2020	$5,572	9,990	$3,922,000	$392.59	7.04		20	$196,100
Houston Firefighters Relief and Retirement Fund[5]	2019	$4,258	7,391	$5,830,113	$788.81	13.69	Yes	29	$201,038
	2020	$4,270	7,254	$6,217,000	$857.04	14.56		24	$259,042

[1]Non-investment related expenses
[2]Total Assets - DB and DC
[3]89.7% of member participated in DROP
[4]Staffing Size includes 17 investment staff
[5]Administrative Expenses includes Professional Services
[6]4 investment FTEs are excluded from Staffing Size

Administration costs benchmarked against our customized peer group also reflect that LAFPP administrative costs appear high as LAFPP has higher administrative cost per member when reviewing the customized peer group. We recognize that there are several drivers that cause the high costs, including, but not limited to:

- the complexity of the retirement plan, with six different tiers of benefits
- administering two versions of the DROP program
- processing disability pensions
- processing service retirements and service purchases
- calculating lost service time
- "high-touch" level of member services

When reviewing total administrative costs compared to asset size (in basis points), LAFPP fares much more favorably, in both the CEM study and in the customized peer group comparison. The CEM study found that LAFPP's cost of 8.2 basis points was below the peer average of 12.9 basis points. Three out of four of the customized peers all had higher administrative costs per asset size than LAFPP.

We also reviewed staffing size and turnover. Based on the 2018 CEM Benchmarking study, we observed that the number of LAFPP administrative staff appear to be the highest of the identified peer group. When looking at the customized peer group, LAFPP had the second highest staff size of the customized peers. Again, we attribute this to the need for staff to administer the complex tier of benefits and disability pension cases. In reviewing turnover rates, we found the number to be relatively stable over the scope period.

Table III-2. LAFPP Staff Turnover

FY	Regular Positions	Resolution Authority Positions	Total Positions	Terminations*
2012-2013	116	0	116	5
2013-2014	114	0	114	14
2014-2015	117	0	117	10
2015-2016	118	2	120	12
2016-2017	122	2	124	14
2017-2018	126	3	129	25
2018-2019	127	3	130	21
2019-2020	127	3	130	12
2020-2021	125	2	127	12
2021-2022	126	2	128	10

- ***Opportunities for Cost Sharing***

A. Current cost sharing arrangements:

We observed that LAFPP engages in cost sharing with the Los Angeles City Employees' Retirement System (LACERS) and the Water and Power Employees' Retirement Plan (WPERP). The main area of cost sharing amongst the Systems is for the City Attorneys' Office's legal representation amongst the Systems. The LAFPP Compensation of City Attorney Legal Fees, Benefits and Expenses Policy and the April 13, 2015, Letter Agreement between the Systems reflect the method and manner of this cost sharing arrangement. Shared costs include salaries incurred by City Attorney clerical staff, hours worked by City Attorney staff in joint support of the three Systems, and compensatory time taken by City Attorney staff. Each System is responsible for its portion of shared costs, which is calculated based on a percentage of salary per work order to the total salary. The salary-based percentage is also applied to the cost sharing of non-salary expenses. Effective July 1, 2014, LACERS is the central billing agency for the non-salary City Attorney expenses. The non-salary expenses include office space lease, office furniture and equipment, parking, dues, subscriptions, publications, travel expenses, training, copy machine rental, office supplies and computer equipment. LAFPP and WPERP reimburse LACERS based upon the percentage of City Attorney staff time used by each System.

Currently the City Attorney Public Pensions General Counsel Division's primary office is housed in the LACERS location, with satellite offices at LAFPP. WPERP reimburses its pro-rata share of the primary office lease expense incurred by LACERS but is not responsible for reimbursing LAFPP for the satellite office lease expenses.

The Systems reconvene as necessary to review and discuss any changes to the City Attorney cost sharing arrangement. Additionally, LAFPP reviews the Compensation of City Attorney Legal Fees, Benefits and Expenses Policy at least every three years.

LAFPP and LACERS also contract with the same real estate consultant. For investments made in the same commingled fund, the real estate consultant negotiates on behalf of both systems, which reduces each System's respective management fee for the commitment.

Finally, the three Systems share outside legal counsel expenses covering the review and drafting of investment fund documents when making the same investments.

B. Potential cost sharing opportunity

A potential cost sharing opportunity could be explored through a group purchase of management liability insurance. By joining as a group through one broker, the Systems could contact the markets as a group, rather than individually, and obtain cheaper insurance rates. The management liability insurance could include primary and excess fiduciary liability, directors and officers liability, employment practices liability, cyber and crime, as determined by each System. Each System would obtain its own policy with their own limits and the Systems would not pool or share risk. This arrangement has successfully been utilized by other retirement systems and has resulted in cost savings for each system that was part of the group.

Recommendation III.1:

High Priority	Medium Priority	Low Priority
		X

- Explore additional cost sharing opportunity with LACERS and WPERP regarding management liablity insurance.

- ***Interagency integrity of data***

We reviewed for any issues regarding the integrity of LAFPP's interagency data, and determined that there are no problems or concerns in this area.

IV. Governance

• Board Governance Manual/Policies

Background:

"Governance" refers to the method by which an entity is directed and controlled. A good governance structure clearly defines the roles of the different parties that participate in the decision-making process and includes the way issues are identified, options are analyzed, and decisions are evaluated and ultimately by whom they are made. Key elements of a solid governance framework include transparency and accountability, prudent documentation, specificity regarding any delegation and oversight, and effective leadership. Consequently, organizations that exercise "good governance" have clear and concise documentation of roles and responsibilities, effective and efficient reporting lines, and clarity concerning what authority has been retained by a board and what has been delegated. Studies have shown that "good governance" adds tangible and intangible value to an organization.[2]

For many public pension funds, the enabling statute sets forth high-level duties of the board, the executive director/general manager, and the chief investment officer ("CIO"). Most public pension funds further document the roles, responsibilities and reporting lines by adopting bylaws, charters, written delegations of authority, organizational charts, position descriptions, and policies and procedures (e.g., the investment policy statement, governance manual, etc.).

Clearly defined roles and responsibilities is a recognized best practice, as it facilitates a board's ability to fulfill its fiduciary duty, mitigate risk, and help the organization to run more effectively and efficiently. It is important that the documentation be in line with statutory authority, be unambiguous, succinct, consistent, and periodically reviewed to ensure relevance.

We find that many systems compile their internal policies and references to relevant statutes, regulations, and other documents into a governance manual in order to create one centralized place where the rules and principles governing the system are compiled. Such a governance manual helps ensure that all trustees, staff, stakeholders, and other interested parties receive complete and consistent information to understand their respective roles, as well as the governing structure of the system. In general, the purpose of a governance manual is to set forth in writing the operating guidelines a board has for itself. It codifies the way things work and provides continuity when trustees change. It documents the structure, manner, and process by which a board exercises its authority and control. It helps boards meet their fiduciary responsibilities.

Conclusion:

LAFPP has adopted a Board Governance Policies Manual, Board Operating Policies and

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[2] "Good Governance Adds Value", a study published by Rotman International Journal of Pension Management, found that better governed pension funds outperformed poorly governed funds by 2.4% per annum during the 4-year period ending 12/2003. A similar study for the period 1993-1996 found a 1% annual good governance performance dividend. Capelle, Ronald, Lunn, Hubert and Ambachtsheer, Keith, "The Pension Governance Deficit: Still with Us" (October 2008), Rotman International Journal of Pension Management, Vol. 1, 2008.

Procedures Manual, and a Board Investment Policies Manual. The Board Governance Policies Manual outlines applicable laws, and duties and responsibilities for Board members and the General Manager (GM), board operations, and monitoring and reporting. We found that the current LAFPP delegation matrix contained in the Board Governance Policies Manual is an important tool and in line with governance best practices. The delegation matrix identifies the various parties involved in the administration of the System and key/decisions that are required to be performed. The document facilitates understanding for the Board, the GM, Staff and outside consultants relative to who has responsibility for what delegated function, in line with Board expectations.

Further, LAFPP follows best practice in transparency by posting all three of these Manuals on its public website.

Additionally, like a number of cutting-edge public pension systems, LAFPP has adopted a policy addressing environmental, social, and governance (ESG) issues. LAFPP's ESG Policy Purpose sets forth the Board's awareness that ESG issues may have an impact on investment returns, and in such instances, these issues should be examined. The ESG Policy Purpose makes it clear, however, that any actions taken must be consistent with the Board's fiduciary duties, which we find to be appropriate from a fiduciary and governance perspective.

In looking at the Board Governance Policies Manual, Board Operating Policies and Procedures Manual, and Board Investment Policies Manual, we focused on policies compared to industry standards. We compared LAFPP's policies to the policies we would expect to find at a public fund that has operating policies consistent with best practices. In our comparison, we observed that LAFPP has most of the policies we would expect to find. The chart below compares the LAFPP policies to our best practice policies list.

Table III-3. Best Practices Policy List	Policy Exists
1. Reference to governing laws and charters	√
2. Ethics policy	√
3. Conflicts of interest and disclosure policy	√
4. Board meeting protocol	√
5. Delegation policy	**There is delegation matrix**
a. Responsibilities of the Board	√
b. Responsibilities of the Executive Director/General Manager	√
6. Investment policy. Examples of key provisions	√
a. Investment goals and objectives	√
b. Identification of Roles and Responsibilities	√
c. Asset Allocation	√
d. Asset class guidelines and benchmarks	√
e. Rebalancing policy	√
f. Monitoring and reporting	√
g. Securities litigation policy	√
h. Proxy policy	√
i. Insider trading policy	
j. Personal trading policy	
k. Placement agent policy	**Reference**
7. Budget approval policy	√
8. Legislative policy	
9. Customer service policy	
10. Communication policy	**Reference**
11. Procurement policy	√
12. Audit policy	**Audit Charter**
13. Board member education policy	√
14. Board travel policy, including approval process	√
15. Staff compensation policy	
16. Strategic planning and implementation policy	√
17. Succession planning policy	**Reference**
18. Risk management policy	**Reference**
19. Whistleblower policy	
20. Disaster recovery/Business continuity policy	√
21. Cybersecurity policy	
22. Board self-evaluation policy	√
23. Executive Director/General Manager evaluation policy	√
24. Service provider evaluation policy	
a. Investment consultant	√
b. Legal counsel	√
c. Actuary	
25. Reporting and monitoring policy	√
26. List of routine reports provided to the Board	√
27. Board Operating Policy and Procedures	

a. Benefits Administration	
b. Benefits Processing	√
c. Benefits hearing	√
28. Funding Policy	√
Schedule of Policy Review Frequency and Amendments	√

Recommendation IV.1:

High Priority	Medium Priority	Low Priority
		X

- We recommend that LAFPP consider adoption of the best practice policies that have not been adopted listed above.

• *Monitoring and reporting*

Background:
In order to adequately fulfill their fiduciary responsibilities, it is essential that board members devote adequate time to monitoring compliance with the policies and procedures they have adopted. In order to assess compliance, suitable reporting is essential. The U.S. Supreme Court has stated that fiduciaries have a continuing duty-separate and apart from the duty to exercise prudence-to appropriately monitor. *Tibble v. Edison International*, 135 S.Ct. 1823 (2015), *Hughes v. Northwestern Univ., 595 U.S.__2022.*

Conclusion:
LAFPP has adopted a Monitoring and Reporting Policy which establishes the Board's expectation regarding regular reporting. The Policy lists the routine reports provided to the Board, including the frequency and who has responsibility for providing each report. Our observation is that LAFPP has processes in place to ensure policy compliance is executed through its policy verification process and reporting. Additionally, Staff annually performs a policy verification process and reports to the Board through a Governance Compliance Report.

The Governance Compliance Report confirms compliance with the Board's operating policies, including Governance and Investments. We find the Monitoring and Reporting Policy, and the Governance Compliance Report to be in line with best practices and enables the Board to exercise its oversight responsibilities.

• *Systematic fiduciary training*

Conclusion:
Prior Management Recommendation #46 provides that LAFPP Management should establish a fiduciary responsibility training requirement for new Staff who have fiduciary responsibility and

provide ongoing training annually. LAFPP indicates that executive Staff attend annual conferences where this training is provided. We acknowledge that COVID has impacted travel to these conferences. However, the importance of understanding fiduciary duties and responsibilities cannot be understated.

Recommendation IV.2:

High Priority	Medium Priority	Low Priority
	X	

- LAFPP should establish a formal orientation and annual training program, in conjunction with the City Attorney's Office, for Staff who have fiduciary obligations.

• *Board Education Policy*

Background:
To keep abreast of current issues and industry changes, the best practice is to provide thorough and on-going training for trustees. Some boards have adopted education policies, which we believe is a prudent practice. An education policy sets forth the timeframes for orientation and continuing educational requirements, the essential educational topics to be covered, internal educational programs, recommended external conference opportunities, and an evaluation process for board input on training, and materials for self-study.

According to a 2019 NASRA survey, out of 25 participating Systems, 19 reported that they have a requirement to receive continuing education. 16 of those systems require a specified number of hours ranging from 2-18 hours annually. Most systems require that the education be related to fiduciary responsibility, ethics, investment issues, actuarial concepts, and open meeting requirements.

Conclusion:
LAFPP has adopted a Board Education Policy. The Policy contains many topics of expected training that we find are in line with best practices, including fiduciary duties, actuarial funding, institutional portfolio management, and administration of pension, disability and health benefits.

The LAFPP Board Education Policy provides that board members are expected to participate in all in-house education sessions and are encouraged to attend at least two approved educational conferences per year. Rather than setting forth an aspirational goal for trustees to receive continuing education, best practice requires a minimum number of hours that should be met by the Board Members.

Board members are expected to complete a conference evaluation from upon returning from outside conferences. The Board Education Policy also requires an annual report summarizing educational activities and board associated travel. LAFPP practices transparency by posting the report, which comports with best practice.

Recommendation IV.3:

High Priority	Medium Priority	Low Priority
	X	

- Amend the Board Education Policy to require a minimum number of hours that Board members must complete as part of their annual continuing education.

- ***Independence of the System-Frequency of board meetings/Staff hiring and compensation/Administration of Retiree Healthcare Program***

Background:
The National Conference of Commissioners on Uniform Laws approved and recommended the Uniform Prudent Investor Act (UPIA) to all states August 4, 1994, and the Uniform Management of Public Employees Retirement Systems Act (UMPERSA) on August 1,1997. These two uniform laws effectively incorporate the major principles of fiduciary duty. The concepts set forth in the uniform laws are often considered “best practice” and therefore have been used as models by public pension funds and investment boards to modernize fiduciary and investment standards.

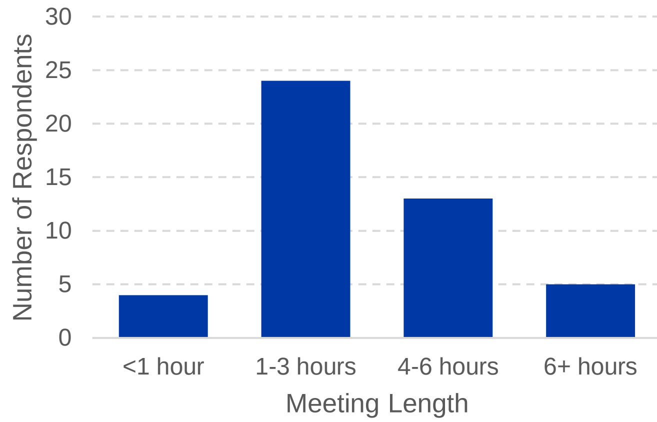
It is important for governing fiduciaries in charge of the administration and management of retirement system assets be independent-whether a sole fiduciary or board of trustees. UMPERSA specifies that the governing fiduciaries must have a level of independence that is sufficient to allow them to perform their duties effectively and efficiently. Governing fiduciaries are subject to extensive and stringent fiduciary standards such as the duty of loyalty. Independence permits the governing fiduciaries to perform their duties in the face of pressure of others who are not subject to the same obligations.

- ***Frequency and length of board meetings***

Background:
We have seen a growing trend for public pension system boards to reduce the number of annual board meetings. The National Association of State Retirement Administrators (NASRA) conducted a 2019 survey on the frequency and length of board and committee meetings. Forty-

eight systems in thirty-seven different states responded to the survey. Of the responses, 14 systems reported that their governing boards meet monthly, 7 meet bi-monthly, and 17 meet quarterly. Others meet between 5-10 times per calendar year. The typical length of board meetings is as follows:

Chart III-9. NASRA Survey-Typical Length of Public Pension Funds Board Meetings (2019)



Conclusion:
Pursuant to City Charter Section 503(b), the LAFPP Board is required to meet at least twice per month. This is atypical of current practices and trends. Additionally, meeting so often requires a signification amount of Board and Staff expenditure of time and resources. This can also result in a lag on keeping board meeting minutes up to date. Through our interviews, the Board members did not see a need to meet less often and reported that most meetings are under four hours. Board members do not want to see longer board meeting days as a result of cutting back on meeting twice per month. We also recognize that any changes would require an amendment to the City Charter. However, we believe LAFPP should have its own ability to independently decide on the frequency and timing of its board meetings.

Recommendation IV.4:

High Priority	Medium Priority	Low Priority
	X	

- We recommend that the City consider changing the City Charter to grant LAFPP independence to determine the frequency and timing of LAFPP board meetings.

- ***Staff hiring and compensation***

Background:

Historically, public pension funds have been hindered in their ability to recruit and retain qualified talent, particularly for investment staff, because they did not have independent authority or were subject to civil service requirements. Many public pension funds have been granted authority by their respective legislatures to have independence over the recruitment, hiring, and compensation of the fund's staff. Currently, LAFPP is subject to the City's classifications of positions and salary structure. Throughout interviews we learned that at times the classifications do not adequately cover the job being performed at the retirement system. Not having an independent salary compensation structure could cause problems with professional and investment staff being underpaid according to market, which can directly affect recruiting and retention efforts.

The Department of Labor, in reviewing the duty to defray reasonable expenses of administering a pension system, has stated that reasonable expenses are those that are appropriate and helpful to the plan. DOL recognizes that in order for the plan to be properly managed and to fulfill responsibilities of administering the plan, trustees can ensure that they have adequate resources and staff necessary to meet the needs of the plan. This could be hindered if a system does not have proper independence in this area. Having independence in this area is in line with the independence principles noted by UMPERSA and best practices.

Recommendation IV.5:

High Priority	Medium Priority	Low Priority
X		

- We recommend that the City amend the City Charter to give LAFPP independent authority regarding LAFPP staff hiring and compensation.

• *LAFPP Retiree Healthcare Program*

According to Los Angeles Admin. Code Section 4.1152, the LAFPP Board is required to administer a healthcare program for eligible retired members and beneficiaries. The eligible retired members and beneficiaries have subsidy payments made on their behalf towards medical, dental, and vision insurance premiums in approved plans. The Board is legally responsible for approving health plans that can receive subsidy amounts, contracting with health insurers or third-party administrators, and setting subsidy amounts. We were informed that since the 1970s, the Board has delegated its authority for administration of the healthcare program to a group of Associations, which includes approving health plans and contracting with health insurers and third parties. The Associations decide which health plans are to be selected, including plan design, cost-sharing, provider networks, and premium costs. These health plans are funded by subsidy payments and are selected by the Associations, rather than by LAFPP.

In setting the subsidy, the formula in the City's Administrative Code includes a reference to the actuarial medical trend rate adopted by the Board for purposes of completing the annual OPEB valuation. LAFPP Staff reviews actual premium changes for the insurance options from the Associations. Staff then makes a recommendation regarding the new maximum non-Medicare subsidy amount. The Board either approves the Staff recommendation or adopts its own subsidy maximum. Essentially, because the subsidy amount is not tied to the medical trend rate other than through the formula contained in the Administrative Code, the Board is making the decision based on the Association's proposed premium changes for the current year.

Fiduciaries are allowed, and in many instances encouraged, to delegate functions to individuals/agents that have the required expertise to carry out those functions. Delegation is, however, not abdication.

Trustees must periodically review the agent's performance and compliance with the terms of the delegation. The duty to monitor requires proactive monitoring, trustees must actively seek out knowledge and information about the actions of those to whom they have delegated responsibilities. Trustees are obligated to act with appropriate prudence and reasonableness to determine whether those who have delegated duties are performing their fiduciary obligations. Fiduciaries, such as the Board, have an ongoing fiduciary duty to ensure that the delegated functions are being carried out in a prudent manner that is in the best interests of the participants and beneficiaries.

We find this arrangement to be atypical in the public pensions arena. The Board does not independently select the health plans or review details behind the premium determinations. The Board has taken some measures to exercise oversight of these delegated functions, including adoption of written contracts with the Associations, internal audits, an audit of the Associations by an outside auditor, and engaging healthcare consultants. However, there have been reported issues in each of these circumstances. The issue boils down to receipt of member claims data that would enable the Board (or its auditors or healthcare consultants) to engage in a more systematic process that allows for prudent oversight of the Associations. We appreciate that this has been a difficult issue that the Board has been grappling with for years. We understand that the Board has been seeking and receiving legal advice from the City Attorney's Office regarding this matter. We encourage the Board to continue along that path to find a meaningful resolution to the matter, which would include deciding to take back delegation and exercise its own independent administration of the LAFPP healthcare program in its entirety.

Recommendation IV.6:

High Priority	Medium Priority	Low Priority
X		

- We recommend that the Board continue to consult with legal counsel regarding this issue, reevaluate the delegation, consider its own independent administration of the LAFPP healthcare program in its entirety.

- ***Delegation***

A trustee has a duty personally to perform the responsibilities of the trusteeship **except as a prudent person of comparable skill might delegate those responsibilities to others**. In deciding whether, to whom and in what manner to delegate fiduciary authority in the administration of a trust, and thereafter, in supervising or monitoring agents, the trustee has **a duty to exercise fiduciary discretion and to act as a prudent person of comparable skill would act in similar circumstances.** Section 80 of the Third Restatement of Trusts. (Emphasis added.)

Trustees are not only allowed to delegate certain tasks, but they are expected and encouraged to do so. *Donovan v. Cunningham*, 716 F.2d 1455, 1467 (5th Cir. 1983). Trustees cannot reasonably be expected to fulfill every function the retirement system is responsible for performing, particularly in the area of investments given the size and complexity of public pension fund assets. Additionally, most public pension fund trustees are part-time, not compensated and many do not have financial and investment expertise. It is considered prudent given these constraints to prudently delegate to professionals who have the requisite knowledge and experience.

This is particularly important given the complexity of today's environment in which institutional investors operate. Best practice is an oversight model that enables board members to focus on the policy issues that demand their attention, trending away from board management of the minutiae. Prudent delegation is critical to the long-term success of retirement systems and can allow board members to focus on matters of policy that require their attention and is an important trait of an effective, efficient board.

Public retirement boards can delegate but they cannot abdicate their responsibilities. They can delegate duties to qualified agents; however, if the board elects to delegate duties, it must utilize reasonable care, skill and caution in selecting and monitoring the agents and establishing the scope and limits of the agent's authority. Prudent delegation assists in mitigating fiduciary liability. Best practices are to make clear delegations in writing after undertaking a prudent process to determine if the agent is truly an expert in the type of work being delegated. When considering whether a delegation is proper, consideration is to be given to "all factors that are relevant to analyzing where the fact and manner of delegation can reasonably be expected to contribute to the sound, efficient administration of the trust." Section 80, Comment e, of the Third Restatement of Trusts. As stated in *Donovan v. Cunningham*- "[t]he test of prudence is one of conduct and not a test of the result of the performance of an investment. The focus of the inquiry is how the fiduciary acted in his selection of the investment and not whether his investment succeeded or failed." 716 F.2d 1455 (5th Cir. 1983). In our opinion, echoed by other industry experts, we find delegation when prudently done is a best practice.

The decision to delegate is a governance decision and is ultimately within the discretion of the LAFPP Board to decide whether, and in what manner, to delegate functions to Staff or to third parties. There are two areas that we identified where the Board could consider delegation of its authority: one, the disability hearing process, and two, the selection of investment managers.

Based upon our empirical knowledge, many public pension fund boards have delegated in these two areas. These delegations have resulted in the need for less board preparation and board meeting time and made the processes more efficient. Through our interviews with Board members, however, the majority reported that they felt their role is a vital one in both of these areas and did not seem inclined to delegate these functions. We do encourage the Board to consider any other areas that could be delegated that permits them to continue to focus on policy, and charge Staff with implementation.

V. Progress toward Recommendations made in the Prior Management Audit

Findings
The Prior Management Audit was issued in 2013-2014, with a total of 55 Recommendations. It is our professional judgment that LAFPP has promptly, prudently and methodically reviewed and considered each Recommendation.

Of the 55 Recommendations, LAFPP reports that it has implemented 52 Recommendations, and considered and recommended no action on 3. Aon confirmed that 49 of those listed as implemented have been completed, however, there are 2 Recommendations where we agree in part and 1 Recommendation where we disagree.

Recommendation #2 states “conduct an asset-liability modeling study every five years”. LAFPP reported that they considered the recommendation and considers that an asset allocation study, which is performed every three to five years, contains sufficient information regarding the actuarial valuation of liabilities. While we agree that the Board considered the Recommendation and determined it is not necessary, we do not agree that the Recommendation itself was implemented as written. The last asset-liability study was conducted in 2015, and the System reports that it plans to have another conducted in 2022.

Recommendation #46 provides that LAFPP Management should establish a fiduciary responsibility requirement for new Staff who have fiduciary responsibility and provide ongoing training annually. LAFPP indicates that executive Staff attend annual conferences where this training is provided. We acknowledge that COVID has impacted travel to these conferences. As detailed in the Governance section of this Report, we discuss establishing orientation and annual training program in conjunction with the City Attorney’s Office.

Recommendation #27 states that LAFPP Management should require R.V. Kuhns to display net of fees returns in the performance reports. Although this Recommendation is marked implemented, we do not agree that it has been completed, and we discuss this issue in our Investment section of this Report.

In evaluating the status of each Recommendation, Aon reviewed relevant documentation and questioned LAFPP Board and Senior Staff regarding implementation.

Our full comments are listed in the Status of Prior Recommendations Matrix chart below. We have highlighted the Recommendations where we have renewed all or part of the original Recommendations.

2013-2014 LAFPP Management Audit Recommendations				
Recom. No.	**Audit Topic**	**Audit Recommendation**	**LAFPP Comments/Actions Taken**	**LAFPP Status/ Aon Comments**
1 (2a/23)	Prior Audit Recommendation	The Board's Securities Litigation Policy should be amended to incorporate Claims Filing & Monitoring Procedures.	The Securities Litigation Policy Section 10.2 describes the claims evaluation process and whether LAFPP should be a lead plaintiff. In addition, the Securities Litigation Policy Section 10.4 includes the following language regarding claims monitoring: "The City Attorney in conjunction with outside legal counsel shall provide ongoing status reports to the Board on all securities litigation cases in which the Plan is a class member or in which the Plan has filed an independent action. These reports shall include a summary of all major developments in connection with such cases." LAFPP's custodian bank monitors and accounts for settlements. Staff believes that procedures for filing claims normally would be included in an instruction manual and not embedded in policy. The Board approved "recommend no action" on 10/16/2014.	Recommended No Action (Considered recommendation, board accepted recommendation for no action) Aon: Agree. Confirmed that there is an established reporting and monitoring process in conjunction with custodial bank on filing claims, which meets the spirit of the Recommendation.
1 (2f/02)	Prior Audit Recommendation	The Board should review the IPS and contract for consistency and solidify vague requirements as noted in our Report.	Revisions to correspond the investment policies with the RV Kuhns (RVK) contract, along with other revisions recommended by HEK, were approved by the Board on 9/18/14.	Implemented Aon: Agree
1 (2g/04)	Prior Audit Recommendation	The Board should work with the City Attorney to develop and institutionalize, in advance, a process that will be invoked in the event a potential conflict of interest arises.	The Board's Governance Policy Section 16.0 was modified, specifically, Section 16.12 allows the Board, by a majority vote, to select a law firm to serve as independent conflict counsel in the event the City Attorney believes a conflict exists. The independent conflict counsel will be selected from firms currently under contract with the City Attorney's Office.	Implemented Aon: Agree
1 (3c/02)	Prior Audit Recommendation	The Board should consider conducting a complete asset-liability study every five to ten years.	On 4/2/15, the Board authorized the GM to contract with RVK to conduct an asset-liability study. RVK presented its Asset-Liability study to the Board on 10/15/2015. RVK's current contract (721PEN) allows for asset-liability studies to be done, if the Board elects to do so. LAFPP reconsidered the recommendation and believes the asset allocation study (which is done every three to five years) contains sufficient information regarding the actuarial valuation of liabilities.	Implemented Aon: Agree, next asset-liability study to be conducted in 2022.

2013-2014 LAFPP Management Audit Recommendations				
1 (3c/04)	Prior Audit Recommendation	The Board should consider working with the General Consultant to develop and implement an annual risk budget for the Total Fund and each asset class.	The Board adopted its IP-Risk Management Policy 6.0 on 9/18/14.The Board considers its risk appetite in conjunction with the asset allocation study which is to be reviewed no less frequently than annually. LAFPP reconsidered the recommendation and believes its practices meet the need for risk consideration.	Implemented Aon: Agree, Board considered and plans to address risk in upcoming 2022 meetings.
1 (3e/05)	Prior Audit Recommendation	The Board should insert a discussion on risk in the IPS to describe and clarify the Board's risk tolerance, including reference to LAFPP's time horizon, liquidity needs, etc.	The Board approved the IP-Risk Management Policy 6.0 on 9/18/14. Investment Policy Section 1.2C, IP Section 6.3B and 6.3D also discuss risk.	Implemented Aon: Agree
1 (3e/06)	Prior Audit Recommendation	The Board should acknowledge LAFPP's level of risk with some discussion of how its risk level was developed and include specific guidelines on how to identify and measure risk.	The Board approved the Risk Management Policy 6.0 on 9/18/14. Also, Investment Guidelines Policy Section 6.3, and 1.2C discuss risk consideration.	Implemented Aon: Agree
1 (3e/07)	Prior Audit Recommendation	The Board should consider developing a detailed practical risk management policy/procedure document.	Staff discussed and considered this recommendation with RVK and agreed that asset allocation is the major determinant of fund performance, and budgeting risk is an important Board process. Staff concluded that discussion of risk concurrently during the asset allocation process is appropriate for LAFPP operations. The Board approved staff's "recommend no action" on 8/7/14. Recommend changing from RNA to Implemented since the original 2007 recommendation was to consider developing a detailed practical risk management policy/procedure document and the HEK recommendation was to reconsider the original recommendation. Recommendation was considered by staff and the Board.	Implemented Aon: Agree Board considered
1 (3e/12)	Prior Audit Recommendation	The Board should consider designating an Asset Allocation Index as an additional Total Fund evaluation tool and document the Policy Index and Asset Allocation Index in the IPS.	The Board approved IP Section 1.14A-D on 9/18/14 which designates that comparisons will be made of the total Fund against the target allocation return, other pension funds and the actuarial assumed rate of return. Asset class indices are noted, and additional evaluation tools are also documented.	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
2	Minimize City Contribution	Conduct an asset-liability modeling study every five years.	On 4/2/15, the Board authorized the GM to contract with RVK to conduct an asset-liability study. RVK presented its Asset-Liability study to the Board on 10/15/2015. RVK's current contract (721PEN) allows for asset-liability studies to be done. If the Board elects to. LAFPP reconsidered the recommendation and believes the asset allocation study (which is done every three to five years) contains sufficient information regarding the actuarial valuation of liabilities.	Implemented Aon: Agree in part, Board conducting next asset/liability study to be conducted in 2022.
3	Defrayal of Admin Expenses and Cost Sharing Options	Continue to examine ways to become more efficient in processing benefits and collaborate with peers about their cost control efforts.	Subsequent to the audit, an RFP was issued for a replacement Pension Administration System which is expected to result in more efficient operations leveraging the latest technology. PARIS was implemented (go-live) in January 2019. Staff regularly attend CALAPRS roundtables as well as other training/conferences in order to collaborate with staff from other pension funds.	Implemented Aon: Agree
4	Defrayal of Admin Expenses and Cost Sharing Options	Establish administrative budgets that more tightly control spending rather than budgets that are well beyond what is needed and actually spent.	Staff more closely analyzed expenditures from prior years to help determine budget appropriations for FY 14-15. As a result, the GM presented a proposed budget reduction for FY 14-15. Staff also refined its cost accounting to better track costs against budgetary line items and implemented monthly metrics reporting to the Mayor's Office. Priority-based budgeting is achieved through the Strategic Plan and Business Plan as well as using the Mayor's priorities and GM priorities as part of the annual budget formation.	Implemented Aon: Agree
5	Defrayal of Admin Expenses and Cost Sharing Options	Continue to monitor the timeliness of travel expense reimbursement requests to ensure compliance with Board policy and the Los Angeles Administrative Code.	Staff revised its Quarterly Travel Report to the Board to measure processing times (# of Business Processing Days). Additionally internal procedures were revised to allow for certain process steps to be completed concurrently. The Travel Policy was revised on 2/20/14 and on 7/9/14. Departments are now responsible for approving travel payments which improves the reimbursement process timeliness.	Implemented Aon: Agree
6	Defrayal of Admin Expenses and Cost Sharing Options	Ensure that Trustees stay within the limit of six conferences per fiscal year.	Board Operating Policies and Procedures, Section 2.3 encourages Board members to attend at least two educational conferences per year, but not more than six conferences. If a Board member exceeds six	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
			conferences, the Board must approve the policy exception.	
7	Defrayal of Admin Expenses and Cost Sharing Options	Continue to re-evaluate the value of various conferences and forgo attending those that are too expensive for the amount and type of education they provide.	Board Education Policy (Governance Policy, Section 10.13) encourages Board members to complete a Conference Evaluation Form. Staff reviews the Travel Resolution (Schedule 10 of the Budget) annually, which lists all of the pre-approved conferences and recommends removing conferences that are not considered valuable.	Implemented Aon: Agree
8	Investment Performance Evaluation Process	Include a description of liquidity needs and risk tolerance in the Board Investment Policies.	On 9/18/14, the Board approved Investment Policy (IP) 6.3D which describes the amount, timing and frequency of liquidity needs. IP 6.3B describes asset allocation studies will utilize concepts of Modern Portfolio Theory to identify an efficient portfolio given the Board's desired level of return and risk tolerance. Risk tolerance is further described in IP 6.3B.	Implemented Aon: Agree
9	Investment Performance Evaluation Process	Consider whether 80% NCREIF ODCE Index (net) and 20% DJ U.S. Select Real Estate Securities is a more appropriate real estate benchmark.	LAFPP added international REITs to its portfolio. LAFPP included both domestic and international REITS as part of the benchmark. The benchmark was adjusted to 70% ODCE, 15% Dow Jones, and 15% FTSE for reporting beginning January 1, 2014. Current benchmarks are noted in Real Estate Policy 3.2B and are as follows: Public Real Estate 50% Dow Jones US Real Estate Securities Index (Gross) and 50% FTSE EPRA/NAREIT Developed Index (Gross). Private Real Estate NFI- ODCE + 50 bps.	Implemented Aon: Agree
10	Investment Performance Evaluation Process	Amend the Board Investment Policies to require a comparison of investment returns against a total fund policy benchmark that reflects the target asset allocation approved by the Board.	On 9/18/14, the Board adopted IP 1.14A that requires comparisons of returns to target allocation returns.	Implemented Aon: Agree
11	Investment Performance Evaluation Process	Update the watch list quarterly and expand the watch list criteria to include longer term performance against benchmarks and peer rankings.	On 2/5/15, the Board adopted revisions to Section 8.4 of the Watch List policy to require managers to present to the Board during the second consecutive year they are on the Watch List. Watch List criteria states that 3 and 5 yr. rolling returns are more meaningful than shorter periods of time. LAFPP monitors managers on the Watch List quarterly and updates the list once a	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
			year. A quarterly update was tried but the practice was found to be unsatisfactory.	
12	Investment Performance Evaluation Process	Refine the policy for removal of a manager from the watch list.	On 2/5/15, the Board adopted revisions to Section 8.4 of the Watch List policy, defining the steps to be taken for removal from the list or ending the contract.	Implemented Aon: Agree
13	Investment Performance Evaluation Process	Document the due diligence process used in the ongoing monitoring of managers.	On 9/18/14, the Board approved updates to its Investment Policies, specifically Section 8.3 which requires staff to meet with fund managers on a regular basis as part of on-going due diligence. Meetings and other contacts are required to be documented to include summaries of any changes in a manager's organization, personnel, strategy, or style.	Implemented Aon: Agree
14	Investment Performance Evaluation Process	Prepare documentation following each due diligence visit, including summaries of and any changes in organization, personnel, strategy, or style.	See comments to Reco. 13. This recommendation was implemented in May 2013 when staff began documenting key highlights of manager meetings.	Implemented Aon: Agree
15	Investment Performance Evaluation Process	Prepare and follow a schedule to update material portions of the Board Investment Policies.	On 10/16/14, pursuant to City Charter Section 1106(d), the Board approved an amendment to the IP to add Section 1.18 that requires an annual review.	Implemented Aon: Agree
16	Investment Performance Evaluation Process	Include holdings-based style analyses in the consultant’s quarterly reports.	Holdings-based style analysis is included in the General Consultant's quarterly reports. Also, in 2014, the Board had requested the information be summarized.	Implemented Aon: Agree
17	Investment Performance Evaluation Process	When evaluating the potential termination of a manager on the watch list or whose contract is up for renewal, increase focus on factors such as material changes in personnel, ownership, clients or assets under management, and investment style in addition to past performance.	This is a standard component of manager review reports submitted to the Board and has been an existing ongoing practice. IP 8.4 details process for watch list.	Implemented Aon: Agree
18	Investment Performance Evaluation Process	Enhance documentation from investment manager calls and meetings, even if there are no significant findings.	This recommendation was implemented in May 2013 when staff began documenting key highlights of manager meetings.	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
19	Active & Passive Mgmt	Benchmark the overall allocation between passive and active management against peers at least every five years as part of the portfolio structure review.	The recommended action has always been part of the quarterly performance reports. In addition, RV Kuhns presented this topic, including LAFPP portfolio's active versus passive management ratio and peer comparisons, to the Board on 2/21/13 and 5/5/14. The information is part of the RVK reports that are submitted twice a year and is part of the asset allocation. This information is shared with the Board if requested.	Implemented Aon: Agree
20	Active & Passive Mgmt	Have the investment consultant provide a report that shows whether LAFPP is receiving adequate additional returns from active equity and fixed income managers.	This information is part of the quarterly performance book and specific reports on this topic have been done, the last one dated 6/16/16.	Implemented Aon: Agree but believe should be net of fees. See Recommendation #27
21	Reduce Costs of Investment Consultants & Asset Custodian Services	Clarify and document the role of Portfolio Advisors through an updated contract and seek lower fees, if appropriate.	Contracts as of 4/1/13 and 9/1/13 specify Portfolio Advisor's role and negotiated lower fees due to multi-fund discounts.	Implemented Aon: Agree
22	Asset Allocation	LAFPP Management should promptly update the investment policies so they accurately reflect the Board's most recent decision on asset allocation.	On 9/18/14 the Board approved updates to reflect the asset allocation plan adopted on 10/17/13. Appendix 1 of Section 1.0 was again updated on 10/6/16 after the Board approved the current asset allocation adopted on 6/16/16.	Implemented Aon: Agree
23	Asset Allocation	LAFPP Management should review and revise the "Current Board Allocations Within Major Asset Classes" section of the Board Investment Policies.	See comments to Reco. 22.	Implemented Aon: Agree
24	Portfolio Rebalancing	The LAFPP Board should remove the restriction on rebalancing once every three months.	On 9/18/14, the Board approved updates to its Investment Policies, specifically 1.7B to remove the restriction on rebalancing.	Implemented Aon: Agree
25	Portfolio Rebalancing	The LAFPP Board should rebalance back to the target allocation for the applicable asset	On 9/18/14, the Board approved updates to its Investment Policies, specifically Section 1.7 directs	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
		class, unless there is some ancillary, tactical or cost reason to do otherwise.	staff to rebalance the System's portfolio in accordance with guidelines set forth in Sections 1.7A through 1.7F.	
26	Investment Performance (Net of Fees)	The LAFPP Board should benchmark the Fixed Income component (Core Fixed Income and High Yield) to a weighted benchmark of 84% Barclays U.S. Universal Index and 16% Barclays U.S. Long Government/Credit Index.	Staff researched and considered the recommendation with RV Kuhns. Staff concluded that the current Barclays Universal Index benchmark has sufficient exposure to components of the U.S. Long Government/Credit Index benchmark and is appropriate for LAFPP's fixed income portfolio.	Recommended No Action Aon: Agree it was considered and accept rationale.
27	Investment Decisions & Performance - How Costs are Considered	LAFPP Management should require R.V. Kuhns to display net of fees returns in the performance reports.	Net of fees performance reporting commenced March 2014 and will be regularly reported going forward. Comparative performance data is net of fees.	Implemented Aon: Disagree it has been completed, and renew recommendation**.**
28	Benefit Compliance, Disability Timeliness, Info Security	LAFPP' Management should continue to compile all benefit determinations received to date, including precedents set by court decisions, Board decisions, management decisions and legal opinions, in one central repository.	All documents, both day-forward and backfile, are being compiled in our electronic document management system, Documentum (DocuShare).	Implemented Aon: Agree
29	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should develop and furnish a Summary Plan Description for Tier 6 as soon as possible.	The Summary Plan Description for Tier 6 was finalized and is posted on www.lafpp.com.	Implemented Aon: Agree
30	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should consolidate the paper-based member files into a centralized filing room within the new LAFPP office space.	In response to the audit, LAFPP determined it would not consolidate on-site paper- based member files within the new LAFPP office space because the Department was converting paper-based member files into an electronic centralized filing system (2013-14 Strategic Plan – Document Imaging System Project). In this system, each member has his/her own electronic folder where all files will be stored. This reduces the need for paper-based documents and future storage requirements at the new office space, and increases efficiency in searching and retrieving documents while protecting members' personal	Implemented Aon: Agree

			information. The Board approved staff's "recommend no action" on 6/19/14. Back-file conversion of all on-site records was completed. Conversion of the offsite files occur as files are retrieved from offsite storage. LAFPP members' medical records related to disability pension applications are separately secured in a centralized room with electronic access restricted to approved Disability Section staff. Once a disability application is completed, the hard copies are scanned to the member's DocuShare folder and the paper documents are destroyed. Recommend changing from RNA to Implemented based on LAFPP meeting the intent of the recommendation by having a member's complete file history in centralized location (electronic filing system - DocuShare) and providing adequate physical security of sensitive member paperwork (medical records).	
31	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should organize paper-based member files so they include all of a member's information, correspondence, and transactions with LAFPP.	In response to the audit, LAFPP began organizing paper-based member files in Documentum (DocuShare) our electronic document imaging system. Currently, all important member information, correspondence and transactions are included in DocuShare.	Implemented Aon: Agree
32	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should subject the healthcare subsidy program to the same accounting verification process as all other monthly pension roll payments.	In response to the audit, MDB and Accounting Section continued to develop a verification process tailored specifically to the health subsidy program. The final verification process was reported to the Board in Q1 2015. Some clarification to what HEK had reported was necessary as far as Onpoint calculating most subsidies and associations confirming calculation accuracy. Currently, MDB transactions in PARIS are processed in conjunction with Accounting's approval processes.	Implemented Aon: Agree
33	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should examine what additional measures could be adopted to enhance physical security in the current office space.	Security measures were implemented at the Neptune Building; keycard system, security cameras, activating security system after normal work hours; security guard present, glass windows for counseling rooms and having an adjacent parking lot for staff and members.	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
34	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should develop a comprehensive physical security plan for the new LAFPP office space.	Security measures were implemented at the Neptune Building; keycard system, security cameras, activating security system after normal work hours; security guard present, glass windows for counseling rooms and having an adjacent parking lot for staff and members.	Implemented Aon: Agree
35	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should continue the search process for a successor technology system which can integrate the components of the benefit administration process including calculations, automated workflow administration, controls, as well as the payment process.	An RFP was issued on 7/18/14 and CPASv5 was selected (5/21/15) to be the successor pension administration system. PARIS was implemented (go-live) in January 2019.	Implemented Aon: Agree
36	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should add expected turnaround times for internal processing, where appropriate, to [Disability] staff's Desk Manual.	In response to the audit, staff procedural manuals included a revised flowchart that indicated expected processing timeframes. With PARIS, Disability recently revised their internal processing to reduce processing times.	Implemented Aon: Agree
37	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should evaluate all member-facing information and publications to ensure that disability application processing turnaround times are consistently communicated.	In response to the audit, applications and information booklets for new members were revised to indicate average processing time of 12 months and were available at www.lafpp.com. While applications currently on the website (revised 2017) do not indicate average processing time, information booklets (revised March 2019) indicate it may take up to a year or more to process. Further, the Disability Section with the assistance of the Communications and Education Section will be reviewing and updating member information including FAQs or other communication materials for easier reference and education for members. Communications and Education also ensures information that is pertinent to members is available through newsletters or other publications on MyLAFPP.	Implemented Aon: Agree
38	Benefit Compliance, Disability Timeliness, Info Security	The LAFPP Board and Management should evaluate the informal practice currently used to schedule Board [Disability] hearing	On 1/15/15, the Board directed staff to continue to follow current disability hearing scheduling procedures and schedule future Alt 1 hearings at the beginning of the Board meeting as a standard practice subject to the discretion of the Board President and General	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
		dates, and explore ways to enhance timeliness.	Manager. On 1/18/18, the Board approved new policies regarding compulsory hearings and administratively withdrawing inactive applications to improve timeliness	
39	Benefit Compliance, Disability Timeliness, Info Security	The LAFPP Board and Management should shift some of the burden of information submission to the member as part of the disability application process.	In response to the audit, the Board agreed with the Benefit Committee's recommendation to not require applicants to submit medical documentation for a variety of reasons and rely on staff to obtain documentation specific to the Board's disability benefits decision processes (see Board report, dated 1/25/2015). Currently, Disability staff has instituted internal metrics that now limit record collection to 90 days and the applicant/representative are contacted for assistance if there are difficulties in gathering records.	Recommended No Action Aon: Agree
40	Benefit Compliance, Disability Timeliness, Info Security	The LAFPP Board and Management should determine what other common practices, such as delegating specific decision-making authority or retaining a Board medical advisor, could streamline the process, and what changes to governing law, policies or procedures would be necessary to do so.	On 1/15/15, the Board adopted staff's recommendation to continue to follow current hearing procedures and rely upon the evidence in the Admin File and testimony at hearings to make informed decisions. The City Charter/Admin Code empowers the Board to hear evidence relating to a member's claimed disability and to grant, deny, adjust or terminate disability pensions. Delegating authority to a hearing examiner, third party administrator or independent medical advisor may increase the processing time and increase operational costs to hire/retain an outside advisor.	Implemented Aon: Agree Board considered
41	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should continue to develop a formalized succession plan for key Disability Pension Section staff, specifically including an individual development plan for each staff member in that Section.	Executive management has developed a succession plan for key Disability Pension Section staff. Human resources staff developed a training matrix for all positions in the Department to help them promote and be prepared to assume positions with greater responsibilities. Section Managers within the Pensions Division are periodically rotated to allow for cross training among existing staff. In addition, the Disability Pensions Section recently hired three new Management Assistants who will be trained in all processes.	Implemented Aon: Agree
42	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should ensure that each Disability Pension Section staff member receives a	It is both City and LAFPP policy to prepare annual performance evaluations for all LAFPP regular full-time staff, inclusive of the Disability Section. Since the audit,	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
		performance evaluation no less than annually.	staff initiated a complete overhaul of the existing LAFPP performance evaluation form to better align with the City's evaluation form and incorporate best practices from other City Departments. Also staff have recently refined their evaluation tracking system and will now be providing quarterly updates to Division Managers to ensure 100% compliance with the annual evaluation requirement for all staff. All Section Managers have been tasked with ensuring employee evaluations are completed timely. There is a new Section Manager over Disability Pensions as of 4/15/19. The goal is to complete annual evaluations for staff by May 2020 to allow the new manager sufficient time to evaluate the staff. All other Sections are sent periodic reminders to complete employee evaluations timely.	
43	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should expand the Disability Pension Section performance metrics and standards so that they incorporate service quality.	Performance metrics and standards continue to be an important tool for LAFPP. Since the Audit, LAFPP has significantly expanded its usage of performance metrics including the addition of more than thirty additional department-wide metrics to be tracked and monitored. For the Disability Section, the following metrics have been added to better incorporate service quality: a)Process 100% of disability, active member death, and dependent child/parent claims within 12 months on average (12- month rolling period); b)Conduct 100% of new disability pension applicant interviews within 10 calendar days after receiving application; and c)Read 100% of medical reports from pension doctors within 10 calendar days of receipt.	Implemented Aon: Agree
44	Benefit Compliance, Disability Timeliness, Info Security	LAFPP Management should explore how to meaningfully tie individual performance evaluations and Section performance into the stated goals of LAFPP's strategic plan.	In FYs 2013-14 and 2014-15, LAFPP and its Board engaged in an extensive strategic planning process which resulted in the creation of a LAFPP Vision Statement and Values, a revised Mission Statement, and refined Strategic Goals and Objectives. Management has advised supervisors to incorporate these strategic plan elements into individual performance evaluations so that work performance ties in with LAFPP's Vision, Mission, Values, Goals and Objectives.	Implemented Aon: Agree

2013-2014 LAFPP Management Audit Recommendations				
45	Fiduciary Responsibility	The LAFPP Board should require that each new Commissioner receives prompt training on all topics stated on the New Board Member Orientation table, and provide additional training on the duty of loyalty.	Governance Policy 10.5 - 10.8 specifies the New Board Member Orientation. The training is coordinated by the General Manager and takes approximately 16-20 hours to complete. The General Manager encourages new Board members to complete the training as quickly as possible.	Implemented Aon: Agree
46	Fiduciary Responsibility	LAFPP Management should establish a fiduciary responsibility training requirement for new staff who have fiduciary responsibilities, and provide ongoing training annually.	Staff who have fiduciary duties are Executive Staff and are covered by Fiduciary Insurance (General Manager, Assistant General Manager, Chief Investment Officer and Executive Officer). On an annual basis, Executive Staff attend annual conferences (NCPERS, CALAPRS, IFEBP, etc.) that include a fiduciary training component.	Implemented Aon: Agree in part, understand that Covid has impacted attendance at annual conferences. Aon recommends that systematic training be established in conjunction with the City Attorney's Office.
47	Fiduciary Responsibility	The LAFPP Board should establish and follow a regular review schedule for the Board policies that do not currently have formal review periods.	On 9/18/14 and 10/16/14, the Board approved updates to its Investment Policies, specifically Section 1.18 to establish formal review periods consistent with City Charter Section 1106(d).	Implemented Aon: Agree

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Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

Appendix A–Recommendations Matrix

Red= high priority, Blue=medium priority, Green=lower priority

Number	LAFPP Management Audit	Page Number
	I. Actuarial Methods, Assumptions, Funding and Innovative Strategies	
I.1.	**Complete the expected asset-liability study in 2022, and then every three to five years or as conditions warrant.**	23
I.2.	**LAFPPs should review whether securities lending and agent oversight could result in opportunity cost savings/revenue enhancements or additional risk mitigation benefits.**	33
	II. Investment Performance/Asset Allocation	
II.1.	**Aon recommends adding an active vs passive investment management review to the Asset-Liability study performed every three to five years or during strategic reviews of each investment asset class (at least every three to five years).**	39
II.2.	**Consider performing active risk budgeting analysis in conjunction with the Asset-Liability study, and the active vs. passive review.**	41
II.3.	**Aon recommends all federal, state, and local legal requirements be explicitly stated together within the IPS.**	44
II.4.	**Aon recommends calculating net of fee returns and maintaining a return history of the actual net of fee investment return achieved during each monthly period.**	53
II.5.	**Aon recommends the removal of gross of fee investment results in all future performance reporting. This will require linking future calculated net of fee investment returns with the gross of fee performance history currently maintained for longer term reporting purposes. The date of the change should be footnoted in performance presentations.**	53
II.6.	**Aon recommends performing an asset-liability study every three to five years or when there is a material change in the underlying actuarial assumptions, risk tolerance of the Board, or any event that would cause a comprehensive review of Plan assets.**	56
II.7.	**Aon recommends creating a formal procedure to ensure governance processes articulated in the policy are completed on the mandated cycle.**	57
II.8.	**Aon recommends adding language to the IPS that states all modifications to the document are to be reviewed by the applicable consultant as well as fiduciary counsel prior to being presented to the Board.**	59

II.9.	**Consider including a memo from the applicable consultant and fiduciary counsel for all amendments of the IPS stating that they have reviewed the proposed amendments and stating their concurrence or disagreement with the proposed changes.**	59
II.10.	**Consider the creation of a compliance calendar to facilitate the oversight of compliance with the governance items articulated within the IPS.**	62
II.11.	**Consider the use of broader asset class mandates (i.e. public equity) for monitoring asset allocation relative to policy, and potential active risk considerations.**	65
II.12.	**Aon recommends any future analysis that might materially alter the long-term policy targets of the Plan should incorporate asset-liability projections and consider how the changes may affect the Plan's forward-looking actuarial circumstances.**	70
II.13.	**Aon recommends amending the current U.S. Equity Policy allocation to either replace the S&P 500 Index with the Russell 1000 Index or replace both the S&P 500 Index and Russell 2000 Index with the Russell 3000 Index.**	85
II.14.	**Consider adding small cap "IMI" exposure to international equity.**	85
II.15.	**Consider merging international developed and emerging markets and benchmarking against the MSCI ACWI ex-US IMI Index.**	86
II.16.	**Consider adding regional and market cap diversification to the private equity benchmark (i.e. 67% Russell 3000 Index and 33% MSCI ACWI ex-US IMI Index +2.5%).**	86
	III. Economy and Efficiency of Administration/Management of the System	
III.1.	**Explore additional cost sharing arrangements with LACERS and WPERP regarding management liability insurance.**	97
	IV. Governance	
IV.1.	**We recommend that LAFPP consider adoption of the best practices policies that have not been adopted.**	101
IV.2.	**LAFPP should establish a formal orientation and annual training program, in conjunction with the City Attorney's Office, for Staff with fiduciary responsibilities.**	102
IV.3.	**Amend the LAFPP Board Education Policy to require a minimum number of hours that Board members must complete as part of the annual continuing education.**	103
IV.4.	**We recommend that the City consider changing the City Charter to grant LAFPP independence to determine the frequency and timing of LAFPP board meetings.**	104

IV.5.	**We recommend that the City amend the City Charter to give LAFPP independent authority regarding LAFPP staff hiring and compensation.**	105
IV.6.	**We recommend that the Board continue to consult with legal counsel regarding the LAFPP Retiree Healthcare Program, reevaluate the delegation, and consider its own independent administration of the LAFPP healthcare program in its entirety.**	106

Appendix B–List of Interviewees

LAFPP Board of Commissioners:

- Kenneth Buzzell, Vice President
- Adam Nathanson
- Ruben Navarro
- Sumi Parekh
- Pedram Salimpour
- Paul Weber
- Garrett Zimmon

LAFPP Staff:

- Nate Chang, Investment Officer-Public Markets, Public Equity & Commodities
- Annie Chao, Investment Officer-Private Markets, Private Real Estate
- Ray Ciranna, General Manager
- Alfred Domagat, Senior Systems Analyst
- Anya Freedman, Legal Counsel – City Attorney's Office
- Ray Joseph, CIO
- Susan Liem, Investment Officer-Public Markets, Public Fixed Income
- Greg Mack, Chief Benefits Analyst
- Derek Niu, Investment Officer-Private Markets, Private Equity
- Blas Rafols, Principal Accountant
- William Raggio, Executive Officer
- Joseph Salazar, Assistant General Manager
- Myo Thedar Sasaki, Chief Benefits Analyst
- Cynthia Varela, Departmental Audit Manager

External Actuary:

- Paul Angelo, External Actuary, Segal
- Andy Yeung, External Actuary, Segal

Appendix C–Summary of Documents Requested and Received

LAFPP Management Audit
Initial Document Request

Item Number	Document Description	Document(s) Received	Date Received	Comments
1	**General Information**			
A	Statutes and Constitutional provisions applicable to the System	Yes		
B	Administrative rules applicable to the System	Yes		
C	Board meeting minutes from January 2013 to present	Yes		Minutes through June 2021 provided, as well as approved Board resolutions for July-September 2021.
D	Annual Reports for each year during the review period	Yes		Pulled from website.
E	The last Management Audit	Yes		This was done by Hewitt EnnisKnupp. Pulled from website.
F	Organizational Chart	Yes		Pulled from website.
G	Audited Financial Statements 2013 to 2020	Yes		
2	**Administration/Management of the System** ➢ ***Administrative Expenses*** ➢ ***Active and Passive Management*** ➢ ***Operational Policies & Practices***			
A	Overall operating budgets for each fiscal year 2013 to present	Yes		Pulled 18-19 through 21-22 from website. 13-14 through 17-18 provided by client.
B	Written description of the budget approval process or the Budget Approval Process Policy	Yes		
C	Total administrative expenses for each fiscal year 2013 to present, and the definition of what items are considered as administrative expenses and what is not	Yes		See Item 2.A. documents

Item Number	Document Description	Document(s) Received	Date Received	Comments
D	Summary of Board and staff travel expenses for each fiscal year 2013 to present, allocated by category	Yes		
E	Description of any current cost sharing arrangements	Yes		
F	Progress reports on implementation status of prior management audit recommendations for cost sharing	Yes		
G	Any studies of administrative expenses of comparable funds (e.g., Internal studies, CEM, or comparable studies	Yes		
H	Past studies or reports on the System's investment program provided to the Board (e.g., Internal studies, CEM, or comparable studies	Yes		
I	Any analysis of active/passive management performed during the review period	Yes		
J	Listing of all investment managers from fiscal year 2013 to present, a description of each manager's style, the fee schedule and actual fees charged by each manager, and each manager's returns by year during the review period	Yes		
K	Annual fees for investment consultants, custodian bank, and securities lending agents for each fiscal year 2013 to present, broken down by category	Yes		Sec lending income and expense found in 1.G fin statements – Changes in Fiduciary Net Position. Rev split with NT is 0.14/0.86
L	Policies related to the operations of the System	Yes		
M	Any management letters issued during the review period	N/A		No management letters from external auditors
N	Description of the process(es) used to verify policy compliance	Yes		
O	Risk Management Policy	Yes		Found in 2.L Policies Sec iii Board Investment Policy
P	Business Continuity Plan			Aon conducted interviews with LAFPP Staff.
Q	Any written delegations of authority and/or the accountability matrix reflecting what authority has been retained and what has been delegated and to whom	Yes		See appendix 1
R	System's Policy Manual	Yes		

Item Number	Document Description	Document(s) Received	Date Received	Comments
3	**Asset Allocation & Investment Performance** ➢ ***Actuarial Methods*** ➢ ***Investment Activities*** ➢ ***Asset Allocation***			
A	Investment Policy Statement	Yes		
B	Any documentation of processes and procedures regarding the adoption, monitoring, and updating the Investment Policy Statement beyond what is stated in the IPS	N/A		
C	Annual actuarial valuation reports for fiscal years 2013 to present used to determine funding into the System	Yes		Pulled from website
D	Each actuarial experience study performed during fiscal years 2013 to present	Yes		Pulled from website
E	Each actuarial audit report performed during fiscal years 2013 to present	Yes		Pulled from website
F	Each Asset allocation study performed during the Review Period	Yes		
G	Each asset-liabilities study performed during the Review Period and the data provided at the time of such studies	Yes		
H	Capital market assumptions used by investment consultant during the Review Period	Yes		
I	Description of the process used for setting and modifying the asset allocation	Yes		
J	Listing of each asset allocation adopted by the Board during the Review Period and a statement of why it was changed	Yes		
K	Any rebalancing processes and procedures beyond those stated in the IPS, who has responsibility for rebalancing, sample notifications to the Board and, a statement regarding controls to ensure compliance with rebalancing requirements	Yes		

Item Number	Document Description	Document(s) Received	Date Received	Comments
L	Quarterly investment performance reports since January 2013 prepared by the investment consultant	Yes		Missing some, but have enough including Q4 for each year.
M	Total fund benchmark composition since January 2013	Yes		In 6/30/21 report per client comment
N	Benchmarks for each asset class and investment manager, noting whether the benchmark was changed during the Review Period and if so, why	Yes		Can be found in Monthly Returns in 3.R and 3.T
O	Description of process used for return calculations	Yes		
P	Manager selection and monitoring policies/procedures	Yes		In Board Investment Policy
Q	Portfolio structure review documentation from 2013 to present	Yes		See consultant reports
R	Total fund monthly benchmark composite returns from fiscal year 2013 to present	Yes		
S	Asset class monthly return and market value since 2013.	Yes		Performance reports submitted for 3R meet 3S
T	Monthly return and market value of individual investment managers utilized since 2013 (public asset class investments)	Yes		
U	Each report during fiscal years 2013 to present detailing the impact of the early separation incentive program	N/A		
4	**Comparative Metrics/Innovative Strategies** ➢ ***Past performance & trajectory*** ➢ ***Plan design/sustainability*** ➢ ***Performance & organizational metrics and practices*** ➢ ***Interagency data*** **Many of the documents related to this section have been requested in earlier sections.**			
A	Any funding policies	Yes		See Item 2.L Board Operating Policy Section 10
B	System financial projections of assets and liabilities provided to the Board during the period July 1, 2013 to present, including any proposals or presentations addressing financial planning and their resolution	Yes		
C	Listing of interagency data received by the system, including payroll	Yes		

Item Number	Document Description	Document(s) Received	Date Received	Comments
	data used to calculate pension benefits and pension liability			
D	Policies, procedures, and controls regarding interagency data	Yes		
E	Governance Policies (which were not part of the Policy Manual requested	Yes		
F	Board member names, terms, and contact information	Yes		
G	Applicable metrics used for benefit and health care administration	Yes		
H	Any studies or analysis related to the costs of benefit and health care administration	Yes		
I	Any analysis depicting health subsidy growth	Yes		
J	Data presented to the Board during the Review Period regarding health care benefits and costs, projected benefits growth, and health subsidy growth	Yes		
K	Policies and procedures and data considered by the Board regarding any early separation incentive program engaged in during the Review Period	N/A		

Appendix D–Debating Active vs. Passive

Debating Active vs. Passive

The research is more nuanced than often acknowledged April

2018

Investment advice and consulting services provided by Aon Hewitt Investment Consulting, Inc., an Aon Company.

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Key Points

- The active versus passive management debate is both nuanced and rich. There are good reasons why this is a hotly-debated topic, and reasonable people fall on both ends of the spectrum. It is unfortunate that often this debate is summarized with half-truths and sound bites.
- This paper summarizes and clarifies our views on the debate on active versus passive, shining light on the multi-faceted issues to provide institutional investors with an actionable way forward. Our views are not rigid or ideological: they are based on research, the details of which are contained in several other papers cited throughout this piece. We believe some investors are well-suited for active management, while others are likely to perform best with passive or factor-based investments. Suitability will vary based on both investor circumstance and asset class.
- While we acknowledge the average active manager is likely to underperform after fees, we also believe that actively managed, long-only public equities are likely to add value for skilled investors willing to employ broad, high-conviction mandates (such as unconstrained global equities) and stick with them over the long-term. However, these characteristics are challenging to maintain, so most of the world's investors are better off investing equities passively or using low-cost factor-based strategies.
- Active management in fixed income has higher odds of success than equities, especially for broad, multi-sector mandates. Investors may be able to achieve some of the same returns as active management simply by using customized blends of the broad market. Passive mandates may make sense for those needing a high level of simplicity or liquidity.
- Beyond public equities and fixed income, each strategy has its own unique considerations. The details of other strategies are beyond the scope of this paper.

Introduction

The debate about active versus passive management is an incredibly polarizing topic, with many well informed experts passionately holding views on opposite extremes. Why is this? We believe much of the public narrative on this topic is one-sided or incomplete. Depending on their perspectives (or financial incentives), people often focus on only one side of the debate and ignore the other. Some people have grown so dogmatic that they fail to listen to valid points from the other side. With all the varying research and statements made by professionals, what should investors believe?

The statements people make are often half-truths, in that they are valid perspectives, but not the complete story. They can mislead people at the same time as inform them. Both sides of this debate tell such half-truths.

We seek to bring order to this debate by laying out the research on both sides, and describing how we develop recommendations for our clients. We do not see a one-size-fits-all solution. Some investors are well positioned to be successful with certain types of active management, while others are likely to perform best with passive. Hopefully, this paper will help investors understand what is most appropriate for their portfolios.

The Half-Truths

It is worth pointing out the half-truths told on each side of the debate before we dive into the research.

The half-truths from proponents of active management: They trot out three-year performance track records for their products, boasting as if this is a long enough time to demonstrate skill (it isn't). Even where products have substantial histories of value-added results, they commonly downplay the reality that there can be protracted periods of underperformance even when ultimately successful. They don't talk about the products that performed poorly, lulling investors to forget about that possibility. They remind investors how much the investors "need" extra returns to meet their objectives, with less emphasis on how difficult it may be to earn those extra returns with active management.

The half-truths from proponents of passive management: They focus on research about the difficulty of success in active management without giving sufficient consideration to the research on characteristics of managers who tend to perform well or factors associated with outperformance. They demand unreasonably high batting averages for active managers to "prove" they have skill, otherwise dismissing outperformance as luck. They cite research on the poor net-of-fee performance of mutual funds marketed to retail investors, without acknowledging that large institutional investors can access similar strategies for much lower fees. They also cite research in one asset class and use it to draw conclusions about other asset classes. And they encourage people to infer that poor performance of the average investor implies that no investor should expect to do well.

There are even some half-truths promoted by both sides. One way we've seen this done is by citing recent experience of active managers in a particular asset class to draw long-term conclusions, though the recent results may have been driven by market cyclicality. Many active managers hold out-of-benchmark securities, which can cause headwinds and tailwinds for the average active manager. For example, when U.S. large cap is the best performing asset class, we expect most active managers in that strategy to underperform more than usual because there will be headwinds from out-of-benchmark securities, such as smaller-cap and non-U.S. stocks. Active management returns can be cyclical, and a focus on 1, 3, and even 5 year historical results isn't sufficient to form forward-looking expectations.

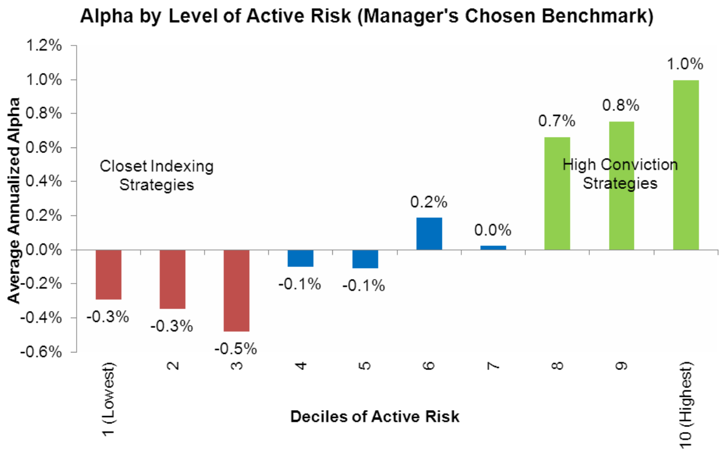
We will paint a more balanced, complete picture for both public, long-only equities and fixed income.

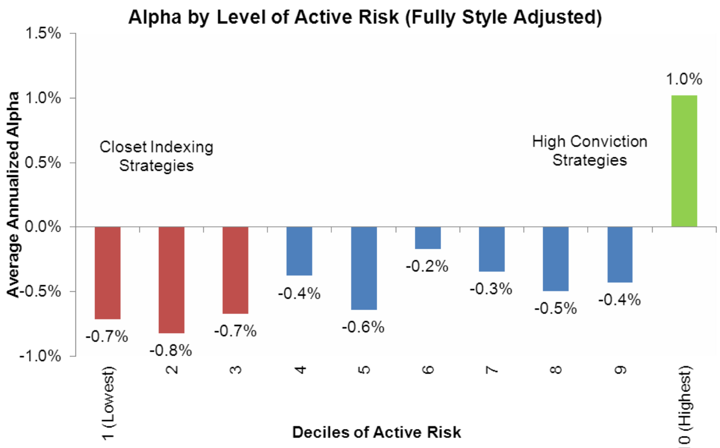
Equities: The Theory

Active management in equities is difficult. The average active manager in public equities has underperformed net of fees over the long-term across nearly every equity market. The proportion of public equity managers underperforming is especially high for mutual funds, which tend to have much higher fees than similar institutional products. However, there are some characteristics of active managers that have outperformed, which we think may be good indicators of expected future performance:

1. High conviction managers are those that tend to be significantly different from their benchmarks. Our own research, "Conviction in Equity Investing" [Sebastian and Attaluri 2014], shows that products in the three highest deciles of tracking error relative to the benchmark tended to outperform their chosen benchmark (net of fees). To slice the data a different way, this study also style-adjusted each product's benchmarks to account for persistent biases to factors such as value and small cap. This reduced the measured outperformance, but the products most different from their benchmarks still tended to outperform by an average of 1.0% (net of fees). That is, among the investment products taking the most active risk, where winners win big and losers lose big, the average manager came out ahead. The following exhibits show some of the key results from this study.

Exhibit 1





While this study shows that the average high conviction product has outperformed, the study also looked at how reliable historical performance was at assessing skill. It uses historical returns to determine the proportion of managers that fall into each of three categories:

- Unskilled: Statistically significant evidence that alpha net of fees is negative
- Insufficient evidence of net alpha different from 0: Historical net alpha was too noisy to assess whether the manager was skilled or unskilled with statistical significance based
- Skilled: Statistically significant evidence that alpha net of fees is positive

Notably, 2% fell into the top category and 82% of products fell into the middle category. That is, though high conviction products outperformed on average, historical performance alone is usually insufficient to assess a manager's skill. Our own manager research process considers many factors other than the manager's level of active risk and historical excess returns.

2. Certain risk factors have outperformed in the long run. This has received more attention the past few years with the proliferation of strategies in the "smart beta" space, which is also known as "factor investing" or "rules-based investing." Specifically, low volatility, value, quality, and

momentum are factors that have demonstrated persistent outperformance [Yesildag and Carvounes 2017, Sebastian and Attaluri 2016]. Active managers who exploit such factors may have the wind at their backs. Research suggests that factor performance drives about 80% of the active performance of the typical active manager [Bender et al 2014]. Rules-based strategies ("smart beta") may be able to access these risk premiums at a lower fee level than traditional active management, while a truly active investment manager may be able to add additional returns by rotating across factors and selecting individual securities.

Equities: The Practice

The prior section shows why we believe it is possible to identify active investment managers in advance that are likely to outperform a capitalization-weighted index. However, in practice, implementing such a strategy is very difficult for two main reasons. First, many investors are uncomfortable with high-conviction managers that have the best odds of success because they experience more ups and downs. Second, many investors destroy value by using short-term performance (three years or fewer) to make decisions about hiring and firing managers. We believe that investors are not well-suited for active management in equities whenever either of these characteristics apply. As a result, we believe such investors should stick with passively managed equities or low-fee, factor-based strategies.

The Ups and Downs of Holding High-Conviction Portfolios

While a high-conviction active manager may be expected to outperform over the long-term, there will probably be large performance swings, as well as a possibility of extended underperformance. Many investors may find it difficult to ride through such performance without terminating the manager.

In a series of white papers titled "Death, Taxes, and Short-Term Underperformance" [2013], the Brandes Institute reviewed the 10-year performance history of managers in four different asset classes, focusing on those in the top decile for the full period, to understand how they performed over shorter periods.[1] For investors holding managers for the full 10-year period, these would have been the best ones to have.
However, many have had poor performance over shorter periods. A summary of some of this experience for these top-decile managers is illustrated in the following table:

Asset Class	Average Annualized Excess Returns/ Shortfall in Worst 3-Year Period	Percentage of Managers Below Average in at Least One 3-Year Period	Percentage in Worst Quintile in at Least One 3-Year Period
U.S. Equities	-8.30%	81%	40%
International Equities	-5.45%	100%	67%
Emerging Market Equities	-2.49%	67%	33%
Fixed Income	-11.64%	76%	29%

[1] The 10-year periods in these studies end on 6/30/2009 for U.S. equities, 6/30/2014 for international equities, 6/30/2013 for emerging market equities, and 12/31/2014 for fixed income.

Even if we could guarantee that our manager research process could pick the managers that would perform in the top decile over a decade—which we can't—investors would still experience poor performance over periods of three years (and longer). Those who fire managers after three years of underperformance would likely have too much portfolio turnover and poor performance. Investors should be prepared for the reality of bumpy performance, even for good managers with strong prospects for long-term performance.

Mandate Structure

Grinold and Kahn [2011] articulated that expected alpha from active management can be thought of as needing two factors: breadth and skill. Breadth can be thought of as the range of independent, diversifying investment opportunities from which the manager can choose. Broad mandates give investment managers more opportunities to add value. Our own research about active equity mandates is consistent with this concept: broad, global equity mandates are more likely to perform well than combining multiple regional style boxes (growth/value, large/mid/small cap) that approximately mimic the overall market before fees [Ennis 2001 and EnnisKnupp 2003].

Using Past Performance to Guide Decisions on Hiring and Firing Managers

Many investors focus too much on short-term performance, driving them to make costly mistakes in hiring and firing decisions. Some research illustrating the impact of this phenomenon includes:

- Goyal and Wahal [2008] reviewed the performance of investment managers before and after termination and hiring events. Although the managers that were hired usually had stronger historical track records than those that were terminated, performance after the hiring and firing events were statistically indistinguishable. On average, the fired managers slightly beat the ones hired over the subsequent periods.
- Cornell, Hsu, and Nanigian [2017] analyzed the theoretical impact of using only three-year excess returns to hire and fire managers. They found that a contrarian strategy of hiring the losers outperformed a typical strategy of hiring winners by 2.28%. That is, there is mean-reversion in manager performance, so investors making decisions based on three-year outperformance are likely to destroy value.

These findings suggest that investors seem to be hiring and firing managers at the wrong times. Other studies with similar results include Kinnel [2013] and Hsu, Myers, and Whitby [2016]. In effect, investor behavior has been to sell low and buy high. It is not sufficient for investors to be able to identify active managers expected to outperform; investors must avoid hiring and firing at the wrong times, which can be difficult to do because it often requires hiring and retaining those with poor short-term performance. We have encouraged investors to abandon short-term performance triggers commonly used in "watch lists" (Friedman and Pawlisch [2016]). Having a willingness to invest as a contrarian requires a rare temperament, but is important to be successful with active management.

Applications to Specific Situations

We believe that actively managed equities are likely to add value for skilled investors willing to use high-conviction managers and not over-emphasize short-term performance. However, these characteristics are rare, so most of the world's investors are better off investing equities passively or using low-cost factor-based strategies. We apply these views to several specific situations:

Defined contribution plans: Fiduciaries for defined contribution plans are making decisions that affect other people's money, and thus can be subject to a high level of external pressure, including risk of litigation. This makes it difficult for some defined contribution plans to use high-conviction active equity strategies as stand-alone options. As a result, the headwinds for successful active management may be higher in defined contribution plans. For plan sponsors where this is a concern, one way to address it is to eliminate traditional active management from equities in their core lineup, only using passive management. A less dramatic way is by primarily using active equity managers in multi-manager portfolios such as target date funds and white-labeled core options, where multiple mandates can be blended to reduce potential for significant underperformance. We are seeing such approaches becoming more common.

Investment committees with turnover: Investors need to remember why they hired each manager and how they expect them to perform in various markets over different time periods. This is especially important for high-conviction managers, whose performance can have large swings. Institutional memory can be short when committees turn over frequently, and committee members may be less knowledgeable about, or patient with underperformance from investment managers they did not select. For investment committees with significant turnover, we suggest three possible options to manage this risk:

- Develop a written set of investment beliefs, including the role and expectation for each manager. When a high-conviction equity manager is experiencing bumpy performance, this could be resurfaced to remind the committee that it was aware such an experience was likely, and help them keep a steady hand.
- Use an Outsourced Chief Investment Officer (OCIO) model for active investing to delegate responsibilities to an outside party. In this approach, the OCIO monitors performance of smaller positions in multiple active managers, and the committee will be less focused on hiring and firing decisions for individual managers.
- Invest equities passively or with factor-based strategies.

Investors with external pressures: Most institutional investors have external pressures. For example, it is common to be reviewed by a Board, and Chief Investment Officers may have career risk associated with their investment decisions. Public pension plans are often subject to scrutiny from taxpayers, legislators, and the media. These influences can be both good and bad; most notably, it often makes it difficult for investors to be different from the norm. We have seen some investors hire (what we believe are) good investment managers, experience short-term underperformance, then be pressured to terminate the managers. "Know thyself" is key; investors should only pursue strategies that they can implement successfully.

Defined benefit plans with de-risking glide paths: Many defined benefit plans in the private sector have de-risking glide paths in place, where they are scheduled to sell equities as funded status increases. As a result, the time horizon for their equity portfolio is uncertain—possibly less than a full market cycle. The timeline for both the alpha and beta in the equity portfolio may not be long enough to be confident in strong performance. We view glide paths as a phased way to reduce all forms of risk from the equity portfolio. While it may be reasonable for plan sponsors to reduce active risk from the equity portfolio at the same speed that the equity beta is reduced, we more often find that many plan sponsors are better served by the simplicity of passive management for this shrinking portion of their portfolio.

Investors with high return needs: It is tempting to say that investors needing high returns should use active management. It is critical to start by asking whether the investor is likely to add value with active management—active management used poorly is worse than passive management. Is the investor well-suited for high-conviction active management, including being comfortable with significant active risk? If not, passive management or low-fee factor-based investments may be preferable, and the investor may need to find another way to address its return needs.

Fixed Income: The Theory

Fixed income differs from equity in that the fixed income markets have many participants motivated beyond fundamental value. Market demand is driven by factors such as liquidity needs, liability characteristics, regulatory requirements, and central banks and taxes; market supply is affected by monetary and fiscal objectives. As a result, the fixed income market can experience severe deviations from fundamental value for prolonged periods.

Many fixed income investors tend to have highly customized mandates and engage primarily in certain sectors and durations of the fixed income markets, as illustrated in Exhibit 3.

Exhibit 3

DURATION	SECTOR: TREASURY/GOV'T RELATED	SECURITIZED	CORPORATE BONDS
LONG	Corporate Pensions Investors Needing Liquidity Central Banks		Corporate Pensions Insurance Companies
INTERMEDIATE	Investors Needing Liquidity Central Banks Money		Insurance Companies
SHORT	Market Funds Stable Value Funds Investors Needing Liquidity Central Banks Collateral Holders	Stable Value Funds	Stable Value Funds

The collective actions of these various market participants will impact prices even though their motivations are not exclusively based on total return. For example, when one of these investor types is stressed—requiring any systematic changes to the amounts or types of fixed income needed—it puts disproportionate pressure on the specific segments of the fixed income market they operate in, which can create sustained deviations from fair values. As a result, passively investing in a broad market-weighted benchmark is rarely optimal, and not simply because the largest constituents of the index are also the most in debt. Investors can do better than simply acting as passive price-takers of broad market-weighted fixed income benchmarks, largely driven by the collective forces of investors with unique characteristics that cause them to act on factors other than pricing fundamentals. Segmentation in fixed income is different from, or at least more extreme than, that of equity markets.

Aon research looked at the empirical performance of active fixed income managers to see if they were able to exploit these market dynamics to create excess returns [Friedman and Zink 2015]. Exhibit 4 shows the results of this analysis, based on slicing the data three ways:

- **Core vs. Core Plus mandates** – Both are typically benchmarked against the Bloomberg Barclays U.S. Aggregate Bond Index, with Core Plus being less constrained, having greater ability to rotate where they see opportunity.
- **Gross vs. net of fees** – Net-of-fee returns is most practical because it reflects what investors get, but gross-of-fee performance is informative about whether investment managers are skilled.
- **Compared to the Bloomberg Barclays U.S. Aggregate Index ("Agg") vs. a custom benchmark** – The Aggregate is the managers' chosen benchmark, whereas the custom benchmarks reflect structural biases of the manager such as persistent underweighting of government bonds or exposures to high yield. This gives us insight into true skill versus style.

Exhibit 4: Average Excess Returns for Fixed Income Managers (2000-2014)

	Gross of fees	Net of Fees
Core, relative to the Agg	0.37%	0.04%
Core, relative to custom benchmarks	0.23%	-0.09%
Core Plus, relative to the Agg	0.97%	0.41%
Core Plus, relative to custom benchmarks	0.58%	0.02%

The average investment manager has added value with its investment decisions, as evidenced by positive excess returns gross of fees. Unfortunately, much of this is eaten up by fees, and the remainder is due to style, not skill.[2] (Style biases can benefit investors, but can also be attained passively with a customized blending of different indices.) However, relative to equities, we see these results as more encouraging for active management, because the average active manager in fixed income doesn't underperform passive. In the very least, we can say that active management in fixed income is not an uphill battle. Investors may be wise to consider active management if they believe they can identify above-average managers or negotiate below-average fees.

Fixed Income: The Practice

While the average active manager in fixed income has a greater tailwind than the average active manager in equities, generating excess returns is still challenging and requires taking risk. One of the most difficult aspects of active management in fixed income is knowing what you're getting. In order to add value, active managers need flexibility to invest different from the benchmark; however, less constrained strategies increase the odds of being surprised by performance. In the extreme, we saw some investment committees in 2008 surprised at how poorly their Core Plus mandates performed due to significant exposure to high yield. In many cases, this was the investment committee's fault—their managers may have been well-known to invest in high yield. Nevertheless, turnover on investment committees increases the likelihood of people feeling surprised if a similar market event recurs.

Applications to Specific Situations

We believe that actively managed fixed income is likely to add value for skilled investors or strong fee-negotiators willing to employ loosely-constrained or unconstrained strategies. However, active

[2] Exhibit 4 compares the performance of active managers relative to benchmarks, not relative to passive implementation. Passive investment managers will likely underperform the benchmark by their fees. As a result, the value-added by active managers may be greater than the amount shown in this exhibit.

management is more complex and less liquid, so investors looking for simplicity or liquidity may be better served by investing passively. We apply these views to several specific situations:

Defined contribution plans: Many participants in defined contribution plans are looking for, and likely benefit from simple investments that reliably track the benchmark. As a result, we typically recommend including a passive fixed income option in the core lineup for defined contribution plans. Other participants may be more comfortable taking active risk, and if the plan sponsor believes they can find skilled active managers at an attractive price relative to their expected performance, we believe it may be reasonable to include in the core lineup as well as multi-manager options such as target date funds.

Defined benefit plans with discount rates based on corporate bond yields: Many defined benefit plans are required to discount their liabilities with a yield curve using corporate bond yields. It can be difficult for a passive fixed income portfolio to keep up with the liabilities, as the bond portfolio is exposed to the risk of defaults and downgrades, but the liabilities are not. This performance drag, by itself, is not a sufficient reason to invest actively; the investor must also believe they can identify an active manager that is likely to be able to outperform the passive option. We are optimistic about the ability for active long duration managers with government/credit and credit benchmarks to add value, as several of the inefficiencies in the fixed income market apply to long duration—in particular, the demands of liability hedgers such as pensions and insurance companies can be irregular and driven by factors other than market fundamentals.

Investors who are particularly fee-sensitive: All investors should be fee-sensitive, as fees erode performance and net-of-fee performance is what truly matters. Some investors, however, are sensitive to fees beyond what can be justified by this. For example, they may be exposed to external pressures or committee turnover making it difficult to hold active strategies through periods of underperformance if fees exceed a certain level. In such situations, investors may consider passive fixed income portfolios that blend sectors of the Aggregate in a customized way, persistently underweighting government bonds, and possibly varying the level of underweight based on market conditions. Such a strategy can achieve a significant part of the returns from active managers while paying fee levels for passive management.

Other Asset Classes

While this paper has focused on public equities and high quality U.S. fixed income, there are many other asset classes, each with unique characteristics.

- Private real estate cannot be implemented passively.
- Passive high yield bond strategies exist, but structural factors in the market have prevented them from tracking the indices well.
- Commodity portfolios using futures have exhibited some inefficiencies because the indexers are required to roll their futures contracts in predictable ways.
- Hedge funds are inherently active strategies, though there have been some creative attempts to replicate their return patterns.

Each of these strategies could be the subject of their own papers. We encourage investors to consider the merits of these strategies separate from their views on equities and high quality bonds. For example, it may be reasonable for an investor to passively invest in public equities and high quality bonds, but be active in private real estate and high yield bonds. A well-researched, thoughtfully considered approach should focus on the unique characteristics of each asset class.

Conclusion

The debate on active vs. passive management has been ongoing for decades, and we expect it to continue for the foreseeable future. It is unfortunate that some of the deep research in this area is often reduced to half-truths and sound bites. This paper does not seek closure on the debate or even add new research to it, but to shine light on the multi-faceted issues and provide institutional investors with an actionable way forward. While the debate will persist in academic papers and conferences, each investor must make practical decisions about what is right for their situation. They should understand both their beliefs and their situation; what is appropriate for one portfolio may not be appropriate for another.

In public equities, we believe investors who are well-suited to invest in high-conviction mandates that are significantly different from the benchmark may be good candidates for active management; most investors, however, are better candidates for traditional passive management or low-fee factor-based strategies. In fixed income, there is a stronger case for active management, but investors needing simplicity or liquidity should focus on passive strategies. While investors should regularly reassess their strategies to be consistent with their circumstances and beliefs, whatever path they choose, it should be intended for the long haul.

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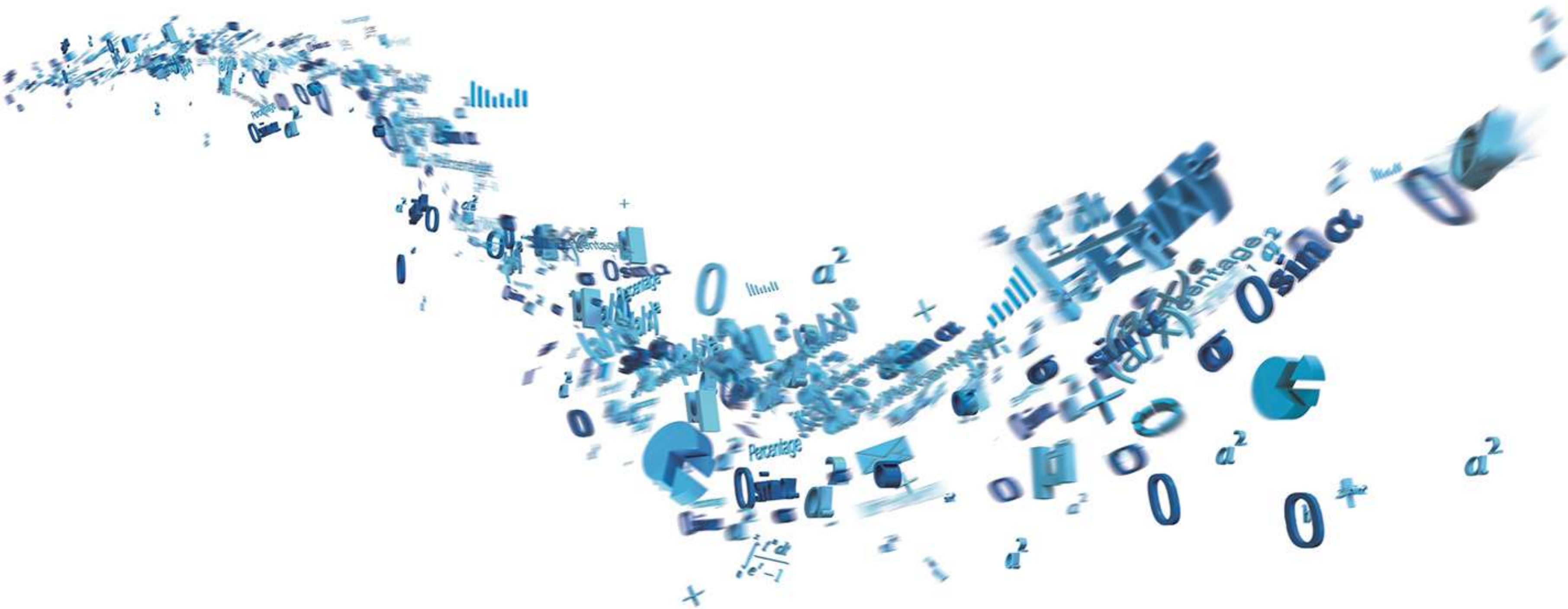
Appendix E–Attribution



Los Angeles Fire and Police Pensions

Attribution Analysis

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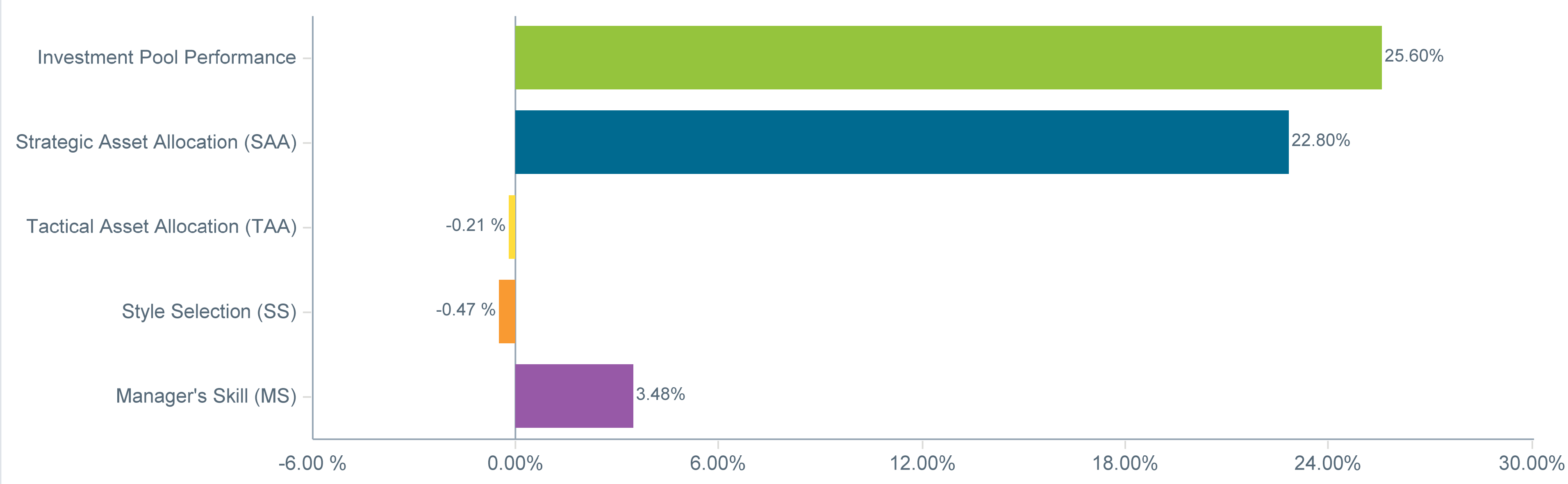
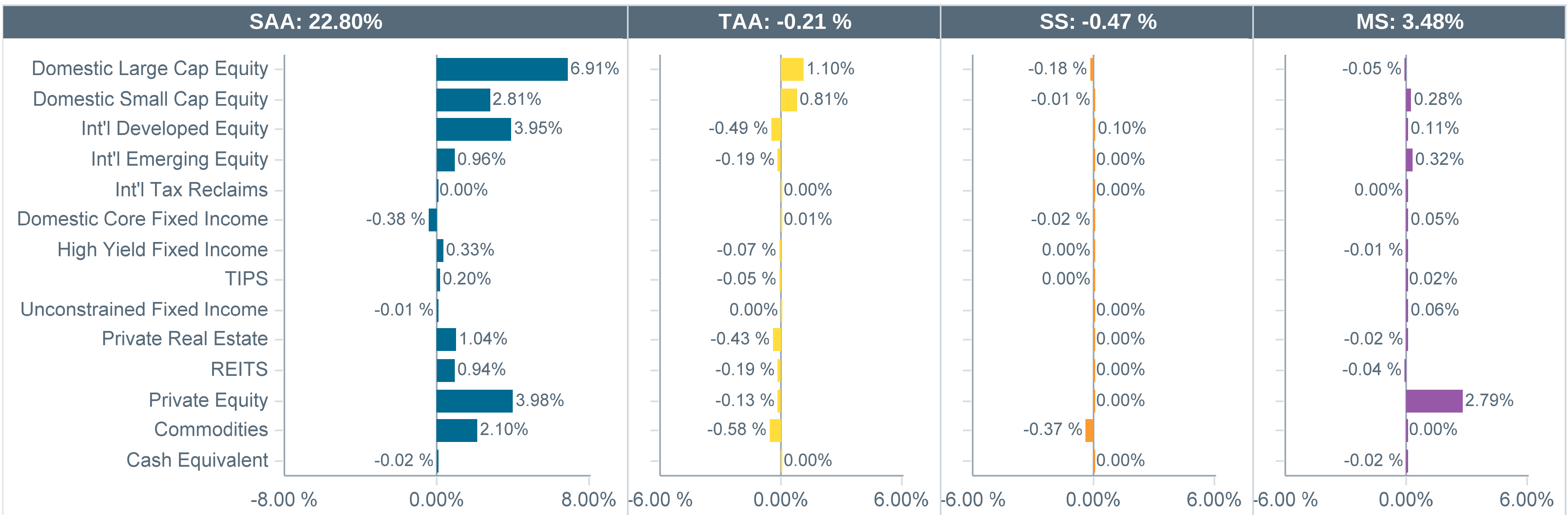
Empower Results®

Los Angeles Fire and Police Pension System
Total Fund Attribution - IDP

1 Year Ending September 30, 2021

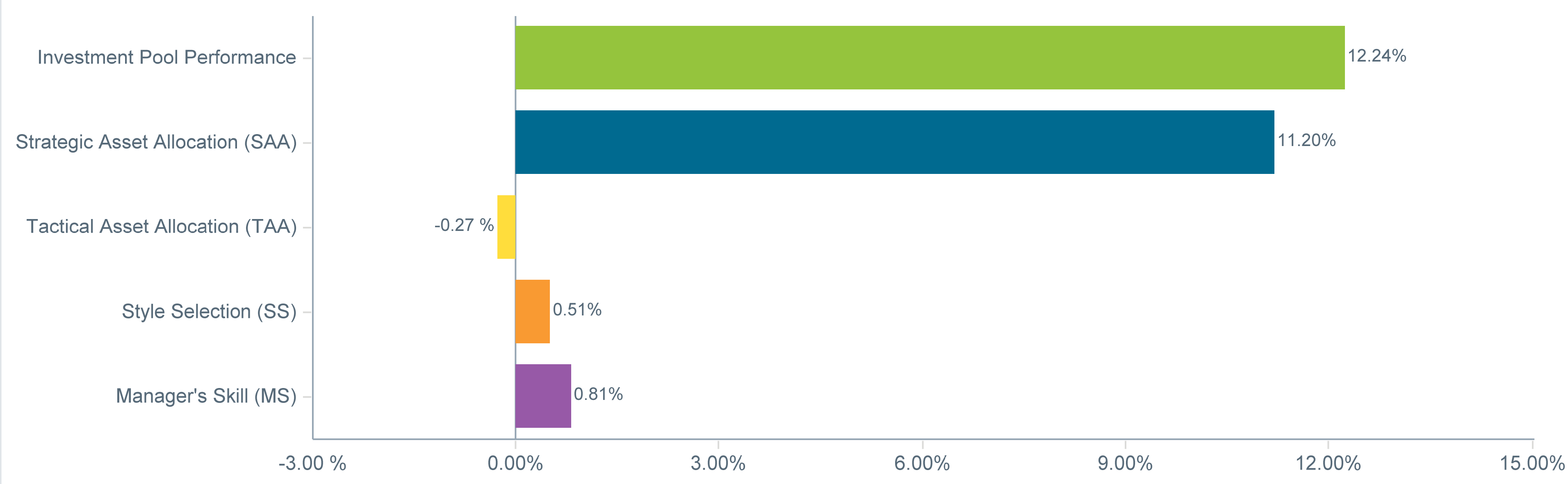
Performance Attribution

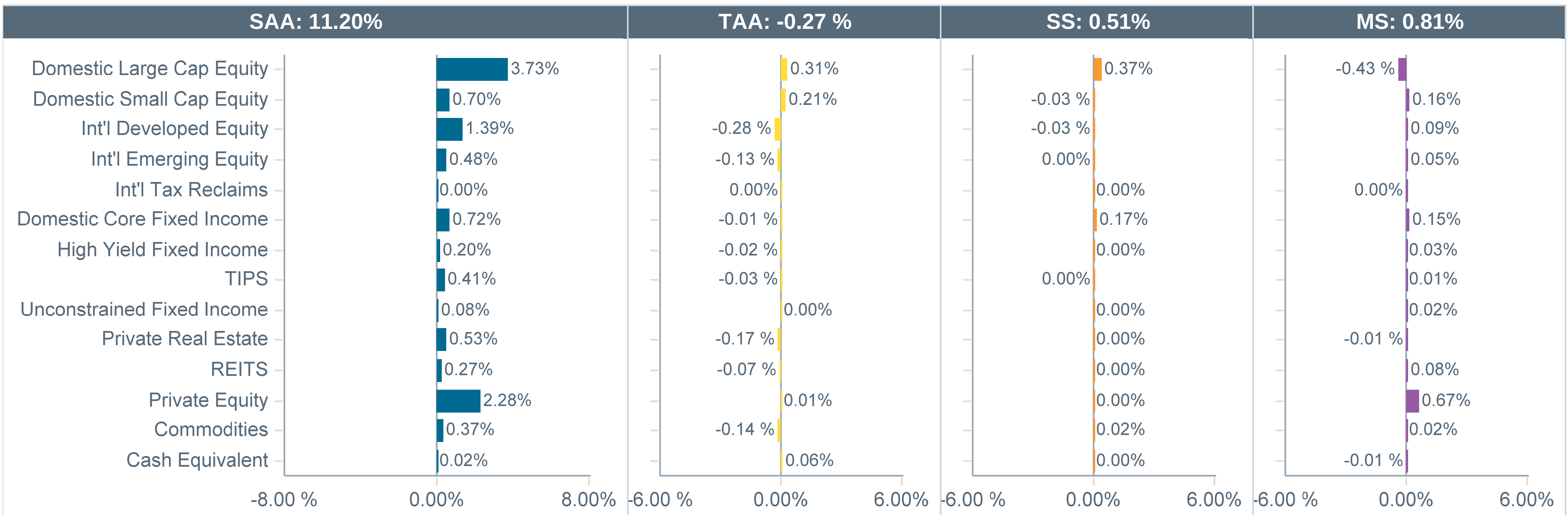




Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

Performance Attribution



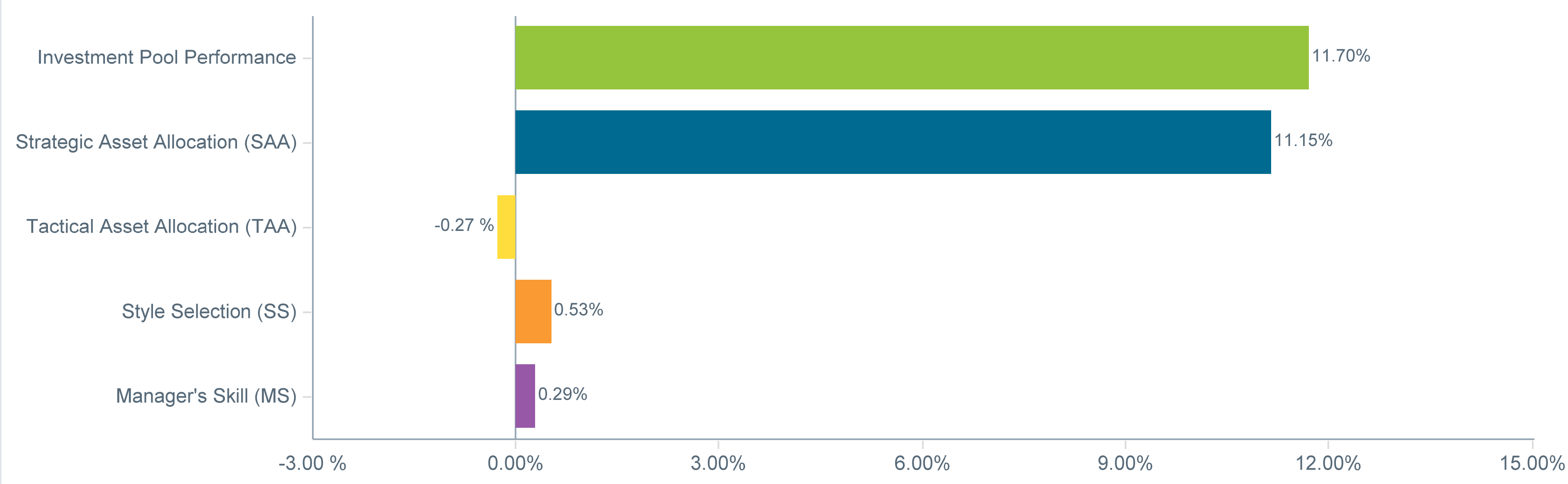


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

Los Angeles Fire and Police Pension System
Total Fund Attribution - IDP

5 Years Ending September 30, 2021

Performance Attribution



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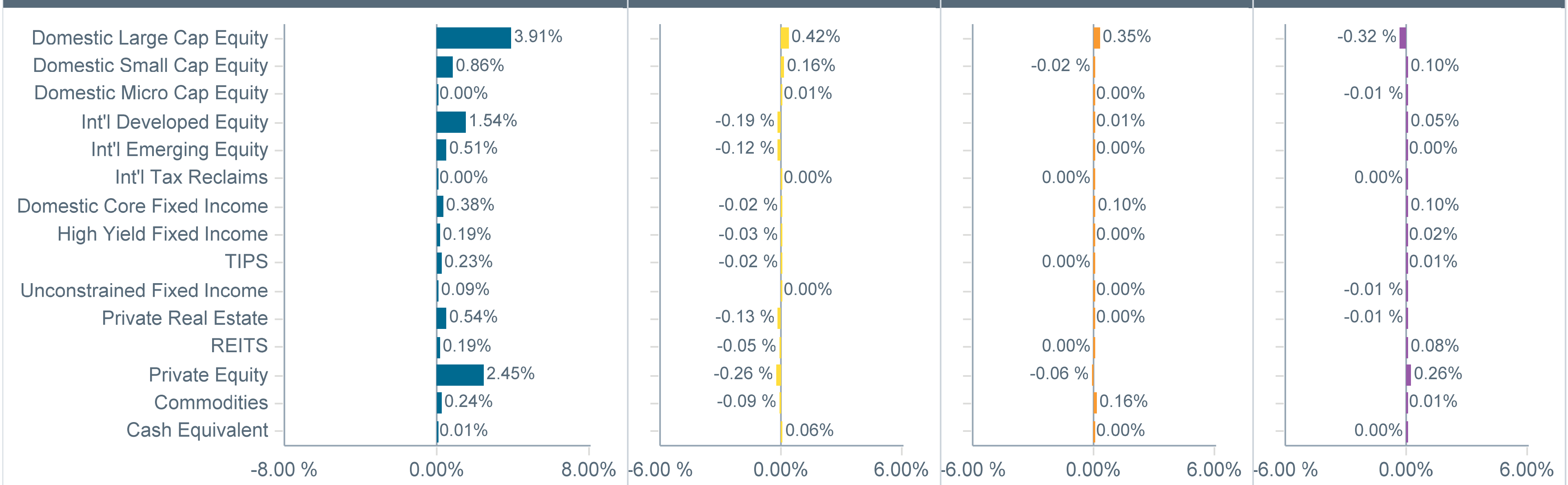

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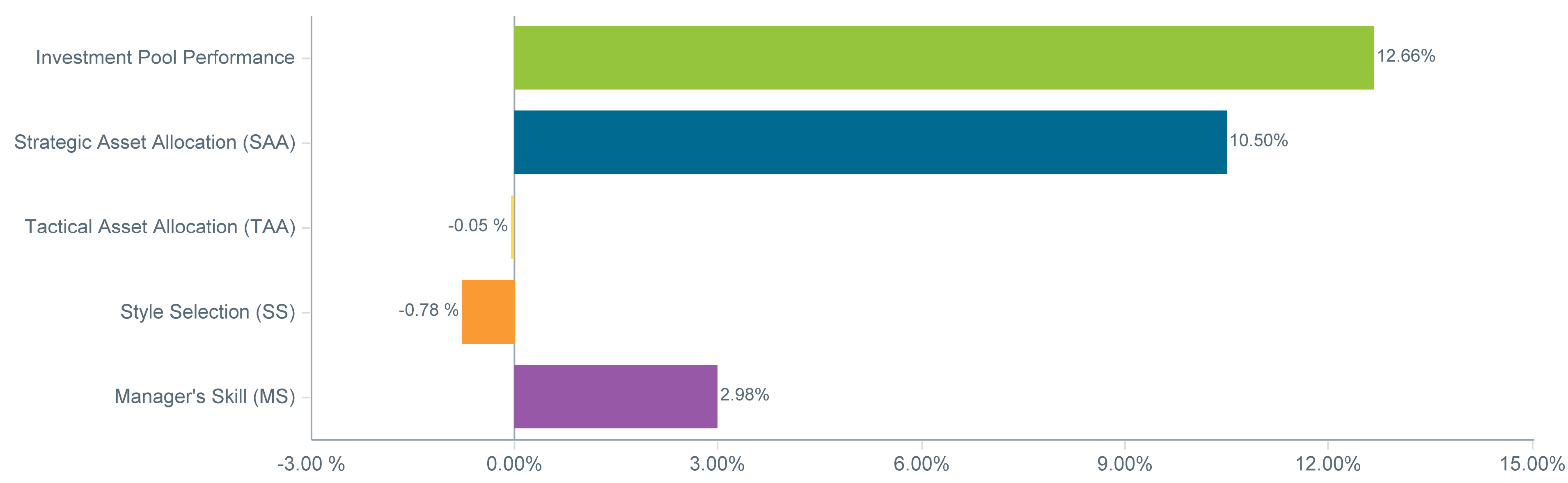

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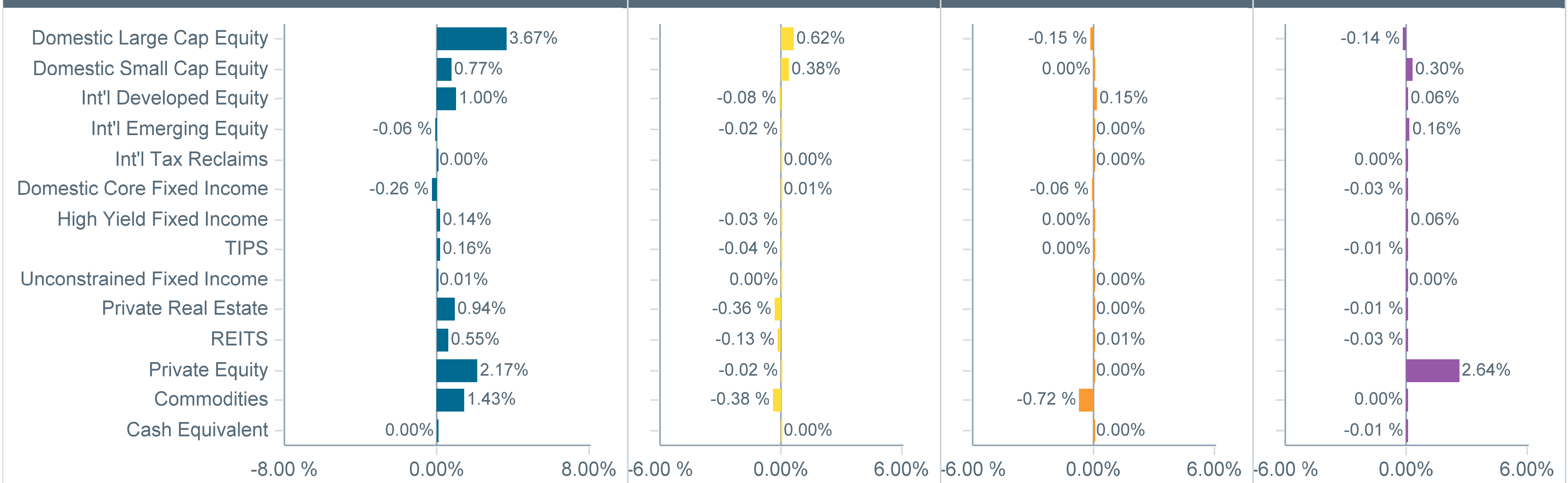
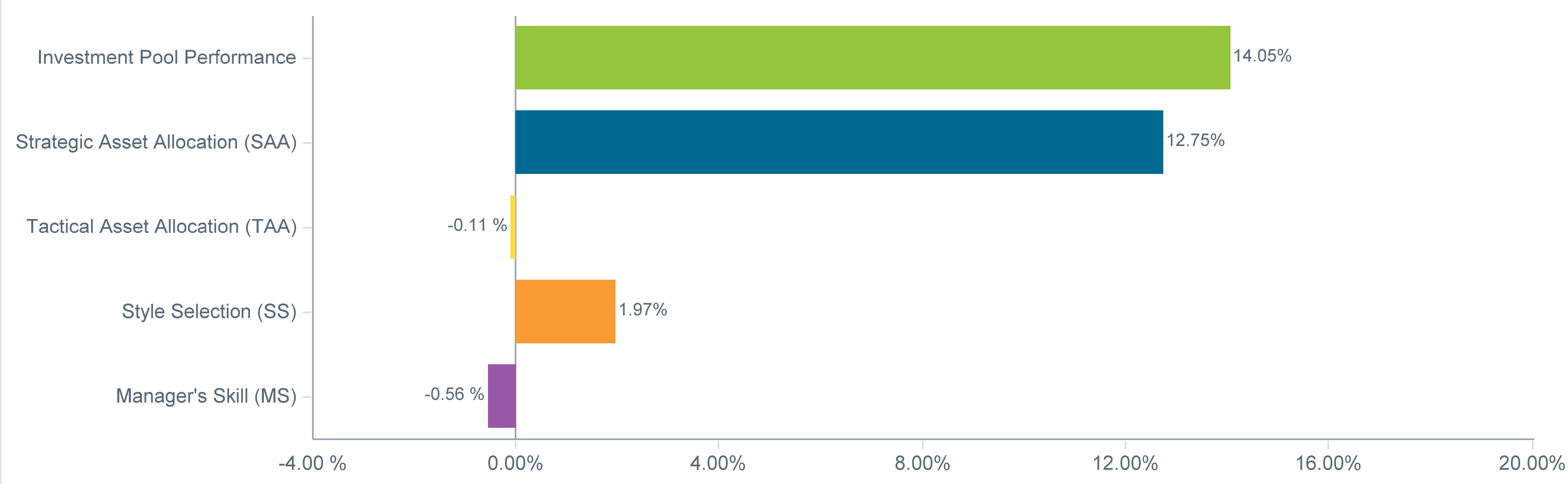


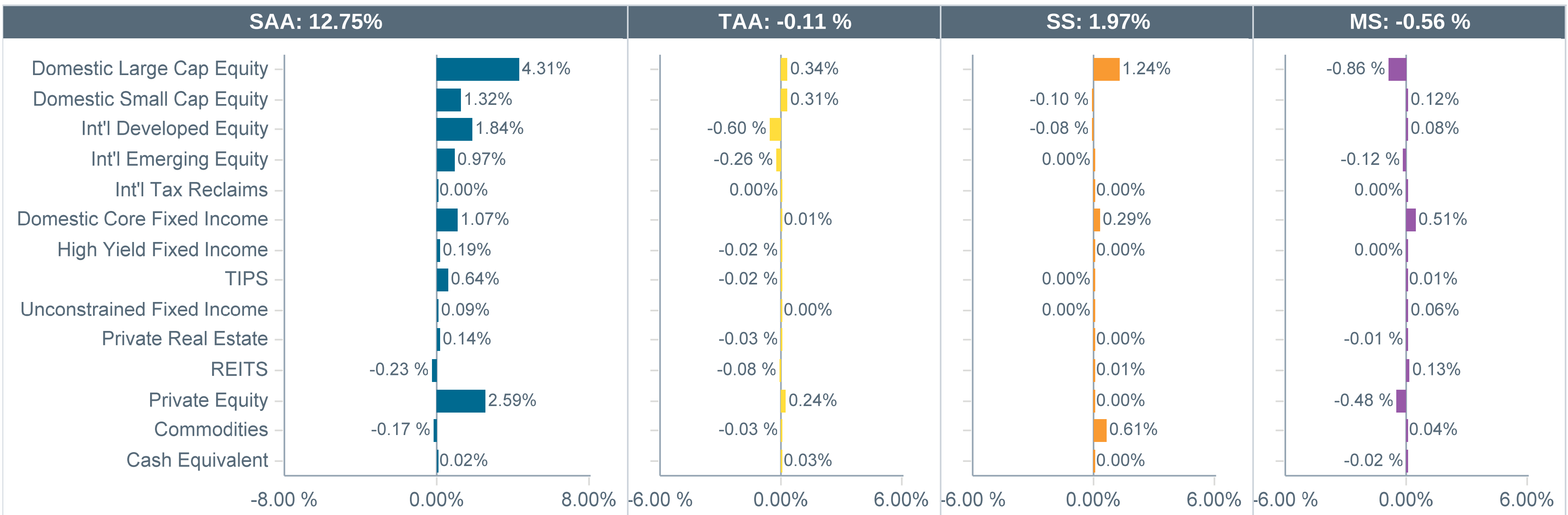
Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

Los Angeles Fire and Police Pension System
Total Fund Attribution - IDP

January 1, 2020 To December 31, 2020

Performance Attribution





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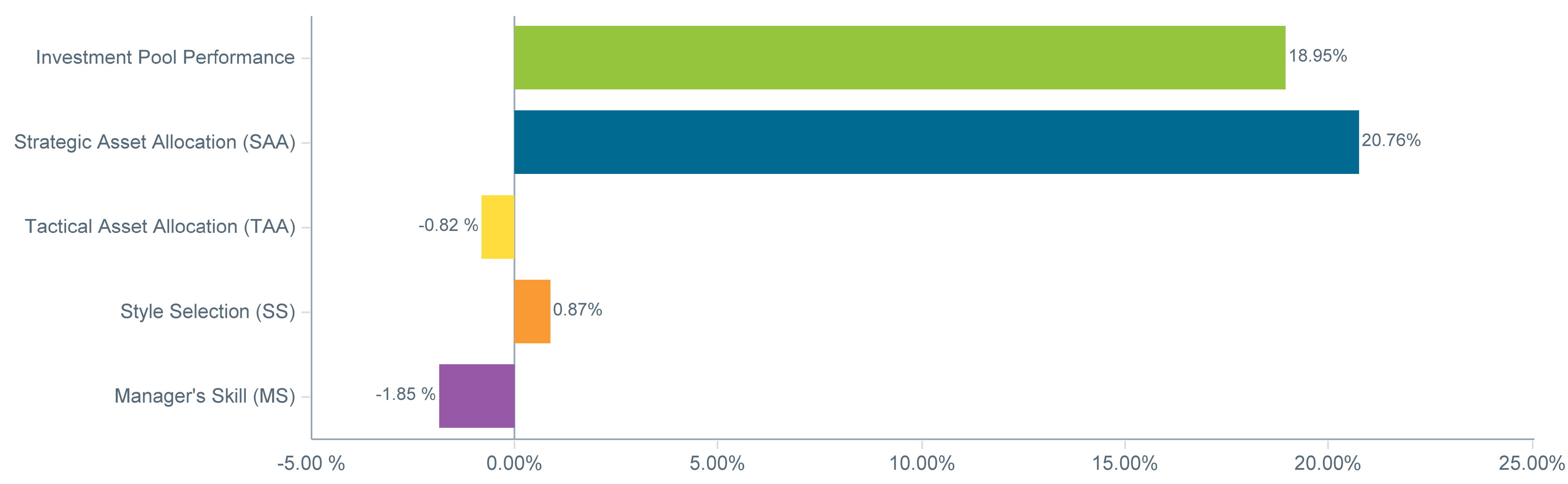

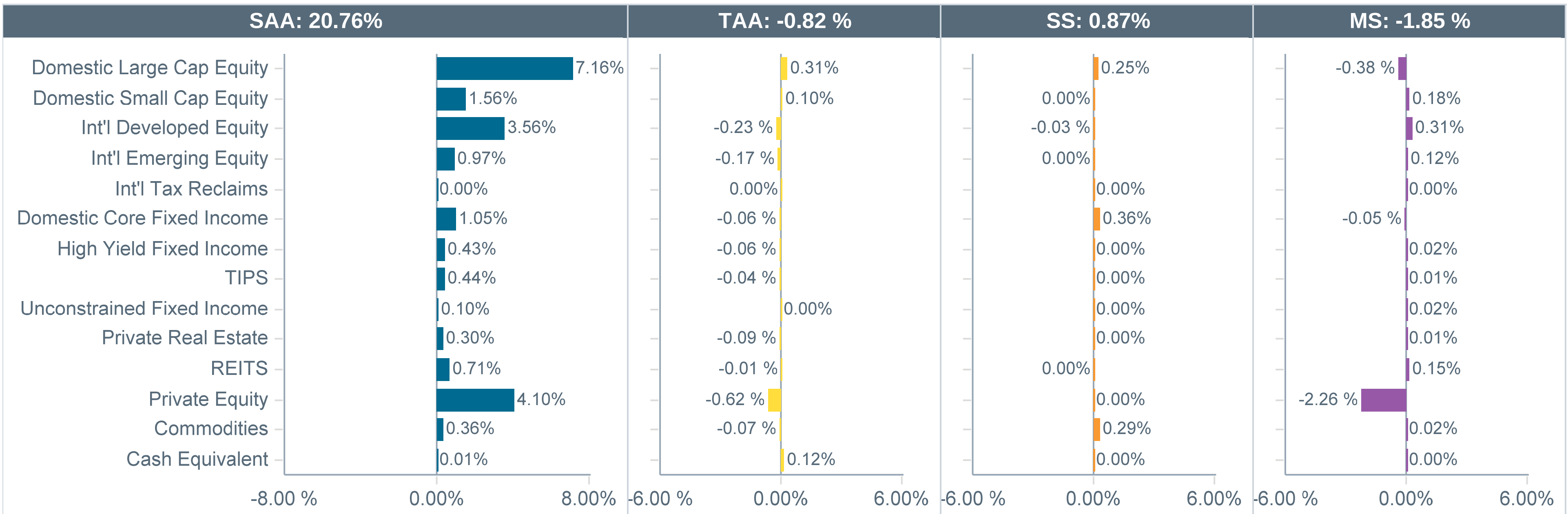

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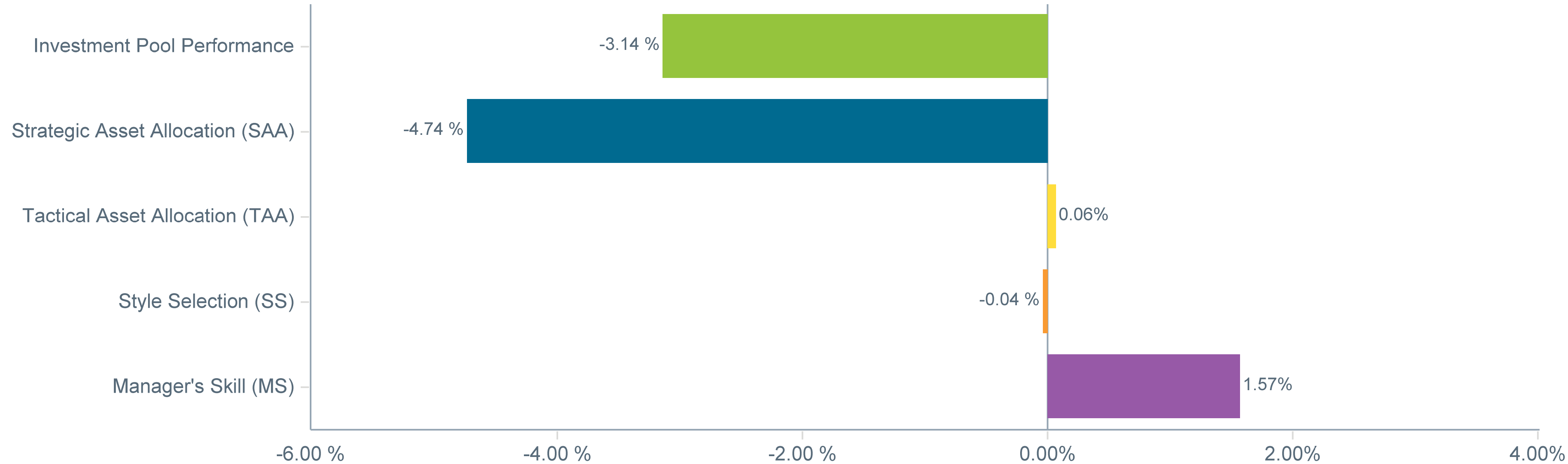
Performance Attribution



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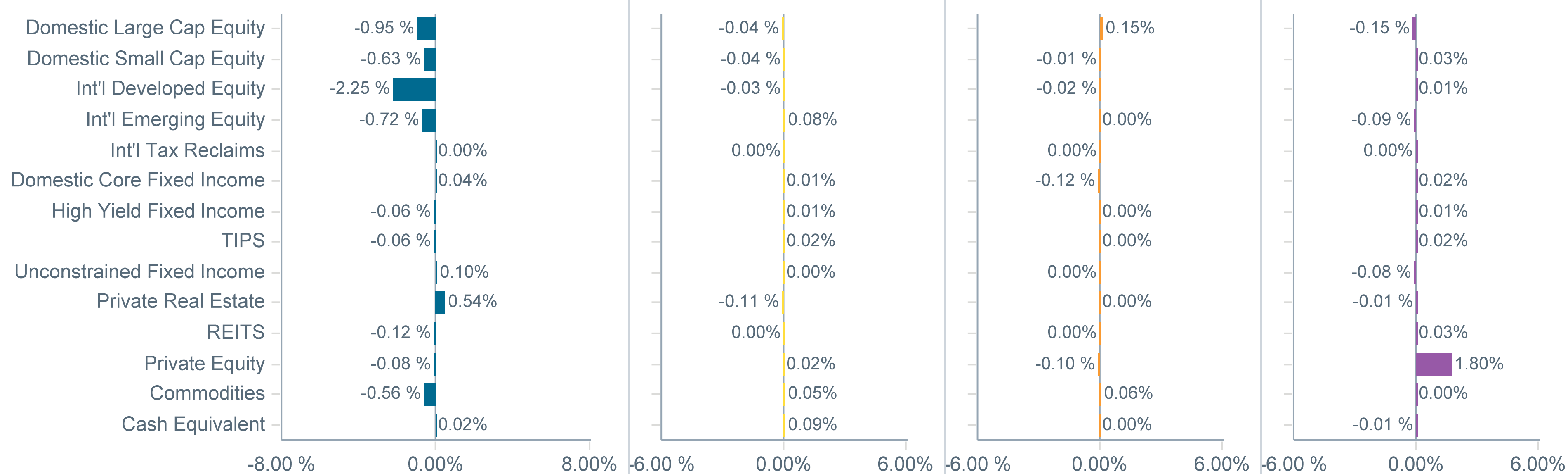
Domestic Large Cap Equity	-0.95 %	-0.04 %	0.15%	-0.15 %
Domestic Small Cap Equity	-0.63 %	-0.04 %	-0.01 %	0.03%
Int'l Developed Equity	-2.25 %	-0.03 %	-0.02 %	0.01%
Int'l Emerging Equity	-0.72 %	0.08%	0.00%	-0.09 %
Int'l Tax Reclaims	0.00%	0.00%	0.00%	0.00%
Domestic Core Fixed Income	0.04%	0.01%	-0.12 %	0.02%
High Yield Fixed Income	-0.06 %	0.01%	0.00%	0.01%
TIPS	-0.06 %	0.02%	0.00%	0.02%
Unconstrained Fixed Income	0.10%	0.00%	0.00%	-0.08 %
Private Real Estate	0.54%	-0.11 %	0.00%	-0.01 %
REITS	-0.12 %	0.00%	0.00%	0.03%
Private Equity	-0.08 %	0.02%	-0.10 %	1.80%
Commodities	-0.56 %	0.05%	0.06%	0.00%
Cash Equivalent	0.02%	0.09%	0.00%	-0.01 %



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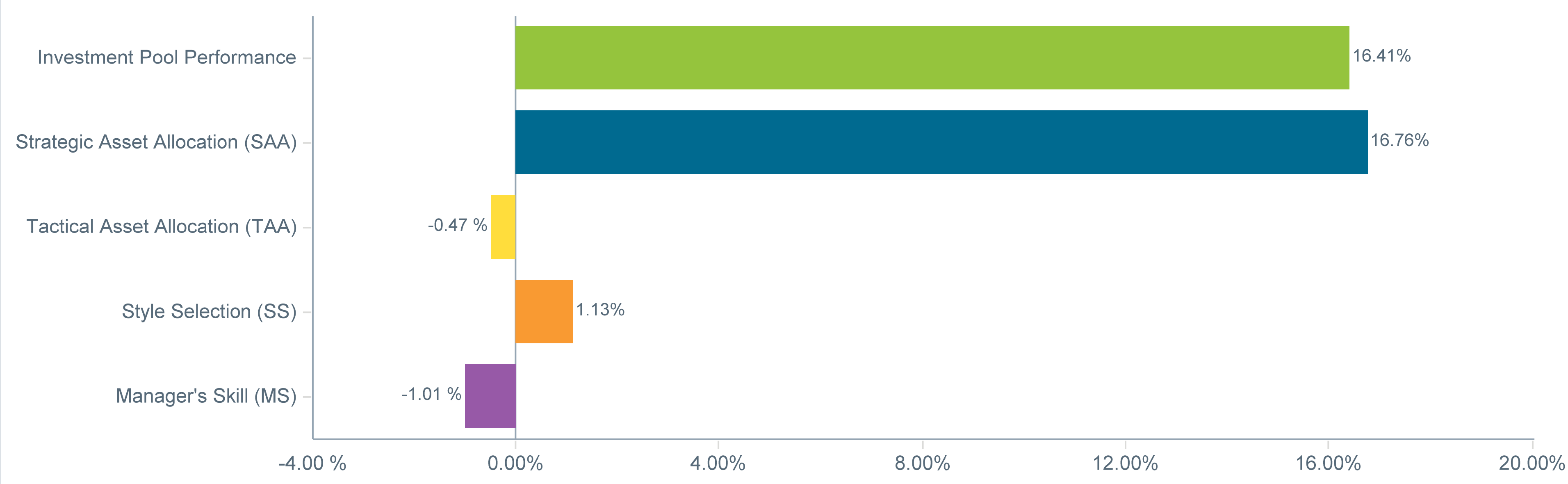

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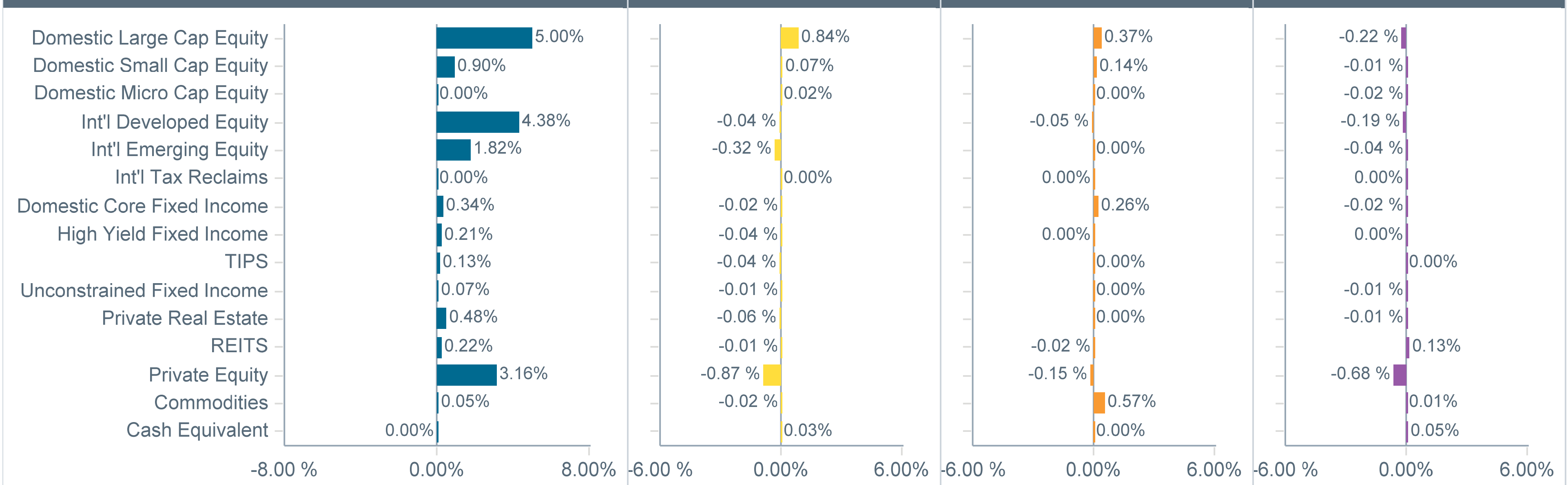
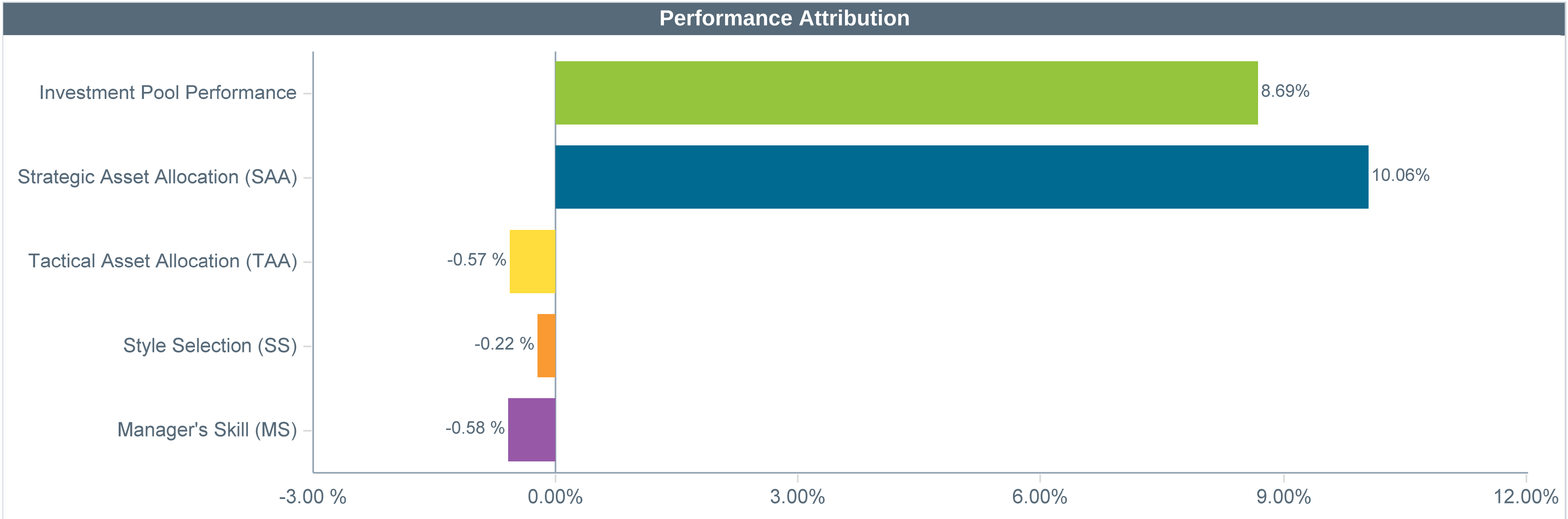


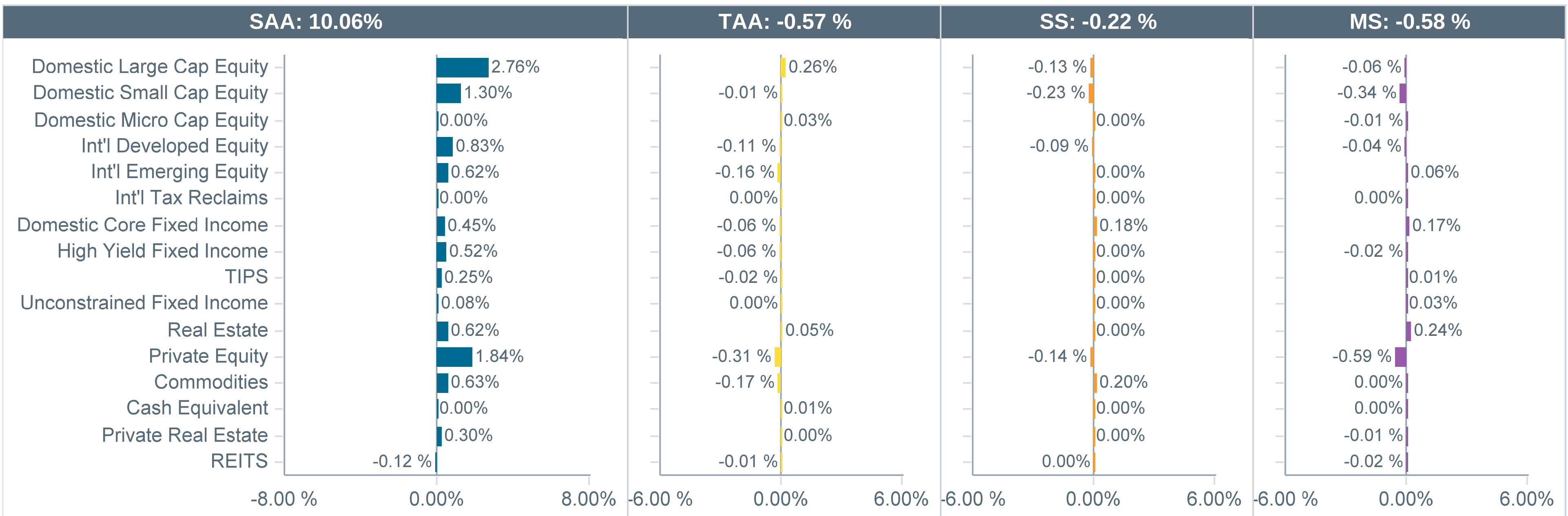
Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

RVK

Los Angeles Fire and Police Pension System
Total Fund Attribution - IDP

January 1, 2016 To December 31, 2016



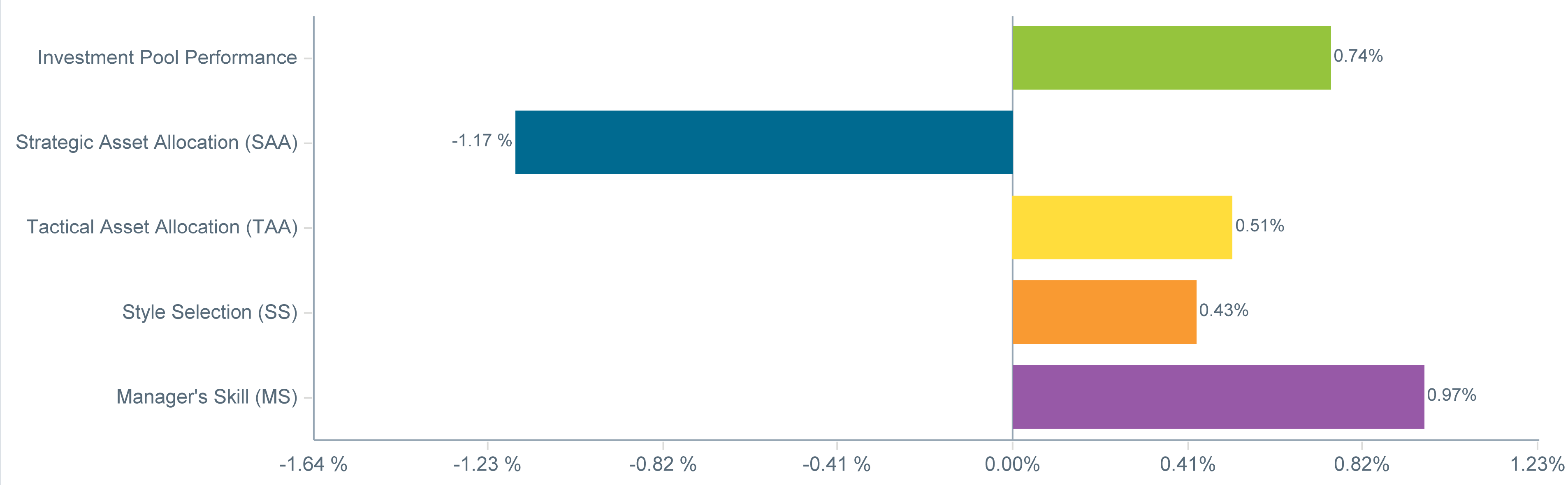


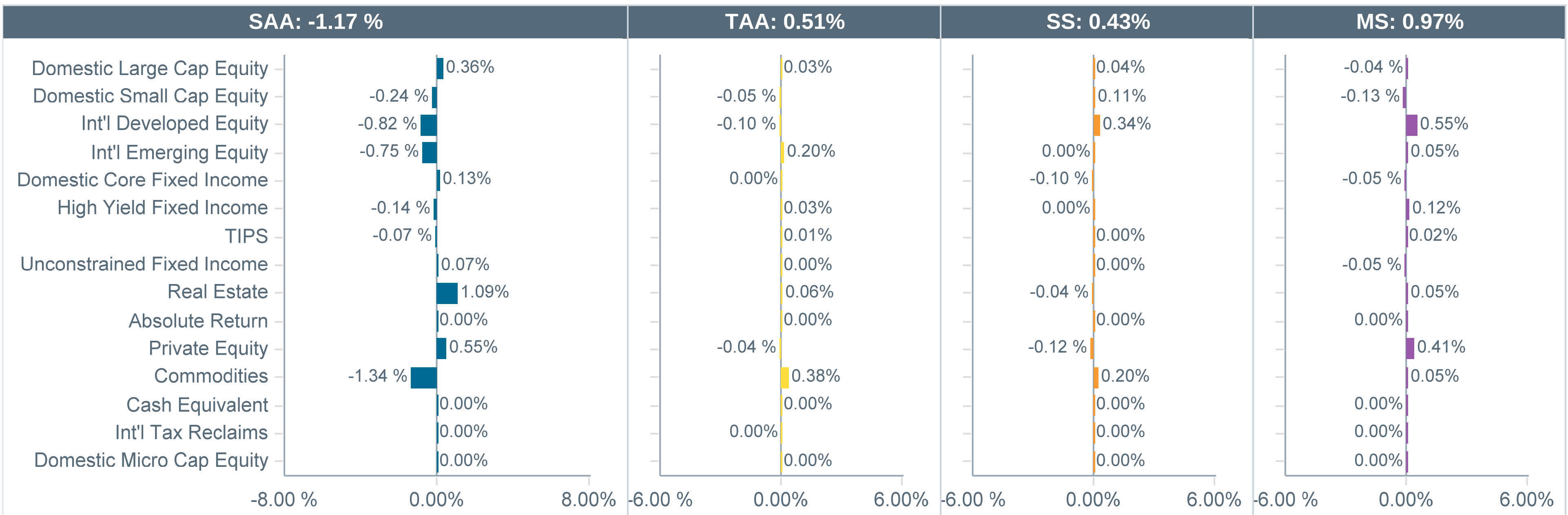
Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

Los Angeles Fire and Police Pension System **January 1, 2015 To December 31, 2015**

Total Fund Attribution - IDP

Performance Attribution





Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

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ASSISTANT GENERAL MANAGER

(VACANT)
CHIEF INVESTMENT OFFICER

June 27, 2022

Hon. Ron Galperin, Controller
Controller's Office
200 N. Main Street, Room 300
Los Angeles, CA 90012

Dear Mr. Galperin:

Thank you for the opportunity to respond to the Management Audit of the Los Angeles Fire and Police Pensions. We thank you, your staff, and the staff of Aon Investments USA Inc., for the courtesy, professionalism, and consideration extended throughout the course of this audit.

Our mission is to advance the health and retirement security of those who dedicate their careers to serve and protect the people of Los Angeles. We administer benefits according to various authoritative instruments, including the City Charter, the Administrative Code, and the State Constitution. We welcome this independent evaluation of the administration of these benefits.

The City Charter requires this audit to examine whether the pension system is operating in the most efficient and economical manner and to evaluate our asset allocation. We are committed to continuous improvement, and your recommendations to strengthen our administration of benefits were highly anticipated.

We believe the Report is clear, concise, and reasonable. We will work with the Board of Fire and Police Pension Commissioners to give full consideration to each recommendation.

We appreciate your recognition of our strong funded-level as compared to other plans, and that the success of our funding progress is primarily due to the Board's commitment to adhering to the actuarial funding policy. Further, it is encouraging that the Board Governance Policies Manual and Board Operating Policies and Procedure Manual are considered a best practice. We appreciate your conclusions that our actuarial methods and assumptions are appropriate and that our use of passive investment management is more than a peer group of other public funds.

We wish to formally document our acceptance of each recommendation as indicated in Attachment 1.

We will continue seeking ways to efficiently manage the System to control administrative costs, mitigate investment and operational risks, and improve administration of plan benefits to our members.

Very truly yours,

Raymond P. Ciranna

Raymond P. Ciranna
General Manager

RPC:CV

Attachment: 1. Response to Management Audit

Attachment 1

Los Angeles Fire and Police Pensions
Response to Management Audit

Red=high priority, Blue=medium priority, Green=lower priority (recommendation priority determined by Aon Investments USA Inc.)

Number	Recommendation	LAFPP Response
	I. Actuarial Methods, Assumptions, Funding and Innovative Strategies	
I.1	**Complete the expected asset-liability study in 2022, and then every three to five years or as conditions warrant.**	The Board's General Investment Consultant, RVK Inc (RVK) is expected to complete a new asset-liability study and present the study to the Board in August 2022. Staff will propose changes to the IPS to incorporate future studies once every three to five years.
I.2	**LAFPP should review whether securities lending and agent oversight could result in cost savings/revenue enhancements or additional risk mitigation benefits.**	Staff will consult with RVK on the securities lending and report to the Board with any potential changes to LAFPP's securities lending program.
	II. Investment Performance/Asset Allocation	
II.1	**Aon recommends adding an active vs passive investment management review to the Asset-Liability study performed every three to five years or during strategic reviews of each investment asset class (at least every three to five years).**	RVK is expected to complete a new asset-liability study and present to the Board in August 2022. Additionally, a new asset allocation study will be completed after the Board's review of the asset liability study. Staff will consult with RVK on the best process to include active-passive analysis into future asset allocation reviews.
II.2	**Consider performing active risk budgeting analysis in conjunction with the Asset-Liability study, and the active vs passive review.**	RVK is expected to complete a new asset-liability study and present to the Board in August 2022. A risk budgeting analysis was requested to be included in the asset-liability study. Staff will confer with RVK on future analysis and the potential to be included into future asset-liability studies and/or active/passive studies.
II.3	**Aon recommends all federal, state, and local legal requirements be explicitly stated together within the IPS.**	Staff will confer with the City Attorney on all governmental requirements and propose changes to the IPS for the Board's review.
II.4	**Aon recommends calculating net of fee returns and maintaining a return history of the actual net of fee investment return achieved during each monthly period.**	Staff will confer with RVK along with the Board's other investment consultants to better collect and compile the information for reporting purposes.
II.5	**Aon recommends the removal of gross of fee investment results in all future performance reporting. This will require linking future calculated net of fee investment returns with the gross of fee performance history currently maintained for longer term reporting**	Staff will confer with RVK along with the Board's other investment consultants to better collect and compile the information for reporting purposes.

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	purposes. The date of the change should be footnoted in performance presentations.	
II.6	**Aon recommends performing an asset-liability study every three to five years or when there is a material change in the underlying actuarial assumptions, risk tolerance of the Board, or any event that would cause a comprehensive review of Plan assets.**	Staff will present Investment Policy changes to the Board in 2022 concerning the frequency of completing asset-liability studies.
II.7	**Aon recommends creating a formal procedure to ensure governance processes articulated in the policy are completed on the mandated cycle.**	Staff will consider adopting a more formal process that includes the creation of a calendar to ensure compliance with all IPS stated policies.
II.8	**Aon recommends adding language to the IPS that states all modifications to the document are to be reviewed by the applicable consultant as well as fiduciary counsel prior to being presented to the Board.**	Staff will consider this recommendation by conferring with the consultants and fiduciary counsel and recommend appropriate changes to the Board regarding the IPS.
II.9	**Consider including a memo from the applicable consultant and fiduciary counsel for all amendments of the IPS stating that they have reviewed the proposed amendments and stating their concurrence or disagreement with the proposed changes.**	Staff will consider this recommendation by conferring with the consultants and fiduciary counsel and recommend appropriate changes to the Board regarding the IPS.
II.10	**Consider the creation of a compliance calendar to facilitate the oversight of compliance with the governance items articulated within the IPS.**	Staff will consider adopting a more formal process that includes the creation of a calendar to ensure compliance with all IPS stated policies.
II.11	**Consider the use of broader asset class mandates (i.e., public equity) for monitoring asset allocation relative to policy, and potential active risk considerations.**	Staff will confer with RVK and provide a recommendation to the Board during the upcoming asset allocation discussion.
II.12	**Aon recommends any future analysis that might materially alter the long-term policy targets of the Plan should incorporate asset-liability projections and consider how the changes may affect the Plan's forward-looking actuarial circumstances.**	Staff will confer with RVK and propose changes to the IPS that recommends incorporation of asset-liability projections to assist in future analysis of the Plan and the long-term policy targets.
II.13	**Aon recommends amending the current U.S. Equity Policy allocation to either replace the S&P 500 Index with the Russell 1000 Index or replace both the S&P 500 Index and Russell 2000 Index with the Russell 3000 Index.**	Staff will confer with RVK and provide recommendations to the Board during the upcoming asset allocation discussion and subsequent equity portfolio analysis.
II.14	**Consider adding small "IMI" exposure to international equity.**	Staff will confer with RVK and provide a recommendation to the Board during the upcoming asset allocation discussion.
II.15	**Consider merging international developed and emerging markets and benchmarking against the MSCI ACWI ex-US IMI Index.**	Staff will confer with RVK and provide a recommendation to the Board during the upcoming asset allocation discussion.

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II.16	**Consider adding regional and market cap diversification to the private equity benchmark (i.e., 67% Russell 3000 Index and 33% MSCI ACWI ex-US IMI Index +2.5%).**	Staff will confer with RVK and the Board's private equity consultant (Portfolio Advisors) and provide a recommendation to the Board during the upcoming asset allocation discussion and private equity review.
	III. Economy and Efficiency of Administration/Management of the System	
III.1	**Explore additional cost sharing arrangements with LACERS and WPERP regarding management liability insurance.**	Preliminary discussions with our insurance broker (Segal Select) occurred on 5/26/22. Will explore further once Mgmt. Audit is formally issued.
	IV. Governance	
IV.1	**We recommend that LAFPP consider adoption of the best practices policies that have not been adopted.**	Staff will review these policy additions to determine if existing desk manuals/internal policies meet the intent of the recommendations.
IV.2	**LAFPP should establish a formal orientation and annual training program, in conjunction with the City Attorney's Office, for Staff with fiduciary responsibilities.**	LAFPP Staff will work with the City Attorney in establishing a formal fiduciary training program for Staff with fiduciary responsibilities.
IV.3	**Amend the LAFPP Board Education Policy to require a minimum number of hours that Board members must complete as part of the annual continuing education.**	Staff will consider presenting to the Board, educational requirements that mirror the '37 Act County Retirement Systems as codified in the CA Government Code Section 31522.8, which, "require that all [retirement] board members receive a minimum of 24 hours of board member education within the first two years of assuming office and for every subsequent two-year period the board member continues to hold membership on the board."
IV.4	**We recommend that the City consider changing the City Charter to grant LAFPP independence to determine the frequency and timing of LAFPP Board meetings.**	LAFPP will present this recommendation to the Board for consideration and work with the City on potential changes to the City Charter.
IV.5	**We recommend that the City amend the City Charter to give LAFPP independent authority regarding LAFPP staff hiring and compensation.**	LAFPP will present this recommendation to the Board for consideration and work with the City on potential changes to the City Charter.
IV.6	**We recommend that the Board continue to consult with legal counsel regarding the LAFPP Retiree Healthcare Program, reevaluate the delegation and consider its own independent administration of the LAFPP healthcare program in its entirety.**	On June 16, 2022, the Board considered a recommendation from staff to release an RFP for health, dental, and vision plans per the City Attorney's advice. The Board determined that the RFP and related issues be further discussed by an Ad Hoc Committee of the Board.