August 30, 2021

TO: Trustees – Board of Investments

FROM: Credit and Risk Mitigation Committee

Vache Mahseredjian, CFA, CAIA, FRM, ASA VM
Principal Investment Officer

FOR: September 8, 2021 Board of Investments Meeting

SUBJECT: **RISK REDUCTION AND MITIGATION STRUCTURE REVIEW**

RECOMMENDATION

Approve the initiatives and recommendations listed on page 37 of the Risk Reduction and Mitigation Structure Review (see **Attachment**) advanced by the Credit and Risk Mitigation Committee.

BACKGROUND

At the August 11, 2021 meeting of the Credit and Risk Mitigation Committee ("Committee"), staff presented a structure review for the Risk Reduction and Mitigation functional asset category. That review included several recommendations (summarized on page 37 of the **Attachment**), which the Committee advanced to the Board of Investments ("BOI"). Among the most salient of those recommendations are the following:

Investment Grade Bonds

- Adopt a target mix of 70% Passive / 30% Active strategies
- Formally terminate the Core Plus mandates, which were liquidated earlier this year

Long Treasury Securities

- Launch a manager search to implement the new 5% allocation[1]

Hedge Funds

- Increase the target allocation for the emerging manager program to 15%

Other recommendations in the structure review are not listed above because they pertain to initiatives the BOI has previously approved, such as attaining new strategic asset allocation targets. The structure review also contained program-level guidelines.

[1] Approval of MQs for the search are a separate item on this meeting's Agenda.

OPTIONS AVAILABLE TO THE BOARD

The Board may wish to approve, modify, or reject the recommendation.

DELIBERATIONS AND OPINIONS EXPRESSED BY THE COMMITTEE

Committee members asked a couple of questions:

- **Question 1**: Is the allocation to long-term Treasury bonds tactical or strategic?

  Response: The allocation is strategic. The allocation to long-term Treasury bonds is part of the new SAA adopted in May. The long-term Treasurys are intended to act as a partial hedge to the Fund's equity exposure.

- **Question 2**: Why not adopt a structure that is 100% passive versus 70% passive/30% active?

  Response: The combination of U.S. Treasury securities and U.S. Agency MBS represents over 75% of the benchmark index. As a result, active core managers have demonstrated a consistent ability to outperform the index with low risk. Therefore, the 70/30 mix provides a prudent mix of low tracking error plus some potential for modest outperformance.

Following the discussion, the Committee voted unanimously to advance the structure review to the BOI.

RISKS OF ACTION AND INACTION

If the Board approves the recommendation, staff will begin implementing initiatives included in the structure review.

Should the Board reject the recommendation, the structure of the Risk Reduction and Mitigation functional category would be out of alignment with its objectives and its benchmark, thereby increasing the risk of the Total Fund.

CONCLUSION

The Committee voted unanimously to advance the Risk Reduction and Mitigation structure review to the Board for approval.

Attachment

Noted and Reviewed:

Jonathan Grabel
Chief Investment Officer

L//.CERA ATTACHMENT

July 30, 2021

TO: Trustees - Credit and Risk Mitigation Committee

FROM: Vache Mahseredjian, CFA, CAIA, FRM, ASA VM
Principal Investment Officer

Chad Timko, CFA, CAIA CT
Senior Investment Officer

Robert Z. Santos RS
Investment Officer

Quoc Nguyen, CFA QN
Investment Officer

Adam Cheng, CFA AC
Senior Investment Analyst

FOR: August 11, 2021 Credit and Risk Mitigation Committee Meeting

SUBJECT: **RISK REDUCTION AND MITIGATION STRUCTURE REVIEW**

RECOMMENDATION

Advance the initiatives and recommendations on page 37 of the Risk Reduction and Mitigation structure review (**Attachment A**) to the Board of Investments for approval.

BACKGROUND

The Strategic Asset Allocation ("SAA") analysis completed in May of this year added a new segment to LACERA's Risk Reduction and Mitigation functional category. In addition to the three existing components--investment grade bonds, hedge funds, and cash—the SAA added a 5% target allocation to Long-Term U.S. Treasury bonds. All four components are designed to reduce the Total Portfolio's risk and to provide downside protection when the Growth functional category encounters a downturn.

SUMMARY

This structure review considers potential portfolio adjustments in response to new SAA targets adopted in May of 2021.

The presentation consists of an introductory overview followed by sections dedicated to each of the four portfolio components. A concluding section provides a summary of initiatives and recommendations (see page 37). Please note that a manager search will be required to fund the new Long-Term U.S. Treasury bond allocation; minimum qualifications for that search will be discussed in a separate agenda item immediately following the structure review.

LACERA's consultants Meketa and Albourne reviewed the segments of the presentation that apply to their respective mandates and are in support. (Albourne reviewed the hedge fund section and Meketa reviewed the rest). The consultants' consent memos are included as **Attachments B** and **C**).

Attachments

Noted and Reviewed:

____
Jonathan Grabel
Chief Investment Officer

ATTACHMENT A

Risk Reduction and Mitigation Structure Review

Credit and Risk Mitigation Committee Meeting

August 11, 2021

Vache Mahseredjian – Principal Investment Officer
Chad Timko – Senior Investment Officer
Robert Santos – Investment Officer
Quoc Nguyen – Investment Officer
Adam Cheng – Senior Investment Analyst
John Kim – Senior Investment Analyst

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

Table of Contents

Risk Mitigation: Role

Risk Mitigation

- Reduce Total Fund risks
- Capital preservation*
- Downside protection*
- Moderate income
- Low volatility
- Low correlation to growth assets
- Source of liquidity

Cash

- Primary source of Total Fund liquidity
- Paramount to LACERA's mission of providing the promised benefit
- Focus on capital preservation

Investment Grade Bonds

- Secondary source of Total Fund liquidity
- Generate income
- Lower volatility
- Low correlation to global equity

Long-Term Government Bonds

- Good Hedge to Equities (Negative correlation)
- Performs well in a flight to quality
- Liquid

Hedge Funds

- Benefit Total Fund Sharpe ratio and diversification
- Downside protection
- Non-directional market risks
- Contribute positive returns frequently

** Especially in stressed equity markets or otherwise when growth assets experience broad price declines*

Risk Mitigation: Continuum

An intentionally designed risk mitigation portfolio:

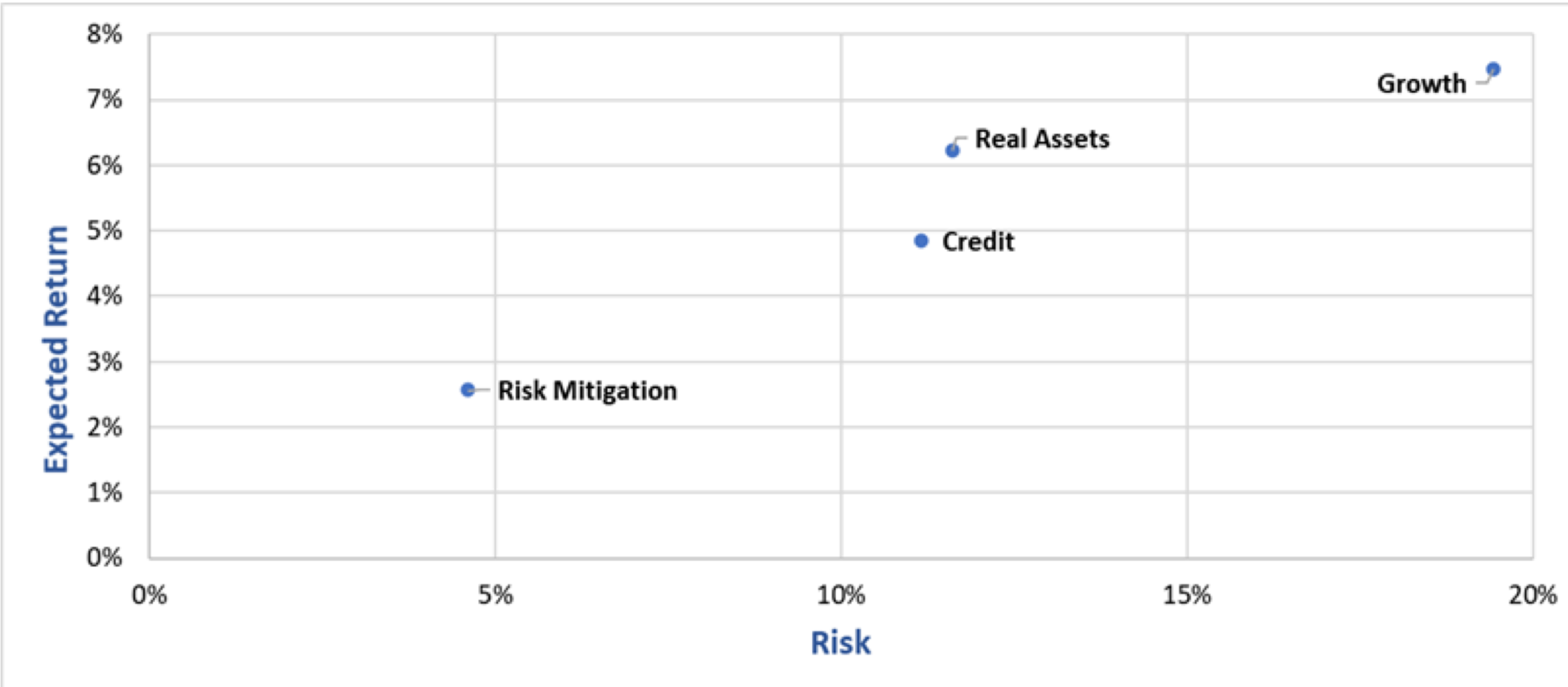
Cash, Investment Grade Bonds, and Long-Term U.S. Treasury Bonds

- Market beta
- Investable benchmarks
- Directional interest rate risk (not applicable to cash)
- Implemented to capture market-based returns

Hedge Funds

- "Alpha" or absence of market beta
- No investable benchmark
- Non-directional to growth, real asset, and credit markets
- Implemented to capture complex or idiosyncratic sources of risk/return

Risk Mitigation: Lowest Risk Among the Four Functional Categories



- Based on the most recent strategic asset allocation assumptions, Risk Mitigation has an **expected return of 2.6%** and **expected risk of 4.6%**

Data from the 2021 Board-approved asset allocation study

Risk Mitigation: Total Fund Risk Contribution as of May 2021

LACERA's Risk Analytics (MSCI BarraOne) confirm that the Risk Reduction and Mitigation functional category is the smallest contributor to Total and Active Fund Risk

Asset Class	Market Value	Weight (%)	Stand Alone Total Risk	%Cont to Total Risk	Stand Alone Active Risk	%Cont to Active Risk
Growth	35,975,490,564	50.9%	20.7	76.4%	1.3	61.1%
Credit	7,637,951,236	10.8%	5.9	4.1%	2.1	7.7%
Real Assets & Inflation Hedges	11,935,772,679	16.9%	19.2	21.4%	5.2	45.2%
Risk Reduction & Mitigation	**14,605,849,804**	**20.7%**	**3.1**	**0.6%**	**0.8**	**2.5%**
Total Fund	70,707,407,755	100.0%	13.6	100.0%	1.6	100.0%

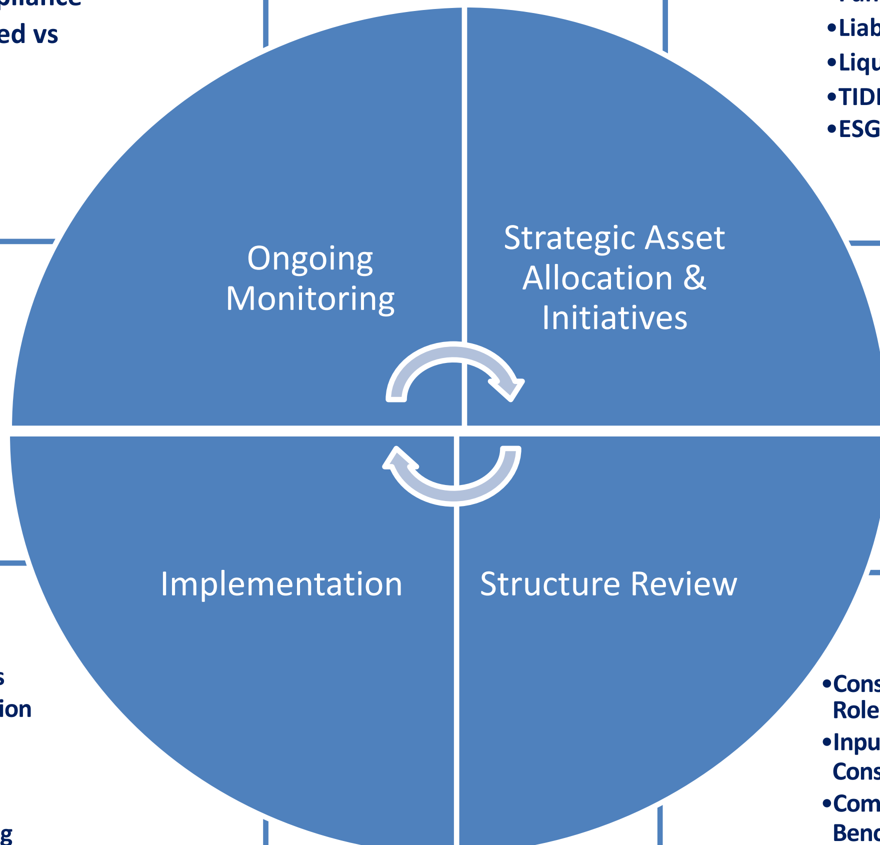
Asset Class	Market Value	Weight (%)	Stand Alone Total Risk	%Cont to Total Risk	Stand Alone Active Risk	%Cont to Active Risk
Risk Reduction & Mitigation	14,605,849,804	20.7%	3.1	100%	0.8	100%
Investment Grade Bonds	11,191,465,002	76.6%	3.8	**90.2%**	0.2	2.0%
Diversified Hedge Funds	2,419,546,499	16.6%	4.7	9.8%	4.7	**98.0%**
Cash	994,838,303	6.8%	0.0	0.0%	0.1	0.1%

**Source: MSCI BarraOne

Risk Mitigation:
Investment Life Cycle*

- Rebalance to target
- IDD/ODD/Compliance
- Compare realized vs expected
- Proactive and Responsive

- Total Fund Risk & Return
- Functional Categories
- Liabilities
- Liquidity
- TIDE
- ESG



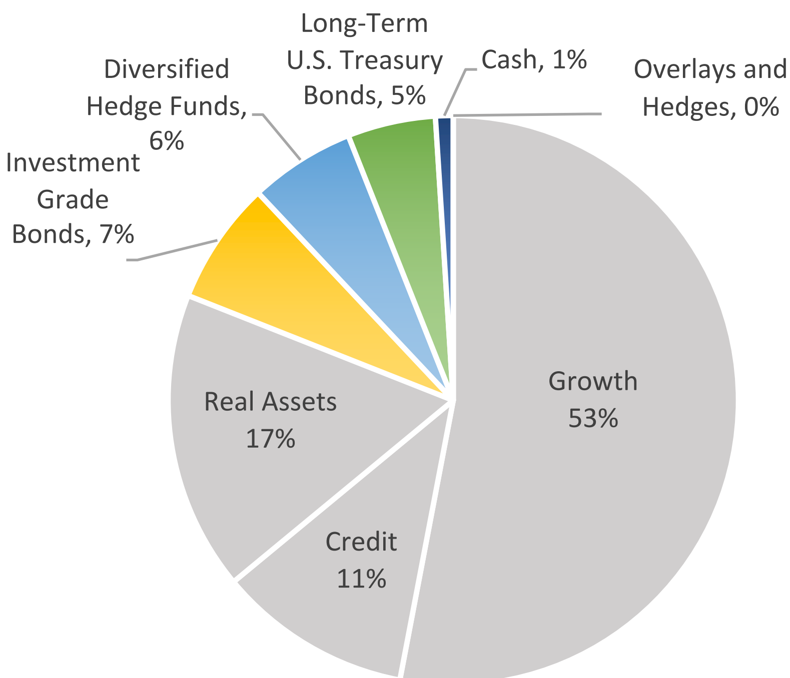
- Manager Searches
- Contract Negotiation
- Governance and Stewardship
- Custody
- Legal & Accounting
- Reporting

- Consistent with asset Class Role and Objectives in IPS
- Input from Asset Category Consultants
- Compare Exposures to Benchmark

* Items may reside in multiple categories

Risk Mitigation:
New and Prior SAA Targets

Total Fund Asset Allocation[1]



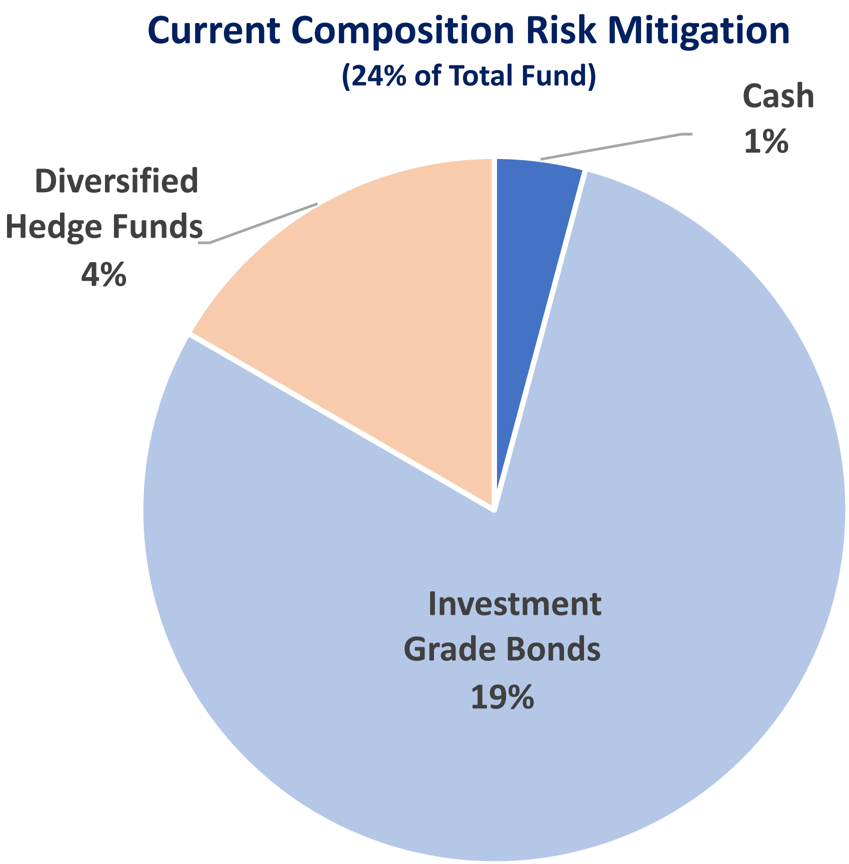
Asset Allocation Targets & Rebalancing Amounts Based on Actual 6/30/21 Values[2]

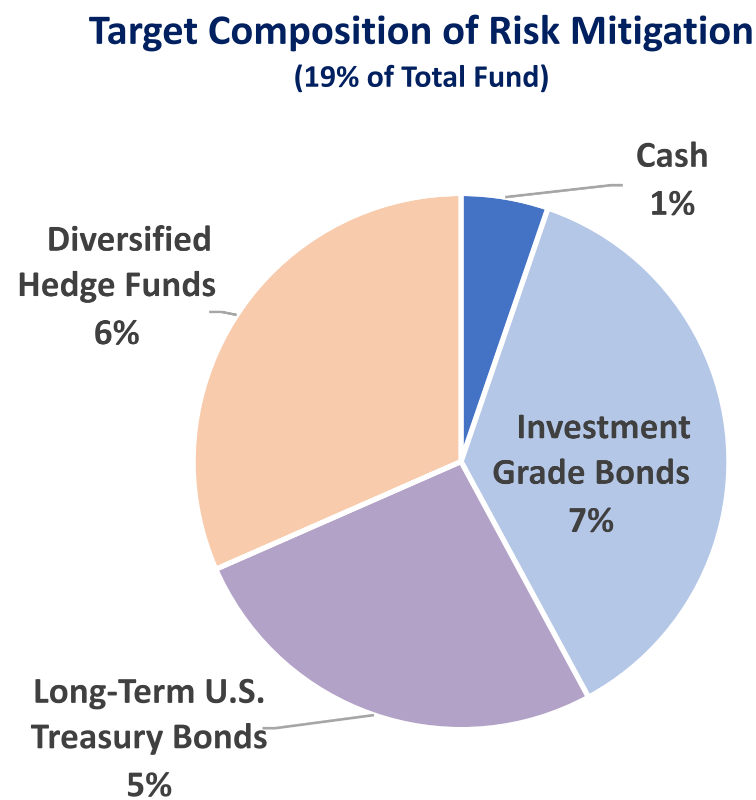
	Prior SAA Targets	New SAA Targets	Change in %	Actual Change in ($Million)
Risk Mitigation	24%	19%	-5%	-$1,100
Cash	1%	1%	0%	$0
Investment Grade Bonds	19%	7%	-12%	-$6,300
Long-Term U.S. Treasury Bonds	0%	5%	5%	$3,500
Diversified Hedge Funds	4%	6%	2%	$1,800

- Risk Mitigation reduction of $1.1 Billion to be sourced from Investment Grade Bonds (-$6.3B)
- New Allocation to Long-Term U.S. Treasury Bonds of $3.5 Billion
- Diversified Hedge Funds increasing $1.8 Billion

[1] Strategic Asset Allocation approved at Board of Investments Meeting on May 19, 2021
[2] Actual values are based on preliminary 6/30/21 report and may be subject to revision; hedge fund value based on Albourne calculation

Risk Mitigation: Portfolio Structure

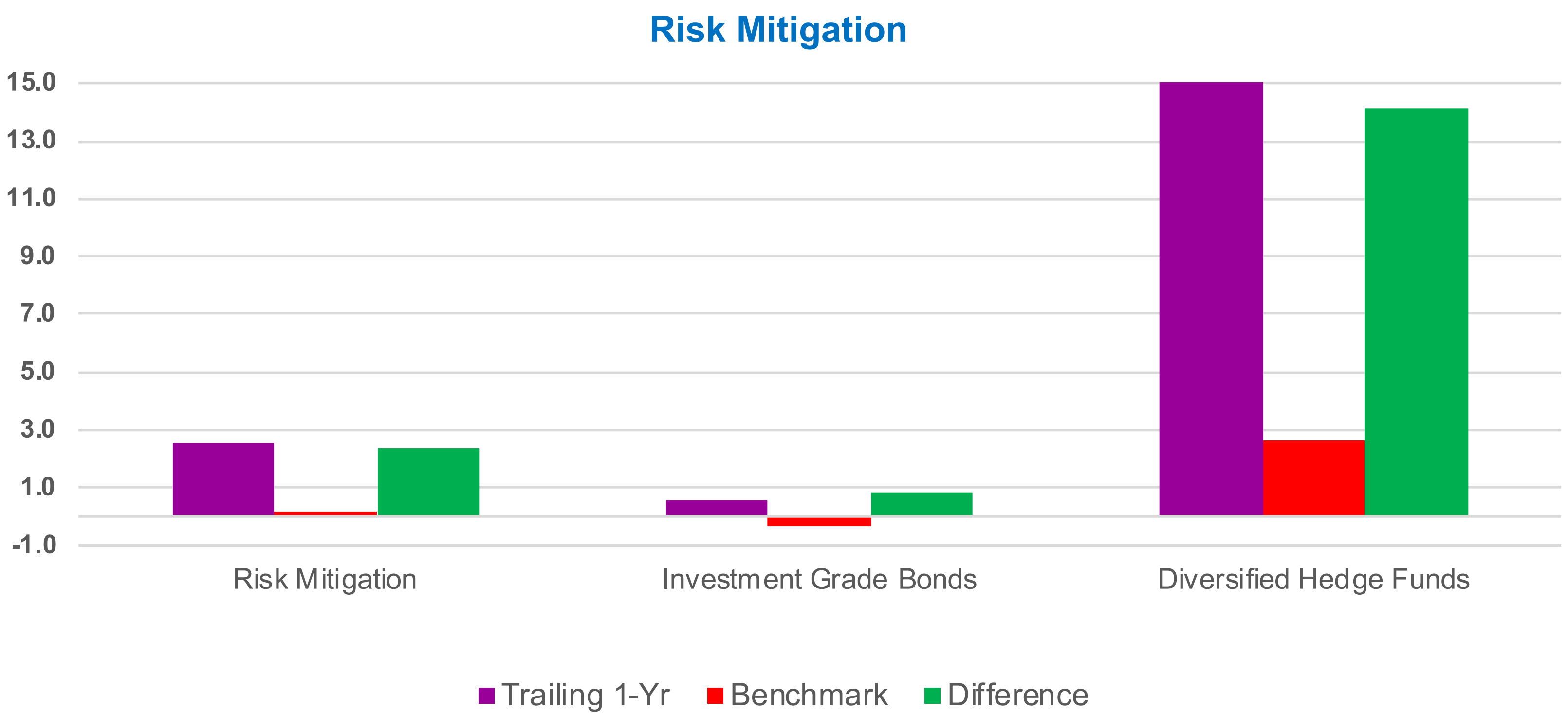




- Reduction in Risk Mitigation from 24% to 19% (approx. $1.1B)
- Reallocation of assets: Increase in Hedge Fund allocation, substantial reduction in Investment Grade Bonds allocation, and new allocation to Long-Term U.S. Treasury Bonds

Risk Mitigation: Performance

Net-of-Fee Performance as of June 30, 2021



- All underlying strategies within Risk Mitigation outperformed their respective benchmarks, led by Hedge Funds and Investment Grade Bonds

Based on preliminary data as of June 30, 2021 from State Street and lagged one month for Hedge Funds

Section Break

Risk Mitigation

Investment Grade Bonds

Investment Grade Bonds: Role, Objectives, and Target Allocation

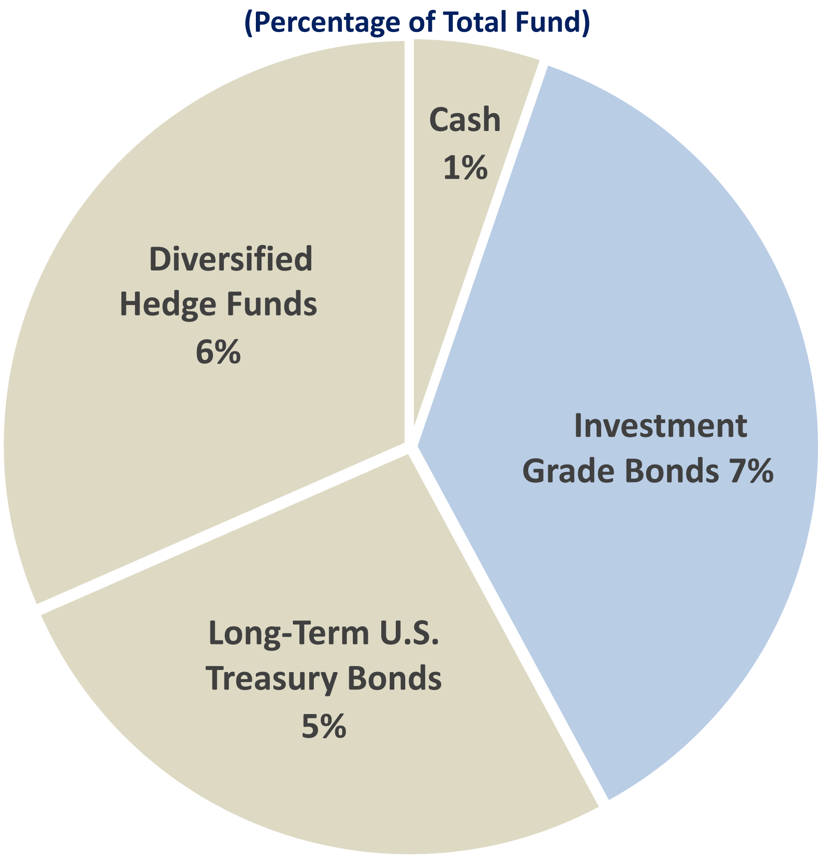
Role

- Secondary source of Total Fund liquidity
- Reduce portfolio risk

Objectives

- Generate income
- Diversify equity risk
- Preserve capital during equity market downturns

Target Allocation



Investment Grade Bonds:
Benchmark Comparison & Risk as of May 2021

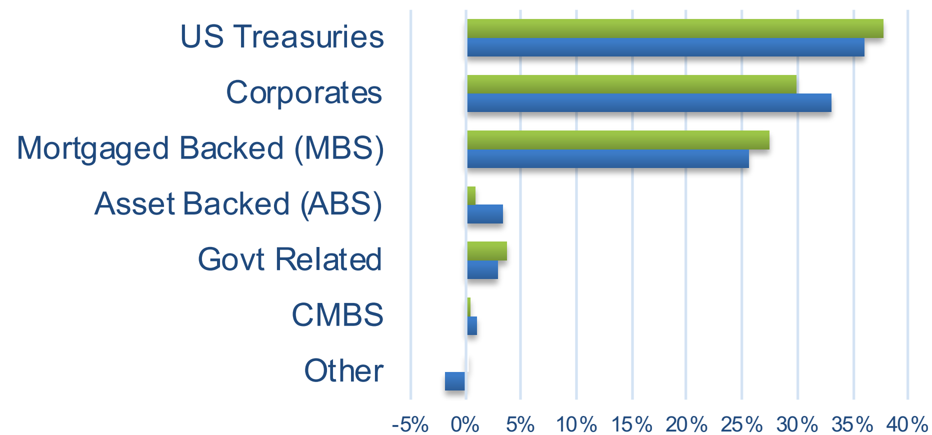
The portfolio is closely aligned with the benchmark*

	Portfolio	Benchmark
Total Risk	3.8	3.6
Active Risk	0.2	-
Beta	1.1	1.0
Duration	6.8	6.4
Convexity	0.2	0.1
Yield (YTW)	2.0%	2.1%
Spread (OAS)	38	43
Coupon	2.5%	2.7%

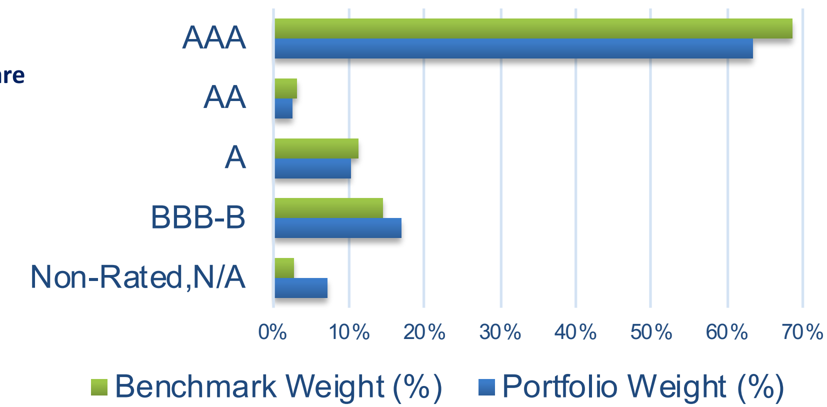
Risk Source	% Total Risk	% Active Risk
Term Structure	102.1%	87.9%
Spread	-3.5%	5.6%
Selection Risk	0.1%	7.3%
Currency Risk	0.0%	0.0%
Other	1.2%	-0.8%
Total	100%	100%

Interest rates are the primary source of risk

Sector Weights vs. Index



Moody's Rating vs. Index



* Please see Appendix for Benchmark Information
**Source: MSCI BarraOne

Investment Grade Bonds: Background

2019

Jan 2019 Structure Review
- Increased Core from 50% to 80% and reduced Core Plus to 20%
- Terminated 2 Core Plus accounts

2020

Sept 2020 – Reduced **Core Plus** target allocation to zero, with a range of 0-20%
- Redeemed all Core Plus assets and redeployed into Core (indexed account)

2021

May 2021 – New Strategic Asset Allocation
- Risk Mitigation reduced from 24% to 19%
- Investment Grade Bonds reduced from 19% to 7%
- New allocation to LT U.S. Treasury Bonds 5%
- Hedge Fund allocation increased from 4% to 6%

Aug 2021 – Recommendation to split Core into passive and active (see next page)

- **Portfolio structure has been refined over recent structure reviews to more closely align with the risk mitigation objective**
- **Core Plus strategies have been liquidated; Board authorization is needed to formally terminate Investment Management Agreements (IMAs)**
- **The current recommendation is to separate Core into indexed (passive) and active strategies**

Investment Grade Bonds:
Portfolio Structure

Following the liquidation of Core Plus strategies, IG Bonds consists entirely of Core strategies. The recommendation is to split Core into Passive and Active components. The recommended mix below reflects the category's risk-mitigation role, as well as the expected return, risk, fees, and liquidity of active and passive strategies

Recommended Strategy Allocation

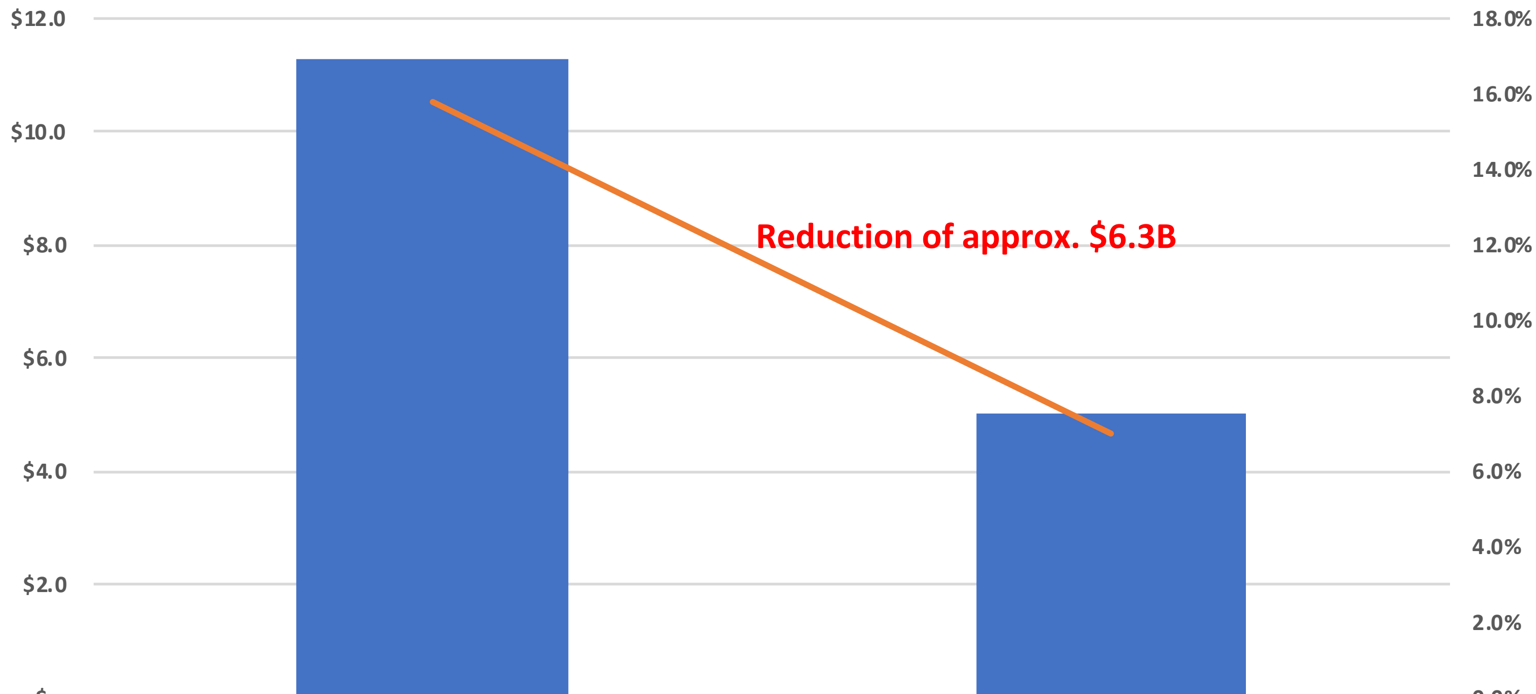
	Target Allocation	Allocation Ranges
Passive	**70%**	**50% - 100%**
Active	**30%**	**0% - 50%**

The recommended target allocation is consistent with the current implementation, as the passive/active mix was 69%/31% as of 6/30/21.

Investment Grade Bonds: Portfolio Guidelines

Return Objective & Benchmark	Meet or exceed the return of the Bloomberg Barclays U.S. Aggregate Bond Index net of fees
Risk Target	Annualized tracking error of no more than 50bps
Sectors	Only sectors in the benchmark
Geography	Only countries represented in the benchmark
Currency	U.S. Dollar denominated
Quality	Only bonds rated investment grade
Leverage	None

Investment Grade Bonds: Timeline



	Current Allocation	New Allocation
Mkt Value ($B)	$11.3	$5.0
% of Total Fund	15.8%	7.0%

➢ **The reduction in Investment Grade Bonds will be phased-in, contingent upon a BOI-approved schedule for implementing benchmark changes**

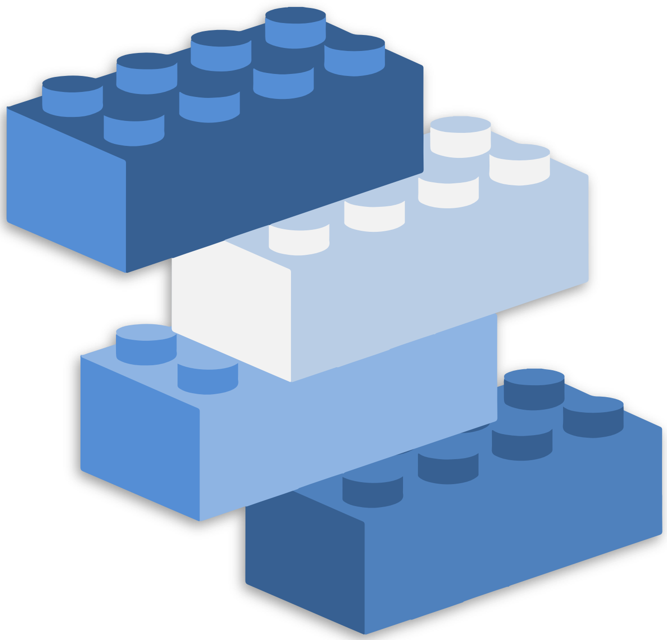
Investment Grade Bonds: Future Initiatives

Implement new strategic asset allocation

- Reduce investment grade bond allocation to 7% (Approx. $6.3B)

Continue to improve analytics and reporting

- Onboard MSCI Barra risk system
- Enhance dialogue with managers on ESG/Climate Risk
- Elevate T.I.D.E. Reporting



Recommendations

Terminate Legacy Core Plus Managers

70% Passive / 30% Active Structure

Section Break

Risk Mitigation

Long-Term U.S. Treasury Bonds

Long-Term U.S. Treasury Bonds: Role, Objectives, Allocation & Implementation

Role

- Add value in equity market downturns
- Key component of Total Fund risk profile

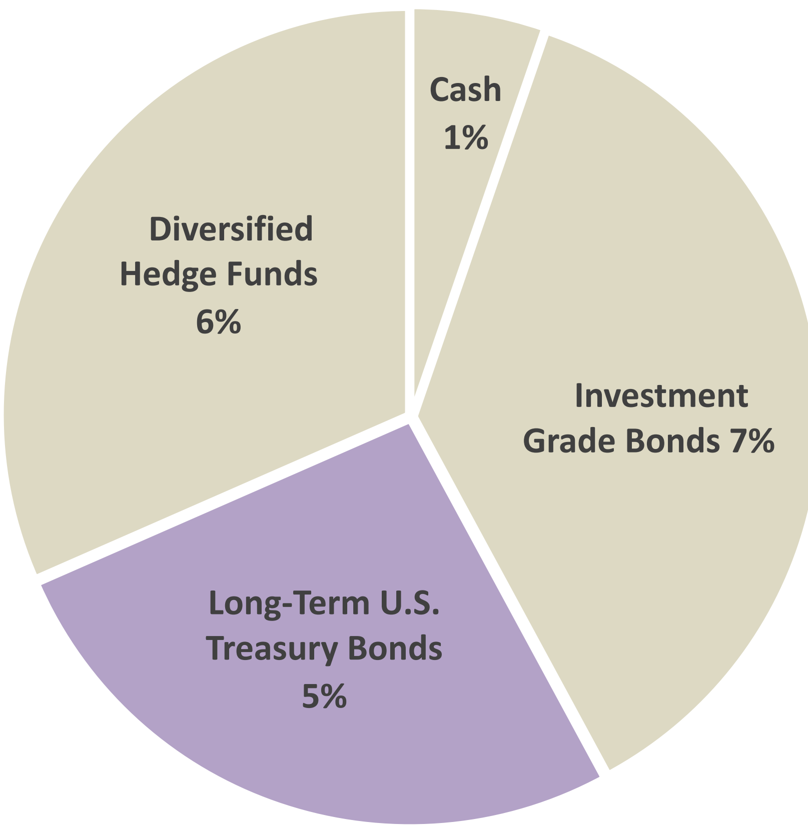
Objectives

- Expected to have negative correlation to equities
- No credit risk
- Liquid implementation

Implementation

- Efficient segment of bond market
- Beta exposure, not seeking alpha

Target Allocation



Long-Term U.S. Treasury Bonds: Future Initiatives

New Allocation within Risk Mitigation: 5% allocation

- **Conduct search for Long-Term U.S. Treasury Bond Manager**
  - Indexed implementation
  - Recommend approval of Minimum Qualifications
  - Utilize Transition/Overlay manager to gain exposure until RFP is completed
- **Minimum Qualifications will be addressed in separate agenda item**

Section Break

Risk Mitigation

Hedge Funds

Hedge Funds:
Role and Objectives

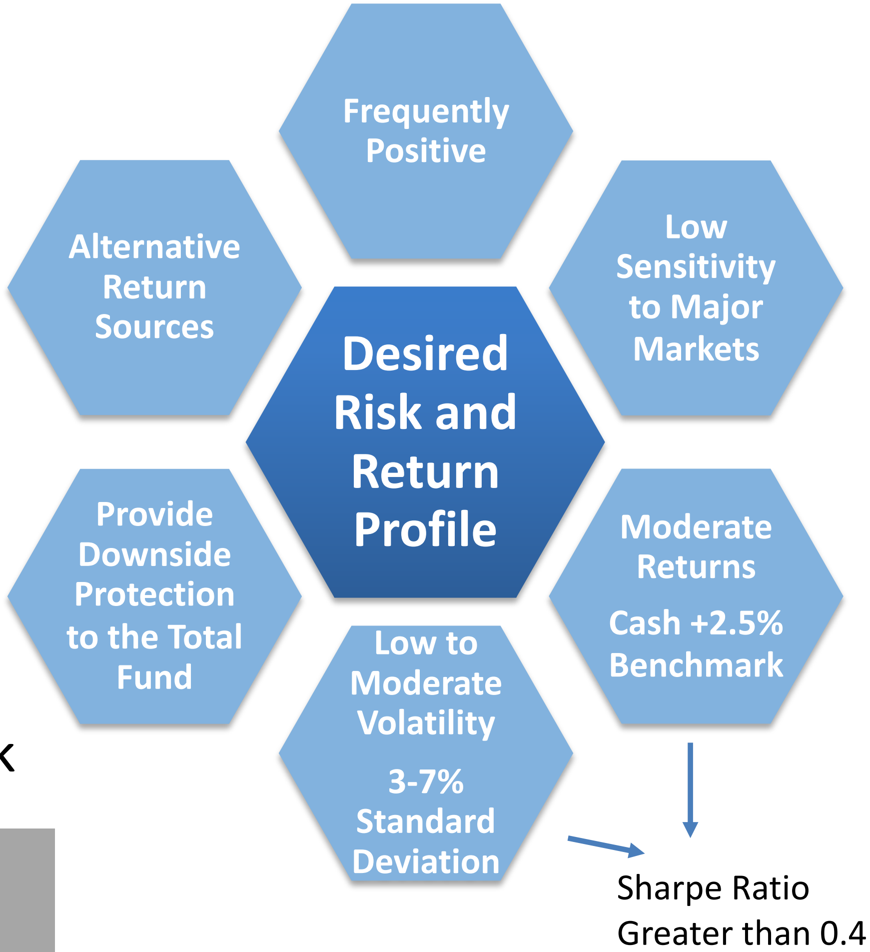
Role:

- Reduce Total Fund risk
- Enhance diversification

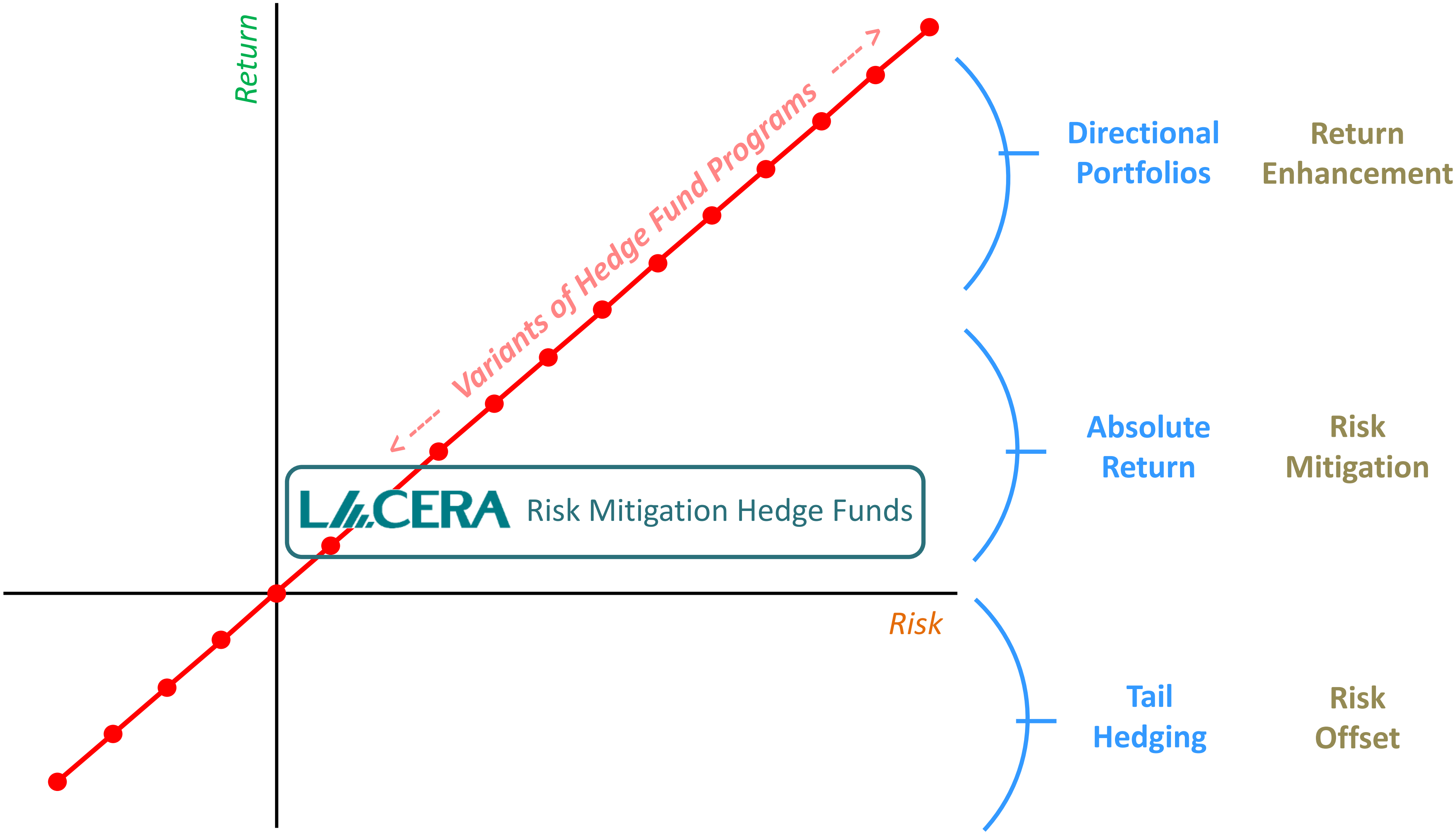
Objective:

- Downside protection
- Low correlation
- Frequently positive
- Moderate returns
- Improve Total Fund Sharpe ratio
- Cash + 2.5% per year benchmark

- *Not risk offset*
- *Not tail hedging*
- *Not negative return expectations*



Hedge Funds:
Types of Hedge Fund Programs



Risk as graphed is a measure of return volatility, market directionality, and overall correlation to LACERA's total Fund

Absolute Return and Risk Offset are further described in the glossary at the end of this presentation

Hedge Funds:
Portfolio Development

3.0
Next Phases

- Adapt to 2021 Strategic Asset Allocation (6% target)
- Portfolio monitoring and enhancement
- Emerging Manager Program maturation and graduations
- Shared ownership investments (seeding)

2.0
Direct Portfolio

- Direct portfolio initial build-out "completed"
- Launched Emerging Manager Program
- Evolution from low beta to risk mitigation

We are here

1.0
Fund of Funds

- Fund of funds origination
- Policy establishment

- Portfolio is strongly fit for purpose (risk mitigation)
- Rebalancing (upsizing) the existing portfolio is possible to reach an increased allocation target

Hedge Funds: Recent Activity

Activity Over Last Two Years

Portfolio Evolution

- Benchmark:
  Cash + 5% → Cash+2.5%
- Liquidated two hedge fund of fund programs
- Established an emerging manager program

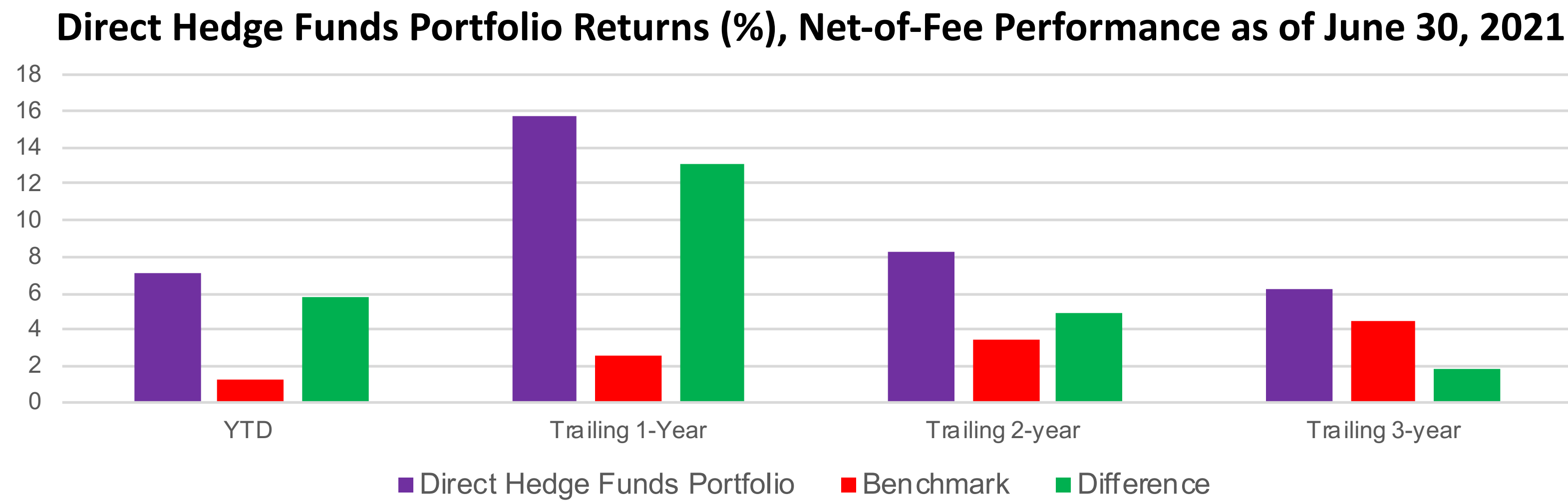
Manager Changes

- Added five managers that fit risk mitigation objectives
- Removed two managers that did not fit objectives well

Objective Oriented Portfolio

- In March 2020, when the MSCI ACWI IMI index lost 13.5%, the average return from LACERA's current eight managers was -0.4%, a low 3% downside capture

Hedge Funds: Performance[1]



- The direct portfolio has outperformed over the 1, 2, and 3-year periods driven by performance that is in line with risk mitigating objectives as shown in the table below

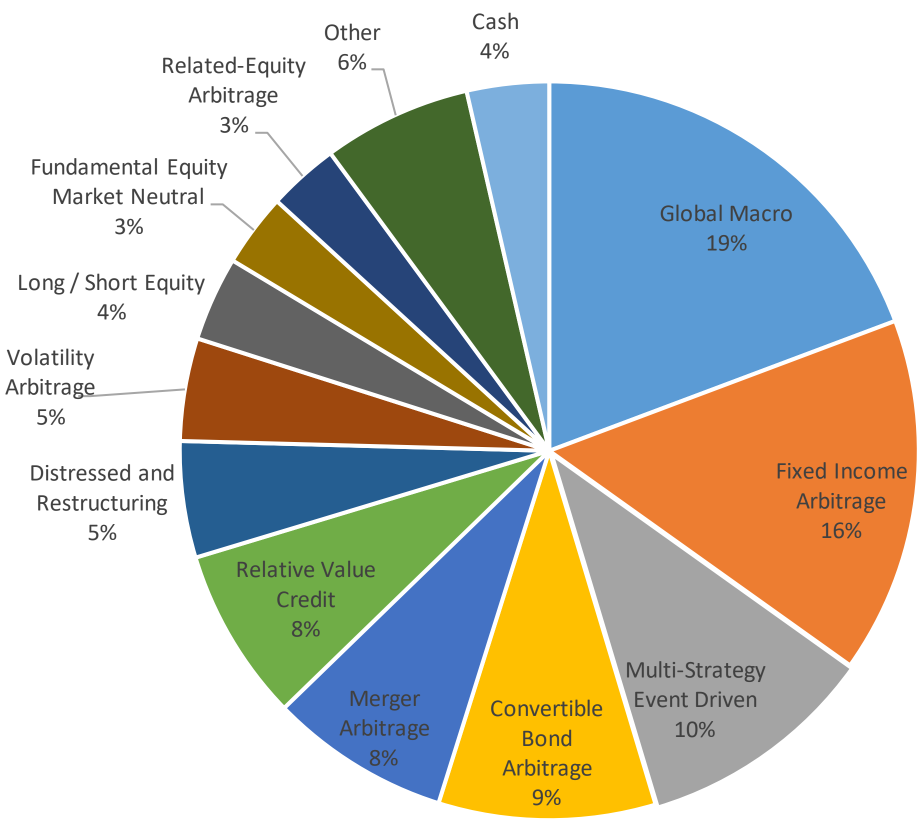
Trailing Period (as of 6/30/21)	Sharpe Ratio	Beta[2]	Standard Deviation	Downside Deviation	Max Drawdown	Upside/ Downside Capture Spread[2]
1 Year	5.0	0.09	3.2%	0.1%	-0.1%	80%
2 Year	1.7	0.18	4.8%	3.3%	-4.8%	14%
3 Year	1.3	0.15	4.2%	2.7%	-4.8%	13%

[1] *Returns and returns analysis use data as of June 30, 2021 from State Street which is lagged by one month*
[2] *To the MSCI ACWI IMI index (global equity market index and LACERA's public equities benchmark)*
Select terms are further described in the glossary at the end of this presentation

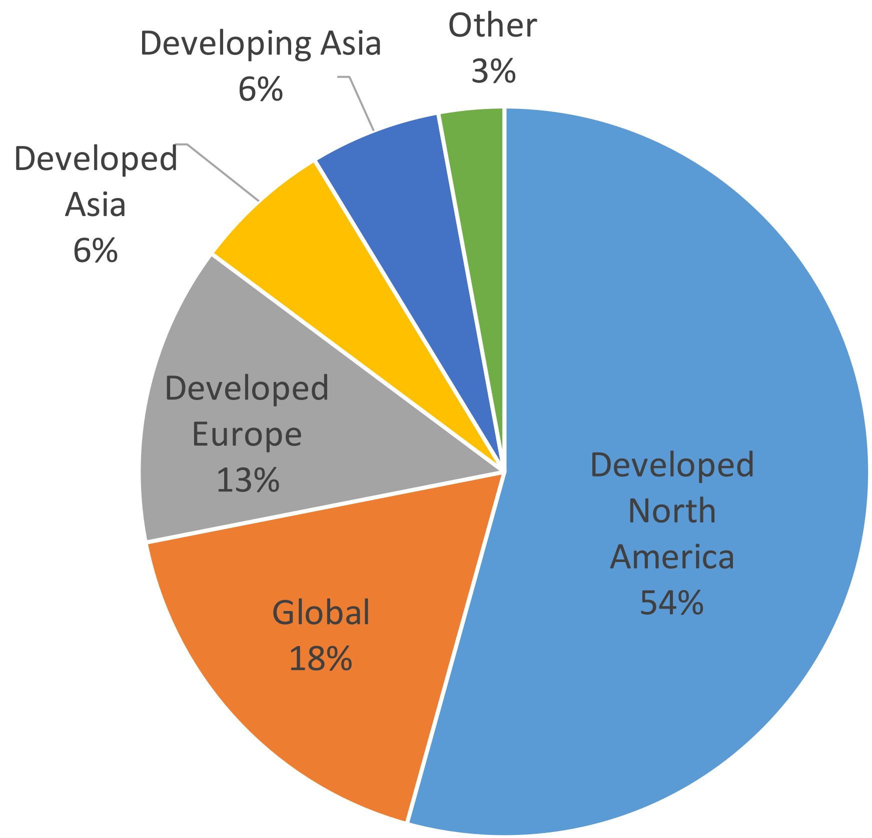
Hedge Funds: Portfolio Structure

LACERA's 8-manager portfolio is diversified across strategies and regions:

Strategy Allocation



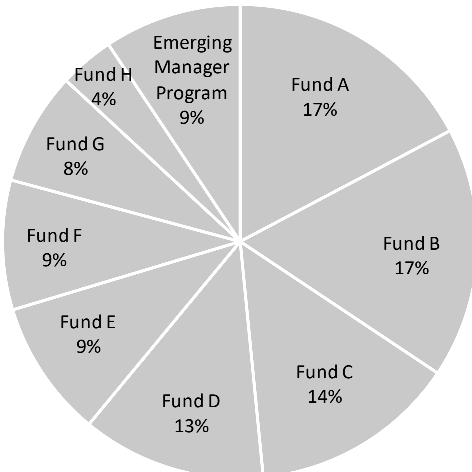
Geographic Allocation



Data is as of 6/30/2021 and includes considerations for a $100 million investment in AM Asia that occurred on 7/1/2021. The pie chart's do not consider fund of funds portfolios that are being liquidated

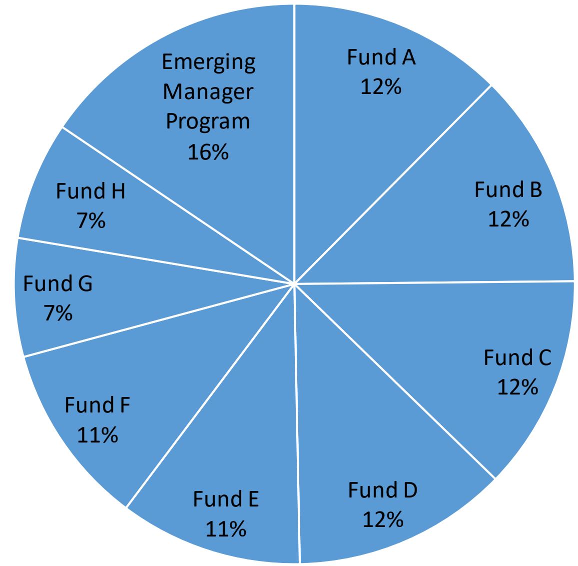
Hedge Funds: Portfolio Structure

Current Portfolio



Target allocation increase from 4% to 6% or by approximately $1.5 billion

Potential Future Portfolio



Initiatives Underway

- Increase portfolio size to reach 6% target as established in the recent strategic asset allocation study
- Increase allocations to well-performing funds via existing rebalancing authority delegated to the CIO

Initiatives That Would Require Future Approvals

- Selectively consider new investments without feeling forced to act
- Increase portfolio weight of the Emerging Manager Program and plan for future graduations

The Potential Future Portfolio is an illustrative example and actual implementation is likely to vary based on fund capacity and performance over time
Two fund of hedge funds mandates (approximately $91 million) are not shown. These mandates were built by Grosvenor Capital Management and Goldman Sachs Asset Management and are now liquidating

Hedge Funds:
Emerging Manager Program

1. In December of 2020, LACERA's BOI approved Stable Asset Management as a separate account manager for an emerging manager program
   - Future manager graduations are the goal

2. Initial investments are in the process of being made and are consistent with emerging manager definitions and program characteristics previously approved by the Board

3. Future steps
   - 2021 – 2023: expected initial deployment by separate account manager
   - 2022 and beyond: program updates and performance reporting
   - 2024 and beyond: select graduations and evergreen re-investments

Hedge Funds: Emerging Manager Program

- Increasing the size of the Hedge Funds Emerging Manager Program would uplift and benefit several strategic plan initiatives:

LACERA T.I.D.E.

- Due diligence
- Capital formation
- Engagement
- Industry advocacy

Strengthen Influence on Fees and Cost of Capital

- Shared ownership benefits such as revenue sharing
- Future capacity rights at attractive fee terms
- Early-stage strategic partnerships with high influence
- Mandate tailoring, co-investments, and transparency

Optimize Investment Model

- Casting a wide net
- Graduation is the goal and negotiated capacity rights allow for it at scale
- Diversifying sources of risk and return

- Portfolio Composition Recommendation:

	Current / Approved	Recommended for Approval
Policy Allocation Range:	0-10%	10-20%
Policy Allocation Target:	none	15%
Mandate Size:	$250 million	Based on allocation target; ~ $650 million considering a $70 Billion total Fund and a 6% target to Hedge Funds
Program Structure:	Evergreen separate account manager	Evergreen separate account manager

** A $650 million emerging manager program allows for diversification across ~ 10 managers and investment sizes that materially impact a newly launching firm*

Hedge Funds: Portfolio Guidelines

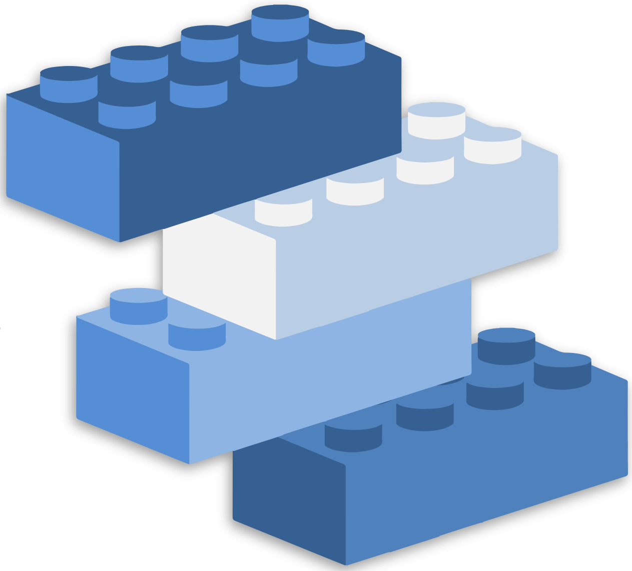
- Portfolio guidelines are noted below with comments relative to existing guidelines

	Proposed	Relative to Existing Guidelines
Return Objective & Benchmark	Cash + 2.5%; with risk mitigation objectives as guided by the IPS and structure review	Added clarifying language
Risk Target	3-7% standard deviation of program monthly returns on an annualized basis	Clarified metric
Market Sensitivity	MSCI ACWI equity beta less than 0.2 for any portfolio and the Program	No change
Geographic Exposure	Maximum of 30% invested in non-developed markets	New guideline
Liquidity	100% of capital within 5 years; at least 50% within 3 years	No change
Side Pockets	Allowed with the reasonable expectation that no side pocket would last beyond 5 years	No change
Leverage	10x when aggregating individual funds	No change
Manager Count	~ 10 direct portfolio and ~ 10 emerging manager portfolio	Adjustment from 0-10 for EMP
Emerging Manager Program	Evergreen separate account emerging manager program	No change
	15% target allocation with a 10-20% range (of the hedge funds portfolio)	10% maximum; no target
Emerging Manager Definition	An emerging hedge fund manager meets the three following criteria:	
	- Organization has less than $500 of assets under management;	No change
	- Organization has managed external capital for less than 3 years; and	No change
	- Organization is at least 66% owned by managing principals and employees	No change
	A manager is no longer emerging if any of the following occur:	
	- Organization managing the fund has assets under management that exceed $1 Billion for the trailing 24 months and the fund has a performance track record of at least 36 months;	No change
	- LACERA's initial investment occurred greater than 5 years ago; or	No change
	- Organization managing the fund is not at least 66% owned by managing principals or employees	No change
Transparency	Position-level or risk-exposure data is required from managers	No change
Partnership Size Limits	Less than 35% of a commingled fund structure; does not apply to managers defined as emerging	No change

Hedge Funds:
Future Initiatives

Direct Portfolio

- Prioritize risk mitigation objectives
- Consider potential 9th or 10th manager without feeling forced (the program is well-structured already)
- Upsize existing managers to accommodate an increased strategic allocation target (4% to 6%)



Emerging Manager Program ("EMP")

- Establish a 15% target allocation for the EMP to cast a wide net and benefit the probability of future graduations
- Uphold risk mitigation objectives as the EMP program is implemented
- Evaluate graduation prospects over the coming years

Fund of Fund Portfolios

- Complete wind-down of legacy portfolios

Section Break

Risk Mitigation

Cash

Cash: Overview

Role

- Primary source of total Fund liquidity

Objectives

- Paramount to LACERA's mission of providing the promised benefit
- Nexus for all rebalancing
- Capital preservation
- Prioritize liquidity over outperformance

Structure

- Cash*
- SSgA Enhanced Cash Strategy
- State Street Money Market Fund

Future Initiatives

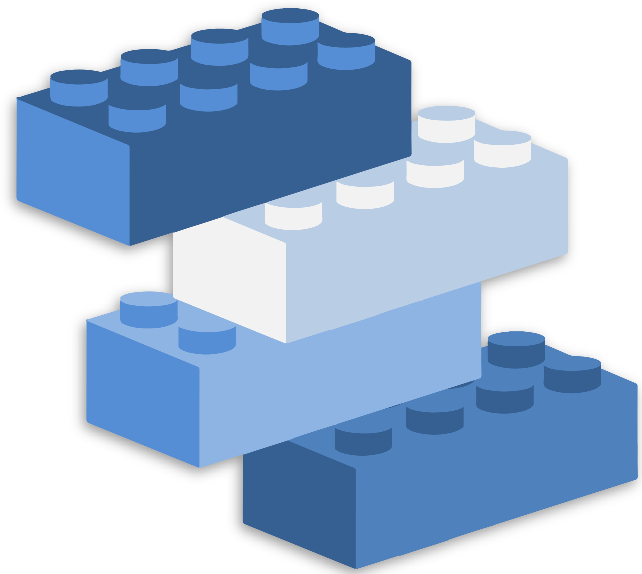
Enhance operational effectiveness

- Cash management tools to monitor daily cash projections
- Cash movement protocols to ensure all activity is routed from/to a single destination

** $700 million floor (equal to 1% target allocation) to ensure adequate reserves for benefit payments at all times*

Risk Mitigation

Risk Mitigation: Summary of Initiatives



Investment Grade Bonds

- Terminate Core Plus Manager Investment Management Agreements
- Adopt Target Mix: 70% Passive / 30% Active
- Reduce allocation consistent with new SAA target

Long Treasurys

- Launch manager search

Hedge Funds

- Continue to expand direct program to achieve 6% SAA target
- Increase target allocation to emerging manager program to 15%
- Complete wind-down of legacy fund of funds

Cash

- Continue to enhance operational tools and protocols

Appendix

Appendix 1: Risk Mitigation Benchmarks

	Benchmark
Risk Mitigation	**Custom Blended (Aggregated weight of sub-category benchmarks)**
Investment Grade Bonds	Bloomberg Barclays U.S. Aggregate Bond Index
Long Term U.S. Treasury Bonds	Bloomberg Barclays U.S. Long Treasury Bond Index*
Diversified Hedge Funds	FTSE 3M T-Bill index Plus 250 bps (1-month lag)
Cash	FTSE 3M T-Bill index

** Benchmark is pending approval by the Board of Investments*

Appendix 2 – Glossary of Terms

TERM	DEFINITION
Absolute Return	A strategy that is independent of traditional benchmarks such as the S&P 500 Index or the Barclays U.S. Aggregate Bond Index. These strategies tend to have lower volatility over time and may to operate independently of market direction.
Active	A measure of the difference relative to a benchmark. For example, if a portfolio's return is 5%, and the benchmark's return is 3%, then the portfolio's active return is 2%. A portfolio's active total risk is the risk associated with the volatility of active returns. Active weight is the portfolio's weight in an asset minus the benchmark's weight in the same asset. Active exposure is the portfolio's exposure to a factor minus the benchmark's exposure to that same factor.
Active Total Risk	The expected standard deviation of the differential return between the portfolio and the benchmark. Active total risk arises from active management, and it is the result of active weights (deviations from the benchmark at the asset level) and therefore active exposures; for passively managed portfolios, it is referred to as "total tracking error."
Beta	A measure of the sensitivity of an asset to movements in the market or other benchmark; thus, a measure of its non-diversifiable or systematic risk. A beta of one (1) indicates that, on average, the asset is expected to move in tandem with the market or benchmark.
Common Factor Risk	A common factor is a characteristic shared by a group of securities that influences the returns of those securities. Securities with similar characteristics exhibit similar return behavior, which may be distinct from the rest of the market. Examples of common factors are industries, styles, term structure, and spreads. Common factor risk is the part of total risk due to exposure to common factors.
Downside Capture	Measure of an investment's performance during down markets, calculated as the strategy's returns divided by the returns of the benchmark index during the down market. A lower down market capture ratio means an investment was less negatively impacted during market downturns.
Downside Deviation	Volatility of monthly returns that measures the average deviation from the mean and only considers negative returning months.
Effective Duration	A measure of the price sensitivity of bonds with respect to a parallel shift of the discount curve that is particularly useful for bonds with embedded options (e.g., callable bonds, putable bonds, and mortgage-backed securities).
Marginal Contribution to Risk (MC to Risk)	An asset's contribution, on the margin, to a particular risk characteristic of a portfolio. It measures the change in that characteristic caused by a one percent change in that asset's or group's percent holding (while shorting an equal amount of cash to keep all other asset weights constant).
Maximum Drawdown	The compounded but not annualized maximum loss over a time period.

Source: BarraOne Analytics Guide & LACERA

Appendix 2 – Glossary of Terms (continued)

TERM	DEFINITION
Option-Adjusted Convexity (OA Convexity)	The sensitivity of a security's effective duration to changes in interest rates, calculated taking its embedded options into account.
Option-Adjusted Spread in Basis Points (OAS (bp))	The spread over the asset's discount curve that equates the price of a security to the present value of its cash flows, with the latter adjusted to reflect any embedded options.
Percent Contribution to Total Risk (%CR to Total Risk)	The percent of total risk that an individual asset or risk source contributes. For example, a %CR to Total Risk of 10% indicates that 10% of the portfolio's total risk is arising from the portfolio's position in that particular asset.
Risk Offset	Strategies designed to perform well during a significant market downturn, typically in equity markets. These strategies are similar to buying insurance where there is a cost of premium associated with receiving a payoff when an adverse [market] event occurs.
Selection Risk	Risk that is specific to an asset and is uncorrelated (or negligibly correlated) with the risks of other assets. That is, asset selection risk is the portion of an asset's or portfolio's risk that is unexplained by the risk model. Also called specific, unique, idiosyncratic, or independent risk.
Sharpe Ratio	Measures risk-adjusted performance of an investment compared to a risk-free asset.
Spread Risk	The risk due to exposure to spread movements, a risk factor that captures typical movements in term structure spreads. Spread factors in Barra's risk model include non-government spread (also known as spread) and emerging market spread.
Standard Deviation	Volatility of monthly returns that measures the average deviation from the mean.
Term Structure Risk	The part of risk due to exposure to term structure movements. The term structure shows the relationship between interest rates and maturities—commonly known as a yield curve.
Total Risk	The total (gross) risk to an asset, which is the standard deviation of the asset's total return distribution, expressed in percent. We forecast total risk using Barra's multiple factor model. The total risk for an asset depends on the asset's exposures to the risk factors, the factor variance/covariance matrix, and the forecast selection risk of the asset.
Upside –Downside Capture Spread	A measurement of the difference between upside capture and downside capture.
Upside Capture	Measure of an investment's performance during up markets, calculated as returns divided by the returns of the benchmark index during the up market. A high up capture ratio means an investment outperformed the index during up markets.

Source: BarraOne Analytics Guide & LACERA

ALBOURNE

LACERA Hedge Fund Structure Review Concurrence Memo

July 30, 2021

To: Each Member
Credit and Risk Mitigation Committee
Board of Investments

From: James Walsh, G. Stephen Kennedy
Albourne America LLC

For: August 11, 2021 Credit and Risk Mitigation Committee Meeting

Recommendation: Albourne America LLC ("Albourne") recommend that the 2021 Structure Review of LACERA Hedge Fund Portfolio be advanced to the Board of Investments for approval

Background: Albourne consults LACERA on the Hedge Fund portfolio. Staff has prepared the 2021 Hedge Fund Structure Review for the Credit and Risk Mitigation Committee and the Board of Investments for its consideration and ultimately approval. Albourne has reviewed the Structure Review and agrees with the recommendations.

The Structure Review re-asserts the Investment Role and Objectives as updated in November 2018 and reviewed in August 2019, which emphasize the risk mitigation characteristics of the portfolio to achieve "Absolute Returns" and diversifying returns within the overall investment plan. Commensurate with that, the portfolio focuses on downside protection, an increased Sharpe ratio with lower volatility, driven by non-directional market risks.

The Structure Review notes that the Direct portfolio is now built out. The overall size of the portfolio will increase as the target allocation moves to 6%, which will be achieved by adding to existing managers and selectively considering new managers. It is anticipated that the weight committed to the Emerging Manager Program will increase, with capacity also accessed from future graduates of this program. Staff note that not only will the Emerging Manager Program benefit LACERA from the perspective of fees and manager capacity, it will also uplift the T.I.D.E. initiative.

Conclusion: Staff's Structure Review outlines the focus on risk mitigation and expanding the size of the program, and the actions necessary to move in that direction.

Sincerely,

James Walsh	G. Stephen Kennedy
Head of Portfolio Group	Portfolio
Senior Analyst	Senior Analyst

LACERA Hedge Fund Structure Review Concurrence Memo

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ATTACHMENT C

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MEMORANDUM

TO: Board of Trustees - LACERA - Board of Investments
FROM: Stephen McCourt, Leo Festino, Tim Filla, and Imran Zahid
CC: Jon Grabel, CIO - LACERA
DATE: July 29, 2021
RE: Risk Mitigation Structure Review

The purpose of this memo is for Meketa Investment Group to formalize its support for the recommendations related to the Investment Grade Bond future initiatives contained in LACERA's Risk Mitigation Structure Review 2021 presentation.

We support staff's recommendation to terminate the legacy core plus fixed income managers and adopt a 70% passive / 30% active structure. We also recognize the actual passive / active mix as of June 30, 2021 was 69% passive / 31% active so this change will not be much of a departure from the portfolio's current stance and agree that the reduction in the portfolio target allocation for Investment Grade Bonds from 16% to 7% should be phased in over time with a completion target of Fiscal Year 2022.

Additionally, we concur with staff's recommendation to conduct a new passive manager search for the purpose of filling the newly approved 5% allocation to Long-Term Treasury Bonds within the Risk Reduction and Mitigation functional category. While the search is being conducted, we agree that utilizing an Index Exchange Traded Fund or cash overlay to gain passive exposure in an expeditious manner to the asset class would be a prudent decision for implementation purposes.

If you have any questions, please feel free to reach us at 760-795-3450. We thank you for your continued trust in Meketa. We look forward to speaking with you soon.

SPM/LF/TF/IZ/sf