



AGENDA

RETIREMENT BOARD MEETING

REGULAR MEETING

September 22, 2021, 9:00 a.m.

The Board of Retirement will hold its meeting via teleconferencing as permitted by Executive Order N-29-20. The meeting is accessible telephonically at 669-900-6833, Webinar ID: 818 4036 5713, Passcode: 321788, or via the web at:

<https://us06web.zoom.us/j/81840365713?pwd=em1UN1N2WHdmTmNOclVyanY3b3dPdZ09>

Passcode: 321788

Persons may request to make public comment by emailing publiccomment@cccera.org the day before the Board meeting or the day of the Board meeting either before or during the meeting. Public comments are limited to any item that is within the subject matter jurisdiction of the Board of Retirement. Both written and oral comments will be accepted, subject to a three-minute time limit per speaker. Written comments will be read into the record at the meeting. All comments submitted will be included in the record of the meeting.

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

1. Pledge of Allegiance.
2. Roll Call.
3. Accept comments from the public.
4. Approve minutes from the August 25, 2021 meeting.
5. Consider and take possible action to accept the GASB 68 report from Segal Consulting.
6. Consider and take possible action to amend the Interest Crediting and Excess Earnings Policy.
7. Review of report on Growth Sub-portfolio.
8. Presentation from Emerald Investment Advisors.
9. Review of Real Estate performance and pacing recommendation.

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.

10. Update on private equity commitments.
11. Consider and take possible action to cancel the Board meeting of October 13, 2021.
12. Miscellaneous
 - a. Staff Report
 - b. Outside Professionals' Report
 - c. Trustees' comments



RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING

August 25, 2021

9:00 a.m.

The Board of Retirement meeting was accessible telephonically at (669) 900-6833, Webinar ID 845 9155 5254, Passcode 353596 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, Dennis Chebotarev, Donald Finley, Scott Gordon, Jerry Holcombe, Louie Kroll, Jay Kwon, David MacDonald, John Phillips, Reggie Powell, Mike Sloan and Russell Watts.

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 Manager; Henry Gudino, Accounting Manager; Tim Hoppe, Retirement Services Manager; and Jasmine Lee, Member Services Manager.

Outside Professional Support:

Representing:

Harvey Leiderman
Maytak Chin
Audra Ferguson-Allen
Robert Gauss
Scott Whalen

Reed Smith LLP
Reed Smith LLP
Ice Miller LLP
Ice Miller LLP
Verus Investments

3. Accept comments from the public

Dunn read the following into public comment: Dr. Denis Mahar expressed his concerns over how his retirement has been impacted by AB197.

4. Approval of Minutes

It was **M/S/C** to approve the minutes from the July 14, 2021 Board meeting. (Yes: Anderson, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts)

CLOSED SESSION

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

The Board moved into open session.

5. Trustee MacDonald recused himself from Items 5b, 5c and 5d and was not present for subsequent discussion and voting.

- a. There was no reportable action related to *Nowicki v. CCCERA, et al.*, Court of Appeal, First Appellate District, Division Two, Case No. A160337
- b. There was no reportable action related to *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
- c. There was no reportable action related to *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
- d. There was no reportable action related to *Public Employees Union Local No. 1, et al., v. Board of Retirement of CCCERA, et al.*, Contra Costa County Superior Court, Case No. N14-2021

6. Review of total portfolio performance for period ending June 30, 2021

- a. Presentation from Verus

Whalen reviewed CCCERA's investment fund performance for the period ending June 30, 2021.

- b. Presentation from staff

Price reviewed CCCERA's sub-portfolio's noting CCCERA's total fund is performing as expected.

7. Review of portfolio rebalancing report

Price reviewed the portfolio rebalancing report.

8. Consider and take possible action to authorize the CEO to execute agreements with Aleshire & Wynder, LLP for labor and employment law and labor negotiations services

It was **M/S/C** to authorize the CEO to execute agreements with Aleshire & Wynder, LLP for labor and employment law and labor negotiations services. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts)

9. Miscellaneous

a. Staff Report –

Strohl reported CCCERA is continuing to implement the addition of staff into the office on a hybrid schedule.

b. Outside Professionals' Report -

None

c. Trustees' comments –

Phillips reported there is an Audit Committee meeting following this meeting.

It was **M/S/C** to adjourn the meeting. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts)

Scott Gordon, Chairman

Jerry Holcombe, Secretary



Meeting Date
09/22/2021
Agenda Item
#5

MEMORANDUM

Date: September 22, 2021
To: CCCERA Board of Retirement
From: Gail Strohl, Chief Executive Officer
Subject: Consider and take possible action to accept the GASB 68 report from Segal Consulting.

Background

The Governmental Accounting Standards Board (GASB) issued Statement No. 68 in June 2012 to be effective for fiscal years beginning after June 15, 2014. This Statement's objective is to improve accounting and financial reporting. CCCERA's participating employers can utilize the information contained in the GASB 68 report in their own reporting. Employers are currently assessed a pro-rata share of the report preparation cost. The Segal Consulting report is based on a December 31, 2020 measurement date for employer reporting as of June 30, 2021.

Recommendation

Consider and take possible action to accept the GASB 68 report from Segal Consulting.

**CONTRA COSTA COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION**

**SCHEDULE OF EMPLOYER ALLOCATIONS AND
SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

**FOR EMPLOYER REPORTING UNDER
GOVERNMENTAL ACCOUNTING STANDARDS
BOARD (GASB) STATEMENT NO. 68
AS OF JUNE 30, 2021
USING A MEASUREMENT DATE OF DECEMBER 31, 2020**

**CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF EMPLOYER ALLOCATIONS AND
SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

**FOR EMPLOYER REPORTING UNDER
GOVERNMENTAL ACCOUNTING STANDARDS
BOARD (GASB) STATEMENT NO. 68
AS OF JUNE 30, 2021
USING A MEASUREMENT DATE OF DECEMBER 31, 2020**

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BROWN ARMSTRONG

Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT

To the Board of Retirement and Audit Committee of
Contra Costa County Employees' Retirement Association
Concord, California

Report on the Schedules

We have audited the accompanying Schedule of Employer Allocations of Contra Costa County Employees' Retirement Association (CCCERA) for the years ended December 31, 2020 and 2019, and the related notes to the schedule. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense (specified column totals) included in the accompanying Schedule of Pension Amounts by Employer as of and for the year ended December 31, 2020, and the related notes to the schedule.

Management's Responsibility for These Schedules

Management is responsible for the preparation and fair presentation of these schedules in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on the Schedule of Employer Allocations and the specified column totals included in the Schedule of Pension Amounts by Employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Schedule of Employer Allocations and specified column totals included in the Schedule of Pension Amounts by Employer are free from material misstatement.

Our audit involved performing procedures to obtain audit evidence about the amounts and disclosures in the Schedule of Employer Allocations and specified column totals included in the Schedule of Pension Amounts by Employer. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Schedule of Employer Allocations and specified column totals included in the Schedule of Pension Amounts by Employer, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to CCCERA's preparation and fair presentation of the Schedule of Employer Allocations and the specified column totals included in the Schedule of Pension Amounts by Employer in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of CCCERA's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting

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policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the Schedule of Employer Allocations and specified column totals included in the Schedule of Pension Amounts by Employer.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations for the years ended December 31, 2020 and 2019, and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities for CCCERA as of and for the year ended December 31, 2020, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of CCCERA as of and for the year ended December 31, 2020, and our report thereon, dated June 15, 2021, expressed an unmodified opinion on those financial statements.

Restriction on Use

Our report is intended solely for the information and use of CCCERA's management, the Board of Retirement and the Audit Committee of CCCERA, and CCCERA participating employers and their auditors and is not intended to be, and should not be, used by anyone other than these specified parties.

BROWN ARMSTRONG
ACCOUNTANCY CORPORATION

Brown Armstrong
Accountancy Corporation

Bakersfield, California
September 14, 2021

**CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF EMPLOYER ALLOCATIONS
FOR THE YEAR ENDED DECEMBER 31, 2020**

<u>Employer Name</u>	<u>Net Pension Liability (NPL) (1)</u>	<u>Allocation Percentage (2)</u>
Bethel Island Municipal District	\$ 120,135	0.026%
Byron Brentwood Cemetery	(281,020)	-0.061%
Contra Costa Mosquito and Vector Control District	1,341,891	0.291%
Contra Costa County Fire Protection District	85,582,923	18.547%
Central Contra Costa Sanitary District	48,886,895	10.594%
First 5 - Children and Families Commission	487,008	0.106%
Contra Costa County	255,540,783	55.377%
Contra Costa County Employees' Retirement Association	2,271,787	0.492%
East Contra Costa Fire Protection District	2,070,171	0.449%
Contra Costa Housing Authority	3,458,981	0.750%
In-Home Supportive Services Authority	374,693	0.081%
Local Agency Formation Commission	(21,991)	-0.005%
Moraga-Orinda Fire District	22,360,799	4.846%
Rodeo Sanitary District	(1,054,861)	-0.229%
Rodeo-Hercules Fire Protection District	6,595,503	1.429%
San Ramon Valley Fire District	23,045,406	4.994%
Superior Court	5,268,930	1.142%
Delta Diablo Sanitation District (Terminated Employer) (3)	16,641	0.004%
Diablo Water District (Terminated Employer) (3)	1,371,069	0.297%
City of Pittsburg (Terminated Employer) (3)	4,014,181	0.870%
Total for All Employers	\$ 461,449,924	100.000%

(1) The NPL is including pension obligation bonds and Unfunded Actuarial Accrued Liability prepayments for certain employers.

(2) The unrounded percentages excluding terminated employers are actually used in the allocation of NPL for active employers.

(3) Beginning with the December 31, 2016 funding valuation, the assets and liabilities associated with three terminated employers have been moved to their own cost group. As such, each pension expense and NPL of these three terminated employers have been directly allocated starting with the June 30, 2017 reporting date.

The accompanying notes are an integral part of this schedule.

**CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF EMPLOYER ALLOCATIONS
FOR THE YEAR ENDED DECEMBER 31, 2019**

<u>Employer Name</u>	<u>Net Pension Liability (NPL) (1)</u>	<u>Allocation Percentage (2)</u>
Bethel Island Municipal District	\$ 222,616	0.026%
Byron Brentwood Cemetery	(147,526)	-0.017%
Contra Costa Mosquito and Vector Control District	2,807,582	0.325%
Contra Costa County Fire Protection District	115,666,974	13.386%
Central Contra Costa Sanitary District	64,117,450	7.420%
First 5 - Children and Families Commission	1,480,016	0.171%
Contra Costa County	561,509,768	64.983%
Contra Costa County Employees' Retirement Association	4,526,924	0.524%
East Contra Costa Fire Protection District	5,817,871	0.673%
Contra Costa Housing Authority	6,324,839	0.732%
In-Home Supportive Services Authority	798,961	0.092%
Local Agency Formation Commission	132,109	0.015%
Moraga-Orinda Fire District	26,734,009	3.094%
Rodeo Sanitary District	(501,019)	-0.058%
Rodeo-Hercules Fire Protection District	9,024,195	1.044%
San Ramon Valley Fire District	43,246,471	5.005%
Superior Court	14,549,842	1.684%
Delta Diablo Sanitation District (Terminated Employer) (3)	1,673,872	0.194%
Diablo Water District (Terminated Employer) (3)	944,895	0.109%
City of Pittsburg (Terminated Employer) (3)	5,155,943	0.597%
Total for All Employers	\$ 864,085,792	100.000%

(1) The NPL is including pension obligation bonds and Unfunded Actuarial Accrued Liability prepayments for certain employers.

(2) The unrounded percentages excluding terminated employers are actually used in the allocation of NPL for active employers.

(3) Beginning with the December 31, 2016 funding valuation, the assets and liabilities associated with three terminated employers have been moved to their own cost group. As such, each pension expense and NPL of these three terminated employers have been directly allocated starting with the June 30, 2017 reporting date.

The accompanying notes are an integral part of this schedule.

**CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS
FOR THE YEARS ENDED DECEMBER 31, 2020 AND 2019**

NOTE 1 – PLAN DESCRIPTION

The Contra Costa County Employees' Retirement Association (CCCERA) is governed by the Board of Retirement (Board) under the County Employees Retirement Law of 1937 (CERL); the California Public Employees' Pension Reform Act of 2013 (PEPRA); and the California State Constitution. Members should refer to CERL and PEPRA for more complete information.

CCCERA is a contributory defined benefit pension plan (the Plan) initially organized under the provisions of the CERL on July 1, 1945. It provides benefits upon retirement, death, or disability of members. Prior to 2010, CCCERA operated as a cost-sharing, multiple employer defined benefit pension plan that covered substantially all of the employees of the County of Contra Costa (the County), 16 other member agencies, and three terminated employers.

In October 2009, the Board depooled CCCERA's assets, actuarial accrued liability (AAL), and normal cost both by tier and employer for determining employer contribution rates. This Board action yielded 12 separate cost groups by employer, with the exception of smaller employers (those with less than 50 active members at that time) who continue to be pooled with the applicable County tier. The December 31, 2009 valuation was the first to incorporate the new "depooled" employer contribution rates, and those rates were effective July 1, 2011.

CCCERA, with its own governing board, is an independent governmental entity, separate and distinct from the County. CCCERA is presented in the County's basic financial statements as a pension trust fund. Costs of administering the Plan are financed through contributions and investment earnings. Effective January 1, 2015, California Senate Bill 673 (SB 673) makes the CCCERA retirement system an independent "district" and the employer for its entire staff, subject to terms and conditions of employment established by the Board.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING AND REPORTING POLICIES

Basis of Presentation and Basis of Accounting

Employers participating in CCCERA are required to report pension information in their financial statements for fiscal periods beginning on or after June 15, 2014, in accordance with Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*. The Schedule of Employer Allocations, along with CCCERA's audited financial statements, the GASB Statement No. 67 Actuarial Valuation as of December 31, 2020, and the GASB Statement No. 68 Actuarial Valuation based on a December 31, 2020 Measurement Date for Employer Reporting as of June 30, 2021, prepared by CCCERA's independent actuary, provide the required information for financial reporting related to CCCERA that employers may use in their financial statements.

The accompanying schedule was prepared by CCCERA's independent actuary and was derived from information provided by CCCERA in accordance with accounting principles generally accepted in the United States of America as applicable to governmental organizations.

Use of Estimates in the Preparation of the Schedules

The preparation of this schedule in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain amounts and disclosures. Actual results could differ from those estimates.

NOTE 3 – ACTUARIAL METHODS AND ASSUMPTIONS

Net Pension Liability

The collective Plan's Fiduciary Net Position (FNP) as of December 31, 2020, was audited as part of CCCERA's financial statements for the fiscal year ended December 31, 2020. The net pension liability (NPL) for each cost group is the Total Pension Liability (TPL) minus the Plan's FNP (plan assets). The TPL for each cost group is obtained from internal valuation results based on the actual participants in each cost group. The Plan FNP for each cost group was determined by adjusting the Valuation Value of Assets (VVA) for each cost group (which is used to determine employer contribution rates) by the ratio of the total CCCERA Plan FNP to total CCCERA VVA. Based on this methodology, any non-valuation reserves (such as the Post Retirement Death Benefit) are allocated amongst the cost groups based on each cost group's VVA.

For this report, the reporting dates for the employers are June 30, 2021 and 2020. The FNP and NPL were measured as of December 31, 2020 and 2019, respectively, and determined based upon rolling forward the TPL from actuarial valuations as of December 31, 2019 and 2018, respectively. In addition, any significant changes in actuarial assumptions or Plan provisions that occurred between the valuation date and the measurement date have been reflected. The TPL as of December 31, 2020, was measured by (1) valuing the TPL as of December 31, 2018, (before the rollforward) to include the actuarial assumptions that the Board has adopted for use in the pension funding valuation as of December 31, 2020, and (2) using this TPL in rolling forward the results from December 31, 2019, to December 31, 2020. All assumptions are the same as those used in the December 31, 2020 funding valuation and were based on the results of an actuarial experience study for the period January 1, 2015, through December 31, 2017. Consistent with the provisions of GASB Statement No. 68, the assets and liabilities measured as of December 31, 2020 and 2019, are not adjusted or rolled forward to the June 30, 2021 and 2020 reporting dates, respectively.

Allocation of Net Pension Liability to Individual Employers

The allocation method used to derive each employer's proportionate share of the NPL is consistent with GASB Statement No. 68, paragraph 49. The Determination of Proportionate Share is based on the actual January 1, 2020 through December 31, 2020 compensation information provided by CCCERA. In determining the employer's proportionate share, a ratio is calculated using the employees' compensation by employer and cost group.

Paragraph 49 of GASB Statement No. 68 indicates that, to the extent different contribution rates are assessed based on separate relationships that constitute the collective NPL, the determination of the employer's proportionate share of the collective NPL should be made in a manner that reflects those relationships. The allocation method utilized by CCCERA (as described earlier) to determine the employer's proportionate share reflects these relationships through the cost groups. For cost groups that have one employer, all of the NPL for the cost group is allocated to the corresponding employer. For cost groups with multiple employers, NPL is allocated based upon a ratio calculated by using the employer's compensation to the total cost group allocation. If an employer is in multiple cost groups, the employer's total allocated NPL is the sum of its allocated NPL from each cost group. Terminated employers have been directly allocated NPL based on results for the specific employer. The corresponding employer allocation percentage or proportionate share shown on the Schedule of Employer Allocations is on the total Plan basis.

NOTE 4 – RELATIONSHIP TO THE BASIC FINANCIAL STATEMENTS

The components of the schedule have been determined based on the FNP for the CCCERA as shown in the CCCERA Statement of Changes in Fiduciary Net Position and in accordance with requirements promulgated by GASB Statements No. 67 and No. 68. The NPL at December 31, 2020 and 2019, is reported in CCCERA's Required Supplementary Information following the Notes.

**CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2020**

Employer	Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense (1)		
	Net Pension Liability	Differences Between Expected and Actual Experience in the Total Pension Liability	Changes of Assumptions or Other Inputs	Changes in Proportion and Differences Between Employer's Contributions and Proportionate Share of Resources (3)	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience in Total Pension Liability	Net Difference Between Projected and Actual Earnings on Pension Plan Investments	Changes of Assumptions or Other Inputs	Changes in Proportion and Differences Between Employer's Contributions and Proportionate Share of Resources (3)	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Pension Expense (1)	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer's Contributions and Proportionate Share of Contributions	Total Pension Expense (1)
Bethel Island Municipal District	\$ 120,135	\$ 22,239	\$ -	\$ 71,609	\$ 93,848	\$ 3,048	\$ 86,610	\$ 11,967	\$ -	\$ 101,625	\$ 25,126	\$ 58,336	\$ 83,462
Byron Brentwood Cemetery	(281,020)	(52,020)	-	15,126	(36,894)	(7,129)	(202,599)	(27,993)	224,988	(12,733)	(58,774)	(62,304)	(121,078)
Contra Costa Mosquito and Vector Control District	1,341,891	248,401	-	70,402	318,803	34,042	967,423	133,666	1,270,340	280,649	(13,454)	267,195	267,195
Contra Costa County Fire Protection District	85,582,923	15,842,498	-	19,861,225	35,703,723	2,171,135	61,700,172	8,524,945	11,679,894	84,076,146	17,899,211	(1,621,366)	16,277,845
Central Contra Costa Sanitary District	48,886,895	9,049,592	-	15,811,376	24,860,968	1,240,201	35,244,529	4,869,641	6,746,064	48,100,435	10,224,433	3,060,084	13,284,517
First 5 - Children and Families Commission	487,008	90,151	-	168,850	259,001	12,355	351,104	48,511	411,263	823,233	101,855	(3,649)	98,206
Contra Costa County	255,540,783	47,303,882	-	27,031,086	74,334,968	6,482,760	184,229,629	25,454,511	43,409,113	259,576,013	53,444,990	(193,710)	53,251,280
Contra Costa County Employees' Retirement Association	2,271,787	420,537	-	458,349	878,886	57,632	1,637,823	226,294	-	1,921,749	475,132	334,006	809,138
East Contra Costa Fire Protection District	2,070,171	383,215	-	929,516	1,312,731	52,518	1,492,470	206,210	5,218,510	6,969,708	432,965	(2,132,007)	(1,699,042)
Contra Costa Housing Authority	3,458,981	640,302	-	133,238	773,540	87,750	2,493,719	344,550	335,838	3,261,857	723,427	(59,671)	663,756
In-Home Supportive Services Authority	374,693	69,360	-	33,142	102,502	9,506	270,131	37,323	46,629	363,589	78,365	22,486	100,851
Local Agency Formation Commission	(21,991)	(4,071)	-	4,206	135	(558)	(15,854)	(2,191)	69,026	50,423	(4,599)	(15,930)	(20,529)
Moraga-Orinda Fire District	22,360,799	4,139,271	-	7,494,819	11,634,090	567,266	16,120,799	2,227,367	2,663,315	21,578,747	4,676,642	479,703	5,156,345
Rodeo Sanitary District	(1,054,861)	(195,268)	-	61,620	(133,648)	(26,761)	(760,492)	(105,075)	862,795	(29,533)	(220,619)	(221,274)	(441,893)
Rodeo-Hercules Fire Protection District	6,595,503	1,220,912	-	1,386,707	2,607,619	167,320	4,754,963	656,980	2,180,763	7,760,026	1,379,414	(620,381)	759,033
San Ramon Valley Fire District	23,045,406	4,266,001	-	4,344,793	8,610,794	584,634	16,614,360	2,295,561	2,568,876	22,063,431	4,819,824	1,242,311	6,062,135
Superior Court	5,268,930	975,347	-	1,596,133	2,571,480	133,666	3,798,584	524,840	2,919,914	7,377,004	1,101,970	(253,180)	848,790
Delta Diablo Sanitation District (Terminated Employer) (2)	16,641	131,182	7,920	-	139,102	957,703	402,420	-	-	1,360,123	(190,971)	-	(190,971)
Diablo Water District (Terminated Employer) (2)	1,371,069	479,913	-	-	479,913	-	45,530	5,951	-	51,481	224,418	-	224,418
City of Pittsburg (Terminated Employer) (2)	4,014,181	413,399	-	-	413,399	-	1,422,981	17,205	-	1,440,186	48,490	-	48,490
Total for All Employers	\$ 461,449,924	\$ 85,444,843	\$ 7,920	\$ 79,472,197	\$ 164,924,960	\$ 12,527,088	\$ 330,654,302	\$ 45,450,263	\$ 79,472,197	\$ 468,103,850	\$ 95,461,948	\$ -	\$ 95,461,948

(1) Starting with the June 30, 2017 reporting date, the employer contributions now exclude any employer subventions of member contributions and include any member subventions of employer contributions. This change has not been applied on a retroactive basis prior to the June 30, 2017 reporting date.

(2) Beginning with the December 31, 2016 funding valuation, the assets and liabilities associated with three terminated employers have been moved to their own cost group. As such, these three terminated employers have been direct allocated to each their pension expense and net pension liability starting with the June 30, 2017 reporting date.

(3) Calculated in accordance with Paragraphs 54 and 55 of GASB Statement No. 68.

The accompanying notes are an integral part of this schedule.

**CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
NOTES TO SCHEDULE OF PENSION AMOUNTS BY EMPLOYER
AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2020**

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING AND REPORTING POLICIES

Basis of Presentation and Basis of Accounting

Employers participating in Contra Costa County Employees' Retirement Association (CCCERA) are required to report pension information in their financial statements for fiscal periods beginning on or after June 15, 2014, in accordance with Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*. The Schedule of Pension Amounts by Employer, along with CCCERA's audited financial statements, the GASB Statement No. 67 Actuarial Valuation as of December 31, 2020, and the GASB Statement No. 68 Actuarial Valuation Based on a December 31, 2020 Measurement Date for Employer Reporting as of June 30, 2021, prepared by CCCERA's independent actuary, provide the required information for financial reporting related to CCCERA that employers may use in their financial statements.

The accompanying schedule was allocated by employer based on the Employer Allocation Schedule and was prepared by CCCERA's independent actuary. The information was derived from information provided by CCCERA and the County of Contra Costa in accordance with accounting principles generally accepted in the United States of America as applicable to governmental organizations.

Use of Estimates in the Preparation of the Schedule

The preparation of this schedule in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts and disclosures during the reporting period. Actual results could differ from those estimates.

NOTE 2 – ACTUARIAL ASSUMPTIONS

Actuarial Methods and Assumptions Used to Determine Total Pension Liability

The Net Pension Liability (NPL) was measured as of December 31, 2020 and 2019. CCCERA's defined contribution benefit pension plan's (Plan) Fiduciary Net Position (FNP) was valued as of the measurement date while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of December 31, 2019 and 2018, respectively.

The components of the NPL of CCCERA at December 31, 2020 and 2019, were as follows:

Measurement Date for Employer under GASB Statement No. 68	<u>December 31, 2020</u>	<u>December 31, 2019</u>
Total Pension Liability	\$ 10,531,687,786	\$ 10,121,098,471
Plan Fiduciary Net Position	<u>(10,070,237,862)</u>	<u>(9,257,012,679)</u>
Net Pension Liability	<u>\$ 461,449,924</u>	<u>\$ 864,085,792</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	<u>95.62%</u>	<u>91.46%</u>

NOTE 2 – ACTUARIAL ASSUMPTIONS (Continued)

Actuarial Methods and Assumptions Used to Determine Total Pension Liability (Continued)

TPL as of December 31, 2020, was measured by (1) valuing the TPL as of December 31, 2018, (before the rollforward) to include the following actuarial assumptions that the Board of Retirement has adopted for use in the pension funding valuation as of December 31, 2020, and (2) using this TPL in rolling forward the results from December 31, 2019, to December 31, 2020. Other assumptions are the same as those used in the December 31, 2020 funding valuation and were based on the results of an actuarial experience study for the period January 1, 2015, through December 31, 2017.

In particular, the following actuarial assumptions were applied to all periods included in the December 31, 2020 measurements:

ACTUARIAL VALUATION ASSUMPTIONS

Valuation Date	December 31, 2018
Investment Rate of Return	7.00%, net of pension plan investment expense, including inflation.
Administrative Expenses	1.10% of payroll allocated to both the employer and member based on the components of the Normal Cost (before expenses) rates for the employer and member.
Real Across-the-Board Salary Increase	0.50%
Projected Salary Increases (1)	General: 3.75% - 15.25% and Safety: 4.25% - 16.25%, varying by service, including inflation.
Cost-of-Living Adjustments (COLA)	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA) benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in CPI.
Other Assumptions	Same as those used in the December 31, 2018 funding actuarial valuation

(1) Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus promotional and merit increase that vary by service.

Post-retirement mortality rates for healthy retirement were based on Amount-Weighted Above-Median Mortality Table, projected generationally with the two-dimensional MP-2018 projection scale.

Post-retirement mortality rates for a disabled retirement were based on Amount-Weighted Above-Median Mortality Table, projected generationally with the two-dimensional MP-2018 improvement scale.

Pre-retirement mortality rates were based on Amount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2018.

NOTE 2 – ACTUARIAL ASSUMPTIONS (Continued)

Discount

The discount rate used to measure the TPL was 7.00% as of December 31, 2020 and 2019. The projection of cash flows used to determine the discount rate assumed that employee and employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future Plan members and their beneficiaries, as well as projected contributions from future Plan members, are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current Plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both December 31, 2020 and 2019.

Long-Term Expected Rate of Return by Asset Class

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table below.

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Large Cap U.S. Equity	5%	5.44%
Developed International Equity	13%	6.54%
Emerging Markets Equity	11%	8.73%
Short-Term Govt/Credit	23%	0.84%
U.S. Treasury	3%	1.05%
Private Equity	8%	9.27%
Risk Diversifying Strategies	7%	3.53%
Global Infrastructure	3%	7.90%
Private Credit	12%	5.80%
REIT	1%	6.80%
Value Add Real Estate	5%	8.80%
Opportunistic Real Estate	4%	12.00%
Risk Parity	5%	5.80%
Total	<u>100%</u>	

Amortization of Deferred Outflows and Deferred Inflows of Resources

The difference between projected and actual investment earnings on pension plan investments is amortized over 5 years on a straight-line basis. One-fifth was recognized in pension expense during the measurement period, and the remaining difference between projected and actual investment earnings on pension plan investments at December 31, 2020, is to be amortized over the remaining periods.

The changes in assumptions and differences between expected and actual experience are recognized over the average of the expected remaining service lives of all employees that are provided with pensions through CCCERA (active and inactive employees) determined as of December 31, 2019, (the beginning of the measurement period ending December 31, 2020) and is 4.51 years. Prior period changes of assumptions and differences between expected and actual experience are continued to be recognized based on the expected remaining service lives of all employees calculated as of those prior measurement dates.

NOTE 2 – ACTUARIAL ASSUMPTIONS (Continued)

Amortization of Deferred Outflows and Deferred Inflows of Resources (Continued)

In addition, the net effect of the change in the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources is also recognized over the average expected remaining service lives of all employees noted above. The difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ending on December 31, 2020, is recognized over the same period as noted above. The Schedule of Pension Amounts by Employer does not reflect contributions made to CCCERA subsequent to the measurement date as defined in GASB Statement No. 68 Paragraphs 54, 55, and 57. Appropriate treatment of such amounts is the responsibility of the employers.

NOTE 3 – RELATIONSHIP TO THE BASIC FINANCIAL STATEMENTS

The components of the schedule associated with pension expense and deferred outflows and inflows of resources have been determined based on the net increase in FNP for CCCERA as shown in the CCCERA Statement of Changes in Fiduciary Net Position and in accordance with requirements promulgated by the GASB Statements No. 67 and No. 68. The NPL at December 31, 2020, is reported in the Notes to CCCERA's Basic Financial Statements and Required Supplementary Information following the Notes.

NOTE 4 – ADDITIONAL FINANCIAL AND ACTUARIAL INFORMATION

Additional financial and actuarial information required for GASB Statement No. 68 disclosures is located in CCCERA's Comprehensive Annual Financial Report for the fiscal year ended December 31, 2020, which can be found on CCCERA's website, and the GASB Statement No. 68 Actuarial Valuation Based on December 31, 2020 Measurement Date for Employer Reporting as of June 30, 2021, which is available upon request from CCCERA.

Contra Costa County Employees' Retirement Association (CCCERA)

Governmental Accounting Standards Board Statement 68 (GAS 68) Actuarial Valuation

Actuarial Valuation Based on December 31, 2020
Measurement Date for Employer Reporting
as of June 30, 2021



This report has been prepared at the request of the Board of Retirement to assist the sponsors of the Fund in preparing their financial report for their liabilities associated with the CCCERA pension plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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Segal



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September 14, 2021

Board of Retirement
Contra Costa County Employees' Retirement Association
1200 Concord Avenue, Suite 300
Concord, CA 94520

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statement 68 (GAS 68) Actuarial Valuation based on a December 31, 2020 measurement date for employer reporting as of June 30, 2021. It contains various information that will need to be disclosed in order for CCCERA employers to comply with GAS 68.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist the sponsors in preparing their financial report for their liabilities associated with the CCCERA pension plan. The census and financial information on which our calculations were based were provided by CCCERA. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for CCCERA.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal

A handwritten signature in black ink, appearing to read "Paul Angelo".

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

A handwritten signature in black ink, appearing to read "Andy Yeung".

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

EK/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement 68 (GAS 68) for employer reporting as of June 30, 2021. The results used in preparing this GAS 68 report are comparable to those used in preparing the Governmental Accounting Standards Board Statement 67 (GAS 67) report for the plan based on a reporting date and a measurement date as of December 31, 2020. This valuation is based on:

- The benefit provisions of CCCERA, as administered by the Board of Retirement;
- The characteristics of covered active members¹, inactive vested members, and retired members and beneficiaries as of December 31, 2019, provided by CCCERA;
- The assets of the Plan as of December 31, 2020, provided by CCCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the December 31, 2020 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the December 31, 2020 valuation.

General Observations on GAS 68 Actuarial Valuation

1. It is important to note that Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as CCCERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined generally on the same basis as CCCERA's Actuarial Accrued Liability

¹ During the preparation of the December 31, 2020 Actuarial Valuation, we determined based on research by CCCERA that annual information for active members reported for the valuation has been collected from December 31, 2019 to November 30, 2020. In particular, the service credit provided for active members was reported through November 30, 2020 instead of December 31, 2020. While this is consistent with how information was reported for active members in the past (including the membership data as of December 31, 2019 that we rolled forward to prepare the liabilities as of December 31, 2020), from discussions with CCCERA we understand that the Association is going to change its pension administration system so as to report service through December 31. This change will first be reflected in the valuation following the change in the pension administration system, and Segal will reflect the liability for that additional month of service at the same time.

Section 1: Actuarial Valuation Summary

(AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.

3. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the fair value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis.
4. The TPL and the Plan Fiduciary Net Position include liabilities and assets held for the Post Retirement Death Benefit Reserve. The TPL only includes a liability up to the amount in the Post Retirement Death Benefit Reserve. This is because we understand that the post retirement death benefit is a non-vested benefit and once the reserve is depleted no further benefits would need to be paid.
5. Based on discussions with CCCERA and their auditors, starting with the June 30, 2017 reporting date for the employers, the employer contributions exclude any employer subvention of member contributions and include any member subvention of employer contributions. This change has not been applied on a retroactive basis prior to the June 30, 2017 reporting date.
6. Prior to the June 30, 2017 reporting date, the Pension Expense, NPL and other results attributed to the three withdrawn employers (Delta Diablo Sanitation District, Diablo Water District and City of Pittsburg) were allocated to other employers within the applicable Cost Groups. Starting with the December 31, 2016 funding valuation, the assets and liabilities associated with the three withdrawn employers have been moved to their own Cost Group. Therefore, we have directly allocated to each of these withdrawn employers their Pension Expense and NPL starting with the June 30, 2017 reporting date. In particular, the TPL for each withdrawn employers is obtained directly from internal valuation results for that specific employer. Furthermore, the Plan Fiduciary Net Position for each withdrawn employer has been set equal to the amount in their respective bookkeeping account.

Highlights of the Valuation

1. For this report, the reporting dates for the employer are June 30, 2021 and June 30, 2020. The NPL was measured as of December 31, 2020 and December 31, 2019, respectively. The Plan Fiduciary Net Position was valued as of the measurement dates and the TPL was determined based upon rolling forward the TPL from actuarial valuations as of December 31, 2019 and December 31, 2018, respectively. In addition, changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected, if any. Consistent with the provisions of GAS 68, the assets and liabilities measured as of December 31, 2020 and December 31, 2019 are not adjusted or rolled forward to the June 30, 2021 and June 30, 2020 reporting dates, respectively.
2. The NPL decreased from \$864 million as of December 31, 2019 to \$461 million as of December 31, 2020 primarily as a result of a favorable return on the fair value of assets (about 9.6%) during calendar year 2020 that was greater than the assumed return

Section 1: Actuarial Valuation Summary

of 7.00%. Changes in these values during the last two calendar years ending December 31, 2020 and December 31, 2019 can be found in *Section 2, Schedule of Changes in Net Pension Liability* on page 20.

3. The Pension Expense decreased from \$279 million as of December 31, 2019 to \$95 million as of December 31, 2020 primarily as a result of the full recognition of the remaining \$85 million in charges from an investment loss that was established in the December 31, 2015 valuation and included in developing last year's pension expense as well as a new \$47 million in credit from greater than expected return on market value of assets during FY 2020.¹
4. The discount rate used to measure the TPL and NPL as of December 31, 2020 and December 31, 2019 was 7.00%, following the same assumptions used by CCCERA in the actuarial valuations as of December 31, 2020 and December 31, 2019, respectively. The detailed calculations used in this derivation can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
5. Results shown in this report exclude any employer contributions made after the measurement date of December 31, 2020. In particular, we excluded a contribution of about \$71 million that Central Contra Costa Sanitary District made on June 25, 2021 to pay off their Unfunded Actuarial Accrued Liability. For employers that participate in the prepayment program, it is our understanding that the portion of the prepayment made in July 2020 that was for the period from January 1, 2021 through June 30, 2021 has also been excluded. Employers should consult with their auditors to determine the deferred outflow that should be created for these contributions.
6. All Cost Groups except Cost Groups #1, #2, and #6 only have one active employer, so all of the NPL for those Cost Groups are allocated to that employer. The NPL has already been reduced by any proceeds from Pension Obligation Bonds and any UAAL prepayments if made on or before December 31, 2020.

For Cost Groups #1, #2, and #6, the NPL is allocated based on the actual compensation by employer within the Cost Group. The steps we used are as follows:

- a. Calculate ratio of employer's compensation to the total compensation for the Cost Group.
- b. Multiply this ratio by an "adjusted" NPL. This adjusted NPL is larger than the actual NPL as it excludes proceeds from Pension Obligation Bonds and any UAAL prepayments from the Cost Group's assets when determining the employer's proportionate share of the NPL for the Cost Group. It also excludes the NPLs for the three withdrawn employers.
- c. Subtract from the adjusted NPL the outstanding balance of the proceeds from any Pension Obligation Bonds and any UAAL prepayments for those employers in each Cost Group that are subject to these adjustments.
- d. If the employer is in several Cost Groups, the employer's total allocated NPL is the sum of its allocated NPL from each Cost Group.

¹ Diablo Water District is the only employer with an increase in pension expense from \$127,000 to \$224,000 due to a new \$113,000 in charge from an experience loss (from mortality less than expected and payment form change for one retiree from life annuity to 60% continuance).

Section 1: Actuarial Valuation Summary

Proportionate share of total plan NPL is then the ratio of the employer's total allocated NPL to the total NPL of all employers. The NPL allocation can be found in *Section 2, Determination of Proportionate Share* on page 24.

7. On July 30, 2020, the California Supreme Court issued a decision in the case of Alameda County Deputy Sheriffs' Association et al. v. Alameda County Employees' Retirement Association (ACERA) and Board of Retirement of ACERA. That decision has important implications for CCCERA and its members, In particular, the decision requires pension systems like CCCERA to exclude certain pay items from a legacy member's compensation earnable. While the CCCERA Board of Retirement has deliberated on what actions to take to comply with AB197 and the Alameda decision, a final decision has not been made as of the date of this report. It should be noted that neither the December 31, 2020 assets provided by CCCERA nor the liabilities we calculated using the membership data provided by CCCERA reflect the financial impact of the California Supreme Court decision.
8. It is important to note that this actuarial valuation is based on plan assets as of December 31, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after December 31, 2020. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Section 1: Actuarial Valuation Summary

9. The following table contains a summary with the names for all active participating employers in CCCERA. Also shown are the employer name abbreviations and employer numbers that are used throughout the rest of this report.

Summary of Active Participating Employers within CCCERA

#	Employer Name	Abbreviation
1	Bethel Island Municipal Improvement District	1 - BIMID
2	Byron-Brentwood-Knightsen Union Cemetery District	2 - Union Cemetery
3	Contra Costa Mosquito & Vector Control District	3 - CC Mosquito
4	Contra Costa County Fire Protection District	4 - CCCFPD
5	Central Contra Costa Sanitary District	5 - CCCSD
6	First 5 CC Children & Families Commission	6 - First 5
7	Contra Costa County	7 - County
8	Contra Costa County Employees' Retirement Association	8 - CCCERA (the employer)
9	East Contra Costa Fire Protection District	9 - ECCFPD
10	Contra Costa Housing Authority	10 - Housing Authority
11	In-Home Supportive Services Authority	11 - IHSS
12	Contra Costa Local Agency Formation Commission	12 - LAFCO
13	Moraga-Orinda Fire Protection District	13 - MOFD
14	Rodeo Sanitary District	14 - Rodeo SD
15	Rodeo-Hercules Fire Protection District	15 - RHFD
16	San Ramon Valley Fire Protection District	16 - SRVFPD
17	Contra Costa Superior Court	17 - Court
18	Delta Diablo Sanitation District (Withdrawn Employer)	18 - DDSD (Withdrawn)
19	Diablo Water District (Withdrawn Employer)	19 - DWD (Withdrawn)
20	City of Pittsburg (Withdrawn Employer)	20 - Pittsburg (Withdrawn)

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

Reporting Date for Employer under GAS 68 ¹		June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68		December 31, 2020	December 31, 2019
Disclosure Elements for	• Service Cost ²	\$238,568,857	\$231,469,293
Plan Year Ending	• Total Pension Liability	10,531,687,786	10,121,098,471
December 31:	• Plan Fiduciary Net Position	10,070,237,862	9,257,012,679
	• Net Pension Liability	461,449,924	864,085,792
	• Pension expense	95,461,948	278,978,389
Schedule of Contributions	• Actuarially determined contributions ³	\$336,066,723	\$326,716,796
for Plan Year Ending	• Actual contributions ³	336,066,723	326,716,796
December 31:	• Contribution deficiency / (excess)	0	0
Demographic Data for Plan	• Number of retired members and beneficiaries	10,018	9,737
Year Ending December 31:⁴	• Number of inactive vested members ⁵	3,591	3,638
	• Number of active members	10,099	10,075
Key Assumptions as of	• Investment rate of return	7.00%	7.00%
December 31:	• Inflation rate	2.75%	2.75%
	• Projected salary increases ⁶	General: 3.75% to 15.25% Safety: 4.25% to 16.25%	General: 3.75% to 15.25% Safety: 4.25% to 16.25%

¹ The reporting date and measurement date for the plan are December 31, 2020 and December 31, 2019.

² Excludes administrative expense load. The service cost is based on the previous year's valuation, meaning the December 31, 2020 and December 31, 2019 measurement date values are based on the valuations as of December 31, 2019 and December 31, 2018, respectively. Both service costs have been calculated using the assumptions shown in the December 31, 2019 column as there had been no changes in the actuarial assumptions between the December 31, 2018 and December 31, 2019 valuations.

³ See footnote (1) under *Schedule of Employer Contributions* on page 21.

⁴ Data as of December 31, 2019 is used in the measurement of the TPL as of December 31, 2020.

⁵ Includes 2,039 inactive non-vested members with member contributions on deposit as of December 31, 2020 and 1,978 as of December 31, 2019.

⁶ For December 31, 2020 and December 31, 2019 measurement dates, includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service.

Section 1: Actuarial Valuation Summary

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of Benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
Participant Data	An actuarial valuation for a plan is based on data provided to the actuary by CCCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	This valuation is based on the fair value of assets as of the measurement date, as provided by CCCERA.
Actuarial Assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments (if any). The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets or, if there are no assets, a rate of return based on a yield or index rate of 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

If CCCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of CCCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to CCCERA.

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General Information About the Pension Plan

Plan Description

Plan Administration. The Contra Costa County Employees' Retirement Association (CCCERA) was established by the County of Contra Costa in 1945. CCCERA is governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et seq.), the California Public Employees' Pension Reform Act of 2013 (PEPRA), and the regulations, procedures, and policies adopted by CCCERA's Board of Retirement. CCCERA is a cost-sharing multiple employer public employee retirement association whose main function is to provide service retirement, disability, death and survivor benefits to the General and Safety members employed by the County of Contra Costa. CCCERA also provides retirement benefits to the employee members for 16 other participating agencies which are members of CCCERA.

The management of CCCERA is vested with the CCCERA Board of Retirement. The Board consists of twelve trustees. Of the twelve members, three are alternates. Four trustees are appointed by the County Board of Supervisors; four trustees (including the Safety alternate) are elected by CCCERA's active members; two trustees (including one alternate) are elected by the retired membership. Board members serve three-year terms, with the exception of the County Treasurer who is elected by the general public and serves during his tenure in office.

Plan Membership. At December 31, 2020, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	10,018
Inactive vested members entitled to but not yet receiving benefits ¹	3,591
Active members	<u>10,099</u>
Total	23,708

Note: Data as of December 31, 2020 is not used in the measurement of the TPL as of December 31, 2020.

Benefits Provided. CCCERA provides service retirement, disability, death and survivor benefits to eligible employees. All regular full-time employees of the County of Contra Costa or participating agencies become members of CCCERA effective on the first day of the first full pay period after employment. Part-time employees in permanent positions must work at least 20 hours a week in order to be a member of CCCERA. There are separate retirement plans for General and Safety members. Safety membership is extended

¹ Includes 2,039 inactive non-vested members with member contributions on deposit as of December 31, 2020.

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to those involved in active law enforcement, fire suppression, and certain other “Safety” classifications. There are currently five tiers applicable to Safety members. Safety members with membership dates before January 1, 2013 are included in Tier A (Enhanced and Non-Enhanced). County Sheriff’s Department Safety members hired on or after January 1, 2007, but before January 1, 2013 are placed in Safety Tier C Enhanced. Any new Safety Member who becomes a member on or after January 1, 2013 is designated PEPRA Safety Tier D or E (Safety members from certain bargaining units) and is subject to the provisions of California Government Code 7522 et seq.

All other employees are classified as General members. There are currently eight tiers applicable to General members. General Tier 1 (Enhanced and Non-Enhanced) includes general members hired before July 1, 1980 and electing not to transfer to Tier 2 Plan. In addition, certain General members with membership dates before January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 1. General Tier 2 includes most General members hired on or after August 1, 1980 and all General members hired before July 1, 1980 electing to transfer to the Tier 2 Plan. Effective October 1, 2002, for the County, Tier 2 was eliminated and all County employees (excluding CNA employees) in Tier 2 were placed in Tier 3 (Enhanced and Non-Enhanced). Effective January 1, 2005, all CNA employees in Tier 2 were placed in Tier 3. New General Members who become a member on or after January 1, 2013 are designated as PEPRA General Tier 4 (hired by specific employers who did not adopt Tier 2) and Tier 5 (with 2%/3% maximum COLAs) and are subject to the provisions of California Government Code 7522 et. seq.

General members hired prior to January 1, 2013, are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. General members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 70 regardless of service or at age 52, and have acquired five years of retirement service credit.

Safety members hired prior to January 1, 2013, are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age. Safety members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 70 regardless of service or at age 50, and have acquired five years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

General Tier 1 and Tier 3 benefits are calculated pursuant to the provisions of Sections §31676.11 and §31676.16 for Non-Enhanced and Enhanced benefit formulae, respectively. The monthly allowance is equal to 1/60th (Non-Enhanced) and 1/50th (Enhanced) of final compensation times years of accrued retirement service credit times age factor from either section §31676.11 (Non-Enhanced) or §31676.16 (Enhanced). Note that for members previously covered under the Non-Enhanced formula (§31676.11), they are entitled to at least the benefits they could have received under the Non-Enhanced formula (§31676.11). General Tier 2 benefit is calculated pursuant to the provisions of Sections §31752. General member benefits for those with membership dates on or after

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January 1, 2013 (PEPRA General Tier 4 and Tier 5) are calculated pursuant to the provisions found in California Government Code Section §7522.20(a). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section §7522.20(a).

Safety member benefits are calculated pursuant to the provisions of California Government Code Sections §31664 and §31664.1 for Non-Enhanced and Enhanced formulae, respectively. The monthly allowance is equal to 1/50th (or 2%) of final compensation times years of accrued retirement service credit times age factor from Section §31664 (Non-Enhanced) or 3% of final compensation times years of accrued retirement service credit times age factor from §31664.1 (Enhanced). For those Safety member with membership dates on or after January 1, 2013 (PEPRA Safety Tier D and Tier E) benefits are calculated pursuant to the provisions found in California Government Code Section §7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement service credit multiplied by the age factor from Section §7522.25(d).

For members with membership dates before January 1, 2013, the maximum monthly retirement allowance is 100% of final compensation. There is no final compensation limit on the maximum retirement benefit for members with membership dates on or after January 1, 2013. However, the maximum amount of compensation earnable that can be taken into account for 2020 for members with membership dates on or after January 1, 1996 but before January 1, 2013 is \$285,000. For members with membership dates on or after January 1, 2013 the maximum amount of pensionable compensation that can be taken into account for 2020 is equal to \$126,291 for those enrolled in Social Security (\$151,549 for those not enrolled in Social Security). These limits are adjusted on an annual basis. Members are exempt from paying member contributions and employers are exempt from paying employer contributions on compensation in excess of the annual cap.

Final average compensation consists of the highest 12 consecutive months for General Tier 1, General Tier 3 (non-disability) and Safety Tier A members and the highest 36 consecutive months for General Tier 2, General Tier 3 (disability), PEPRA General Tier 4, PEPRA General Tier 5, Safety Tier C, PEPRA Safety Tier D and PEPRA Safety Tier E members.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date or at least two years prior to the date of death and has attained age 55 on or prior to the date of death. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member.

CCCERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the San Francisco-Oakland-Hayward Area, is capped at 3.0% for General Tier 1, General Tier 3 (non-disability benefits), PEPRA General Tier 4-3%, PEPRA General Tier 5-3% (non-disability benefits), Safety Tier A and PEPRA Safety Tier D. The cost-of-

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living adjustment is capped at 4.0% for General Tier 3 (disability benefits), General Tier 2 and PEPRA General Tier 5-3% (disability benefits). The cost-of-living adjustment is capped at 2.0% for General Tier 4-2%, General Tier 5-2%, Safety Tier C and PEPRA Safety Tier E.

The County of Contra Costa and participating agencies contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from CCCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of December 31, 2020 for the fiscal year beginning July 1, 2020 (based on the December 31, 2018 valuation) was 35.73% of compensation.

Members are required to make contributions to CCCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of December 31, 2020 for the fiscal year beginning July 1, 2020 (based on the December 31, 2018 valuation) was 11.97% of compensation.

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Net Pension Liability

The components of the Net Pension Liability were as follows:

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
Total Pension Liability	\$10,531,687,786	\$10,121,098,471
Plan Fiduciary Net Position	<u>(10,070,237,862)</u>	<u>(9,257,012,679)</u>
Net Pension Liability	\$461,449,924	\$864,085,792
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	95.62%	91.46%

The Net Pension Liability (NPL) was measured as of December 31, 2020 and December 31, 2019. The Plan Fiduciary Net Position (plan assets) was valued as of the measurement dates and the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of December 31, 2019 and December 31, 2018, respectively.

Plan Provisions. The plan provisions used in the measurement of the NPL as of December 31, 2020 and December 31, 2019 are the same as those used in the CCCERA actuarial valuations as of December 31, 2020 and December 31, 2019, respectively. The TPL and the Plan Fiduciary Net Position include liabilities and assets held for the Post Retirement Death Benefit Reserve.

Actuarial Assumptions. The TPLs as of December 31, 2020 and December 31, 2019 that were measured by actuarial valuations as of December 31, 2019 and December 31, 2018, respectively, used the following actuarial assumptions, which were based on the results of an experience study for the period from January 1, 2015 through December 31, 2017, applied to all periods included in the measurement. They are the same actuarial assumptions as those used for the December 31, 2020 funding actuarial valuation and the December 31, 2019 funding actuarial valuation. The TPL determined as of December 31, 2020 also included a refinement to the Entry Age actuarial cost method calculation for active reciprocal members and was based on a recommendation made in the December 31, 2018 actuarial audit.

Inflation:	2.75%
Salary Increases:	General: 3.75% to 15.25% and Safety: 4.25% to 16.25%, varying by service, including inflation.
Investment Rate of Return:	7.00%, net of pension plan investment expense, including inflation.
Administrative Expenses for December 31, 2020 Valuation:	1.14% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member.
Administrative Expenses for December 31, 2019 Valuation:	1.14% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member.
Other Assumptions:	See analysis of actuarial experience during the period January 1, 2015 through December 31, 2017.

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Determination of Discount Rate and Investment Rates of Return

The long-term expected rate of return on pension plan investments was determined in 2019 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation but before deducting investment expenses are shown in the following table. This information was used in the derivation of the long-term expected investment rate of return assumption for the December 31, 2020 and December 31, 2019 actuarial valuations. This information will be subject to change every three years based on the results of an actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap US Equity	5.00%	5.44%
Developed International Equity	13.00%	6.54%
Emerging Market Equity	11.00%	8.73%
Short-Term Gov't/Credit	23.00%	0.84%
US Treasury	3.00%	1.05%
Private Equity	8.00%	9.27%
Risk Diversifying	7.00%	3.53%
Global Infrastructure	3.00%	7.90%
Private Credit	12.00%	5.80%
REIT	1.00%	6.80%
Value Add Real Estate	5.00%	8.80%
Opportunistic Real Estate	4.00%	12.00%
Risk Parity	<u>5.00%</u>	<u>5.80%</u>
Total	100.00%	5.51%

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Discount Rate. The discount rate used to measure the TPL was 7.00% as of December 31, 2020 and December 31, 2019. The projection of cash flows used to determine the discount rate assumed employer and employee contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer and employee contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both December 31, 2020 and December 31, 2019.

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Discount Rate Sensitivity

Sensitivity of the Net Pension Liability to Changes in the Discount Rate. The following presents the NPL of CCCERA as of December 31, 2020, calculated using the discount rate of 7.00%, as well as what CCCERA's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate.

Employer	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
1 - BIMID	\$462,336	\$120,135	\$(160,194)
2 - Union Cemetery	(86,727)	(281,020)	(440,183)
3 - CC Mosquito	5,164,219	1,341,891	(1,789,332)
4 - CCCFPD	234,519,903	85,582,923	(36,425,170)
5 - CCCSD	108,606,076	48,886,895	(34,625)
6 - First 5	3,113,241	487,008	(1,664,383)
7 - County	1,276,346,666	255,540,783	(580,695,988)
8 - CCCERA (the employer)	8,742,890	2,271,787	(3,029,294)
9 - ECCFPD	9,878,036	2,070,171	(4,325,975)
10 - Housing Authority	12,637,628	3,458,981	(4,060,100)
11 - IHSS	1,441,993	374,693	(499,632)
12 - LAFCO	180,330	(21,991)	(187,731)
13 - MOFD	51,099,188	22,360,799	(1,181,481)
14 - Rodeo SD	(325,544)	(1,054,861)	(1,652,312)
15 - RHFD	13,147,970	6,595,503	1,227,770
16 - SRVFPD	91,831,960	23,045,406	(33,304,040)
17 - Court	32,848,385	5,268,930	(17,323,960)
18 - DDSD (Withdrawn)	1,671,283	16,641	(1,338,830)
19 - DWD (Withdrawn)	1,745,383	1,371,069	1,064,434
20 - Pittsburg (Withdrawn)	10,187,118	4,014,181	(1,042,644)
Total for all Employers	\$1,863,212,334	\$461,449,924	\$(686,863,670)

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Schedule of Changes in Net Pension Liability

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
Total Pension Liability		
• Service Cost	\$238,568,857	\$231,469,293
• Interest	707,426,996	678,035,229
• Change of benefit terms	0	0
• Differences between expected and actual experience	(10,633,575)	119,868,899
• Changes of assumptions or other inputs ¹	(17,638,207)	0
• Benefit payments, including refunds of member contributions	(507,134,756)	(486,304,887)
• Other	0	0
Net change in Total Pension Liability	\$410,589,315	\$543,068,534
Total Pension Liability – beginning	<u>10,121,098,471</u>	<u>9,578,029,937</u>
Total Pension Liability – ending	\$10,531,687,786	\$10,121,098,471
Plan Fiduciary Net Position		
• Contributions – employer ²	\$336,356,723	\$327,982,796
• Contributions – member ²	113,494,191	108,487,711
• Net investment income ³	882,394,059	1,168,171,585
• Benefit payments, including refunds of member contributions	(507,134,756)	(486,304,887)
• Administrative expense	(10,749,625)	(10,200,473)
• Other expenses	(1,135,409)	(1,109,846)
Net change in Plan Fiduciary Net Position	\$813,225,183	\$1,107,026,886
Plan Fiduciary Net Position – beginning	<u>9,257,012,679</u>	<u>8,149,985,793</u>
Plan Fiduciary Net Position – ending	\$10,070,237,862	\$9,257,012,679
Net Pension Liability – ending	\$461,449,924	\$864,085,792
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	95.62%	91.46%
Covered payroll ⁴	\$943,422,017	\$892,379,335
Net Pension Liability as percentage of covered payroll	48.91%	96.83%

¹ For the December 31, 2020 measurement date, this is due to a refinement to the Entry Age actuarial cost method calculation of the TPL for active reciprocal members.

² See footnote (1) under *Schedule of Employer Contributions* on page 21.

³ Includes Contribution Prepayment Discount.

⁴ Covered payroll represents payroll on which contributions to the pension plan are based.

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Schedule of Employer Contributions

Year Ended December 31	Actuarially Determined Contributions ¹	Contributions in Relation to the Actuarially Determined Contributions ¹	Contribution Deficiency / (Excess)	Covered Payroll ²	Contributions as a Percentage of Covered Payroll
2011	\$200,388,994	\$200,388,994	\$0	\$687,443,206	29.15%
2012	212,321,325	212,321,325	0	666,394,146	31.86%
2013	228,017,452	228,017,452 ³	0	638,635,912	35.70%
2014	288,760,413	288,760,413 ⁴	0	671,485,798	43.00%
2015	321,220,270	321,220,270 ⁵	0	709,818,858	45.25%
2016	307,909,509	307,909,509	0	755,138,882	40.78%
2017	314,512,561	314,512,561 ⁶	0	809,960,088	38.83%
2018	324,863,103	324,863,103 ⁷	0	850,929,106	38.18%
2019	326,716,796	326,716,796 ⁸	0	892,379,335	36.61%
2020	336,066,723	336,066,723 ⁹	0	943,422,017	35.62%

See accompanying notes to this schedule on the next page.

¹ Starting with the year ended December 31, 2016, includes “member subvention of employer contributions” and excludes “employer subvention of member contributions”. Prior to that year, the contributions excluded “member subvention of employer contributions” and included “employer subvention of member contributions”.

² Covered payroll represents payroll on which contributions to the pension plan are based.

³ Excludes additional contributions towards UAAL of \$7,000,000.

⁴ Excludes additional contributions towards UAAL of \$5,000,000.

⁵ Excludes additional contributions towards UAAL of \$2,500,000.

⁶ Excludes additional contributions towards UAAL of \$324,000.

⁷ Excludes additional contributions towards UAAL of \$254,000.

⁸ Excludes additional contributions towards UAAL of \$1,266,000.

⁹ Excludes additional contributions towards UAAL of \$290,000.

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Notes to Schedule:

Methods and assumptions used to establish “actuarially determined contribution” rates:

Valuation Date:	Actuarially determined contribution rates are calculated as of December 31, two and a half years prior to the end of the fiscal year in which contributions are reported
Actuarial Cost Method:	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll
Remaining Amortization Period:	<p>Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 4 years remaining as of December 31, 2018 and 5 years remaining as of December 31, 2017.</p> <p>Any changes in UAAL after December 31, 2007 will be separately amortized over a fixed 18-year period effective with that valuation.</p> <p>Effective December 31, 2013, any changes in UAAL due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 10-year fixed period effective with that valuation. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive.</p>
Asset Valuation Method:	Market value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.

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Actuarial Assumptions used in Developing the Actuarially Determined Contribution Rate for 2020:

Valuation Date:	December 31, 2018 Valuation Date ¹	December 31, 2017 Valuation Date ¹
Investment Rate of Return:	7.00%, net of pension plan investment expenses, including inflation	7.00%, net of pension plan investment expenses, including inflation
Inflation Rate:	2.75%	2.75%
Administrative Expenses:	1.10% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member.	1.13% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member.
Real Across-the-Board Salary Increase:	0.50%	0.50%
Projected Salary Increases:²	General: 3.75% to 15.25% and Safety: 4.25% to 16.25%	General: 4.00% to 13.25% and Safety: 4.00% to 13.75%
Cost-of-Living Adjustments:	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA) benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in CPI.	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA) benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in CPI.
Other Assumptions:	Same as those used in the December 31, 2018 funding actuarial valuation	Same as those used in the December 31, 2017 funding actuarial valuation

¹ Actuarially determined contribution rates for the first six months of calendar year 2020 (or the second half of fiscal year 2019-2020) are calculated based on the December 31, 2017 valuation. Actuarially determined contribution rates for the last six months of calendar year 2020 (or the first half of fiscal year 2020-2021) are calculated based on the December 31, 2018 valuation.

² For December 31, 2018 and December 31, 2017 valuation dates, includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service.

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Determination of Proportionate Share

Actual Compensation by Employer and Cost Group
January 1, 2020 to December 31, 2020

Employer	Cost Groups #1 & 2	Cost Groups #1 & 2 Percentage	Cost Group #3	Cost Group #3 Percentage	Cost Group #4	Cost Group #4 Percentage
1 - BIMID	\$312,551	0.044%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	3,491,144	0.491%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	37,131,965	100.000%	0	0.000%
6 - First 5	2,398,684	0.338%	0	0.000%	0	0.000%
7 - County	666,318,173	93.805%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	5,910,418	0.832%	0	0.000%	0	0.000%
9 - ECCFPD	331,406	0.047%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	5,906,312	100.000%
11 - IHSS	974,825	0.137%	0	0.000%	0	0.000%
12 - LAFCO	184,791	0.026%	0	0.000%	0	0.000%
13 - MOFD	908,694	0.128%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	87,882	0.012%	0	0.000%	0	0.000%
16 - SRVFPD	4,221,264	0.594%	0	0.000%	0	0.000%
17 - Court	25,189,849	3.546%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$710,329,682	100.000%	\$37,131,965	100.000%	\$5,906,312	100.000%

Note: Results may not add due to rounding.

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Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group (continued)
January 1, 2020 to December 31, 2020

Employer	Cost Group #5	Cost Group #5 Percentage	Cost Group #6	Cost Group #6 Percentage	Cost Groups #7 & 9	Cost Groups #7 & 9 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	196,739	21.036%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	6,699,018	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	103,171,303	100.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	738,498	78.964%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$6,699,018	100.000%	\$935,238	100.000%	\$103,171,303	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group (continued)
January 1, 2020 to December 31, 2020

Employer	Cost Group #8	Cost Group #8 Percentage	Cost Group #10	Cost Group #10 Percentage	Cost Group #11	Cost Group #11 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	42,457,519	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	8,268,638	100.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	22,197,256	100.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$42,457,519	100.000%	\$8,268,638	100.000%	\$22,197,256	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group (continued)
January 1, 2020 to December 31, 2020

Employer	Cost Group #12	Cost Group #12 Percentage	Cost Group #13	Cost Group #13 Percentage	Total Compensation	Total Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$312,551	0.033%
2 - Union Cemetery	0	0.000%	0	0.000%	196,739	0.021%
3 - CC Mosquito	0	0.000%	0	0.000%	3,491,144	0.370%
4 - CCCFPD	0	0.000%	0	0.000%	49,156,538	5.210%
5 - CCCSD	0	0.000%	0	0.000%	37,131,965	3.936%
6 - First 5	0	0.000%	0	0.000%	2,398,684	0.254%
7 - County	0	0.000%	0	0.000%	769,489,476	81.565%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	5,910,418	0.626%
9 - ECCFPD	0	0.000%	3,913,797	100.000%	4,245,203	0.450%
10 - Housing Authority	0	0.000%	0	0.000%	5,906,312	0.626%
11 - IHSS	0	0.000%	0	0.000%	974,825	0.103%
12 - LAFCO	0	0.000%	0	0.000%	184,791	0.020%
13 - MOFD	0	0.000%	0	0.000%	9,177,332	0.973%
14 - Rodeo SD	0	0.000%	0	0.000%	738,498	0.078%
15 - RHFD	2,411,289	100.000%	0	0.000%	2,499,171	0.265%
16 - SRVFPD	0	0.000%	0	0.000%	26,418,520	2.800%
17 - Court	0	0.000%	0	0.000%	25,189,849	2.670%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$2,411,289	100.000%	\$3,913,797	100.000%	\$943,422,017	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2020 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers

Employer	Cost Groups #1 & 2	Cost Groups #1 & 2 Percentage	Cost Group #3	Cost Group #3 Percentage	Cost Group #4	Cost Group #4 Percentage
1 - BIMID	\$120,135	0.044%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	1,341,891	0.491%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	48,886,895	100.000%	0	0.000%
6 - First 5	921,982	0.338%	0	0.000%	0	0.000%
7 - County	256,112,634	93.805%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	2,271,787	0.832%	0	0.000%	0	0.000%
9 - ECCFPD	127,382	0.047%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	3,458,981	100.000%
11 - IHSS	374,693	0.137%	0	0.000%	0	0.000%
12 - LAFCO	71,028	0.026%	0	0.000%	0	0.000%
13 - MOFD	349,274	0.128%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	33,779	0.012%	0	0.000%	0	0.000%
16 - SRVFPD	1,622,527	0.594%	0	0.000%	0	0.000%
17 - Court	9,682,219	3.546%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$273,029,331	100.000%	\$48,886,895	100.000%	\$3,458,981	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2020 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #5	Cost Group #5 Percentage	Cost Group #6	Cost Group #6 Percentage	Cost Groups #7 & 9	Cost Groups #7 & 9 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	(281,020)	21.036%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	8,365,200	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	116,167,814	100.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	(1,054,861)	78.964%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$8,365,200	100.000%	\$(1,335,881)	100.000%	\$116,167,814	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2020 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #8	Cost Group #8 Percentage	Cost Group #10	Cost Group #10 Percentage	Cost Group #11	Cost Group #11 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	77,217,723	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	22,198,712	100.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	21,422,879	100.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$77,217,723	100.000%	\$22,198,712	100.000%	\$21,422,879	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2020 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #12	Cost Group #12 Percentage	Cost Group #13	Cost Group #13 Percentage	Withdrawn Employers	Withdrawn Employers Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	1,942,789	100.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	6,561,724	100.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn) ¹	0	0.000%	0	0.000%	16,641	0.308%
19 - DWD (Withdrawn) ¹	0	0.000%	0	0.000%	1,371,069	25.381%
20 - Pittsburg (Withdrawn) ¹	0	0.000%	0	0.000%	4,014,181	74.311%
Total	\$6,561,724	100.000%	\$1,942,789	100.000%	\$5,401,891	100.000%

Note: Results may not add due to rounding.

¹ The NPLs for the three withdrawn employers are determined based on the Plan's Fiduciary Net Positions from the December 31, 2020 bookkeeping account letters and the TPLs obtained from internal valuation results (by rolling forward their TPLs from December 31, 2019).

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2020 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Total NPL	Total Percentage
1 - BIMID	\$120,135	0.021%
2 - Union Cemetery	(281,020)	(0.048%)
3 - CC Mosquito	1,341,891	0.230%
4 - CCCFPD	85,582,923	14.672%
5 - CCCSD	48,886,895	8.381%
6 - First 5	921,982	0.158%
7 - County	372,280,448	63.821%
8 - CCCERA (the Employer)	2,271,787	0.389%
9 - ECCFPD	2,070,171	0.355%
10 - Housing Authority	3,458,981	0.593%
11 - IHSS	374,693	0.064%
12 - LAFCO	71,028	0.012%
13 - MOFD	22,547,986	3.865%
14 - Rodeo SD	(1,054,861)	(0.181%)
15 - RHFD	6,595,503	1.131%
16 - SRVFPD	23,045,406	3.951%
17 - Court	9,682,219	1.660%
18 - DDS (Withdrawn)	16,641	0.003%
19 - DWD (Withdrawn)	1,371,069	0.235%
20 - Pittsburg (Withdrawn)	4,014,181	0.688%
Total	\$583,318,058	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2020 Net Pension Liability (NPL)
Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers

Employer	Cost Groups #1 & 2	Cost Groups #1 & 2 Percentage	Cost Group #3	Cost Group #3 Percentage	Cost Group #4	Cost Group #4 Percentage
1 - BIMID	\$120,135	0.079%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	1,341,891	0.888%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	48,886,895	100.000%	0	0.000%
6 - First 5	487,008	0.322%	0	0.000%	0	0.000%
7 - County	139,372,969	92.203%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	2,271,787	1.503%	0	0.000%	0	0.000%
9 - ECCFPD	127,382	0.084%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	3,458,981	100.000%
11 - IHSS	374,693	0.248%	0	0.000%	0	0.000%
12 - LAFCO	(21,991)	(0.015%)	0	0.000%	0	0.000%
13 - MOFD	162,087	0.107%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	33,779	0.022%	0	0.000%	0	0.000%
16 - SRVFPD	1,622,527	1.073%	0	0.000%	0	0.000%
17 - Court	5,268,930	3.486%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$151,161,197	100.000%	\$48,886,895	100.000%	\$3,458,981	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2020 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #5	Cost Group #5 Percentage	Cost Group #6	Cost Group #6 Percentage	Cost Groups #7 & 9	Cost Groups #7 & 9 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	(281,020)	21.036%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	8,365,200	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	116,167,814	100.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	(1,054,861)	78.964%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$8,365,200	100.000%	\$(1,335,881)	100.000%	\$116,167,814	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2020 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #8	Cost Group #8 Percentage	Cost Group #10	Cost Group #10 Percentage	Cost Group #11	Cost Group #11 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	77,217,723	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	22,198,712	100.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	21,422,879	100.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$77,217,723	100.000%	\$22,198,712	100.000%	\$21,422,879	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2020 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #12	Cost Group #12 Percentage	Cost Group #13	Cost Group #13 Percentage	Withdrawn Employers	Withdrawn Employers Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	1,942,789	100.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	6,561,724	100.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn) ¹	0	0.000%	0	0.000%	16,641	0.308%
19 - DWD (Withdrawn) ¹	0	0.000%	0	0.000%	1,371,069	25.381%
20 - Pittsburg (Withdrawn) ¹	0	0.000%	0	0.000%	4,014,181	74.311%
Total	\$6,561,724	100.000%	\$1,942,789	100.000%	\$5,401,891	100.000%

Note: Results may not add due to rounding.

¹ The NPLs for the three withdrawn employers are determined based on the Plan's Fiduciary Net Positions from the December 31, 2020 bookkeeping account letters and the TPLs obtained from internal valuation results (by rolling forward their TPLs from December 31, 2019).

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2020 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Total NPL	Total Percentage	Total Percentage Excluding Withdrawn Employers ¹
1 - BIMID	\$120,135	0.026%	0.026%
2 - Union Cemetery	(281,020)	(0.061%)	(0.062%)
3 - CC Mosquito	1,341,891	0.291%	0.294%
4 - CCCFPD	85,582,923	18.547%	18.766%
5 - CCCSD	48,886,895	10.594%	10.720%
6 - First 5	487,008	0.106%	0.107%
7 - County	255,540,783	55.377%	56.036%
8 - CCCERA (the Employer)	2,271,787	0.492%	0.498%
9 - ECCFPD	2,070,171	0.449%	0.454%
10 - Housing Authority	3,458,981	0.750%	0.758%
11 - IHSS	374,693	0.081%	0.082%
12 - LAFCO	(21,991)	(0.005%)	(0.005%)
13 - MOFD	22,360,799	4.846%	4.903%
14 - Rodeo SD	(1,054,861)	(0.229%)	(0.231%)
15 - RHFD	6,595,503	1.429%	1.446%
16 - SRVFPD	23,045,406	4.994%	5.053%
17 - Court	5,268,930	1.142%	1.155%
18 - DDSD (Withdrawn)	16,641	0.004%	N/A
19 - DWD (Withdrawn)	1,371,069	0.297%	N/A
20 - Pittsburg (Withdrawn)	4,014,181	0.870%	N/A
Total	\$461,449,924	100.000%	100.000%

Note: Results may not add due to rounding.

¹ For informational purposes; these percentages show the allocation of the NPL for employers excluding withdrawn employers.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Notes Regarding Determination of Proportionate Share as of December 31, 2020 Measurement Date

1. Based on actual January 1, 2020 through December 31, 2020 compensation information that was provided by CCCERA.
2. The Net Pension Liability (NPL) for each Cost Group is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position (plan assets). The TPL for each Cost Group is obtained from internal valuation results based on the actual participants in each Cost Group. The Plan's Fiduciary Net Position for each Cost Group was determined by adjusting the Valuation Value of Assets (VVA) for each Cost Group (which is used to determine employer contribution rates) by the ratio of the total CCCERA Plan's Fiduciary Net Position (excluding the withdrawn employers' assets and the Post Retirement Death Benefit reserve) to total CCCERA VVA (excluding the withdrawn employers' VVA). The Post Retirement Death Benefit reserve is allocated to Cost Groups #1 and #2. The liability for the post-retirement death benefit up to the amount in the Post Retirement Death Benefit reserve is also allocated to Cost Groups #1 and #2.
3. For withdrawn employers, the TPL is obtained from internal valuation results for each employer. The Plan's Fiduciary Net Position for each withdrawn employer has been set equal to the amount in their respective bookkeeping account. The NPL is then determined separately for each withdrawn employer.
4. For Cost Groups that have one employer, all of the NPL for that Cost Group is allocated to the corresponding employer. The NPL has already been reduced by any proceeds from Pension Obligation Bonds and any UAAL prepayments.
5. For Cost Groups that have multiple employers, the NPL is allocated based on the actual compensation within the Cost Group.
 - a. Calculate ratio of employer's compensation to the total compensation for the Cost Group.
 - b. Multiply this ratio by an "adjusted" NPL. This adjusted NPL is larger than the actual NPL as it excludes proceeds from Pension Obligation Bonds and any Unfunded Actuarial Accrued Liability (UAAL) prepayments from the Cost Group's assets when determining the employer's proportionate share of the NPL for the Cost Group. It also excludes the NPLs for the three withdrawn employers. The allocation of the adjusted NPL is shown above in PART ONE of the Determination of Proportionate Share Schedule.
 - c. The amounts of the proceeds from Pension Obligation Bonds and UAAL prepayments as of December 31, 2020 allocated to those employers within each Cost Group are as follows:

Cost Group #1: County	\$116,739,665	Cost Group #1: LAFCO	\$93,019
Cost Group #1: Court	\$4,413,289	Cost Group #1: First 5	\$434,974
Cost Group #1: MOFD	\$187,187		

Note that the proceeds from Pension Obligation Bonds for Contra Costa County and the Superior Court as of December 31, 2020 (total of \$121,152,954) were allocated proportionally based on the compensation information.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Notes Regarding Determination of Proportionate Share as of December 31, 2020 Measurement Date (continued)

- d. Subtract from the adjusted NPL in PART ONE the outstanding balance of the proceeds from any Pension Obligation Bonds and any UAAL prepayments for those employers in each Cost Group that are subject to these adjustments. The resulting actual NPL is shown in PART TWO of the Determination of Proportionate Share Schedule.
6. If an employer is in several Cost Groups, the employer's total allocated NPL is the sum of its allocated NPL from each Cost Group.
7. Cost Group #1 and Cost Group #2 were combined and Cost Group #7 and Cost Group #9 were combined consistent with the determination of the UAAL rate in the annual funding actuarial valuation.

The following items are allocated based on the corresponding employer allocation percentage or proportionate share shown above after excluding the withdrawn employers.

- Net Pension Liability
- Service Cost
- Interest on the Total Pension Liability
- Benefit changes
- Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- Expensed portion of current-period changes of assumptions or other inputs
- Member contributions
- Projected earnings on plan investments
- Expensed portion of current-period differences between actual and projected earnings on plan investments
- Administrative expense
- Other expenses
- Recognition of beginning of year deferred outflows of resources as pension expense
- Recognition of beginning of year deferred inflows of resources as pension expense

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group
January 1, 2019 to December 31, 2019

Employer	Cost Groups #1 & 2	Cost Groups #1 & 2 Percentage	Cost Group #3	Cost Group #3 Percentage	Cost Group #4	Cost Group #4 Percentage
1 - BIMID	\$264,807	0.039%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	3,339,694	0.496%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	36,087,017	100.000%	0	0.000%
6 - First 5	2,511,538	0.373%	0	0.000%	0	0.000%
7 - County	630,341,490	93.656%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	5,384,897	0.800%	0	0.000%	0	0.000%
9 - ECCFPD	216,200	0.032%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	5,607,319	100.000%
11 - IHSS	950,386	0.141%	0	0.000%	0	0.000%
12 - LAFCO	230,702	0.034%	0	0.000%	0	0.000%
13 - MOFD	664,782	0.099%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	72,417	0.011%	0	0.000%	0	0.000%
16 - SRVFPD	3,842,834	0.571%	0	0.000%	0	0.000%
17 - Court	25,222,390	3.748%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$673,042,138	100.000%	\$36,087,017	100.000%	\$5,607,319	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group (continued)
January 1, 2019 to December 31, 2019

Employer	Cost Group #5	Cost Group #5 Percentage	Cost Group #6	Cost Group #6 Percentage	Cost Groups #7 & 9	Cost Groups #7 & 9 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	216,414	22.747%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	5,875,765	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	98,536,139	100.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	734,973	77.253%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$5,875,765	100.000%	\$951,387	100.000%	\$98,536,139	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group (continued)
January 1, 2019 to December 31, 2019

Employer	Cost Group #8	Cost Group #8 Percentage	Cost Group #10	Cost Group #10 Percentage	Cost Group #11	Cost Group #11 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	37,998,385	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	7,652,297	100.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	20,929,094	100.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$37,998,385	100.000%	\$7,652,297	100.000%	\$20,929,094	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Actual Compensation by Employer and Cost Group (continued)
January 1, 2019 to December 31, 2019

Employer	Cost Group #12	Cost Group #12 Percentage	Cost Group #13	Cost Group #13 Percentage	Total Compensation	Total Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$264,807	0.030%
2 - Union Cemetery	0	0.000%	0	0.000%	216,414	0.024%
3 - CC Mosquito	0	0.000%	0	0.000%	3,339,694	0.374%
4 - CCCFPD	0	0.000%	0	0.000%	43,874,150	4.917%
5 - CCCSD	0	0.000%	0	0.000%	36,087,017	4.044%
6 - First 5	0	0.000%	0	0.000%	2,511,538	0.281%
7 - County	0	0.000%	0	0.000%	728,877,628	81.678%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	5,384,897	0.603%
9 - ECCFPD	0	0.000%	3,413,711	100.000%	3,629,911	0.407%
10 - Housing Authority	0	0.000%	0	0.000%	5,607,319	0.628%
11 - IHSS	0	0.000%	0	0.000%	950,386	0.107%
12 - LAFCO	0	0.000%	0	0.000%	230,702	0.026%
13 - MOFD	0	0.000%	0	0.000%	8,317,080	0.932%
14 - Rodeo SD	0	0.000%	0	0.000%	734,973	0.082%
15 - RHFD	2,286,083	100.000%	0	0.000%	2,358,500	0.264%
16 - SRVFPD	0	0.000%	0	0.000%	24,771,927	2.776%
17 - Court	0	0.000%	0	0.000%	25,222,390	2.826%
18 - DDSD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
19 - DWD (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
20 - Pittsburg (Withdrawn)	N/A	N/A	N/A	N/A	N/A	N/A
Total	\$2,286,083	100.000%	\$3,413,711	100.000%	\$892,379,335	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2019 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers

Employer	Cost Groups #1 & 2	Cost Groups #1 & 2 Percentage	Cost Group #3	Cost Group #3 Percentage	Cost Group #4	Cost Group #4 Percentage
1 - BIMID	\$222,616	0.039%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	2,807,582	0.496%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	64,117,450	100.000%	0	0.000%
6 - First 5	2,111,376	0.373%	0	0.000%	0	0.000%
7 - County	529,909,476	93.656%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	4,526,924	0.800%	0	0.000%	0	0.000%
9 - ECCFPD	181,753	0.032%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	6,324,839	100.000%
11 - IHSS	798,961	0.141%	0	0.000%	0	0.000%
12 - LAFCO	193,944	0.034%	0	0.000%	0	0.000%
13 - MOFD	558,863	0.099%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	60,879	0.011%	0	0.000%	0	0.000%
16 - SRVFPD	3,230,557	0.571%	0	0.000%	0	0.000%
17 - Court	21,203,718	3.748%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$565,806,649	100.000%	\$64,117,450	100.000%	\$6,324,839	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2019 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #5	Cost Group #5 Percentage	Cost Group #6	Cost Group #6 Percentage	Cost Groups #7 & 9	Cost Groups #7 & 9 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	(147,526)	22.747%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	9,616,312	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	197,889,614	100.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	(501,019)	77.253%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$9,616,312	100.000%	\$(648,545)	100.000%	\$197,889,614	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2019 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #8	Cost Group #8 Percentage	Cost Group #10	Cost Group #10 Percentage	Cost Group #11	Cost Group #11 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	106,050,662	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	26,442,352	100.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	40,015,914	100.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$106,050,662	100.000%	\$26,442,352	100.000%	\$40,015,914	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2019 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #12	Cost Group #12 Percentage	Cost Group #13	Cost Group #13 Percentage	Withdrawn Employers	Withdrawn Employers Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	5,636,118	100.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	8,963,316	100.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn) ¹	0	0.000%	0	0.000%	1,673,872	21.530%
19 - DWD (Withdrawn) ¹	0	0.000%	0	0.000%	944,895	12.153%
20 - Pittsburg (Withdrawn) ¹	0	0.000%	0	0.000%	5,155,943	66.317%
Total	\$8,963,316	100.000%	\$5,636,118	100.000%	\$7,774,710	100.000%

Note: Results may not add due to rounding.

¹ The NPLs for the three withdrawn employers are determined based on the Plan's Fiduciary Net Positions from the December 31, 2019 bookkeeping account letters and the TPLs obtained from internal valuation results (by rolling forward their TPLs from December 31, 2018).

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART ONE - Allocation of December 31, 2019 Net Pension Liability (NPL)

Excluding Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Total NPL	Total Percentage
1 - BIMID	\$222,616	0.021%
2 - Union Cemetery	(147,526)	(0.014%)
3 - CC Mosquito	2,807,582	0.270%
4 - CCCFPD	115,666,974	11.143%
5 - CCCSD	64,117,450	6.177%
6 - First 5	2,111,376	0.203%
7 - County	727,799,090	70.116%
8 - CCCERA (the Employer)	4,526,924	0.436%
9 - ECCFPD	5,817,871	0.560%
10 - Housing Authority	6,324,839	0.609%
11 - IHSS	798,961	0.077%
12 - LAFCO	193,944	0.019%
13 - MOFD	27,001,215	2.601%
14 - Rodeo SD	(501,019)	(0.048%)
15 - RHFD	9,024,195	0.869%
16 - SRVFPD	43,246,471	4.166%
17 - Court	21,203,718	2.043%
18 - DDS (Withdrawn)	1,673,872	0.161%
19 - DWD (Withdrawn)	944,895	0.091%
20 - Pittsburg (Withdrawn)	5,155,943	0.497%
Total	\$1,037,989,391	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2019 Net Pension Liability (NPL)
Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers

Employer	Cost Groups #1 & 2	Cost Groups #1 & 2 Percentage	Cost Group #3	Cost Group #3 Percentage	Cost Group #4	Cost Group #4 Percentage
1 - BIMID	\$222,616	0.057%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	2,807,582	0.716%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	64,117,450	100.000%	0	0.000%
6 - First 5	1,480,016	0.378%	0	0.000%	0	0.000%
7 - County	363,620,154	92.783%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	4,526,924	1.155%	0	0.000%	0	0.000%
9 - ECCFPD	181,753	0.046%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	6,324,839	100.000%
11 - IHSS	798,961	0.204%	0	0.000%	0	0.000%
12 - LAFCO	132,109	0.034%	0	0.000%	0	0.000%
13 - MOFD	291,657	0.074%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	60,879	0.016%	0	0.000%	0	0.000%
16 - SRVFPD	3,230,557	0.824%	0	0.000%	0	0.000%
17 - Court	14,549,842	3.713%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$391,903,050	100.000%	\$64,117,450	100.000%	\$6,324,839	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2019 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #5	Cost Group #5 Percentage	Cost Group #6	Cost Group #6 Percentage	Cost Groups #7 & 9	Cost Groups #7 & 9 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	(147,526)	22.747%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	9,616,312	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	197,889,614	100.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	(501,019)	77.253%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$9,616,312	100.000%	\$(648,545)	100.000%	\$197,889,614	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2019 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #8	Cost Group #8 Percentage	Cost Group #10	Cost Group #10 Percentage	Cost Group #11	Cost Group #11 Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	106,050,662	100.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	0	0.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	26,442,352	100.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	0	0.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	40,015,914	100.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDS (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
19 - DWD (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
20 - Pittsburg (Withdrawn)	0	0.000%	0	0.000%	0	0.000%
Total	\$106,050,662	100.000%	\$26,442,352	100.000%	\$40,015,914	100.000%

Note: Results may not add due to rounding.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2019 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Cost Group #12	Cost Group #12 Percentage	Cost Group #13	Cost Group #13 Percentage	Withdrawn Employers	Withdrawn Employers Percentage
1 - BIMID	\$0	0.000%	\$0	0.000%	\$0	0.000%
2 - Union Cemetery	0	0.000%	0	0.000%	0	0.000%
3 - CC Mosquito	0	0.000%	0	0.000%	0	0.000%
4 - CCCFPD	0	0.000%	0	0.000%	0	0.000%
5 - CCCSD	0	0.000%	0	0.000%	0	0.000%
6 - First 5	0	0.000%	0	0.000%	0	0.000%
7 - County	0	0.000%	0	0.000%	0	0.000%
8 - CCCERA (the Employer)	0	0.000%	0	0.000%	0	0.000%
9 - ECCFPD	0	0.000%	5,636,118	100.000%	0	0.000%
10 - Housing Authority	0	0.000%	0	0.000%	0	0.000%
11 - IHSS	0	0.000%	0	0.000%	0	0.000%
12 - LAFCO	0	0.000%	0	0.000%	0	0.000%
13 - MOFD	0	0.000%	0	0.000%	0	0.000%
14 - Rodeo SD	0	0.000%	0	0.000%	0	0.000%
15 - RHFD	8,963,316	100.000%	0	0.000%	0	0.000%
16 - SRVFPD	0	0.000%	0	0.000%	0	0.000%
17 - Court	0	0.000%	0	0.000%	0	0.000%
18 - DDSD (Withdrawn) ¹	0	0.000%	0	0.000%	1,673,872	21.530%
19 - DWD (Withdrawn) ¹	0	0.000%	0	0.000%	944,895	12.153%
20 - Pittsburg (Withdrawn) ¹	0	0.000%	0	0.000%	5,155,943	66.317%
Total	\$8,963,316	100.000%	\$5,636,118	100.000%	\$7,774,710	100.000%

Note: Results may not add due to rounding.

¹ The NPLs for the three withdrawn employers are determined based on the Plan's Fiduciary Net Positions from the December 31, 2019 bookkeeping account letters and the TPLs obtained from internal valuation results (by rolling forward their TPLs from December 31, 2018).

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

PART TWO - Allocation of December 31, 2019 Net Pension Liability (NPL)

Including Pension Obligation Bonds (POB) and UAAL Prepayments for Certain Employers (continued)

Employer	Total NPL	Total Percentage	Total Percentage Excluding Withdrawn Employers ¹
1 - BIMID	\$222,616	0.026%	0.026%
2 - Union Cemetery	(147,526)	(0.017%)	(0.017%)
3 - CC Mosquito	2,807,582	0.325%	0.328%
4 - CCCFPD	115,666,974	13.386%	13.508%
5 - CCCSD	64,117,450	7.420%	7.488%
6 - First 5	1,480,016	0.171%	0.173%
7 - County	561,509,768	64.983%	65.573%
8 - CCCERA (the Employer)	4,526,924	0.524%	0.529%
9 - ECCFPD	5,817,871	0.673%	0.679%
10 - Housing Authority	6,324,839	0.732%	0.739%
11 - IHSS	798,961	0.092%	0.093%
12 - LAFCO	132,109	0.015%	0.015%
13 - MOFD	26,734,009	3.094%	3.122%
14 - Rodeo SD	(501,019)	(0.058%)	(0.059%)
15 - RHFD	9,024,195	1.044%	1.054%
16 - SRVFPD	43,246,471	5.005%	5.050%
17 - Court	14,549,842	1.684%	1.699%
18 - DDSD (Withdrawn)	1,673,872	0.194%	N/A
19 - DWD (Withdrawn)	944,895	0.109%	N/A
20 - Pittsburg (Withdrawn)	5,155,943	0.597%	N/A
Total	\$864,085,792	100.000%	100.000%

Note: Results may not add due to rounding.

¹ For informational purposes; these percentages show the allocation of the NPL for employers excluding withdrawn employers.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Notes Regarding Determination of Proportionate Share as of December 31, 2019 Measurement Date

1. Based on actual January 1, 2019 through December 31, 2019 compensation information that was provided by CCCERA.
2. The Net Pension Liability (NPL) for each Cost Group is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position (plan assets). The TPL for each Cost Group is obtained from internal valuation results based on the actual participants in each Cost Group. The Plan's Fiduciary Net Position for each Cost Group was determined by adjusting the Valuation Value of Assets (VVA) for each Cost Group (which is used to determine employer contribution rates) by the ratio of the total CCCERA Plan's Fiduciary Net Position (excluding the withdrawn employers' assets and the Post Retirement Death Benefit reserve) to total CCCERA VVA (excluding the withdrawn employers' VVA). The Post Retirement Death Benefit reserve is allocated to Cost Groups #1 and #2. The liability for the post-retirement death benefit up to the amount in the Post Retirement Death Benefit reserve is also allocated to Cost Groups #1 and #2.
3. For withdrawn employers, the TPL is obtained from internal valuation results for each employer. The Plan's Fiduciary Net Position for each withdrawn employer has been set equal to the amount in their respective bookkeeping account. The NPL is then determined separately for each withdrawn employer.
4. For Cost Groups that have one employer, all of the NPL for that Cost Group is allocated to the corresponding employer. The NPL has already been reduced by any proceeds from Pension Obligation Bonds and any UAAL prepayments.
5. For Cost Groups that have multiple employers, the NPL is allocated based on the actual compensation within the Cost Group.
 - a. Calculate ratio of employer's compensation to the total compensation for the Cost Group.
 - b. Multiply this ratio by an "adjusted" NPL. This adjusted NPL is larger than the actual NPL as it excludes proceeds from Pension Obligation Bonds and any Unfunded Actuarial Accrued Liability (UAAL) prepayments from the Cost Group's assets when determining the employer's proportionate share of the NPL for the Cost Group. It also excludes the NPLs for the three withdrawn employers. The allocation of the adjusted NPL is shown above in PART ONE of the Determination of Proportionate Share Schedule.
 - c. The amounts of the proceeds from Pension Obligation Bonds and UAAL prepayments as of December 31, 2019 allocated to those employers within each Cost Group are as follows:

Cost Group #1: County	\$166,289,322	Cost Group #1: LAFCO	\$61,835
Cost Group #1: Court	\$6,653,876	Cost Group #1: First 5	\$631,360
Cost Group #1: MOFD	\$267,206		

Note that the proceeds from Pension Obligation Bonds for Contra Costa County and the Superior Court as of December 31, 2019 (total of \$172,943,198) were allocated proportionally based on the compensation information.

Section 2: GAS 68 Information

Determination of Proportionate Share (continued)

Notes Regarding Determination of Proportionate Share as of December 31, 2019 Measurement Date (continued)

Effective December 31, 2019 with the depooling of Safety members of ECCCCFPD from CCCFPD in Cost Group #8, CCCFPD is now the only employer in Cost Group #8 and therefore, the outstanding balance of CCCFPD's proceeds from Pension Obligation Bonds is included in Cost Group #8 and no longer tracked separately.

- d. Subtract from the adjusted NPL in PART ONE the outstanding balance of the proceeds from any Pension Obligation Bonds and any UAAL prepayments for those employers in each Cost Group that are subject to these adjustments. The resulting actual NPL is shown in PART TWO of the Determination of Proportionate Share Schedule.
6. If an employer is in several Cost Groups, the employer's total allocated NPL is the sum of its allocated NPL from each Cost Group.
7. Cost Group #1 and Cost Group #2 were combined and Cost Group #7 and Cost Group #9 were combined consistent with the determination of the UAAL rate in the annual funding actuarial valuation.

The following items are allocated based on the corresponding employer allocation percentage or proportionate share shown above after excluding the withdrawn employers.

- Net Pension Liability
- Service Cost
- Interest on the Total Pension Liability
- Benefit changes
- Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- Expensed portion of current-period changes of assumptions or other inputs
- Member contributions
- Projected earnings on plan investments
- Expensed portion of current-period differences between actual and projected earnings on plan investments
- Administrative expense
- Other expenses
- Recognition of beginning of year deferred outflows of resources as pension expense
- Recognition of beginning of year deferred inflows of resources as pension expense

Section 2: GAS 68 Information

Pension Expense

Total for All Employers

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$238,568,857	\$231,469,293
• Interest on the Total Pension Liability	707,426,996	678,035,229
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(2,378,876)	26,578,469
• Expensed portion of current-period changes of assumptions or other inputs	(3,945,908)	0
• Member contributions ¹	(113,494,191)	(108,487,711)
• Projected earnings on plan investments	(645,555,488)	(568,344,712)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(47,367,714)	(119,965,375)
• Administrative expense	10,749,625	10,200,473
• Other expenses	1,135,409	1,109,846
• Recognition of beginning of year deferred outflows of resources as pension expense	194,439,090	261,557,550
• Recognition of beginning of year deferred inflows of resources as pension expense	(244,115,852)	(133,174,673)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$95,461,948	\$278,978,389

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

1 - BIMID

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$62,845	\$60,175
• Interest on the Total Pension Liability	185,236	175,146
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	6,266	1,123
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(592)	6,879
• Expensed portion of current-period changes of assumptions or other inputs	(1,039)	0
• Member contributions ¹	(29,897)	(28,204)
• Projected earnings on plan investments	(169,075)	(146,840)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(12,413)	(30,990)
• Administrative expense	2,832	2,652
• Other expenses	299	289
• Recognition of beginning of year deferred outflows of resources as pension expense	50,853	67,665
• Recognition of beginning of year deferred inflows of resources as pension expense	(63,924)	(34,441)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>52,071</u>	<u>51,398</u>
Pension Expense	\$83,462	\$124,852

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

2 - Union Cemetery

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$(147,006)	\$(39,878)
• Interest on the Total Pension Liability	(433,305)	(116,068)
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(46,384)	(25,512)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	1,384	(4,559)
• Expensed portion of current-period changes of assumptions or other inputs	2,431	0
• Member contributions ¹	69,936	18,690
• Projected earnings on plan investments	395,500	97,310
• Expensed portion of current-period differences between projected and actual earnings on plan investments	29,036	20,537
• Administrative expense	(6,624)	(1,757)
• Other expenses	(700)	(191)
• Recognition of beginning of year deferred outflows of resources as pension expense	(118,956)	(44,841)
• Recognition of beginning of year deferred inflows of resources as pension expense	149,531	22,824
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(15,921)	19,776
Pension Expense	\$(121,078)	\$(53,669)

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

3 - CC Mosquito

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$701,973	\$758,916
• Interest on the Total Pension Liability	2,069,063	2,208,901
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(12,539)	21,425
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(6,609)	86,763
• Expensed portion of current-period changes of assumptions or other inputs	(11,611)	0
• Member contributions ¹	(333,949)	(355,696)
• Projected earnings on plan investments	(1,888,543)	(1,851,911)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(138,650)	(390,842)
• Administrative expense	31,630	33,444
• Other expenses	3,341	3,639
• Recognition of beginning of year deferred outflows of resources as pension expense	568,024	853,379
• Recognition of beginning of year deferred inflows of resources as pension expense	(714,020)	(434,363)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(915)	(76,553)
Pension Expense	\$267,195	\$857,102

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

4 - CCCFPD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$44,770,327	\$31,265,919
• Interest on the Total Pension Liability	131,960,406	91,002,457
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	4,454,006	1,622,073
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(421,536)	3,574,449
• Expensed portion of current-period changes of assumptions or other inputs	(740,497)	0
• Member contributions ¹	(21,298,556)	(14,654,009)
• Projected earnings on plan investments	(120,447,216)	(76,295,153)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(8,842,821)	(16,101,942)
• Administrative expense	2,017,297	1,377,838
• Other expenses	213,073	149,913
• Recognition of beginning of year deferred outflows of resources as pension expense	36,227,375	35,157,577
• Recognition of beginning of year deferred inflows of resources as pension expense	(45,538,642)	(17,894,927)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(6,075,371)	(7,093,726)
Pension Expense	\$16,277,845	\$32,110,469

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

5 - CCCSD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$25,573,820	\$17,331,576
• Interest on the Total Pension Liability	75,378,759	50,445,216
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	3,273,166	1,136,413
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(240,791)	1,981,417
• Expensed portion of current-period changes of assumptions or other inputs	(422,989)	0
• Member contributions ¹	(12,166,215)	(8,123,128)
• Projected earnings on plan investments	(68,802,165)	(42,292,544)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(5,051,219)	(8,925,758)
• Administrative expense	1,152,326	763,774
• Other expenses	121,712	83,101
• Recognition of beginning of year deferred outflows of resources as pension expense	20,693,893	19,488,832
• Recognition of beginning of year deferred inflows of resources as pension expense	(26,012,699)	(9,919,660)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(213,081)	(3,033,565)
Pension Expense	\$13,284,517	\$18,935,674

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

6 - First 5

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$254,767	\$400,063
• Interest on the Total Pension Liability	750,918	1,164,421
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(82,906)	(48,254)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(2,399)	45,737
• Expensed portion of current-period changes of assumptions or other inputs	(4,214)	0
• Member contributions ¹	(121,199)	(187,505)
• Projected earnings on plan investments	(685,403)	(976,234)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(50,320)	(206,032)
• Administrative expense	11,479	17,630
• Other expenses	1,212	1,918
• Recognition of beginning of year deferred outflows of resources as pension expense	206,151	449,859
• Recognition of beginning of year deferred inflows of resources as pension expense	(259,137)	(228,974)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>79,257</u>	<u>190,317</u>
Pension Expense	\$98,206	\$622,946

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

7 - County

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$133,679,061	\$151,781,600
• Interest on the Total Pension Liability	394,018,621	441,774,922
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(9,322,107)	(2,920,305)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(1,258,657)	17,352,300
• Expensed portion of current-period changes of assumptions or other inputs	(2,211,040)	0
• Member contributions ¹	(63,595,045)	(71,138,449)
• Projected earnings on plan investments	(359,641,561)	(370,377,749)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(26,403,647)	(78,167,494)
• Administrative expense	6,023,416	6,688,768
• Other expenses	636,213	727,761
• Recognition of beginning of year deferred outflows of resources as pension expense	108,170,783	170,673,806
• Recognition of beginning of year deferred inflows of resources as pension expense	(135,973,153)	(86,871,609)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>9,128,396</u>	<u>15,670,697</u>
Pension Expense	\$53,251,280	\$195,194,248

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

8 - CCCERA (the employer)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$1,188,422	\$1,223,672
• Interest on the Total Pension Liability	3,502,871	3,561,615
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	30,013	85,016
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(11,190)	139,895
• Expensed portion of current-period changes of assumptions or other inputs	(19,656)	0
• Member contributions ¹	(565,367)	(573,522)
• Projected earnings on plan investments	(3,197,255)	(2,986,007)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(234,731)	(630,191)
• Administrative expense	53,549	53,925
• Other expenses	5,656	5,867
• Recognition of beginning of year deferred outflows of resources as pension expense	961,651	1,375,982
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,208,817)	(700,364)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>303,992</u>	<u>213,842</u>
Pension Expense	\$809,138	\$1,769,730

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

9 - ECCFPD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$1,082,954	\$1,572,628
• Interest on the Total Pension Liability	3,191,999	4,577,284
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	209,702	(946,278)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(10,197)	179,789
• Expensed portion of current-period changes of assumptions or other inputs	(17,912)	0
• Member contributions ¹	(515,192)	(737,074)
• Projected earnings on plan investments	(2,913,506)	(3,837,529)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(213,900)	(809,903)
• Administrative expense	48,797	69,303
• Other expenses	5,154	7,540
• Recognition of beginning of year deferred outflows of resources as pension expense	876,306	1,768,372
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,101,537)	(900,087)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(2,341,710)	(2,320,681)
Pension Expense	\$(1,699,042)	\$(1,376,636)

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

10 - Housing Authority

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$1,809,469	\$1,709,668
• Interest on the Total Pension Liability	5,333,407	4,976,147
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	27,752	(80,284)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(17,037)	195,456
• Expensed portion of current-period changes of assumptions or other inputs	(29,928)	0
• Member contributions ¹	(860,818)	(801,303)
• Projected earnings on plan investments	(4,868,081)	(4,171,930)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(357,398)	(880,478)
• Administrative expense	81,533	75,342
• Other expenses	8,612	8,197
• Recognition of beginning of year deferred outflows of resources as pension expense	1,464,192	1,922,468
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,840,523)	(978,521)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(87,424)	(6,767)
Pension Expense	\$663,756	\$1,967,995

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

11 - IHSS

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$196,010	\$215,966
• Interest on the Total Pension Liability	577,740	628,593
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(10,181)	9,374
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(1,846)	24,690
• Expensed portion of current-period changes of assumptions or other inputs	(3,242)	0
• Member contributions ¹	(93,248)	(101,221)
• Projected earnings on plan investments	(527,333)	(527,003)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(38,715)	(111,223)
• Administrative expense	8,832	9,517
• Other expenses	933	1,036
• Recognition of beginning of year deferred outflows of resources as pension expense	158,608	242,848
• Recognition of beginning of year deferred inflows of resources as pension expense	(199,374)	(123,608)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>32,667</u>	<u>33,812</u>
Pension Expense	\$100,851	\$302,781

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

12 - LAFCO

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$(11,504)	\$35,710
• Interest on the Total Pension Liability	(33,908)	103,938
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(19,869)	(33)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	108	4,083
• Expensed portion of current-period changes of assumptions or other inputs	190	0
• Member contributions ¹	5,473	(16,737)
• Projected earnings on plan investments	30,950	(87,140)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	2,272	(18,391)
• Administrative expense	(518)	1,574
• Other expenses	(55)	171
• Recognition of beginning of year deferred outflows of resources as pension expense	(9,309)	40,155
• Recognition of beginning of year deferred inflows of resources as pension expense	11,701	(20,439)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>3,940</u>	<u>18</u>
Pension Expense	\$(20,529)	\$42,909

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

13 - MOFD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$11,697,429	\$7,226,468
• Interest on the Total Pension Liability	34,478,141	21,033,320
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	1,634,754	568,963
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(110,137)	826,159
• Expensed portion of current-period changes of assumptions or other inputs	(193,474)	0
• Member contributions ¹	(5,564,810)	(3,386,969)
• Projected earnings on plan investments	(31,470,016)	(17,634,034)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(2,310,420)	(3,721,628)
• Administrative expense	527,072	318,458
• Other expenses	55,671	34,649
• Recognition of beginning of year deferred outflows of resources as pension expense	9,465,359	8,125,941
• Recognition of beginning of year deferred inflows of resources as pension expense	(11,898,173)	(4,136,039)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(1,155,051)	(2,389,698)
Pension Expense	\$5,156,345	\$6,865,590

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

14 - Rodeo SD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$(551,822)	\$(135,431)
• Interest on the Total Pension Liability	(1,626,491)	(394,183)
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(185,852)	(86,807)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	5,196	(15,483)
• Expensed portion of current-period changes of assumptions or other inputs	9,127	0
• Member contributions ¹	262,518	63,475
• Projected earnings on plan investments	1,484,584	330,477
• Expensed portion of current-period differences between projected and actual earnings on plan investments	108,993	69,747
• Administrative expense	(24,864)	(5,968)
• Other expenses	(2,626)	(649)
• Recognition of beginning of year deferred outflows of resources as pension expense	(446,524)	(152,287)
• Recognition of beginning of year deferred inflows of resources as pension expense	561,291	77,513
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(35,423)	78,164
Pension Expense	\$(441,893)	\$(171,432)

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

15 – RHFD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$3,450,254	\$2,439,330
• Interest on the Total Pension Liability	10,169,614	7,099,900
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	275,751	50,959
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(32,486)	278,874
• Expensed portion of current-period changes of assumptions or other inputs	(57,067)	0
• Member contributions ¹	(1,641,387)	(1,143,288)
• Projected earnings on plan investments	(9,282,342)	(5,952,454)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(681,478)	(1,256,254)
• Administrative expense	155,464	107,497
• Other expenses	16,421	11,696
• Recognition of beginning of year deferred outflows of resources as pension expense	2,791,886	2,742,951
• Recognition of beginning of year deferred inflows of resources as pension expense	(3,509,465)	(1,396,140)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(896,132)	(1,313,432)
Pension Expense	\$759,033	\$1,669,639

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

16 - SRVFPD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$12,055,563	\$11,689,945
• Interest on the Total Pension Liability	35,533,738	34,024,709
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	344,204	856,030
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(113,509)	1,336,443
• Expensed portion of current-period changes of assumptions or other inputs	(199,398)	0
• Member contributions ¹	(5,735,185)	(5,478,955)
• Projected earnings on plan investments	(32,433,515)	(28,525,827)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(2,381,157)	(6,020,320)
• Administrative expense	543,209	515,157
• Other expenses	57,375	56,051
• Recognition of beginning of year deferred outflows of resources as pension expense	9,755,154	13,144,989
• Recognition of beginning of year deferred inflows of resources as pension expense	(12,262,452)	(6,690,695)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	898,108	(955,471)
Pension Expense	\$6,062,135	\$13,952,056

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

17 - Court

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$2,756,295	\$3,932,966
• Interest on the Total Pension Liability	8,124,169	11,447,272
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(575,776)	(243,903)
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(25,952)	449,633
• Expensed portion of current-period changes of assumptions or other inputs	(45,589)	0
• Member contributions ¹	(1,311,250)	(1,843,340)
• Projected earnings on plan investments	(7,415,357)	(9,597,229)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(544,410)	(2,025,476)
• Administrative expense	124,195	173,319
• Other expenses	13,118	18,858
• Recognition of beginning of year deferred outflows of resources as pension expense	2,230,346	4,422,500
• Recognition of beginning of year deferred inflows of resources as pension expense	(2,803,596)	(2,251,017)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>322,597</u>	<u>931,869</u>
Pension Expense	\$848,790	\$5,415,452

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

18 - DDSD (Withdrawn)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	928,868	939,597
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(274,796)	36,828
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	(476)
• Projected earnings on plan investments	(811,807)	(757,663)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(52,114)	(164,297)
• Administrative expense	0	0
• Other expenses	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	330,447	293,619
• Recognition of beginning of year deferred inflows of resources as pension expense	(311,569)	(147,272)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$(190,971)	\$200,336

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

19 - DWD (Withdrawn)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	162,398	176,860
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	112,687	15,218
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(96,325)	(99,625)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(4,493)	(22,912)
• Administrative expense	0	0
• Other expenses	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	100,786	85,568
• Recognition of beginning of year deferred inflows of resources as pension expense	(50,635)	(27,723)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$224,418	\$127,386

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Pension Expense (continued)

20 - Pittsburg (Withdrawn)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	3,154,752	3,205,182
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	29,483	63,898
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(2,817,022)	(2,655,627)
• Expensed portion of current-period differences between projected and actual earnings on plan investments	(190,129)	(571,528)
• Administrative expense	0	0
• Other expenses	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	962,065	898,167
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,090,659)	(519,131)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$48,490	\$420,961

¹ Includes "employer subvention of member contributions" and excludes "member subvention of employer contributions".

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources

Total For All Employers

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$79,472,197	\$75,302,276
• Changes of assumptions or other inputs	7,920	12,966
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	85,444,843	123,232,411
• Total Deferred Outflows of Resources	\$164,924,960	\$198,547,653
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$79,472,197	\$75,302,276
• Changes of assumptions or other inputs	45,450,263	51,985,967
• Net difference between actual and projected earnings on pension plan investments (if any)	330,654,302	199,917,754
• Difference between expected and actual experience in the Total Pension Liability	12,527,088	12,779,453
• Total Deferred Inflows of Resources	\$468,103,850	\$339,985,450
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(49,676,762)
2022	\$(96,874,486)	(43,181,988)
2023	4,138,805	57,831,303
2024	(160,102,848)	(106,410,350)
2025	(50,340,361)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

1 – BIMID

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$71,609	\$101,937
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>22,239</u>	<u>31,807</u>
• Total Deferred Outflows of Resources	\$93,848	\$133,744
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	11,967	13,505
• Net difference between actual and projected earnings on pension plan investments (if any)	86,610	51,639
• Difference between expected and actual experience in the Total Pension Liability	<u>3,048</u>	<u>3,321</u>
• Total Deferred Inflows of Resources	\$101,625	\$68,465
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$39,172
2022	\$17,512	25,439
2023	19,997	27,577
2024	(35,052)	(26,909)
2025	(10,234)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

2 - Union Cemetery

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$15,126	\$26,005
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>(52,020)</u>	<u>(21,078)</u>
• Total Deferred Outflows of Resources	\$(36,894)	\$4,927
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$224,988	\$90,835
• Changes of assumptions or other inputs	(27,993)	(8,950)
• Net difference between actual and projected earnings on pension plan investments (if any)	(202,599)	(34,221)
• Difference between expected and actual experience in the Total Pension Liability	<u>(7,129)</u>	<u>(2,200)</u>
• Total Deferred Inflows of Resources	\$(12,733)	\$45,464
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(7,373)
2022	\$(2,458)	(8,044)
2023	(69,330)	(30,322)
2024	38,597	5,202
2025	9,030	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

3 - CC Mosquito

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$70,402	\$127,895
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>248,401</u>	<u>401,140</u>
• Total Deferred Outflows of Resources	\$318,803	\$529,035
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$135,209	\$150,108
• Changes of assumptions or other inputs	133,666	170,322
• Net difference between actual and projected earnings on pension plan investments (if any)	967,423	651,256
• Difference between expected and actual experience in the Total Pension Liability	<u>34,042</u>	<u>41,878</u>
• Total Deferred Inflows of Resources	\$1,270,340	\$1,013,564
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(163,595)
2022	\$(316,487)	(161,559)
2023	(12,417)	176,290
2024	(469,528)	(335,665)
2025	(153,105)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

4 - CCCFPD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$19,861,225	\$6,604,480
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>15,842,498</u>	<u>16,526,192</u>
• Total Deferred Outflows of Resources	\$35,703,723	\$23,130,672
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$11,679,894	\$19,953,922
• Changes of assumptions or other inputs	8,524,945	7,016,930
• Net difference between actual and projected earnings on pension plan investments (if any)	61,700,172	26,830,498
• Difference between expected and actual experience in the Total Pension Liability	<u>2,171,135</u>	<u>1,725,275</u>
• Total Deferred Inflows of Resources	\$84,076,146	\$55,526,625
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(12,777,458)
2022	\$(19,115,616)	(11,300,096)
2023	2,600,273	5,133,314
2024	(24,561,488)	(13,451,713)
2025	(7,295,592)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

5 - CCCSD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$15,811,376	\$8,537,264
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>9,049,592</u>	<u>9,160,932</u>
• Total Deferred Outflows of Resources	\$24,860,968	\$17,698,196
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$6,746,064	\$11,042,919
• Changes of assumptions or other inputs	4,869,641	3,889,681
• Net difference between actual and projected earnings on pension plan investments (if any)	35,244,529	14,872,898
• Difference between expected and actual experience in the Total Pension Liability	<u>1,240,201</u>	<u>956,369</u>
• Total Deferred Inflows of Resources	\$48,100,435	\$30,761,867
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(3,928,236)
2022	\$(8,617,706)	(4,783,965)
2023	2,397,163	2,984,195
2024	(13,194,117)	(7,335,665)
2025	(3,824,807)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

6 - First 5

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$168,850	\$300,603
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>90,151</u>	<u>211,461</u>
• Total Deferred Outflows of Resources	\$259,001	\$512,064
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$411,263	\$176,074
• Changes of assumptions or other inputs	48,511	89,785
• Net difference between actual and projected earnings on pension plan investments (if any)	351,104	343,309
• Difference between expected and actual experience in the Total Pension Liability	<u>12,355</u>	<u>22,076</u>
• Total Deferred Inflows of Resources	\$823,233	\$631,244
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(6,500)
2022	\$(128,996)	(17,601)
2023	(65,506)	112,236
2024	(277,335)	(207,315)
2025	(92,395)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

7 - County

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$27,031,086	\$45,513,306
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>47,303,882</u>	<u>80,227,033</u>
• Total Deferred Outflows of Resources	\$74,334,968	\$125,740,339
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$43,409,113	\$20,415,227
• Changes of assumptions or other inputs	25,454,511	34,063,958
• Net difference between actual and projected earnings on pension plan investments (if any)	184,229,629	130,249,683
• Difference between expected and actual experience in the Total Pension Liability	<u>6,482,760</u>	<u>8,375,413</u>
• Total Deferred Inflows of Resources	\$259,576,013	\$193,104,281
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(23,407,139)
2022	\$(52,761,362)	(17,674,122)
2023	(145,380)	44,524,504
2024	(99,918,505)	(70,807,185)
2025	(32,415,798)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

8 - CCCERA (the Employer)

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$458,349	\$658,195
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>420,537</u>	<u>646,795</u>
• Total Deferred Outflows of Resources	\$878,886	\$1,304,990
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	226,294	274,626
• Net difference between actual and projected earnings on pension plan investments (if any)	1,637,823	1,050,080
• Difference between expected and actual experience in the Total Pension Liability	<u>57,632</u>	<u>67,523</u>
• Total Deferred Inflows of Resources	\$1,921,749	\$1,392,229
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$41,689
2022	\$(234,050)	(11,624)
2023	145,110	398,182
2024	(718,801)	(515,486)
2025	(235,122)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

9 - ECCFPD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$929,516	\$617,470
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>383,215</u>	<u>831,242</u>
• Total Deferred Outflows of Resources	\$1,312,731	\$1,448,712
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$5,218,510	\$7,975,841
• Changes of assumptions or other inputs	206,210	352,941
• Net difference between actual and projected earnings on pension plan investments (if any)	1,492,470	1,349,533
• Difference between expected and actual experience in the Total Pension Liability	<u>52,518</u>	<u>86,779</u>
• Total Deferred Inflows of Resources	\$6,969,708	\$9,765,094
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(2,678,815)
2022	\$(2,783,280)	(2,848,076)
2023	(1,750,380)	(1,588,680)
2024	(994,766)	(1,200,811)
2025	(128,551)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

10 - Housing Authority

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$133,238	\$115,359
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>640,302</u>	<u>903,676</u>
• Total Deferred Outflows of Resources	\$773,540	\$1,019,035
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$335,838	\$501,682
• Changes of assumptions or other inputs	344,550	383,696
• Net difference between actual and projected earnings on pension plan investments (if any)	2,493,719	1,467,131
• Difference between expected and actual experience in the Total Pension Liability	<u>87,750</u>	<u>94,341</u>
• Total Deferred Inflows of Resources	\$3,261,857	\$2,446,850
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(453,904)
2022	\$(832,158)	(446,996)
2023	(70,394)	294,824
2024	(1,219,337)	(821,739)
2025	(366,428)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

11 - IHSS

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$33,142	\$73,005
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>69,360</u>	<u>114,153</u>
• Total Deferred Outflows of Resources	\$102,502	\$187,158
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$46,629	\$18,495
• Changes of assumptions or other inputs	37,323	48,469
• Net difference between actual and projected earnings on pension plan investments (if any)	270,131	185,330
• Difference between expected and actual experience in the Total Pension Liability	<u>9,506</u>	<u>11,917</u>
• Total Deferred Inflows of Resources	\$363,589	\$264,211
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(13,627)
2022	\$(77,576)	(28,391)
2023	(1,562)	58,815
2024	(136,055)	(93,850)
2025	(45,894)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

12 - LAFCO

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$4,206	\$8,179
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>(4,071)</u>	<u>18,875</u>
• Total Deferred Outflows of Resources	\$135	\$27,054
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$69,026	\$114
• Changes of assumptions or other inputs	(2,191)	8,014
• Net difference between actual and projected earnings on pension plan investments (if any)	(15,854)	30,644
• Difference between expected and actual experience in the Total Pension Liability	<u>(558)</u>	<u>1,971</u>
• Total Deferred Inflows of Resources	\$50,423	\$40,743
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(3,715)
2022	\$(12,217)	(3,639)
2023	(18,930)	9,989
2024	(12,216)	(16,324)
2025	(6,925)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

13 - MOFD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$7,494,819	\$3,070,716
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>4,139,271</u>	<u>3,819,685</u>
• Total Deferred Outflows of Resources	\$11,634,090	\$6,890,401
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$2,663,315	\$5,066,860
• Changes of assumptions or other inputs	2,227,367	1,621,817
• Net difference between actual and projected earnings on pension plan investments (if any)	16,120,799	6,201,310
• Difference between expected and actual experience in the Total Pension Liability	<u>567,266</u>	<u>398,761</u>
• Total Deferred Inflows of Resources	\$21,578,747	\$13,288,748
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(2,704,099)
2022	\$(3,824,161)	(2,077,806)
2023	1,436,571	1,393,674
2024	(5,872,284)	(3,010,116)
2025	(1,684,783)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

14 - Rodeo SD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$61,620	\$116,109
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>(195,268)</u>	<u>(71,584)</u>
• Total Deferred Outflows of Resources	\$(133,648)	\$44,525
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$862,795	\$307,799
• Changes of assumptions or other inputs	(105,075)	(30,394)
• Net difference between actual and projected earnings on pension plan investments (if any)	(760,492)	(116,218)
• Difference between expected and actual experience in the Total Pension Liability	<u>(26,761)</u>	<u>(7,473)</u>
• Total Deferred Inflows of Resources	\$(29,533)	\$153,714
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(6,392)
2022	\$(5,392)	(17,272)
2023	(264,802)	(103,102)
2024	137,705	17,577
2025	28,374	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

15 - RHFD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,386,707	\$1,001,406
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>1,220,912</u>	<u>1,289,353</u>
• Total Deferred Outflows of Resources	\$2,607,619	\$2,290,759
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$2,180,763	\$3,648,450
• Changes of assumptions or other inputs	656,980	547,452
• Net difference between actual and projected earnings on pension plan investments (if any)	4,754,963	2,093,282
• Difference between expected and actual experience in the Total Pension Liability	<u>167,320</u>	<u>134,604</u>
• Total Deferred Inflows of Resources	\$7,760,026	\$6,423,788
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(1,419,021)
2022	\$(2,154,229)	(1,489,966)
2023	(406,102)	(136,003)
2024	(1,998,112)	(1,088,039)
2025	(593,964)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

16 - SRVFPD

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$4,344,793	\$5,733,622
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>4,266,001</u>	<u>6,178,942</u>
• Total Deferred Outflows of Resources	\$8,610,794	\$11,912,564
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$2,568,876	\$4,253,985
• Changes of assumptions or other inputs	2,295,561	2,623,545
• Net difference between actual and projected earnings on pension plan investments (if any)	16,614,360	10,031,596
• Difference between expected and actual experience in the Total Pension Liability	<u>584,634</u>	<u>645,059</u>
• Total Deferred Inflows of Resources	\$22,063,431	\$17,554,185
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(1,607,720)
2022	\$(4,304,532)	(1,953,395)
2023	473,490	2,821,651
2024	(7,255,149)	(4,902,157)
2025	(2,366,446)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

17 - Court

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,596,133	\$2,696,725
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>975,347</u>	<u>2,078,843</u>
• Total Deferred Outflows of Resources	\$2,571,480	\$4,775,568
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$2,919,914	\$1,699,965
• Changes of assumptions or other inputs	524,840	882,665
• Net difference between actual and projected earnings on pension plan investments (if any)	3,798,584	3,375,030
• Difference between expected and actual experience in the Total Pension Liability	<u>133,666</u>	<u>217,024</u>
• Total Deferred Inflows of Resources	\$7,377,004	\$6,174,684
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(520,464)
2022	\$(1,226,318)	(268,777)
2023	(193,115)	1,310,678
2024	(2,537,441)	(1,920,553)
2025	(848,650)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

18 - DDSD (Withdrawn)

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	7,920	12,966
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>131,182</u>	<u>234,809</u>
• Total Deferred Outflows of Resources	\$139,102	\$247,775
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	0	0
• Net difference between actual and projected earnings on pension plan investments (if any)	402,420	281,109
• Difference between expected and actual experience in the Total Pension Liability	<u>957,703</u>	<u>6,815</u>
• Total Deferred Inflows of Resources	\$1,360,123	\$287,924
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$18,878
2022	\$(336,087)	(9,177)
2023	(231,242)	95,668
2024	(472,428)	(145,518)
2025	(181,264)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

19 - DWD (Withdrawn)

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	<u>479,913</u>	<u>157,123</u>
• Total Deferred Outflows of Resources	\$479,913	\$157,123
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	5,951	9,741
• Net difference between actual and projected earnings on pension plan investments (if any)	45,530	41,849
• Difference between expected and actual experience in the Total Pension Liability	<u>0</u>	<u>0</u>
• Total Deferred Inflows of Resources	\$51,481	\$51,590
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$50,151
2022	\$144,541	36,347
2023	142,376	34,182
2024	93,047	(15,147)
2025	48,468	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

20 - Pittsburgh (Withdrawn)

Reporting Date for Employer under GAS 68 Measurement Date for Employer under GAS 68	June 30, 2021 December 31, 2020	June 30, 2020 December 31, 2019
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	0	0
• Net difference between projected and actual earnings on pension plan investments (if any)	0	0
• Difference between actual and expected experience in the Total Pension Liability	413,399	493,012
• Total Deferred Outflows of Resources	\$413,399	\$493,012
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$0
• Changes of assumptions or other inputs	17,205	28,164
• Net difference between actual and projected earnings on pension plan investments (if any)	1,422,981	962,016
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Inflows of Resources	\$1,440,186	\$990,180
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GAS 68 Year Ended June 30:		
2021	N/A	\$(128,594)
2022	\$(303,914)	(143,268)
2023	152,985	313,631
2024	(699,583)	(538,937)
2025	(176,275)	0
2026	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GAS 68.

Section 2: GAS 68 Information

Deferred Outflows of Resources and Deferred Inflows of Resources (continued)

There are changes in each employer's proportionate share of the total NPL during the measurement period ended December 31, 2020. The net effect of the change on the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources for the current period (i.e., 2020) is recognized over the average of the expected remaining service lives of all employees that are provided with pensions through CCCERA which is 4.47 years determined as of December 31, 2019 (the beginning of the measurement period ended December 31, 2020). This is described in Paragraph 33a. of GAS 68.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended December 31, 2020 is recognized over the same period. This difference is calculated based on actual employer contributions reported to us by CCCERA for each active employer.

The net effects of the change on the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources for prior periods are continued to be recognized based on the expected remaining service lives of all employees calculated as of those prior measurement dates.

The average of the expected remaining service lives of all employees was determined by:

- Calculating each active employees' expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each non-active or retired member.
- Dividing the sum of the above amounts by the total number of active, non-active and retired members.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability

Total for All Employers

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	100.000%	\$1,471,449,251	\$638,635,912	230.41%	81.44%
2015	100.000%	1,195,701,397	671,485,798	178.07%	85.25%
2016	100.000%	1,507,127,140	709,818,858	212.33%	82.24%
2017	100.000%	1,400,454,923	755,138,882	185.46%	84.16%
2018	100.000%	811,436,611	809,960,088	100.18%	91.18%
2019	100.000%	1,428,044,144	850,929,106	167.82%	85.09%
2020	100.000%	864,085,792	892,379,335	96.83%	91.46%
2021	100.000%	461,449,924	943,422,017	48.91%	95.62%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

1 - BIMID

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.010%	\$141,029	\$98,547	143.11%	74.40%
2015	0.010%	114,600	63,762	179.73%	79.57%
2016	0.007%	111,818	58,347	191.64%	77.84%
2017	0.010%	137,084	82,174	166.82%	80.32%
2018	0.019%	157,443	166,430	94.60%	88.49%
2019	0.027%	383,118	261,689	146.40%	82.28%
2020	0.026%	222,616	264,807	84.07%	89.91%
2021	0.026%	120,135	312,551	38.44%	95.33%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

2 - Union Cemetery

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.006%	\$81,639	\$202,342	40.35%	94.52%
2015	0.006%	66,340	213,716	31.04%	95.83%
2016	0.010%	147,774	213,336	69.27%	91.43%
2017	0.005%	75,800	226,811	33.42%	95.67%
2018	0.004%	29,395	166,890	17.61%	98.00%
2019	0.004%	52,348	192,930	27.13%	96.58%
2020	(0.017%)	(147,526)	216,414	(68.17%)	109.10%
2021	(0.061%)	(281,020)	196,739	(142.84%)	119.25%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

3 - CC Mosquito

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.427%	\$6,281,902	\$2,787,246	225.38%	74.40%
2015	0.427%	5,104,681	2,840,172	179.73%	79.57%
2016	0.376%	5,665,700	2,956,365	191.64%	77.84%
2017	0.367%	5,140,418	3,081,368	166.82%	80.32%
2018	0.372%	3,017,908	3,190,169	94.60%	88.49%
2019	0.332%	4,737,389	3,235,876	146.40%	82.28%
2020	0.325%	2,807,582	3,339,694	84.07%	89.91%
2021	0.291%	1,341,891	3,491,144	38.44%	95.33%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

4 - CCCFPD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	9.723%	\$143,074,496	\$30,880,667	463.31%	83.82%
2015	9.723%	116,262,504	29,582,625	393.01%	86.85%
2016	11.568%	174,340,795	32,275,397	540.17%	81.54%
2017	11.934%	167,124,048	35,011,978	477.33%	82.69%
2018	13.583%	110,215,347	36,028,772	305.91%	88.88%
2019	11.261%	160,817,317	40,272,628	399.32%	83.99%
2020	13.386%	115,666,974	43,874,150	263.63%	89.33%
2021	18.547%	85,582,923	49,156,538	174.10%	92.35%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

5 - CCCSD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	7.488%	\$110,183,830	\$25,791,346	427.21%	67.22%
2015	7.488%	89,535,510	26,906,131	332.77%	73.86%
2016	6.088%	91,746,888	29,061,743	315.70%	74.14%
2017	6.273%	87,847,116	31,584,169	278.14%	76.44%
2018	7.863%	63,806,000	33,306,938	191.57%	83.58%
2019	6.332%	90,430,104	33,793,159	267.60%	77.86%
2020	7.420%	64,117,450	36,087,017	177.67%	85.05%
2021	10.594%	48,886,895	37,131,965	131.66%	89.10%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

6 - First 5

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.141%	\$2,071,332	\$1,631,923	126.93%	86.00%
2015	0.141%	1,683,167	1,735,009	97.01%	88.97%
2016	0.164%	2,465,341	1,962,961	125.59%	85.48%
2017	0.173%	2,423,899	2,140,380	113.25%	86.64%
2018	0.159%	1,289,083	2,405,397	53.59%	93.48%
2019	0.202%	2,881,759	2,525,004	114.13%	86.19%
2020	0.171%	1,480,016	2,511,538	58.93%	92.93%
2021	0.106%	487,008	2,398,684	20.30%	97.53%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

7 - County

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	67.521%	\$993,538,168	\$513,965,613	193.31%	82.57%
2015	67.521%	807,350,288	547,669,428	147.42%	86.21%
2016	67.951%	1,024,104,604	578,312,679	177.08%	83.30%
2017	67.071%	939,305,464	613,565,068	153.09%	85.20%
2018	62.058%	503,558,908	661,575,196	76.12%	92.40%
2019	68.347%	976,031,747	695,801,377	140.27%	85.94%
2020	64.983%	561,509,768	728,877,628	77.04%	92.37%
2021	55.378%	255,540,783	769,489,476	33.21%	96.67%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

8 - CCCERA (the Employer)

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.490%	\$7,215,926	\$3,280,849	219.94%	74.40%
2015	0.490%	5,863,670	3,262,463	179.73%	79.57%
2016	0.474%	7,138,680	3,724,967	191.64%	77.84%
2017	0.462%	6,475,713	3,881,797	166.82%	80.32%
2018	0.528%	4,287,094	4,531,800	94.60%	88.49%
2019	0.512%	7,315,532	4,996,878	146.40%	82.28%
2020	0.524%	4,526,924	5,384,897	84.07%	89.91%
2021	0.492%	2,271,787	5,910,418	38.44%	95.33%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

9 - ECCFPD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	2.033%	\$29,920,976	\$3,075,280	972.95%	69.43%
2015	2.033%	24,313,820	3,033,964	801.39%	74.65%
2016	1.526%	22,992,216	2,578,801	891.59%	70.89%
2017	1.668%	23,362,447	2,981,911	783.47%	73.30%
2018	2.015%	16,350,262	2,932,872	557.48%	81.00%
2019	1.278%	18,245,316	3,142,969	580.51%	77.80%
2020	0.673%	5,817,871	3,629,911	160.28%	89.02%
2021	0.449%	2,070,171	4,245,203	48.76%	96.47%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

10 - Housing Authority

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.724%	\$10,648,283	\$4,677,572	227.65%	80.04%
2015	0.724%	8,652,807	4,691,885	184.42%	84.06%
2016	0.716%	10,788,391	4,841,907	222.81%	80.83%
2017	0.726%	10,162,604	5,215,890	194.84%	82.73%
2018	0.772%	6,267,604	5,183,762	120.91%	89.72%
2019	0.756%	10,796,497	5,288,211	204.16%	83.10%
2020	0.732%	6,324,839	5,607,319	112.80%	90.49%
2021	0.750%	3,458,981	5,906,312	58.56%	94.98%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

11 - IHSS

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.087%	\$1,280,362	\$600,371	213.26%	74.40%
2015	0.087%	1,040,424	578,877	179.73%	79.57%
2016	0.086%	1,292,792	674,579	191.64%	77.84%
2017	0.092%	1,294,522	775,987	166.82%	80.32%
2018	0.098%	794,473	839,821	94.60%	88.49%
2019	0.092%	1,309,899	894,727	146.40%	82.28%
2020	0.092%	798,961	950,386	84.07%	89.91%
2021	0.081%	374,693	974,825	38.44%	95.33%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

12 - LAFCO

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.030%	\$448,684	\$202,880	221.16%	74.40%
2015	0.030%	364,601	202,859	179.73%	79.57%
2016	0.027%	400,173	208,810	191.64%	77.84%
2017	0.026%	359,329	215,396	166.82%	80.32%
2018	0.022%	181,268	221,780	81.73%	90.06%
2019	0.021%	304,195	228,637	133.05%	83.90%
2020	0.015%	132,109	230,702	57.26%	93.13%
2021	(0.005%)	(21,991)	184,791	(11.90%)	101.45%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

13 - MOFD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	2.393%	\$35,211,427	\$7,353,174	478.86%	80.06%
2015	2.393%	28,612,847	7,350,163	389.28%	83.79%
2016	2.608%	39,299,357	6,858,003	573.04%	78.77%
2017	2.326%	32,569,913	7,347,757	443.26%	82.41%
2018	2.896%	23,498,575	7,960,215	295.20%	87.85%
2019	2.410%	34,418,805	8,139,433	422.86%	82.47%
2020	3.094%	26,734,009	8,317,080	321.44%	87.02%
2021	4.846%	22,360,799	9,177,332	243.65%	89.64%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

14 - Rodeo SD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	0.015%	\$225,142	\$546,354	41.21%	94.52%
2015	0.015%	182,951	589,379	31.04%	95.83%
2016	0.026%	393,628	568,265	69.27%	91.43%
2017	0.015%	203,750	609,667	33.42%	95.67%
2018	0.014%	111,965	635,682	17.61%	98.00%
2019	0.013%	187,143	689,729	27.13%	96.58%
2020	(0.058%)	(501,019)	734,973	(68.17%)	109.10%
2021	(0.229%)	(1,054,861)	738,498	(142.84%)	119.25%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

15 - RHFD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	1.129%	\$16,612,346	\$1,766,704	940.30%	59.86%
2015	1.129%	13,499,212	2,069,510	652.29%	65.89%
2016	1.012%	15,252,152	2,342,844	651.01%	63.59%
2017	1.049%	14,693,106	2,241,786	655.42%	66.55%
2018	1.441%	11,693,174	2,194,605	532.81%	74.20%
2019	0.820%	11,716,980	2,346,256	499.39%	74.46%
2020	1.044%	9,024,195	2,358,500	382.62%	81.03%
2021	1.429%	6,595,503	2,499,171	263.91%	86.60%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

16 - SRVFPD

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	5.815%	\$85,561,055	\$19,053,093	449.07%	76.94%
2015	5.815%	69,527,014	18,614,252	373.51%	81.67%
2016	5.357%	80,736,003	19,540,557	413.17%	79.70%
2017	5.176%	72,491,195	22,113,973	327.81%	82.68%
2018	5.806%	47,110,096	23,767,950	198.21%	89.41%
2019	4.872%	69,577,960	24,477,353	284.25%	84.91%
2020	5.005%	43,246,471	24,771,927	174.58%	91.21%
2021	4.994%	23,045,406	26,418,520	87.23%	95.54%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

17 - Court

Reporting Date for Employer Under GAS 68 as of June 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	1.968%	\$28,952,654	\$22,721,953	127.42%	84.75%
2015	1.968%	23,526,961	22,081,605	106.55%	87.89%
2016	2.007%	30,250,828	23,639,297	127.97%	85.21%
2017	1.939%	27,158,829	24,062,771	112.87%	86.68%
2018	1.554%	12,606,159	24,851,809	50.73%	93.83%
2019	1.920%	27,420,745	24,642,251	111.28%	86.53%
2020	1.684%	14,549,842	25,222,390	57.69%	93.08%
2021	1.142%	5,268,930	25,189,849	20.92%	97.46%

¹ Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

18 - DDSD (Withdrawn)

Reporting Date for Employer Under GAS 68 as of June 30 ¹	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ²	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A
2017	0.137%	\$1,918,215	N/A	N/A	86.09%
2018	0.177%	1,435,257	N/A	N/A	89.73%
2019	0.170%	2,433,196	N/A	N/A	82.38%
2020	0.194%	1,673,872	N/A	N/A	87.88%
2021	0.004%	16,641	N/A	N/A	99.87%

¹ Prior to the June 30, 2017 reporting date, the Pension Expense, NPL and other results attributed to the three withdrawn employers (Delta Diablo Sanitation District, Diablo Water District and City of Pittsburg) were allocated to other employers within the applicable Cost Groups. Starting with the December 31, 2016 funding valuation, the assets and liabilities associated with the three withdrawn employers have been moved to their own Cost Group. Therefore, we have directly allocated to each of these withdrawn employers their Pension Expense and NPL starting with the June 30, 2017 reporting date.

² Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

19 - DWD (Withdrawn)

Reporting Date for Employer Under GAS 68 as of June 30 ¹	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ²	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A
2017	0.059%	\$823,144	N/A	N/A	71.42%
2018	0.102%	827,520	N/A	N/A	70.60%
2019	0.072%	1,034,726	N/A	N/A	61.21%
2020	0.109%	944,895	N/A	N/A	62.11%
2021	0.297%	1,371,069	N/A	N/A	51.25%

¹ Prior to the June 30, 2017 reporting date, the Pension Expense, NPL and other results attributed to the three withdrawn employers (Delta Diablo Sanitation District, Diablo Water District and City of Pittsburg) were allocated to other employers within the applicable Cost Groups. Starting with the December 31, 2016 funding valuation, the assets and liabilities associated with the three withdrawn employers have been moved to their own Cost Group. Therefore, we have directly allocated to each of these withdrawn employers their Pension Expense and NPL starting with the June 30, 2017 reporting date.

² Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Proportionate Share of the Net Pension Liability (continued)

20 - Pittsburg (Withdrawn)

Reporting Date for Employer Under GAS 68 as of June 30 ¹	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ²	Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2014	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A
2017	0.492%	\$6,888,327	N/A	N/A	85.75%
2018	0.517%	4,199,080	N/A	N/A	91.20%
2019	0.557%	7,949,368	N/A	N/A	83.25%
2020	0.597%	5,155,943	N/A	N/A	89.04%
2021	0.870%	4,014,181	N/A	N/A	91.34%

¹ Prior to the June 30, 2017 reporting date, the Pension Expense, NPL and other results attributed to the three withdrawn employers (Delta Diablo Sanitation District, Diablo Water District and City of Pittsburg) were allocated to other employers within the applicable Cost Groups. Starting with the December 31, 2016 funding valuation, the assets and liabilities associated with the three withdrawn employers have been moved to their own Cost Group. Therefore, we have directly allocated to each of these withdrawn employers their Pension Expense and NPL starting with the June 30, 2017 reporting date.

² Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability

Total for All Employers

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$864,085,792	\$1,428,044,144
• Pension Expense	95,461,948	278,978,389
• Employer Contributions ¹	(336,356,723)	(327,982,796)
• New Net Deferred Inflows/Outflows	(211,417,855)	(386,571,068)
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ²	0	0
• Recognition of Prior Deferred Inflows/Outflows	49,676,762	(128,382,877)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>0</u>	<u>0</u>
Ending Net Pension Liability	\$461,449,924	\$864,085,792

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

1 - BIMID

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$222,616	\$383,118
• Pension Expense	83,462	124,852
• Employer Contributions ¹	(112,887)	(100,977)
• New Net Deferred Inflows/Outflows	(55,312)	(99,814)
• Change in Allocation of Prior Deferred Inflows/Outflows	(487)	(3,883)
• New Net Deferred Flows Due to Change in Proportion ²	21,743	3,942
• Recognition of Prior Deferred Inflows/Outflows	13,071	(33,224)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(52,071)</u>	<u>(51,398)</u>
Ending Net Pension Liability	\$120,135	\$222,616

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

2 - Union Cemetery

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$(147,526)	\$52,348
• Pension Expense	(121,078)	(53,669)
• Employer Contributions ¹	(28,790)	(47,474)
• New Net Deferred Inflows/Outflows	129,385	66,146
• Change in Allocation of Prior Deferred Inflows/Outflows	62,596	(77,571)
• New Net Deferred Flows Due to Change in Proportion ²	(160,953)	(89,547)
• Recognition of Prior Deferred Inflows/Outflows	(30,575)	22,017
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>15,921</u>	<u>(19,776)</u>
Ending Net Pension Liability	\$(281,020)	\$(147,526)

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

3 - CC Mosquito

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$2,807,582	\$4,737,389
• Pension Expense	267,195	857,102
• Employer Contributions ¹	(1,265,878)	(1,236,556)
• New Net Deferred Inflows/Outflows	(617,825)	(1,258,832)
• Change in Allocation of Prior Deferred Inflows/Outflows	47,415	(24,261)
• New Net Deferred Flows Due to Change in Proportion ²	(43,509)	75,203
• Recognition of Prior Deferred Inflows/Outflows	145,996	(419,016)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>915</u>	<u>76,553</u>
Ending Net Pension Liability	\$1,341,891	\$2,807,582

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

4 - CCCFPD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$115,666,974	\$160,817,317
• Pension Expense	16,277,845	32,110,469
• Employer Contributions ¹	(30,385,428)	(28,914,991)
• New Net Deferred Inflows/Outflows	(39,403,538)	(51,861,451)
• Change in Allocation of Prior Deferred Inflows/Outflows	(7,414,970)	7,991,076
• New Net Deferred Flows Due to Change in Proportion ²	15,455,402	5,693,478
• Recognition of Prior Deferred Inflows/Outflows	9,311,267	(17,262,650)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>6,075,371</u>	<u>7,093,726</u>
Ending Net Pension Liability	\$85,582,923	\$115,666,974

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

5 - CCCSD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$64,117,450	\$90,430,104
• Pension Expense	13,284,517	18,935,674
• Employer Contributions ¹	(18,339,277)	(18,046,778)
• New Net Deferred Inflows/Outflows	(22,508,189)	(28,748,258)
• Change in Allocation of Prior Deferred Inflows/Outflows	(4,557,379)	4,093,506
• New Net Deferred Flows Due to Change in Proportion ²	11,357,886	3,988,809
• Recognition of Prior Deferred Inflows/Outflows	5,318,806	(9,569,172)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>213,081</u>	<u>3,033,565</u>
Ending Net Pension Liability	\$48,886,895	\$64,117,450

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

6 - First 5

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$1,480,016	\$2,881,759
• Pension Expense	98,206	622,946
• Employer Contributions ¹	(646,164)	(667,123)
• New Net Deferred Inflows/Outflows	(224,225)	(663,593)
• Change in Allocation of Prior Deferred Inflows/Outflows	93,131	(113,400)
• New Net Deferred Flows Due to Change in Proportion ²	(287,685)	(169,371)
• Recognition of Prior Deferred Inflows/Outflows	52,986	(220,885)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(79,257)</u>	<u>(190,317)</u>
Ending Net Pension Liability	\$487,008	\$1,480,016

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

7 - County

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$561,509,768	\$976,031,747
• Pension Expense	53,251,280	195,194,248
• Employer Contributions ¹	(241,343,162)	(235,901,955)
• New Net Deferred Inflows/Outflows	(117,654,440)	(251,763,403)
• Change in Allocation of Prior Deferred Inflows/Outflows	13,451,073	(12,327,698)
• New Net Deferred Flows Due to Change in Proportion ²	(32,347,710)	(10,250,277)
• Recognition of Prior Deferred Inflows/Outflows	27,802,370	(83,802,197)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(9,128,396)</u>	<u>(15,670,697)</u>
Ending Net Pension Liability	\$255,540,783	\$561,509,768

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

8 - CCCERA (the Employer)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$4,526,924	\$7,315,532
• Pension Expense	809,138	1,769,730
• Employer Contributions ¹	(2,108,651)	(1,982,965)
• New Net Deferred Inflows/Outflows	(1,045,962)	(2,029,731)
• Change in Allocation of Prior Deferred Inflows/Outflows	43,018	45,412
• New Net Deferred Flows Due to Change in Proportion ²	104,146	298,406
• Recognition of Prior Deferred Inflows/Outflows	247,166	(675,618)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(303,992)</u>	<u>(213,842)</u>
Ending Net Pension Liability	\$2,271,787	\$4,526,924

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

9 - ECCFPD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$5,817,871	\$18,245,316
• Pension Expense	(1,699,042)	(1,376,636)
• Employer Contributions ¹	(4,708,063)	(4,317,176)
• New Net Deferred Inflows/Outflows	(953,135)	(2,608,551)
• Change in Allocation of Prior Deferred Inflows/Outflows	317,932	(2,256,044)
• New Net Deferred Flows Due to Change in Proportion ²	727,667	(3,321,434)
• Recognition of Prior Deferred Inflows/Outflows	225,231	(868,285)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>2,341,710</u>	<u>2,320,681</u>
Ending Net Pension Liability	\$2,070,171	\$5,817,871

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

10 - Housing Authority

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$6,324,839	\$10,796,497
• Pension Expense	663,756	1,967,995
• Employer Contributions ¹	(2,469,111)	(2,297,649)
• New Net Deferred Inflows/Outflows	(1,592,562)	(2,835,860)
• Change in Allocation of Prior Deferred Inflows/Outflows	(27,995)	(87,169)
• New Net Deferred Flows Due to Change in Proportion ²	96,299	(281,795)
• Recognition of Prior Deferred Inflows/Outflows	376,331	(943,947)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>87,424</u>	<u>6,767</u>
Ending Net Pension Liability	\$3,458,981	\$6,324,839

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

11 - IHSS

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$798,961	\$1,309,899
• Pension Expense	100,851	302,781
• Employer Contributions ¹	(341,085)	(338,443)
• New Net Deferred Inflows/Outflows	(172,514)	(358,229)
• Change in Allocation of Prior Deferred Inflows/Outflows	15,711	3,102
• New Net Deferred Flows Due to Change in Proportion ²	(35,330)	32,903
• Recognition of Prior Deferred Inflows/Outflows	40,766	(119,240)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(32,667)</u>	<u>(33,812)</u>
Ending Net Pension Liability	\$374,693	\$798,961

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

12 - LAFCO

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$132,109	\$304,195
• Pension Expense	(20,529)	42,909
• Employer Contributions ¹	(96,972)	(113,500)
• New Net Deferred Inflows/Outflows	10,125	(59,234)
• Change in Allocation of Prior Deferred Inflows/Outflows	28,553	(22,413)
• New Net Deferred Flows Due to Change in Proportion ²	(68,945)	(114)
• Recognition of Prior Deferred Inflows/Outflows	(2,392)	(19,716)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(3,940)</u>	<u>(18)</u>
Ending Net Pension Liability	\$(21,991)	\$132,109

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

13 - MOFD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$26,734,009	\$34,418,805
• Pension Expense	5,156,345	6,865,590
• Employer Contributions ¹	(5,983,245)	(5,527,403)
• New Net Deferred Inflows/Outflows	(10,295,215)	(11,986,693)
• Change in Allocation of Prior Deferred Inflows/Outflows	(2,511,557)	2,566,856
• New Net Deferred Flows Due to Change in Proportion ²	5,672,597	1,997,058
• Recognition of Prior Deferred Inflows/Outflows	2,432,814	(3,989,902)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>1,155,051</u>	<u>2,389,698</u>
Ending Net Pension Liability	\$22,360,799	\$26,734,009

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

14 - Rodeo SD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$(501,019)	\$187,143
• Pension Expense	(441,893)	(171,432)
• Employer Contributions ¹	(117,021)	(167,397)
• New Net Deferred Inflows/Outflows	485,672	224,641
• Change in Allocation of Prior Deferred Inflows/Outflows	243,652	(265,890)
• New Net Deferred Flows Due to Change in Proportion ²	(644,908)	(304,694)
• Recognition of Prior Deferred Inflows/Outflows	(114,767)	74,774
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>35,423</u>	<u>(78,164)</u>
Ending Net Pension Liability	\$(1,054,861)	\$(501,019)

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

15 - RHFD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$9,024,195	\$11,716,980
• Pension Expense	759,033	1,669,639
• Employer Contributions ¹	(2,168,347)	(1,302,356)
• New Net Deferred Inflows/Outflows	(3,036,659)	(4,046,167)
• Change in Allocation of Prior Deferred Inflows/Outflows	(553,286)	840,613
• New Net Deferred Flows Due to Change in Proportion ²	956,856	178,865
• Recognition of Prior Deferred Inflows/Outflows	717,579	(1,346,811)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>896,132</u>	<u>1,313,432</u>
Ending Net Pension Liability	\$6,595,503	\$9,024,195

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

16 - SRVFPD

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$43,246,471	\$69,577,960
• Pension Expense	6,062,135	13,952,056
• Employer Contributions ¹	(18,452,184)	(18,913,604)
• New Net Deferred Inflows/Outflows	(10,610,417)	(19,390,364)
• Change in Allocation of Prior Deferred Inflows/Outflows	(4,177)	514,579
• New Net Deferred Flows Due to Change in Proportion ²	1,194,388	3,004,667
• Recognition of Prior Deferred Inflows/Outflows	2,507,298	(6,454,294)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(898,108)</u>	<u>955,471</u>
Ending Net Pension Liability	\$23,045,406	\$43,246,471

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

17 - Court

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$14,549,842	\$27,420,745
• Pension Expense	848,790	5,415,452
• Employer Contributions ¹	(6,723,294)	(6,926,395)
• New Net Deferred Inflows/Outflows	(2,425,887)	(6,523,694)
• Change in Allocation of Prior Deferred Inflows/Outflows	766,770	(876,815)
• New Net Deferred Flows Due to Change in Proportion ²	(1,997,944)	(856,099)
• Recognition of Prior Deferred Inflows/Outflows	573,250	(2,171,483)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>(322,597)</u>	<u>(931,869)</u>
Ending Net Pension Liability	\$5,268,930	\$14,549,842

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

18 - DDSD (Withdrawn)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$1,673,872	\$2,433,196
• Pension Expense	(190,971)	200,336
• Employer Contributions ¹	(285,388)	(285,388)
• New Net Deferred Inflows/Outflows	(1,161,994)	(527,925)
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ²	0	0
• Recognition of Prior Deferred Inflows/Outflows	(18,878)	(146,347)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>0</u>	<u>0</u>
Ending Net Pension Liability	\$16,641	\$1,673,872

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

19 - DWD (Withdrawn)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$944,895	\$1,034,726
• Pension Expense	224,418	127,386
• Employer Contributions ¹	(121,143)	(121,143)
• New Net Deferred Inflows/Outflows	373,050	(38,229)
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ²	0	0
• Recognition of Prior Deferred Inflows/Outflows	(50,151)	(57,845)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>0</u>	<u>0</u>
Ending Net Pension Liability	\$1,371,069	\$944,895

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Reconciliation of Net Pension Liability (continued)

20 - Pittsburg (Withdrawn)

Reporting Date for Employer under GAS 68	June 30, 2021	June 30, 2020
Measurement Date for Employer under GAS 68	December 31, 2020	December 31, 2019
• Beginning Net Pension Liability	\$5,155,943	\$7,949,368
• Pension Expense	48,490	420,961
• Employer Contributions ¹	(660,633)	(773,523)
• New Net Deferred Inflows/Outflows	(658,213)	(2,061,827)
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ²	0	0
• Recognition of Prior Deferred Inflows/Outflows	128,594	(379,036)
• Recognition of Prior Deferred Flows Due to Change in Proportion ²	<u>0</u>	<u>0</u>
Ending Net Pension Liability	\$4,014,181	\$5,155,943

¹ Includes "member subvention of employer contributions" and excludes "employer subvention of member contributions".

² Includes differences between employer contributions and proportionate share of contributions.

Section 2: GAS 68 Information

Schedule of Recognition of Changes in Total Net Pension Liability

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences Between Expected and Actual Experience on Total Pension Liability

Reporting Date for Employer Under GAS 68 Year Ended June 30	Differences Between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:					
			2020	2021	2022	2023	2024	2025
2016	\$(62,117,935) ¹	4.52	\$(7,146,311)	\$0	\$0	\$0	\$0	\$0
2017	(19,957,982) ¹	4.57	(4,367,173)	(2,489,290)	0	0	0	0
2018	(29,192,221) ¹	4.58	(6,373,848)	(6,373,848)	(3,696,829)	0	0	0
2019	52,852,841 ¹	4.57	11,565,173	11,565,173	11,565,173	6,592,149	0	0
2020	119,868,899	4.51	26,578,469	26,578,469	26,578,469	26,578,469	13,555,023	0
2021	(10,633,575)	4.47	<u>N/A</u>	<u>(2,378,876)</u>	<u>(2,378,876)</u>	<u>(2,378,876)</u>	<u>(2,378,876)</u>	<u>(1,118,071)</u>
Net Increase/(Decrease) in Pension Expense			\$20,256,310	\$26,901,628	\$32,067,937	\$30,791,742	\$11,176,147	\$(1,118,071)

As described in *Section 2, Schedule of Deferred Outflows of Resources and Deferred Inflows of Resources*, for the current period, the average of the expected remaining service lives of all employees that are provided with pensions through CCCERA (active and inactive members) determined as of December 31, 2019 (the beginning of the measurement period ending December 31, 2020) is 4.47 years.

¹ The amortization amounts prior to June 30, 2020 have been omitted from this Schedule. Those amounts can be found in prior years' GAS 68 reports.

Section 2: GAS 68 Information

Schedule of Recognition of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of
the Effects of Assumption Changes or Other Inputs

Reporting Date for Employer Under GAS 68 Year Ended June 30	Assumption Changes or Other Inputs	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:					
			2020	2021	2022	2023	2024	2025
2016	\$72,186,307 ¹	4.52	\$8,304,619	\$0	\$0	\$0	\$0	\$0
2017	0 ¹	4.57	0	0	0	0	0	0
2018	0 ¹	4.58	0	0	0	0	0	0
2019	(92,418,915) ¹	4.57	(20,222,957)	(20,222,957)	(20,222,957)	(11,527,087)	0	0
2020	0	4.51	0	0	0	0	0	0
2021	(17,638,207)	4.47	N/A	(3,945,908)	(3,945,908)	(3,945,908)	(3,945,908)	(1,854,575)
Net Increase/(Decrease) in Pension Expense			\$(11,918,338)	\$(24,168,865)	\$(24,168,865)	\$(15,472,995)	\$(3,945,908)	\$(1,854,575)

As described in *Section 2, Schedule of Deferred Outflows of Resources and Deferred Inflows of Resources*, for the current period, the average of the expected remaining service lives of all employees that are provided with pensions through CCCERA (active and inactive members) determined as of December 31, 2019 (the beginning of the measurement period ending December 31, 2020) is 4.47 years.

¹ The amortization amounts prior to June 30, 2020 have been omitted from this Schedule. Those amounts can be found in prior years' GAS 68 reports.

Section 2: GAS 68 Information

Schedule of Recognition of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of
the Net Difference Between Projected and Actual Earnings on Pension Plan Investments

Reporting Date for Employer Under GAS 68 Year Ended June 30	Net Difference Between Projected and Actual Earnings	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:					
			2020	2021	2022	2023	2024	2025
2016	\$426,961,542 ¹	5.00	\$85,392,310	\$0	\$0	\$0	\$0	\$0
2017	(6,642,338) ¹	5.00	(1,328,468)	(1,328,466)	0	0	0	0
2018	(467,968,086) ¹	5.00	(93,593,617)	(93,593,617)	(93,593,618)	0	0	0
2019	780,765,743 ¹	5.00	156,153,149	156,153,149	156,153,149	156,153,147	0	0
2020	(599,826,873)	5.00	(119,965,375)	(119,965,375)	(119,965,375)	(119,965,375)	(119,965,373)	0
2021	(236,838,571)	5.00	N/A	(47,367,714)	(47,367,714)	(47,367,714)	(47,367,714)	(47,367,715)
Net Increase/(Decrease) in Pension Expense			\$26,657,999	\$(106,102,023)	\$(104,773,558)	\$(11,179,942)	\$(167,333,087)	\$(47,367,715)

The differences between projected and actual earnings on pension plan investments are recognized over a five-year period per Paragraph 33b. of GAS 68.

¹ The amortization amounts prior to June 30, 2020 have been omitted from this Schedule. Those amounts can be found in prior years' GAS 68 reports.

Section 2: GAS 68 Information

Schedule of Recognition of Changes in Total Net Pension Liability (continued)

Total Increase / (Decrease) in Pension Expense

Reporting Date for Employer Under GAS 68 Year Ended June 30	Total Increase / (Decrease)	Reporting Date for Employer Under GAS 68 Year Ended June 30:					
		2020	2021	2022	2023	2024	2025
2016	\$437,029,914 ¹	\$86,550,618	\$0	\$0	\$0	\$0	\$0
2017	(26,600,320) ¹	(5,695,641)	(3,817,756)	0	0	0	0
2018	(497,160,307) ¹	(99,967,465)	(99,967,465)	(97,290,447)	0	0	0
2019	741,199,669 ¹	147,495,365	147,495,365	147,495,365	151,218,209	0	0
2020	(479,957,974)	(93,386,906)	(93,386,906)	(93,386,906)	(93,386,906)	(106,410,350)	0
2021	(265,110,353)	<u>N/A</u>	<u>(53,692,498)</u>	<u>(53,692,498)</u>	<u>(53,692,498)</u>	<u>(53,692,498)</u>	<u>(50,340,361)</u>
Net Increase/(Decrease) in Pension Expense		\$34,995,971	\$(103,369,260)	\$(96,874,486)	\$4,138,805	\$(160,102,848)	\$(50,340,361)

¹ The amortization amounts prior to June 30, 2020 have been omitted from this Schedule. Those amounts can be found in prior years' GAS 68 reports.

Section 2: GAS 68 Information

Allocation of Changes in Total Net Pension Liability

In addition to the amounts shown in *Section 2, Schedule of Recognition of Changes in Total Net Pension Liability*, there are changes in each employer's proportionate share of the total NPL during the measurement period ending on December 31, 2020. The net effect of the change in the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources is also recognized over the average of the expected remaining service lives of all employees that are provided with pensions through CCCERA as shown earlier. The difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ending on December 31, 2020 is recognized over the same period. These amounts are shown on the following table, with the corresponding amounts for the measurement periods shown on the following pages. While these amounts are different for each employer, they sum to zero over the entire CCCERA.

Section 2: GAS 68 Information

Allocation of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2020

	Total Change	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:				
			2021	2022	2023	2024	2025
1 - BIMID	\$28,009	4.47	\$6,266	\$6,266	\$6,266	\$6,266	\$2,945
2 - Union Cemetery	(207,337)	4.47	(46,384)	(46,384)	(46,384)	(46,384)	(21,801)
3 - CC Mosquito	(56,048)	4.47	(12,539)	(12,539)	(12,539)	(12,539)	(5,892)
4 - CCCFPD	19,909,408	4.47	4,454,006	4,454,006	4,454,006	4,454,006	2,093,384
5 - CCCSD	14,631,052	4.47	3,273,166	3,273,166	3,273,166	3,273,166	1,538,388
6 - First 5	(370,591)	4.47	(82,906)	(82,906)	(82,906)	(82,906)	(38,967)
7 - County	(41,669,817)	4.47	(9,322,107)	(9,322,107)	(9,322,107)	(9,322,107)	(4,381,389)
8 - CCCERA (the Employer)	134,159	4.47	30,013	30,013	30,013	30,013	14,107
9 - ECCFPD	937,369	4.47	209,702	209,702	209,702	209,702	98,561
10 - Housing Authority	124,051	4.47	27,752	27,752	27,752	27,752	13,043
11 - IHSS	(45,511)	4.47	(10,181)	(10,181)	(10,181)	(10,181)	(4,787)
12 - LAFCO	(88,814)	4.47	(19,869)	(19,869)	(19,869)	(19,869)	(9,338)
13 - MOFD	7,307,351	4.47	1,634,754	1,634,754	1,634,754	1,634,754	768,335
14 - Rodeo SD	(830,760)	4.47	(185,852)	(185,852)	(185,852)	(185,852)	(87,352)
15 - RHFD	1,232,607	4.47	275,751	275,751	275,751	275,751	129,603
16 - SRVFPD	1,538,592	4.47	344,204	344,204	344,204	344,204	161,776
17 - Court	(2,573,720)	4.47	(575,776)	(575,776)	(575,776)	(575,776)	(270,616)
18 - DDS (Withdrawn)	0	4.47	0	0	0	0	0
19 - DWD (Withdrawn)	0	4.47	0	0	0	0	0
20 - Pittsburg (Withdrawn)	0	4.47	0	0	0	0	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

Section 2: GAS 68 Information

Allocation of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2019

	Total Change	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:				
			2020	2021	2022	2023	2024
1 - BIMID	\$5,065	4.51	\$1,123	\$1,123	\$1,123	\$1,123	\$573
2 - Union Cemetery	(115,059)	4.51	(25,512)	(25,512)	(25,512)	(25,512)	(13,011)
3 - CC Mosquito	96,628	4.51	21,425	21,425	21,425	21,425	10,928
4 - CCCFPD	7,315,551	4.51	1,622,073	1,622,073	1,622,073	1,622,073	827,259
5 - CCCSD	5,125,222	4.51	1,136,413	1,136,413	1,136,413	1,136,413	579,570
6 - First 5	(217,625)	4.51	(48,254)	(48,254)	(48,254)	(48,254)	(24,609)
7 - County	(13,170,582)	4.51	(2,920,305)	(2,920,305)	(2,920,305)	(2,920,305)	(1,489,362)
8 - CCCERA (the Employer)	383,422	4.51	85,016	85,016	85,016	85,016	43,358
9 - ECCFPD	(4,267,712)	4.51	(946,278)	(946,278)	(946,278)	(946,278)	(482,600)
10 - Housing Authority	(362,079)	4.51	(80,284)	(80,284)	(80,284)	(80,284)	(40,943)
11 - IHSS	42,277	4.51	9,374	9,374	9,374	9,374	4,781
12 - LAFCO	(147)	4.51	(33)	(33)	(33)	(33)	(15)
13 - MOFD	2,566,021	4.51	568,963	568,963	568,963	568,963	290,169
14 - Rodeo SD	(391,501)	4.51	(86,807)	(86,807)	(86,807)	(86,807)	(44,273)
15 - RHFD	229,824	4.51	50,959	50,959	50,959	50,959	25,988
16 - SRVFPD	3,860,697	4.51	856,030	856,030	856,030	856,030	436,577
17 - Court	(1,100,002)	4.51	(243,903)	(243,903)	(243,903)	(243,903)	(124,390)
18 - DDS (Withdrawn)	0	4.51	0	0	0	0	0
19 - DWD (Withdrawn)	0	4.51	0	0	0	0	0
20 - Pittsburg (Withdrawn)	0	4.51	0	0	0	0	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

Section 2: GAS 68 Information

Allocation of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2018

	Total Change	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:				
			2019	2020	2021	2022	2023
1 - BIMID	\$92,479	4.57	\$20,236	\$20,236	\$20,236	\$20,236	\$11,535
2 - Union Cemetery	40,697	4.57	8,905	8,905	8,905	8,905	5,077
3 - CC Mosquito	(266,924)	4.57	(58,408)	(58,408)	(58,408)	(58,408)	(33,292)
4 - CCCFPD	(33,998,166)	4.57	(7,439,424)	(7,439,424)	(7,439,424)	(7,439,424)	(4,240,470)
5 - CCCSD	(19,636,629)	4.57	(4,296,855)	(4,296,855)	(4,296,855)	(4,296,855)	(2,449,209)
6 - First 5	491,491	4.57	107,547	107,547	107,547	107,547	61,303
7 - County	78,682,848	4.57	17,217,254	17,217,254	17,217,254	17,217,254	9,813,832
8 - CCCERA (the Employer)	78,435	4.57	17,163	17,163	17,163	17,163	9,783
9 - ECCFPD	(8,276,513)	4.57	(1,811,053)	(1,811,053)	(1,811,053)	(1,811,053)	(1,032,301)
10 - Housing Authority	(391,007)	4.57	(85,560)	(85,560)	(85,560)	(85,560)	(48,767)
11 - IHSS	(32,887)	4.57	(7,196)	(7,196)	(7,196)	(7,196)	(4,103)
12 - LAFCO	9,372	4.57	2,051	2,051	2,051	2,051	1,168
13 - MOFD	(7,752,455)	4.57	(1,696,380)	(1,696,380)	(1,696,380)	(1,696,380)	(966,935)
14 - Rodeo SD	138,574	4.57	30,323	30,323	30,323	30,323	17,282
15 - RHFD	(6,347,829)	4.57	(1,389,022)	(1,389,022)	(1,389,022)	(1,389,022)	(791,741)
16 - SRVFPD	(7,477,557)	4.57	(1,636,227)	(1,636,227)	(1,636,227)	(1,636,227)	(932,649)
17 - Court	4,646,071	4.57	1,016,646	1,016,646	1,016,646	1,016,646	579,487
18 - DDS (Withdrawn)	0	4.57	0	0	0	0	0
19 - DWD (Withdrawn)	0	4.57	0	0	0	0	0
20 - Pittsburg (Withdrawn)	0	4.57	0	0	0	0	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

Section 2: GAS 68 Information

Allocation of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2017

	Total Change	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:				
			2018	2019	2020	2021	2022
1 - BIMID	\$120,624	4.58	\$26,337	\$26,337	\$26,337	\$26,337	\$15,276
2 - Union Cemetery	9,040	4.58	1,974	1,974	1,974	1,974	1,144
3 - CC Mosquito	131,272	4.58	28,662	28,662	28,662	28,662	16,624
4 - CCCFPD	2,640,754	4.58	576,584	576,584	576,584	576,584	334,418
5 - CCCSD	12,643,130	4.58	2,760,509	2,760,509	2,760,509	2,760,509	1,601,094
6 - First 5	(19,429)	4.58	(4,242)	(4,242)	(4,242)	(4,242)	(2,461)
7 - County	(29,465,507)	4.58	(6,433,519)	(6,433,519)	(6,433,519)	(6,433,519)	(3,731,431)
8 - CCCERA (the Employer)	899,167	4.58	196,325	196,325	196,325	196,325	113,867
9 - ECCFPD	1,593,925	4.58	348,019	348,019	348,019	348,019	201,849
10 - Housing Authority	291,703	4.58	63,691	63,691	63,691	63,691	36,939
11 - IHSS	75,909	4.58	16,574	16,574	16,574	16,574	9,613
12 - LAFCO	7,779	4.58	1,698	1,698	1,698	1,698	987
13 - MOFD	3,112,251	4.58	679,531	679,531	679,531	679,531	394,127
14 - Rodeo SD	110,679	4.58	24,166	24,166	24,166	24,166	14,015
15 - RHFD	2,384,329	4.58	520,596	520,596	520,596	520,596	301,945
16 - SRVFPD	7,910,516	4.58	1,727,187	1,727,187	1,727,187	1,727,187	1,001,768
17 - Court	(2,446,142)	4.58	(534,092)	(534,092)	(534,092)	(534,092)	(309,774)
18 - DDSD (Withdrawn)	0	4.58	0	0	0	0	0
19 - DWD (Withdrawn)	0	4.58	0	0	0	0	0
20 - Pittsburg (Withdrawn)	0	4.58	0	0	0	0	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

Section 2: GAS 68 Information

Allocation of Changes in Total Net Pension Liability (continued)

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2016

	Total Change	Recognition Period (Years)	Reporting Date for Employer Under GAS 68 Year Ended June 30:				
			2017	2018	2019	2020	2021
1 - BIMID	\$35,083	4.57	\$7,677	\$7,677	\$7,677	\$7,677	\$4,375
2 - Union Cemetery	(10,332)	4.57	(2,261)	(2,261)	(2,261)	(2,261)	(1,288)
3 - CC Mosquito	59,374	4.57	12,992	12,992	12,992	12,992	7,406
4 - CCCFPD	(6,691,460)	4.57	(1,464,214)	(1,464,214)	(1,464,214)	(1,464,214)	(834,604)
5 - CCCSD	1,498,104	4.57	327,813	327,813	327,813	327,813	186,852
6 - First 5	194,082	4.57	42,469	42,469	42,469	42,469	24,206
7 - County	10,141,906	4.57	2,219,235	2,219,235	2,219,235	2,219,235	1,264,966
8 - CCCERA (the Employer)	43,988	4.57	9,625	9,625	9,625	9,625	5,488
9 - ECCFPD	542,014	4.57	118,603	118,603	118,603	118,603	67,602
10 - Housing Authority	118,077	4.57	25,837	25,837	25,837	25,837	14,729
11 - IHSS	111,579	4.57	24,416	24,416	24,416	24,416	13,915
12 - LAFCO	1,784	4.57	390	390	390	390	224
13 - MOFD	(5,669,733)	4.57	(1,240,642)	(1,240,642)	(1,240,642)	(1,240,642)	(707,165)
14 - Rodeo SD	(24,901)	4.57	(5,449)	(5,449)	(5,449)	(5,449)	(3,105)
15 - RHFD	(630,705)	4.57	(138,010)	(138,010)	(138,010)	(138,010)	(78,665)
16 - SRVFPD	(391,910)	4.57	(85,757)	(85,757)	(85,757)	(85,757)	(48,882)
17 - Court	673,050	4.57	147,276	147,276	147,276	147,276	83,946
18 - DDS (Withdrawn)	0	4.57	0	0	0	0	0
19 - DWD (Withdrawn)	0	4.57	0	0	0	0	0
20 - Pittsburg (Withdrawn)	0	4.57	0	0	0	0	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

Section 3: Actuarial Assumptions and Methods and Appendices

Actuarial Assumptions and Methods

For December 31, 2020 Measurement Date and Employer Reporting as of June 30, 2021

Rationale for Assumptions

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the January 1, 2015 through December 31, 2017 Actuarial Experience Study dated April 23, 2019. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all tiers. These assumptions were adopted by the Board.

Economic Assumptions

Net Investment Return:	7.00%, net of investment expenses. Based on the Actuarial Experience Study referenced above, expected investment expenses represent about 0.65% of the Actuarial Value of Assets.
Administration Expenses:	1.14% of payroll allocated to both the employer and the member based on normal cost (before expenses) for the employer and member. This assumption changes each year based on the actual administrative expenses as a percent of actual compensation during the calendar year leading up to the valuation date.
Employee Contribution Crediting Rate:	7.00%, compounded semi-annually.

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Consumer Price Index:	<p>Increases of 2.75% per year.</p> <p>Benefits for General Tier 1, Tier 3 (non-disability), Tier 4 and Tier 5 (non-disability) and Safety Tier A and Tier D are subject to a 3.00% maximum COLA increase due to CPI per year (valued as a 2.75% increase).</p> <p>Benefits for General Tier 2, Tier 3 (disability) and Tier 5 (disability) are subject to a 4.00% maximum change per year (valued as a 2.75% increase).</p> <p>Benefits for General Tier 4 and Tier 5 members covered under certain memoranda of understanding and Safety Tier C and Tier E are subject to a 2.00% maximum change per year (valued as a 2.00% increase).</p> <p>For members that have COLA banks, they are reflected in projected future COLAs.</p> <p>The actual COLA granted by CCCERA on April 1, 2020 has been reflected for non-active members in the December 31, 2019 valuation.</p>
Payroll Growth:	<p>Inflation of 2.75% per year plus “across the board” real salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.</p>
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	<p>Increase of 2.75% per year from the valuation date.</p>
Increase in Section 7522.10 Compensation Limit:	<p>Increase of 2.75% per year from the valuation date.</p>

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Salary Increases:

The annual rate of compensation increase includes:

- Inflation at 2.75%, plus
- “Across the board” salary increases of 0.50% per year, plus
- The following merit and promotion increases:

Years of Service	Rate (%)	
	General	Safety
Less than 1	12.00	13.00
1 – 2	7.00	8.00
2 – 3	5.25	5.75
3 – 4	3.75	4.75
4 – 5	2.75	2.75
5 – 6	2.25	2.00
6 – 7	1.75	1.75
7 – 8	1.50	1.50
8 – 9	1.40	1.40
9 – 10	1.30	1.30
10 – 11	1.20	1.25
11 – 12	1.10	1.20
12 – 13	1.00	1.15
13 – 14	0.90	1.10
14 – 15	0.80	1.05
15 – 16	0.75	1.00
16 – 17	0.70	1.00
17 – 18	0.65	1.00
18 – 19	0.60	1.00
19 – 20	0.55	1.00
20 & Over	0.50	1.00

Section 3: Actuarial Assumptions and Methods and Appendices

Demographic Assumptions

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2018.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) multiplied by 105% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2018.
- **All Beneficiaries:** Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) multiplied by 105% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2018.

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) multiplied by 105% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2018.
- **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) multiplied by 105% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2018.

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

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Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2018.
- **Safety Members:** Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2018.

Age	Rate (%) ¹			
	General		Safety	
	Male	Female	Male	Female
20	0.04	0.01	0.04	0.02
25	0.02	0.01	0.03	0.02
30	0.03	0.01	0.04	0.02
35	0.04	0.02	0.04	0.03
40	0.06	0.03	0.05	0.04
45	0.09	0.05	0.07	0.06
50	0.13	0.08	0.10	0.08
55	0.19	0.11	0.15	0.11
60	0.28	0.17	0.23	0.14
65	0.41	0.27	0.35	0.20
70	0.61	0.44	0.66	0.39

All pre-retirement deaths are assumed to be non-service connected.

¹ Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years with the two-dimensional mortality improvement scale MP-2018, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) multiplied by 105% for males and 100% for females, projected 30 years with the two-dimensional mortality improvement scale MP-2018, weighted 85% male and 15% female.

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Disability Incidence:

Age	Rate (%)		
	General Tier 1 and Tier 4	General Tier 3 and Tier 5	Safety
20	0.01	0.01	0.02
25	0.02	0.02	0.16
30	0.04	0.03	0.32
35	0.08	0.05	0.46
40	0.22	0.08	0.56
45	0.36	0.11	0.90
50	0.52	0.13	2.54
55	0.60	0.16	3.80
60	0.60	0.22	4.30
65	0.60	0.25	4.50
70	0.60	0.25	4.50

60% of General Tier 1 and Tier 4 disabilities are assumed to be service connected disabilities. The other 40% are assumed to be non-service connected disabilities.

30% of General Tier 3 and Tier 5 disabilities are assumed to be service connected disabilities. The other 70% are assumed to be non-service connected disabilities.

100% of Safety disabilities are assumed to be service connected disabilities.

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Termination:

Years of Service	Rate (%)	
	General	Safety
Less than 1	14.00	12.50
1 – 2	9.50	10.00
2 – 3	9.25	8.25
3 – 4	6.50	5.75
4 – 5	5.25	5.00
5 – 6	5.00	4.25
6 – 7	4.50	3.50
7 – 8	4.25	3.25
8 – 9	3.75	3.00
9 – 10	3.50	2.50
10 – 11	3.25	2.25
11 – 12	3.00	2.10
12 – 13	2.75	2.00
13 – 14	2.50	1.90
14 – 15	2.50	1.80
15 – 16	2.25	1.70
16 – 17	2.25	1.60
17 – 18	2.00	1.50
18 – 19	2.00	1.25
19 – 20	1.75	1.00
20 & Over	1.25	0.75

The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit.

No termination is assumed after a member is first assumed to retire.

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Retirement Rates (General):

Age	Rate (%)					
	Tier 1 Enhanced		Tier 3 Enhanced		Tier 1 Non-Enhanced	PEPRA Tier 4 and Tier 5
	Less than 30 Years of Service	Over 30 Years of Service	Less than 30 Years of Service	Over 30 Years of Service		
50	5.00	9.00	4.00	7.20	3.00	0.00
51	4.00	7.20	3.00	5.40	3.00	0.00
52	4.00	7.20	3.00	5.40	3.00	2.00
53	4.00	7.20	4.00	7.20	3.00	3.00
54	12.00	21.60	6.00	10.80	3.00	3.00
55	15.00	27.00	8.00	14.40	10.00	5.00
56	17.00	30.60	8.00	9.60	10.00	5.00
57	17.00	30.60	9.00	10.80	10.00	6.00
58	17.00	30.60	10.00	12.00	10.00	6.00
59	22.00	26.40	12.00	14.40	10.00	8.00
60	25.00	30.00	13.00	15.60	25.00	8.00
61	30.00	36.00	18.00	21.60	15.00	12.00
62	30.00	36.00	22.00	26.40	40.00	18.00
63	25.00	30.00	22.00	26.40	35.00	18.00
64	25.00	30.00	25.00	30.00	30.00	20.00
65	35.00	35.00	32.00	32.00	40.00	25.00
66	40.00	40.00	32.00	32.00	35.00	25.00
67	40.00	40.00	30.00	30.00	35.00	25.00
68	40.00	40.00	30.00	30.00	35.00	25.00
69	40.00	40.00	30.00	30.00	35.00	25.00
70	35.00	35.00	35.00	35.00	40.00	40.00
71	35.00	35.00	35.00	35.00	40.00	40.00
72	35.00	35.00	35.00	35.00	40.00	40.00
73	35.00	35.00	35.00	35.00	50.00	40.00
74	35.00	35.00	35.00	35.00	50.00	40.00
75 & Over	100.00	100.00	100.00	100.00	100.00	100.00

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Rates (Safety):

Age	Rate (%)			
	Tier A Enhanced		Tier C Enhanced	Tier A Non-Enhanced and PEPR Tier D and Tier E
	Less than 30 Years of Service	Over 30 Years of Service		
45	7.00	8.75	2.00	0.00
46	3.00	3.75	1.00	0.00
47	10.00	12.50	4.00	0.00
48	10.00	12.50	4.00	0.00
49	25.00	31.25	12.00	0.00
50	25.00	31.25	18.00	5.00
51	25.00	31.25	18.00	4.00
52	18.00	22.50	15.00	4.00
53	18.00	22.50	15.00	5.00
54	18.00	22.50	15.00	6.00
55	20.00	30.00	18.00	10.00
56	20.00	30.00	15.00	10.00
57	22.00	33.00	15.00	18.00
58	22.00	33.00	25.00	18.00
59	22.00	33.00	25.00	18.00
60	25.00	37.50	25.00	18.00
61	25.00	37.50	25.00	20.00
62	25.00	37.50	25.00	20.00
63	30.00	45.00	30.00	20.00
64	40.00	60.00	35.00	25.00
65 & Over	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members:

General:	59
Safety with Reciprocity:	53
Safety without Reciprocity:	50

40% of future General and 70% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer.

For reciprocals, 3.75% and 4.25% compensation increases are assumed per annum for General and Safety, respectively.

Future Benefit Accruals:

1.0 year of service per year for full-time employees. Continuation of current partial service accrual for part-time employees.

Unknown Data for Members:

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Section 3: Actuarial Assumptions and Methods and Appendices

Definition of Active Members:	All active members of CCCERA as of the valuation date.																												
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement. There is no explicit assumption for children's benefit.																												
Percent Married:	For all active and inactive members, 65% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement.																												
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.																												
Offsets by Other Plans of the Employer for Disability Benefits:	The Plan requires members who retire because of disability from General Tier 3 and General PEPR A Tier 5 to offset the Plan's disability benefits with other Plans of the employer. We have not assumed any offsets in this valuation.																												
Leave Cashout Assumptions:	<p>The following assumptions for leave cashouts as a percentage of final average pay are used:</p> <p><i>General Tiers 1, 2 and 3 Safety Tiers A and C</i></p> <table border="0"> <tr> <td>Cost Group 1</td> <td>1.00%</td> </tr> <tr> <td>Cost Group 2</td> <td>0.50% for Tier 2 0.75% for Tier 3</td> </tr> <tr> <td>Cost Group 3</td> <td>4.75%</td> </tr> <tr> <td>Cost Group 4</td> <td>0.50%</td> </tr> <tr> <td>Cost Group 5</td> <td>1.25%</td> </tr> <tr> <td>Cost Group 6</td> <td>0.25%</td> </tr> <tr> <td>Cost Group 7</td> <td>0.75%</td> </tr> <tr> <td>Cost Group 8</td> <td>0.50%</td> </tr> <tr> <td>Cost Group 9</td> <td>0.00%</td> </tr> <tr> <td>Cost Group 10</td> <td>0.50%</td> </tr> <tr> <td>Cost Group 11</td> <td>2.50%</td> </tr> <tr> <td>Cost Group 12</td> <td>2.00%</td> </tr> <tr> <td>Cost Group 13</td> <td>0.50%</td> </tr> <tr> <td>Withdrawn Employers</td> <td>0.00%</td> </tr> </table> <p><i>General PEPR A Tiers 4 and 5 Safety PEPR A Tiers D and E</i></p> <p>None</p>	Cost Group 1	1.00%	Cost Group 2	0.50% for Tier 2 0.75% for Tier 3	Cost Group 3	4.75%	Cost Group 4	0.50%	Cost Group 5	1.25%	Cost Group 6	0.25%	Cost Group 7	0.75%	Cost Group 8	0.50%	Cost Group 9	0.00%	Cost Group 10	0.50%	Cost Group 11	2.50%	Cost Group 12	2.00%	Cost Group 13	0.50%	Withdrawn Employers	0.00%
Cost Group 1	1.00%																												
Cost Group 2	0.50% for Tier 2 0.75% for Tier 3																												
Cost Group 3	4.75%																												
Cost Group 4	0.50%																												
Cost Group 5	1.25%																												
Cost Group 6	0.25%																												
Cost Group 7	0.75%																												
Cost Group 8	0.50%																												
Cost Group 9	0.00%																												
Cost Group 10	0.50%																												
Cost Group 11	2.50%																												
Cost Group 12	2.00%																												
Cost Group 13	0.50%																												
Withdrawn Employers	0.00%																												

Section 3: Actuarial Assumptions and Methods and Appendices

Service From Accumulated Sick Leave Conversion:

The following assumptions for additional service converted from accumulated sick leave as a percentage of service at retirement are used:

Service Retirements

General: 1.10%

Safety: 1.80%

Disability Retirements

General: 0.06%

Safety: 1.20%

Pursuant to Section 31641.01, the cost of this benefit for the non-PEPRA tiers will be charged only to employers and will not affect member contribution rates.

Actuarial Cost Method:

Entry Age Actuarial Cost Method. Entry Age is calculated as age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation.

Expected Remaining Service Lives:

The average of the expected remaining service lives of all employees is determined by:

- Calculating each active employee's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each non-active or retired member.

Dividing the sum of the above amounts by the total number of active, non-active and retired members.

Changes in Actuarial Assumptions:

There have been no changes in actuarial assumptions since the prior valuation.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix A: Projection of Plan Fiduciary Net Position for Use in the Calculation of Discount Rate as of December 31, 2020 (\$ in millions)

Year Beginning January 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2020	\$9,257	\$450	\$508	\$11	\$882	\$10,070
2021	10,070	406	553	9	700	10,614
2022	10,614	393	583	9	736	11,150
2023	11,150	300	614	9	769	11,598
2024	11,598	283	644	8	799	12,027
2025	12,027	270	675	8	828	12,443
2026	12,443	263	705	8	856	12,849
2027	12,849	238	734	7	882	13,229
2028	13,229	183	762	7	906	13,548
2029	13,548	144	790	7	926	13,822
2060	13,830	2	1,051	0 *	932	13,712
2061	13,712	1	1,028	0 *	924	13,609
2062	13,609	1	1,004	0 *	918	13,524
2063	13,524	0 *	977	0 *	913	13,460
2064	13,460	0 *	949	0 *	910	13,420
2095	43,972	0	44	0	3,077	47,004
2096	47,004	0	35	0	3,289	50,258
2097	50,258	0	28	0	3,517	53,747
2098	53,747	0	22	0	3,762	57,486
2099	57,486	0	17	0	4,023	61,493
2137	751,117	0	0 *	0	52,578	803,696
2138	803,696					
2138	Discounted Value: 293 **					

* Less than \$1 million, when rounded.

** \$803,696 million when discounted with interest at the rate of 7.00% per annum has a value of \$293 million as of December 31, 2020. We note that \$293 million is the “theoretical” residual fair value in 2138 assuming that all the UAAL payments for the charge and credit amortization bases identified in the December 31, 2019 and subsequent valuations will be made. In practice, the Association will be expected to become fully funded before those bases are fully amortized and the UAAL payments will be set equal to \$0 to avoid the overfunding in some future valuations.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix A: Projection of Plan Fiduciary Net Position for Use in the Calculation of Discount Rate as of December 31, 2020 (continued)

1. Amounts may not total exactly due to rounding.
2. Amounts shown in the year beginning January 1, 2020 row are actual amounts, based on the unaudited financial statements provided by CCCERA.
3. Various years have been omitted from this table.
4. Column (a): Except for the 'discounted value' shown for 2138, none of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.
5. Column (b): Projected total contributions include member and employer normal cost rates applied to closed group projected payroll (based on covered active members as of December 31, 2019); plus employer contributions to the Unfunded Actuarial Accrued Liability; Contributions are assumed to occur halfway through the year, on average.
6. Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of December 31, 2019. The projected benefit payments reflect the cost of living increase assumptions adopted for use in the December 31, 2020 valuation report and include projected benefits associated with the Post Retirement Death Benefit Reserve.
7. Column (d): Projected administrative expenses are assumed to be 1.14% of closed group projected payroll and are assumed to occur halfway through the year, on average.
8. Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum.
9. As illustrated in this Appendix, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected 'cross-over date' when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of December 31, 2020 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.
10. This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of Plan Fiduciary Net Position and the discounting of benefits is part of the model.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 68. The terms may have different meanings in other contexts.

Active Employees	Individuals employed at the end of the reporting or measurement period, as applicable.
Actual Contributions	Cash contributions recognized as additions to a Pension Plan Fiduciary Net Position.
Actuarial Present Value of Projected Benefit Payments	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GAS.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs)	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Automatic Cost-of-Living Adjustments (Automatic COLAs)	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Closed Period	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions	Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability.
Collective Net Pension Liability	The Net Pension Liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.
Collective Pension Expense	Pension expense arising from certain changes in the collective Net Pension Liability.
Contributions	Additions to a Pension Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.

Section 3: Actuarial Assumptions and Methods and Appendices

Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Employer	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll	Payroll on which contributions to the pension plan are based.
Defined Benefit Pension Plans	Pension plans that are used to provide defined benefit pensions.
Defined Benefit Pensions	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 68.)
Defined Contribution Pension Plans	Pension plans that are used to provide defined contribution pensions.
Defined Contribution Pensions	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount Rate	<p>The 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 total of the following:</p> <ol style="list-style-type: none"> 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan Fiduciary Net Position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry Age Actuarial Cost Method	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the <i>normal cost</i> . The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the <i>actuarial accrued liability</i> .

Section 3: Actuarial Assumptions and Methods and Appendices

Inactive Employees	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Measurement Period	The period between the prior and the current measurement dates.
Multiple-Employer Defined Benefit Pension Plan	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.
Pension Plans	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed, and benefits are paid as they come due.
Pensions	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan Members	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment	The period after employment.
Postemployment Benefit Changes	Adjustments to the pension of an inactive employee.
Projected Benefit Payments	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public Employee Retirement System	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real Rate of Return	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Termination Benefits	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 68.

5674611v5/05337.015



Meeting Date
09/22/2021
Agenda Item
#6

MEMORANDUM

Date: September 22, 2021
To: CCCERA Board of Retirement
From: Gail Strohl, Chief Executive Officer
Subject: Consider and take possible action to amend the Interest Crediting and Excess Earnings policy.

Background

In 1990, CCCERA adopted an Excess Earnings Policy and in 2002, an Interest Crediting Policy. These two policies were redrafted, amended and adopted as a combined policy on May 17, 2006.

The amended policy for Board consideration contains cleanup language, including a reference to how interest is credited semi-annually and term definitions.

Recommendation

Consider and take possible action to amend the Interest Crediting and Excess Earnings policy.

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

INTEREST CREDITING AND EXCESS EARNINGS POLICY

~~Excess Earnings Policy Adopted 9/11/90, Amended 3/11/97, 2/12/02~~

~~Interest Crediting Policy Adopted 02/12/02, Amended 6/11/03~~

~~Redrafted and Amended Combined Policy Adopted 5/17/2006~~

PURPOSE OF POLICY:

The purposes of this policy are to establish a methodology for:

- (1) crediting interest to contributions and reserves in the retirement system; and
- (2) administering the ~~“excess” earnings~~Excess Earnings, as defined, of the retirement system.

GOVERNING LAW:

CCCERA is governed by provisions of the County Employees’ Retirement Law of 1937 (“CERL”), as well as other ~~f~~Federal and ~~s~~State laws relating to public retirement systems. Pursuant to CERL, Govt’ Code Section 31591, interest is to be credited semiannually on June 30th and December 31st to all contributions in the retirement fund which have been on deposit for six months immediately prior to that date.

CERL generally governs interest crediting and ~~excess earnings~~Excess Earnings. Various reserves and designations are established and maintained by the Board under procedures adopted by the Board of Retirement pursuant to CERL.

GENERAL PRINCIPLES AND OBJECTIVES:

1. Determine “Available Earnings” according to the Actuarial Value of Assets (~~AVA~~) methodology. ~~AVA~~Available Earnings on the Actuarial Value of Assets is equal to the expected earnings on a semi-annual basis consistent with the Board-adopted ~~semi-annual regular interest rate~~Actuarially Assumed Investment Rate of Return plus 10% of the market value gain or loss (relative to the respective Board-adopted ~~regular interest rates~~Actuarially Assumed Investment Rate of Return) for each of the current and nine prior semi-annual accounting periods plus the balance in the Contingency Reserve(s-) and Unrestricted Designation.
2. Credit interest on member accounts semi-annually as of June 30th and December 31st in equal amounts which when taken together and compounded are equal to the Board-adopted Actuarially Assumed Investment Rate of Return for that fiscal year.
- ~~2-3.~~Credit Available Earnings to remaining valuation and post-retirement death benefit reserves at the full Board-adopted regular interest rate, as of June 30th and December 31st in equal amounts which when taken together and compounded are equal to the Board-adopted Actuarially Assumed Investment Rate of Return for that fiscal year.

3.4. Maintain a Contra Tracking Account (“CTA”) to track any shortfalls of Available Earnings relative to earnings required to credit full interest to valuation and post-retirement death benefit reserves. Any such shortfalls will be funded from future Available Earnings as described in the next item.

4.5. Replenish shortfalls in the CTA and maintain the contingency reserves before deciding to use Available Earnings for any discretionary uses.

5.6. After crediting ~~full interest~~ Full Interest to valuation and post-retirement death benefit reserves, use any remaining Available Earnings in the following order of priority:

- a. Eliminate prior shortfalls of Available Earnings as tracked in the balance of the CTA by reducing the balance of the CTA to zero.
- b. Bring the Statutory Contingency Reserve to 1% of total assets. This reserve is to be used as a reserve against deficiencies in interest, losses on investments and other contingencies.
- c. Bring the Board Contingency Designation to the 1% level established by the Board. The Board Contingency Designation is to be used for those same purposes established for the Statutory Contingency Reserve (i.e., a deficiency in interest earnings, losses on investments and other contingencies.)
- d. Consider granting new retiree Dollar Power Benefit to maintain retiree purchasing power at 80% level when established by Board and sufficiently funded pursuant to Government Code Section 31874.3(c).
- e. Consider using Available Earnings to restore funding, as necessary, of benefits previously granted by the board of supervisors under Government Code section 31683 to CCCERA members who retired before January 1, 1983, and their surviving beneficiaries.
- f. Consider the following discretionary uses of any remaining ~~excess earnings~~ Available Earnings:
 - Payment of health and welfare benefits as authorized under Government Code Section 31592.2.
 - Transfer to employer advance reserves the amount needed to reduce or eliminate the employer and/or member cost-of-living contribution rate component for a period to be determined by the Board to the extent permitted under Govt. Code sec. 7522.52.
 - Transfers to employer advance reserves under Government Code 31592.2, which may reduce CCCERA’s Unfunded Actuarial Accrued Liability.
 - Transfers to a reserve or designation to pay ancillary benefits as permitted by law, including without limitation those provided in Government Code section 31683.
 - Transfers to a reserve or designation for other uses as permitted by law.

6.7. Any remaining Available Earnings will be transferred to the Unrestricted Designation.

INTEREST CREDITING POLICY:

Step 1 - Determine “Available Earnings” for accounting period as the sum of:

- a. Earnings of the retirement fund for the period based on Actuarial Value of Assets methodology, expressed in dollars. This could be a negative amount.
- b. Balance in the Unrestricted Designation
- c. Balance in any Board Contingency Designation
- d. Balance in the Statutory Contingency Reserve

Step 2 - Credit interest to Member Deposit and Member Cost of Living Reserves ~~at the Board-Adopted Member Crediting Rate~~

Deduct this interest amount from Available Earnings. If this amount of interest is more than Available Earnings, charge the shortfall to the Contra Tracking Account.

Step 3 - Credit interest on all other Valuation Reserves and the Post Retirement Death Benefit Reserves ~~at the Board-Adopted Regular Interest Rate~~

If Available Earnings is not sufficient, charge the shortfall to the Contra Tracking Account.

EXCESS EARNINGS POLICY:

Step 1 - Reduce the balance in the Contra Tracking Account to zero

Transfer from any remaining Available Earnings an amount to be applied to the balance in the Contra Tracking Account until the balance is zero.

Step 2 - Restore the Statutory Contingency Reserve

Transfer from any remaining Available Earnings into Statutory Contingency Reserve the amount required to maintain the Statutory Contingency Reserve balance at 1% of market value.

Step 3 - Restore Board Contingency Designation to 1%

Transfer any remaining Available Earnings into the Board Contingency Designation the amount required to maintain the Board Contingency Designation at 1% of market value.

Step 4 - Maintain retiree Dollar Power Benefit

Direct CCCERA’s actuary to determine the cost of fully funding retiree Dollar Power Benefits effective on a date to be determined by CCCERA’s Board, as required by Government Code Section 31874.3(c). The Board must also obtain: (a) from CCCERA’s actuary, an analysis of the

impact of such actions on current and future annual costs, contribution rates, Unfunded Actuarial Accrued Liabilities and Funding Ratios; and (b) the advice of legal counsel. If remaining Available Earnings are sufficient to fully fund the Dollar Power Benefits as of the date determined by the Board, the Board may, with the advice of the actuary and legal counsel, transfer any remaining Available Earnings into a reserve to maintain the retiree Dollar Power Benefits at the 80% purchasing power level.

Step 5 - Maintain funding of additional benefits previously granted by Board of Supervisors under Government Code section 31683

Direct CCCERA's actuary to determine whether the balance of funds previously transferred by the Board under Government Code section 31683 to fully fund the costs of additional benefits previously granted by the Board of Supervisors to pre-January 1, 1983 CCCERA retirees and their surviving beneficiaries are sufficient to maintain full funding of such benefits, and if not, to determine the cost to maintain full funding of those benefits. If an additional transfer of Available Earnings is necessary to fully fund the benefits, the Board must also obtain: (a) from CCCERA's actuary, an analysis of the impact of such actions on current and on future annual cost, on contribution rates, Unfunded Actuarial Accrued Liabilities and Funding Ratios; and (b) the advice of legal counsel. If remaining Available Earnings are available to maintain full funding of the Section 31683 benefits the Board may, with the advice of the actuary and legal counsel, transfer any remaining Available Earnings into the reserve created to fund such benefits.

Step 6 - Consider other discretionary uses

The Board may, in its discretion, consider any and all of the following uses of any remaining Available Earnings, which are not listed in order of priority. Prior to implementing any of the following options the Board must obtain: (a) from CCCERA's actuary, an analysis of the impact of such actions on current and future annual costs, on contribution rates, Unfunded Actuarial Accrued Liabilities and Funding Ratios; and (b) the advice of legal counsel.

- Transfers for health and welfare benefits as authorized under Government Code Section 31592.2.
- Transfers to employer advance reserves the amount needed to reduce or eliminate the employer and/or member cost-of-living contribution rate component for a period to be determined by the Board to the extent permitted under Govt. Code sec. 7522.52.
- Transfers to employer advance reserves under Government Code 31592.2 so as to reduce CCCERA's Unfunded Actuarial Accrued Liability.
- Transfers to a reserve or designation to pay ancillary benefits as permitted by law, including without limitation those provided in Government Code section 31683.
- Transfers to a reserve or designation for other uses as permitted by law.

Step 7 - Transfer Remaining Available Earnings to Unrestricted Designation

Any remaining Available Earnings will be transferred to the Unrestricted Designation.

DEFINITIONS:

Actuarially Assumed Investment Rate of Return: The expected investment earnings rate of return used in the annual actuarial valuation of the Plan, recommended to the Board by the Plan's actuary in an experience study and set by the Board.

Actuarial Value of Assets: The Market Value of Assets less deferred investment gains or losses as calculated under the Plan's actuarial asset smoothing method.

Available Earnings: The actual earnings of the Plan as determined based on the smoothed Actuarial Value of Assets and funds previously set aside in the Contingency Reserve.

Excess Earnings: Any Available Earnings remaining after the steps outlined in the Interest Crediting Policy have been completed.

Full Interest: The Actuarially Assumed Investment Rate of Return adopted by the Board for the subject fiscal year.

Market Value of Assets: An asset value where the full value of investment earnings is recognized in a year.

Valuation Reserves: Valuation reserves are used to determine the employers' and members' statutory contribution rates. The following reserves, as defined below, are considered Valuation Reserves into which earnings are credited at certain limits:

1. Member Deposits and Cost of Living Reserves are the reserves for all member contributions.
2. Employer Advance and Cost of Living Reserves are the reserves for statutorily determined contributions from all employers.
3. Retired Member and Cost of Living Reserves are the reserves for retirees. Funds from the Member Deposits and Cost of Living Reserves and the Employer Advance and Cost of Living Reserves attributable to a specific member are transferred to the Retired Member and Cost of Living Reserves when the member retires.
4. Contra Tracking Account is the reserve that tracks the amount of interest credited to the reserve accounts that has not been paid for out of current or Excess Earnings.
5. Dollar Power Cost of Living Supplemental Reserve is the reserve containing the balance of prior Available Earnings transfers made by the Board to provide Dollar Power Benefits.

Non-Valuation Reserves: These reserves are not used to determine employers' statutory contribution rates. The following reserves, as defined below, are considered Non-Valuation Reserves into which earnings are credited at certain limits:

1. Contingency Reserve is a statutorily defined reserve against deficiencies in earnings, losses on investments or other contingencies which, pursuant to Sections 31592 and 31592.2 of the CERL, must not be less than 1% of the actuarial value of assets.
2. Post Retirement/Death Benefit Reserve is the reserve for the balance of transfers from Excess Earnings and related earnings, less lump sum death benefit payments to beneficiaries of retirees.
3. Unrestricted Designation is the amount of Available Earnings remaining after the application of the Interest Crediting Policy and the Excess Earnings Policy
4. Total Deferred Return represents the unrecognized return after smoothing of investment gains and losses.

POLICY REVIEW

The Board of Retirement will review this Policy at least every three (3) years to ensure that it remains relevant and appropriate.

HISTORY

Excess Earnings Policy Adopted: 9/11/1990
Amended: Amended 3/11/1997, 2/12/2002

Interest Crediting Policy Adopted~~I certify that this is a true reflection of an action taken and entered on the minutes of the Retirement Board on the date shown~~

Date of Action: _____

By: _____
Chief Executive Officer

: 2/12/2002
Amended: 6/11/2003

Redrafted and Amended Combined Policy Adopted: 5/17/2006
Amended: / /2021

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

INTEREST CREDITING AND EXCESS EARNINGS POLICY

PURPOSE OF POLICY:

The purposes of this policy are to establish a methodology for:

- (1) crediting interest to contributions and reserves in the retirement system; and
- (2) administering the Excess Earnings, as defined, of the retirement system.

GOVERNING LAW:

CCCERA is governed by provisions of the County Employees' Retirement Law of 1937 ("CERL"), as well as other federal and state laws relating to public retirement systems. Pursuant to CERL, Govt' Code Section 31591, interest is to be credited semiannually on June 30th and December 31st to all contributions in the retirement fund which have been on deposit for six months immediately prior to that date.

CERL generally governs interest crediting and Excess Earnings. Various reserves and designations are established and maintained by the Board under procedures adopted by the Board of Retirement pursuant to CERL.

GENERAL PRINCIPLES AND OBJECTIVES:

1. Determine "Available Earnings" according to the Actuarial Value of Assets methodology. Available Earnings on the Actuarial Value of Assets is equal to the expected earnings on a semi-annual basis consistent with the Board-adopted Actuarially Assumed Investment Rate of Return plus 10% of the market value gain or loss (relative to the respective Board-adopted Actuarially Assumed Investment Rate of Return) for each of the current and nine prior semi-annual accounting periods plus the balance in the Contingency Reserve(s) and Unrestricted Designation.
2. Credit interest on member accounts semi-annually as of June 30th and December 31st in equal amounts which when taken together and compounded are equal to the Board-adopted Actuarially Assumed Investment Rate of Return for that fiscal year.
3. Credit Available Earnings to remaining valuation and post-retirement death benefit reserves as of June 30th and December 31st in equal amounts which when taken together and compounded are equal to the Board-adopted Actuarially Assumed Investment Rate of Return for that fiscal year.
4. Maintain a Contra Tracking Account ("CTA") to track any shortfalls of Available Earnings relative to earnings required to credit full interest to valuation and post-retirement death benefit reserves. Any such shortfalls will be funded from future Available Earnings as described in the next item.

5. Replenish shortfalls in the CTA and maintain the contingency reserves before deciding to use Available Earnings for any discretionary uses.
6. After crediting Full Interest to valuation and post-retirement death benefit reserves, use any remaining Available Earnings in the following order of priority:
 - a. Eliminate prior shortfalls of Available Earnings as tracked in the balance of the CTA by reducing the balance of the CTA to zero.
 - b. Bring the Statutory Contingency Reserve to 1% of total assets. This reserve is to be used as a reserve against deficiencies in interest, losses on investments and other contingencies.
 - c. Bring the Board Contingency Designation to the 1% level established by the Board. The Board Contingency Designation is to be used for those same purposes established for the Statutory Contingency Reserve (i.e., a deficiency in interest earnings, losses on investments and other contingencies.)
 - d. Consider granting new retiree Dollar Power Benefit to maintain retiree purchasing power at 80% level when established by Board and sufficiently funded pursuant to Government Code Section 31874.3(c).
 - e. Consider using Available Earnings to restore funding, as necessary, of benefits previously granted by the board of supervisors under Government Code section 31683 to CCCERA members who retired before January 1, 1983, and their surviving beneficiaries.
 - f. Consider the following discretionary uses of any remaining Available Earnings:
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 - Transfers to employer advance reserves under Government Code 31592.2, which may reduce CCCERA's Unfunded Actuarial Accrued Liability.
 - Transfers to a reserve or designation to pay ancillary benefits as permitted by law, including without limitation those provided in Government Code section 31683.
 - Transfers to a reserve or designation for other uses as permitted by law.
7. Any remaining Available Earnings will be transferred to the Unrestricted Designation.

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- d. Balance in the Statutory Contingency Reserve

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Deduct this interest amount from Available Earnings. If this amount of interest is more than Available Earnings, charge the shortfall to the Contra Tracking Account.

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Earnings are sufficient to fully fund the Dollar Power Benefits as of the date determined by the Board, the Board may, with the advice of the actuary and legal counsel, transfer any remaining Available Earnings into a reserve to maintain the retiree Dollar Power Benefits at the 80% purchasing power level.

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4. Contra Tracking Account is the reserve that tracks the amount of interest credited to the reserve accounts that has not been paid for out of current or Excess Earnings.
5. Dollar Power Cost of Living Supplemental Reserve is the reserve containing the balance of prior Available Earnings transfers made by the Board to provide Dollar Power Benefits.

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2. Post Retirement/Death Benefit Reserve is the reserve for the balance of transfers from Excess Earnings and related earnings, less lump sum death benefit payments to beneficiaries of retirees.
3. Unrestricted Designation is the amount of Available Earnings remaining after the application of the Interest Crediting Policy and the Excess Earnings Policy
4. Total Deferred Return represents the unrecognized return after smoothing of investment gains and losses.

POLICY REVIEW

The Board of Retirement will review this Policy at least every three (3) years to ensure that it remains relevant and appropriate.

HISTORY

Excess Earnings Policy Adopted: 9/11/1990

Amended: Amended 3/11/1997, 2/12/2002

Interest Crediting Policy Adopted: 2/12/2002

Amended: 6/11/2003

Redrafted and Amended Combined Policy Adopted: 5/17/2006

Amended: __/__/2021

Meeting Date
09/22/2021
Agenda Item
#7



Contra Costa County Employees'
Retirement Association

Timothy Price, CFA

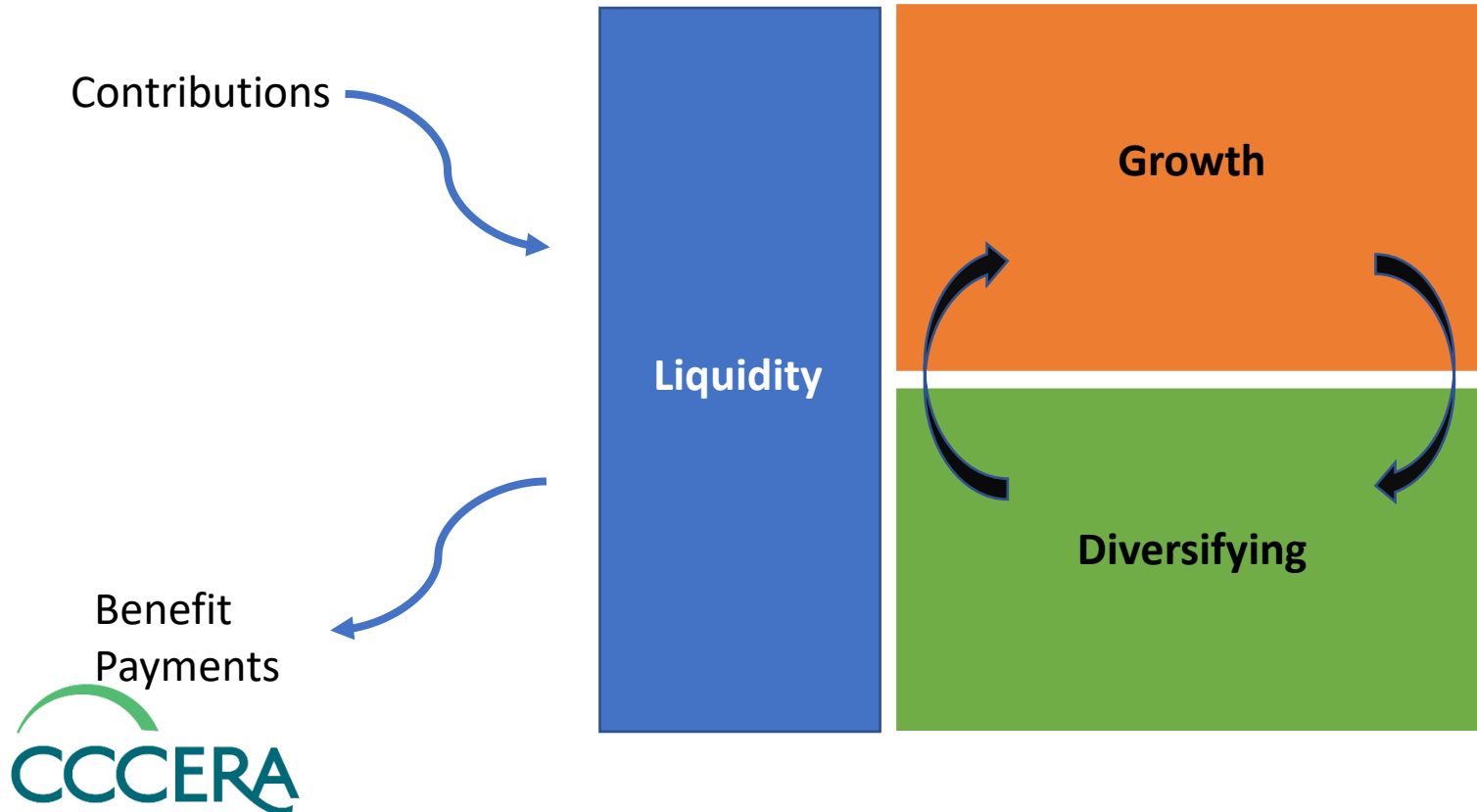
Chief Investment Officer

Growth Public Markets Sub-Portfolio Review

September 22, 2021

Role of Growth in CCCERA Portfolio

- Expected to be the dominant engine to fund future benefit payments.



CCCERA Growth Goals

- Capture global economic and earnings growth.
- Adjust allocations based upon asset class valuations.
- Remain invested long term to capture full opportunity set.

Global Markets: Returns

Index	7/31/2020	7/31/2021	Year/Year
MSCI World (global developed)	2,304.98	3,069.25	33.2%
S&P 500	3,271.12	4,395.26	34.4%
S&P Value	5,675.33	7,700.16	35.7%
S&P Growth	5,774.72	7,918.87	37.1%
NASDAQ	10,745.27	14,672.68	36.6%
Euro Stoxx	3,174.32	4,089.30	28.8%
Japan Nikkei	21,710.00	27,283.59	25.7%
Hang Seng (China, Hong Kong)	24,595.35	25,961.03	5.6%
CSI 300 (China, Shanghai)	4,695.05	4,811.17	2.5%
Emerging Markets	1,078.92	1,277.80	18.4%
Risk Parity 10% Volatility	3,448.99	3,944.71	14.4%
Real Estate (NCREIF)	3,869.00	4,154.00	7.4%
Commodities	339.82	541.13	59.2%
US Treasuries	2,605.74	2,527.29	-3.0%

Source: Bloomberg



CCCERA Growth Asset Allocation

Asset Class	Allocation as of 8/31/21	Current Target Allocation	Delta
Domestic Equity	15.9%	16.0%	-0.1%
International Equity	9.5%	8.0%	1.5%
Global Equity	10.0%	9.0%	1.0%
Emerging Markets Equity	7.6%	8.0%	-0.4%
Private Equity	10.4%	11.0%	-0.6%
Private Credit	6.6%	8.0%	-1.4%
Real Estate	6.2%	10.0%	-3.8%
Risk Parity	4.5%	3.0%	1.5%
High Yield	1.6%	2.0%	-0.4%

CCCERA Growth Performance

- **Growth Portfolio generated outsized returns.** 28.7% (net) over the last 12 months ended 7-31-2021.
- **Growth Portfolio outperformed forecast.** Outperformed Versus forecast by 3.0%: 5-year return of 11.8% versus 8.8% forecast.
- **Growth Portfolio underperformed the benchmark.** Underperformed the MSCI ACWI by 2.0% over the same 5-year period.
- **Growth Portfolio outperformed on a risk-adjusted basis.** Sharpe ratio 1.20 versus forecast 0.51 and MSCI ACWI actual of 0.88.
- **Accurate Forecasts.** Most 10-year forecasts are close to realized 5-year results. Exceptions: Short-Term Cash and Domestic Equity lower than forecast and a driver of higher returns in the latter.

CCCERA Growth: Returns by Asset Class

CCCERA Growth Returns by Asset Class, ended 7/31/2021				
Asset Class	1 Year	3 Years	5 Years	10 Years
Growth	28.7%	11.9%	11.8%	--
Domestic Equity	39.4%	15.0%	15.9%	14.3%
International Equity	32.2%	11.2%	10.2%	7.0%
Global Equity	26.5%	15.8%	14.6%	10.6%
Emerging Markets Equity	39.6%	9.7%	--	--
Private Equity	51.3%	17.5%	15.8%	13.0%
Private Credit	14.5%	6.9%	7.9%	10.0%
Real Estate	5.9%	4.5%	6.2%	9.0%
Risk Parity	19.5%	--	--	--
High Yield	7.6%	5.7%	5.7%	5.4%

Source: Northern Trust. Data unavailable for some periods given inception dates. All returns stated net of fees.



Forecast vs. Actual Performance

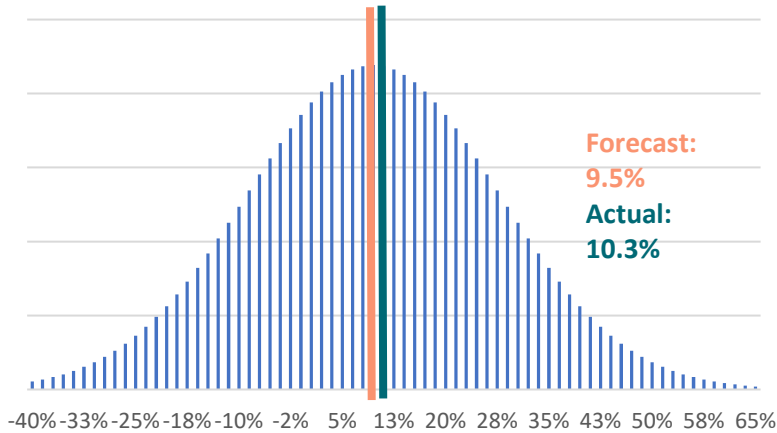
CCCERA 5-Year Results vs Verus 2015 10-Year Forecast									
Actual Returns, SD and Sharpe, 5-years ended 7-31-2021				2015 10-Year Forecast			Delta: Actual less Forecast		
Asset Class	Returns	Standard Deviation	Sharpe Ratio	Returns	Standard Deviation	Sharpe Ratio	Returns	Standard Deviation	Sharpe Ratio
MSCI ACWI	13.8%	14.3%	0.88	7.4%	16.5%	0.32	6.4%	-2.2%	0.56
Growth	11.8%	8.7%	1.20	8.8%	15.0%	0.51	3.0%	-6.3%	0.69
Domestic Equity	15.9%	16.5%	0.90	5.7%	14.7%	0.25	10.2%	1.8%	0.65
International Equity	10.2%	14.7%	0.62	9.5%	18.2%	0.41	0.7%	-3.5%	0.21
Global Equity	14.6%	12.3%	1.09	7.4%	16.5%	0.32	7.2%	-4.2%	0.77
Emerging Markets (3 years)	12.6%	21.6%	0.52	11.5%	23.7%	0.40	1.1%	-2.1%	0.12
Private Equity	15.8%	8.8%	1.68	7.7%	23.7%	0.24	8.1%	-14.9%	1.44
Private Credit	7.9%	4.9%	1.40	7.8%	10.5%	0.55	0.1%	-5.6%	0.85
Real Estate	6.2%	4.1%	1.24	5.1%	13.2%	0.23	1.1%	-9.1%	1.01
Risk Parity (2 years)	10.3%	9.7%	0.98	7.1%	16.5%	0.32	3.2%	-6.8%	0.66
High Yield	5.7%	6.6%	0.69	5.2%	10.5%	0.30	0.5%	-3.9%	0.39

Source: Northern Trust and Verus

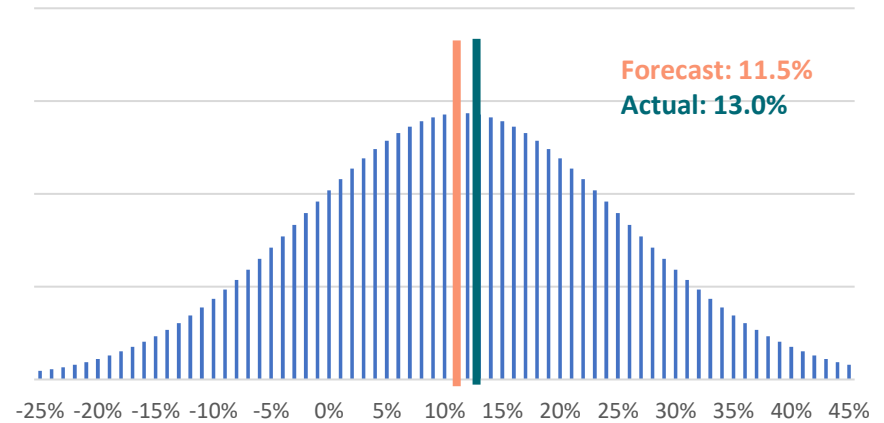


Growth Returns: Actual vs 2015 Forecast

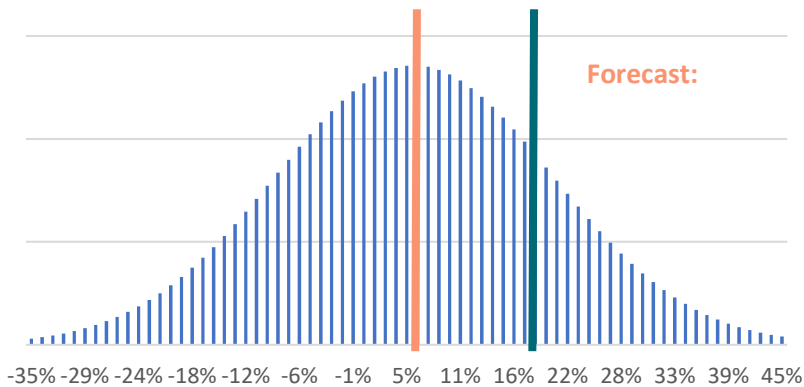
International Developed



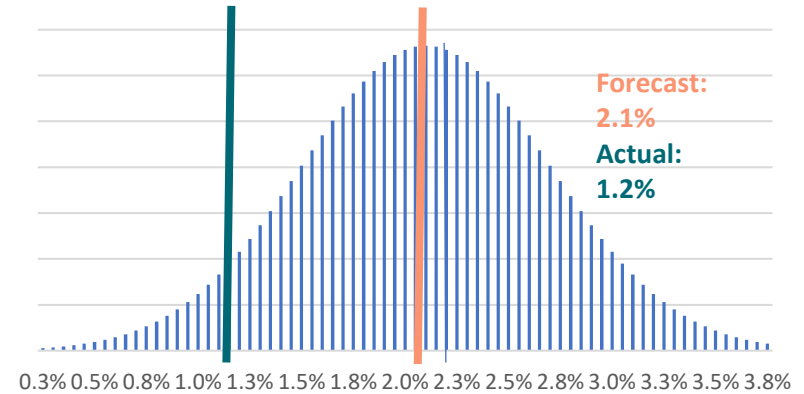
Emerging Markets



Domestic Large Cap



30-Day Cash



CCCERA Portfolio Growth: Key Takeaways

- **Growth Portfolio tracking Versus 10-year forecasts.** Portfolio outperformed on an absolute and risk-adjusted basis.
- **Growth Portfolio underperformed ACWI .** On an absolute return basis, the Growth Portfolio lagged the MSCI ACWI by 2.0% but with less risk. Portfolio outperformed ACWI on risk-adjusted basis (Sharpe ratio of 1.2 versus ACWI at 0.9).
- **Low rates, unprecedented monetary & fiscal stimulus drive better than expected returns.** Particularly evident in the last 12 months.

CCCERA Growth: Rolling Returns

CCCERA Growth Sub-Portfolio and MSCI ACWI					
Period ended 7-31	2017	2018	2019	2020	2021
One-Year Returns					
CCCERA					
One-Year Returns	13.2%	10.1%	4.6%	4.6%	28.7%
Standard Deviation	3.4%	6.0%	10.6%	12.7%	7.9%
Sharpe Ratio	3.74	1.47	0.21	0.26	3.34
MSCI ACWI					
One-Year Returns	17.1%	11.0%	2.9%	7.2%	33.2%
Standard Deviation	4.6%	8.7%	17.1%	22.1%	14.4%
Sharpe Ratio	3.58	1.10	0.04	0.26	2.30
Five-Year Rolling Returns					
CCCERA					
Five-Year Rolling Returns	10.4%	9.4%	7.8%	7.1%	11.8%
Standard Deviation	5.5%	5.6%	6.8%	8.6%	8.7%
Sharpe Ratio	1.88	1.59	1.02	0.69	1.20
MSCI ACWI					
Five-Year Rolling Returns	10.9%	9.0%	6.5%	7.4%	13.8%
Standard Deviation	10.0%	10.1%	11.8%	14.7%	14.5%
Sharpe Ratio	1.07	0.86	0.48	0.42	0.88

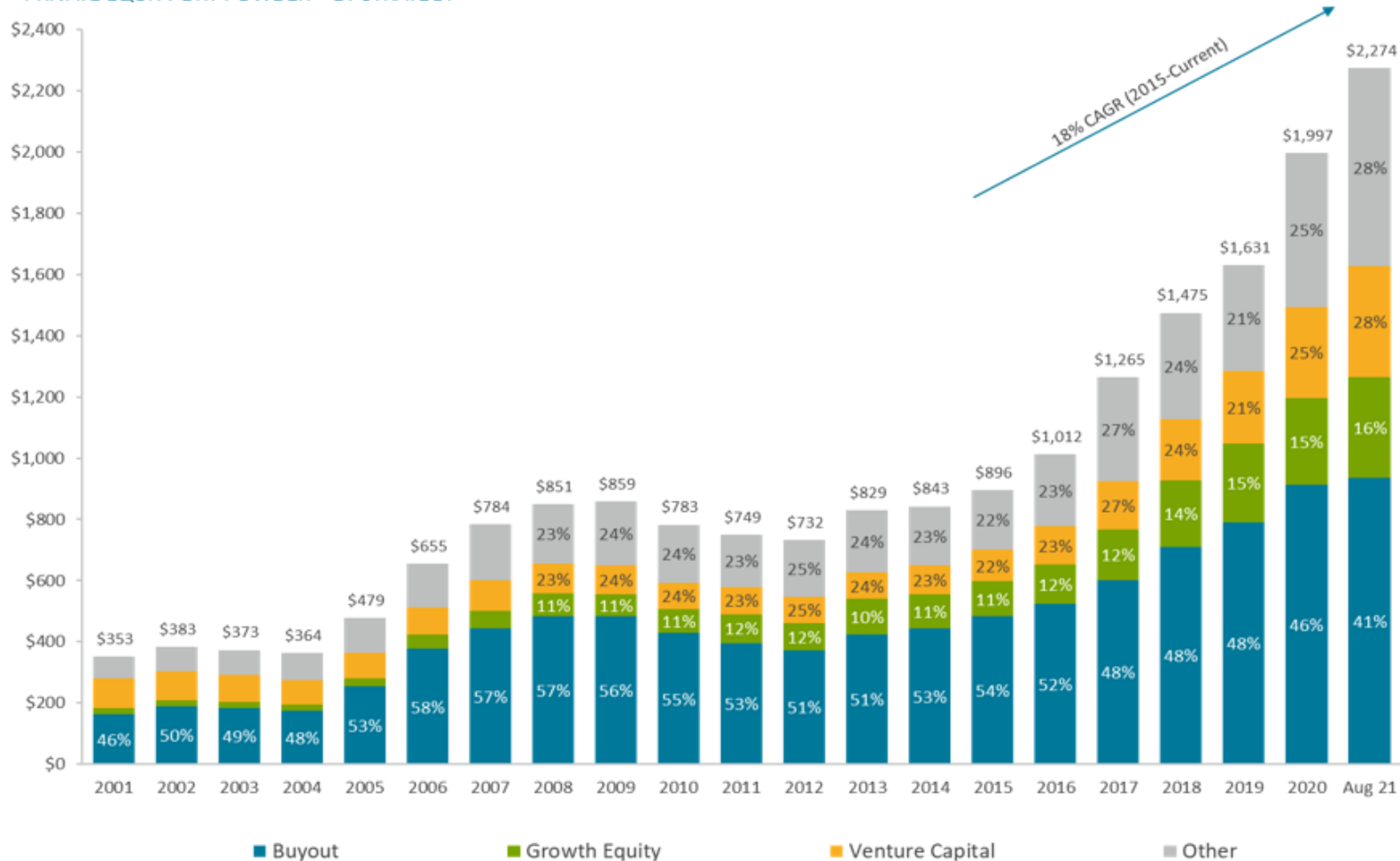
Source: Northern Trust and eVestment



Private Equity: Dry Powder

As of Aug 2021, Dry powder has increased 14% since YE 2020

PRIVATE EQUITY DRY POWDER – BY STRATEGY



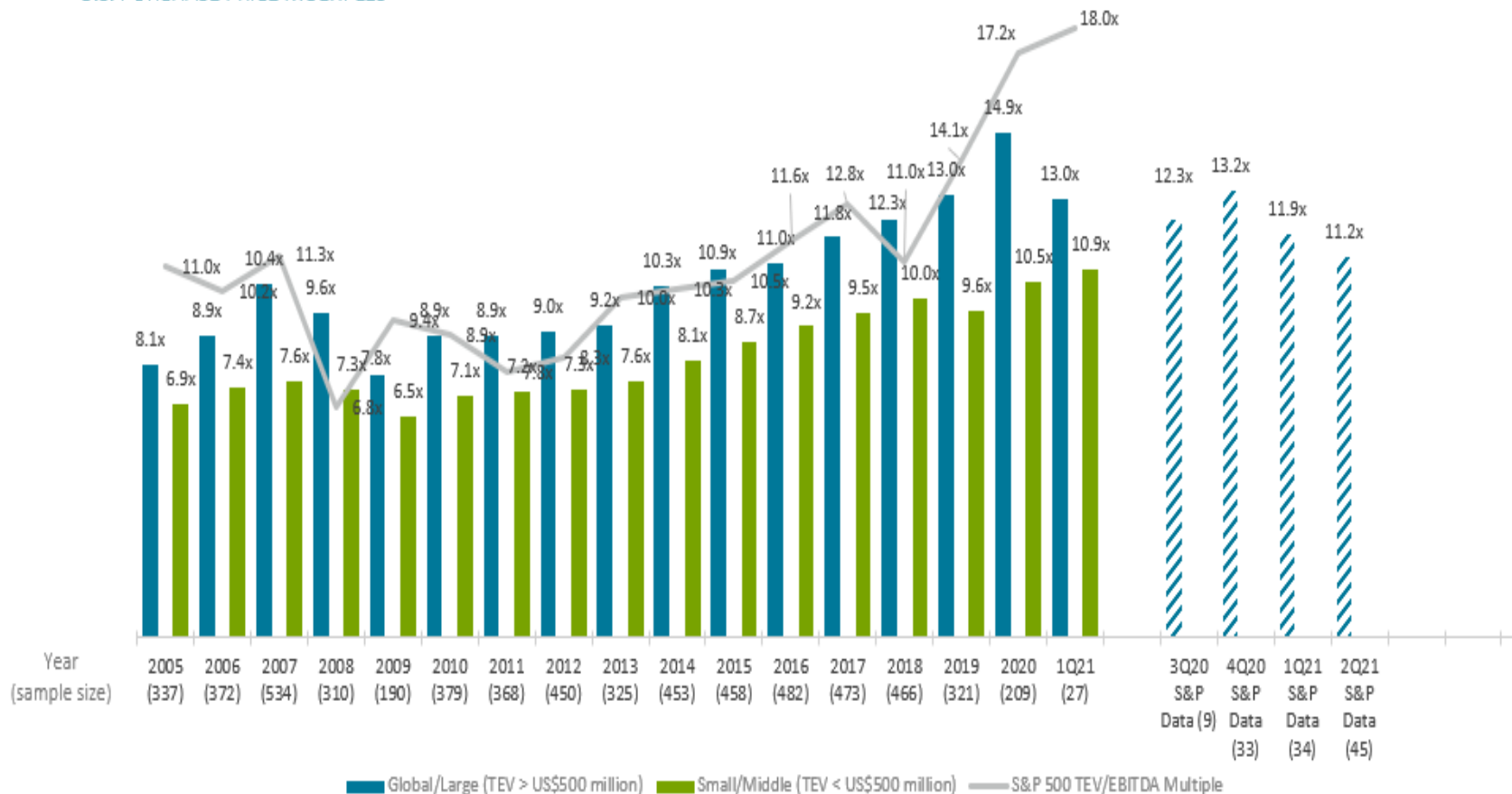
Source: Stepstone



Private Equity: US Purchase Price Multiples

Now well off 4Q20 highs

U.S. PURCHASE PRICE MULTIPLES



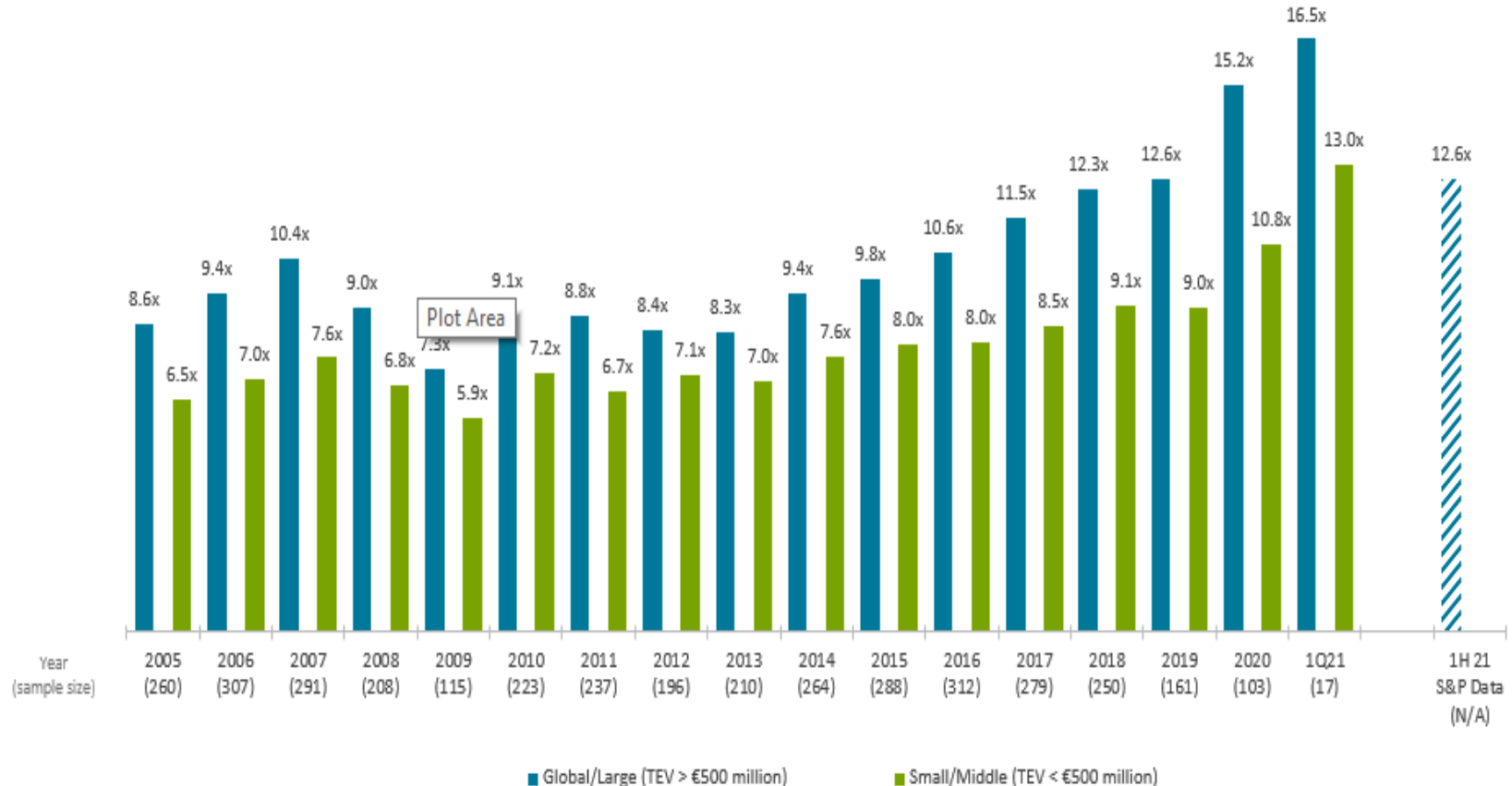
Source: Stepstone



Private Equity: Euro Purchase Price Multiples

European multiples have exhibited the same behavior as the US

EUROPEAN PURCHASE PRICE MULTIPLES



Source: Stepstone



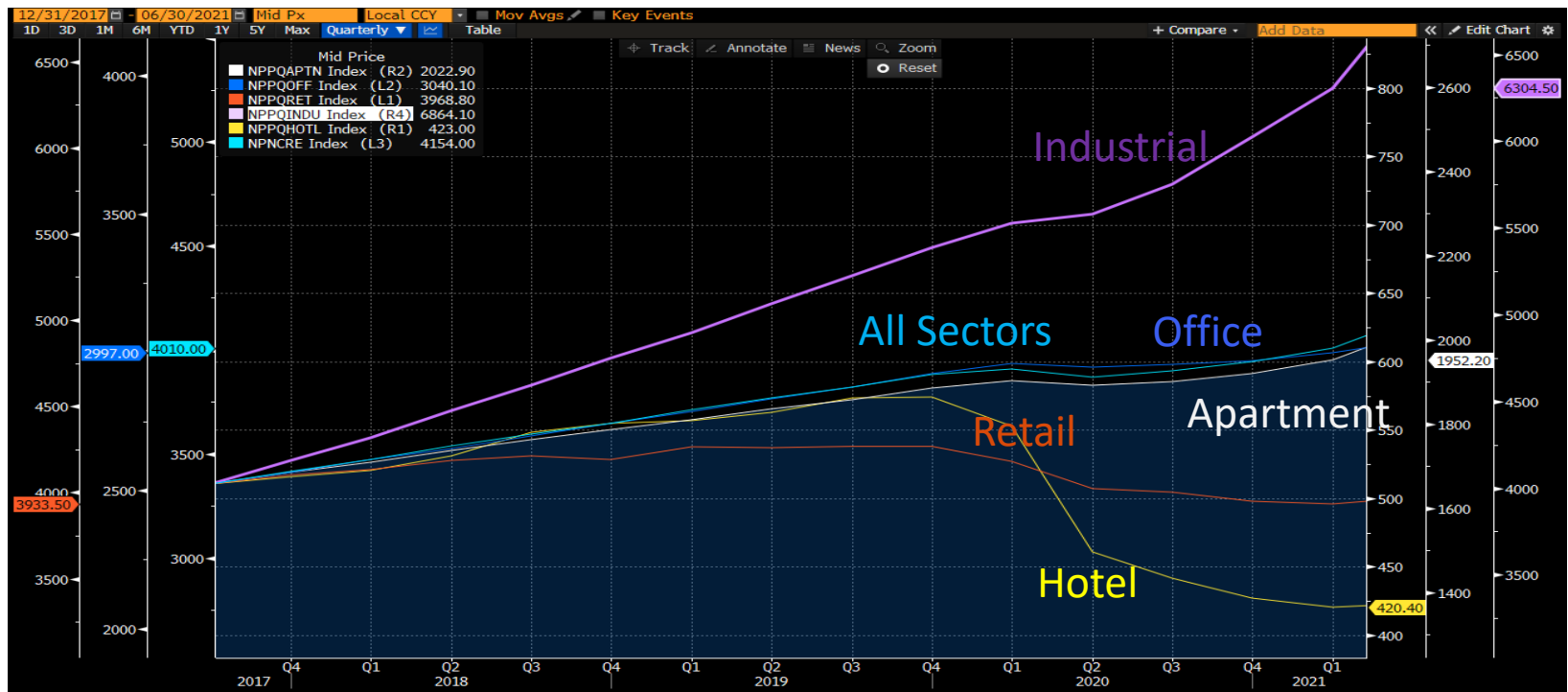
Real Estate

- **Hardest Hit Asset Class by Covid.** People's mobility reduced, during the pandemic. Hotels and retail most impacted.
- **Uneven Sector Recovery.** Covid variants dampen recovery for Office, physical Retail, and Hotel. Industrial demand strong, but sector is small. Apartments, briefly suffering from temporary drop on rent collection in Q2/Q3 2020, are now fully priced by capital markets, which CCCERA's managers have been actively selling into.
- **Suburbs Outperform Metros: Reverse from Pre-Covid.** Tech hot spots like NYC, San Francisco lost attractiveness due to reduced amenities, increased safety concerns. Suburbs with good school districts become safe harbors as employees escape Central Business Districts. CCCERA's worst exposure to Metro centers written down 10-30%.
- **Alternative Real Estate Sectors Outperform Traditional.** Single Family Rental, Life Science, Data Center, Cell Tower, Storage, Manufactured Homes, etc. continue to grow.

Real Estate Returns by Sector

Uneven recovery. Industrial +27.4% and Hotels -26.3% (last 18 months ended 6-30-2021)

COVID. Most negatively impacted Retail and Hotel Sectors. Office benefits from long-term leases.



Source: Bloomberg



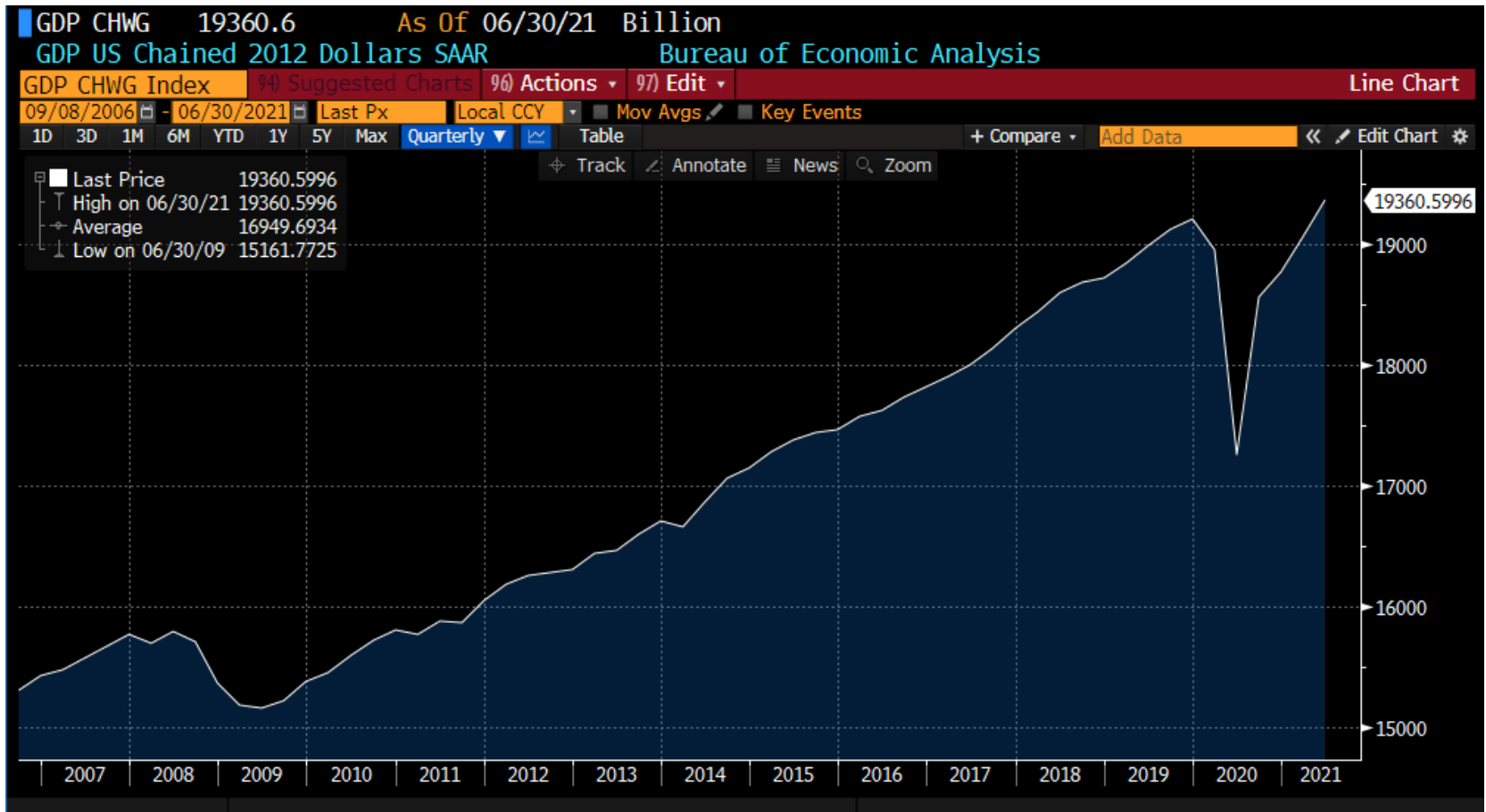
2021 Equity Return Drivers

- **V-Shaped Economic Recovery.** US GDP declined by 3.4% in 2020, with current consensus at 6.2% and 4.3% for 2021 and 2022, respectively, US economy will post a 2.3% CAGR over the three years ending 2022.
- **Increased Vaccination vs Emerging Variants.** Delays to reopening and renewed lockdowns.
- **Rates.** 1.77% peak in March, the 10-year treasury remains at historically low rates, currently 1.32%. Low discount rates increase asset prices and wealth effect.
- **Unprecedented Fiscal Stimulus.** Since March 2020 fiscal stimulus totaled close to \$6T, of which \$2T is yet to be disbursed. For the first time consumer disposable income increased in a downturn.

2021 Equity Return Drivers (continued)

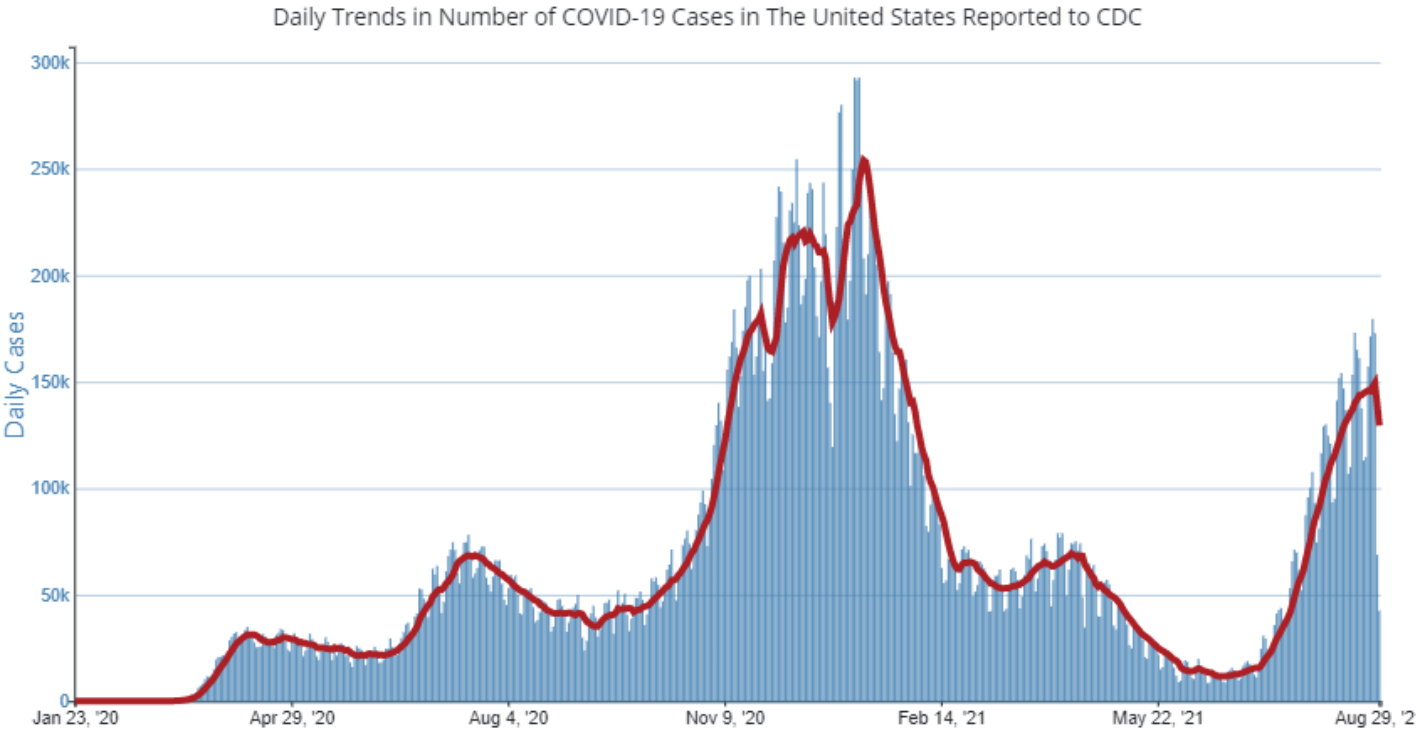
- **Excess Liquidity.** Monetary and fiscal stimulus puts cash in all pockets: enterprises, governments, individuals and investors at large.
- **S&P Record New Highs.** S&P 500 recorded 54 new highs year-to-date (as of 9-5-2021). Multiples in 90th percentile of historical range, returns are growth- and earnings-dependent, susceptible to rate shocks.
- **Meme Stocks.** Distortion in market returns due to rise as leveraged retail investors fuel increased volatility and valuations decoupled from fundamentals.

GDP: Greater than pre-pandemic level



Source: Bloomberg

COVID: Delta Variant Surge



Source: CNN



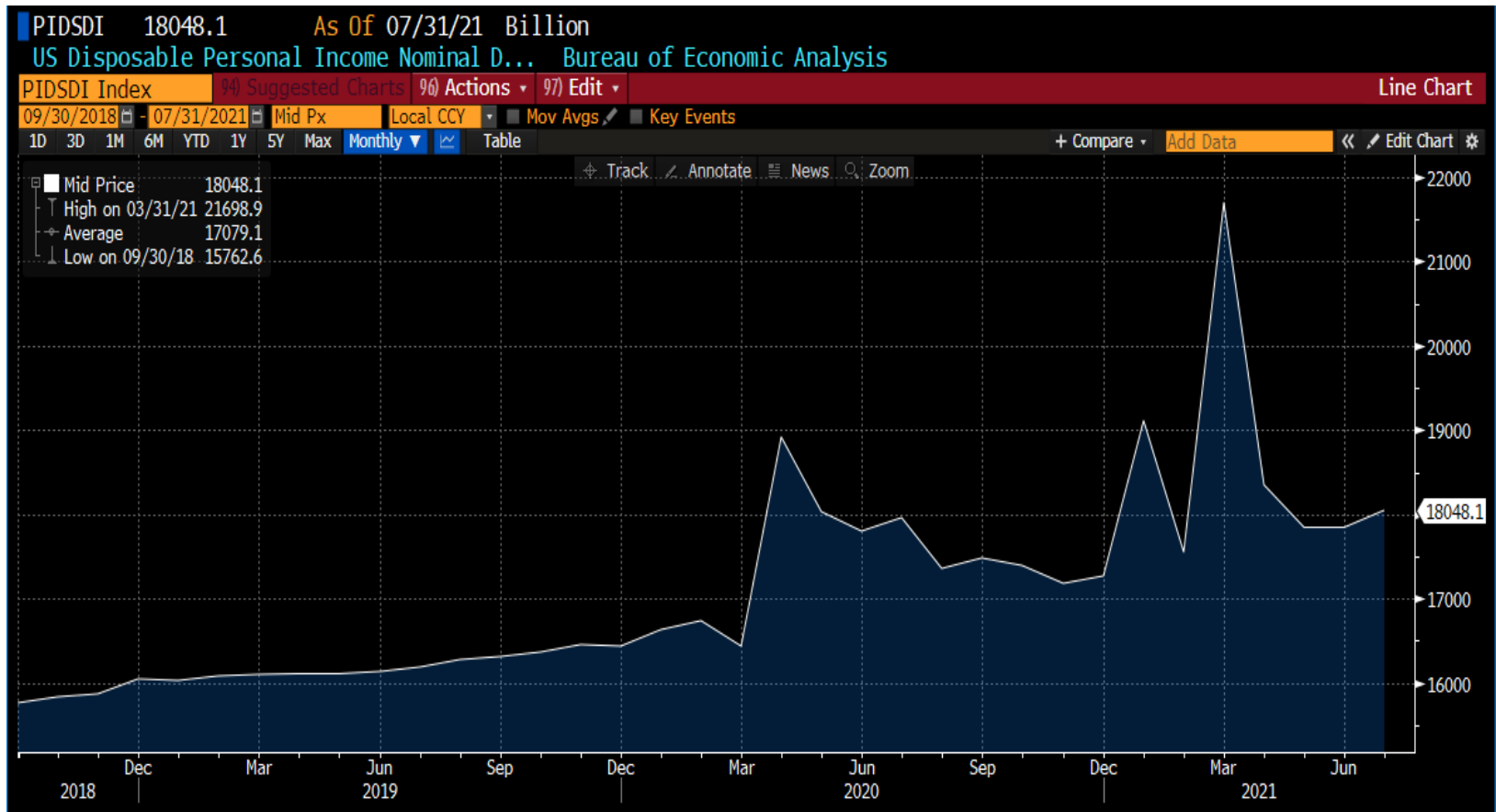
Rates: US 10-Year Treasury



Source: Bloomberg

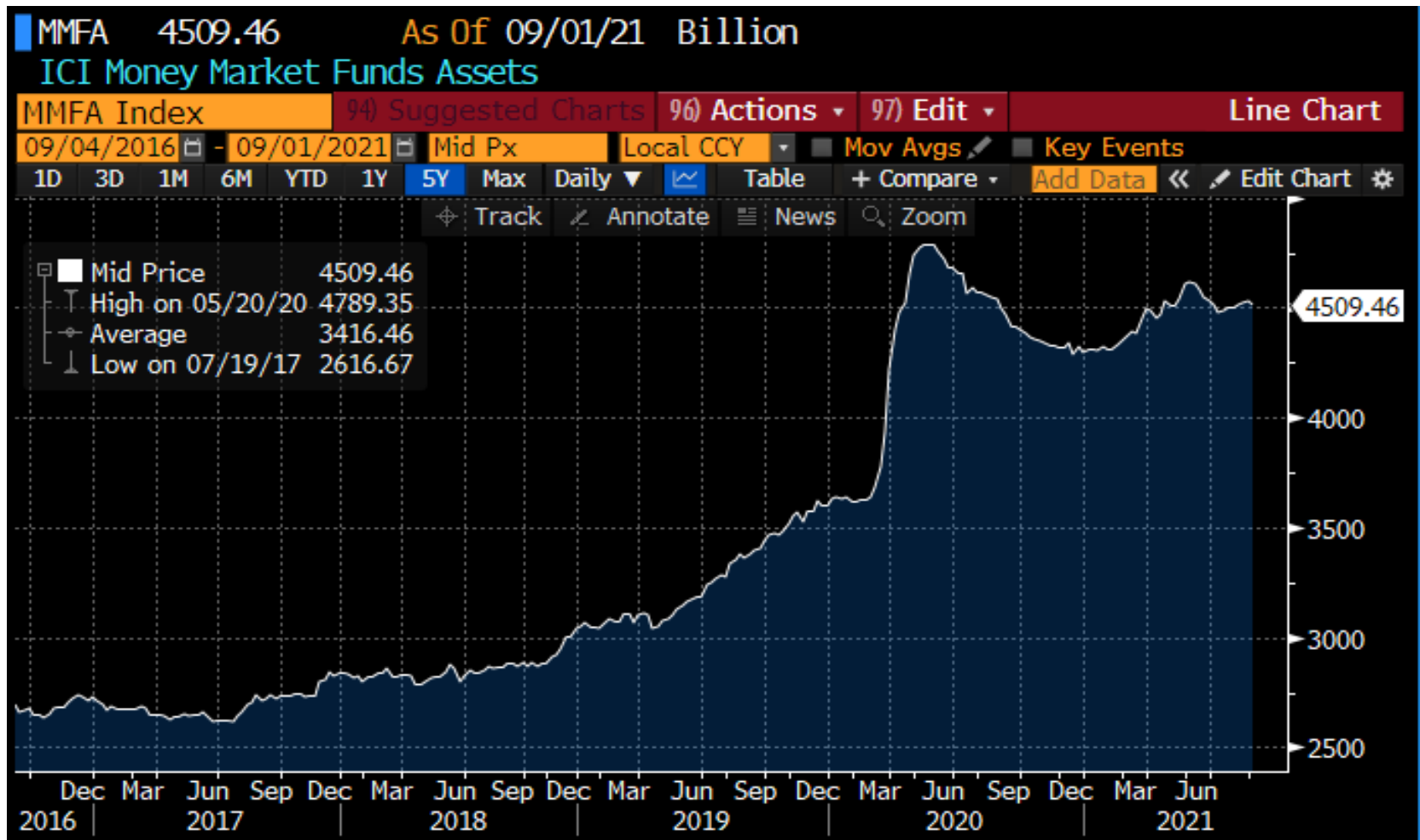


Disposable Income up 7.8% in Pandemic



Source: Bloomberg

Money Market funds total \$4.5T



Source: Bloomberg



S&P 500 – 54 new highs YTD, P/E 26.9



2021 Equity Drivers: Fundamentals

- **Strong Earnings Growth.** S&P EPS troughed at \$124.51 in 2020 after a \$151.77 print in 2019. Currently \$167.33, a 2021 \$203.15 consensus is a 2-year 15.7% earnings growth on 4.9% sales growth.
- **Strong Margins.** Operating margins increased 76bps from 13.48% in 2019 to 14.24% in the second quarter of 2021.
- **Strong Balance Sheets.** S&P has delevered from net debt at 1.8x cash flow to an estimated 1.0x by year-end, lowering the risk of default.
- **Valuation.** Consensus estimate for 2022 P/E is 20.5, or slightly below 2019 at 21.3.
- **There Is No Alternative (TINA).** With US Treasury at 1.32%, and most asset classes, trading at or above the 90th percentile of valuation, investors' choices are limited. Liquidity is abundant.

Domestic Large and Small Cap Returns

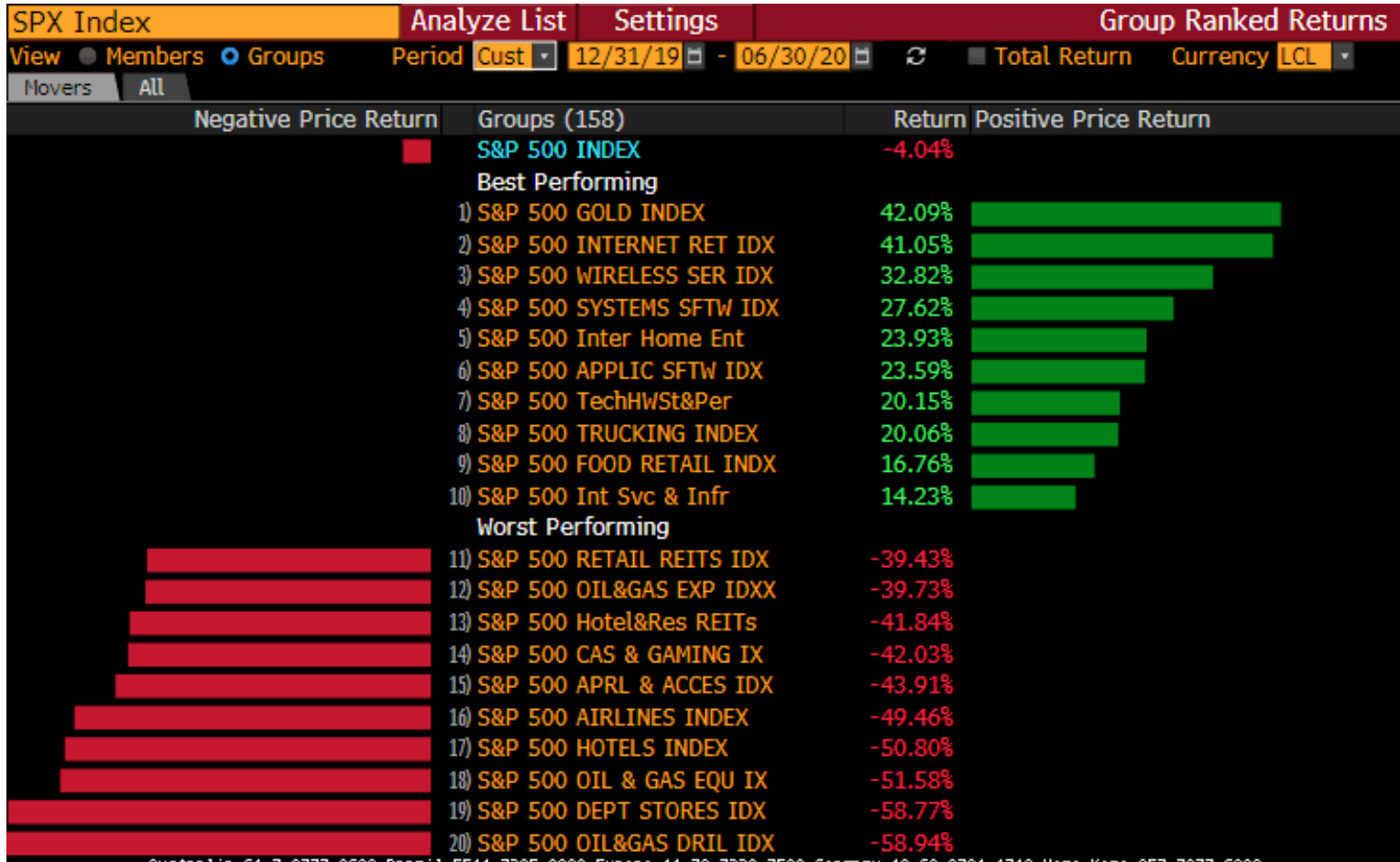
- Small cap outperforms in the last year. The Russell 2000 returned 50.4% over the LTM ended 7-31-2021 but still lags over the last two years due to relative underperformance in 2020.

Small Cap and Large Cap Returns, ended 7/31/2021							
Index	7/31/2019	7/31/2020	20/19	7/31/2020	7/30/2021	21/20	21/19
Small Cap - Russell 2000	1,574.61	1,480.43	-6.0%	1,480.43	2,226.25	50.4%	41.4%
Large Cap - Russell 1000	1,652.40	1,815.99	9.9%	1,815.99	2,469.17	36.0%	49.4%

Industry Scorecard: 2020

Wide dispersion between capital- and labor-intensive industries.

Trucking and Food Retailing put up double digit returns in 2020 and 2021.



Source: Bloomberg



Industry Scorecard: 2021

Reflation/Cyclical Rotation. Gold Index from first to last, commodities including steel outperform



Source: Bloomberg



Outlook 2020: Revisited

- **Fed committed to lower rates.** “We are not even thinking about thinking about raising rates”.
 - Committed to a well-signaled paced tapering followed by a data-dependent rate lift-off.
- **Financial repression.** Given massive liquidity and low rates, investors’ reach for yield will increase risk-seeking.
- **Disinflation.** Deflationary pressure typical of a downturn will prove a challenge for the Fed; thus, rates will be lower for longer.
 - Even with record inflation the path forward remains uncertain.
- **Deglobalization.** Corporate winners and losers, potential for cost push inflation.
 - Cost-push and demand-pull inflation evident in 2021 expected to be transitory.
- **Second wave.** Higher probability in the US given state-by-state approach.
 - Now in wave three/four.
- **Political.** Uncertainty surrounding US Presidential election.
 - Political environment remains stressed.
- **Trade.** US-China trade tensions persist.
 - Tariffs remain in place, US demands ADR accounting transparency, China puts the brakes on ADR issuance.

Outlook - Tailwinds

- **US fiscal and monetary stimulus is unprecedented.** Fed accommodation and massive liquidity creates strong bid for financial assets.
- **Inflation-adjusted GDP.** GDP growth is robust and appears to have returned to its pre-COVID glidepath.
- **Low global rates remain a growth stock tailwind.** Current low inflation, low-rate environment benefits long duration, growth equities.
- **Patient, data dependent Fed.** Fed is committed to average inflation targeting, or AIT. Transitory inflation is the consensus view, supports a paced rate lift-off and is constructive for growth stocks.

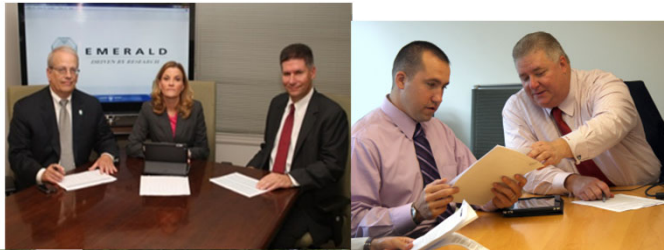
Outlook - Headwinds

- **High valuations pressure future returns.** No room for multiple expansion, returns are solely growth- and earnings-dependent.
- **Low global rates remain a challenge.** Low-to-negative bond yields remain a global issue.
- **Inflation uncertainty.** Fed pivoted from a proactive approach to average inflation targeting, or AIT. As a result, current elevated inflation levels may feed into expectations and persistent inflation.
- **US fiscal and monetary stimulus is unprecedented.** It is easy to offer the punch bowl, harder to take it away, creating potential for market volatility, policy missteps and social disruption.
- **Geopolitical risk persists.** Trade tensions, COVID and adverse climate events create additional downside risks.

Investment Manager Discussion

- Investment manager discussion
 - Emerald Advisers, LLC
- Agenda
 - Overview of team, strategy, and role at CCCERA.
 - Discussion of small growth investing and changing dynamics.
 - Q&A from Trustees.

Meeting Date
09/22/2021
Agenda Item
#8



Emerald Advisers, LLC Small Capitalization Growth

Prepared for:



Data as of June 30, 2021

This presentation is intended for use with CCCERA only.



DRIVEN BY RESEARCH

Corporate Profile

Parent Company: Emerald Asset Management PA, LLC

- Emerald Incorporated in November, 1991
- Employees Participate in Ownership via ESOP Plan and Equity Awards
- \$6.0 Billion Firm-Wide Assets Under Management as of June 30, 2021
- Driven by In-Depth Fundamental, Bottom-Up Research

Emerald Asset Management

Emerald Advisers

Mid Cap Growth

Emerald Growth Opportunities (ACG)

Small Cap Growth

PA Small Cap Core

Financial Services Sector

Emerald Mutual

Fund Advisers Trust

Mutual Funds

Emerald Growth Fund

Emerald Insights Fund

Emerald Banking & Finance Fund

Affiliated Advisers:

EmStone Advisers LLC

Traditional & Enhanced Fixed-Income Portfolios

Partial Client List (Average Client Tenure: 14 Years*)

Public

Commonwealth of Pa.

Contra Costa County (CA)

State of Illinois Teachers'

12 Pennsylvania Counties

Corporate

Independence Blue Cross

Carpenter Technology

Shands Healthcare

Endowments

Lower Susquehanna Synod of the ELCA

Shippensburg University Foundation

Taft-Hartley

UFCW Tri-State Pension Fund

Sub-Advisory Relationships

Prudential Investments

It is not known whether the clients approve or disapprove of Emerald services provided through its subsidiaries. Emerald did not use performance-based data to determine which clients are included on this list. Clients were selected based upon their general name recognition and as a representative sampling of the types of accounts managed.

**As of December 31, 2020. Includes institutional client tenure of Emerald Advisers, LLC and Emerald Mutual Fund Advisers Trust.*



DRIVEN BY RESEARCH

Small Cap Growth Product Snapshot As of June 30, 2021

Objective: Long-term growth of capital by delivering alpha during both up and down markets.¹

Product Inception:	October, 1992
Number of Holdings:	110 - 120
Average Position:	1/2 - 2%
Weighted Average Market Cap:	\$4,003 mm
Est. Long Term EPS Growth Rate:	21.2%

Assets Under Management in Diversified SCG Strategy:

Total AUM	\$5,452 mm
Institutional AUM	\$5,166 mm ²

Account Breakdown

Public Plans/Government	36%
Mutual Fund	29%
Subadvised	29%
Corporate	4%
Endowment/Foundation	1%
Taft Hartley/Union	1%

¹ There can be no assurance that the Adviser will achieve its objective.

² Institutional accounts include all sub-advised accounts, institutional separate accounts and institutional accounts in the Emerald Growth Fund as of 06/30/2021.



DRIVEN BY RESEARCH

The Emerald Advantage

Emerald demonstrates an ongoing commitment to “The Five P’s”
- Embedded in its corporate culture since its founding in 1992

- **People**
 - Portfolio management team has 94 years collective experience; together since 1994
 - Teamwork Environment: 13 analysts with 17 years average tenure
- **Philosophy**
 - Active management works to uncover opportunities in small-cap markets
 - We work to maximize return and minimize risk by capitalizing on inherent inefficiencies
- **Process**
 - Disciplined focus grounded by Emerald 10-Step Research Process
 - Focused and consistent investment style adhering to growth and small-cap mandates
 - Emerald’s entrepreneurial culture seeks to generate alpha by discovering and exploiting trends
 - Demonstrated ability to invest (when risk/reward is appropriate) in the pre-profit Biotech Industry (10%+ of index) and all pre-profit companies (20%+ of index)
- **Persistence**
 - Remaining true to our fundamental, bottom-up process irrespective of market cycles
 - Demonstrated by a 28 year record of portfolio attribution and performance
- **Performance**
 - Emerald seeks to provide competitive long-term performance and upside/downside market capture



Research-Driven Active Portfolio Management

- Top line & bottom line growth drives stock values higher.
- Seek to maximize returns and minimize risks by capitalizing on the inefficiencies inherent in small-cap markets.
 - 1,160 Russell 2000 stocks have five or fewer sell-side analysts, while 397 stocks have two or fewer. *(Source: FactSet as of 7/12/2021)*
- Dedicated to fundamental, bottom-up research designed to identify unrecognized, under-researched companies.
- In-house fundamental investment research is the key to outperforming benchmark market indices.
- Industry & scientific expertise across all sectors.



Analysis of Sell-Side Analyst Coverage July 12, 2021

	S&P 500	Russell Mid Cap	Russell 2000
Average # of Sell-Side Analysts Per Stock	18.5	13.0	5.5
Stocks with >= 20 Sell-Side Analysts	201	125	10
<i>% of Total</i>	<i>39.80%</i>	<i>15.10%</i>	<i>0.50%</i>
Stocks with <= 5 Sell-Side Analysts	14	94	1,160
<i>% of Total</i>	<i>2.77%</i>	<i>11.35%</i>	<i>58.56%</i>
Stocks with <= 2 Sell-Side Analysts	1	20	397
<i>% of Total</i>	<i>0.20%</i>	<i>2.42%</i>	<i>20.04%</i>
Total # of Stocks	505	828	1,981

Source: FactSet Research Systems



DRIVEN BY RESEARCH
Emerald Advisers, LLC

Equity Portfolio Managers/Analysts
Coverage & Firm Tenure

TEAM EMERALD*

13 Investment Professionals | 17 Yrs. Avg. Tenure | 23 Yrs. Avg. Industry Experience



Kenneth G. Mertz, CFA
Chief Investment Officer
Port. Manager - SCG & Banking
Coverage: Financial Services
28 Yrs. Tenure



Stacey L. Sears, MBA
Port. Manager - SCG
Coverage: Consumer
28 Yrs. Tenure



Joseph W. Garner, MBA
Director of Research
Port. Manager - SCG
Coverage: Consumer Goods/
Technology/Transportation
26 Yrs. Tenure



David Volpe, CFA, MA
Deputy CIO
Port. Manager - ACG & MCG
Coverage: Energy
20 Yrs. Tenure



Steven E. Russell, Esq., MBA
Port. Manager - Banking
Coverage: Financial Services
Banks, REITs
19 Yrs. Tenure



Ori Elan, MBA
Research Analyst
Coverage: Insurance,
REITs
5 Yrs. Tenure



Stephen Amsterdam
Assoc. Manager –
ACG & MCG
Coverage: Semiconductors
Technology/Gaming
19 Yrs. Tenure



Joseph Hovorka
Assoc. Manager – ACG & MCG
Coverage: Consumer
Discretionary
4 Yrs. Tenure



Scott Blumenthal, MBA
Dir. of Industrials Research
Coverage: Basic Materials/Industrials/
Capital Goods Engineering/Defense
Aerospace/Construction
16 Yrs. Tenure



Derek Fisher
Dir. of Technology Research
Coverage: Technology
Professional Services
24 Yrs. Tenure



Nishit Trivedi
PhD, MBBS, MBA
Dir. of Life Sciences Research
Coverage: Molecular Diagnostics/
Hospitals/ Medical Devices
14 Yrs. Tenure



Terry M. Smith, PhD, MBA
Dir. of Life Sciences Research
Coverage: Biotechnology/
Drugs & Pharma. /Managed Care
14 Yrs. Tenure



Nathan R. Jones, PhD, MBA
Senior Research Analyst
Coverage: Technology
7 Yrs. Tenure

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* as of December 31, 2020



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Investment Research Process

Emerald's research team focuses on providing fundamental research and analysis of every investment opportunity, utilizing a proprietary process initiated in 1992.



10-Step Process

1. **Review SEC Filings, Press Releases and News Stories**
The process includes monitoring relevant media sources such as industry press, financial press and popular press.
2. **Meet with Management**
Meet with management across the organization in areas such as executive management, marketing, product development, operations and finance. The Emerald Research Team conducts approximately 2,000 meetings per year on-site at the company, or off-site at conferences, trade shows or other locations. Emerald also leverages the use of adaptable video-conferencing capabilities when such on-site meetings are not feasible.
3. **Interview Customers**
Interview customers to determine (1) the critical factors driving their buy decision, (2) what competitors or alternatives were considered, (3) level of satisfaction with the quality of the product or service, and (4) likelihood of generating repeat business.
4. **Interview Competitors**
Interview competitors to determine their strengths and weaknesses, as well the competitors' perception of the strengths and weaknesses of the company.
5. **Interview Suppliers**
Interview suppliers to determine their ability to supply the products/services required by the company. Also, assess the extent of potential supply chain bottlenecks.
6. **Interview Distributors**
Interview distributors to determine potential issues and opportunities in the company's distribution channel such as inventory levels, demand drivers and competitive pressures.
7. **Develop Financial and Valuation Models**
Develop a financial model to analyze financial performance and estimate future cash flows, earnings and financing needs. Use a valuation model to analyze relative and absolute valuation.
8. **Review Third-Party Research**
Review published research from sell-side analysts and industry research firms to compare our data points and financial estimates. Also, use third party research to assess security-specific and industry-specific sentiment.
9. **Publish an internal research report**
Publish an internal research report summarizing the company's business, competitive advantages, management strengths/weaknesses, growth drivers and risks, as well as stating investment conclusions and recommendations.
10. **Communicate, Communicate, Communicate**
The entire research team formally meets once a week and informally on an ongoing basis with the portfolio management team to discuss the fundamentals of current and potential holdings. Internal discussions are held throughout the process.



DRIVEN BY RESEARCH

Small Cap Growth Portfolio Management Team



Kenneth G. Mertz II, CFA
*Chief Investment Officer/
Portfolio Manager*

Stacey L. Sears
*Portfolio Manager/
Analyst*

Joseph W. Garner
*Portfolio Manager/
Director of Research*

Investment Experience

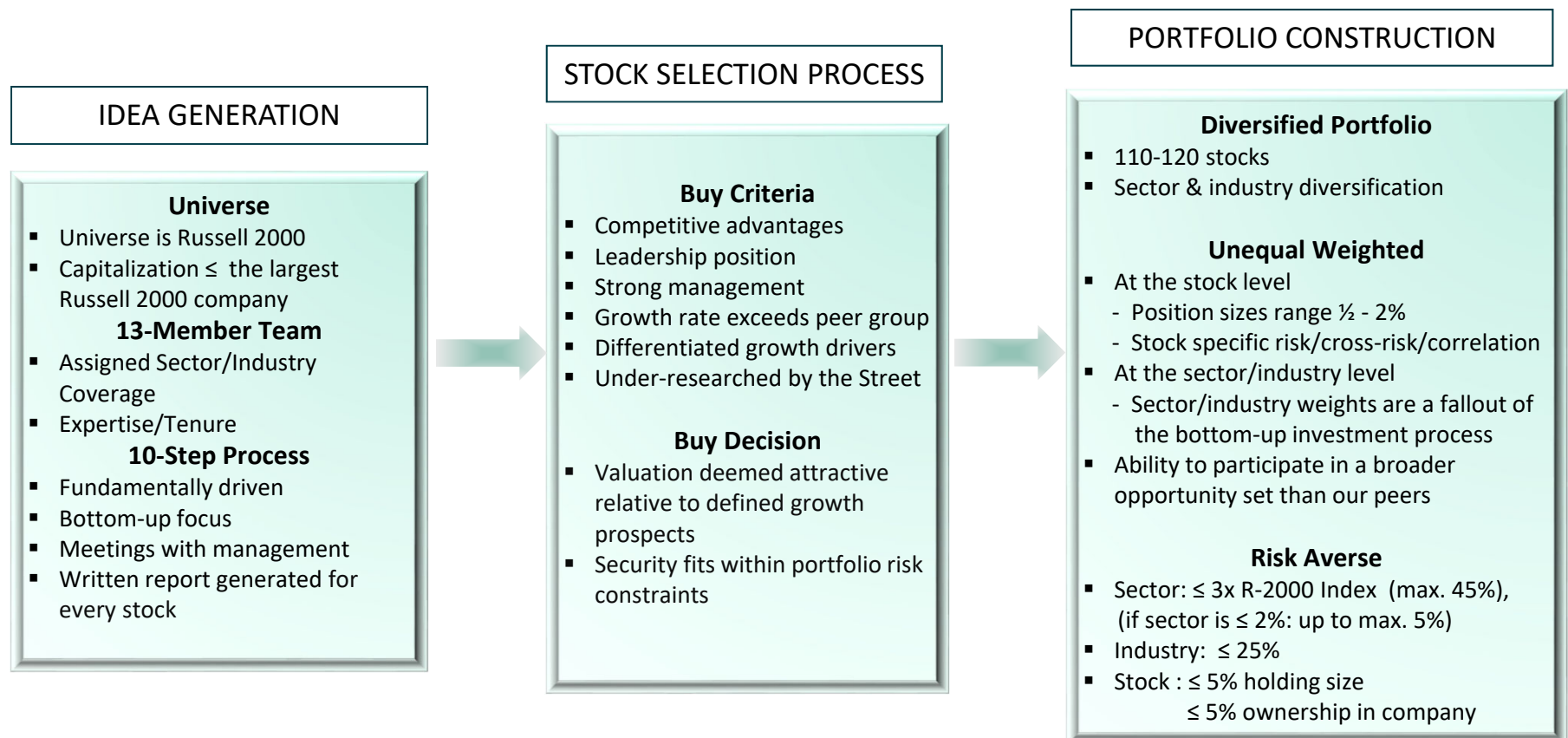
42 Yrs.

26 Yrs.

26 Yrs.



Stock Selection is a Fundamentally Driven Process





DRIVEN BY RESEARCH

CCCERA Performance
as of June 30, 2021

RATE OF RETURN REPORTED GROSS

GROSS PERFORMANCE	QTD	YTD	1 Year*	3 Year*	5 Year*	Incept**
Portfolio	3.97	6.57	47.70	17.21	20.69	14.08
RUSSELL 2000G TOTAL RETURN***	3.92	8.98	51.36	15.94	18.76	12.92

*Annualized **Since Inception-Apr 07, 2003

*** Source: Frank Russell Company – see full disclosure

Performance Disclaimer - The gross performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed \$100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to \$259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to \$234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.

The performance information reflected is approved for presentation to CCCERA only.



DRIVEN BY RESEARCH

CCCERA Performance
Updated as of September 9, 2021

RATE OF RETURN REPORTED GROSS

GROSS PERFORMANCE	QTD	YTD	1 Year*	3 Year*	5 Year*	Incept**
Portfolio	1.35	8.01	37.43	14.48	19.46	14.00
RUSSELL 2000G TOTAL RETURN***	-2.53	6.22	38.99	12.67	16.79	12.45

*Annualized **Since Inception-Apr 07, 2003

Updated performance to be used in conjunction with 9/22/2021 meeting.

*** Source: Frank Russell Company – see full disclosure

Performance Disclaimer - The gross performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed \$100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to \$259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to \$234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.

The performance information reflected is approved for presentation to CCCERA only.



DRIVEN BY RESEARCH

CCCERA Performance as of June 30, 2021

RATE OF RETURN REPORTED GROSS

		MARKET VALUE (\$)	TOTAL	RUSSELL 2000G TOTAL RETURN*			MARKET VALUE (\$)	TOTAL	RUSSELL 2000G TOTAL RETURN*
Monthly					Yearly				
June	MTD	207,741,906	1.85	4.69	2021	YTD	207,741,906	6.57	8.98
May		203,960,974	-2.20	-2.86	2020		194,942,679	39.09	34.63
April		208,554,755	4.38	2.18	2019		159,003,921	30.29	28.48
March		199,810,305	-3.22	-3.15	2018		194,377,803	-10.18	-9.31
February		206,460,485	4.38	3.30	2017		288,865,451	28.81	22.17
January		197,796,742	1.46	4.82	2016		251,474,572	10.06	11.32
December		194,942,679	9.73	9.35	2015		196,712,727	4.60	-1.38
November		177,660,849	12.73	17.63	2014		225,511,088	7.28	5.60
October		157,604,898	1.99	0.76	2013		220,577,634	50.56	43.30
September		154,524,703	-1.94	-2.14	2012		202,261,608	18.43	14.59
August		157,576,753	5.09	5.87	2011		164,901,100	-0.54	-2.91
July		149,937,476	6.60	3.44	2010		158,214,955	30.43	29.09
					2009		134,412,361	33.29	34.47
					2008		95,675,870	-36.46	-38.54
					2007		146,693,197	3.34	7.05
					2006		179,401,568	13.76	13.35
					2005		171,550,077	9.76	4.15
					2004		83,594,097	4.28	14.31
					2003	YTD	95,672,561	51.94	54.54
								1,005.34	819.39
								14.08	12.92

* Source: Frank Russell Company – see full disclosure

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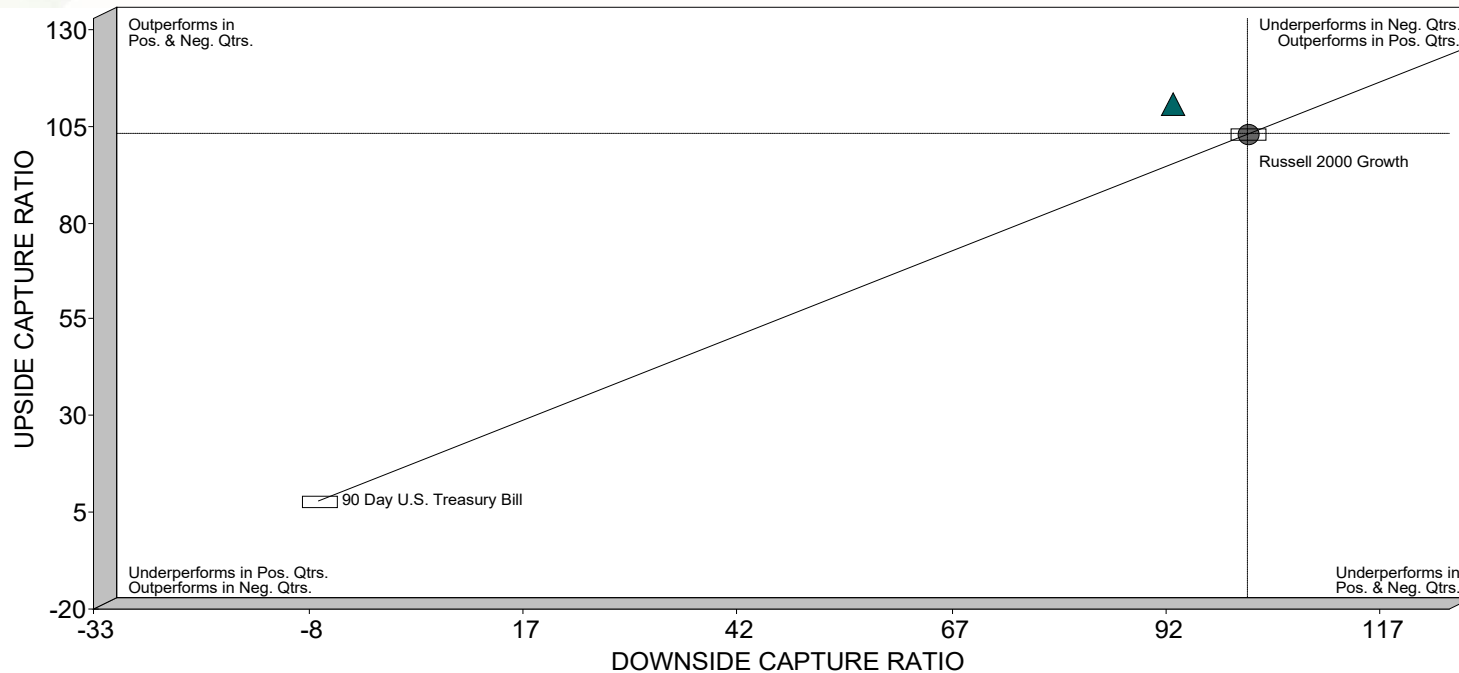
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Market Capture Since Inception as of June 30, 2021

RATE OF RETURN REPORTED GROSS



	Up Mkt Capt Retrn	Up Cap Ratio	Dnside Cap Return	Dnside Cap Ratio	R-Squared
▲ Emerald Advisers Emerald Div. Sm.	45.84	107.84	-31.60	91.40	0.86
● Russell 2000 Growth	42.51	100.00	-34.57	100.00	1.00

Source: PSN, Inception: 10/1/92

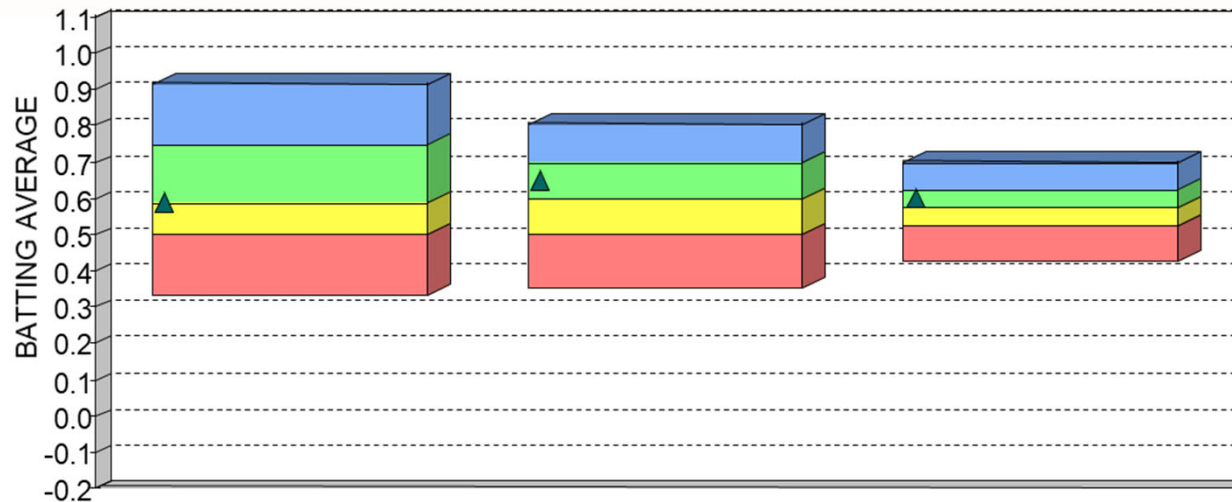
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DRIVEN BY RESEARCH

Batting Average as of June 30, 2021

RATE OF RETURN REPORTED GROSS



	3 Years	5 Years	10 Years
HIGH (0.05)	0.92	0.80	0.70
FIRST QUARTILE	0.75	0.70	0.62
MEDIAN	0.58	0.60	0.57
THIRD QUARTILE	0.50	0.50	0.53
LOW (0.95)	0.33	0.35	0.42
MEAN	0.61	0.60	0.56
VALID COUNT	123	118	108

	3 Years		5 Years		10 Years	
	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Emerald Advisers Emerald Div. Sm.	0.58	47	0.65	33	0.60	26

Source: PSN, Universe: Small Cap Growth, Inception: 10/1/92

Performance Disclaimer - The gross performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed \$100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to \$259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to \$234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.



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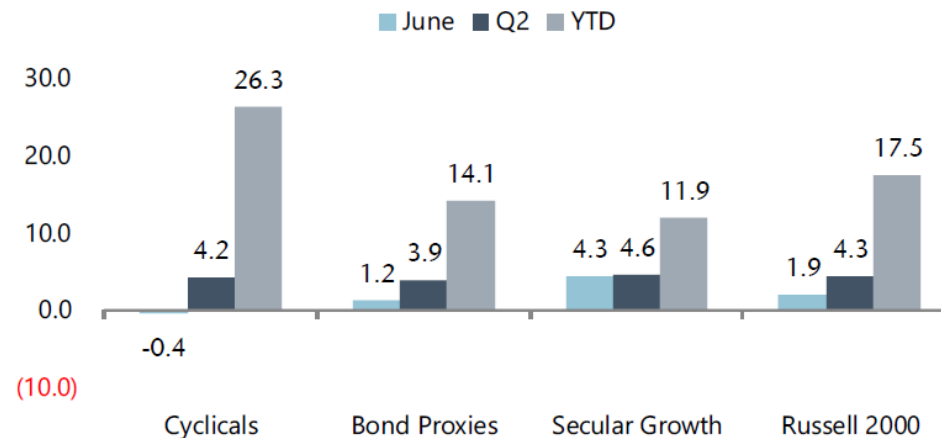
2nd Qtr. 2021
Performance Review

- **Large capitalization stocks, after lagging during the first quarter, took the lead as the equity market built on first quarter gains. The S&P gained +8.5% for the quarter, finishing at a record high, and closing out the first half of 2021 with the second best first half gain (+15.2%) since 1998, according to Savita Subramanian of B of A Securities.**
- **Gains for the quarter were broad-based across equities with the Dow Jones, Nasdaq Composite and Russell 2000 advancing by +5.07%, +9.67% and +4.29% respectively, as the market continued to ride the wave of better-than-expected first quarter financial results and positive commentary on forward growth. Economic surprises similarly continued to trend positively, highlighted by a better-than-expected consumer confidence and continued gains in employment.**
- **Inflation expectations, however, were also percolating with management teams across sectors and industries referencing wage and supply chain pressures as part of their quarterly communication.**



- While the market has largely been tolerant of rising inflation given the Federal Reserve’s verbal commitment to let inflation run hot short-term as part of its average inflation targeting framework, the Fed’s messaging post the June Federal Open Market Committee Meeting struck on a more hawkish tone than anticipated. This hawkish shift in messaging drove a recalibration in market expectations for growth and long-term inflation, which resulted in a meaningful flattening in the yield curve and a rotation away from the cyclical sectors of the economy.

The Cyclical lagged in June and marginally over the course of the quarter



Source: FactSet; FTSE Russell; Jefferies



- **Within the Russell 2000, this rotation away from cyclicals reverberated through style performance, driving a significant rebound in growth during the month of June, with the Russell 2000 Growth gaining +4.69%, outpacing the Russell 2000 Value which fell by -0.61%. Despite the late quarter growth surge, the total return for the Russell 2000 Value (+4.56%) outpaced that of the Russell 2000 Growth Index (+3.92%) for the second quarter.**

<u>Russell Sector</u>	<u>June</u> <u>R2000 Growth</u>	<u>Q2 2021</u> <u>R2 Growth</u>
Technology	7.77%	6.65%
Telecommunications	4.02%	6.07%
Health Care	8.82%	2.90%
Financials	2.80%	8.42%
Real Estate	4.87%	5.24%
Consumer Discretionary	1.39%	5.98%
Consumer Staples	0.77%	7.96%
Industrials	-0.88%	1.20%
Basic Materials	-4.18%	0.60%
Energy	4.29%	-10.53%
Utilities	5.36%	0.37%

Source: Russell Investments, Factset

<u>Index</u>	<u>Jun-21</u>	<u>Q2 2021</u>	<u>CY 2021</u>
Russell 2000 Growth	4.69%	3.92%	8.98%
Russell 2000	1.94%	4.29%	17.54%
Russell 2000 Value	-0.61%	4.56%	26.69%
Russell 2500 Growth	5.37%	6.04%	8.67%
Russell 2500	1.18%	5.44%	16.97%
Russell 2500 Value	-1.32%	5.00%	22.68%
Russell 1000 Growth	6.27%	11.93%	12.99%
Russell 1000	2.51%	8.54%	14.95%
Russell 1000 Value	-1.15%	5.21%	17.05%
Russell 3000 Growth	6.16%	11.36%	12.71%
Russell 3000 Value	-1.11%	5.16%	17.68%

Source: Russell Investments



DRIVEN BY RESEARCH

2nd Qtr. 2021 Performance Review

- From a style perspective, within the Russell 2000 Growth, despite the late quarter strength in growth as a style, the headwinds to growth remained prevalent with the fastest-growing companies within the benchmark, measured by sales and earnings growth, continuing to post lackluster performance. According to a July 2, 2021 report from Steve DeSanctis, Equity Strategist at Jefferies, while the top quintile of companies measured by sales growth returned +3.99%, performing essentially in-line with the benchmark overall, the cohort still lagged the performance of other slower-growing quintiles.

Performance by Sales Growth

	Second Quarter 2021								
	Russell 2000			Russell 2000 Growth			Russell 2000 Value		
Sales Growth	Absolute	Contrib	Relative	Absolute	Contrib	Relative	Absolute	Contrib	Relative
Q1 (Best)	4.72	0.93	0.43	3.99	0.73	0.08	2.66	0.47	-1.90
Q2	4.63	1.07	0.34	7.98	1.95	4.07	2.15	0.50	-2.41
Q3	2.87	0.54	-1.42	4.38	0.91	0.48	3.70	0.75	-0.86
Q4	4.83	0.97	0.54	3.18	0.52	-0.73	4.69	1.15	0.13
Q5 (Worst)	6.12	0.91	1.83	-0.19	-0.03	-4.09	11.25	1.80	6.69
N/A	-4.02	-0.14	-8.31	-3.57	-0.17	-7.48	-3.20	-0.11	-7.76

	YTD 2021								
	Russell 2000			Russell 2000 Growth			Russell 2000 Value		
Sales Growth	Absolute	Contrib	Relative	Absolute	Contrib	Relative	Absolute	Contrib	Relative
Q1 (Best)	9.82	2.25	-7.71	4.63	0.90	-4.34	19.59	3.86	-7.10
Q2	17.45	3.82	-0.08	10.54	2.62	1.56	20.72	4.25	-5.97
Q3	18.15	3.47	0.62	15.72	3.13	6.75	22.27	4.69	-4.42
Q4	23.70	4.30	6.17	11.83	1.91	2.86	32.19	6.83	5.50
Q5 (Worst)	28.59	4.16	11.06	8.64	1.28	-0.33	42.59	7.11	15.90
N/A	-14.21	-0.47	-31.74	-16.27	-0.87	-25.24	1.66	-0.05	-25.03

Source: FactSet; FTSE Russell; Jefferies



DRIVEN BY RESEARCH

2nd Qtr. 2021
Performance Review

- Similarly, according to a recent report from Savita Subramanian from B of A Securities, when viewing performance by earnings growth, the cohort of companies with a long-term earnings growth rate above 20% was the worst performing cohort for the quarter, gaining +1.3% and meaningfully underperforming the companies with long-term earnings growth less than 10%, which gained +6.9% for the quarter.

Table 30: Russell 2000 Growth Performance Attribution Analysis
1m, 3m and YTD performance attribution (as of 6/30/2021)

Index	June		Last Three Months		Year to date		Weight
	Return	Contrib.	Return	Contrib.	Return	Contrib.	
Index	4.7	—	3.9	—	9.0	—	
Long-Term Earnings Growth							
<=10%	5.2	0.3	6.9	0.5	19.3	1.3	6.7
>10%, <=20%	2.9	0.4	5.6	0.7	13.5	1.6	12.9
>20%	2.3	0.2	1.3	0.2	5.8	0.6	10.4
NA	5.1	3.5	3.3	2.4	7.4	5.3	70.0

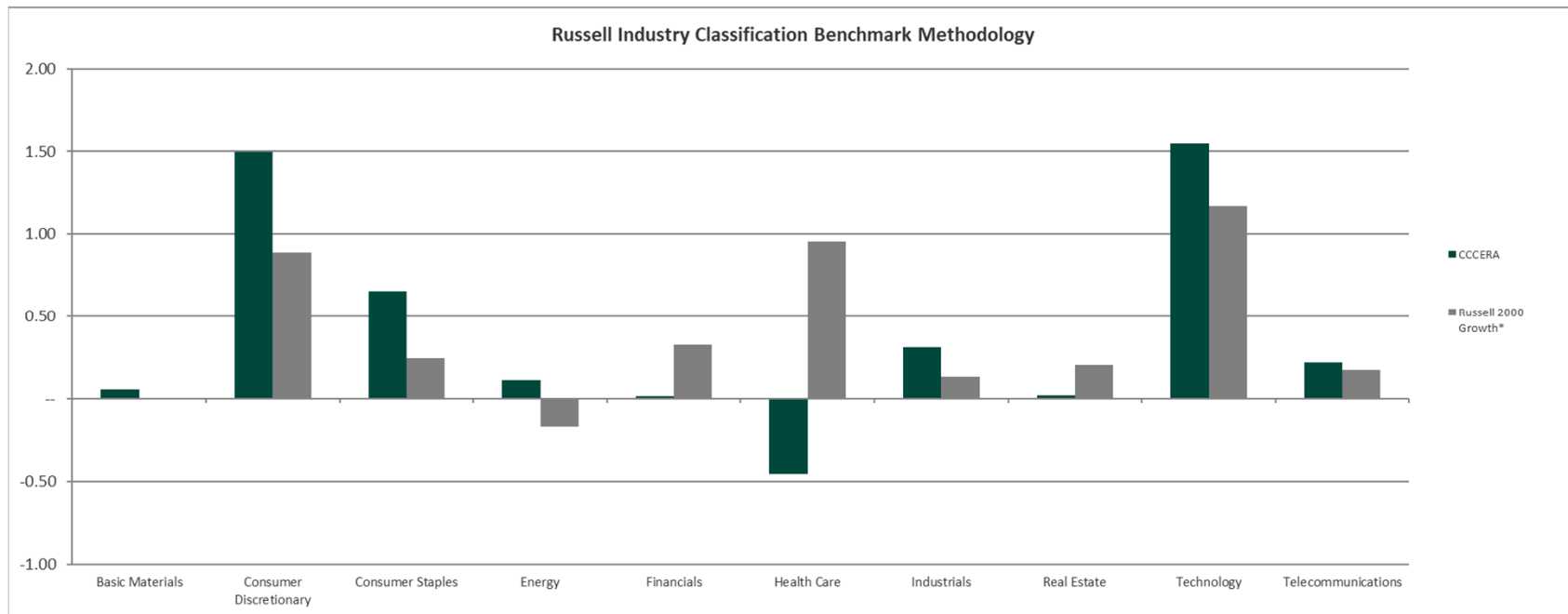
Source: FactSet, BofA US Equity and US Quant Strategy



DRIVEN BY RESEARCH

2nd Qtr. 2021
Performance Review

- The Emerald Diversified Small Cap growth portfolio performed essentially in-line with the benchmark for the quarter as the positive contribution from allocation effect offset the negative contribution from both selection and interaction effect. At the sector level, stock selection-driven relative outperformance within the consumer discretionary, consumer staples, technology and energy sectors was largely offset by stock selection-driven relative underperformance within the healthcare and financials sectors.



* Source: Frank Russell Company – see full disclosure



DRIVEN BY RESEARCH

2nd Qtr. 2021
Performance Review

Portfolio Performance Summary

Contributors

Within the consumer discretionary sector, performance was driven by relative outperformance within the specialty retail, casinos and gambling and recreational products industries.

The consumer staples sector was also a source of relative outperformance, driven by holdings in the food products industry.

Stock selection within the technology and energy sectors also contributed positively to performance. Contributing to the relative outperformance were holdings within the semiconductors, computer services, software and renewable energy industries.

Top 10 Contributors to Return

Everi Holdings, Inc.

Rapid7, Inc.

Reata Pharmaceuticals, Inc.

Perficient, Inc.

BellRing Brands, Inc.

Dick's Sporting Goods, Inc.

YETI Holdings, Inc.

Simply Good Foods Co.

Latham Group, Inc.

AtriCure, Inc.



Portfolio Performance Summary

Detractors

The healthcare sector was the largest detractor to performance for the quarter. From a portfolio perspective, the portfolio's average underweight to the biotechnology industry of more than 600 basis points during the month of June, the lack of exposure to the CRISPR stocks and several portfolio-specific idiosyncratic events both inside and outside of the biotechnology industry weighed on relative performance.

Performance within the financial sector also proved to be a headwind to relative performance largely as a result of the portfolio's overweight position and challenging stock selection within the banking industry. The pullback in yields and flattening of the yield curve pressured financials and specifically, holdings within the banking industry.

Top 10 Detractors to Return

Chemocentryx, Inc.

AdaptHealth Corp.

Churchill Downs Incorporated

Curis, Inc.

TransMedics Group, Inc.

Tetra Tech, Inc.

ORIC Pharmaceuticals, Inc.

Ultragenyx Pharmaceutical, Inc.

Live Oak Bancshares, Inc.

BJ's Restaurants, Inc.



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Trailing 1 Year Performance Review

At the stock level, top contributors included:

Freshpet, Inc.
Chart Industries, Inc.
Varonis Systems, Inc.
Everi Holdings, Inc.
New Fortress Energy, Inc.
Rapid7, Inc.
Twist Bioscience Corp.
Kratos Defense & Security Solutions, Inc.
MACOM Technology Solutions Holdings, Inc.
Simply Good Foods Co.

Conversely, top detractors to performance included:

Karyopharm Therapeutics, Inc.
EverQuote, Inc.
Applied Therapeutics, Inc.
Tabula Rasa Healthcare, Inc.
Chemocentryx, Inc.
Assembly Biosciences, Inc.
Passage Bio, Inc.
eHealth, Inc.
Zogenix, Inc.
ORIC Pharmaceuticals, Inc.



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Portfolio
as of June 30, 2021

1Q21 Sector Allocation		
Sector	CCCERA	Russell 2000 Growth*
Basic Materials	1.3%	2.4%
Consumer Discretionary	19.6%	15.7%
Consumer Staples	4.7%	2.7%
Energy	0.1%	1.8%
Financials	11.1%	3.8%
Healthcare	22.3%	32.6%
Industrials	16.8%	14.9%
Real Estate	0.7%	3.5%
Technology	20.1%	18.0%
Telecommunications	1.8%	2.0%
Utilities	0.0%	2.6%
Cash	1.4%	0.0%

2Q21 Sector Allocation			
Sector	CCCERA	Russell 2000 Growth (6/25)*/**	Russell 2000 Growth (6/30)*/**
Basic Materials	1.3%	2.3%	3.0%
Consumer Discretionary	19.9%	16.1%	16.5%
Consumer Staples	5.2%	2.9%	3.4%
Energy	0.7%	1.6%	2.6%
Financials	11.8%	3.9%	4.9%
Healthcare	19.9%	32.1%	29.7%
Industrials	16.0%	14.6%	14.2%
Real Estate	0.9%	3.6%	2.8%
Technology	20.1%	18.3%	19.6%
Telecommunications	1.9%	2.0%	2.4%
Utilities	0.0%	2.6%	0.9%
Cash	2.1%	0.0%	0.0%

* Source: Frank Russell Company – see full disclosure. ** Index figures as of 6/25 reflect the sector weights prior to the annual Russell reconstitution. Red and green shading indicates negative and positive weighting changed 0.5% or greater from previous quarter.



CCCERA - Top Ten Holdings (by Market Value)

	<i>Company</i>	<i>Ticker</i>	<i>Sector</i>	<i>% Held</i>
1.	Freshpet, Inc.	FRPT	Consumer Staples	2.25
2.	Rapid7, Inc.	RPD	Technology	2.18
3.	Chart Industries, Inc.	GTLS	Industrials	2.02
4.	MACOM Technology Sol. Holdings, Inc.	MTSI	Technology	1.96
5.	Varonis Systems, Inc.	VRNS	Technology	1.88
6.	Chegg, Inc.	CHGG	Consumer Discretionary	1.75
7.	Jack in the Box, Inc.	JACK	Consumer Discretionary	1.65
8.	Simply Good Foods Co.	SMPL	Consumer Staples	1.65
9.	Everi Holdings, Inc.	EVRI	Consumer Discretionary	1.64
10.	NeoGenomics, Inc.	NEO	Healthcare	1.59



DRIVEN BY RESEARCH

Portfolio
as of June 30, 2021

Portfolio Characteristics vs. Benchmark

Characteristic	Emerald SCG	Russell 2000 Growth*
Est. Long Term EPS Growth**	21.2%	20.6%
P/E Ratio***	23.7x	21.4x
R ² vs. Russell 2000 Growth	0.84	1.00
Yield (%)	0.31	0.31
Price/Book Value***	4.1x	5.8x
Median Market Cap (By No. of Stocks)	\$3,151 mm	\$1,486 mm
Wgt. Average Market Cap	\$4,003 mm	\$3,777 mm
Turnover (Trailing 12 mos.)	57%	---

* Source: Frank Russell Company – see full disclosure

** Database estimate, Emerald's internal estimates are higher.

*** In order to better reflect Emerald's characteristics relative to the Russell Indices, Emerald is now calculating its P/E and Price/Book ratios based on a weighted harmonic average in line with Russell's calculation methodology.



- **The flattening of the yield curve and retrenchment in treasury yields accelerated into July. While it is difficult to truly pinpoint the exact cause of the dramatic decline of the 10-year yield, which bottomed near 1.25% in the early days of July, we believe there was a confluence of factors likely weighing on yields including institutional flows from pension funds and shifting of exposure within some asset managers, which was magnified by lower liquidity during the holiday weeks.**
- **Outside of the technical/trading-related aspects, there has been growing market chatter regarding the durability of growth, as the second quarter likely represents the peak rate of change for both year-over-year GDP and earnings growth, as the economy laps the weakest growth quarters of 2020. That being said, while there are growth concerns, the concerns don't appear to be prevalent as inflation expectations and high-yield credit spreads remained relatively unchanged.**
- **We should also note the emergence of the Delta Variant of the COVID-19 virus. While cases have been rising, there is no evidence at this juncture that there will be measurable economic disruption as a result. Progress of the variant, both domestically and abroad, is something we will continue to monitor.**
- **Looking forward, we continue to believe volatility in bond yields is set to continue in the near-term as the market assesses and adjusts to incoming data points on growth and inflation.**



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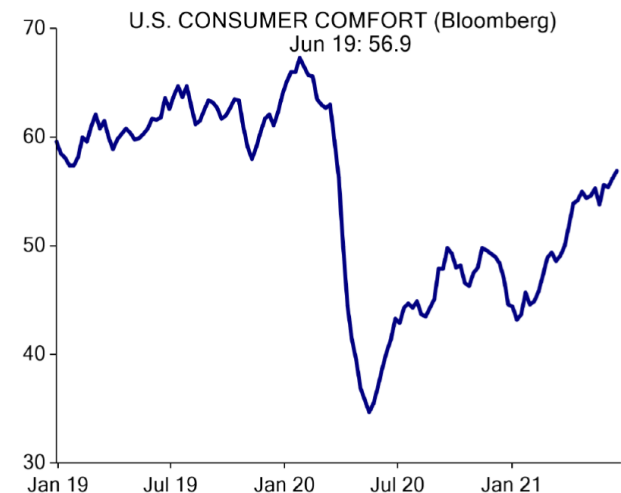
Market Outlook

- On the economic growth front, Emerald remains optimistic regarding the durability of above-trend economic growth.
- The consumer backdrop continues to strengthen with consumer net worth surging, savings abundant, confidence rising, wages increasing and unemployment on the decline. In addition to the aforementioned, the direct child tax credit payments began hitting bank accounts in July. All of these factors we believe are supportive of an elevated level of consumer spending, as excess saving currently residing in savings accounts gets redeployed.

	<u>4Q 2020</u>	<u>1Q 2021</u>	<u>2Q 2021</u>
Previous	\$130t	\$134t e	\$138t e
Revised	\$132t	\$137t e	\$142t e

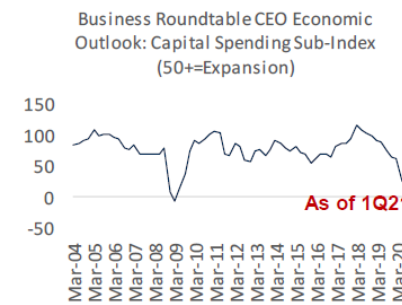
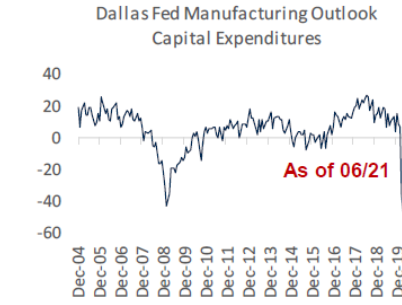
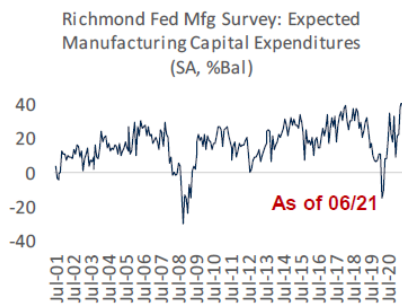
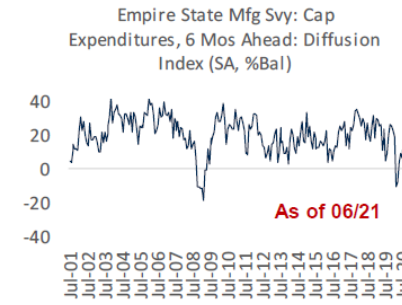
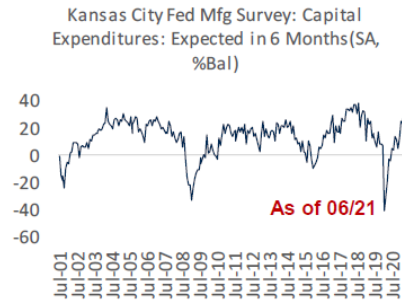
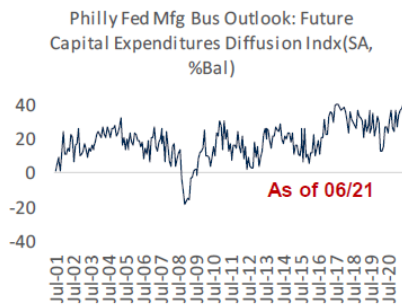


Source: Evercore ISI





- We are similarly optimistic regarding the trajectory of business investment, which we anticipate will accelerate as 2021 progresses. Confidence in the corporate suite is on the rise, which we believe will remain supportive of capital spending. The regional Federal Reserve surveys are corroborating this increasingly positive outlook for capex through rebounds in their respective capex expenditure outlook results. Similarly, we are seeing a rebound in technology spending intentions.

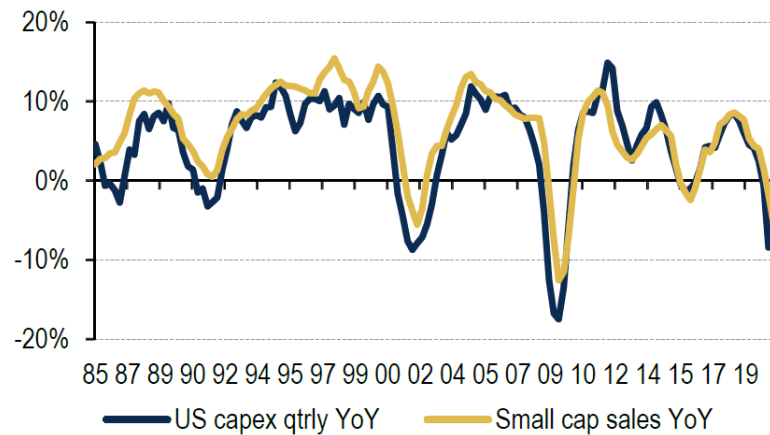


Source: RBC US Equity Strategy, Haver



Chart 20: Small cap sales growth has been highly correlated w/ US capex...

US capex growth (private non-residential fixed investment YoY) vs. small cap (Russell 2000) sales growth YoY, 1985-present

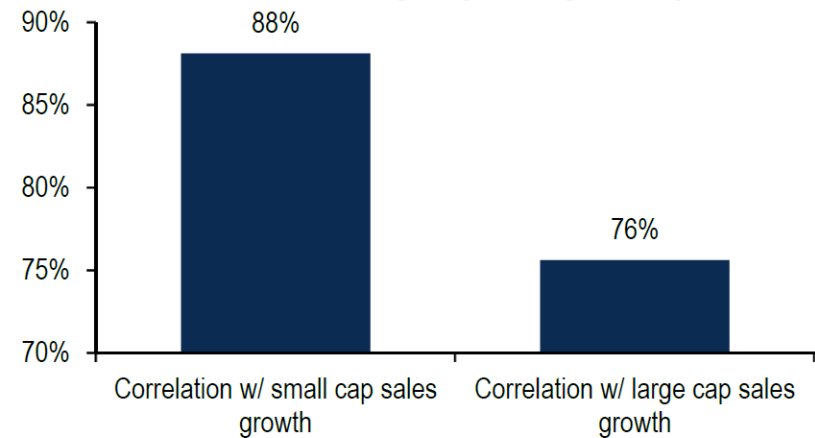


Source: FactSet, Haver Analytics, BofA US Equity & US Quant Strategy

Chart 21: ... with small caps benefitting more than large caps

Correlation of US capex growth with small cap (Russell 2000) and large cap (S&P 500) sales growth, 1985-present

Correlation w/ small-large cap sales growth spread: 32%



Source: FactSet, Haver Analytics, BofA US Equity & US Quant Strategy



- **A strong domestic economic backdrop, in our view, remains particularly favorable for the trajectory of small capitalization earnings growth. As of early July, Russell 2000 earnings growth was estimated to grow by +29.7% over the 2019 earnings level, representing a more than 900 bps delta to its large capitalization counterpart, according to a July 6, 2021 report from Steve DeSanctis of Jefferies.**
- **The small capitalization earnings recovery has meaningfully outpaced that of their large capitalization peers. From April of this year to July, the projected 2021 earnings growth rate relative to 2019 has expanded from +17.8% (excluding energy) to +29.7% (excluding energy).**
- **The gap to large capitalization earnings growth grew meaningfully over this period expanding from more than 500 bps to more than 900 bps.**



'21 vs. '19 and 2022's earnings growth by size, style, sector

GICS Sector	Small Caps		Mid Caps		Large Caps	
	21 vs 19	2022	21 vs 19	2022	21 vs 19	2022
Comm Serv	322.4	22.1	-28.5	116.3	32.1	13.2
Discretionary	52.4	18.2	43.3	20.5	16.7	31.5
Staples	52.3	13.9	34.1	15.1	12.3	6.8
Energy	NM	139.6	NM	53.1	NM	33.5
Financials	18.6	2.1	19.2	1.4	13.8	0.2
Health Care	32.6	21.0	28.7	19.8	24.0	7.2
Industrials	21.1	30.6	15.1	21.7	-8.5	33.3
Info Tech	44.9	18.1	30.8	15.4	33.8	10.4
Materials	70.6	25.4	89.0	-19.2	59.6	1.5
Real Estate	-14.9	27.7	-13.1	15.2	5.0	7.4
Utilities	6.9	8.6	17.1	6.4	7.4	8.8
Benchmark	30.4	19.4	23.7	11.3	19.5	11.7
Benchmark X-Energy	29.7	16.4	23.4	10.5	20.1	11.0
Growth	27.6	21.5	25.6	15.5	27.2	13.0
Value	32.4	18.1	22.4	9.6	11.1	10.2

Note: As of July 2.

Source: FactSet; Standard & Poor's; FTSE Russell; Jefferies



- At the same time the relative valuation has improved, according to the same report, the Russell 2000 is now trading in the 22nd percentile relative to the Russell 1000 as compared to the historical valuation range and at a discount on four of the seven metrics.

Relative valuations for Russell 2000 vs. Russell 1000

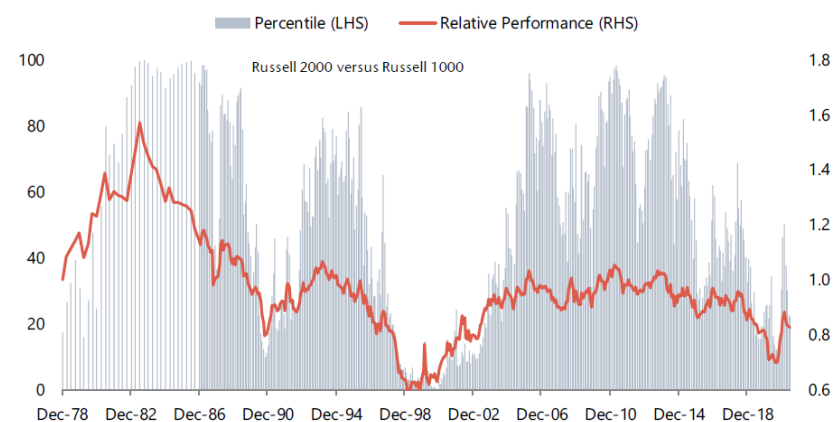
Valuation Metric	Russell 2000 vs. Russell 1000		
	Current	LT Avg	% Diff
Trailing P/E (Non Negative)	0.68	1.01	-32.4
Forward P/E	0.99	1.05	-5.3
Price to Book	0.68	0.77	-12.1
Price to Cash Flow*	1.41	1.33	6.4
Price to Sales	0.75	0.80	-6.1
P/E to Growth	0.84	0.83	1.1

*Price to cash flow started in 2002.

Note: From March 31, 2016 forward Jefferies estimates.

Source: FactSet; FTSE Russell; Jefferies

Our relative valuation model currently sits in 22nd percentile, started the cycle in the 21st



Source: FactSet; FTSE Russell; Jefferies



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Portfolio Holdings as of June 30, 2021

PORTFOLIO APPRAISAL

	Quantity	Cost Basis		Market Value			Unrealized Gain/Loss	Current Yield	Estimated Annual Income
		Average Cost	Total Cost	Current Price	Total Value	% Portfolio			
Cash/Cash Equivalent									
LIQUID ASSETS			4,446,436.31		4,446,436.31	2.1	0.0	0.0	0
PRINCIPAL CASH			4,446,436.31		4,446,436.31	2.1	0.00	0.0	0.00
TOTAL Cash/Cash Equivalent			4,446,436.31		4,446,436.31	2.1	0.0	0.0	0
Equity									
BASIC MATERIALS			1,808,328.64		2,801,726.72	1.3	993,398.1	1.7	48,443
AVIENT CORPORATION	56,992	31.73	1,808,328.64	49.16	2,801,726.72	1.3	993,398.08	1.7	48,443.20
CONSUMER DISCRETIONARY			23,428,204.15		41,417,289.61	19.9	17,989,085.5	0.2	102,254
BJ'S RESTAURANT INC	27,813	59.47	1,653,962.11	49.14	1,366,730.82	0.7	-287,231.29	0.0	0.00
CHURCHILL DOWNS INC	16,127	85.06	1,371,729.67	198.26	3,197,339.02	1.5	1,825,609.35	0.3	10,030.99
CHEGG INC	42,784	13.20	564,715.24	83.11	3,555,778.24	1.7	2,991,063.00	0.0	0.00
CHUY'S HOLDINGS INC	31,545	25.49	804,030.49	37.26	1,175,366.70	0.6	371,336.21	0.0	0.00
CINEMARK HOLDINGS INC	55,574	21.07	1,171,176.67	21.95	1,219,849.30	0.6	48,672.63	0.0	0.00
DICKS SPORTING GOODS INC	20,939	41.33	865,310.54	100.19	2,097,878.41	1.0	1,232,567.87	1.4	30,361.55
EVERI HOLDINGS INC	133,489	10.85	1,448,517.73	24.94	3,329,215.66	1.6	1,880,697.93	0.0	0.00
NATIONAL VISION HOLDINGS	51,420	26.24	1,349,175.05	51.13	2,629,104.60	1.3	1,279,929.55	0.0	0.00
FIVE BELOW	10,660	48.62	518,267.87	193.27	2,060,258.20	1.0	1,541,990.33	0.0	0.00
JACK IN THE BOX INC	30,039	75.41	2,265,317.72	111.44	3,347,546.16	1.6	1,082,228.44	1.6	52,868.64
LINBLAD EXPEDITIONS HOLDINGS	60,043	17.07	1,024,805.33	16.01	961,288.43	0.5	-63,516.90	0.0	0.00
NOODLES AND COMPANY	81,630	9.23	753,418.70	12.48	1,018,742.40	0.5	265,323.70	0.0	0.00
THE CHILDREN'S PLACE INC	14,763	73.70	1,088,003.55	93.06	1,373,844.78	0.7	285,841.23	0.0	0.00
PLANET FITNESS INC	24,255	32.10	778,567.50	75.25	1,825,188.75	0.9	1,046,621.25	0.0	0.00
SEAWORLD ENTERTAINMENT	45,325	28.21	1,278,393.15	49.94	2,263,530.50	1.1	985,137.35	0.0	0.00
SUN COUNTRY AIRLINES HOLDING	32,855	34.22	1,124,139.65	37.01	1,215,963.55	0.6	91,823.90	0.0	0.00
LATHAM GROUP INC	42,127	19.71	830,362.61	31.96	1,346,378.92	0.6	516,016.31	0.0	0.00
TILLY'S INC-CLASS A SHRS	56,552	8.97	507,409.14	15.98	903,700.96	0.4	396,291.82	0.0	0.00
VISTEON CORP	13,511	81.92	1,106,805.36	120.94	1,634,020.34	0.8	527,214.98	0.0	0.00
WINNEBAGO INDUSTRIES	18,735	58.72	1,100,109.54	67.96	1,273,230.60	0.6	173,121.06	0.7	8,992.80
PET ACQUISITION LLC	45,805	21.83	1,000,003.03	22.41	1,026,490.05	0.5	26,487.02	0.0	0.00

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Portfolio Holdings as of June 30, 2021

PORTFOLIO APPRAISAL

	Quantity	Cost Basis		Market Value			Unrealized Gain/Loss	Current Yield	Estimated Annual Income
		Average Cost	Total Cost	Current Price	Total Value	% Portfolio			
Equity									
CONSUMER DISCRETIONARY			23,428,204.15		41,417,289.61	19.9	17,989,085.5	0.2	102,254
YETI HOLDINGS INC	28,271	29.15	823,983.50	91.82	2,595,843.22	1.2	1,771,859.72	0.0	0.00
CONSUMER STAPLES			3,818,319.24		10,708,593.71	5.2	6,890,274.5	0.0	0
BELLRING BRANDS INC	89,074	14.54	1,294,699.73	31.34	2,791,579.16	1.3	1,496,879.43	0.0	0.00
FRESHPET INC	28,043	18.72	524,928.91	162.96	4,569,887.28	2.2	4,044,958.37	0.0	0.00
SIMPLY GOOD FOODS CO	91,677	21.80	1,998,690.60	36.51	3,347,127.27	1.6	1,348,436.67	0.0	0.00
ENERGY			1,154,106.74		1,496,262.32	0.7	342,155.6	0.0	0
AMERESCO INC	19,181	49.40	947,606.74	62.72	1,203,032.32	0.6	255,425.58	0.0	0.00
SHOALS TECHNOLOGIES GROUP	8,260	25.00	206,500.00	35.50	293,230.00	0.1	86,730.00	0.0	0.00
FINANCIALS			19,143,738.80		24,573,246.43	11.8	5,429,507.6	4.9	1,212,462
BRP GROUP INC	91,003	14.69	1,336,572.53	26.65	2,425,229.95	1.2	1,088,657.42	0.0	0.00
BANCORPSOUTH INC	26,837	30.39	815,570.68	28.33	760,292.21	0.4	-55,278.47	2.7	20,396.12
EASTERN BANKSHARES INC	148,029	15.30	2,264,351.78	20.57	3,044,956.53	1.5	780,604.75	1.6	47,369.28
HOULIHAN LOKEY	20,170	63.27	1,276,133.50	81.79	1,649,704.30	0.8	373,570.80	2.1	34,692.40
LIVE OAK BANCSHARES INC	32,259	47.63	1,536,384.50	59.00	1,903,281.00	0.9	366,896.50	0.2	3,871.08
MOELIS & CO	54,379	35.61	1,936,365.89	56.89	3,093,621.31	1.5	1,157,255.42	3.9	119,633.80
OCEANFIRST FINANCIAL CORP	75,735	22.88	1,732,502.23	20.84	1,578,317.40	0.8	-154,184.83	3.3	51,499.80
PAYA HOLDINGS INC	73,204	12.25	896,749.00	11.02	806,708.08	0.4	-90,040.92	0.0	0.00
PALOMAR HOLDINGS INC	28,290	48.33	1,367,155.05	75.46	2,134,763.40	1.0	767,608.35	0.0	0.00
PACIFIC PREMIER BANCORP	75,816	31.95	2,422,607.13	42.29	3,206,258.64	1.5	783,651.51	3.1	100,077.12
SILVERGATE CAPITAL CORPORATION	9,353	69.34	648,500.58	113.32	1,059,881.96	0.5	411,381.38	0.0	0.00
SOUTH STATE CORP	18,600	73.14	1,360,364.76	81.76	1,520,736.00	0.7	160,371.24	2.3	34,968.00
TRIUMPH BANCORP	11,229	90.23	1,013,161.17	74.25	833,753.25	0.4	-179,407.92	95.9	799,953.96
TRINITY CAPITAL INC	38,380	14.00	537,320.00	14.48	555,742.40	0.3	18,422.40	0.0	0.00
HEALTH CARE			34,980,413.33		41,380,859.70	19.9	6,400,446.4	0.0	0
ADAPTHEALTH CORP	54,070	35.59	1,924,331.01	27.41	1,482,058.70	0.7	-442,272.31	0.0	0.00
APPLIED THERAPEUTICS INC	38,308	37.59	1,439,922.46	20.78	796,040.24	0.4	-643,882.22	0.0	0.00
ARENA PHARMACEUTICALS INC	24,025	73.57	1,767,632.13	68.20	1,638,505.00	0.8	-129,127.13	0.0	0.00
ARVINAS INC	19,336	72.87	1,408,952.68	77.00	1,488,872.00	0.7	79,919.32	0.0	0.00

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Portfolio Holdings
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PORTFOLIO APPRAISAL

	Quantity	Cost Basis		Market Value			Unrealized Gain/Loss	Current Yield	Estimated Annual Income
		Average Cost	Total Cost	Current Price	Total Value	% Portfolio			
Equity									
HEALTH CARE			34,980,413.33		41,380,859.70	19.9	6,400,446.4	0.0	0
ATRICURE INC	35,465	27.83	987,058.38	79.33	2,813,438.45	1.4	1,826,380.07	0.0	0.00
AVROBIO INC	52,887	18.61	984,024.22	8.89	470,165.43	0.2	-513,858.79	0.0	0.00
BLUEPRINT MEDICINES CORP	17,928	69.67	1,248,968.23	87.96	1,576,946.88	0.8	327,978.65	0.0	0.00
COLLEGIUM PHARMACEUTICAL INC	54,336	15.24	828,002.37	23.64	1,284,503.04	0.6	456,500.67	0.0	0.00
CURIS INC	144,804	8.94	1,293,908.45	8.07	1,168,568.28	0.6	-125,340.17	0.0	0.00
CVRx INC	19,040	19.84	377,678.27	28.00	533,120.00	0.3	155,441.73	0.0	0.00
DICERNA PHARMACEUTICALS INC	36,953	14.64	541,154.16	37.32	1,379,085.96	0.7	837,931.80	0.0	0.00
GOSSAMER BIO INC	94,380	9.34	881,087.42	8.12	766,365.60	0.4	-114,721.82	0.0	0.00
INTEGER HOLDINGS CORP	10,318	76.50	789,294.31	94.20	971,955.60	0.5	182,661.29	0.0	0.00
KALVISTA PHARMACEUTICALS INC	29,076	37.99	1,104,465.63	23.96	696,660.96	0.3	-407,804.67	0.0	0.00
KARUNA THERAPEUTICS INC	15,610	126.11	1,968,590.79	113.99	1,779,383.90	0.9	-189,206.89	0.0	0.00
MERIT MED SYS INC	27,873	58.45	1,629,110.16	64.66	1,802,268.18	0.9	173,158.02	0.0	0.00
MANNKIND CORP	230,864	4.55	1,050,734.11	5.45	1,258,208.80	0.6	207,474.69	0.0	0.00
NEOGENOMICS INC	71,334	16.78	1,197,071.76	45.17	3,222,156.78	1.6	2,025,085.02	0.0	0.00
OCULAR THERAPEUTIX INC	96,752	13.28	1,284,489.58	14.18	1,371,943.36	0.7	87,453.78	0.0	0.00
ORIC PHARMACEUTICAL	47,841	26.36	1,260,989.59	17.69	846,307.29	0.4	-414,682.30	0.0	0.00
PASSAGE BIO INC	35,896	20.74	744,498.14	13.24	475,263.04	0.2	-269,235.10	0.0	0.00
PRIVIA HEALTH GROUP INC	14,217	23.92	340,031.65	44.37	630,808.29	0.3	290,776.64	0.0	0.00
PROTAGONIST THERAPEUTICS INC	9,020	41.11	370,794.38	44.88	404,817.60	0.2	34,023.22	0.0	0.00
ULTRAGENYX PHARMACEUTICAL INC	16,988	107.47	1,825,677.89	95.35	1,619,805.80	0.8	-205,872.09	0.0	0.00
REPLIMUNE GROUP INC	55,449	18.90	1,047,890.60	38.42	2,130,350.58	1.0	1,082,459.98	0.0	0.00
REATA PHARMACEUTICALS INC	19,563	115.72	2,263,902.21	141.53	2,768,751.39	1.3	504,849.18	0.0	0.00
SEER INC	14,560	64.70	942,086.26	32.78	477,276.80	0.2	-464,809.46	0.0	0.00
SEASPIKE HOLDINGS CORP	50,699	15.50	785,659.95	20.51	1,039,836.49	0.5	254,176.54	0.0	0.00
TREACE MEDICAL CONCEPTS INC	20,017	19.29	386,048.51	31.26	625,731.42	0.3	239,682.91	0.0	0.00
TRANSMEDICS GROUP INC	23,601	17.53	413,640.54	33.18	783,081.18	0.4	369,440.64	0.0	0.00
TURNING POINT THERAPEUTICS INC	9,013	76.90	693,103.51	78.02	703,194.26	0.3	10,090.75	0.0	0.00
UNITED THERAPEUTICS CORP DEL	13,240	90.61	1,199,613.98	179.41	2,375,388.40	1.1	1,175,774.42	0.0	0.00

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PORTFOLIO APPRAISAL

	Quantity	Cost Basis		Market Value			Unrealized Gain/Loss	Current Yield	Estimated Annual Income
		Average Cost	Total Cost	Current Price	Total Value	% Portfolio			
Equity									
INDUSTRIALS			20,537,101.36		33,175,644.16	16.0	12,638,542.8	0.2	63,442
ALTRA INDUSTRIAL MOTION CORP	28,655	57.14	1,637,242.83	65.02	1,863,148.10	0.9	225,905.27	0.5	9,169.60
THE AZEK COMPANY	38,999	30.79	1,200,607.36	42.46	1,655,897.54	0.8	455,290.18	0.0	0.00
MASONITE INTERNATIONAL CORP	13,115	81.63	1,070,536.23	111.79	1,466,125.85	0.7	395,589.62	0.0	0.00
ECHO GLOBAL LOGISTICS INC	45,530	21.67	986,739.83	30.74	1,399,592.20	0.7	412,852.37	0.0	0.00
FIRST ADVANTAGE CORP	42,680	16.42	700,622.99	19.91	849,758.80	0.4	149,135.81	0.0	0.00
FARO TECHNOLOGIES INC	17,169	74.28	1,275,350.53	77.77	1,335,233.13	0.6	59,882.60	0.0	0.00
FORWARD AIR CORP COM	16,135	65.45	1,056,073.84	89.75	1,448,116.25	0.7	392,042.41	0.9	13,553.40
CHART INDS INC	28,070	67.08	1,883,070.30	146.32	4,107,202.40	2.0	2,224,132.10	0.0	0.00
HAYWARD HOLDINGS INC	42,316	21.96	929,466.07	26.02	1,101,062.32	0.5	171,596.25	0.0	0.00
H&E EQUIPMENT SERVICES INC	19,235	36.85	708,904.55	33.27	639,948.45	0.3	-68,956.10	3.3	21,158.50
HYDROFARM HOLDINGS GROUP INC	8,684	37.98	329,804.64	59.11	513,311.24	0.2	183,506.60	0.0	0.00
KRATOS DEFENSE AND SECURITY	94,502	13.76	1,300,297.75	28.49	2,692,361.98	1.3	1,392,064.23	0.0	0.00
MONTROSE ENVIRONMENTAL GROUP	37,176	20.61	766,275.36	53.66	1,994,864.16	1.0	1,228,588.80	0.0	0.00
NVS GLOBAL INC	18,811	61.65	1,159,786.01	94.51	1,777,827.61	0.9	618,041.60	0.0	0.00
REPAY HOLDINGS CORP CL A	31,344	25.59	801,970.32	24.04	753,509.76	0.4	-48,460.56	0.0	0.00
SUMMIT MATERIAL	38,941	29.88	1,163,726.56	34.85	1,357,093.85	0.7	193,367.29	0.0	0.00
TRINET GROUP IN	28,849	58.29	1,681,514.57	72.48	2,090,975.52	1.0	409,460.95	0.0	0.00
TREX INC	30,776	28.42	874,787.87	102.21	3,145,614.96	1.5	2,270,827.09	0.0	0.00
TETRA TECH INC	24,451	41.32	1,010,323.75	122.04	2,984,000.04	1.4	1,973,676.29	0.7	19,560.80
REAL ESTATE			1,913,681.90		1,915,997.30	0.9	2,315.4	1.5	28,557
HANNON ARMSTRONG INFRASTRUCTURE CAPITAL	20,398	55.95	1,141,363.33	56.15	1,145,347.70	0.6	3,984.37	2.5	28,557.20
RYMAN HOSPITALITY PROPERTIES	9,760	79.13	772,318.57	78.96	770,649.60	0.4	-1,668.97	0.0	0.00
TECHNOLOGY			26,308,397.86		41,803,450.82	20.1	15,495,053.0	0.0	0
COHU INC	53,164	39.52	2,101,000.29	36.79	1,955,903.56	0.9	-145,096.73	0.0	0.00
COVETRUS INC	30,323	27.35	829,235.24	27.00	818,721.00	0.4	-10,514.24	0.0	0.00
DIODES INCORPORATED	21,895	59.51	1,302,979.97	79.77	1,746,564.15	0.8	443,584.18	0.0	0.00
DOUBLEVERIFY HOLDINGS INC	13,519	29.35	396,737.17	42.34	572,394.46	0.3	175,657.29	0.0	0.00
EVERQUOTE INC	43,649	37.91	1,654,873.39	32.68	1,426,449.32	0.7	-228,424.07	0.0	0.00

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PORTFOLIO APPRAISAL

	Quantity	Cost Basis		Market Value			Unrealized Gain/Loss	Current Yield	Estimated Annual Income
		Average Cost	Total Cost	Current Price	Total Value	% Portfolio			
Equity									
TECHNOLOGY			26,308,397.86		41,803,450.82	20.1	15,495,053.0	0.0	0
FORMFACTOR INC	33,283	34.57	1,150,623.84	36.46	1,213,498.18	0.6	62,874.34	0.0	0.00
JAMF HOLDING CORP	27,027	34.84	941,655.19	33.57	907,296.39	0.4	-34,358.80	0.0	0.00
LATTICE SEMICONDUCTOR CORPORATION	28,266	28.10	794,184.69	56.18	1,587,983.88	0.8	793,799.19	0.0	0.00
MEDIAALPHA INC	47,410	28.04	1,329,441.72	42.10	1,995,961.00	1.0	666,519.28	0.0	0.00
MODEL N INC	49,901	11.57	577,469.63	34.27	1,710,107.27	0.8	1,132,637.64	0.0	0.00
MACOM TECHNOLOGY SOLUTIONS	62,202	24.08	1,497,820.16	64.08	3,985,904.16	1.9	2,488,084.00	0.0	0.00
ONTO INNOVATION INC	36,494	36.96	1,348,926.52	73.04	2,665,521.76	1.3	1,316,595.24	0.0	0.00
PING IDENTITY HOLDING CORP	36,855	32.59	1,201,005.65	22.90	843,979.50	0.4	-357,026.15	0.0	0.00
PERFICIENT INC	35,217	44.77	1,576,640.37	80.42	2,832,151.14	1.4	1,255,510.77	0.0	0.00
Q2 HOLDINGS INC	14,879	74.40	1,107,007.98	102.58	1,526,287.82	0.7	419,279.84	0.0	0.00
LIVERAMP HOLDINGS INC	35,897	53.40	1,916,798.59	46.85	1,681,774.45	0.8	-235,024.14	0.0	0.00
RAPID7 INC	46,732	34.57	1,615,520.93	94.63	4,422,249.16	2.1	2,806,728.23	0.0	0.00
SAILPOINT TECHNOLOGIES HOLDINGS	51,930	25.71	1,335,104.56	51.07	2,652,065.10	1.3	1,316,960.54	0.0	0.00
SKYWATER TECHNOLOGY INC	16,900	14.52	245,347.46	28.65	484,185.00	0.2	238,837.54	0.0	0.00
SUPER MICRO COMPUTER INC	33,545	33.25	1,115,472.93	35.18	1,180,113.10	0.6	64,640.17	0.0	0.00
SEMTECH CORP	25,920	53.05	1,375,030.07	68.80	1,783,296.00	0.9	408,265.93	0.0	0.00
VARONIS SYSTEMS INC	66,141	13.54	895,521.51	57.62	3,811,044.42	1.8	2,915,522.91	0.0	0.00
TELECOMMUNICATIONS			2,981,263.50		3,936,293.91	1.9	955,030.4	1.7	68,475
COGENT COMMUNICATIONS HOLDINGS	21,947	53.27	1,169,106.78	76.89	1,687,504.83	0.8	518,398.05	4.1	68,474.64
VIAVI SOLUTIONS INC	127,338	14.23	1,812,156.72	17.66	2,248,789.08	1.1	436,632.36	0.0	0.00
TOTAL Equity			136,073,555.52		203,209,364.68	97.8	67,135,809.2	0.7	1,523,633
TOTAL Dividend Accruals					86,104.66	0.0			
TOTAL MANAGED			140,519,991.83		207,741,905.65	100	67,135,809.2	0.7	1,523,633

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Russell Disclosure

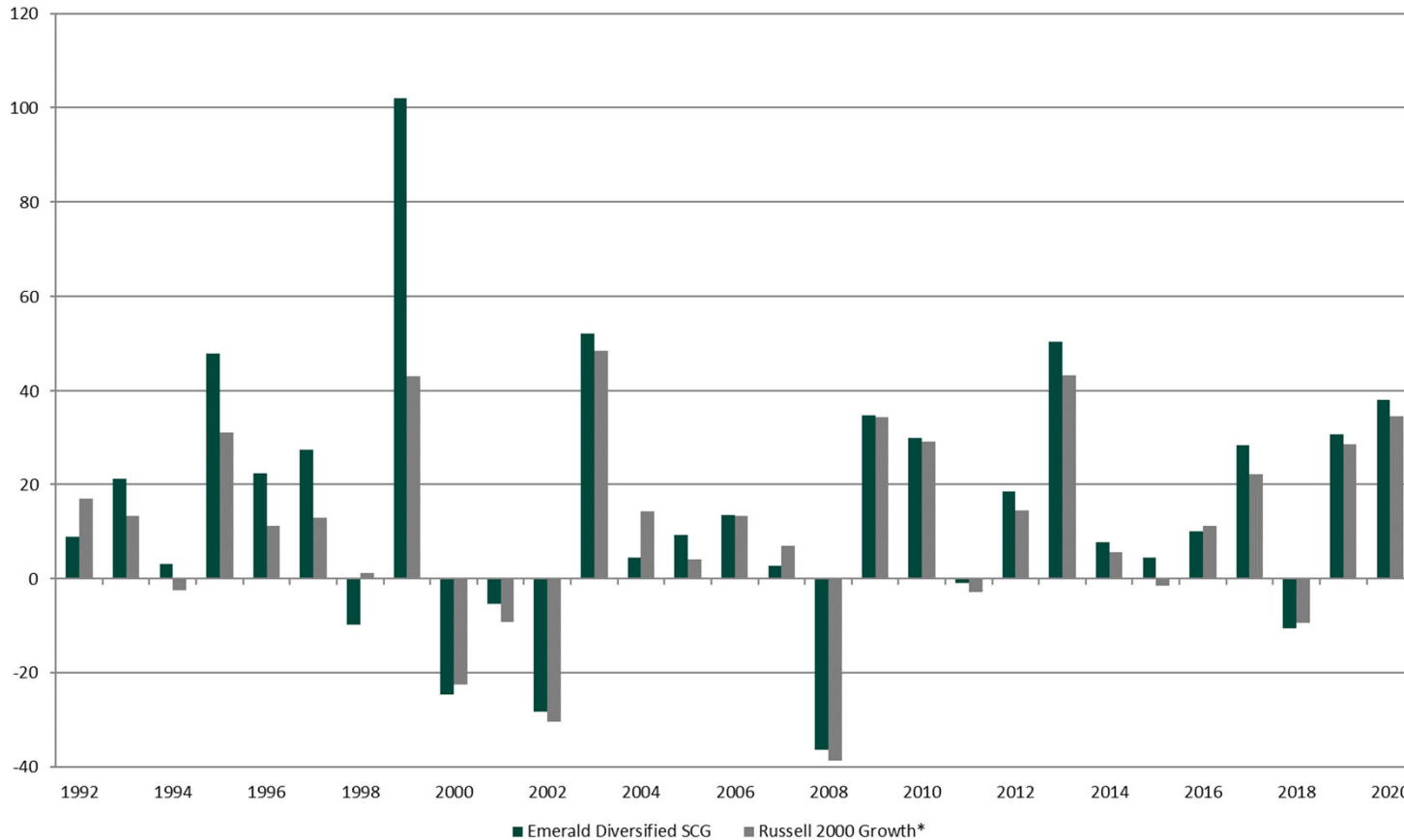
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Div. Small Cap Growth Calendar Year Performance as of December 31, 2020 (Gross)



RATE OF RETURN REPORTED GROSS

Emerald has outperformed in 22 of the 28 full calendar years we have been in business.

* Source: Frank Russell Company – see full disclosure

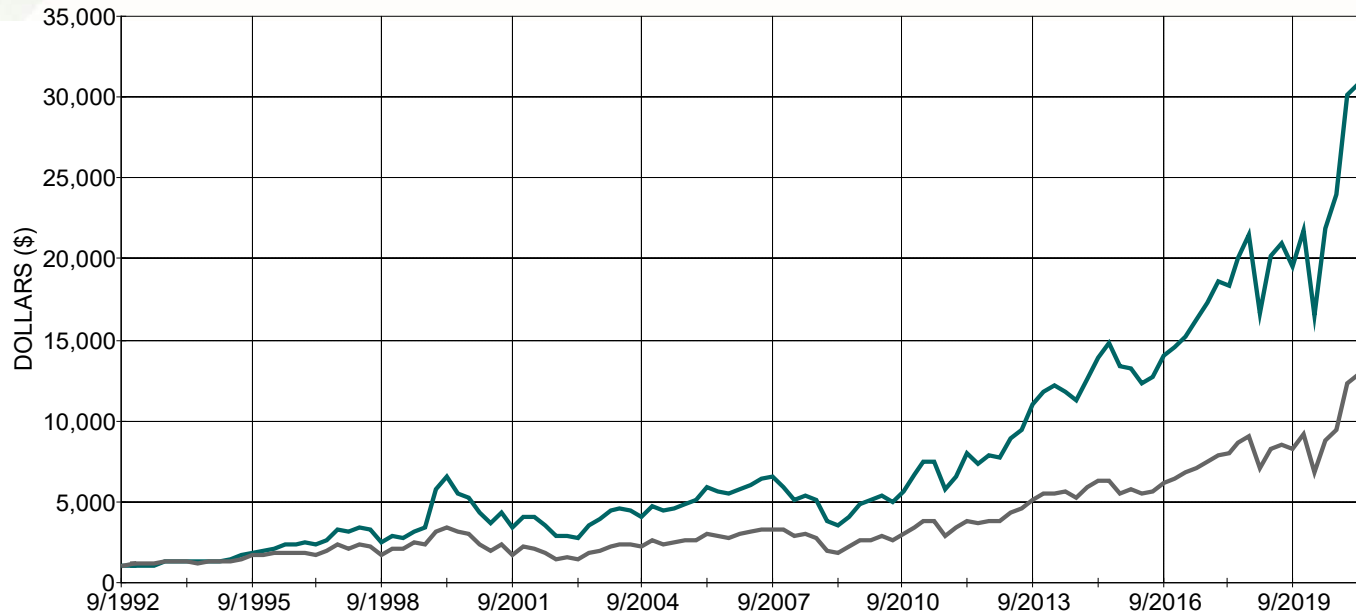
Performance Disclaimer - The performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed \$100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to \$259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to \$234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.



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Growth of \$1,000,000 Investment (Gross)
10/01/1992 – 06/30/2021

RATE OF RETURN REPORTED GROSS



	Since Inception
Emerald Advisers Emerald Div. Sm.	32,043
Russell 2000 Growth	13,392

Source: PSN from 10/01/1992- 06/30/2021, Inception Date: 10/01/1992

Performance Disclaimer - The performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed \$100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to \$259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to \$234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.



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Emerald Differentiators

- ✓ In-House Research Orientation
- ✓ 10-Step Repeatable Process
- ✓ Skill Set of Research Analysts
- ✓ Team Approach to Rapidly Changing Sectors
 - Health Care Team
 - Technology Team
- ✓ 23 Years Average Institutional Research Knowledge
- ✓ Longevity of Research Team
- ✓ Always True to Growth and Cap Size Mandates



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Emerald Differentiators

- ✓ Ability to invest, analyze, evaluate and properly value pre-profit opportunities
- ✓ Ability to participate in various opportunities by using a portfolio of up to 120 stocks
- ✓ Examines the entire Russell 2000 universe for idea generation
- ✓ 28 years of working to generate alpha using the same Process, Philosophy & Portfolio Management
- ✓ Unequal weighted manager, base weightings on each company's fundamental outlook, company specific risk and risk structure of the existing portfolio
- ✓ Unique portfolio construction risk constraints



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Emerald Keys to Success

- ✓ ***Stability of Emerald***
 - 28 years as a growing boutique investment manager/All employees participate in ownership via ESOP plan
 - Low turnover of investment professionals/Retention promoted via equity awards
 - 14 years average client tenure*
- ✓ ***Experience***
 - 31 years average equity management investment experience
 - Experienced client services team dedicated to providing client support
- ✓ ***Collaborative Resources***
 - Collection of firm investment staff knowledge provides a blend of independent thinking
- ✓ ***Adherence to Philosophy/Process***
 - Emerald has former plan sponsor CIOs on staff that have a deep understanding of plan sponsor needs
 - Managers remain true to style
 - Managers are invested in the product managed
 - Committed to company-wide culture of compliance
- ✓ ***Performance***
 - Long-term, risk-adjusted returns

**As of December 31, 2020. Includes institutional client tenure of Emerald Advisers, LLC and Emerald Mutual Fund Advisers Trust.*



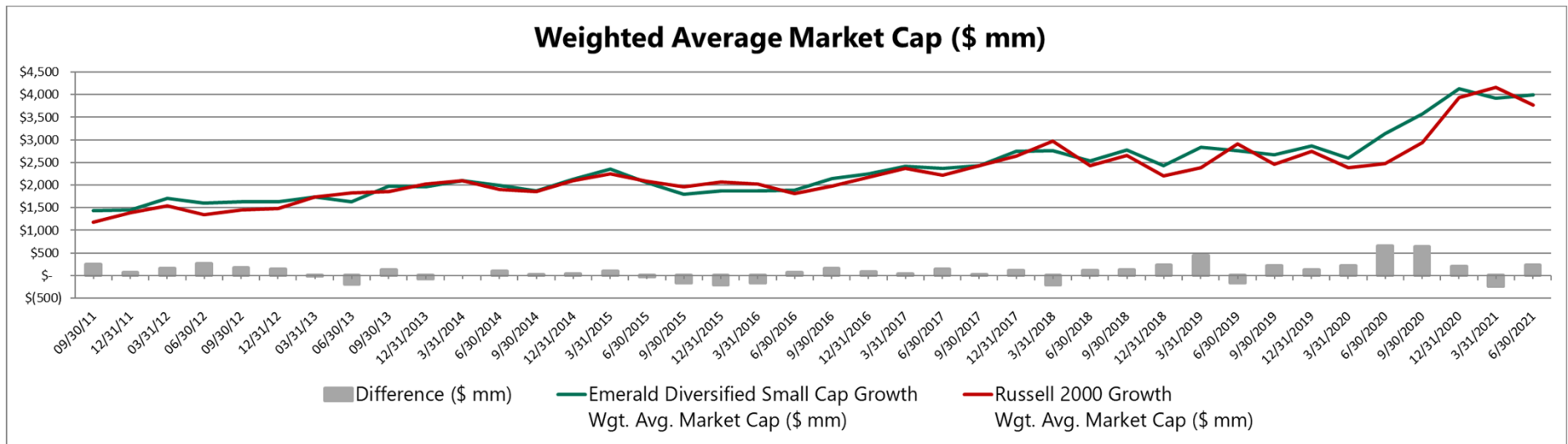
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Supplemental Material



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**Emerald Div. Small Cap Growth (SMA) vs. R-2000 Growth
10 Year Wtd. Avg. Market Cap as of June 30, 2021**

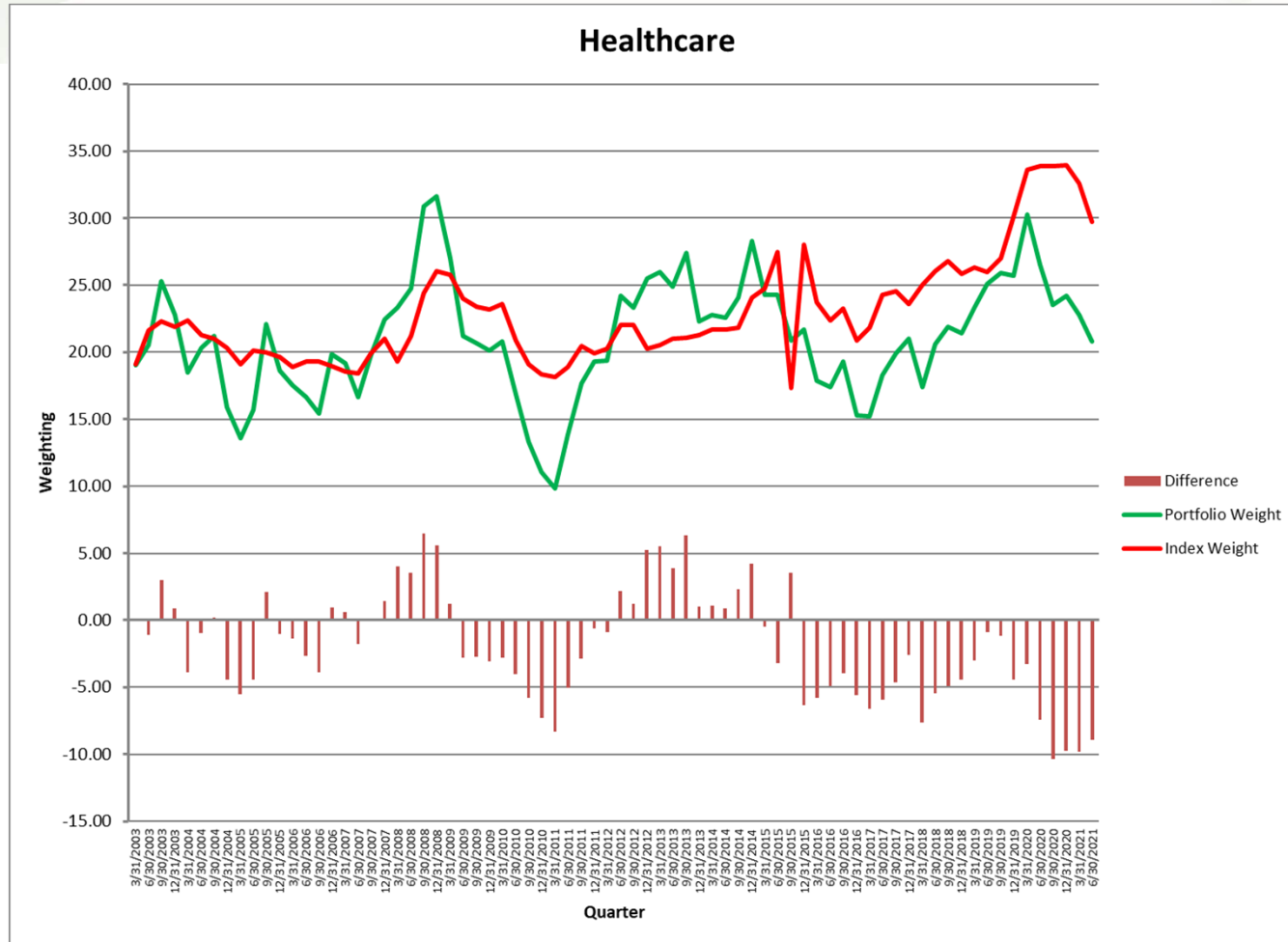


Source: FactSet. This information reflects Emerald’s Diversified Small Cap Growth Separate Account Institutional Composite Account and does not include the deduction of management and other fees. Institutional accounts may differ in performance and composition from the mutual fund.



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Emerald Div. Small Cap Growth (SMA) vs. R-2000 Growth Healthcare Weighting as of June 30, 2021



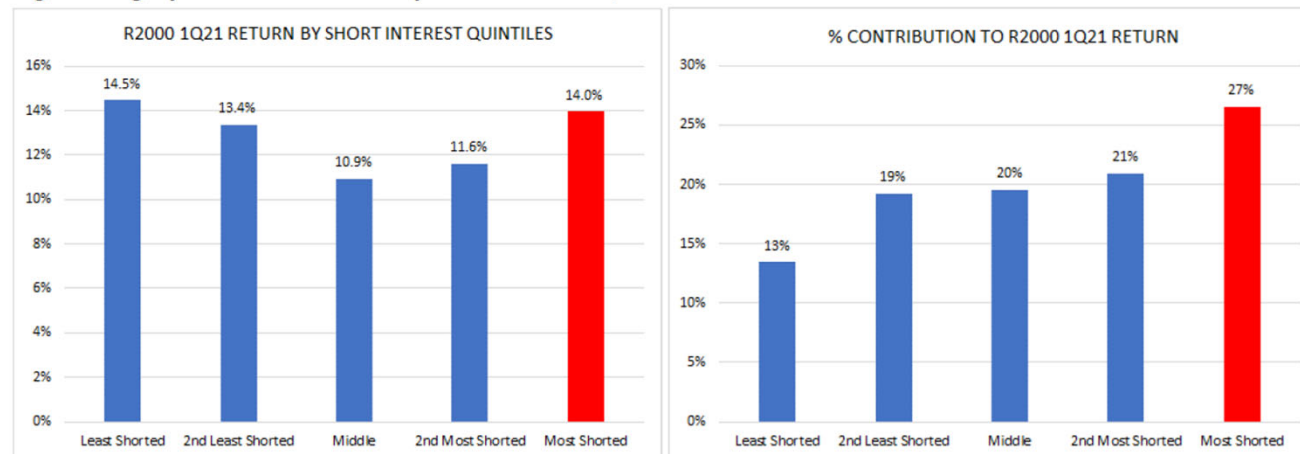
Source: INDATA/Russell. This information reflects Emerald's Diversified Small Cap Growth Separate Account Institutional Composite Account and does not include the deduction of management and other fees. Institutional accounts may differ in performance and composition from the mutual fund.

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- Further, in our review of the factors that impacted index performance during the first quarter, we would be remiss if we did not mention the implications from the Reddit craze and the ensuing upward pressure on the most heavily shorted stocks.
- Within the Russell 2000, the most shorted stocks quintile, according to a recent report from Jim Furey of Furey Research, was the second best-performing group by short-interest rising 14.0% and meaningfully outperforming the Russell 2000 Index overall. This cohort, because it comprised some of the larger market capitalization companies inside of the benchmark, actually contributed approximately 27% to the Russell 2000's total return.

Fig 11. Highly shorted stocks outperformed in 1Q21



Source: Furey Research Partners and FactSet. Based upon short interest on 12/31/20; sector neutral. Performance data as of dates indicated.



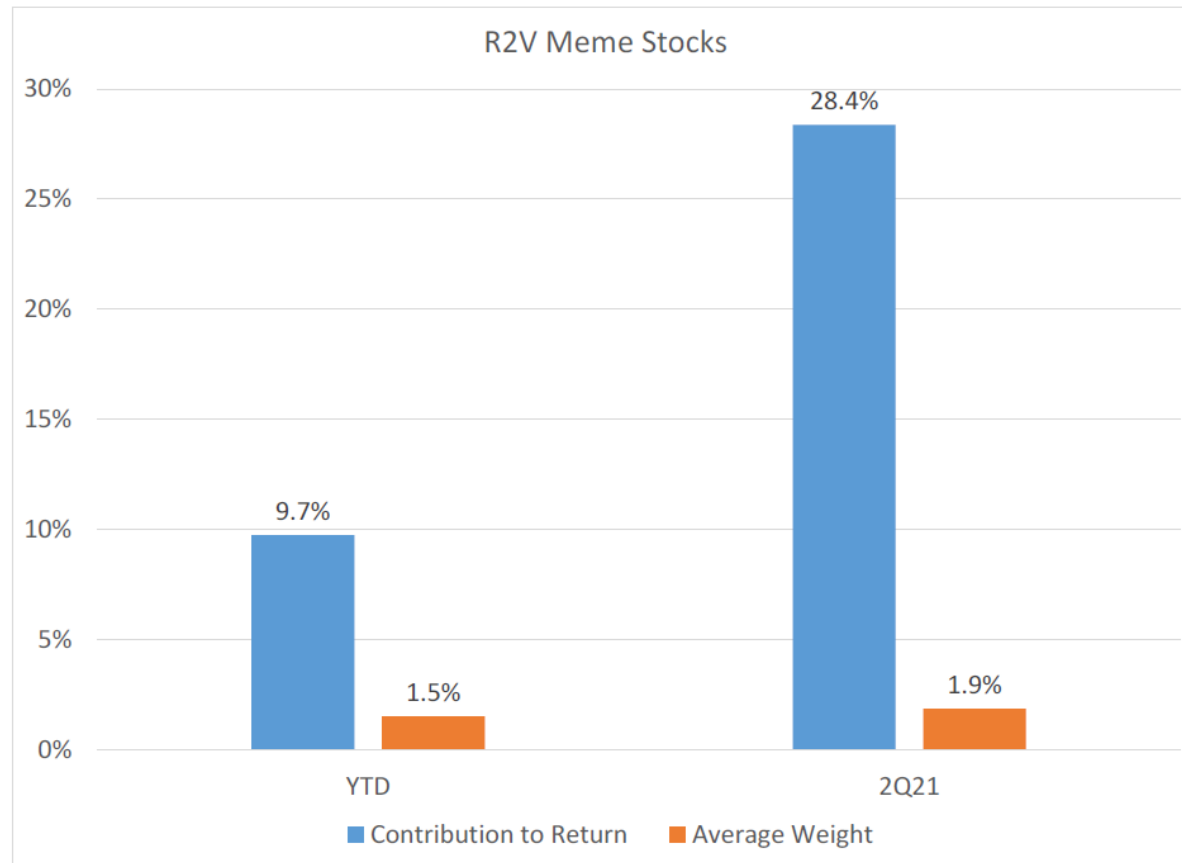
Didn't Work in First-half 2Q21 but Worked in Second-half 2Q21

Russell 2000	Absolute Return (%)			Relative Return (%)		
	3/31 - 5/10	5/10 - 6/30	2Q21	3/31 - 5/10	5/10 - 6/30	2Q21
Extremely Shorted	(11.2)	70.7	51.6	(10.9)	66.1	47.3
Highly Shorted	(5.4)	17.9	11.5	(5.1)	13.3	7.3
Zombie Stocks	(1.9)	17.8	15.6	(1.6)	13.2	11.3
Penny Stocks	(4.6)	15.5	10.2	(4.3)	10.9	5.9
Unprofitable	(7.3)	14.8	6.4	(7.0)	10.2	2.1
Unprofitable ex. HC/Tech	(3.2)	13.5	9.9	(2.9)	8.9	5.6
Pure Growth	(6.7)	13.2	5.5	(6.4)	8.6	1.2
Low Share Price	(2.4)	12.4	9.7	(2.1)	7.8	5.5
High Sales Grw	(5.1)	10.2	4.6	(4.8)	5.6	0.3
Asset Light Defensive	(5.5)	10.0	3.9	(5.2)	5.4	(0.3)
Low ROE	(4.8)	9.8	4.5	(4.6)	5.2	0.2
Recent IPO/Spinoff	(7.1)	9.2	1.4	(6.8)	4.6	(2.9)
Low ROIC	(4.2)	9.0	4.5	(3.9)	4.4	0.2
SPAC Birth	(4.9)	8.7	3.4	(4.6)	4.1	(0.9)
Variability	(2.3)	8.5	5.9	(2.0)	3.9	1.7
Stock Issuers	(4.5)	8.3	3.5	(4.2)	3.7	(0.8)

Source: FRP, FactSet; as of 6/30/21



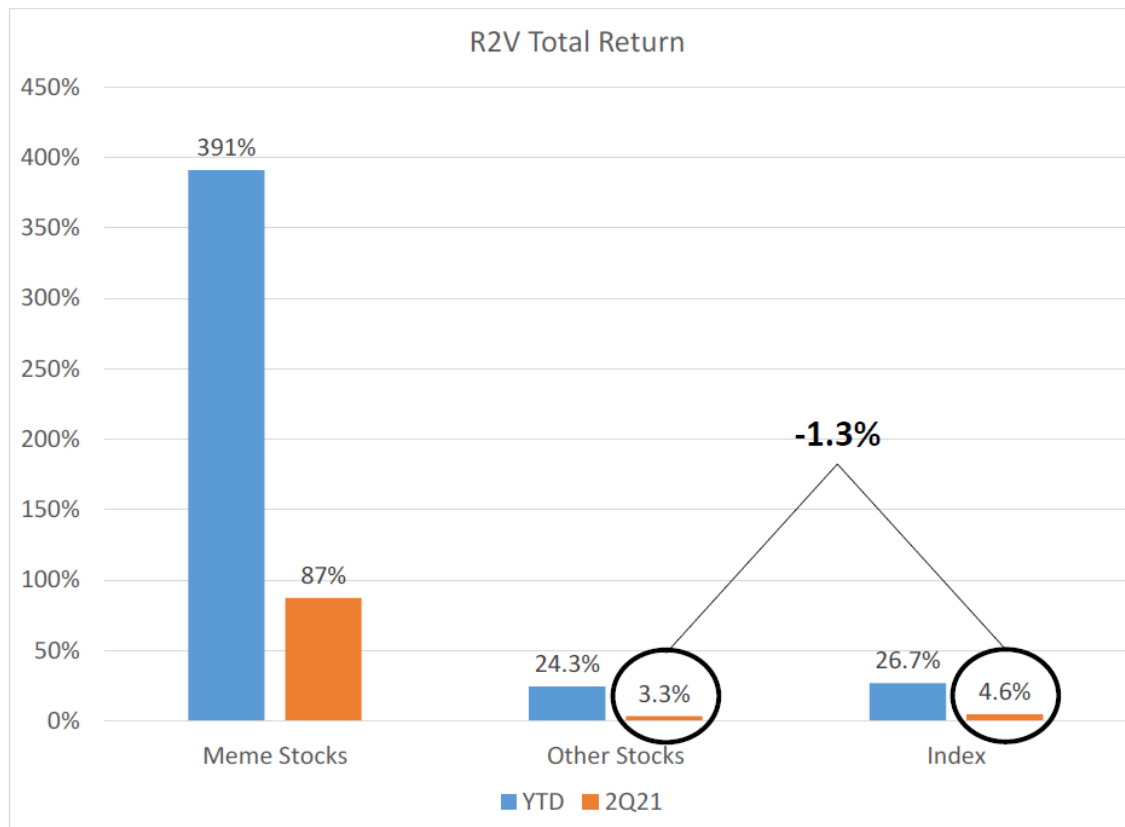
7 Stocks Contributed 28% of the R2V's 2Q21 Return



Source: FRP, FactSet; as of 6/30/21; R2V Meme Stocks are AMC, BBBY, CLNE, EXPR, GME, GEO, MVIS, RIDE and WKHS



The R2V 2Q21 Return Would Have Been -1.3% Lower ex. Meme



Source: FRP, FactSet; as of 6/30/21; R2V Meme Stocks are AMC, BBBY, CLNE, EXPR, GME, GEO, MVIS, RIDE and WKHS



EMERALD FOUNDATION

The Emerald Foundation

Engage · Enrich · Empower · Everyone

Founded by Emerald CEO Joseph Besecker in 2010, **The Emerald Foundation** is an independent 501(c)(3) non-profit organization. The nationally-engaging Foundation is headquartered at The Emerald Foundation Community Campus (EFCC) or “The E” to provide space for tenants as well as host local initiatives and programming.

THE EMERALD FOUNDATION INITIATIVES

Access to Opportunities	Autumn’s Food Pantry	Rise N’ Shine	Esports
Operation Emerald		Emerging Artist Series	Sports Safety Initiative

“The E” is a hub/incubator for non-profits, providing discounted office space as well as hosting and supporting on-going programming that directly benefits the local community and our neighbors in need.

The Foundation’s focus is on supporting education, helping youth and promoting health and safety awareness, we strive to create a thriving community by providing programming to fill unmet community needs, opportunities for diverse citizens to meet and learn from one another through lectures, programs, clubs, exhibits, etc. and rental subsidies and collaborative programming opportunities for non-profits.

ENGAGE · ENRICH · EMPOWER · EVERYONE

EMERALD COMMUNITY CAMPUS

2120 OREGON PIKE

*Representative tenant list as of 09/30/2020



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Manager

Kenneth G. Mertz, II

Stacey L. Sears

Joseph W. Garner



Meeting Date
09/22/2021
Agenda Item
#9

Verus⁷⁷⁷



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



SEPTEMBER 22, 2021

Private Real Estate Review

Contra Costa County Employees' Retirement Association

Table of contents



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SAN FRANCISCO 415-362-3484

PITTSBURGH 412-784-6678

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Executive Summary

- Due largely to strong growth in CCCERA's equity investments and modest commitment pacing in the face of pandemic-led uncertainty, CCCERA's real estate allocation is below current and long-term policy targets
- CCCERA's private real estate program has performed roughly in line with expectations with varying levels of performance across GPs
- A preliminary pacing study implies a commitment level of approximately \$100-\$200 million per year is appropriate to meet long-term allocation goals, given current positioning
- Current market conditions favor light industrial, multi-family housing, and non-traditional sectors such as public storage, and senior and student housing

Overview

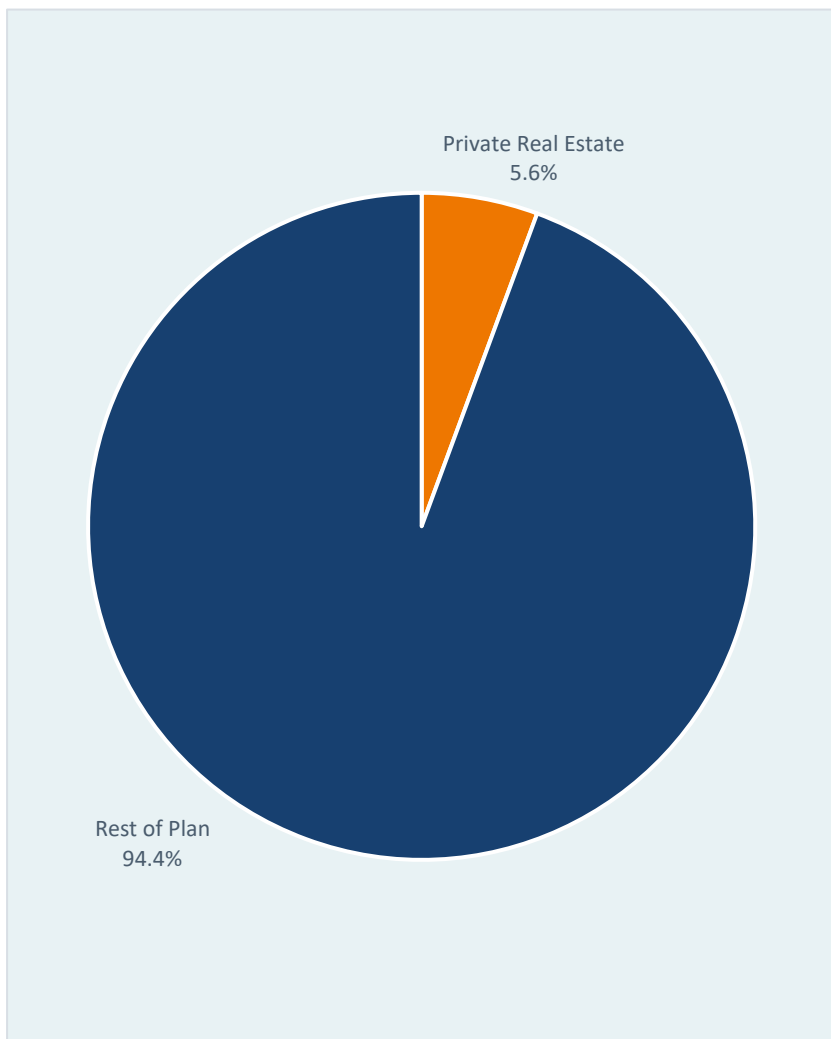
Portfolio allocation

Asset Class	Current Actual (6/30/21)	Current Policy Target ¹	Long Term Policy
Growth	74.2%	75%	76%
Public Equities	43.7%	41%	32%
High Yield	1.7%	2%	0%
REITs	0.9%	2%	0%
Private Real Estate	5.6%	8%	10%
Private Equity	10.7%	11%	15%
Private Credit	6.8%	8%	13%
Infrastructure	0%	0%	3%
Risk Parity	4.9%	3%	3%
Diversifying	6.1%	7%	7%
Liquidity	16.8%	18%	17%
Cash	1.5%	0%	0%

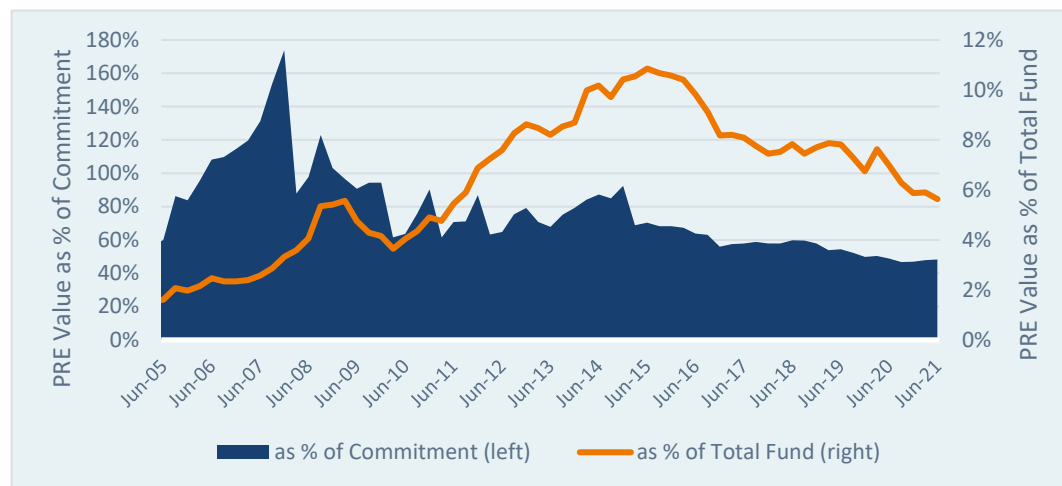
(1) From Investment Asset Allocation Resolution 2021-4

Private real estate program at a glance

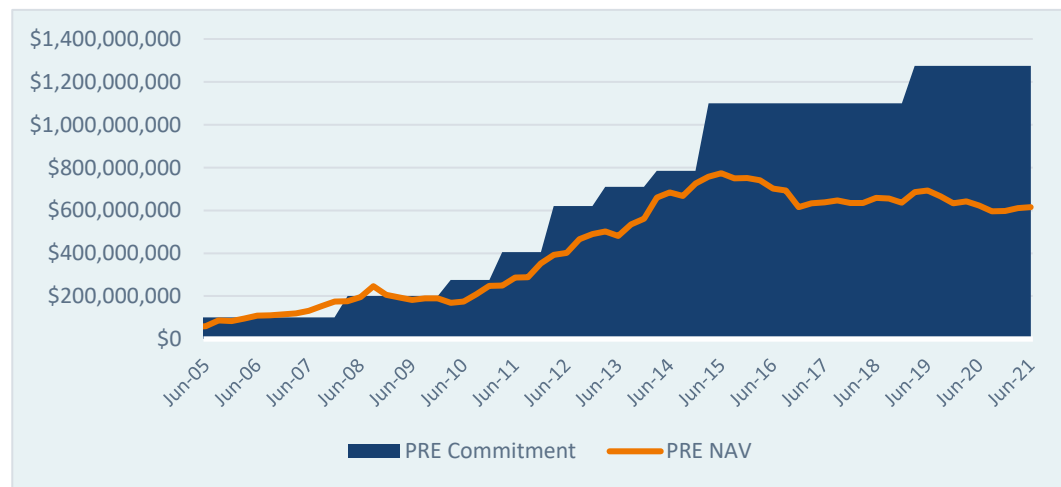
PRIVATE REAL ESTATE AS % OF TOTAL FUND



PRIVATE REAL ESTATE VALUE AS % OF COMMITMENT AND TOTAL FUND



PRIVATE REAL ESTATE IN DOLLAR TERMS



as of 6/30/21

Current private real estate holdings

Verus Internal Analysis

Inception Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/2021 ¹	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Current Qtr. Distributions	Total Distributions ⁸	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Real Estate												
1/23/2012	Angelo Gordon Realty Fund VIII ⁷	\$18,487,795	\$80,000,000	94%	\$75,401,855	\$0	\$0	\$98,433,174	\$12,334,302	1.31	1.55	3/31/2021
12/8/2014	Angelo Gordon Realty Fund IX	\$54,640,817	\$65,000,000	93%	\$60,125,000	\$0	\$5,687,500	\$24,050,001	\$7,572,500	0.40	1.31	3/31/2021
6/23/2005	DLJ RECP III	\$16,214,995	\$75,000,000	134%	\$100,709,313 ⁴	\$0	\$0	\$69,364,915	\$4,031,338	0.69	0.85	3/31/2021
2/11/2008	DLJ RECP IV	\$56,820,300	\$100,000,000	130%	\$129,892,605 ⁵	\$0	\$0	\$90,463,629	\$3,162,610	0.70	1.13	3/31/2021
7/1/2014	DLJ RECP V	\$61,984,647	\$75,000,000	131%	\$98,556,790 ⁶	\$12,944,752	\$0	\$58,913,882	\$7,612,001	0.60	1.23	3/31/2021
3/19/2019	DLJ RECP VI	\$27,159,803	\$50,000,000	51%	\$25,335,866	\$0	\$0	\$220,742	\$25,050,462	0.01	1.08	3/31/2021
6/17/1998	Hearthstone II ⁷	\$5,654	\$25,000,000	80%	\$19,938,463	\$0	\$0	\$27,473,662	\$0	1.38	1.38	3/31/2021
6/30/2013	Invesco Real Estate III ⁷	\$162,975	\$35,000,000	93%	\$32,386,423	\$0	\$0	\$47,423,062	\$2,613,577	1.46	1.47	3/31/2021
6/30/2014	Invesco Real Estate IV ⁷	\$16,395,885	\$35,000,000	87%	\$30,546,401	\$0	\$1,996,747	\$22,353,948	\$4,453,599	0.73	1.27	6/30/2021
2/20/2019	Invesco Real Estate V	\$61,399,552	\$75,000,000	77%	\$57,485,048	\$8,487,379	\$958,398	\$5,681,837	\$21,256,455 ⁹	0.10	1.17	6/30/2021
7/16/2013	LaSalle Income & Growth VI ⁷	\$19,555,813	\$75,000,000	95%	\$71,428,571	\$0	\$3,105,590	\$84,523,353	\$3,571,429	1.18	1.46	3/31/2021
2/28/2017	LaSalle Income & Growth VII	\$54,056,105	\$75,000,000	103%	\$77,293,582	\$0	\$3,227,082	\$36,698,925	-\$2,293,582	0.47	1.17	3/31/2021
7/3/2013	Long Wharf Fund IV ⁷	\$1,705,111	\$25,000,000	100%	\$25,000,000	\$0	\$147,958	\$34,676,831	\$0	1.39	1.46	6/30/2021
9/30/2016	Long Wharf Fund V ⁷	\$34,691,598	\$50,000,000	100%	\$50,000,000	\$0	\$2,284,930	\$28,904,375	\$0	0.58	1.27	6/30/2021
6/27/2019	Long Wharf Fund VI	\$13,123,262	\$50,000,000	33%	\$16,650,148	\$5,371,655	\$5,748,265	\$5,748,265	\$33,349,852	0.35	1.13	6/30/2021
12/31/2011	Oaktree REOF V ⁷	\$2,989,127	\$50,000,000	101%	\$50,315,673	\$249,832	\$1,029,832	\$75,692,733	\$5,000,000 ⁹	1.50	1.56	6/30/2021
9/30/2013	Oaktree REOF VI ⁷	\$27,743,023	\$80,000,000	100%	\$80,000,000	\$0	\$0	\$84,010,175	\$18,400,000 ⁹	1.05	1.40	6/30/2021
4/1/2015	Oaktree REOF VII	\$42,584,000	\$65,000,000	96%	\$62,400,000	\$0	\$8,980,101	\$27,040,000	\$21,515,000 ⁹	0.43	1.12	6/30/2021
11/10/2013	Paulson Real Estate Fund II ⁷	\$22,386,532	\$20,000,000	97%	\$19,345,623	\$0	\$2,034,086	\$8,830,276	\$654,377	0.46	1.61	3/31/2021
1/25/2012	Siguler Guff DREOF	\$22,498,913	\$75,000,000	93%	\$69,375,000	\$0	\$4,246,842	\$98,365,088	\$5,625,000	1.42	1.74	3/31/2021
8/31/2013	Siguler Guff DREOF II	\$44,432,895	\$70,000,000	89%	\$61,985,000	\$0	\$1,120,741	\$39,645,160	\$8,015,000	0.64	1.36	3/31/2021
1/27/2016	Siguler Guff DREOF II Co-inv	\$16,095,735	\$25,000,000	82%	\$20,537,862	\$0	\$0	\$10,273,350	\$4,462,138	0.50	1.28	3/31/2021
Total Closed End Real Estate		\$615,134,537	\$1,275,000,000	97%	\$1,234,709,225	\$27,053,618	\$40,568,073	\$978,767,385	\$186,386,056	0.79	1.29	
% of Portfolio (Market Value)		5.6%										

¹ Latest valuation + capital calls - distributions

² (DPI) is equal to (capital returned / capital called)

³ (TVPI) is equal to (market value + capital returned) / capital called

⁴ Includes \$7,360,987 in management fees charged outside the fund.

⁵ Includes \$11,322,966 in management fees charged outside the fund.

⁶ Includes \$986,559 in management fees charged outside the fund.

⁷ Capital has been fully called and fund is in redemption.

⁸ Total distributions may include recallable distributions

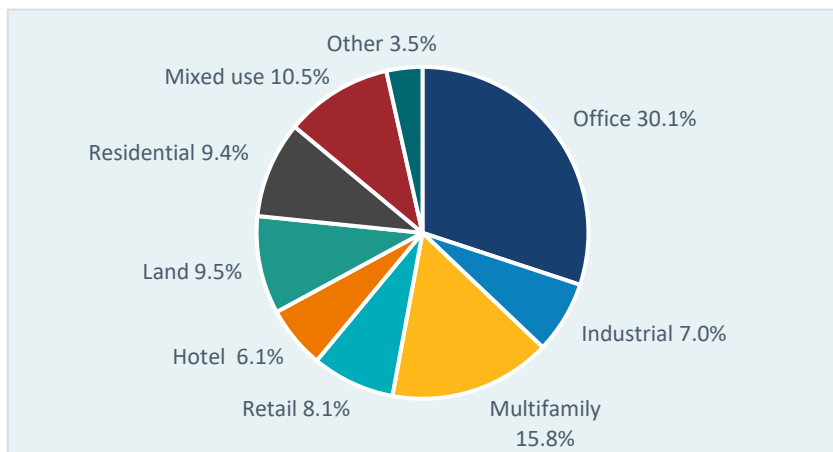
⁹ Remaining commitment includes recallable distributions

Excerpt from CCCERA's 6/30/21 performance report. Private real estate holdings data are reported on a lagged cycle and are reflective of the last known values at the time of the report.

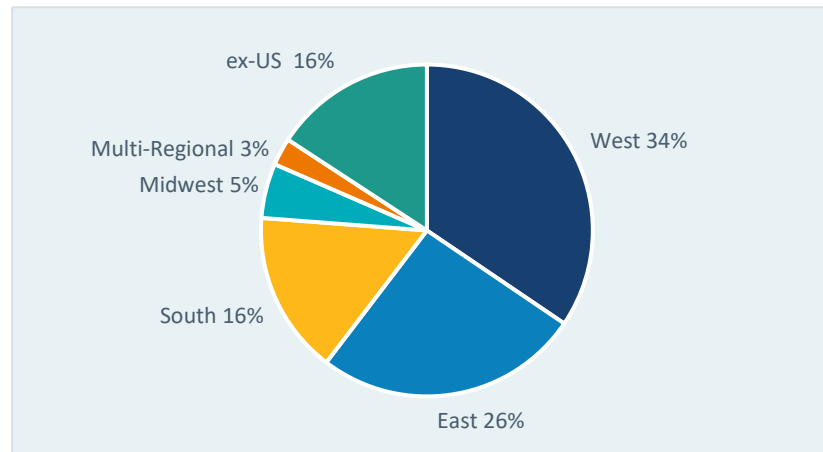
Portfolio positioning

Program diversification

BY PROPERTY TYPE



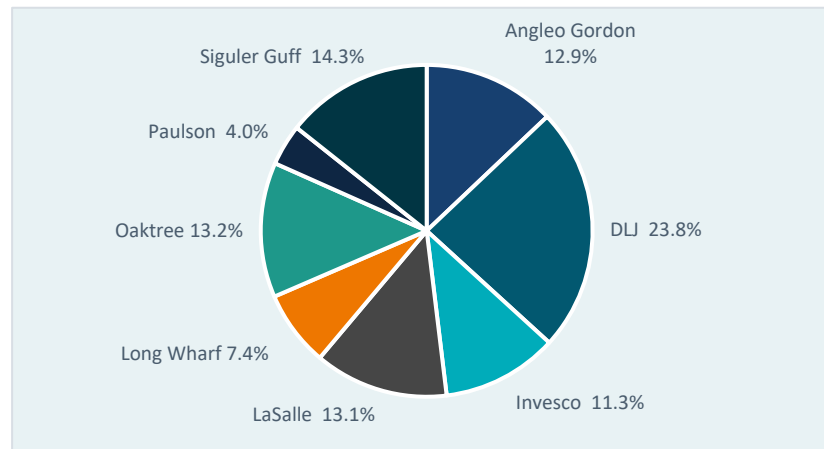
BY GEOGRAPHY



BY VINTAGE YEAR



BY MANAGER



All calculations based on data provided by managers and market value as of 3/31/21

Private real estate performance – value-add

Fund	Vintage	Net IRR		TVPI	
		CCCERA	PME (FTSE NAREIT) ²	CCCERA	Median Peer ³
Invesco Real Estate III	2012	17.6% ¹	9.2%	1.47	1.46
Invesco US Value-Add Fund IV	2015	15.4% ¹	7.7%	1.31	1.27
Invesco US Value-Add Fund V	2019	22.5% ¹	18.8%	1.14	0.96
LaSalle Income & Growth VI	2011	10.8%	10.0%	1.46	1.59
LaSalle Income & Growth VII	2014	6.9%	7.6%	1.17	1.33
Long Wharf Fund IV	2011	12.0%	9.2%	1.46	1.59
Long Wharf Fund V	2014	8.5%	7.7%	1.25	1.33
Long Wharf Fund VI	2019	16.3%	18.8%	1.12	0.96

As of 3/31/21

(1) Fund level returns

(2) FTSE NAREIT PME from Cambridge Modified Public Market Equivalent (MPMR) since inception based on vintage year

(3) Cambridge Associates non-core real estate universe data

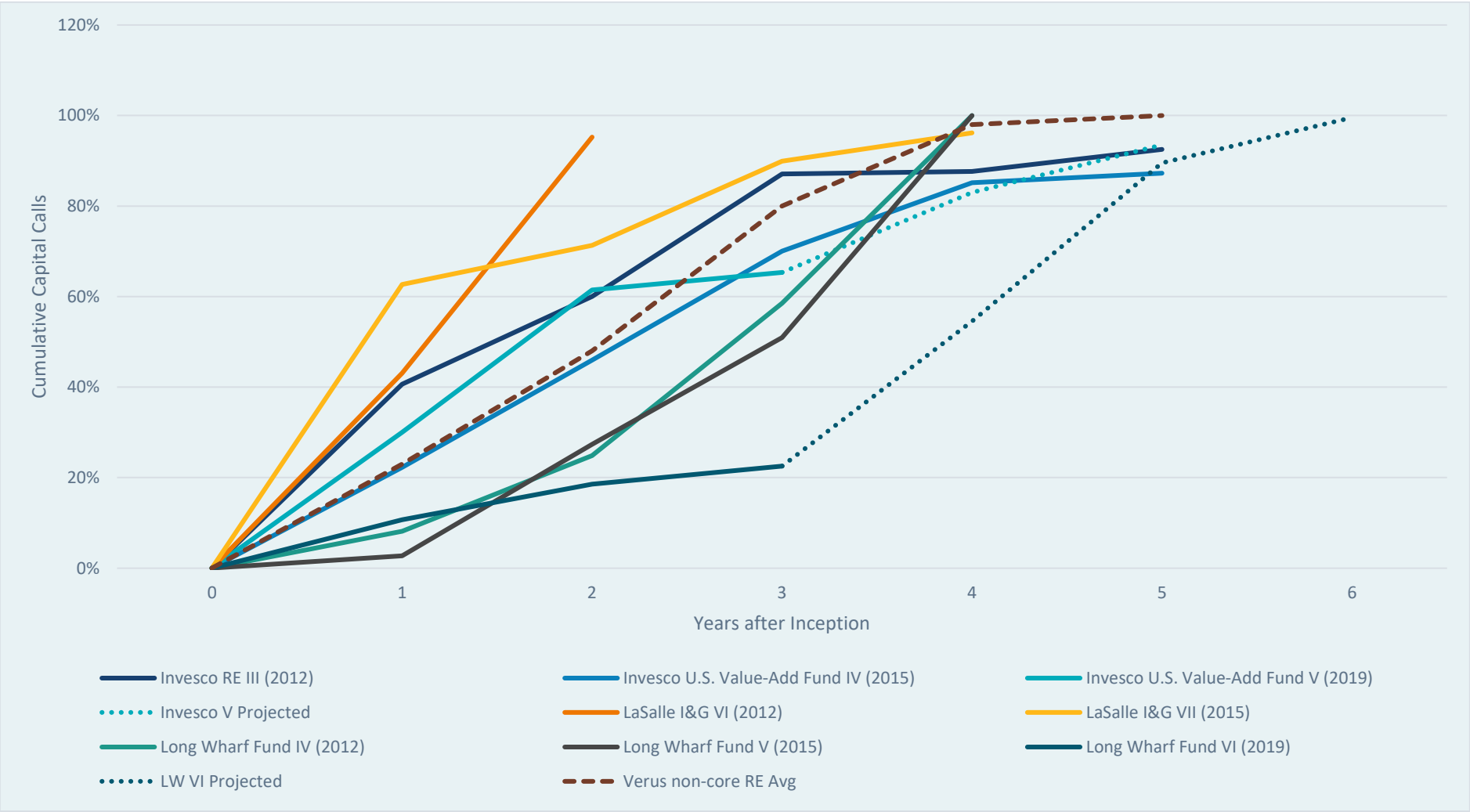
Private real estate performance – opportunistic

Fund	Vintage	Net IRR		TVPI	
		CCCERA	PME (FTSE NAREIT) ²	CCCERA	Median Peer ³
Angelo Gordon Real Estate Fund VIII	2010	13.5%	10.8%	1.55	1.60
Angelo Gordon Real Estate Fund IX	2014	8.1%	7.6%	1.31	1.30
DLJ RECP Fund III	2005	-3.0%	6.6%	0.85	0.84
DLJ RECP Fund IV	2008	2.3%	13.4%	1.13	1.53
DLJ RECP Fund V	2013	9.0%	8.4%	1.23	1.34
DLJ RECP Fund VI	2018	3.5%	11.9%	1.08	1.11
Oaktree REOF V	2011	12.3% ⁴	10.0%	1.59	1.53
Oaktree REOF VI	2012	8.6% ⁴	9.2%	1.40	1.28
Oaktree REOF VII	2015	15.6% ⁴	7.7%	1.21	1.22
Paulson Real Estate Fund II ¹	2012	12.5%	9.2%	1.61	1.28
Siguler Guff DREOF	2010	12.9%	10.8%	1.74	1.60
Siguler Guff DREOF II	2013	8.2%	8.4%	1.36	1.34
Siguler Guff DREOF II Co-Inv	2014	6.7%	7.6%	1.28	1.30

As of 3/31/21

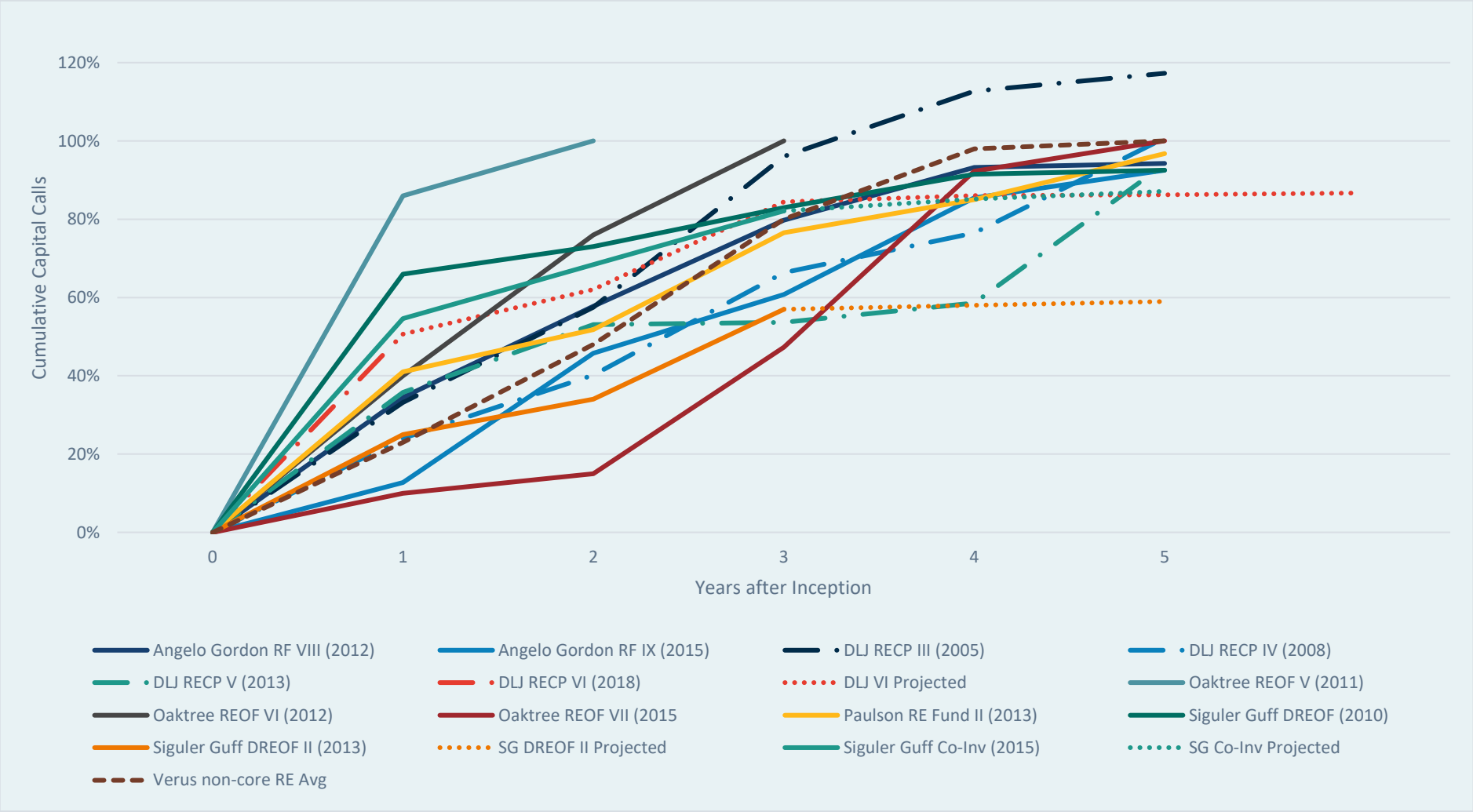
(1) As of 12/31/20; (2) From Cambridge Modified Public Market Equivalent (MPMR) since inception based on vintage year; (3) Cambridge Associates non-core real estate universe data; (4) Fund level return

Capital call pace – value-add



Projected figures based on capital call projections as of 3/31/21

Capital call pace – opportunistic



Projected figures based on capital call projections as of 3/31/21. Cumulative value can surpass 100% due to recallable distribution provisions.

Private real estate projections – value-add

Fund	Vintage Year	Commitment	Remaining Commitment	Cumulative To Date	(Contributions) / Distributions					
					2021	2022	2023	2024	2025	2026
Invesco U.S. Value-Add Fund IV	2015	\$35.0	\$4.5							
Net Cash Flow					\$13.9	\$5.8	\$0.0			
NAV				\$17.7	\$5.3	\$0.0	\$0.0			
Invesco U.S. Value-Add Fund V	2019	\$75.0	\$26.1							
Net Cash Flow					(\$10.5)	\$8.1	\$26.9	\$41.5	\$12.7	
NAV				\$51.1	\$67.4	\$66.9	\$47.5	\$11.4	\$0.0	
LaSalle Income & Growth VI	2012	\$75.0	\$3.6							
Net Cash Flow					\$3.1	\$19.9				
NAV				\$22.4	\$19.6	\$0.0				
LaSalle Income & Growth VII	2015	\$75.0	\$2.8							
Net Cash Flow					\$11.2	\$12.6	\$27.5	\$27.8	\$10.4	
NAV				\$57.3	\$55.1	\$51.2	\$31.8	\$9.0	\$0.0	
Long Wharf Fund IV	2012	\$25.0	\$0.0							
Net Cash Flow					\$0.3	\$1.5	\$0.0			
NAV				\$35.7	\$7.6	\$0.2	\$0.0			
Long Wharf Fund V	2015	\$50.0	\$0.0							
Net Cash Flow					\$7.4	\$27.5	\$7.9	\$0.0		
NAV				\$35.7	\$31.7	\$7.2	\$0.0			
Long Wharf Fund VI	2019	\$50.0	\$38.7							
Net Cash Flow					(\$11.0)	(\$10.0)	\$10.0			
NAV				\$7.5	\$15.1	\$18.3	\$0.0			
Value-Add Balance		\$385.0	\$75.74	\$227.39	\$201.86	\$143.75	\$79.31	\$20.39	\$0.00	\$0.00
% of Total Assets				2.2%	1.9%	1.3%	0.7%	0.2%	0.0%	0.0%
Total Plan Assets				\$10,356	\$10,832	\$11,313	\$11,722	\$12,123	\$12,516	\$12,901

As of 3/31/21

Note: Assumptions for this model are detailed in the appendix. 5% value-add target

Private real estate projections - opportunistic

Fund	Vintage Year	Commitment	Remaining Commitment	Cumulative To Date	(Contributions) / Distributions							
					2021	2022	2023	2024	2025	2026	2027	
Angelo Gordon Realty Fund VIII	2011	\$80.0	\$4.6									
Net Cash Flow					\$4.0	\$13.6	\$0.8	\$4.8				
NAV				\$18.4	\$16.4	\$4.6	\$4.3	\$0.0				
Angelo Gordon Realty Fund IX	2015	\$65.0	\$4.9									
Net Cash Flow					\$26.7	\$26.7	\$20.2	\$3.3	\$0.7	\$0.0	\$0.7	
NAV				\$60.6	\$42.1	\$21.1	\$3.8	\$1.0	\$0.5	\$0.6	\$0.0	\$0.0
DLJ RECP III	2005	\$75.0	\$0.0									
Net Cash Flow					\$3.6	\$6.7	(\$0.2)	\$7.9				
NAV				\$16.6	\$13.5	\$7.2	\$7.6	\$0.0				
DLJ RECP IV	2008	\$100.0	\$0.0									
Net Cash Flow					\$16.4	\$0.8	\$11.1	\$34.3				
NAV				\$56.7	\$42.2	\$42.8	\$33.2	\$0.0				
DLJ RECP V	2013	\$75.0	\$0.0									
Net Cash Flow					(\$2.0)	\$16.8	\$7.9	\$24.7	\$13.9	\$11.5		
NAV				\$47.7	\$55.1	\$44.5	\$41.7	\$21.7	\$10.3	\$0.0		
DLJ RECP VI	2018	\$50.0	\$24.7									
Net Cash Flow					(\$3.3)	\$0.9	\$11.4	\$17.2	\$31.0			
NAV				\$24.6	\$33.0	\$38.9	\$35.5	\$25.7	\$0.0			
Oaktree REOF V ¹	2011	\$50.0	\$0.0									
Net Cash Flow					\$1.5							
NAV				\$3.8	\$0.0							
Oaktree REOF VI ¹	2012	\$80.0	\$0.0									
Net Cash Flow					\$0.5							
NAV				\$27.9	\$0.0							
Oaktree REOF VII ¹	2015	\$65.0	\$2.6									
Net Cash Flow					\$1.6							
NAV				\$48.6	\$0.0							
Paulson Real Estate Fund II	2013	\$20.0	\$0.7									
Net Cash Flow					\$20.0	\$40.0	\$30.0					
NAV				\$24.5	\$28.1	\$15.3	\$0.0					
Siguler Guff DREOF	2010	\$75.0	\$5.6									
Net Cash Flow					\$8.3	\$14.3	\$9.0	\$2.3	\$0.8			
NAV				\$27.0	\$22.0	\$10.4	\$2.6	\$0.7	\$0.0			
Siguler Guff DREOF II	2013	\$70.0	\$8.0									
Net Cash Flow					\$10.5	\$15.5	\$8.0	\$4.5	\$2.0	\$3.0		
NAV				\$44.0	\$33.3	\$17.7	\$9.6	\$5.0	\$3.0	\$0.0		
Siguler Guff DREOF II Co-Inv	2015	\$25.0	\$4.5									
Net Cash Flow					\$4.3	\$10.5	\$8.0					
NAV				\$16.4	\$14.9	\$6.9	\$0.0					
Opportunistic Balance		\$830.0	\$55.6	\$416.59	\$300.46	\$209.25	\$138.28	\$54.14	\$13.83	\$0.57	\$0.00	
% of Total Assets				4.0%	2.8%	1.8%	1.2%	0.4%	0.1%	0.0%	0.0%	
Total Plan Assets				\$10,356	\$10,832	\$11,313	\$11,722	\$12,123	\$12,516	\$12,901	\$13,261	

As of 3/31/21; Assumptions for this model are detailed in the appendix. 5% opportunistic target

Market outlook

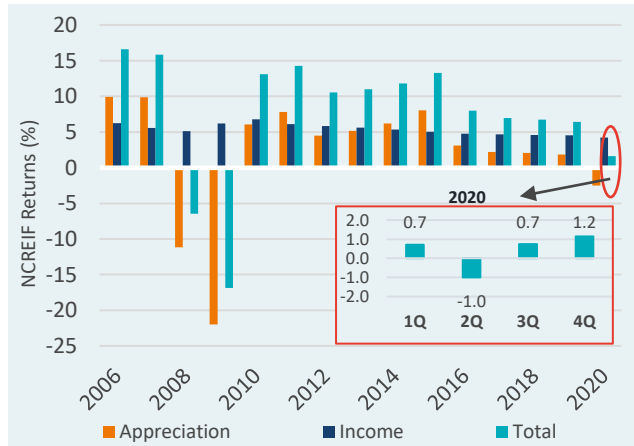
Private real estate summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Core	The pandemic created a number of fundamental challenges for traditional core property types such as retail, office and multifamily. Urban markets struggled disproportionately as populations migrated out of high-density areas. Valuation adjustments have been slow as transaction activity slowed. Uncertainty of future demand is a key risk as investors weigh vaccine led recovery with changing usage dynamics.	<ul style="list-style-type: none"> Core real estate returns tend to have high correlation to overall GDP growth. Any reversal in the economic recovery trajectory would negatively impact the overall sector. A sharp rise in interest rates could lead to increased cap rates, hurting values. 	A lagging appraisal process may continue to impact office/retail assets give us concern over existing traditional core assets. We recommend leaning away from traditional core and diversifying into alternative property types such as self storage, senior/student housing, medical office, life science as well as dedicated industrial. Clients in core ODCE funds may continue to see challenges with lengthy redemption queues, however.	Negative
Value-Add	Transaction levels decreased in 2020, especially with lower quality or unstable assets, which tend to be the targets for many value add strategies. Bid-ask spreads remained wide as low levels of financial distress by sellers, outside of retail and hospitality.	<ul style="list-style-type: none"> A slowing of demand for core real estate could lead to fewer buyers of value-add investments. A prolonged recovery would likely impact renovation and lease-up strategies. Competition could be a challenge as lots of capital has been raised and transaction volumes likely to be slowed. 	Non-core funds with vintage years during periods of economic stress tend to be some of the best performing vintages. The ability to buy potentially high-quality assets with capital needs across the lows of the cycle will afford attractive entry points. We favor strategies with limited focus on office and retail and those focused on alternative property types.	Positive
Opportunistic	Certain sectors may continue to see stress such as hospitality, retail and office. Assets in densely populated CBDs that experienced population migrations may also face some demand uncertainty. Asset owners, however, are generally not facing the same level of financial distress they had during the GFC, leading to a slower deployment pace.	<ul style="list-style-type: none"> A slowing of demand for core real estate could lead to fewer buyers of opportunistic investments. A prolonged recovery would likely delay realizations of complex projects Competition could be a challenge as lots of capital has been raised and transaction volumes likely to be slowed. 	Non-core funds with vintage years during periods of economic stress tend to be some of the best performing vintages. The impact from the recession will likely create more opportunities across the distressed spectrum, including real estate securities, non-performing loans, distressed corporate opportunities and complex projects. It may take awhile to flow through the system, however.	Positive
Debt	Our preference for lower risk senior and/or mezzanine loans coming into the market dislocation appears to be working well as most tenants met lease obligations and debt strategies outperformed core equity in 2020. Returns for conservative lending strategies were still negatively impacted in 2020 due to low transaction volumes and higher borrowing premiums. Returns remained positive, but below targeted levels.	<ul style="list-style-type: none"> Higher risk strategies, especially those in retail and hospitality may continue to be impacted by the ongoing pandemic. Subordinated loans on properties where tenants are unable to meet rental obligations could see impairment. 	Conservative lending strategies will continue to look attractive relative to core real estate equity if appreciation continues to be moderate.	Neutral

Real estate performance – Recent history

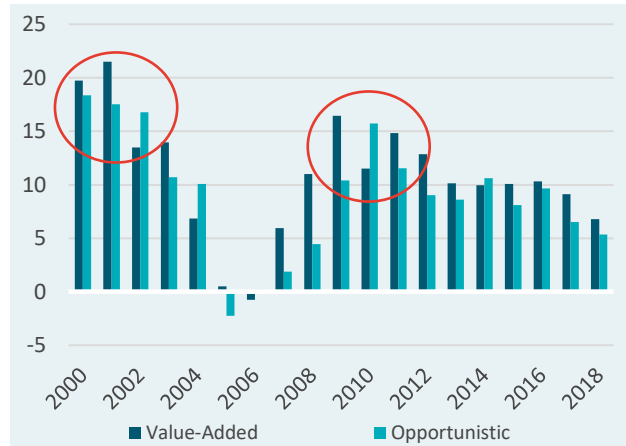
- Core private real estate returns declined in 2020 yet finished with a positive total return of 1.6% for the year (NPI Index). Second quarter was negative with a total return of -1.0%, while 3Q and 4Q rebounded with slightly positive quarters.
- Property type sector dispersion was very high with industrial leading all sectors (+7.0%) and retail the laggard (-7.5%). Hotels, which comprise a small percentage of the index was down also at -25.6%.
- Public real estate securities (REITs) saw massive volatility in 2020, declining as much as 40% in March and then recovering most of the losses, finishing the year down around 10%.
- Non-core real estate vintage funds have historically outperformed during recessionary years and early recovery periods (e.g. 2000-2003 and 2009-2012) as market dislocations created attractive entry valuations. Given the recent recession and stress in the market, current non-core vintages could be attractive.

NCREIF PROPERTY INDEX RETURNS (CORE)



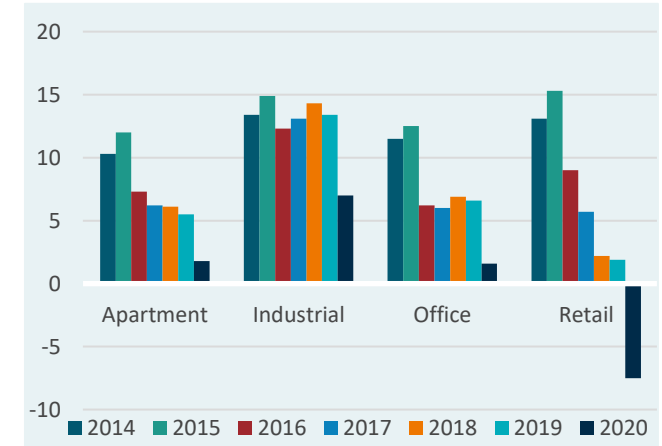
Source: NCREIF, as of 12/31/20

**VINTAGE YEAR MEDIAN RETURN (%)
NON-CORE REAL ESTATE**



Source: Thomason Reuters, as of 9/30/20

CORE SECTOR ANNUAL RETURNS

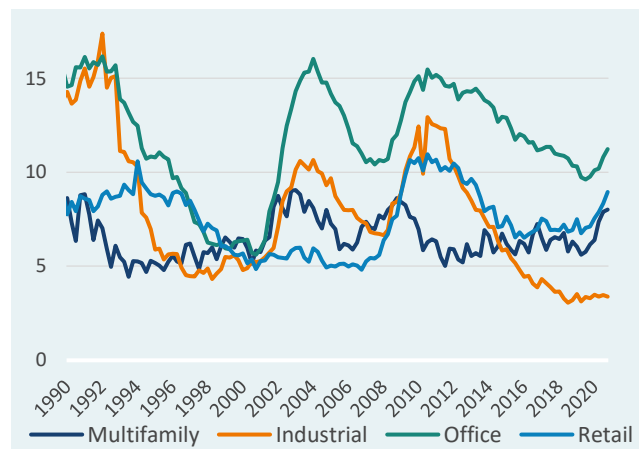


Source: NCREIF, as of 12/31/20

Real estate fundamentals

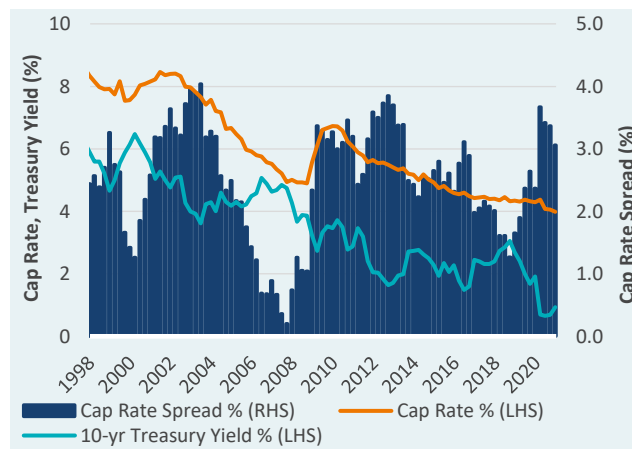
- Prior to Covid-19, real estate fundamentals were generally strong with a few select pockets of softness and over supply. The economic recession caused by government-imposed shutdowns accelerated some existing trends such as ecommerce adoption increasing demand for industrial properties and created significant challenges in the retail and hospitality sectors.
- In 2020, vacancy rates continued upward in retail and shifted upward in both office and multifamily. Industrial vacancy remains at an all-time low level.
- Private market cap rates continued to trend downward throughout 2020, although due to even faster declining interest rates, the spread to treasuries remains healthy and well above historical averages.
- NOI growth rates plummeted for both retail and multifamily in 2020. Retail demand cratered due to government shutdowns, while multifamily has struggled due to the recession and shifting demographics out of highly concentrated urban areas. Highrise urban apartments are needing to offer several months rent concessions to fill new units. Industrial NOI remained very strong and office growth remained slightly positive throughout 2020.

VACANCY BY PROPERTY TYPE



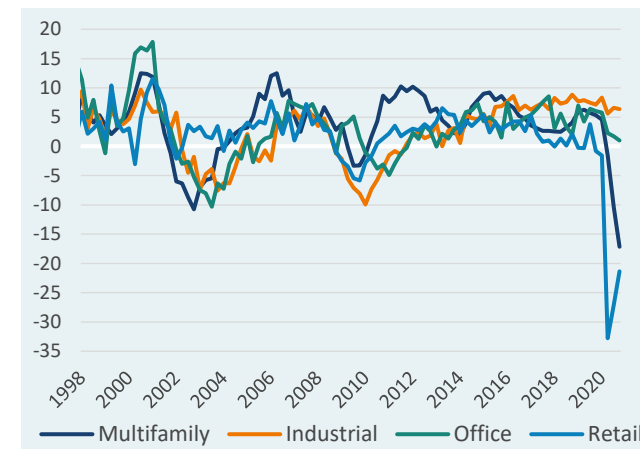
Source: NCREIF, as of 12/31/20

CAP RATE SPREADS



Source: FRED, NCREIF, as of 12/31/20

4-QTR ROLLING NOI GROWTH (%) BY PROPERTY TYPE

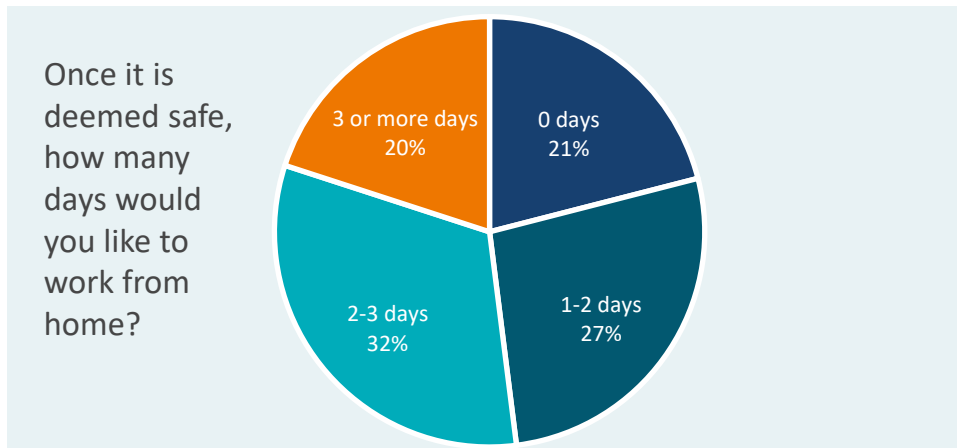


Source: NCREIF, as of 12/31/20

Challenges in office

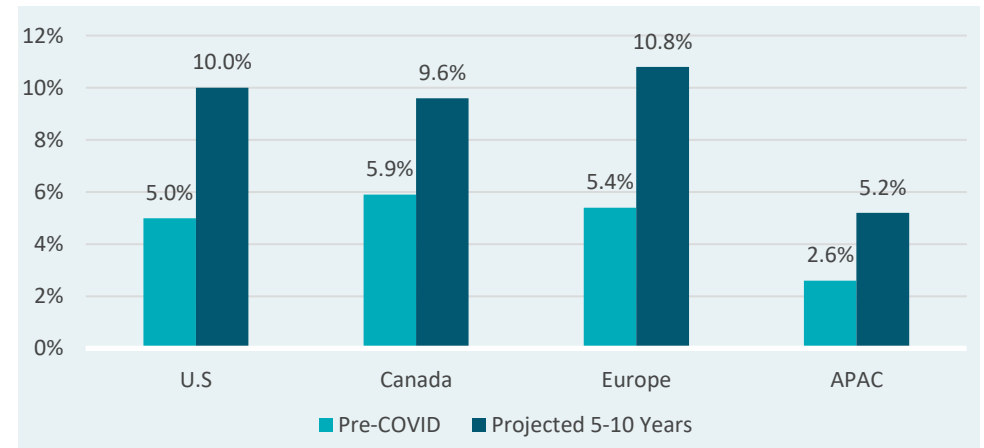
- One of the major trends that was accelerated due to the pandemic was the ability to work from home instead of the office. Technological advancements have made this a viable alternative to office work and 2020 saw many office buildings at minimal capacity, especially in high density urban areas such as New York and San Francisco.
- While some employers and employees are clamoring to get back into the office when the pandemic subsides, others have found they function as well from home and enjoy the flexibility.
- One of the biggest uncertainties in the current real estate market is what the impact of work from home will be once employees/employers are not required to do so. Employers will have to weigh the benefit of reduced fixed costs for office space, while also balancing employee preferences for work flexibility and the benefits of in-person collaboration.

WORK FROM HOME SURVEY



Source: JLL, Heitman Research

WORK FROM HOME FORECAST (PERCENTAGE OF OFFICE WORKERS)

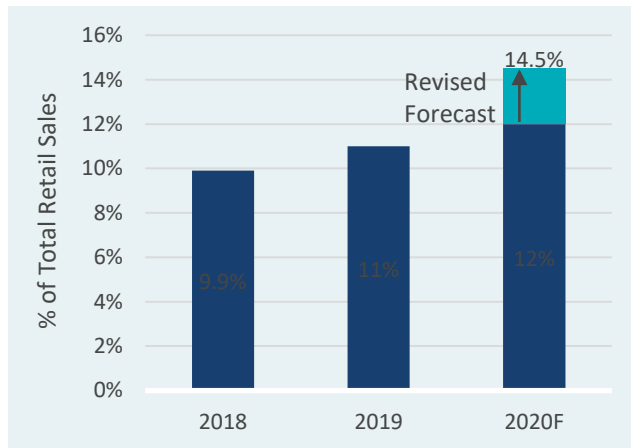


Source: Cushman & Wakefield

Challenges in retail

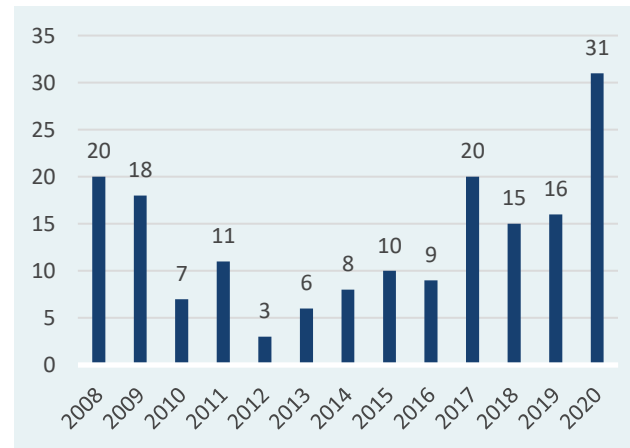
- The pandemic has negatively impacted retail assets in a number of ways. Government imposed shutdowns affected many service sectors' (malls, theaters, restaurants, fitness, salons, etc.) ability to operate or operate at full capacities. Additionally, shopping centers and consumer goods faced increasing pressure from e-commerce sales.
- Necessity based, grocery anchored neighborhood centers remained an area of strength, however some of the inline retailers and services in these centers continue to struggle.
- E-commerce penetration rates, which had already been on a steady upward trajectory spiked upward in 2020 as consumers changed behaviors drastically, in part due to necessity and in part to convenience/preferences/technology and logistics improvements.
- A large number of retailer bankruptcies and store closure announcements will likely create continued headwinds, even as vaccine rollout and reopenings lead to some improvements for the sector.

E-COMMERCE PENETRATION RATE



Source: Heitman Research

RETAILER BANKRUPTCIES (US) 2006-2020 (SEPT)



Source: Heitman Research

ADDITIONAL RETAIL STORE CLOSURES

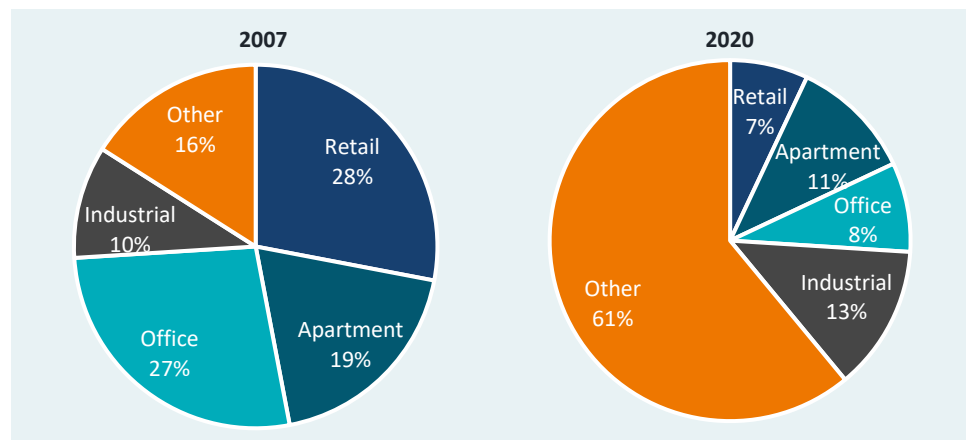
Company	Type of Retailer	Store Closures
Inditex	Apparel	1,000
Starbucks	Restaurants	400
GameStop	Computer and Electronics	320
Signet Jewelers	Specialty	300
The Children's Place	Apparel	300
L Brands	Apparel	250
AT&T	Telecommunications	250
Bed, Bath & Beyond	Home Décor	200
G-III Apparel	Apparel	199
H&M	Apparel	170
PVH Corp	Apparel	162
Macy's	Department Stores	125
Bose	Consumer Electronics	119
Guess	Apparel	100
Express	Apparel	100
Office Depot	Specialty	90
Microsoft	Systems Software	83
Chico's	Apparel	60
Total		4,228
Sotre Closings Announced by Bankrupt Retailers		5,998
Grand Total		10,226

Source: SEC filings, Debtwire, BDO.com. Retailers not in bankruptcy that announced closing 50 or more stores in 1H'20

Growth in alternative property types

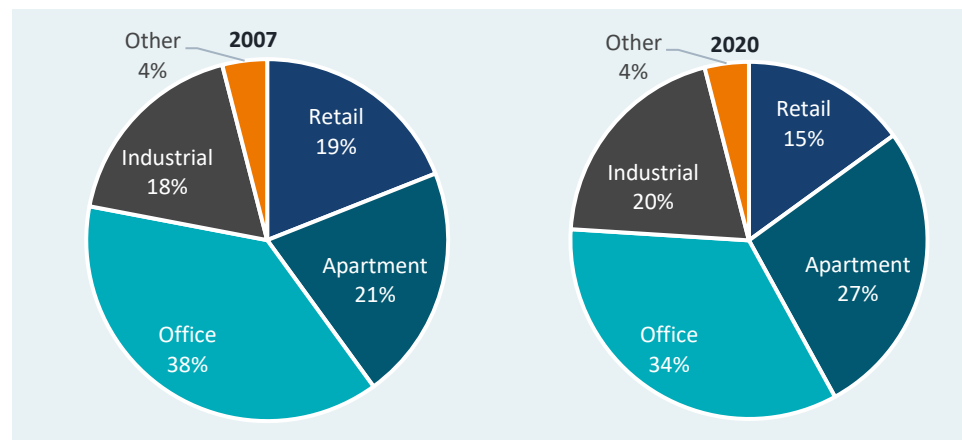
- Over the last decade, the relative weighting of the traditional core property types (office, retail, industrial and multifamily) has decreased as a total component of the public REIT markets from approximately 58% to 37%.
- Meanwhile, the current composition of the NCREIF ODCE index is still hovering around 95% in these four traditional property types.
- The total market capitalization of the REIT market is \$1.25 trillion at the end of 2020, according to NAREIT, while the NCREIF index (private core RE) has a total capitalization of \$735 billion. As indicated in the charts below, the public REIT market provides a larger representative sample of investable options in real estate which we believe reflects how slow the private core market has been to adopt new sector allocations, rather than REITs being a more attractive space to allocate capital.
- Clients without dedicated private exposures to alternative property types may be underrepresenting them in their portfolios. These alternative property types include self storage, senior/student housing, life science, data centers and single-family home rentals.

CHANGING COMPOSITION OF REIT MARKET



Source: NCREIF, Green Street, Heitman

PRIVATE CORE REAL ESTATE COMPOSITION



Source: NCREIF, Heitman

Recommendations

Recommendations

- Implementation recommendations should be deemed sufficiently flexible to adjust to evolving market conditions and portfolio positioning
- Based on current conditions and positioning, we recommend the following:
 - Continue to build allocation to 10% strategic target with annual commitments of approximately \$100-\$200 million (approximately 2-3 funds per year)
 - Consider broadly diversified funds with emphasis on industrial, multi-family, and non-traditional sectors
 - Consider specialty funds as opportunities present themselves

Appendix

Projection assumptions and notes

- Total Plan assets are assumed to grow at an annual rate of 6.1% based on policy forecasted returns using Verus 2021 capital market assumptions adjusted by net contributions taken from the most recent actuarial report (Segal Consulting as of 12/31/18).
- All market values are based on last known balance and are adjusted for capital calls and distributions. Distributions are solely within the discretion of the general partner of each fund. There can be no assurance that a fund will make any distributions.
- Projected capital activity is estimated and subject to change and based on estimated acquisition and/or disposition activity.
- Distributions are solely within the discretion of the general partner of the fund. There can be no assurance that a fund will make any distributions.
- Contributions to date may include capital distributions that were subject to recall.
- Projected returns are subject to certain inherent limitations including the projection of market and economic risks.
- The actual returns achieved on unrealized investments will depend on, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the valuations used in the projected performance data contained herein are based.
- Angelo Gordon projections are based on their December 31, 2020 projection model. Remaining commitment for AG Realty Fund VIII includes recallable capital of \$7,736,157 and remaining commitment for AG Realty Fund IX includes recallable capital of \$2,697,500.
- Oaktree did not provide future projections, so estimates were used based on Oaktree assumptions provided.
- DLJ categorizes its funds in the “specialty” category. For purposes of this report, all DLJ funds were included within the opportunistic category.
- Invesco Real Estate Fund III is currently in liquidation and therefore not included in the projection study.
- Invesco Real Estate Fund V contemplates recycled capital for projection study.
- LaSalle Income & Growth VII projections include \$5.7M of return of capital distributions subject to recall, which are recorded as an offset to distributions rather than contributions.
- Capital call pacing excludes calls for management fees and distributions.

Fund descriptions

Angelo Gordon Realty Funds VIII - IX

- An opportunistic real estate fund series managed by Angelo, Gordon & Co. The Funds targeted a 20% gross return to investors using leverage of approximately 55-65%. The Fund's strategy was to acquire sub-performing real estate properties, principally in the United States, across a broad range of geographical markets and product types, including office buildings, hotels, retail properties, industrial properties and apartment buildings.

DLJ RECP

- The investment strategy of the Partnership's investees is to acquire, develop, redevelop, manage, operate, and otherwise deal in and with real estate investments. The Partnership may receive distributions during the investment period, upon liquidation of the investee's underlying assets or upon sale of or redemption of its investments, over time.

Invesco Real Estate III

- A real estate investment fund created by Invesco Real Estate ("Invesco" or "IRE"). The fund will invest in value-added real estate opportunities. Investments will be made solely in the United States in four specific product types – multi-family, industrial, retail and office properties. Invesco will draw on its extensive investment history in these property types to attempt to deliver superior returns for the Fund investors.

Invesco Real Estate IV

- A value-added real estate fund sponsored by Invesco Real Estate ("IRE"). Invesco Real Estate is the real estate investment management center of Invesco Advisers, Inc., a subsidiary of Invesco Ltd. (together with its affiliates, "Invesco"). Fund Investments will be made solely in the United States in four specific property types – multi-family, industrial, retail and office. The Fund will rely upon IRE's extensive resources, experience in the real estate investment market and deep knowledge of value-added investing to seek superior returns for Fund investors. The Fund seeks to provide investors with a gross internal rate of return ("IRR") of 12-15%.

Invesco Real Estate V

- A value-add real estate investment fund sponsored by Invesco Advisers, Inc. (the "Investment Manager") and is managed by Invesco Real Estate, the real estate investment management center of the Investment Manager ("Invesco Real Estate" or "IRE"), a subsidiary of Invesco Ltd. (collectively, "Invesco"). The Fund is being formed to continue the execution of Invesco Real Estate's U.S. value-add fund series. Consistent with its predecessor funds, the Fund expects to pursue a similar investment strategy of acquiring fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. The Fund will seek to achieve a gross annual compounded internal rate of return ("IRR") of 11-14% on its investments. Targeted returns are not predicated on significant rental rate growth, excessive use of leverage or macro trends. Rather, the Fund will seek to acquire sub-performing, transitional assets where Invesco Real Estate can utilize its operational and managerial experience to add value at the property level, grow net operating income ("NOI") and maximize asset value at monetization.

Fund descriptions continued

LaSalle Income & Growth VI - VII

- The Fund intends to pursue non-core properties (including office, industrial, retail and multifamily properties) that LaSalle believes exhibit sound fundamentals and have the potential to provide attractive income and the opportunity for value creation through: (1) the strategic lease-up of vacant or roll-over space, (2) creative property repositioning and refurbishment, (3) build to suit expansion or new construction and/or (4) tenancy upgrades. LaSalle believes that once properties have been repositioned, such properties will have the potential to attract buyers seeking “core” returns. From a geographic perspective, the Fund will seek to acquire non-core assets in major markets and high-quality properties in targeted secondary markets that it believes are temporarily out of favor but may come back into favor if more capital flows to real estate.

Long Wharf Fund IV – V

- Funds formed in (2012, 2015, 2019) to make value-added investments in multiple property sectors in markets across the U.S. With (\$254, \$438, \$505) million of capital commitments, the fund seeks to generate an annualized net IRR of 12-15%. LREP (IV, V, VI) employs a value-oriented philosophy that focuses on total cost basis relative to asset quality, and where the potential return is driven by improving and stabilizing a property's operations rather than attempting to predict trends in the broader capital markets. The fund primarily pursues smaller to medium-sized investments, while selectively considering investments in larger properties or portfolios. Long Wharf believes middle market transactions – those with a gross value under \$75 million represent a more attractive portion of the overall commercial real estate market based on relative value and liquidity.

Oaktree REOF V - VII

- The primary objective of the Fund is to achieve superior risk-adjusted returns without subjecting principal to undue risk of loss primarily through investments in real estate and real estate-related debt, companies, securities and other assets on a global basis, with an emphasis on investments in the United States.

Paulson Real Estate Fund II

- A value-added real estate fund sponsored by Invesco Real Estate (“IRE”). Invesco Real Estate is the real estate investment management center of Invesco Advisers, Inc., a subsidiary of Invesco Ltd. (together with its affiliates, “Invesco”). Fund Investments will be made solely in the United States in four specific property types – multi-family, industrial, retail and office. The Fund will rely upon IRE’s extensive resources, experience in the real estate investment market and deep knowledge of value-added investing to seek superior returns for Fund investors. The Fund seeks to provide investors with a gross internal rate of return (“IRR”) of 12-15%.

Siguler Guff DREOF

- The Siguler Guff Distressed Real Estate Opportunities Funds are diversified portfolios that invest in various types of real property interests, including equity interests in commercial property, commercial mortgages and commercial mortgage-backed securities, and the debt and equity securities of real estate operating companies or real estate investment trusts primarily in the U.S. and Europe.

Glossary of terms

Capitalization Rates: The rate of return of a real estate investment, which is calculated by dividing the property's net operating income by the property's purchase price.

Core Real Estate: This category of real estate will include a preponderance of stabilized properties. Core real estate should achieve relatively high income returns and exhibit relatively low volatility. Core real estate funds tend to use less leverage.

Consumer Price Index (CPI): A measure of purchasing power and inflation that takes the average prices of a basket of consumer goods and services, such as food, medical care, and transportation, and compares the same basket of goods in terms of prices to the same period in a previous year. Changes in CPI are used to assess price changes associated with the cost of living.

Double Promote: A joint venture private equity structure is considered to have a "double promote" if the sponsor of a project is in fact comprised of two separate parties who each have a profit waterfall agreement or cash flow disbursements.

Dry Powder: Investment reserves raised by investment funds to cover future obligations or to purchase assets in the future.

GDP: The total value of all services and goods produced within a country's borders, for a given time period. This calculation includes both private and public consumption, government expenditures, investments, along with total exports net of total imports.

Internal Rate of Return (IRR): the IRR is the discount rate that equates the present value of cash outflows (investment) with the present value of cash inflows (return of capital). IRR is often referred to as a dollar-weighted rate of return that accounts for the timing of cash inflows and outflows.

LIBOR: Is a benchmark rate that some of the world's largest banks charge each other for short-term loans. It stands for London Interbank Offered Rate and serves as the first step in calculating interest rates on various loans throughout the world.

Net Operating Income (NOI): A calculation which is used to analyze real estate investments that generate income. NOI is the property's annual income generated by operations after deducting all expenses incurred from those operations. The growth rate in NOI is a common metric used in determining the health of a property.

Opportunistic Real Estate: An opportunistic fund is one that includes preponderantly non-core assets. The fund as a whole is expected to derive most of its return from property appreciation which may result in volatile returns. These funds may employ a variety of tools such as development, significant leasing risk and potentially high leverage.

Real Estate Investment Trusts (REITs): A REIT is a company that owns and operates commercial real estate properties. REITs can be publicly traded or privately held. There are two main type of REITs: Equity REITs which generate income from the operation of properties, and Mortgage REITs, which invest in mortgages or mortgage securities.

Value-Added Real Estate: A value-added real estate fund often holds a combination of core assets and other assets characterized by less dependable cash flows. These strategies are likely to have moderate lease exposure and employ moderate leverage. Consequentially, these strategies seek significant returns from property appreciation and typically exhibit moderate volatility.

Vacancy Rates: The vacancy rate is calculated as the total number of unoccupied units of a property divided by the total units of the property, at a particular point in time.

Vintage Year: Represents the year the first capital call or portfolio company investment was made.



Memorandum

Date: September 22, 2021

To: CCCERA Board of Retirement

From: Timothy Price, Chief Investment Officer

Subject: Update on Private Equity Commitments

Overview

CCCERA recently made three commitments to private equity funds using the delegated authority granted in the Investment Policy Statement. All commitments noted below are for the 2021 vintage year. A brief description of each fund is included below. This memo is for informational purposes only and no action is required from the Board at this time.

Investment Policy Statement

The CCCERA Investment Policy Statement adopted by the Board on September 28, 2016 (amended on April 24, 2019 and May 26, 2021) outlines the hiring process for new investment mandates. Commitments up to a \$150 million per fund may be approved via a staff review process, while mandates above this threshold require approval by the Board.

Genstar Capital Partners Fund X

The Genstar strategy focuses on middle market buyout opportunities in the software, financial services, industrials and health care industries. Genstar leverages a Strategic Advisory Board to help them identify, acquire and expand portfolio companies. The firm is headquartered in San Francisco. Fund X raised a total of \$10.2 billion, including \$42.5 million from CCCERA.

Hellman & Friedman Capital Partners Fund X

HFCP X will be managed by Hellman & Friedman LLC. H&F is a San Francisco headquartered private equity firm, with additional offices in New York and London. Hellman & Friedman Capital Partners X is a large buyout private equity fund focused on control investments in the U.S. and Europe in the following sectors: software; internet & media; financial services; consumer & retail; healthcare; business & information services; insurance & insurance services; and energy & industrials. Fund X raised a total of \$24.4 billion, including \$75 million from CCCERA.

TA Associates Fund XIV

TA Associates, organized in 1968, is a Boston-headquartered private equity firm. TA targets control and minority transactions in companies with sustainable growth across the following sectors: technology, healthcare, financial services, consumer, and business services. TA is known for its high touch sourcing

model that focuses on creating a large funnel of investment opportunities within its targeted sectors. TA operates in the middle market, with investments ranging from profitable-stage minority investments to middle-market growth buyouts. TA Associates Fund XIV raised a total of \$12.5 billion, including \$50 million from CCCERA.

BOARD MEETINGS 2021

Meeting Date
09/22/2021
Agenda Item
#11

JANUARY						
Su	Mo	Tu	We	Th	Fr	Sa
					H	2
3	4	5	6	7	8	9
10	11	12	B	14	15	16
17	H	19	20	21	22	23
24	25	26	B	28	29	30
31						

1 - New Year's Day
18 - Martin Luther King Jr. Day

FEBRUARY						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	B	11	12	13
14	H	16	17	18	19	20
21	22	23	B	25	26	27
28						

15 - Presidents' Day

MARCH						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	C	C	B	11	12	13
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21	22	23	B	25	26	27
28	29	30	31			

APRIL						
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MAY						
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16	17	18	19	20	21	22
23	24	25	B	27	28	29
30	H					

31 - Memorial Day

JUNE						
Su	Mo	Tu	We	Th	Fr	Sa
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6	7	8	B	10	11	12
13	14	15	16	17	18	19
20	21	22	B	24	25	26
27	28	29	30			

JULY						
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25	26	27	28	29	30	31

2 - Independence Day Observed

AUGUST						
Su	Mo	Tu	We	Th	Fr	Sa
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15	16	17	18	19	20	21
22	23	24	B	26	27	28
29	30	31				

SEPTEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	H	7	B	9	10	11
12	13	14	15	16	17	18
19	20	21	B	23	24	25
26	27	28	29	30		

6 - Labor Day

OCTOBER						
Su	Mo	Tu	We	Th	Fr	Sa
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	B	28	29	30
31						

NOVEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
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14	15	16	B	18	19	20
21	22	23	24	H	H	27
28	29	30				

11 - Veterans Day
25 and 26 - Thanksgiving

DECEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	H	25
26	27	28	29	30	H	

24 - Christmas Day Observed
31 - New Year's Day Observed

B Board Meeting

S SACRS

C CALAPRS - General Assembly