Contra Costa County Employees' Retirement Association

AGENDA

RETIREMENT BOARD MEETING

REGULAR MEETING
April 28, 2021, 9:00 a.m.

Due to the Contra Costa County and State of California Coronavirus (COVID-19) health orders, and as permitted by Executive Order N-29-20 issued on March 17, 2020, the Board of Retirement shall hold its meeting via teleconferencing. The meeting is accessible telephonically at 669-900-6833, Webinar ID: 978 3819 2662, Passcode: 934303, or via the web at: https://zoom.us/j/97838192662?pwd=QkRHZEFJVlg0eWZkWnQ4UzlLWm5Ldz09 Passcode: 934303

Persons who wish to make public comment may submit their comment to: publiccomment@cccera.org on the day of the meeting, either before or during the meeting. Public comments are limited to any item of interest to the public that is within the subject matter jurisdiction of the Board of Retirement. (Gov't Code Section 54954.3(a).) All comments submitted will be included in the record of the meeting. The comments will be read into the record at the meeting, subject to a three-minute time limit per comment.

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.

2. Roll Call.

3. Select a successor Board Chairperson and make any other necessary selection of board officers.

4. Audit committee member appointment.

5. Accept comments from the public.

6. Approve minutes from the March 24, 2021 meeting.

CLOSED SESSION

7. The Board will go into closed session pursuant to Govt. Code Section 54956.9(d)(1) to confer with legal counsel regarding pending litigation:

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

a. *Contra Costa County Deputy Sheriffs Association, et al., v. Board of Retirement of CCCERA, et al.,* Contra Costa County Superior Court, Case No. MSN12-1870
b. *Contra Costa County Deputy Sheriffs Association, et al., v. Board of Retirement of CCCERA, et al.,* Contra Costa County Superior Court, Case No. C15-00598
c. *Morant v. CCCERA*, EEOC Charge No. 555-2021-00303

OPEN SESSION

8. Presentation from Milliman regarding the December 31, 2020 Other Post-Employment Benefits (OPEB) valuation report.

9. Update from Verus regarding the firm and its role as the board's investment consultant.

10. Discussion with Board regarding potential modifications of the Investment Policy Statement.

11. Review of report on liquidity sub-portfolio.
    a. Presentation from staff
    b. Presentation from Dimensional Fund Advisors

12. Consider and take possible action to adopt Board of Retirement Resolution No. 2021-4, Investment Asset Allocation Targets and Ranges.

13. Miscellaneous
    a. Staff Report
    b. Outside Professionals' Report
    c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

Contra Costa County Employees' Retirement Association

Meeting Date
04/28/2021
Agenda Item
#4

MEMORANDUM

Date: April 28, 2021

To: CCCERA Board of Retirement

From: Karen Levy, General Counsel

Subject: Appointment of A Fourth Member of the Audit Committee

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Background

The CCCERA Board Audit Committee consists of at least three and no more than four members of the Board. With the retirement of trustee Todd Smithey, the Committee now has a vacant seat. Pursuant to the Audit Committee Charter, in the event of a vacancy, the Board Chairperson appoints a member of the board to fill the vacancy.

Per the Charter, committee members should have expertise in accounting, auditing, financial reporting, and internal control. Although these desired traits are not mandatory, members should be sufficiently knowledgeable about these topics to make informed recommendations with the assistance of a financial expert.

Recommendation

This is an information item. The Board Chairperson makes this appointment. No Board action is necessary.

Meeting Date
04/28/2021
Agenda Item
#6

CCCERA
Contra Costa County Employees' Retirement Association

RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING
March 24, 2021
9:00 a.m.

The Board of Retirement meeting was accessible telephonically at (669) 900-6833, Webinar ID 951 7715 8205, Passcode 801649 due to the Contra Costa County and State of California Coronavirus (COVID-19) Shelter In Place Orders, and as permitted by Executive Order N-29-20 issued on March 17, 2020.

1. Pledge of Allegiance

The Board and staff joined in the *Pledge of Allegiance.*

2. Roll Call

Present: Candace Andersen, Donald Finley, Scott Gordon, Jerry Holcombe, Louie Kroll, Jay Kwon, David MacDonald, John Phillips, Reggie Powell, Mike Sloan, Todd Smithey and Belinda Zhu (Deputy Treasurer, present and voting in Treasurer Russell Watts' absence)

Absent: None

Staff: Gail Strohl, Chief Executive Officer; Christina Dunn, Deputy Chief Executive Officer; Timothy Price, Chief Investment Officer; Karen Levy, General Counsel; Wrally Dutkiewicz, Compliance Officer; Anne Sommers, Administrative/HR; and Tim Hoppe, Retirement Services Manager;

3. Accept comments from the public

Statement read by CCCERA staff from Steven Bolen, who stated he was a board member of the Contra Costa County Deputy District Attorney Association, and asked CCCERA to work with them to resolve overpayment issues to avoid further litigation for all parties. Board referred the issue to General Counsel.

4. <u>Approval of Minutes</u>

It was **M/S/C** to approve the minutes from the February 24, 2021 Board Meeting. (Yes: Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey, Watts and Kwon)

Anderson was present for subsequent discussion and voting.

CLOSED SESSION

The Board moved into Closed Session pursuant to Govt. Code Section 54956.9(d)(1).

The Board moved into open session.

5. There was no reportable action related to Govt. Code Section 54956.9(d)(1).

It was the consensus of the Board to move to Item 7.

7. <u>Consider and take possible action to execute agreement with StoneX Futures Commission Merchant (FCM) for Sit LLCAR Strategy</u>

It was **M/S/C** to execute agreement with StoneX Futures Commission Merchant (FCM) for Sit LLCAR Strategy. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey and Watts)

8. <u>Consider and take possible action to adopt Board of Retirement Resolution 2021-2 to increase the salary of the Chief Executive Officer by 6.5% and provide a one-time lump sum payment of $5,000.00 effective April 1, 2021</u>

It was **M/S/C** to adopt Board of Retirement Resolution 2021-2 to increase the salary of the Chief Executive Officer by 6.5% and provide a one-time lump sum payment of $5,000.00 effective April 1, 2021. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey and Watts)

9. <u>Consider and take possible action to adopt Board of Retirement Resolution 2021-3 providing for salary and benefits for unrepresented employees of CCCERA to reflect the new CEO monthly base salary effective April 1, 2021</u>

It was **M/S/C** to adopt Board of Retirement Resolution 2021-3 providing for salary and benefits for unrepresented employees of CCCERA to reflect the new CEO monthly base salary effective April 1, 2021. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey and Watts)

10. <u>Consider authorizing the attendance of Board:</u>

a. It was **M/S/C** to authorize the attendance of 4 Board members at the CALAPRS Trustees Roundtable, May 10, 2021, Virtual program. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey and Watts)

b. It was M/S/C to authorize the attendance of 2 Board members at the CALAPRS Advanced Principles of Pension Governance for Trustees, June 7, 9 & 11, 2021, Virtual Program. (Note: Conflict with meeting) (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey, and Watts)

11. Miscellaneous

a. Staff Report –

Strohl – Noted that as of last week, it has been one year since the Shelter In Place Order began and she wanted to thank CCCERA staff again for the great job they have been doing.

b. Outside Professionals' Report –

None

c. Trustees' comments –

Gordon would like to know what type of approach to the Board meetings would be going into the future if the emergency order ends.

Smithey announced he intends to retire on April 23, 2021 and therefore the next Board Meeting will be his last as a Board Member.

MacDonald thanked Smithey for his dedication to his duty as a CCCERA Trustee.

6. Consider and take possible action to amend the Investment Policy Statement

It was **M/S/C** to Amend the Investment Policy Statement to change the liquidity pool from 48 to 36 months. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey and Watts)

It was **M/S/C** to adjourn the meeting in honor of Denise Puzzuto, a nurse that worked for Health Services in the Emergency Department that passed away unexpectedly. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips, Smithey and Zhu)

Todd Smithey, Chairman

David MacDonald, Secretary

Meeting Date
04/28/2021
Agenda Item
#8

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April 22, 2021

Mr. Henry Gudino
Accounting Manager, CPA
Contra Costa County Employees' Retirement Association
1200 Concord Avenue, Suite 300
Concord, CA 94520

Actuarial Valuation of Other Post Employment Benefits for Staff Employees and Retirees as of January 1, 2020 and GASB 74/75 Disclosures as of December 31, 2020

Dear Henry:

I am pleased to enclose above titled report for the Contra Costa County Employees' Retirement Association ("CCCERA"). In this report, we have prepared certain disclosures required by GASB Statements No. 74 / 75 for the Contra Costa County Employee's Retirement Association's OPEB Plan for staff employees and retirees for the fiscal year ending December 31, 2020.

If you have any questions or would like to review the report, please call me at (415) 394-3740.

Sincerely,

John R. Botsford, FSA, MAAA

enc.
cc: Christina Dunn

Contra Costa County Employees' Retirement Association

Actuarial Valuation of Other Post Employment Benefits for Staff Employees and Retirees
as of January 1, 2020 and GASB 74/75 Disclosures as of December 31, 2020

Prepared by:

John R. Botsford
FSA, MAAA

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April 22, 2021

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April 22, 2021

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Actuarial Valuation of Other Post Employment Benefits for Staff Employees and Retirees as of January 1, 2020 and GASB 74/75 Disclosures as of December 31, 2020

At the request of the Contra Costa County Employees' Retirement Association ("CCCERA"), we have prepared an actuarial valuation of Other Post Employment Benefits as of January 1, 2020 for CCCERA's staff employees and retirees, and GASB 74 and 75 disclosures for the fiscal year ending December 31, 2020, to comply with Statements No. 74 and 75 of the Governmental Accounting Standards Board (GASB).

In preparing this report, we relied, without audit, on information supplied by the CCCERA's staff. This information includes but is not limited to employee census data, financial information and plan provisions. While Milliman has not audited the financial and census data, they have been reviewed for reasonableness and are, in our opinion, sufficient and reliable for the purposes of our calculations. If any of this information as summarized in this report is inaccurate or incomplete, the results shown could be materially affected and this report may need to be revised.

All costs, liabilities, rates of interest, and other factors for CCCERA have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of CCCERA and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting CCCERA. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the Plan and to reasonable expectations which, in combination, represent our best estimate of anticipated experience for CCCERA. The valuation results were developed using models intended for valuations that use standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in the compliance with generally accepted actuarial practice and relevant Actuarial Standards of Practice (ASOPs).

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of CCCERA's contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. CCCERA has the final decision regarding the appropriateness of the assumptions.

Actuarial computations presented in this report under GASB Statements No. 74 and 75 are for purposes of assisting CCCERA in fulfilling its financial accounting requirements. The computations prepared for this purpose may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of CCCERA's funding policy and goals. The calculations in this report have been made on a basis consistent with our understanding of the OPEB plan provisions described in Appendix A of this report, and of GASB Statements No. 74 and 75. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of CCCERA. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

a) CCCERA may provide a copy of Milliman's work, in its entirety, to CCCERA's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit CCCERA.

b) CCCERA may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs. The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel. The signing actuary is independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, the report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Actuarial Standards of Practice of the American Academy of Actuaries. The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

John R. Botsford, FSA, MAAA
Principal and Consulting Actuary

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Introduction

Milliman, Inc. (Milliman) has been retained by Contra Costa County Employees' Retirement Association ("CCCERA") to provide an actuarial valuation of Other Post Employment Benefit (OPEB) Liabilities as of January 1, 2020 for its staff employees and retirees, and disclosures required by GASB Statements No. 74 and 75 for CCCERA's Staff OPEB Plan for the fiscal year ending December 31, 2020.

GASB 74 applies to financial reporting for public OPEB plans. Even if the plan does not issue standalone financial statements, but rather is considered a trust fund of a government, it is subject to GASB 74.

GASB 75 governs the specifics of accounting for public OPEB plan obligations for employers. GASB 75 requires a liability for OPEB obligations, known as the Net OPEB Liability, to be recognized on the balance sheets of employers. Changes in the Net OPEB Liability will be immediately recognized as OPEB Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

Background

Staff employees who retire directly from CCCERA may receive certain retiree health benefits if they meet certain eligibility requirements. CCCERA contracts with CalPERS for health benefits. CCCERA will contribute an amount toward the cost of retiree health benefits for staff retirees consistent with the bargaining agreements between CCCERA and various bargaining units. Appendix A provides a more detailed summary of benefits.

Key Results

The following table summarizes key results. Exhibits 1 – 5 contain the information needed for the preparation of accounting disclosures under GASB 74 and 75.

		December 31, 2020
Net OPEB Liability		
Total OPEB Liability	$	5,092,000
Fiduciary Net Position		4,666,000
Net OPEB Liability	$	426,000
Fiduciary Net Position as % of Total OPEB Liability		91.6%
Annual OPEB Expense for 2020	$	458,000
Actuarially Determined Contribution for Fiscal Year 2021		
Service Cost as of January 1, 2020	$	186,000
Amortization of Net OPEB Liability as of 12/31/2020		66,000
Interest to January 1, 2021		16,000
ADC as of January 1, 2021	$	268,000

Actuarially Determined Contribution

CCCERA has adopted a funding policy to contribute to a Section 115 trust, the actuarially determined contribution (ADC) each year. For this valuation, the ADC is defined as the annual service cost, plus an amount to amortize the NOL over 10 years from 2018 on a level dollar basis, plus interest to account for the timing of contributions during the year. The CCCERA Board adopted the 10 year amortization schedule at its June 2019 Board meeting. As of the December 31, 2020 measurement date, there are 8 years remaining in the amortization period.

Plan Changes

CCCERA adopted new contracts for some of its staff employees starting January 1, 2019, and the minimum service required to receive OPEB benefits changed from 15 years of total service (including 5 years of CCCERA service) to 5 years of CCCERA service. This change resulted in an increase to the Total OPEB Liabilities (TOL) by $261,000. Additionally, OPEB benefits for some employees hired before January 1, 2007, changed from a requirement of retiring with a CCCERA pension benefit to 5 years of CCCERA service. As of January 1, 2020, all active employees hired before January 1, 2007, already have earned 5 years of CCCERA service with CCCERA. Therefore, this plan change resulted in no change in the TOL. Also, CCCERA's share of dental premiums will increase by half of the amount of future annual increases to dental premiums. This change increased the TOL by $68,000. The total change of $329,000 is recognized immediately in the OPEB expense for the fiscal year ending December 31, 2020.

Change in TOL Due to Plan Experience

The plan had an experience gain of $517,000 as shown in Exhibit 3. The gain was due primarily to actual health premiums in 2021 that were less than projected from the last valuation.

Assumption Changes from the Last Valuation

The discount rate, health cost trend, and demographic rates were changed from the prior valuation. The following table shows a summary of the effect of these changes on Total OPEB Liability (TOL).

Assumption Changes since the Prior Valuation	Change in TOL
Health cost trend updated (including repeal of excise tax)	$ (259,000)
Demographic rates updated to align with demographic assumptions used in the December 31, 2019, CCCERA Pension Actuarial Valuation Report and mortality changes	10,000
Single retirees electing child coverage from 30% to 0%	(232,000)
Discount rate change from 6.75% to 6.50%	145,000
Total	$ (336,000)

Rationale for Significant Assumptions

With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. A complete list and description of the actuarial assumptions is presented in Appendix B.

Investment Rate of Return. We have assumed an investment rate of return of 6.50%, net of investment expenses. This is based on the investment policy set by CCCERA for its Staff Plan OPEB trust and managed by the Public Agency Retirement Services (PARS). Please see Appendix B for additional details supporting the assumed investment return.

Discount Rate. Under GASB 74 & 75, the discount rate should be the single rate that reflects the long-term rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits. To the extent that OPEB plan assets along with expected future investment returns and expected future contributions are sufficient to finance all OPEB benefits, the discount rate should be based on the assumed investment on assets. CCCERA's current funding policy is to fund the Actuarially Determined Contribution each fiscal year. Based on CCCERA's funding policy, plan assets are projected to be sufficient to fund OPEB liabilities. Therefore, a discount rate of 6.50% was assumed. We used a discount rate of 6.75% in the prior valuation.

Health Cost Trend. We have assumed medical premiums will increase according to the health cost inflation trend derived by using the "Getzen" model developed by the Society of Actuaries. Actual increases from January 1, 2020 to January 1, 2021 are reflected in our calculation. For retirees eligible for the premium subsidy, CCCERA and the retiree will share equally in the cost of premium increases in future years.

The CalPERS minimum contribution is indexed to the medical component of CPI. The CalPERS minimum contribution is assumed to increase by 3.25% per year for 2022 and beyond, no change from the prior valuation. The medical component of CPI grew by 4.1% from 2020 to 2021, and therefore we used this percentage to increase the minimum contribution from 2020 to 2021. Over the past 10 years, medical CPI has averaged approximately 3.0% per year.

Mortality Rates. The assumed mortality is based on the headcount weighted Pub-2010 mortality table, projected generationally using the MP-2020 projection scale to account for expected future improvement in mortality. The Pub-2010 table is the most recent table published by the Society of Actuaries that is based on public plan mortality experience. The headcount weighted table was designed to be used to value liabilities that do not vary by compensation levels. The MP-2020 projection scale is the latest projection scale published by the Society of Actuaries to estimate future improvement in mortality. The prior valuation's mortality was based on the headcount weighted RP-2014 mortality table, projected generationally using the MP-2015 projection scale.

Demographic Rates. The assumptions for turnover, retirement and disability used in this valuation are based on the December 31, 2019 pension actuarial report from the Contra Costa County Employees' Retirement Association (CCCERA). CCCERA became a separate employer on January 1, 2015. The CCCERA staff employee population is not large enough to develop a customized set of demographic assumptions based only on its own employee and retiree data. We compared the CCCERA Staff plan's experience since 2016 to termination, disability and retirement rates used in the December 31, 2019 CCCERA pension valuation and believe that the use of CCCERA demographic assumptions remain a reasonable basis for assumptions as all CCCERA staff employees are participants of the CCCERA pension plan. As new experience emerges, we will continue to monitor staff plan experience compared to the demographic assumptions used in the CCCERA pension valuation.

Coverage Election Rates and Spouse Age Difference. We reviewed the CCCERA Staff plan's recent experience data on health benefit election, spouse coverage, dependent coverage and spouse age differences. We have based our coverage and election assumptions on this information and actuarial judgment of future experience.

For employees eligible for the premium subsidy, we assumed 100% of new retirees will elect medical and dental coverage at retirement and 70% of the new retirees will elect spouse coverage. New retirees electing medical coverage are assumed to elect the Kaiser Plan for medical coverage. For all other employees, we have assumed 50% of new retirees will elect medical and dental coverage at retirement and 70% of the new retirees electing coverage will also elect spouse coverage. Female spouses are assumed to be three years younger than male spouses. We have assumed that 50% of retirees with spouse coverage will elect coverage for a dependent child until age 65. These assumptions are consistent with plan experience and remain unchanged from the prior valuation.

For the prior valuation, we assumed that 30% of retirees with no spouse coverage will elect coverage for a dependent child until age 65. Based on recent experience we assumed that no single retirees will elect dependent coverage.

A complete summary of the actuarial assumptions is presented in Appendix B.

Variability of Results

The results contained in this report represent our best estimates. However, variation from these or any other estimates of future retiree medical costs is not only possible but probable. Actual future costs may vary significantly from estimates in this report.

Exhibit 1. Net OPEB Liabilities

The Valuation Date is January 1, 2020. This is the date as of which the actuarial valuation is performed. The Measurement Date is December 31, 2020, which is also the GASB 74 and 75 Reporting Date, for the fiscal year ending December 31, 2020. The Total OPEB Liability is projected to December 31, 2020, using standard actuarial techniques as permitted by GASB 74 and 75. The Fiduciary Net Position is the market value of assets as of the fiscal year ending December 31, 2020.

	For the Fiscal Year Ending	
	December 31, 2020	**December 31, 2019 ***
Total OPEB Liability	$ 5,092,000	$ 5,139,000
Fiduciary Net Position	4,666,000	3,630,000
Net OPEB Liability	$ 426,000	$ 1,509,000
Fiduciary Net Position as a % of Total OPEB Liability	91.6%	70.6%
Valuation Date	01/01/2020	01/01/2018
Measurement date	12/31/2020	12/31/2019
GASB 74/75 Reporting date	12/31/2020	12/31/2019
Discount Rate	6.50%	6.75%

* As reported in CCCERA's financial statement as of December 31, 2019.

Exhibit 2. Sensitivity of Net OPEB Liabilities

GASB 74/75 requires disclosure of the sensitivity of the Net OPEB Liability (NOL) to changes in the discount rate and health care cost trend rates. The liabilities shown below are based on a measurement date of December 31, 2020, and are applicable for the fiscal year ending December 31, 2020.

Sensitivity of the Net OPEB Liability to changes in the discount rate

The following table shows what CCCERA's Net OPEB Liability (NOL) would be if it were calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher than the current discount rate.

Sensitivity Analysis	1% Decrease in Discount Rate 5.50%	Current Discount Rate 6.50%	1% Increase in Discount Rate 7.50%
Net OPEB Liability as of December 31, 2020	$ 1,095,000	$ 426,000	$ (126,000)

Sensitivity of the Net OPEB Liability to changes in the Healthcare Cost Trend Rates

The following table shows what CCCERA's Net OPEB Liability (NOL) would be if it were calculated using a Healthcare cost trend that is 1 percentage point lower or 1 percentage point higher than the current Healthcare cost trend rates.

Sensitivity Analysis	1% Decrease in Healthcare Costs Trend Rate	Current Healthcare Costs Trend Rate	1% Increase in Healthcare Costs Trend Rate
Net OPEB Liability as of December 31, 2020	$ (203,000)	$ 426,000	$ 1,204,000

Exhibit 3. Changes in Net OPEB Liability

The following exhibit shows a reconciliation of the Net OPEB Liability from the measurement date December 31, 2019, to December 31, 2020, to be reported for the fiscal year ending December 31, 2020.

	Increase / (Decrease)		
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
Balance as of December 31, 2019 [1]	$ 5,139,000	$ 3,630,000	$ 1,509,000
Service cost	$ 192,000	$ 0	$ 192,000
Interest on the total OPEB liability	358,000	0	358,000
Changes of benefit terms	329,000	0	329,000
Differences between actual and expected experience with regard to economic or demographic factors	(517,000)	0	(517,000)
Changes of assumptions	(336,000)	0	(336,000)
Benefit payments [2]	(73,000)	(73,000)	0
Contributions from employer [3]	0	543,000	(543,000)
Net investment income	0	566,000	(566,000)
Administrative expense	0	0	0
Other changes	0	0	0
Total changes	$ (47,000)	$ 1,036,000	$ (1,083,000)
Balance as of December 31, 2020	$ 5,092,000	$ 4,666,000	$ 426,000

1. As reported in CCCERA's financial statement as of December 31, 2019.
2. The benefit payment shown is equal to the annual pay-as-you-go cost of $66,000 as reported by CCCERA for the fiscal year ending December 31, 2020, increased by $7,000 to reflect the estimated implicit subsidy.
3. CCCERA's annual pay-as-you-go cost was reimbursed from the OPEB trust, this contribution amount includes the $7,000 estimated implicit subsidy.

Exhibit 4. Calculation of OPEB Expense and Deferred Inflows/Outflows

The following tables shows the development of the OPEB expense and deferred inflows/outflows of resources.

OPEB Expense		Fiscal Year Ending December 31, 2020
Service cost	$	192,000
Interest on the total OPEB liability		358,000
Effect of plan changes		329,000
Administrative expense		0
Member contributions		0
Expected investment return, net of investment expenses		(261,000)
Recognition of Deferred (Inflows)/Outflows of Resources		
Economic/demographic (gains) or losses		(60,000)
Assumption changes or inputs		(39,000)
Investment (gains) or losses		(61,000)
Total Recognition		(160,000)
OPEB expense	$	458,000

Deferred (Inflows) / Outflows of Resources		Deferred Inflows of Resources		Deferred Outflows of Resources
Differences between expected and actual experience	$	(457,000)	$	0
Changes of assumptions		(297,000)		0
Net difference between projected and actual earnings		(244,000)		0
Contributions made subsequent to measurement date		0		0
Total	$	(998,000)	$	0

Amounts currently reported as deferred inflows of resources and outflows of resources related to OPEB will be recognized in OPEB expense as follows:

Fiscal Year Ending December 31		Recognized Deferred (Inflows) and Outflows of Resources
2021	$	(160,000)
2022		(160,000)
2023		(160,000)
2024		(160,000)
2025		(99,000)
Thereafter		(259,000)

Exhibit 5. Schedule of Deferred Inflows and Outflows of Resources

Investment (gains)/losses are recognized in OPEB expense over a period of five years. Economic/demographic (gains)/losses and assumption changes or inputs are recognized over the average remaining service life for all active and inactive members. Since there is no expected future service for inactives, their remaining service is equal to zero for purposes of computing the average remaining service life.

Date Established (Fiscal Year Ending)	Original Amount	Original Recognition Period	Balance of Deferred (Inflows)/Outflows 12/31/2020	Remaining Recognition Period	Amount Recognized in Expense 12/31/2020
Investment (gains) or losses					
12/31/2020	$ (305,000)	5.00	$ (244,000)	4.00	$ (61,000)
Economic / Demographic changes					
12/31/2020	$ (517,000)	8.67	$ (457,000)	7.67	$ (60,000)
Assumption changes					
12/31/2020	$ (336,000)	8.67	$ (297,000)	7.67	$ (39,000)

Appendix A. Summary of Plan Benefits

The following description of retiree health benefits is intended to be only a brief summary and is not complete information.

Eligibility

Eligible for the Premium Subsidy
Unrepresented CCCERA staff employees who are hired prior to January 1, 2009 with completion of 5 years of CCCERA service and retire with a CCCERA pension benefit. AFSCME CCCERA staff employees who are hired prior to January 1, 2010, with completion of 5 years of CCCERA service and retire with a CCCERA pension benefit.

PEMHCA Minimum Contribution
Unrepresented CCCERA staff employees who are hired on or after January 1, 2009 with completion of 5 years of CCCERA service and retire with a CCCERA pension benefit. AFSCME CCCERA staff employees who are hired on or after January 1, 2010 with completion of 5 years of CCCERA service and retire with a CCCERA pension benefit.

Health Benefits

Eligible CCCERA staff retirees and their dependents may elect coverage under the health plans sponsored by CalPERS. For retirees who meet the eligibility requirements to receive the premium subsidy, CCCERA will pay the monthly premium subject to maximum subsidies shown in the table below by rate tier for plan 2019 as listed in the Memorandum of Understandings between CCCERA and its bargaining units.

	Employer Monthly Maximum Premium Subsidy		
CalPERS Health Plans	**Employee Ony**	**Employee & 1 Dependent**	**Employee 2+ Dependents**
Anthem HMO Select	$ 782.95	$ 1,565.89	$ 2,035.66
Anthem HMO Traditional	746.47	1,492.94	1,940.82
BSC Access+	746.47	1,492.94	1,940.82
HealthNet SmartCare	804.97	1,609.95	2,092.93
Kaiser Permanente	763.16	1,526.33	1,984.23
PERS Choice	746.47	1,492.94	1,940.82
PERS Select	543.19	1,086.38	1,412.29
PERSCare	746.47	1,492.94	1,940.82
Western Health Advantage	746.47	1,492.94	1,940.82

For 2019 and beyond, if there is an increase in the monthly premium charged by a medical plan, CCCERA and the employee will each pay fifty percent (50%) of the monthly increase that is above the amount of the 2019 plan premium. The fifty percent (50%) share of the monthly medical plan increase paid by CCCERA is in addition to the amount paid by CCCERA for the 2019 plan year.

For dental coverage, CCCERA's monthly premium subsidy is a set dollar amount as shown in the table below. For 2020 and beyond, if there is an increase in the monthly dental premium charged by the dental carrier, CCCERA and the employee will each pay fifty percent (50%) of the monthly increase that is above the amount of the 2020 plan premium. The fifty percent (50%) share of the monthly dental plan increase paid by CCCERA is in addition to the amount paid by CCCERA for the 2020 plan year.

Dental Coverage	2020
Employee Only	$ 46.21
Employee and Spouse	103.72
Employee and Child	103.41
Family	169.38

For employees who meet the eligibility to receive the PEMHCA minimum contribution the benefit is ($139 per month for 2020 and $143 for 2021), subject to an annual increase based on the medical Consumer Price Index).

<u>Dental Plan Premiums</u>

The following table shows monthly retiree dental insurance premiums for the 2020 calendar year.

Coverage	Monthly Rate
Employee Only	$ 57.76
Employee and Spouse	129.65
Employee and Child	129.26
Family	211.73

<u>Health Insurance Premium Rates</u>

Retirees may choose any PEMHCA plans in any region. The following table shows the plan premiums for selected tiers under Regional 1 (formerly the Bay Area region) effective January 1, 2020 and January 1, 2021.

	Monthly Premium Rates – Effective January 1, 2020					
	Single		2-Party		Family	
	Under 65	Over 65	Under 65	Over 65	Under 65	Over 65
Anthem HMO Select	$ 868.98	$ 388.15	$ 1,737.96	$ 776.30	$ 2,259.35	$ 1,164.45
Anthem HMO Traditional	1,184.84	388.15	2,369.68	776.30	3,080.58	1,164.45
BSC Access+	1,127.77	N/A	2,255.54	N/A	2,932.20	N/A
HealthNet SmartCare	1,000.52	N/A	2,001.04	N/A	2,601.35	N/A
Kaiser Permanente	768.49	339.43	1,536.98	678.86	1,998.07	1,018.29
PERS Choice	861.18	351.39	1,722.36	702.78	2,239.07	1,054.17
PERS Select	520.29	351.39	1,040.58	702.78	1,352.75	1,054.17
PERSCare	1,133.14	384.78	2,266.28	769.56	2,946.16	1,154.34
United Healthcare	899.94	327.03	1,799.88	654.06	2,339.84	981.09
Western Health Advantage	731.96	N/A	1,463.92	N/A	1,903.10	N/A

Monthly Premium Rates – Effective January 1, 2021						
	Single		2-Party		Family	
	Under 65	Over 65	Under 65	Over 65	Under 65	Over 65
Anthem HMO Select	$ 925.60	$ 383.37	$ 1,851.20	$ 766.74	$ 2,406.56	$ 1,150.11
Anthem HMO Traditional	1,307.86	383.37	2,615.72	766.74	3,400.44	1,150.11
BSC Access+	1,170.08	N/A	2,340.16	N/A	3,042.21	N/A
HealthNet SmartCare	1,120.21	N/A	2,240.42	N/A	2,912.55	N/A
Kaiser Permanente	813.64	324.48	1,627.28	648.96	2,115.46	973.44
PERS Choice	935.84	349.97	1,871.68	699.94	2,433.18	1,049.91
PERS Select	566.67	349.97	1,133.34	699.94	1,473.34	1,049.91
PERSCare	1,294.69	381.25	2,589.38	762.50	3,366.19	1,143.75
United Healthcare	941.17	311.56	1,882.34	623.12	2,447.04	934.68
Western Health Advantage	757.02	N/A	1,514.04	N/A	1,968.25	N/A

Appendix B. Actuarial Cost Method and Assumptions

Actuarial Cost Method

The actuarial cost method used for determining the benefit obligations is the individual Entry Age Normal Cost Method. Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of expected salary for each year of employment between entry age (defined as age at hire) and assumed exit.

The portion of this actuarial present value allocated to a valuation year is called the service cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets (market value of Fiduciary Net Position), and (b) the actuarial present value of future service costs is called the Net OPEB Liability (NOL).

The Actuarial Value of Assets is equal to the market value of assets as of the measurement date. The actuarial assumptions are summarized below.

Economic Assumptions

Discount Rate (Liabilities)	6.50% (6.75% used in the prior valuation)
General Inflation	2.75%

We have used a discount rate of 6.50% in this valuation to reflect CCCERA's current policy of funding its OPEB liabilities. This rate is derived based on the fund's investment policy, annual funding equal to the ADC, and assumes a 2.75% long-term inflation. CCCERA OPEB Irrevocable Trust assets are managed by the Public Agency Retirement Services. Based on the portfolio's targeted allocation (shown below), the expected annual return of Trust assets over the next 50 years is expected to be 6.53%.

Asset Class	Expected 1-Year Nominal Return	Current Asset Allocation
Core Fixed Income	3.25%	14%
Short – Term Fixed Income	2.86%	7%
Intermediate – Term Fixed Income	2.89%	7%
U.S. Treasuries	2.71%	7%
Domestic Equity Large Cap	6.32%	21%
Domestic Equity Small Cap	6.96%	5%
International Developed Equity	8.05%	20%
International Emerging Market Equity	8.78%	17%
Real Estate	6.86%	2%
Expected Geometric Mean Annual Return (50 years)	6.53%	

Assumed Salary Increases (Applied to Individual Entry Age Normal Cost Method)

The assumed annual rates of compensation increases used for the EAN actuarial cost method are the same as the assumption used in the December 31, 2019 CCCERA Actuarial Valuation.

Years of Service	General
Less than 1	15.66%
1	10.49%
2	8.69%
3	7.14%
4	6.10%
5	5.59%
10	4.50%
20 or more	3.78%

Demographic Assumptions

Below is a summary of the assumed rates for mortality, retirement, disability and withdrawal, which are consistent with assumptions used in the December 31, 2019 CCCERA Actuarial Valuation.

Pre / Post Retirement Mortality

Healthy: Pub-2010 General Healthy Retiree Head Count Weighted Mortality Tables for males and females, projected generationally with the two-dimensional MP-2020 projection scale.

Disabled: Pub-2010 General Disabled Retiree Head Counted Weighted Mortality Tables for males and females, projected generationally with the two-dimensional MP-2020 projection scale.

Beneficiaries: Pub-2010 Contingent Survivor Head Count Weighted Mortality Tables for males and females, projected generationally with the two-dimensional MP-2020 projection scale.

Withdrawal – Sample probabilities of terminating employment from CCCERA are shown below for selected years of CCCERA service.

Years of Service	General
Less than 1	14.00%
1	9.50%
2	9.25%
3	6.50%
4	5.25%
5	5.00%
10	3.25%
15	2.25%
20 or more	1.25%

Disability

Age	General - All Tiers
20	0.01%
25	0.02%
30	0.04%
35	0.08%
40	0.22%
45	0.36%
50	0.52%
55	0.60%
60	0.60%
65 – 70	0.60%

Retirement – Rates for PEPRA Tier (Hired on or after 1/1/2013) and non-PEPRA Tier.

Age	Non-PEPRA < 30 years	Non-PEPRA >= 30 years	PEPRA
50	5%	9%	0%
51	4%	7%	0%
52	4%	7%	2%
53	4%	7%	3%
54	12%	22%	3%
55	15%	27%	5%
56	17%	31%	5%
57	17%	31%	6%
58	17%	31%	6%
59	22%	26%	8%
60	25%	30%	8%
61	30%	36%	12%
62	30%	36%	18%
63	25%	30%	18%
64	25%	30%	20%
65	35%	35%	25%
66	40%	40%	25%
67	40%	40%	25%
68	40%	40%	25%
69	40%	40%	25%
70	35%	35%	40%
71	35%	35%	40%
72	35%	35%	40%
73	35%	35%	40%
74	35%	35%	40%
75	100%	100%	100%

Coverage Election Assumptions

Retiree and Spouse Coverage – For employees eligible for the premium subsidy, we have assumed 100% of new retirees will elect medical and dental coverage at retirement and 70% of the new retirees will elect spouse coverage. For all other employees, we have assumed 50% of new retirees will elect medical and dental coverage at retirement and 70% of the new retirees will elect spouse coverage.

Spouse Age – Female spouses are assumed to be three years younger than male spouses.

Dependent Coverage – We have assumed 50% of retirees with spouse coverage will elect coverage for a dependent child until age 65.

Health Plan Election – We have assumed that all new retirees electing medical coverage will elect the Kaiser plan for medical coverage.

Valuation of Retiree Premium Subsidy Due to Active Health Costs

The California PERS (PEMHCA) health plans charge the same premiums for retirees who are not yet eligible for Medicare as for active employees. Therefore, the retiree premium rates are being subsidized by the inclusion of active lives in setting rates. (Premiums calculated only based on retiree health claims experience would have resulted in higher retiree premiums.) GASB 74/75 requires that the value of this subsidy be recognized as a liability in valuations of OPEB costs. To account for the fact that per member health costs vary depending on age (higher health costs at older ages), we calculated equivalent per member per month (PMPM) costs that vary by age based on the age distribution of covered members, and based on relative cost factors by age. The Medical PMPM costs are developed from the total covered members in PEMHCA plans based on the enrollment information released by CalPERS for the entire Region 1. The relative cost factors were developed from the Milliman Health Cost Guidelines™. Based on the carrier premium rates and relative age cost factors assumptions, we developed age adjusted monthly PMPM health costs for 2020 and 2021 to be used in valuing the implicit rate subsidy.

Age Adjusted Medical PMPM Costs for 2020

	Retirees		Spouses	
Age	Male	Female	Male	Female
50	$ 806	$ 999	$ 716	$ 872
55	992	1,092	900	1,008
60	1,225	1,241	1,129	1,160
64	1,508	1,395	1,395	1,305

Age Adjusted Medical PMPM Costs for 2021

	Retirees		Spouses	
Age	Male	Female	Male	Female
50	$ 861	$ 1,067	$ 765	$ 931
55	1,060	1,166	962	1,076
60	1,309	1,326	1,206	1,240
64	1,610	1,490	1,491	1,394

Since premiums for retirees with Medicare are determined without regard to active life experience, no such subsidy exists for this group.

Medical Cost Inflation Assumption

The assumed future increases to the medical premiums are based on the “Getzen” model published by the Society of Actuaries for purposes of evaluating long term medical trend. The following table shows the assumed rate increases in future years for Medical premiums. For 2020 to 2021 calendar year, we used actual increase.

Calendar Year	Pre 65	Calendar Year	Post 65
2021	6.25%	2021 – 2036	5.00%
2022	5.75%	2036 – 2051	5.25%
2023 – 2035	5.00%	2052 – 2065	5.00%
2036 – 2051	5.25%	2066 – 2068	4.75%
2052 – 2065	5.00%	2069 – 2072	4.50%
2066 – 2068	4.75%	2073 +	4.25%
2069 – 2072	4.50%		
2073 +	4.25%		

For retirees eligible for the premium subsidy, CCCERA and the retiree will share equally in the cost of premium increases in future years.

Dental Cost Inflation

We have assumed dental premiums will increase at 3% per year and the portion of premium increases will be shared equally between CCCERA and the retiree.

Medical CPI

We assumed the PEMHCA minimum will increase by 4.1% from 2021 to 2022, then 3.25% annually afterward.

Appendix C. Summary of Participant Data

The following census of participants was used in the staff plan actuarial valuation and provided by Contra Costa County Employees' Retirement Association as of January 1, 2020.

Active Employees

Non-PEPRA Hired before 1/1/2013	PEPRA – Hired on or after 1/1/2013	Total
28	29	57

Average Age at Valuation Date: 48.41
Average Service at Valuation Date: 10.55

Current Retirees

Retired after 1/1/2015
5

Average Age on Valuation Date: 62.80

Appendix D. Glossary of Key Terms

Actuarially Determined Contribution. A target or recommended contribution to an OPEB plan for the reporting period, determined based on the funding policy and most recent measurement available when the contribution for the reporting period was adopted.

Deferred Inflows/Outflows of Resources. Portion of changes in net OPEB liability that is not immediately recognized in OPEB Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.

Discount Rate. Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:

1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.

2) The actuarial present value of projected benefit payments not included in (1), calculated using the Municipal Bond Rate.

Long-Term Expected Rate of Return. Long-term expected rate of return on OPEB plan investments expected to be used to finance the payment of benefits, net of investment expenses.

Money-Weighted Rate of Return. The internal rate of return on OPEB plan investments, net of investment expenses.

Municipal Bond Rate. Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Total OPEB Liability. The portion of actuarial present value of projected benefit payments that is attributable to past periods of member service using the Entry Age Normal cost method based on the requirements of GASB 74 and 75 (formerly Actuarial Accrued Liability).

Fiduciary Net Position. Equal to market value of assets.

Net OPEB Liability. Total OPEB Liability minus the Plan's Fiduciary Net Position (formerly unfunded accrued liability).

Service Cost. The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Verus

Meeting Date
04/28/2021
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#9

APRIL 28, 2021

Firm update prepared for:

Contra Costa County Employees' Retirement Association

Pensions&Investments
2020 | LARGEST CONSULTANTS OF INSTITUTIONAL ASSETS
WORLDWIDE INSTITUTIONAL ASSETS UNDER ADVISEMENT
TOP 15 RANKED | VERUS

Verus

We are stewards of the means to a better life.

Success at what we do preserves and fortifies the well-being of individuals, families, and communities.

We rely on objective observation, rigorous research, demonstrable facts, and measurable results to help guide our clients.

Yet the true value of our work lies beyond what can be measured – what we do impacts people's lives.

Consulting | Outsourced CIO (OCIO) | Risk Advisory | Private Markets

Verus by the numbers

TEAM

23 Years avg. consultant experience

6 Average number of clients/consultant

73 Investment professionals

84 Employees across four offices

COMMITMENT

100% Owned by active employees

0% Revenue from proprietary products

0% Revenue from money managers

90% of senior consultants are shareholders

SCALE

66% of current clients have been with us for over 10 years

13th Ranked largest consultant by P&I

$535 Billion AUA*

155 Client relationships

RESEARCH

100% Committed to building custom portfolios

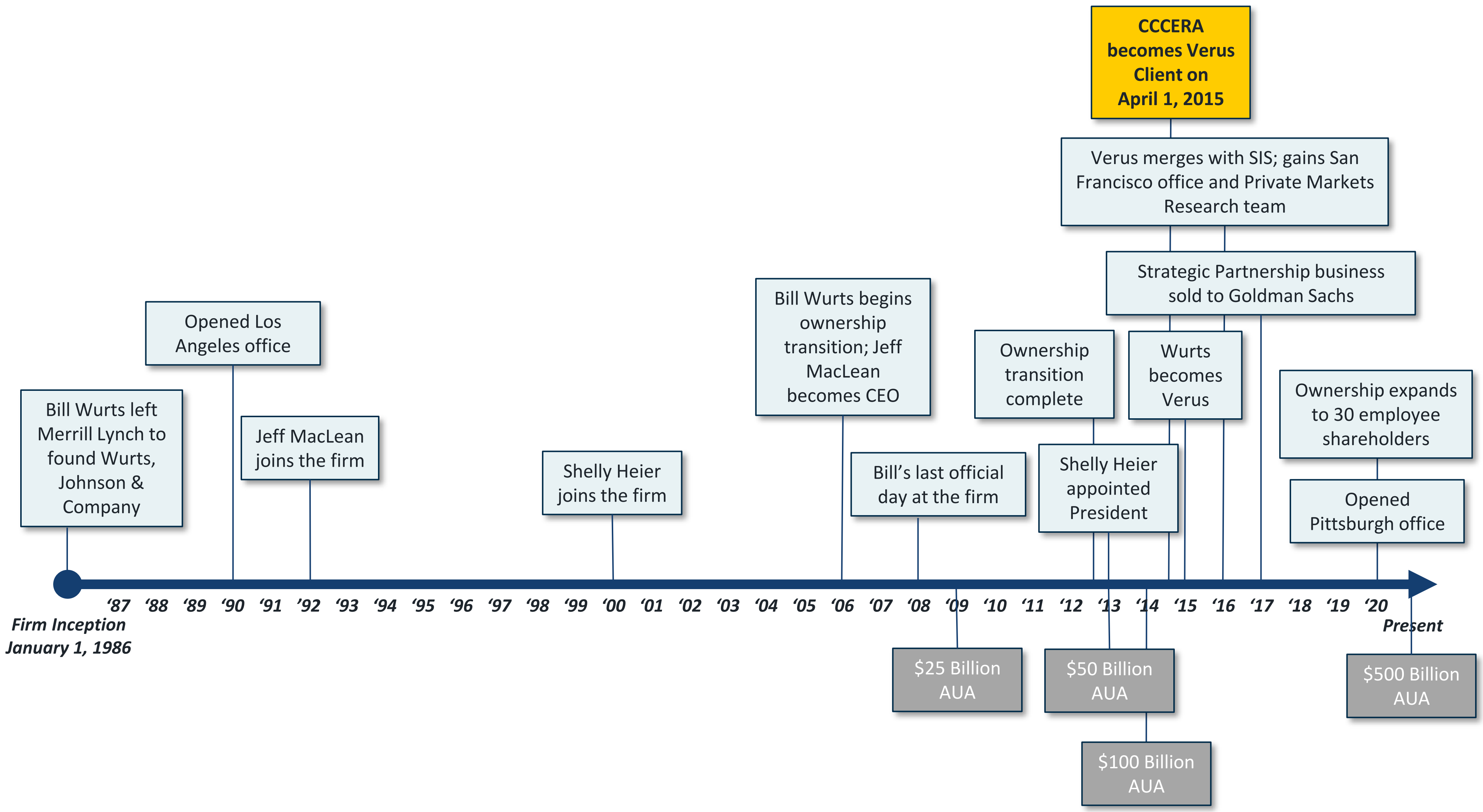
1,240 Manager meetings in 2020

32 Research pieces in 2020

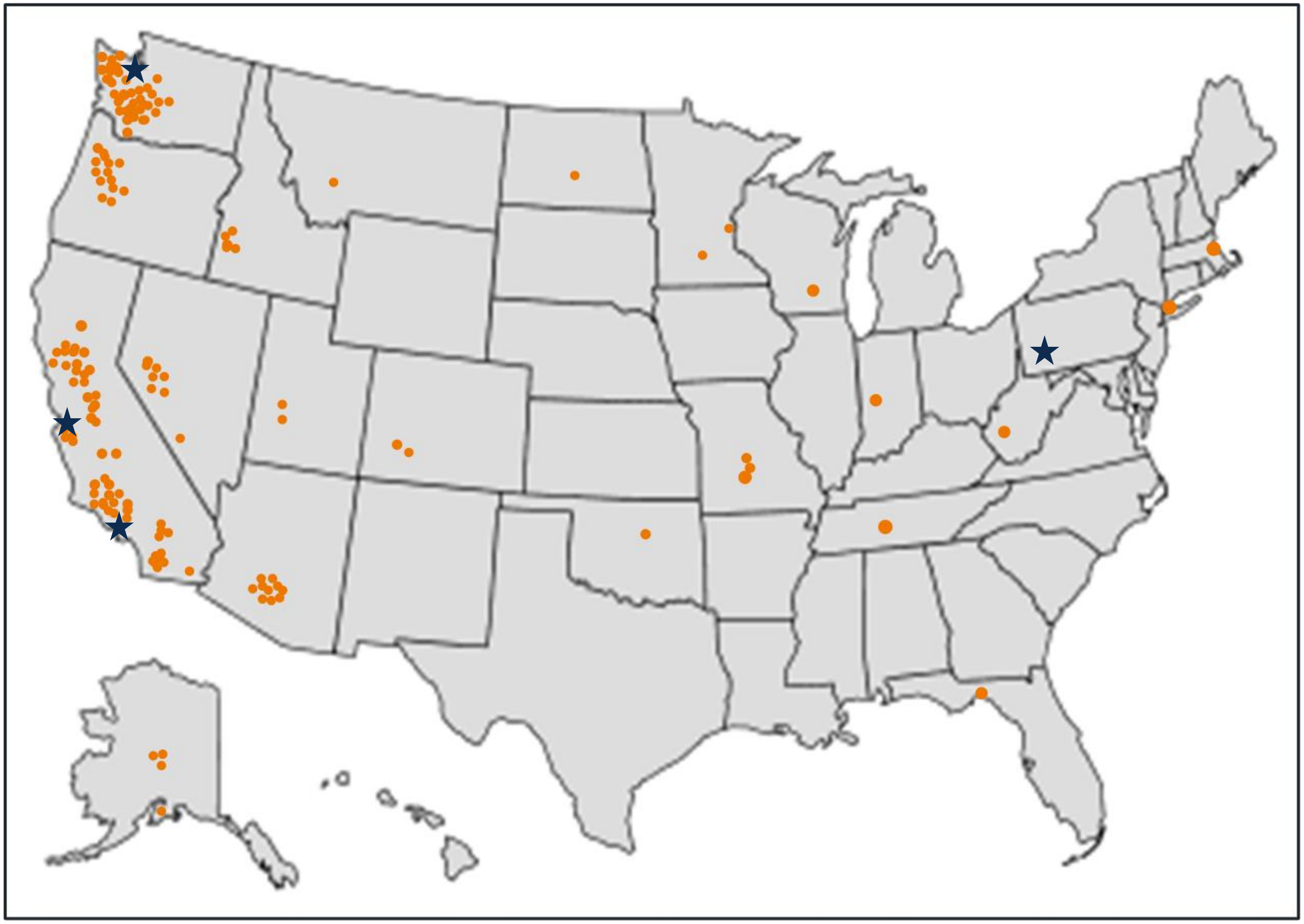
290 Capital market meetings in 2020

**Includes Verus' total assets under advisement; preliminary as of 1/1/21*

Key milestones in Verus history



Strategic growth



From our roots in the Pacific Northwest, we have grown to become a nationally recognized firm, but we still think of ourselves as more David than Goliath

Services offered

Centralized investment team supports service delivery for varied client governance models

Consulting

Risk advisory

Private markets

Outsourced CIO

Consulting & Client Service	Capital Markets & Strategy	Investment Manager Research	Risk Allocation, Management, & Reporting	Portfolio Management

73 Investment Professionals

SHARED INVESTMENT PRINCIPLES AND VALUES

Verus resources

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Katie Vierig
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Sonia Banks
Caroline Honour
Ashley Moore

Bold *signifies primary responsibilities. Others indicate secondary responsibilities.*

Achieving CCCERA's return goal one step at a time

Our primary role is to help the CCCERA Board and Investment Staff build a portfolio that fits your specific needs by:

— Developing a thoughtful **strategic asset allocation** based on your enterprise objectives and risk tolerance

— Implementing efficiently, combining **best-in-class investment managers**, low-cost passive exposures, and effective operations

— Identifying and **capturing attractive** valuation-based **market opportunities**

— Applying **risk management best practices** across the portfolio to maximize risk-adjusted return

Our role

CCCERA Staff

Verus

On a daily basis we must balance the requirements of working **<u>for</u>** the Board and working **<u>with</u>** Staff in carrying out our duties **<u>on behalf of</u>** Plan Participants

CCCERA

Contra Costa County Employees' Retirement Association

23,450 Members

Verus

Meeting Date
04/28/2021
Agenda Item
#10

Memorandum

To: Board of Trustees, Contra Costa County Employees' Retirement Association

From: Scott J. Whalen, CFA, CAIA, Executive Managing Director|Senior Consultant

Date: April 28, 2021

Re: Amendments to Investment Policy Statement

Introduction

At the March 24 Board of Trustees meeting, we presented a red-lined Investment Policy Statement ("IPS") for consideration by the Board, which contained recommended changes in the following main categories:

1. Liquidity sub-portfolio allocation;
2. Staff investment authority; and
3. General improvement opportunities.

The Board approved the changes in the first category but requested additional work in the remaining two. In the case of general improvement opportunities, the Board felt the language describing Trustee participation in the investment manager due diligence and review processes was unnecessarily restrictive. In the case of Staff investment authority, the Board felt the size of proposed increase was not properly justified. This memo attempts to address these issues and resolve them to the Board's satisfaction.

Trustee Participation in the Manager Review Process

One area of Board concern was with the recommended language adjustments around manager due diligence and review. With respect to both hiring new managers and monitoring existing managers, the original policy language stated separately that,

"The CIO shall invite the involvement of one or more Board members in the due diligence process."

The newly recommended language for purpose of due diligence stated that, *"Board members may observe the due diligence process after being notified of the quiet period, as appropriate and upon request."*

With respect to monitoring existing managers, the language was simply cut as redundant.

Although the Board felt the new language may discourage Trustee participation in the due diligence and monitoring processes, we believe there are worthwhile elements in the new language. First, the term "observe" supports the notion that the analytical work would be done by the investment professionals to whom the task has been delegated, namely CCCERA investment Staff with the support of the Investment Consultant. Second, the phrase "as appropriate" recognizes the potential for circumstances when it may not be appropriate for a Trustee to attend. One example of this would be if the Trustee has a prior relationship with the manager under review, leading to the potential for a real or perceived conflict of interest.

Following discussion on this issue, we received feedback from a number of Trustees particularly interested in the topic. After clarifying my specific concerns with the current language, each felt it was more important to convey the notion of Trustee inclusion in the due diligence and monitoring processes, and the following language was suggested that may effectively address the Board's concerns:

"The CIO shall query Board members as to their interest in participating in the due diligence process and shall include any Board members expressing such interest."

If the Board is satisfied with this language, we will insert it into the IPS in place of the currently recommended language cited above.

Staff Investment Authority

As CCCERA's portfolio has evolved and the allocation to private markets has increased, the current $100 million Staff authority limit set in place in 2016 could be reached after just one or two investments are made in a private markets fund series. To address this drawback, we recommended revising the language in two ways. The first was to base the authority limit on the cumulative unfunded commitment, rather than on the total commitment. This new basis allows for continued follow-on commitments as a manager calls, invests, and returns previously committed capital. We also recommended increasing the authority limit from $100 million to $250 million. The size of the increase led the Board to request additional analysis and justification to ensure it was necessary to meet the needs of the private markets program.

In following up on this request we worked directly with StepStone, CCCERA's private markets advisor, to refine our prediction of the appropriate authority level and identify where "pinch points" may occur. We based our analysis on StepStone's proprietary pacing model, which projects up to $350 million in annual private equity commitments as the program ramps up (please refer to Appendix A). This implies the need to invest in 3-5 funds per year with individual commitments of $50-$100 million each. We then worked with StepStone to evaluate 36 different scenarios with varying commitment levels between $50-$100 million and authority levels between $100-$250 million in order to identify when different authority levels might be breached.

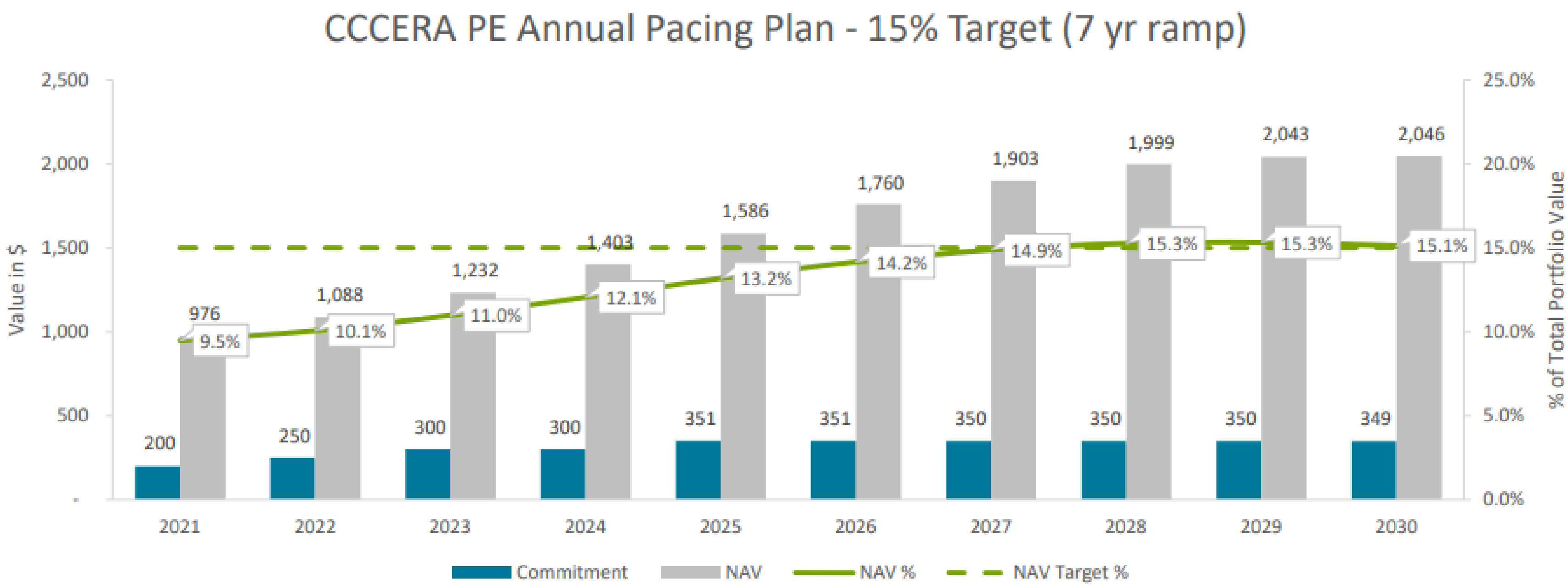
Appendix B shows the most relevant subset of scenarios at the $150 million authority level for a manager raising a new fund every two years and with CCCERA commitments ranging from $50-$100 million. At the $50 million commitment level, the authority level is not breached at any time, as the program is ramps up. When the commitment level is raised to $75 million, the authority level is still not breached, but it comes close when a commitment is made to the fourth fund of the series and beyond. Only as the commitment level rises to $100 million does the authority level become insufficient for the investment to proceed without Board approval. This happens in the third fund in the series (although the commitment to the second fund comes very close as well).

Based on this new analysis, we think it is reasonable to set the authority limit at $150 million, based on cumulative unfunded capital and revisit the decision in the future if Staff finds they are unable to effectively implement the private markets program due to investment authority constraints.

It is worth bringing to the Board's attention that as we were conducting our analysis, it occurred to us there may be a simpler method to setting the authority level than basing it on the cumulative unfunded commitment at the fund series level. Although this approach can be easily monitored and reported to the Board, it is not particularly intuitive, which may have contributed to the Board's concern in the first place. Alternatively, setting the threshold based on the commitment to an individual fund, rather than the unfunded commitment to the entire fund series, is certainly simpler and may be intuitively more appealing to Trustees. If the Board wishes to follow this simpler approach, we would recommend increasing the limit to just $125 million, which would likely become a factor no more than once per year or so, as the private markets program is built out.

Next Steps

If the two outstanding issues described above are resolved to the Board's satisfaction at the April 28 Board meeting, we will work with Investment and legal Staff to adjust the IPS in accordance with the Board's intent and bring a red-lined version back for review.



USD in millions

Calendar Year	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Commitment	50	200	250	300	300	351	351	350	350	350	349
NAV	893	976	1,088	1,232	1,403	1,586	1,760	1,903	1,999	2,043	2,046
NAV %	9.1%	9.5%	10.1%	11.0%	12.1%	13.2%	14.2%	14.9%	15.3%	15.3%	15.1%
NAV Target %	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Contributions	(87)	(96)	(125)	(163)	(203)	(243)	(276)	(303)	(322)	(334)	(341)
Distributions	98	109	123	145	179	229	294	372	454	528	580
Net Cash Flow	**11**	**13**	**(2)**	**(18)**	**(24)**	**(14)**	**18**	**69**	**133**	**194**	**239**

APPENDIX B

Selected Scenarios - $150 Million Authority Limit

Based on Cumulative Unfunded Commitments

CCCERA - $50M commitment every 2 years	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Commitments - Annual	50	-	50	-	50	-	50	-	50	-	50	-	50	-	-
Commitments - Cumulative	50	50	100	100	150	150	200	200	250	250	300	300	350	350	350
Contributions - Annual	3	9	14	18	21	23	24	25	24	25	25	25	25	25	22
Contributions - Cumulative	3	11	25	44	65	88	111	136	160	185	210	235	260	285	307
Distributions - Annual	-	0	1	2	5	10	17	24	31	37	40	42	42	42	42
Distributions - Cumulative	-	0	1	3	8	18	35	59	90	126	166	208	250	292	334
Committed but Undrawn (Unfunded)	47	39	75	56	85	62	89	64	90	65	90	65	90	65	43
Net Invested (Contributions - Distributions) - Annual	3	9	13	16	16	13	7	1	(7)	(12)	(15)	(16)	(17)	(17)	(20)
Net Invested (Contributions - Distributions) - Cumulative	3	11	25	41	57	70	77	77	71	59	43	27	10	(7)	(27)
NAV	3	12	28	48	70	93	112	127	135	140	142	142	142	142	139
Exposure (NAV+Unfunded)	50	51	102	104	156	155	201	191	225	205	232	207	232	207	182
"Dry Powder" (authority level less unfunded):	103	111	76	94	65	88	61	86	60	85	60	85	60	85	107

CCCERA - $75M commitment every 2 years	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Commitments - Annual	75	-	75	-	75	-	75	-	75	-	75	-	75	-	-
Commitments - Cumulative	75	75	150	150	225	225	300	300	375	375	450	450	525	525	525
Contributions - Annual	4	13	21	27	31	35	35	37	37	38	37	38	37	38	33
Contributions - Cumulative	4	17	38	66	97	132	167	204	240	278	315	353	390	428	461
Distributions - Annual	-	0	1	3	8	15	25	36	47	55	60	62	63	63	63
Distributions - Cumulative	-	0	1	4	12	27	52	88	135	190	250	312	375	438	501
Committed but Undrawn (Unfunded)	71	58	112	84	128	93	133	96	135	97	135	97	135	97	64
Net Invested (Contributions - Distributions) - Annual	4	13	20	24	24	20	10	1	(10)	(17)	(23)	(25)	(26)	(25)	(30)
Net Invested (Contributions - Distributions) - Cumulative	4	17	37	61	85	105	115	116	106	88	65	41	15	(10)	(40)
NAV	4	18	42	72	106	140	168	190	203	210	213	214	213	214	209
Exposure (NAV+Unfunded)	75	76	153	157	234	233	301	286	338	307	348	311	348	311	273
"Dry Powder" (authority level less unfunded):	79	92	38	66	22	57	17	54	15	53	15	53	15	53	86

CCCERA - $100M commitment every 2 years	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Commitments - Annual	100	-	100	-	100	-	100	-	100	-	100	-	100	-	-
Commitments - Cumulative	100	100	200	200	300	300	400	400	500	500	600	600	700	700	700
Contributions - Annual	6	17	28	36	42	46	47	49	49	50	49	50	49	50	44
Contributions - Cumulative	6	23	51	87	129	175	223	272	321	371	420	470	520	570	614
Distributions - Annual	-	0	1	4	10	20	33	48	62	73	80	83	84	84	84
Distributions - Cumulative	-	0	1	5	16	36	69	117	180	253	333	416	500	584	668
Unfunded	94	77	149	113	171	125	177	128	179	129	180	130	180	130	86
Net Invested (Contributions - Distributions) - Annual	6	17	27	32	31	26	14	1	(14)	(23)	(31)	(33)	(34)	(34)	(40)
Net Invested (Contributions - Distributions) - Cumulative	6	23	50	82	113	140	153	155	141	118	87	54	20	(14)	(54)
NAV	6	24	55	96	141	186	224	253	271	281	283	285	284	285	278
Exposure (NAV+Unfunded)	100	101	204	209	312	311	401	381	450	410	463	414	464	414	364
"Dry Powder" (authority level less unfunded):	56	73	1	37	(21)	25	(27)	22	(29)	21	(30)	20	(30)	20	64

Meeting Date
04/28/2021
Agenda Item
#11a.

Contra Costa County Employees' Retirement Association

Liquidity Sub-portfolio Review

April 28, 2021

Timothy Price, CFA

Chief Investment Officer

Mitch Taylor, CFA

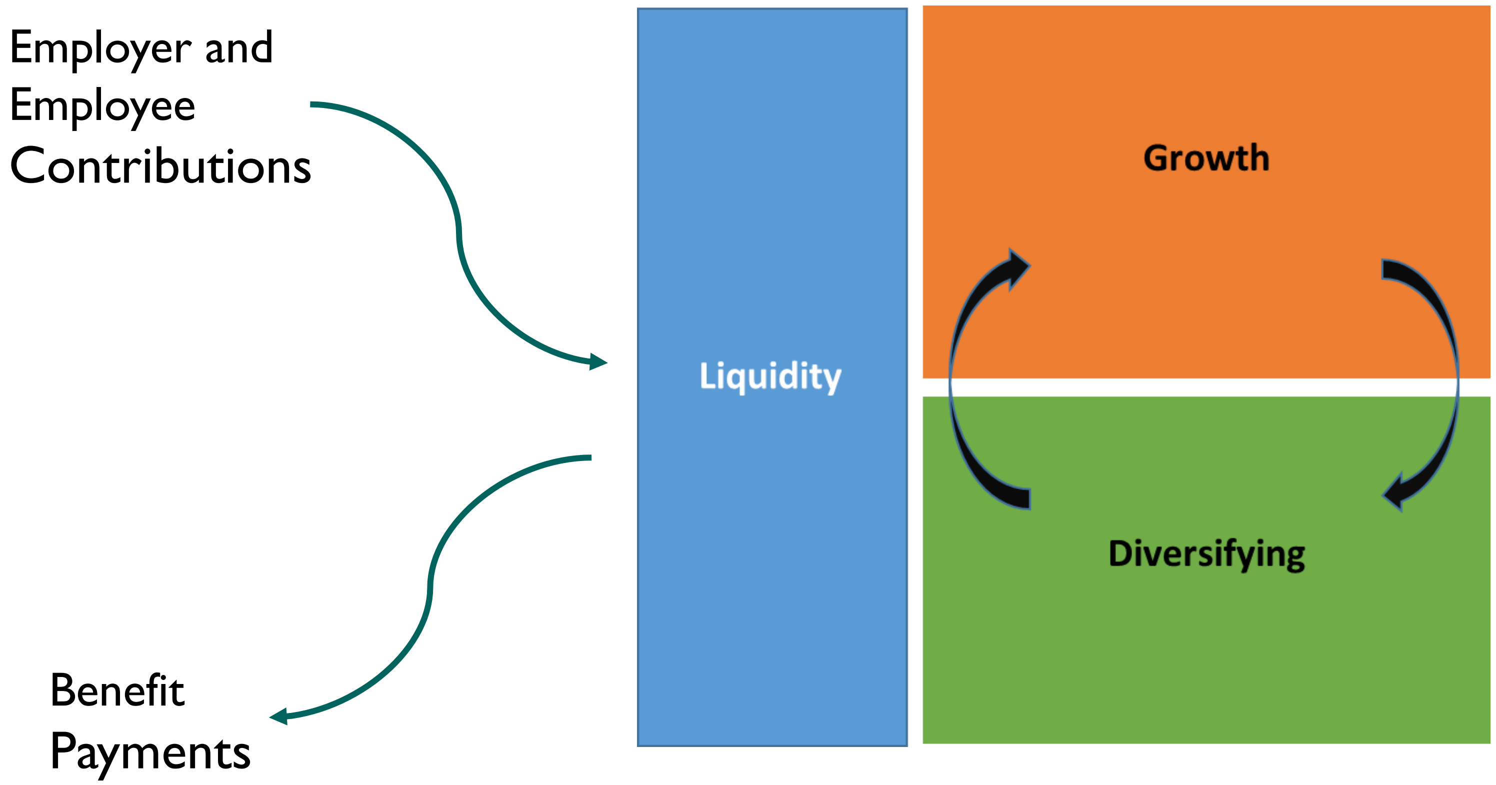
Investment Officer

Liquidity Program Review

1) Role in FFP framework
2) Composition of program and role of each manager
3) Cash flow profile
4) Annual Funding Plan
5) Strategic Decisions

CCCERA

Role of Liquidity in CCCERA Portfolio



Liquidity

- The Liquidity Sub-Portfolio is the cornerstone of the FFP
- Using actuarial projections, we model each month's projected benefit payment
- The benefit payment cash flow model is then used to build the investment program
- Through contractual income, trading and maturing debt, the Liquidity sub-portfolio provides the necessary monthly cash flow to make benefit payments

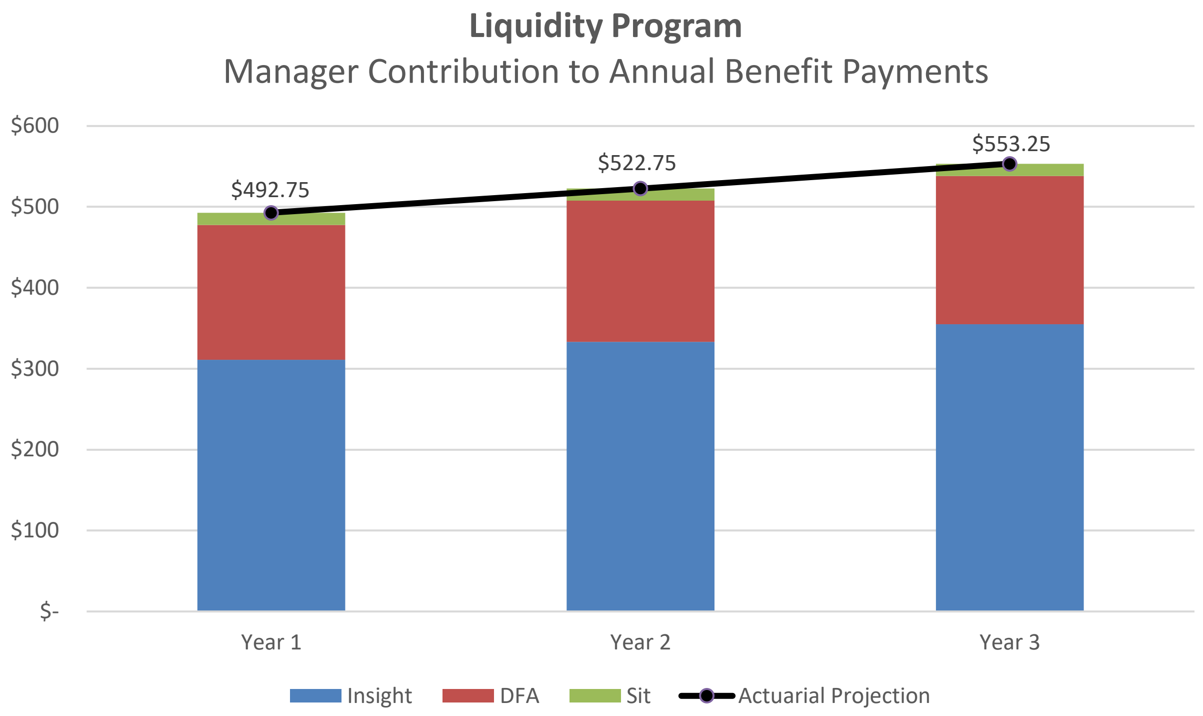
Objectives
Match 3 years of benefit payments with high certainty
Produce cash flow to match monthly benefit payment

CCCERA

Manager Structure

- Utilizes a multi-manager approach to produce unique income and liquidity profile

- Current Manager Roles
  - Sit Fixed Income: ~25% allocation when fully funded. Invests in seasoned government-guaranteed securities that pay robust coupons. Income stream pulled monthly and we can liquidate assets on an as-needed basis.
  - DFA: ~25% allocation when fully funded. Invests across a wide range of fixed income assets in order to build characteristics and behaviors into the aggregate portfolio. We pull a set amount from the portfolio monthly and give DFA discretion on where and how to raise the necessary cash.
  - Insight: ~50% allocation when fully funded. Invests in a "buy and maintain" portfolio of short-duration, high quality securities designed to complete the needed CCCERA cash flows monthly. Insights builds and maintains the CCCERA cash flow profile based upon actuarial projections.



CCCERA

Liquidity Managers: Relevant Statistics

Metric	Description
Credit Quality	Credit quality informs investors of a bond or bond portfolio's credit worthiness or risk of default. Independent rating services such as Standard & Poor's, Moody's Investors Service and Fitch Ratings Inc. provide evaluations of a bond issuer's financial strength, or its ability to pay a bond's principal and interest in a timely fashion.
Duration	Duration is a measure of the sensitivity of the price of a fixed-income investment to a change in interest rates. Duration is a gauge of sensitivity to interest rate changes roughly equal to bond maturity.
Coupon	A coupon is the annual interest rate paid on a bond, expressed as a percentage of the face value.

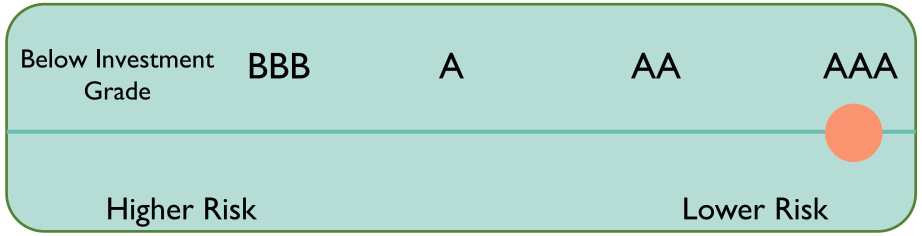
Characteristics as of 12/31/20			
	Sit	**Insight**	**DFA**
Credit Quality	AAA	A	A
Duration	2.9	1.6	1.3
Coupon	6.1%	2.6%	2.3%
Yield to Maturity	1.5%	0.6%	1.0%

CCCERA

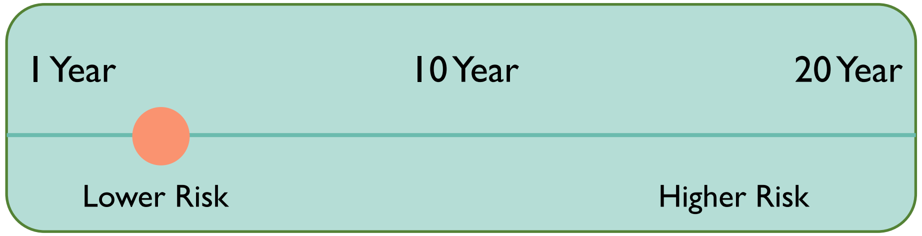
Sit

Summary	
Liquidity Program Role	Sit invests in high yielding, government backed mortgages. The cash flow from these securities is harvested monthly to make up a portion of CCCERA's monthly benefit payment.
Key Personnel	Bryce Doty, Senior Portfolio Manager Mark Book, Portfolio Manager Chris Rasmussen, Portfolio Manager
Fee Structure	Estimated Annual Fee: 15 basis points
CCCERA AUM as of 3-31-2021	$598.4MM
2020 Cash Flow	$15MM
Projected 2021 Cash Flow	$15MM

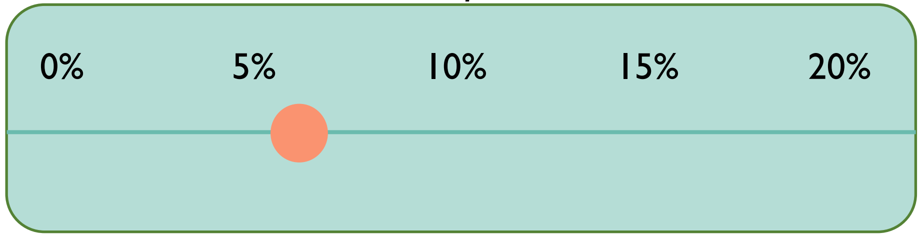
Credit Quality



Duration



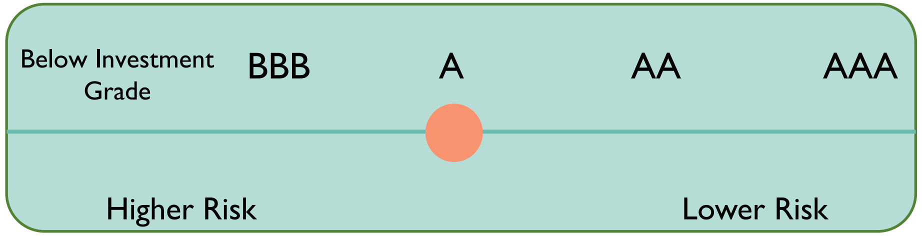
Coupon



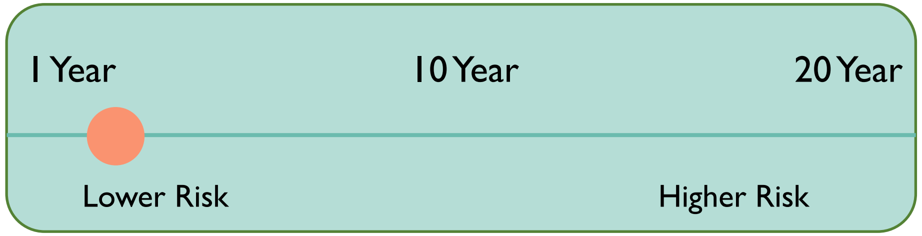
DFA

Summary	
Liquidity Program Role	Dimensional Fund Advisors runs a strategy that focuses on obtaining fixed income exposures via the most liquid securities available. DFA contributes to the Liquidity Program by selling securities at regular intervals to pay a portion of CCCERA's monthly benefit payment.
Key Personnel	Joseph Kolerich, Senior Portfolio Manager David Plecha, Global Head of Fixed Income
Fee Structure	Estimated Annual Fee: 11 basis points
CCCERA AUM as of 3-31-2021	$396.2MM
2020 Cash Flow	$181.8MM
Projected 2021 Cash Flow	$185.8MM

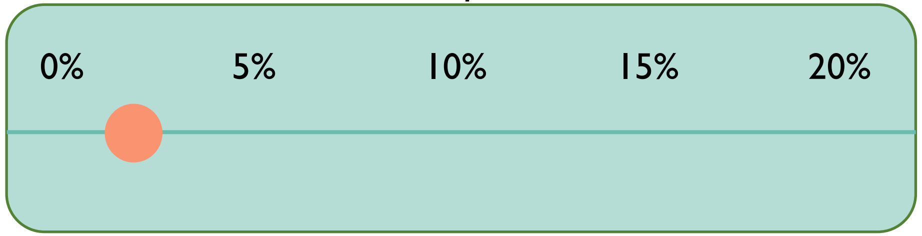
Credit Quality



Duration



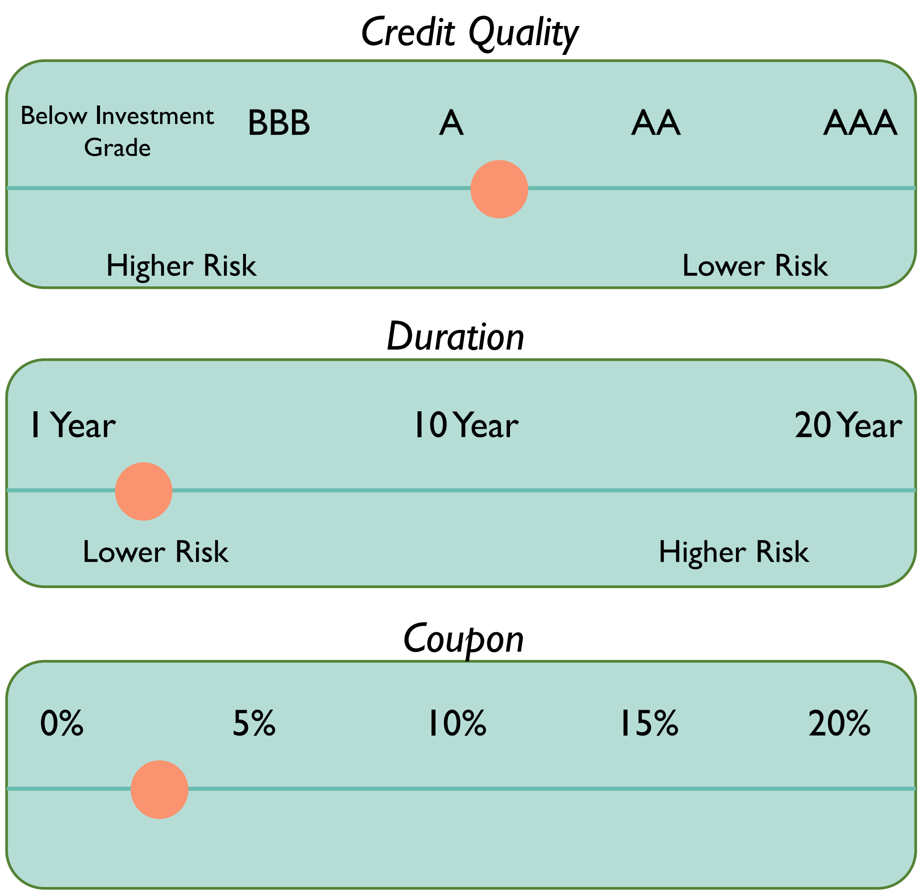
Coupon



CCCERA

Insight

Summary	
Liquidity Program Role	Insight plays a completion role in the liquidity program, matching out liabilities with short duration government and corporate fixed income securities.
Key Personnel	Gerry Berrigan, Senior Portfolio Manager Kevin Loescher, Asset Liability Solutions
Fee Structure	Estimated Annual Fee: 6 basis points
CCCERA AUM 3-31-2021	$1,014.0MM
2020 Cash Flow	$338.8MM
Projected 2021 Cash Flow	$360.3MM



Providing Benefit Payments

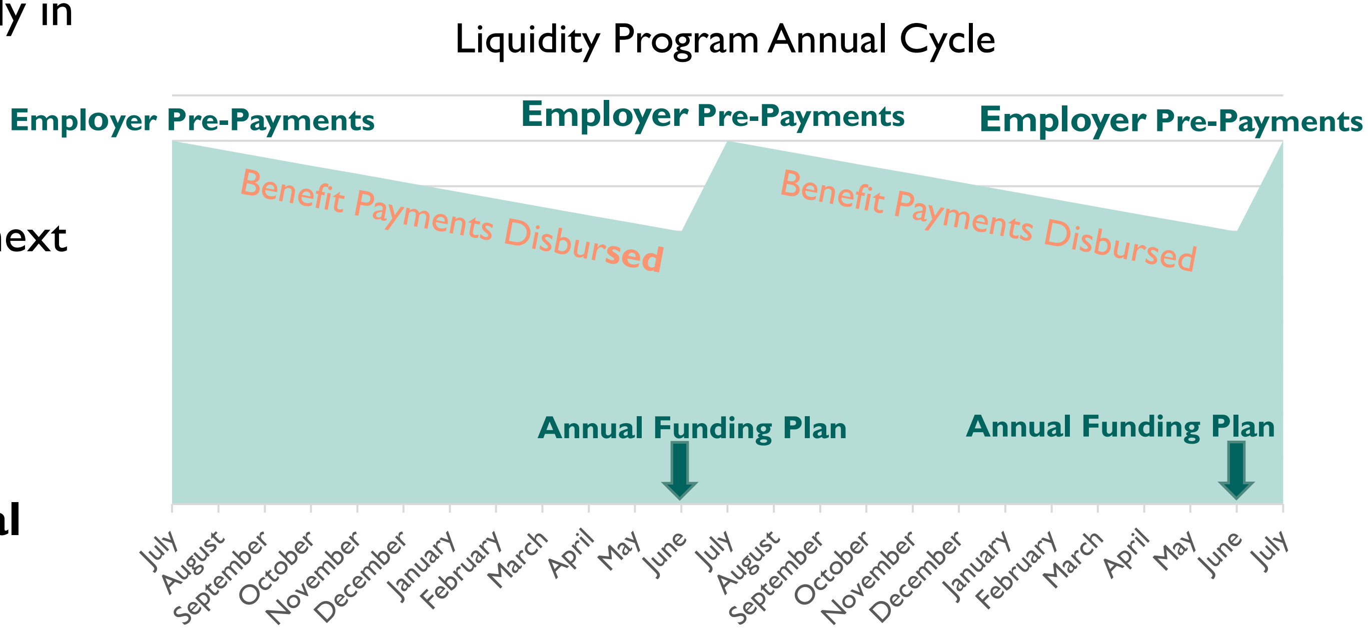
- Benefit payments are accounted for over the year, and follow a process of dollar value estimation, which flows to liquidity program sizing and the annual funding plan, through to the accounting function of disbursement

Annual	Semi-Annual	Monthly
CCCERA receives updates to benefit projections from actuaries Updated benefit projections are reviewed by Insight, which seeks to match each discrete benefit payment CCCERA Investment Staff "tops up" the liquidity program during the Annual Funding Process	CCCERA Investment Staff reviews tracking of actual benefit payment sizing versus initial estimate, and adjusts subsequent six months of liquidity program cash flows accordingly Several months of benefit payments are scheduled at custodial bank	Benefit payments are disbursed from bank

CCCERA

Refreshing the Program

- The Liquidity Sub-Portfolio is topped up annually in July in conjunction with the employer pre-payments
- The Portfolio operates in a drawdown mode for the next 11 months before the process starts again
- The game plan for how to refresh the Liquidity Sub-Portfolio is communicated to the Board in the **Annual Funding Plan** which is presented annually



Board Input

The Board's input is needed for critical aspects of the liquidity sub-portfolio

1. Duration of benefit payments to be matched. This will be reviewed every 3-5 years.

2. Board approved a reduction from 4 years to 3 years of matching benefit payments at its December 9th meeting.

3. Decision to reduce benefit payments by one year for rebalancing in extraordinary market environments. This is referred to in the Investment Policy Statement as "Zone 2" rebalancing and is subject to Board approval.

Board Decisions
Board chose to match 3 years of benefit payments
Zone 2 rebalancing has not been utilized to date

CCCERA

Reducing to Three Years of Benefit Payments

- Given the recent Board decision to move from four to three years of benefit payments in reserve, staff conducted a review of the manager lineup and allocations

- We determined that Sit should play a larger role in generating monthly cash flow and its allocation should increase as result, the relative weights of DFA and Insight will decrease as a result

- These allocation changes will be presented in an Asset Allocation resolution later in today's agenda

CCCERA

Conclusion

- Liquidity Sub-Portfolio matches benefit payments to limit liquidity demands on the Growth Sub-Portfolio

- Multi-manager structure provides diversification of process while keeping all managers focused on unique CCCERA goals

- Annual refreshing of the program and periodic reviews of the duration of benefits to be funded allows for readjustments of the program as needed

Dimensional

Meeting Date
04/28/2021
Agenda Item
#11b.

40 Years of Innovation

Contra Costa County Employees' Retirement Association

April 28, 2021

David Plecha, CFA, Global Head of Fixed Income and Vice President

Ted Simpson, CFA, Vice President

This is a client report provided to Contra Costa County Employees' Retirement Association, an institutional investor.

Dimensional

Agenda

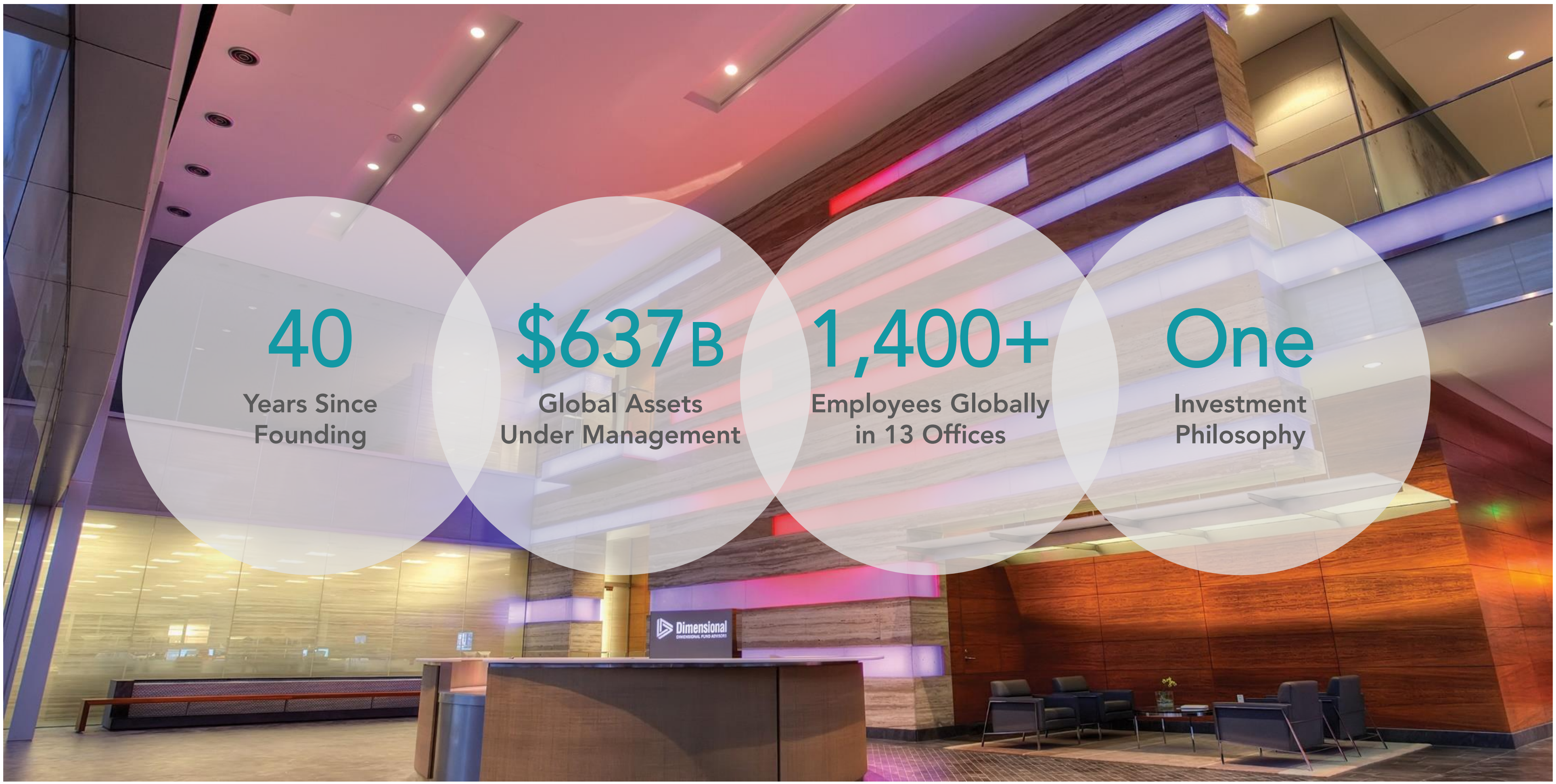
- Dimensional
- Investment Philosophy
- Portfolio Implementation
- Market Environment
- CCCERA Separate Account Review
- Appendix

Dimensional

Dimensional

Dimensional at a Glance

As of March 31, 2021



40
Years Since Founding

$637B
Global Assets Under Management

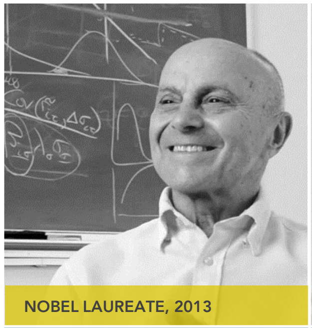
1,400+
Employees Globally in 13 Offices

One
Investment Philosophy

Assets in US dollars.
"Dimensional" refers to the Dimensional separate but affiliated entities generally, rather than to one particular entity. These entities are Dimensional Fund Advisors LP, Dimensional Fund Advisors Ltd., Dimensional Ireland Limited, DFA Australia Limited, Dimensional Fund Advisors Canada ULC, Dimensional Fund Advisors Pte. Ltd., Dimensional Japan Ltd., and Dimensional Hong Kong Limited. Dimensional Hong Kong Limited is licensed by the Securities and Futures Commission to conduct Type 1 (dealing in securities) regulated activities only and does not provide asset management services.

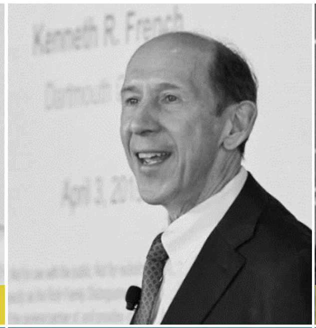
A Heritage of Leading Research

The bar for research at Dimensional has been set by the best in the field



Eugene Fama
University of Chicago

Dimensional Director and Consultant, Dimensional,[1] 1981–present

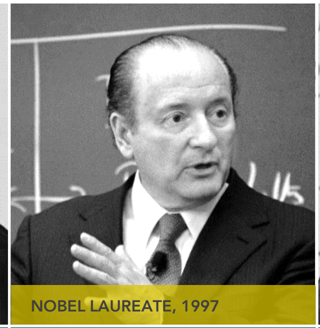


Kenneth French
Dartmouth College

Consultant, Dimensional,[1] 1986–present

Co-Chair of the Investment Research Committee, Dimensional,[1] 2006–present

Dimensional Director, 2006–present



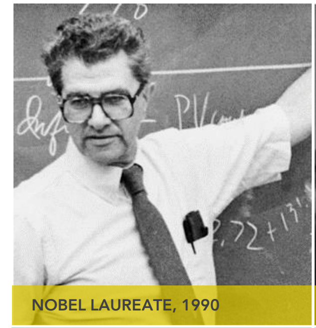
Robert Merton
MIT

Director, Dimensional US Mutual Funds, 2003–2009

Resident Scientist, Dimensional Holdings Inc., 2010–present

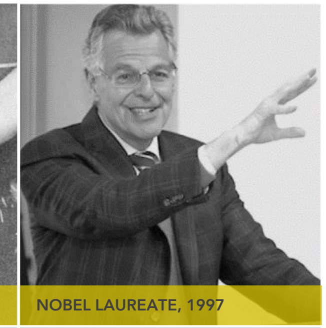
Robert Novy-Marx
University of Rochester

Consultant, Dimensional[1] 2014–present



Merton Miller
University of Chicago

Independent Director, Dimensional US Mutual Funds, 1981–2000



Myron Scholes
Stanford University

Independent Director, Dimensional US Mutual Funds, 1981–present

> "At Dimensional, we don't jump on every new idea that comes along. We're looking for what will stand up over a long period of time."

Eugene Fama
Nobel laureate, 2013

1. Dimensional Fund Advisors LP.
"Dimensional Directors" refers to the Board of Directors of the general partner of Dimensional Fund Advisors LP.

Implementation Requires Expertise

Adding value over benchmarks and peers through cost-efficient portfolio management, design, and trading

GERARD K. O'REILLY, PhD
Co-Chief Executive Officer and Chief Investment Officer

Global Investment Solutions

MARLENA LEE, PhD
Global Head of Investment Solutions

Global Research

SAVINA RIZOVA, PhD
Global Head of Research

PETE DILLARD
Chief Data Officer and Head of Investment Analytics and Data

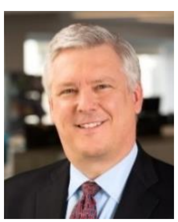
Global Trading

RYAN WILEY
Global Head of Equity Trading

JASON LAPPING
Head of International Equity Trading

Global Portfolio Management

JED FOGDALL
Global Head of Portfolio Management



DAVE PLECHA
Global Head of Fixed Income

NATHAN LACAZE
Co-Chief Executive Officer, Dimensional Fund Advisors Ltd., and Head of EMEA Portfolio Management

BHANU SINGH
Head of Asia Pacific Portfolio Management

MARY PHILLIPS
Deputy Head of Portfolio Management, North America

ALLEN PU, PhD
Deputy Head of Portfolio Management, North America

JOEL SCHNEIDER
Deputy Head of Portfolio Management, North America

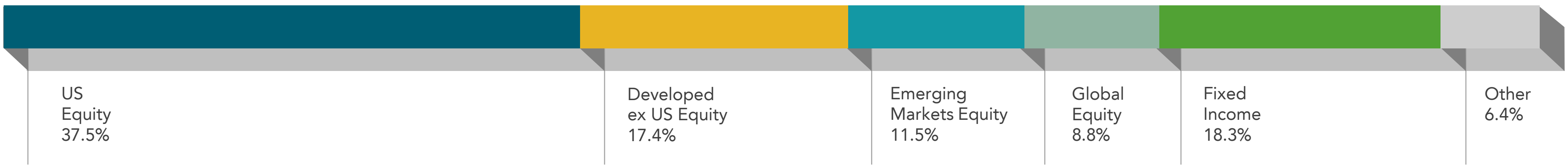
JOSEPH CHI
Head of Responsible Investment

Investment professional headcount information as of March 31, 2021.

PUG6017-0121

Dimensional Global Investment Solutions

$637 billion in global AUM as of March 31, 2021



(in billions)

US Equity	**$239.2**
All Cap Core	$89.7
All Cap Value	$7.7
Growth	$3.6
Large Cap	$31.0
Large Cap Value	$31.8
SMID Cap Value	$21.9
Small Cap	$27.2
Small Cap Value	$18.3
Micro Cap	$7.9

Developed ex US Equity	**$111.1**
All Cap Core	$47.1
All Cap Value	$1.5
Growth	$0.9
Large Cap	$10.9
Large Cap Value	$16.9
Small Cap	$20.6
Small Cap Value	$13.4

Emerging Markets Equity	**$73.3**
All Cap Core	$35.0
Value	$23.5
Large Cap	$9.3
Small Cap	$5.5

Global Equity	**$55.9**
All Cap/Large Cap	$46.3
Value	$6.8
Small/SMID Cap	$2.8

Fixed Income	**$116.6**
US	$53.8
US Tax-Exempt	$8.3
Non-US and Global	$46.2
Inflation-Protected	$8.4

Other	**$41.1**
Real Estate	$23.0
Commodities	$1.3
Global Allocation	$15.8
Target Date	$1.0

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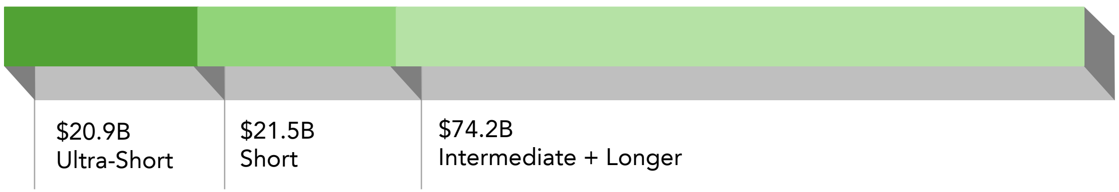
All assets in US dollars. Numbers may not total 100% due to rounding.

Extensive Fixed Income Capabilities

Nearly 40 years of experience and $116.6 billion in global fixed income assets under management[1]

STRATEGIES BY DURATION



STRATEGIES BY REGION OF INVESTMENT

- Earliest strategy inception in 1983
- Based upon rigorous academic research
- Experienced investment team
- Consistent portfolio management and execution
- Value-added execution
- Competitively priced solutions

MANDATE CATEGORIES

Global	Regional	Government	Credit
Inflation-Linked	US Municipal	ESG-Focused	

1. Dimensional Fund Advisors LP, Dimensional Fund Advisors Ltd., DFA Australia Limited, Dimensional Fund Advisors Canada ULC, Dimensional Fund Advisors Pte. Ltd., and Dimensional Japan Ltd., and Dimensional Hong Kong Limited. Dimensional Hong Kong Limited is licensed by the Securities and Futures Commission to conduct Type 1 (dealing in securities) regulated activities only and does not provide asset management services.
As of March 31, 2021.
All assets in US dollars. Numbers may not total 100% due to rounding.

Global Fixed Income Team

Dedicated to consistent implementation of investment strategies

PORTFOLIO MANAGEMENT

	Years of Experience	
Austin	**Industry**	**Firm**
Joseph Kolerich,[1] *Head of Fixed Income, Americas*	27	19
Alan Hutchison, *Senior PM*	14	14
Lacey Huebel, CFA	10	8
Shawn Doty	16	2
Aafsar Dhuka	5	3
Quinn Kauss	4	1
Charlotte		
Travis Meldau, *Senior PM*	17	9
Alex Degernes	7	4
Brett Balasa	5	4
Santa Monica		
David Plecha,[1,2] CFA *Global Head of Fixed Income*	33	31
Alexander Fridman, PhD, CFA, FRM, *Senior PM*	15	7
David Shao, CFA, *Senior PM*	14	14
Ryan Haselton	12	5
London		
Kipp Cummins, CFA, *Senior PM*	14	8
Archit Soni	11	5
Federica Merlino	2	<1
Singapore		
Joel Kim, CFA *CEO, Dimensional Fund Advisors Pte. Ltd. and Head of Fixed Income, International*	23	4
Sydney		
Gillian Wilson	18	12
Timo Zauner, CFA	13	3
Tokyo		
Kotaro Hama, CFA, FRM	11	8

TRADING

	Years of Experience	
Austin	**Industry**	**Firm**
David LaRusso, *Head of Fixed Income Trading*	20	20
Robert Richardson, *Senior Trader*	22	8
Elizabeth Van Pelt	11	10
Charlotte		
Polly Weiss, CFA, FRM, *Senior Trader*	15	12
Santa Monica		
Claudette Higdon, *Senior Trader*	20	20
London		
Odin Costa	4	1

PRODUCT MANAGEMENT AND STRATEGY

	Years of Experience	
Austin	**Industry**	**Firm**
Douglas Longo	18	6
Wan Kim	22	<1
Anthony Ison	5	<1

Investment Research Committee

- Long-term, strategic focus
- 13 members, including 2 Nobel laureates

Investment Committee

- Implementation and daily oversight
- 14 members
- Average 20 years of firm experience

Research

- Synthesis of client needs and financial theory into investment solutions
- 90+ professionals, including 10+ PhDs

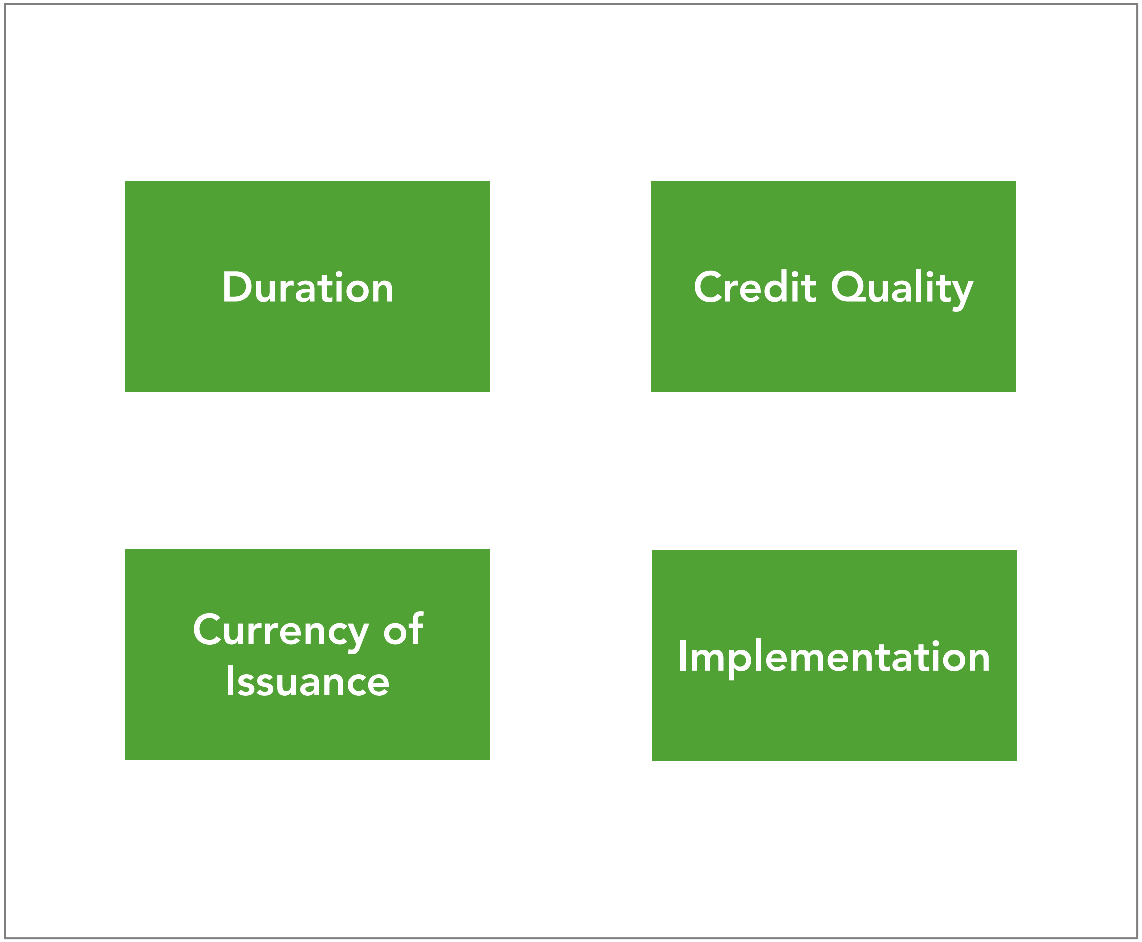
As of March 31, 2021. Years of experience as of December 31, 2020.
1. Investment Committee member.
2. Investment Research Committee member.

Dimensional

Investment Philosophy

Portfolio Considerations in Fixed Income

To add value, focus on what you can control

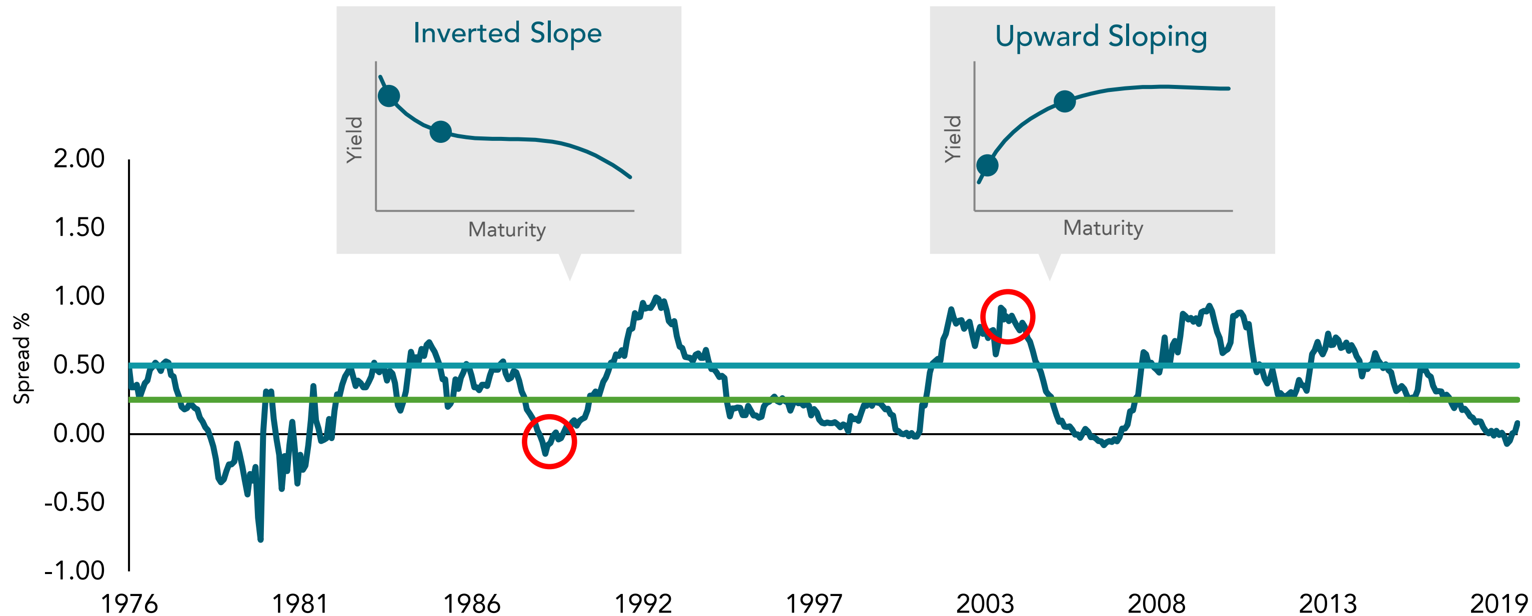


- Fixed income investors may have different goals.
- Common goals are capital preservation, total return, income generation, and volatility management.
- Across bonds, market prices and expected returns vary by duration, credit quality, and currency of issuance.
- Dimensional applies this criteria to create customizable fixed income portfolios.

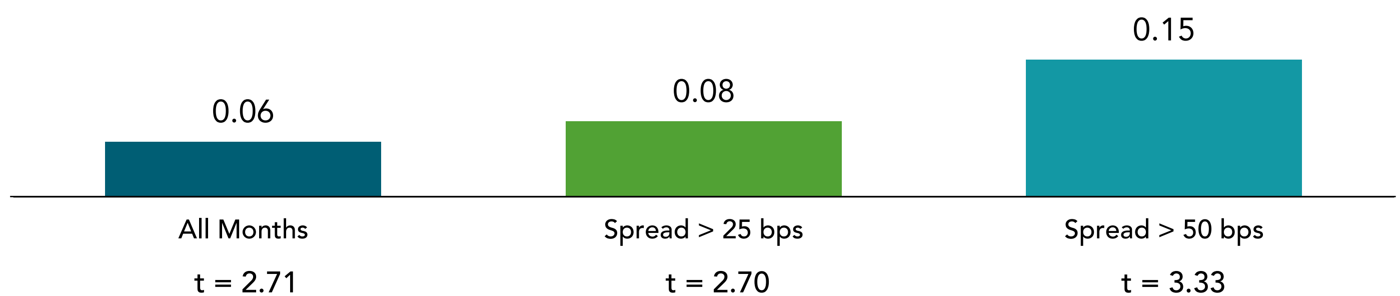
Term Premium

Term Spreads:
US Government Intermediate Minus 1–3 Years
1976–2019

Govt. Spread: Interm. minus 1–3 Year



Average Monthly Return Difference
US Government Intermediate Minus 1–3 Years
1976–2019



There is a reliable relation between current term spreads and term premiums.

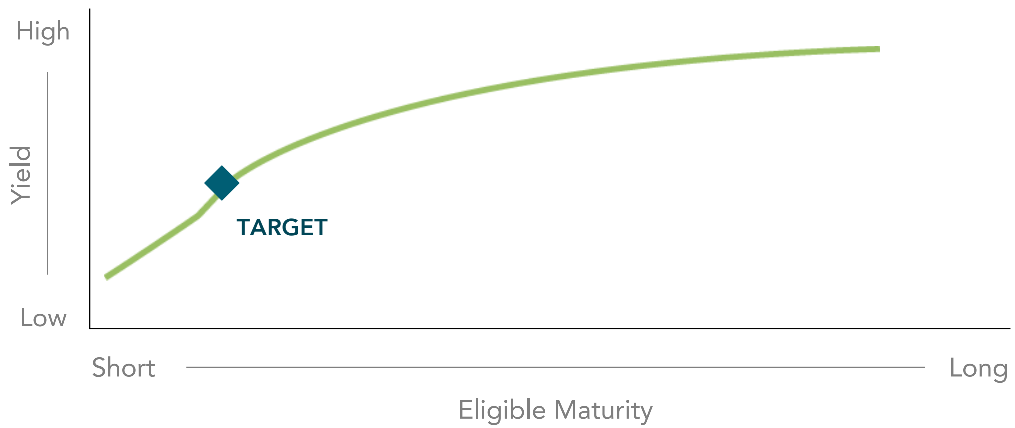
Monthly data in US dollars. Bloomberg Barclays Government 1–3 Year and Intermediate Indices.
Yield to worst: Intermediate and 1–3 Years.
Bloomberg Barclays data provided by Bloomberg. Indices are not available for direct investment. Past performance is no guarantee of future results.

Dimensional

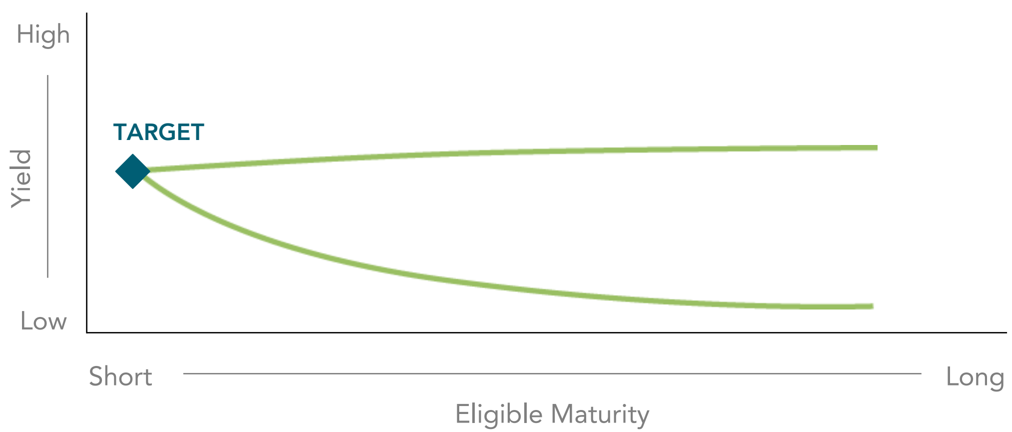
Term Spreads and Expected Term Premiums

Using information in spreads to seek higher expected returns

NORMAL YIELD CURVE



FLAT/INVERTED YIELD CURVE



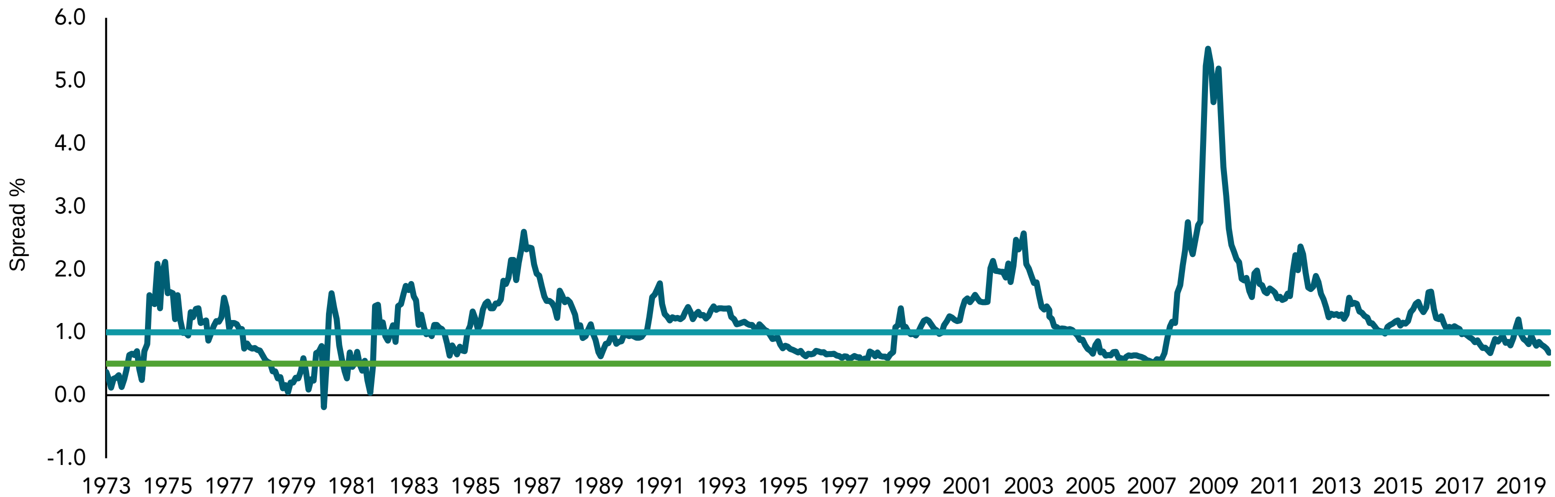
- On average, wide term spreads are associated with higher term premiums.
  - Lengthen duration, target highest/steepest segments of yield curve.
- On average, narrow term spreads are associated with lower term premiums.
  - Shorten duration, target shorter maturities.

For illustrative purposes only.

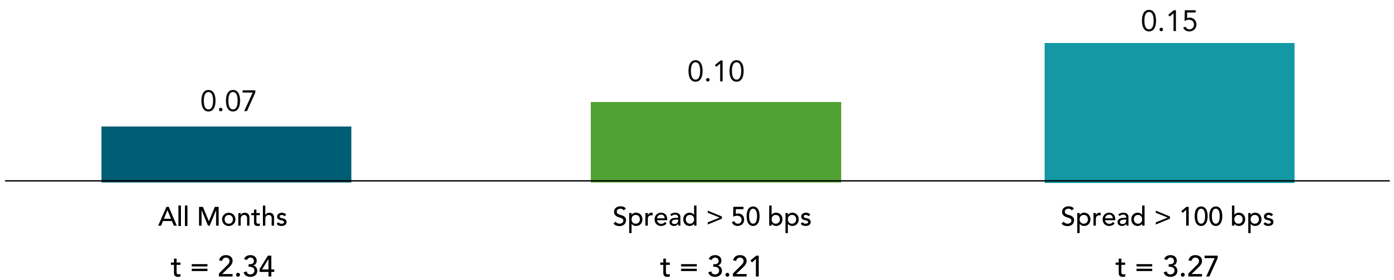
Credit Premium

Credit Spreads:
Credit Minus
Government
1973–2019

Credit Minus Government



Average Monthly Return Difference
Credit Minus
Government
1973–2019



There is a reliable relation between current credit spreads and credit premiums.

Monthly data in US dollars. Bloomberg Barclays Intermediate Indices.
Government: Bloomberg Barclays US Government Intermediate Index. Credit: Bloomberg Barclays US Intermediate Credit Index.
Bloomberg Barclays data provided by Bloomberg. Indices are not available for direct investment. Past performance is no guarantee of future results.

#56014-0617

Credit Spreads and Expected Credit Premiums

Using information in spreads to seek higher expected returns

- Narrow credit spreads generally lead to lower credit premiums. In this case, we may apply a greater focus on higher-quality bonds.
- Wide credit spreads generally lead to higher credit premiums. In this case, we may increase allocation to lower-quality bonds.
- This variable credit approach helps balance the tradeoff between credit exposure and credit premiums and improve expected returns.

For illustrative purposes only.

#50359-0116

Integrated, Market-Driven Approach

Pursuing expected term and credit premiums in a broadly diversified portfolio

Term: Yield Curve Shape

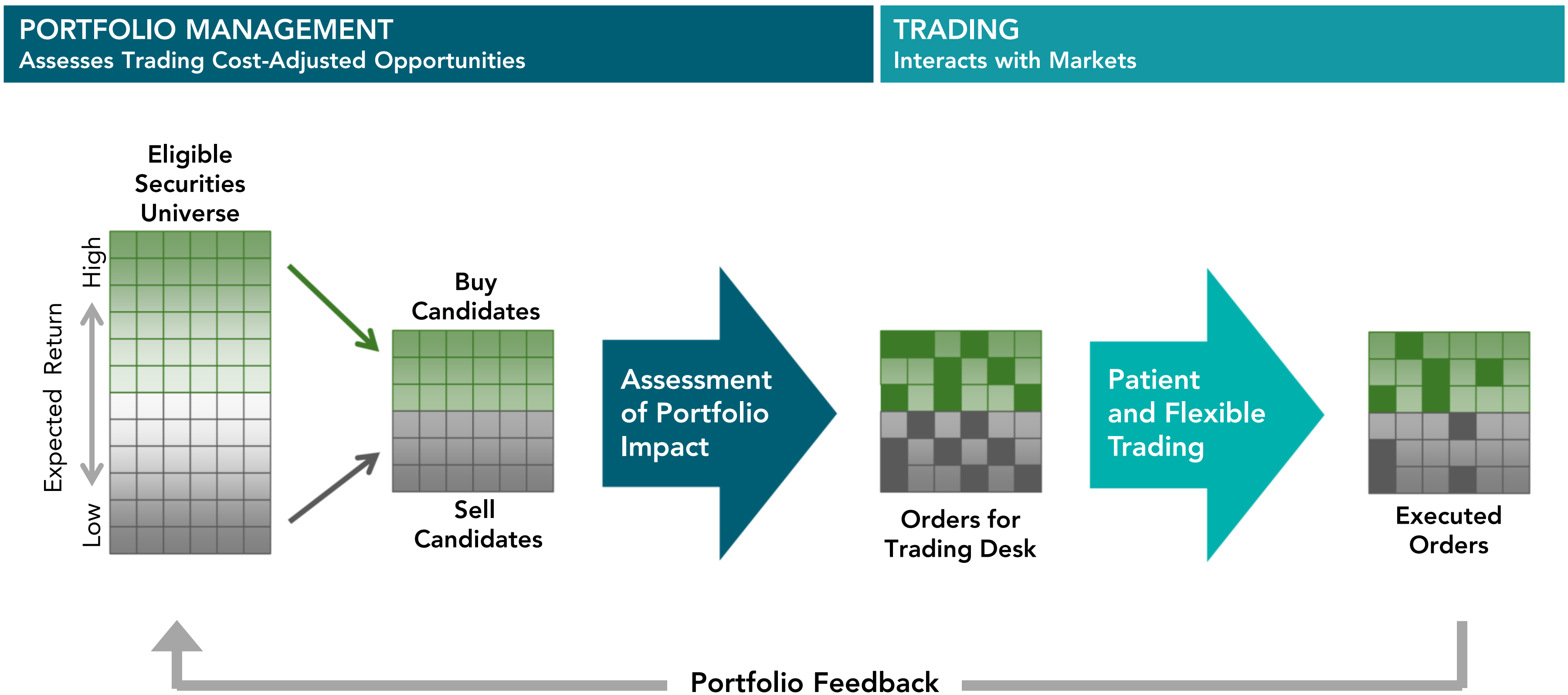
Credit Spreads	NORMAL	FLAT/INVERTED
WIDE	• Longer duration • Lower credit quality	• Shorter duration • Lower credit quality
NARROW	• Longer duration • Higher credit quality	• Shorter duration • Higher credit quality

#50359-0116

Portfolio Implementation

Integrated Fixed Income Portfolio Management and Trading

Pursuing higher expected returns and cost-effective execution



For illustrative purposes only.

Relative Price Advantage of Flexible Trading

Dimensional seeks to avoid demanding immediacy when trading

- Our approach is based on flexibility among issues/issuers of similar term and credit characteristics.
- On average, Dimensional's purchase price was lower than the adjacent purchase prices, and our sell price was higher than the adjacent sell prices.
- Dimensional's flexible approach helps reduce costs.

Past performance is no guarantee of future results.
Source: TRACE. The Trade Reporting and Compliance Engine (TRACE) is the Financial Industry Regulatory Authority, Inc. (FINRA) developed vehicle that facilitates the mandatory reporting of over-the-counter secondary market transactions in eligible fixed income securities.
1. "Dimensional" refers to Dimensional Fund Advisors LP.
bps (basis point): One hundredth of a percentage point (0.01%). Data compiled by Dimensional. TRACE-eligible corporate and agency bond trades from January 1, 2019 to December 31, 2019.
Comparative trades (prior and post) are filtered on trade size (excluding trades with size less than 100K par). This could have a considerable effect on the relative trade prices.

Market Environment

Dimensional

Fixed Income Market Overview

US Market Returns (USD), 1st Quarter 2021

One-Month US Treasury Bill Total Returns: 0.01%

Bloomberg Barclays US Aggregate Bond Index: -3.37%

37.7% of Bloomberg Barclays Global Aggregate Bond Index

Sector	Return (%)	Weight
US Government	-4.14%	38.9%
Credit	-4.45%	31.2%
Securitized	-1.18%	29.9%

	MATURITY: 1–5 years	5–10 years	10+ years	QUALITY
US Government	-0.58% (57.6%)	-4.43% (23.7%)	-13.39% (18.7%)	AAA/AA
Credit	-0.52% (8.5%)	-4.10% (3.1%)	-9.14% (4.6%)	AAA/AA
Credit	-0.59% (27.5%)	-3.88% (25.0%)	-8.28% (31.3%)	A/BBB
	1.00%	-0.54%	-1.97%	BB

Return (%) | Weight

Past performance is no guarantee of future results.

Bond types based on original Bloomberg Barclays three-pillar government, credit, and securitized sectors classification scheme. Credit and maturity breakouts represent returns for the corresponding categories of the Bloomberg Barclays US Aggregate Index for investment grade and Bloomberg Barclays US High Yield Index for BB rated bonds. Rating categories represented use Bloomberg Barclays composite ratings. The Bloomberg Barclays category returns use parent index constituent data with corresponding maturity and credit rating ranges to internally calculate returns. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Bloomberg Barclays data provided by Bloomberg.

Dimensional

Fixed Income Market Overview

US Market Returns (USD), 1 Year as of March 31, 2021

One-Month US Treasury Bill Total Returns: 0.08%

Bloomberg Barclays US Aggregate Bond Index: 0.71%

37.7% of Bloomberg Barclays Global Aggregate Bond Index

Sector	Return (%)	Weight
US Government	-4.26%	38.9%
Credit	7.88%	31.2%
Securitized	0.30%	29.9%

		MATURITY		QUALITY
	1–5 years	5–10 years	10+ years	
US Government	-0.02% (57.6%)	-4.01% (23.7%)	-15.60% (18.7%)	AAA/AA
Credit	1.59% (8.5%)	0.85% (3.1%)	1.01% (4.6%)	AAA/AA
Credit	7.41% (27.5%)	10.56% (25.0%)	10.11% (31.3%)	A/BBB
	18.76%	20.90%	43.05%	BB

Return (%) | Weight

Past performance is no guarantee of future results.

Bond types based on original Bloomberg Barclays three-pillar government, credit, and securitized sectors classification scheme. Credit and maturity breakouts represent returns for the corresponding categories of the Bloomberg Barclays US Aggregate Index for investment grade and Bloomberg Barclays US High Yield Index for BB rated bonds. Rating categories represented use Bloomberg Barclays composite ratings. The Bloomberg Barclays category returns use parent index constituent data with corresponding maturity and credit rating ranges to internally calculate returns. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Bloomberg Barclays data provided by Bloomberg.

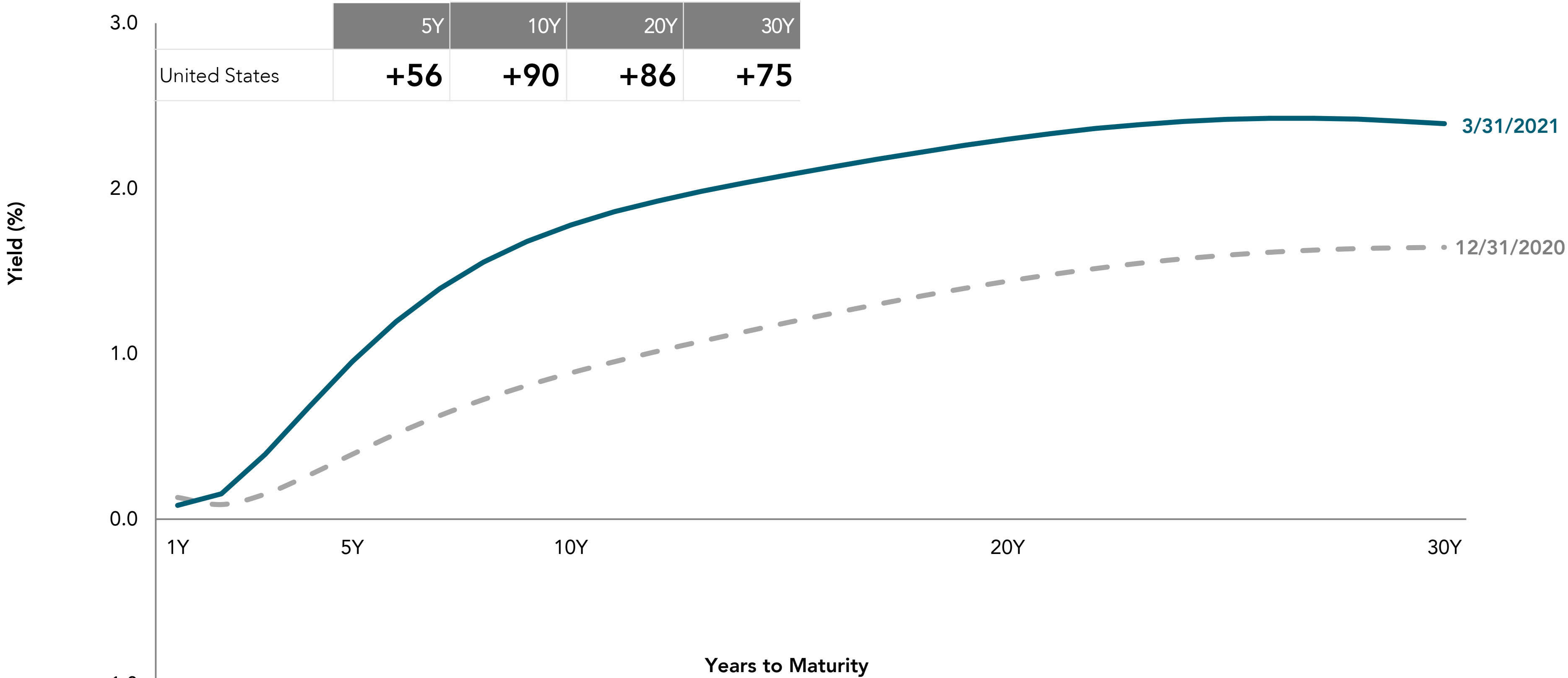
MP1180-1219

US Nominal Yield Curve

UNITED STATES

CHANGES IN YIELDS (bps)
12/31/2020 to 3/31/2021

	5Y	10Y	20Y	30Y
United States	+56	+90	+86	+75



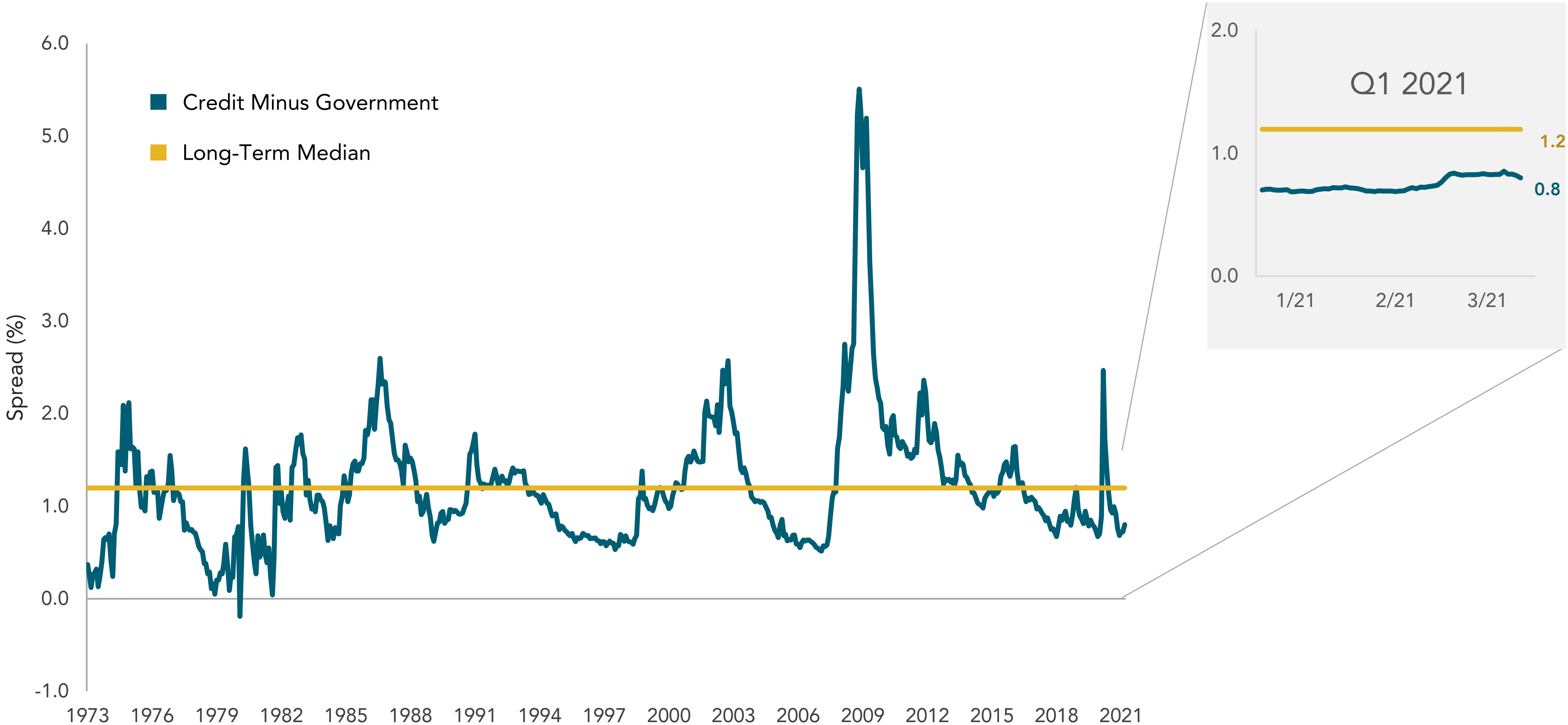
Past performance is no guarantee of future results.

Source: ICE BofA government yield. ICE BofA index data © 2021 ICE Data Indices, LLC. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

MKT7859-0120

US Credit Spreads

CREDIT MINUS GOVERNMENT 1973 THROUGH Q1 2021



Past performance is no guarantee of future results.
Monthly data in US dollars. Bloomberg Barclays Intermediate Indices.
Government: Bloomberg Barclays US Government Intermediate Index. Credit: Bloomberg Barclays US Intermediate Credit Index.
Bloomberg Barclays data provided by Bloomberg. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

CCCERA Separate Account Review

Contra Costa County ERA Short-Term US Credit

Overview as of March 31, 2021[1]

PORTFOLIO OVERVIEW						
Inception Date	December 2016					
Assets Under Management	$380.7 million					
Eligible Investments[2]	Treasuries		Agencies		Corporates	
	Supranationals		Cash equivalents			
Credit Quality Eligibility	Treasury	◆	AAA	◆	A	◆
	Agency	◆	AA	◆	BBB	◆
Primary Investment Parameters[2]						
Average Duration	Maximum of 3 years duration for portfolio, 5 years maturity for individual security					
Industry Constraints	Maximum of 25%					
Guarantor Constraints	5% maximum in AAA + AA, 1% in A + BBB; no limit on US guaranteed bonds					
Issuer Constraints	3% maximum in AAA + AA, 1% in A + BBB; no limit on US government-backed securities					
Currency/Country Exposure	USD Only					
Non-USD Constraints	N/A					
Hedging Instruments	N/A					
Leverage	None					
Benchmarks						
ICE BofA	1–5 Year US Corporate and Government Index					

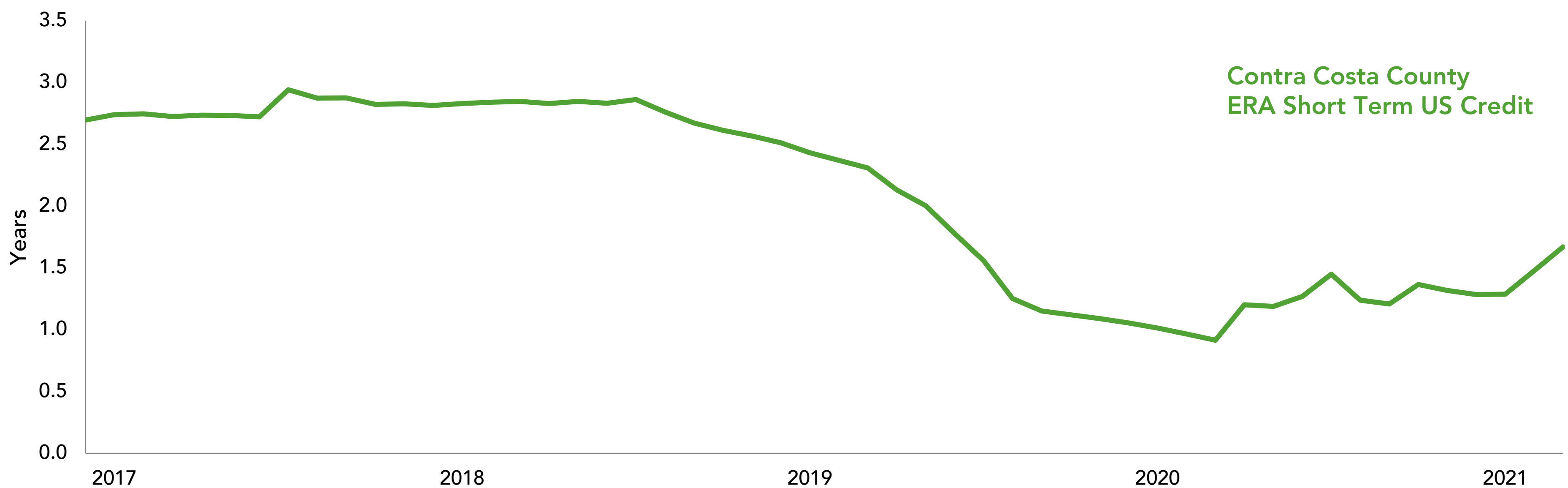
1. Subject to change.
2. Not comprehensive.

Contra Costa County ERA Short-Term US Credit

Characteristics as of March 31, 2021

	Average Duration (Years)	Average Maturity (Years)	Average Coupon	Yield to Maturity
CONTRA COSTA COUNTY ERA SHORT-TERM US CREDIT	1.67	1.74	1.84	0.81
ICE BofA 1–5 Year US Corporate and Government Index	2.71	2.83	2.05	0.60

AVERAGE DURATION (MONTHLY: DECEMBER 2016–MARCH 2021)



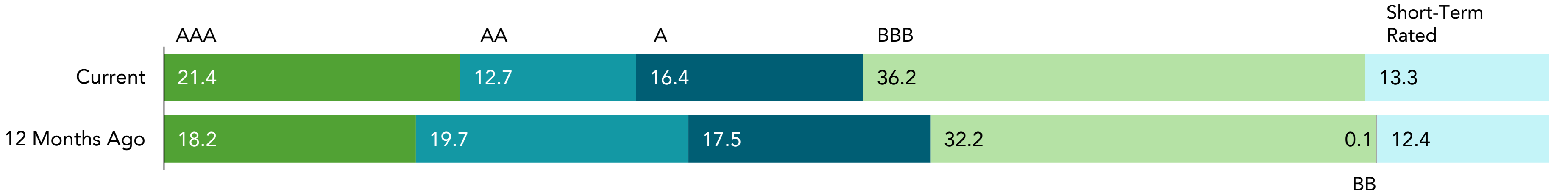
Holdings are subject to change. ICE BofA index data © 2021 ICE Data Indices, LLC. Indices are not available for direct investment.

MP-1447-0320

Contra Costa County ERA Short-Term US Credit

Characteristics as of March 31, 2021

DISTRIBUTION BY CREDIT RATING[1] (%)



DISTRIBUTION BY MATURITY (%)

DISTRIBUTION BY SECTOR TYPE (%)

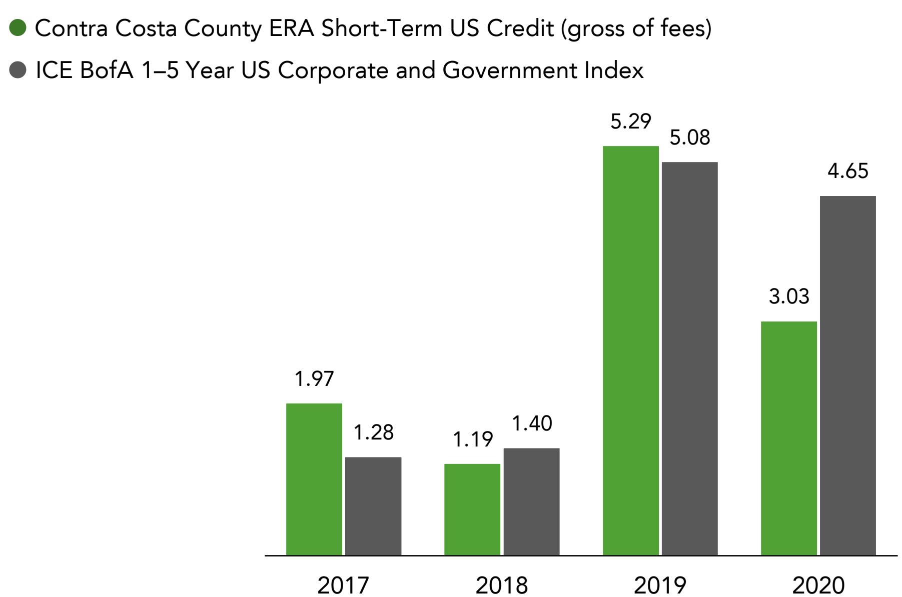
1. Credit rating agencies Moody's Investor Service, Fitch Ratings, and Standard & Poor's Corporation rate the credit quality of debt issues. For reporting purposes, we generally assign a composite rating based on stated ratings from Nationally Recognized Statistical Ratings Organizations ("NRSROs"). For example, if Moody's, Fitch, and S&P all provide ratings, we assign the median rating. In certain instances, such as Pre-Refunded Municipals and US Treasury and Agency securities, we will assign the internal Dimensional rating. The internal Dimensional rating can only be as high as the highest stated credit rating from an NRSRO.
Holdings are subject to change.

Contra Costa County ERA Short-Term US Credit

Performance as of March 31, 2021

Annualized Returns[1] (%)	1st Quarter 2021	1 Year	3 Years	Since 1/2017 Account 1st Full Month
CONTRA COSTA COUNTY ERA SHORT-TERM US CREDIT (gross of fees)	-0.22	3.60	3.33	2.64
CONTRA COSTA COUNTY ERA SHORT-TERM US CREDIT (net of fees)	-0.25	3.49	3.22	2.53
ICE BofA 1–5 Year US Corporate and Government Index	-0.52	2.11	3.69	2.78

CALENDAR YEAR RETURNS (%)



Account Value

CONTRA COSTA COUNTY ERA FIXED INCOME SEPARATE ACCOUNT	$380,707,681

Performance data shown represents past performance and is no guarantee of future result. Gross returns include the reinvestment of dividends and other earnings, but do not reflect the deduction of investment advisory fees or any other expenses that will be incurred in the management of the account. A client's investment return will be reduced by the advisory fees and other expenses it will incur in the management of its advisory account. For example, if a 1% annual advisory fee were deducted quarterly and a client's annual return were 10% (based on quarterly returns of approximately 2.41% each) before deduction of advisory fees, the deduction of advisory fees would result in an annual return of approximately 8.91% due, in part, to the compound effect of such fees. Dimensional's advisory fees are described in Part 2A of Dimensional's Form ADV Part 2A.s.

1. Returns for periods shorter than one year are not annualized. ICE BofA index data © 2021 ICE Data Indices, LLC. Indices are not available for direct investment.

Appendix

Dimensional

Fees

Contra Costa County Employees Retirement Association Separate Account	If average balance remains above $300mm	If average balance is below $300mm	
	Fee on all assets (%)	Fee on assets up to $25 million (%)	Fee on assets above $25 million (%)
	0.10	0.20	0.10

#17868-1011

Presenters' Biographies

Dave Plecha, CFA

Global Head of Fixed Income and Vice President

Dave Plecha is Dimensional's Global Head of Fixed Income. Dave is an enthusiastic and incisive communicator at the firm's conferences and seminars. A member of the Investment Committee and Investment Research Committee, he not only manages US and global portfolios but also maintains much of the fixed income research and client communications. Dave has been instrumental in the planning and execution of Dimensional's tax-managed separate account strategies in the US.

Dave received his Chartered Financial Analyst® designation in 1996. Prior to joining Dimensional in 1989, he managed stock index futures and options for Leland O'Brien Rubinstein Associates and was an operations planner for Texas Instruments. He holds an MBA from the University of California, Los Angeles, and a BS in industrial and operations engineering from the University of Michigan.

Ted Simpson, CFA

Vice President

Ted Simpson, a Vice President in the Global Client Group, is responsible for developing and maintaining relationships with public pension funds, foundations, endowments, Taft-Hartley plan sponsors, and corporate pension and defined contribution plans.

Since joining Dimensional in 2002, Ted has held a number of positions within the firm. He began as a marketing consultant before taking a leadership role in the firm's defined contribution market initiative. Later, Ted got involved with Dimensional's consultant relations effort and eventually helped manage the group. Most recently, he has shifted his attention to working directly with clients.

Prior to joining Dimensional, Ted worked for Salomon Brothers, Legal & General, Mattel, Lion Nathan, and a fee-only RIA. He earned an MBA in marketing, strategy, and organizational behavior from the Kellogg School of Management at Northwestern University and a BA in politics and economics from Princeton University. Ted is a CFA® charterholder and holds FINRA licenses 24, 7, and 63.

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Meeting Date
04/28/2021
Agenda Item
#12

Contra Costa County Employees' Retirement Association

MEMORANDUM

Date: April 28, 2020

To: CCCERA Board of Retirement

From: Timothy Price, Chief Investment Officer

Subject: Investment Asset Allocation Resolution 2021-4

Overview

In the Investment Policy Statement adopted by the Board on March 24, 2021, a process is outlined to make annual adjustments to the target asset allocation and express these in investment resolutions adopted by the Board. In the most recent amendment to the Investment Policy Statement, the Board approved reducing the target size of the Liquidity sub-portfolio from four to three years of projected benefit payments. As a result, we will not be refreshing the Liquidity sub-portfolio this year and allowing the funds to naturally decline to their new targets. This will result in a lower target allocation to the Liquidity sub-portfolio and a corresponding increase to the Growth sub-portfolio.

We reviewed the roles and allocations of each Liquidity manager in light of the reduced allocation. We are recommending that we institute a larger monthly draw from the Sit portfolio and a corresponding increase in their relative weight within the sub-portfolio.

While the Growth sub-portfolio is increasing in overall size, we are lowering the target allocations to the international equity managers to align with the targets outlined in Mix 5 of the Verus asset allocation study that was approved in December 2020. We have also increased the allocation to passive US equity as a placeholder for funds intended to be invested in private equity over the next few years.

BOR Resolution 2021-4 encompasses the Board discussion at the December 9, 2020 meeting. Implementation of BOR Resolution 2021-4 will occur over the coming months.

Recommendation

Consider and take possible action to adopt BOR Resolution 2021-4, Investment Asset Allocation Targets and Ranges.

BOR Resolution. No. 2021-4

RESOLUTION OF THE BOARD OF RETIREMENT
CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

INVESTMENT ASSET ALLOCATION TARGETS AND RANGES

WHEREAS, Article XVI, §17 of the Constitution of the State of California vests the Board of Retirement (Board) with "plenary authority and fiduciary responsibility for the investment of moneys and the administration of the system"; and

WHEREAS, the Board has exclusive control of the investment of CCCERA and may, in its discretion and subject to applicable law, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding or sale or any form or type of investment, financial instrument, or financial transaction when prudent in the informed decision of the board, pursuant to the County Employees Retirement Law of 1937 (CERL), Government Code Section 31595; and

WHEREAS, the Board has adopted an Investment Policy Statement ("IPS"), pursuant to which the Board is to periodically set, review and revise its asset allocation targets.

NOW, THEREFORE BE IT RESOLVED that it shall be the policy of CCCERA to invest assets in the following manner:

Asset Allocation

Section 6.B of the Investment Policy Statement ("IPS"), adopted March 24, 2021, provides that "annually the Board shall review the relative size and composition of [the] sub-portfolios and revise them as necessary through Investment Resolutions." During this annual review, the CIO will recommend the targets, weightings, and the rationale for any deviation to an under-weight or over- weight across the asset allocation. The Board will consider and take action to adopt or revise asset allocation targets. Under the direction of the Board of Retirement, investment staff will administer the asset allocation per the Board's action.

As of 2021 the long-term asset allocation targets determined by the Board are as follows:

	Long Term	Current Target
Liquidity:	17%	18%
Growth:	76%	75%
Diversifying:	7%	7%

Over the course of the following 12 months, the Liquidity sub-portfolio will be used to pay benefits and expenses. As a result, and aside from market fluctuations, the funds in the Liquidity sub-portfolio will decline from the targeted allocation and, therefore, the relative allocations to the Growth and Diversifying sub-portfolios will increase proportionately.

Current Targets

Sub-Portfolio Strategy	Current Target	Range
Growth	**75.0%**	**65-85%**
Jackson Square	4.0%	
Boston Partners	4.0%	
Emerald	1.5%	
Ceredex	1.5%	
BlackRock Index Fund	5.0%	
Pyrford	4.0%	
William Blair	4.0%	
Artisan	4.5%	
First Eagle	4.5%	
TT Emerging Markets	4.0%	
PIMCO/RAE Emerging Markets	4.0%	
Adelante	2.0%	
Allianz	2.0%	
Private Real Estate	8.0%	
Private Equity	11.0%	
Private Credit	8.0%	
Risk Parity	3.0%	
Liquidity	**18.0%**	**11-22%**
Insight	7.0%	
DFA	4.0%	
Sit	7.0%	
Risk Diversifying	**7.0%**	**0-10%**
AFL-CIO HIT	2.5%	
Parametric Defensive Equity	1.5%	
Acadian MAARS	1.5%	
Sit LLCAR	1.5%	
Total	**100.0%**	

THIS RESOLUTION WAS ADOPTED BY THE AFFIRMATIVE VOTE OF THE BOARD OF RETIREMENT OF THE CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION THIS _____ DAY OF _______, 2021.

AYES:
NOES:
ABSTAIN:
ABSENT:

____

Chairperson of the Board of Retirement

Attest:

____

Secretary of the Board of Retirement