

**ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM
2223 E. WELLINGTON AVENUE, SUITE 100
SANTA ANA, CALIFORNIA**

**AUDIT COMMITTEE MEETING
June 4, 2020
9:00 A.M.**

Members of the Committee
Frank Eley, Chair
Shari Freidenrich, Vice Chair
Charles Packard
Jeremy Vallone

Pursuant to Executive Order N-29-20, certain provisions of the Brown Act are suspended due to a State of Emergency in response to the COVID-19 pandemic. Consistent with the Executive Order, this meeting will be conducted by video/teleconference only. None of the locations from which the Committee members will participate will be open to the public.

Members of the public who wish to observe and/or participate in the meeting may do so via the Zoom app or via telephone. Members of the public who wish to provide comment during the meeting may do so by “raising your hand” in the Zoom app, or if joining by telephone, by pressing * 9 on your telephone keypad.

OCERS Zoom Video/Teleconference information	
<p>Join Using Zoom App (Video & Audio)</p> <p>https://ocers.zoom.us/j/95776171390</p> <p>Meeting ID: 957 7617 1390 Password: 880349</p> <p>Go to https://www.zoom.us/download to download Zoom app before meeting Go to https://zoom.us to connect online using any browser.</p>	<p>Join by Telephone (Audio Only)</p> <p>Dial by your location</p> <ul style="list-style-type: none"> +1 669 900 6833 US (San Jose) +1 253 215 8782 US (Tacoma) +1 346 248 7799 US (Houston) +1 929 436 2866 US (New York) +1 301 715 8592 US (Germantown) +1 312 626 6799 US (Chicago) <p>Meeting ID: 957 7617 1390 Password: 880349</p>
<p>A Zoom Meeting Participant Guide is available on OCERS website Board & Committee meetings page</p>	

AGENDA

This agenda contains a brief general description of each item to be considered. The Committee may take action on any item included in the agenda; however, except as otherwise provided by law, no action shall be taken on any item not appearing on the agenda. The Committee may consider matters included on the agenda in any order, and not necessarily in the order listed.

CALL MEETING TO ORDER AND ROLL CALL

PUBLIC COMMENT

At this time, members of the public may comment on (1) matters not included on the agenda, provided that the matter is within the subject matter jurisdiction of the Committee; and (2) any matter appearing on the Consent Agenda. Members of the public who wish to provide comment at this time may do so by

“raising your hand” in the Zoom app, or if joining by telephone, by pressing * 9 on your telephone keypad. When addressing the Committee, please state your name for the record prior to providing your comments. Speakers will be limited to three (3) minutes.

In addition, public comment on matters listed on this agenda will be taken at the time the item is addressed.

CONSENT AGENDA

C-1 APPROVE AUDIT COMMITTEE MEETING MINUTES

Audit Committee Meeting Minutes

April 20, 2020

ACTION ITEMS

NOTE: Public comment on matters listed in this agenda will be taken at the time the item is addressed, prior to the Committee’s discussion of the item. **Members of the public who wish to provide comment in connection with any matter listed in this agenda may do so by “raising your hand” in the Zoom app, or if joining by telephone, by pressing *9, at the time the item is called.**

A-1 INDIVIDUAL ACTION ON ANY ITEM TRAILED FROM THE CONSENT AGENDA

A-2 2019 FINANCIAL STATEMENT AUDIT

Presentation by Linda Hurley and Amy Chiang, Macias Gini & O’Connell

Recommendations:

1. Approve OCERS’ audited financial statements for the year ended December 31, 2019;
2. Direct staff to finalize OCERS’ 2019 Comprehensive Annual Financial Report (CAFR);
3. Approve the Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2019; and
4. Receive and file Macias, Gini & O’Connell LLP’s (MGO) “OCERS’ Report to the Audit Committee for the Year Ended December 31, 2019” and its “Independent Auditor’s Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*.”

A-3 GASB 68 VALUATION AND AUDIT REPORT

Presentation by Brenda Shott, Assistant CEO of Internal Operations

Recommendations:

1. Approve OCERS’ audited Schedule of Allocated Pension Amounts by Employer as of and for the Year Ended December 31, 2019; and
2. Approve the Governmental Accounting Standards Board (GASB) Statement 68 Actuarial Valuation as of December 31, 2019 for distribution to employers.

INFORMATION ITEMS

I-1 AUDIT OF OCERS INFORMATION TECHNOLOGY GENERAL CONTROLS

Presentation by David Kim, Director of Internal Audit

I-2 AUDIT OF PENSIONABLE PAY ITEMS REVIEW

Presentation by David Kim, Director of Internal Audit and Mark Adviento, Internal Auditor

I-3 AUDIT OF ORANGE COUNTY SANITATION DISTRICT PAYROLL TRANSMITTALS

Presentation by David Kim, Director of Internal Audit and Mark Adviento, Internal Auditor

I-4 MANAGEMENT ACTION PLAN VERIFICATION

Written Report

I-5 STATUS UPDATE OF 2020 AUDIT PLAN

Written Report

COMMITTEE MEMBER COMMENTS

CHIEF EXECUTIVE OFFICER/STAFF COMMENTS

COUNSEL COMMENTS

ADJOURNMENT

NOTICE OF NEXT MEETINGS

GOVERNANCE COMMITTEE MEETING

**June 9, 2020
9:00 A.M.**

**ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM
2223 E. WELLINGTON AVENUE, SUITE 100
SANTA ANA, CA 92701**

DISABILITY COMMITTEE MEETING

**June 15, 2020
8:30 A.M.**

**ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM
2223 E. WELLINGTON AVENUE, SUITE 100
SANTA ANA, CA 92701**

REGULAR BOARD MEETING

**June 15, 2020
9:30 A.M.**

**ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM
2223 E. WELLINGTON AVENUE, SUITE 100
SANTA ANA, CA 92701**

All supporting documentation is available for public review in the retirement office during regular business hours, 8:00 a.m. – 5:00 p.m., Monday through Thursday and 8:00 a.m. – 4:30 p.m. on Friday.

It is OCERS' intention to comply with the Americans with Disabilities Act ("ADA") in all respects. If, as an attendee or participant at this meeting, you will need any special assistance beyond that normally provided, OCERS will attempt to accommodate your needs in a reasonable manner. Please contact OCERS via email at adminsupport@ocers.org or call 714-558-6200 as soon as possible prior to the meeting to tell us about your needs and to determine if accommodation is feasible. We would appreciate at least 48 hours' notice, if possible. Please also advise us if you plan to attend meetings on a regular basis.



Memorandum

DATE: June 4, 2020
TO: Audit Committee Members
FROM: Brenda Shott, Assistant CEO, Finance and Internal Operations; Tracy Bowman, Director of Finance
SUBJECT: 2019 AUDITED FINANCIAL STATEMENTS

Recommendation

Recommend to the Board of Retirement the following:

1. Approve OCERS' audited financial statements for the year ended December 31, 2019
2. Direct staff to finalize OCERS' 2019 Comprehensive Annual Financial Report (CAFR)
3. Approve the Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2019
4. Receive and file Macias, Gini & O'Connell LLP's (MGO) "OCERS' Report to the Audit Committee for the Year Ended December 31, 2019" and their "Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*."

Background/Discussion

The attached draft of OCERS' 2019 CAFR, including the audited financial statements and related notes for the year ended December 31, 2019, is considered to be in substantially final form and includes a draft of the unmodified (clean) audit opinion from MGO, OCERS' independent auditors. MGO will issue the signed audit opinion after presenting the draft financial statements to the Audit Committee. The audited financial statements and related notes are included in the Financial Section of OCERS' 2019 CAFR.

The attached Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2019 is used for reporting purposes and is separate and distinct from the funding actuarial valuation. This valuation contains necessary information and schedules that have been incorporated into OCERS' 2019 CAFR in compliance with GASB Statement No. 67, *Financial Reporting for Pension Plans*.

As part of the normal course of an annual financial statement audit, MGO has issued a draft of their "Report to the Audit Committee" that includes the required communications of the independent auditors, comments and recommendations based on their 2019 audit of OCERS, and the status of prior year comments and recommendations reported to the Audit Committee related to their 2018 audit of OCERS (which there were none). MGO has also issued a draft "Independent Auditor's Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements, Performed in Accordance with Government Auditing Standards."

MGO will be present at the Audit Committee Meeting on June 4, 2020. They will provide the Committee with a verbal report on their audit. A draft of the 2019 CAFR in substantially final form will be presented to the Board at its regularly scheduled Board meeting on June 15, 2020. The final signed audit reports and the CAFR will be distributed to the Board once finalized.



Memorandum

California's Government Code Section 7504 requires all state and local retirement agencies, including OCERS, to submit annual financial information to the State Controller within six months of the end of the fiscal year end. The State Controller's Office (SCO) has an automated system to allow retirement systems to provide the prescribed report containing specific financial and plan information to the SCO (this report is referred to as the State Controller's Report). In addition to the State Controller's Report, OCERS is also required to submit the annual audited financial statements and the most current funding actuarial valuation. Once the Board approves the financial statements for the year ended December 31, 2019, staff will file a timely submission of the State Controller's Report and submit OCERS' 2019 CAFR and the Actuarial Valuation (for funding purposes) as of December 31, 2018 by the deadline of June 30, 2020.

Submitted by:

A handwritten signature in blue ink, appearing to read "Tracy Bowman", written over a horizontal line.

Tracy Bowman
Director of Finance

Approved by:

A handwritten signature in blue ink, appearing to read "Brenda M Shott", written over a horizontal line.

Brenda Shott
Asst. CEO, Finance & Internal Operations

2011



2019 Audited Financial Statements

Presented on June 4, 2020

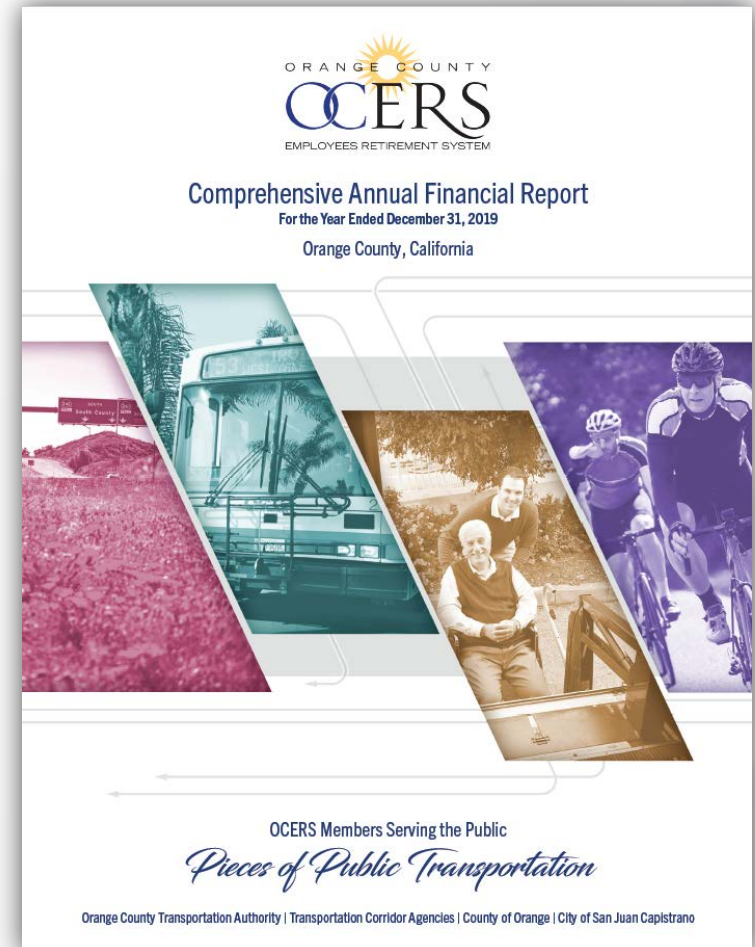
by

Brenda Shott and Tracy Bowman

Recommend to the Board of Retirement the following:

1. Approve OCERS' audited financial statements for the year ended December 31, 2019
2. Direct staff to finalize OCERS' 2019 Comprehensive Annual Financial Report (CAFR)
3. Approve the Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2019
4. Receive and file Macias, Gini & O'Connell LLP's (MGO) "OCERS' Report to the Audit Committee for the Year Ended December 31, 2019" and their "Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with Government Auditing Standards"

- **Audit and preparation of CAFR performed and completed during Stay at Home Orders**
- Preliminary unaudited financial statements provided to the Board in March
 - No material changes reflected in final audited version included in the CAFR
- Theme: OCERS Members Serving the Public
 - Pieces of Public Transportation
- Implemented GASB 84, *Fiduciary Activities*
- CAFR includes subsequent event disclosure related to impact of coronavirus COVID-19 pandemic



Financial Highlights – MD&A

Table 2 : Changes in Fiduciary Net Position
For the Years Ended December 31, 2019 and 2018
(Dollars in Thousands)

	12/31/2019	12/31/2018	Increase / (Decrease)	Percentage Change
Additions				
Employer Pension Contributions	\$ 653,793	\$ 580,905	\$ 72,888	12.5%
Employer Health Care Contributions	56,899	57,056	(157)	-0.3%
Employee Pension Contributions	279,373	270,070	9,303	3.4%
Other Postemployment Contributions	613	-	613	
Net Investment Income/(Loss)	2,235,897	(331,206)	2,567,103	-775.1%
Total Additions	3,226,575	576,825	2,649,750	459.4%
Deductions				
Participant Benefits - Pension	887,003	813,775	73,228	9.0%
Participant Benefits - Health Care	40,030	38,367	1,663	4.3%
Death Benefits	650	570	80	14.0%
Member Withdrawals and Refunds	13,249	13,933	(684)	-4.9%
Other Postemployment Benefits	1,318	-	1,318	
Administrative Expenses - Pension	19,171	18,284	887	4.9%
Administrative Expenses - Health Care and OPEB 115	61	50	11	22.0%
Total Deductions	961,482	884,979	76,503	8.6%
Increase/(Decrease) in Net Position Restricted for Pension, Other Postemployment Benefits and OPEB 115	2,265,093	(308,154)	2,573,247	-835.1%
Net Position Restricted for Pension, Other Postemployment Benefits and OPEB 115				
Beginning of the Year, as Previously Reported	14,827,795	15,135,949		
Restatement of Net Position	15,496	-		
Beginning of the Year, as Restated	14,843,291	15,135,949		
End of the Year	\$ 17,108,384	\$ 14,827,795		

- Net position totaled \$17.1 billion, an increase of \$2.3 billion or 15.4% from the prior year
 - Net investment income of \$2.2 billion, or 14.41% vs. a net loss of -\$331.2 million, or -1.67% in the prior year
 - Employee and employer contributions for pension and health care added \$990.7 million
- Increases offset by member pension benefit payments of \$887 million, an increase of 9.0% or \$73.2 million from the prior year
- Net position restated by \$15.5 million due to implementation of GASB 84

Financial Highlights – MD&A (continued)

Table 3: Membership Data
 As of December 31, 2019 and 2018

	12/31/2019	12/31/2018	Increase/ (Decrease)	Percentage Change
Active Members	22,257	21,929	328	1.5%
Retired Members	18,420	17,674	746	4.2%
Deferred Members	6,520	6,026	494	8.2%
Total Membership	47,197	45,629	1,568	3.4%

- Increases in member pension benefit payments can be attributed to an increase in the number of retirees receiving a benefit
 - Number of retirees increased by 4.2% or 746, for a total of 18,420 payees as of December 31, 2019
 - The average benefit paid to retired members and beneficiaries during 2019 was \$48,154 vs. \$46,044 in 2018, an increase of 4.6%

Financial Highlights – MD&A (continued)

- CAFR includes information from the December 31, 2018 funding valuation, which is the most currently available information at the time the CAFR is completed
 - Funding status based on actuarial value of assets (which smooths market gains and losses over five years) was 72.43% versus 69.31% if market gains and losses were recognized immediately
 - In comparison, in the December 31, 2019 funding valuation to be presented at the June Board meeting, the funding status based on actuarial value of assets was 73.17% versus 75.36% if market gains and losses were recognized immediately

GASB 84, Fiduciary Activities

- **Impact of GASB 84, *Fiduciary Activities***
 - Prior to implementation, assets were offset by liabilities and reported in the Statement of Fiduciary Net Position as an Agency Fund with zero impact on Net Position
 - Name of fund changed from OPEB 115 Agency Fund to OPEB 115 Custodial Fund
 - Custodial Fund will report activity for additions, deductions and net position in the Statement of Changes in Fiduciary Net Position and will report a net position balance going forward
 - Resulted in a restatement of beginning net position of \$15.5 million

GASB 84, Fiduciary Activities (continued)

Statement of Fiduciary Net Position

2019

As of December 31, 2019
(with summarized comparative amounts as of December 31, 2018)
(Dollars in Thousands)

	Pension Trust Fund	Health Care Fund-County	Health Care Fund-OCFA	OPEB 115 Custodial Fund	Total Funds	Comparative Totals 2018
Assets						
Cash and Short-Term Investments						
Cash and Cash Equivalents	\$ 415,160	\$ 9,145	\$ 1,032	\$ 467	\$ 425,804	\$ 475,196
Securities Lending Collateral	192,379	4,238	478	-	197,095	321,770
Total Cash and Short-Term Investments	607,539	13,383	1,510	467	622,899	796,966
Receivables						
Investment Income	18,054	398	45	-	18,497	19,623
Securities Sales	335,681	7,394	835	-	343,910	118,301
Contributions	24,104	-	-	-	24,104	20,834
Foreign Currency Forward Contracts	514	11	1	-	526	64
Other Receivables	4,948	109	12	-	5,069	3,234
Total Receivables	383,301	7,912	893	-	392,106	162,056
Investments at Fair Value						
Global Public Equity	6,597,475	145,323	16,405	11,860	6,771,063	5,449,639
Private Equity	1,694,344	37,321	4,213	-	1,735,878	1,494,052
Core Fixed Income	2,787,092	61,391	6,930	5,694	2,861,107	2,644,944
Credit	1,574,316	34,678	3,915	-	1,612,909	1,726,250
Real Assets	2,198,809	48,433	5,467	-	2,252,709	2,671,001
Risk Mitigation	1,666,705	36,713	4,144	-	1,707,562	783,665
Absolute Return	944	21	2	-	967	1,386
Total Investments at Fair Value	16,519,685	363,880	41,076	17,554	16,942,195	14,770,937
Capital Assets, Net	16,060	-	-	-	16,060	18,542
Total Assets	17,526,585	385,175	43,479	18,021	17,973,260	15,748,501
Liabilities						
Obligations Under Securities Lending Program	192,379	4,238	478	-	197,095	321,770
Securities Purchased	301,621	6,644	750	-	309,015	234,056
Unearned Contributions	259,285	-	-	-	259,285	246,133
Foreign Currency Forward Contracts	196	4	-	-	200	2,366
Retiree Payroll Payable	73,559	3,446	798	-	77,803	72,555
Other	20,964	462	52	-	21,478	28,330
Due to Employer	-	-	-	-	-	15,496
Total Liabilities	848,004	14,794	2,078	-	864,876	920,706
Net Position Restricted for Pension, Other Postemployment Benefits and OPEB 115	\$ 16,678,581	\$ 370,381	\$ 41,401	\$ 18,021	\$ 17,108,384	\$ 14,827,795

Statement of Fiduciary Net Position

2018

As of December 31, 2018
(with summarized comparative amounts as of December 31, 2017)
(Dollars in Thousands)

	Pension Trust Fund	Health Care Fund-County	Health Care Fund-OCFA	OPEB 115 Agency Fund	Total Funds	Comparative Totals 2017
Assets						
Cash and Short-Term Investments						
Cash and Cash Equivalents	\$ 463,805	\$ 9,737	\$ 1,236	\$ 418	\$ 475,196	\$ 498,112
Securities Lending Collateral	314,333	6,599	838	-	321,770	194,196
Total Cash and Short-Term Investments	778,138	16,336	2,074	418	796,966	692,308
Receivables						
Investment Income	19,170	402	51	-	19,623	14,034
Securities Sales	115,567	2,426	308	-	118,301	153,988
Contributions	20,834	-	-	-	20,834	21,361
Foreign Currency Forward Contracts	63	1	-	-	64	71
Other Receivables	3,160	66	8	-	3,234	204,045
Total Receivables	158,794	2,895	367	-	162,056	393,499
Investments at Fair Value						
Global Public Equity	5,314,070	111,559	14,165	9,845	5,449,639	6,134,106
Private Equity	1,459,521	30,640	3,891	-	1,494,052	1,345,230
Core Fixed Income	2,578,702	54,135	6,874	5,233	2,644,944	2,061,710
Credit	1,686,353	35,402	4,485	-	1,726,250	2,011,759
Real Assets	2,609,269	54,777	6,955	-	2,671,001	2,471,818
Risk Mitigation	765,553	16,071	2,041	-	783,665	743,691
Absolute Return	1,354	28	4	-	1,386	2,400
Total Investments at Fair Value	14,414,822	302,612	38,425	15,078	14,770,937	14,770,714
Capital Assets, Net	18,542	-	-	-	18,542	20,670
Total Assets	15,370,296	321,843	40,866	15,496	15,748,501	15,877,191
Liabilities						
Obligations Under Securities Lending Program	314,333	6,599	838	-	321,770	194,196
Securities Purchased	228,647	4,800	609	-	234,056	198,610
Unearned Contributions	246,133	-	-	-	246,133	244,552
Foreign Currency Forward Contracts	2,311	49	6	-	2,366	399
Retiree Payroll Payable	69,527	2,728	300	-	72,555	66,244
Other	27,665	590	75	-	28,330	20,606
Due to Employer	-	-	-	15,496	15,496	16,635
Total Liabilities	888,616	14,766	1,828	15,496	920,706	741,242
Net Position Restricted for Pension and Other Postemployment Benefits	\$ 14,481,680	\$ 307,077	\$ 38,038	\$ -	\$ 14,827,795	\$ 15,135,949

GASB 84, Fiduciary Activities (continued)

Statement of Changes in Fiduciary Net Position

2019

For the Year Ended December 31, 2019
 (with summarized comparative amounts for the Year Ended December 31, 2018)
 (Dollars in Thousands)

	Pension Trust Fund	Health Care Fund-County	Health Care Fund-OCFA	OPEB 115 Custodial Fund	Total Funds	Comparative Totals 2018
Additions						
Contributions						
Employer	\$ 653,793	\$ 54,788	\$ 2,111	\$ -	\$ 710,692	\$ 637,961
Employee	279,373	-	-	-	279,373	270,070
Other Postemployment Contributions	-	-	-	613	613	-
Total Contributions	933,166	54,788	2,111	613	990,678	908,031
Investment Income						
Net Appreciation / (Depreciation) in Fair Value of Investments	1,951,974	38,441	4,714	1,097	1,996,226	(476,680)
Dividends, Interest, & Other Investment Income	337,022	7,424	838	2,156	347,440	247,729
Securities Lending Income						
Gross Earnings	7,522	166	19	-	7,707	7,483
Less: Borrower Rebates and Bank Charges	(6,380)	(141)	(16)	-	(6,537)	(5,931)
Net Securities Lending Income	1,142	25	3	-	1,170	1,552
Total Investment Income / (Loss)	2,290,138	45,890	5,555	3,253	2,344,836	(227,399)
Investment Fees and Expenses	(106,330)	(2,342)	(264)	(3)	(108,939)	(103,807)
Net Investment Income / (Loss)	2,183,808	43,548	5,291	3,250	2,235,897	(331,206)
Total Additions	3,116,974	98,336	7,402	3,863	3,226,575	576,825
Deductions						
Participant Benefits	887,003	35,012	5,018	-	927,033	852,142
Death Benefits	650	-	-	-	650	570
Member Withdrawals and Refunds	13,249	-	-	-	13,249	13,933
Other Postemployment Benefits	-	-	-	1,318	1,318	-
Administrative Expenses	19,171	20	21	20	19,232	18,334
Total Deductions	920,073	35,032	5,039	1,338	961,482	884,979
Net Increase / (Decrease)	2,196,901	63,304	2,363	2,525	2,265,093	(308,154)
Net Position Restricted For Pension, Other Postemployment Benefits and OPEB 115, Beginning of Year	14,481,680	307,077	39,038	-	14,827,795	15,135,949
Restatement of Net Position	-	-	-	15,496	15,496	-
Net Position Restricted For Pension, Other Postemployment Benefits and OPEB 115, Beginning of Year as Restated	14,481,680	307,077	39,038	15,496	14,843,291	15,135,949
Ending Net Position Restricted For Pension, Other Postemployment Benefits and OPEB 115	\$ 16,678,581	\$ 370,381	\$ 41,401	\$ 18,021	\$ 17,108,384	\$ 14,827,795

Statement of Changes in Fiduciary Net Position

2018

For the Year Ended December 31, 2018
 (with summarized comparative amounts for the Year Ended December 31, 2017)
 (Dollars in Thousands)

	Pension Trust Fund	Health Care Fund-County	Health Care Fund-OCFA	Total Funds	Comparative Totals 2017
Additions					
Contributions					
Employer	\$ 580,905	\$ 52,520	\$ 4,536	\$ 637,961	\$ 634,348
Employee	270,070	-	-	270,070	262,294
Total Contributions	850,975	52,520	4,536	908,031	896,642
Investment Income					
Net Appreciation / (Depreciation) in Fair Value of Investments	(466,741)	(8,839)	(1,100)	(476,680)	1,844,814
Dividends, Interest, & Other Investment Income	242,004	5,080	645	247,729	213,556
Securities Lending Income					
Gross Earnings	7,311	153	19	7,483	3,576
Less: Borrower Rebates and Bank Charges	(5,794)	(122)	(15)	(5,931)	(1,930)
Net Securities Lending Income	1,517	31	4	1,552	1,646
Total Investment Income / (Loss)	(223,220)	(3,728)	(451)	(227,399)	2,060,016
Investment Fees and Expenses	(101,408)	(2,129)	(270)	(103,807)	(81,145)
Net Investment Income / (Loss)	(324,628)	(5,857)	(721)	(331,206)	1,978,871
Total Additions	526,347	46,663	3,815	576,825	2,875,513
Deductions					
Participant Benefits	813,775	33,290	5,077	852,142	785,804
Death Benefits	570	-	-	570	694
Member Withdrawals and Refunds	13,933	-	-	13,933	13,866
Administrative Expenses	18,284	20	30	18,334	17,051
Total Deductions	846,562	33,310	5,107	884,979	817,415
Net Increase / (Decrease)	(320,215)	13,353	(1,292)	(308,154)	2,058,098
Net Position Restricted For Pension and Other Postemployment Benefits, Beginning of Year	14,801,895	293,724	40,330	15,135,949	13,077,851
Ending Net Position Restricted For Pension and Other Postemployment Benefits	\$ 14,481,680	\$ 307,077	\$ 39,038	\$ 14,827,795	\$ 15,135,949

Note 1 – Pension Plan Membership

OCERS Membership - General Members
As of December 31, 2019

Rate Group	Benefit Plan	Tier	Active Vested	Active Non-Vested	Retired Members & Beneficiaries	Deferred Members	Total
1	A	I	2	-	344	1	347
1	B	II	690	8	439	288	1,425
1	U	II-PEPRA	269	681	3	292	1,245
Rate Group 1 Total			961	689	786	581	3,017
2	A	I	-	-	2,906	11	2,917
2	B	II	-	-	1,917	681	2,598
2	I	I	21	-	1,141	-	1,162
2	J	II	8,791	140	5,976	2,315	17,222
2	P	II	166	16	8	85	275
2	S	II	9	7	1	5	22
2	T	II-PEPRA	876	4,064	3	1,226	6,169
2	U	II-PEPRA	47	201	-	48	296
2	W	II-PEPRA	-	1	-	-	1
Rate Group 2 Total			9,910	4,429	11,952	4,371	30,662
3	A	I	-	-	79	1	80
3	B	II	39	12	64	45	160
3	G	I	1	-	29	-	30
3	H	II	321	-	336	54	711
3	U	II-PEPRA	46	189	-	35	270
Rate Group 3 Total			407	201	508	135	1,251
4	H	II	-	-	1	-	1
Rate Group 4 Total			-	-	1	-	1
5	A	I	2	-	378	3	383
5	B	II	937	31	1,067	527	2,562
5	U	II-PEPRA	2	378	2	106	488
Rate Group 5 Total			941	409	1,447	636	3,433
9	A	I	-	-	4	-	4
9	B	II	-	-	10	11	21
9	N	II	29	1	40	42	112
9	U	II-PEPRA	3	28	1	14	46
Rate Group 9 Total			32	29	55	67	183
10	A	I	-	-	7	-	7
10	B	II	-	-	40	8	48
10	I	I	-	-	16	-	16
10	J	II	123	-	129	88	340
10	N	II	19	17	1	19	56
10	U	II-PEPRA	14	137	3	94	248
Rate Group 10 Total			156	154	196	209	715
11	A	I	-	-	4	-	4
11	B	II	-	-	3	-	3
11	N	II	15	-	6	2	23
11	U	II-PEPRA	1	8	-	-	9
Rate Group 11 Total			16	8	13	2	39
12	A	I	-	-	2	-	2
12	B	II	-	-	4	1	5
12	H	II	12	-	7	2	21
12	U	II-PEPRA	-	2	-	-	2
Rate Group 12 Total			12	2	13	3	30
Total General Members			12,435	5,921	14,971	6,004	39,331

OCERS Membership - Safety Members
As of December 31, 2019

Rate Group	Benefit Plan	Tier	Active Vested	Active Non-Vested	Retired Members & Beneficiaries	Deferred Members	Total
6	C	I	-	-	88	-	88
6	D	II	-	-	45	35	80
6	E	I	-	-	44	-	44
6	F	II	657	4	259	177	1,097
6	V	II-PEPRA	7	68	-	10	85
Rate Group 6 Total			664	72	436	222	1,394
7	C	I	-	-	462	-	462
7	D	II	-	-	263	43	306
7	E	I	-	-	281	-	281
7	F	II	1,018	-	1,232	91	2,341
7	R	II	375	15	2	33	425
7	V	II-PEPRA	138	513	4	27	682
Rate Group 7 Total			1,531	528	2,244	194	4,497
8	C	I	-	-	26	-	26
8	D	II	-	-	68	5	73
8	E	I	-	-	16	-	16
8	F	II	659	1	656	46	1,362
8	R	II	35	121	1	7	164
8	V	II-PEPRA	57	233	2	42	334
Rate Group 8 Total			751	355	769	100	1,975
Total Safety Members			2,946	955	3,449	516	7,866
Grand Total			15,381	6,876	18,420	6,520	47,197

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- GASB 67 Valuation is prepared by Segal for ***reporting purposes only***
 - Information is incorporated into the Notes (Note 9) and Required Supplementary Information sections of the CAFR
 - TPL is based on rolling forward the TPL from the 2018 valuation to the December 31, 2019 measurement date
- 2019 NPL decreased from \$6.2 billion to \$5.1 billion, primarily due to higher than expected returns
 - 2019 NPL is amount used in GASB 68 proportionate share calculation

Note 10 – Subsequent Event

NOTE 10: Subsequent Event

In March 2020, the World Health Organization declared coronavirus COVID-19 a global pandemic. This contagious disease outbreak, which has continued to spread, and any related adverse public health developments, has adversely affected workforces, customers, economies, and financial markets globally, potentially leading to an economic downturn. On March 19, 2020, Governor Gavin Newsom issued a Stay at Home Order and OCERS has been diligently working to maintain normal operation remotely. There has been no significant disruption to the operation since the Stay at Home Order and OCERS' investment performance has been closely monitored. OCERS' investment strategy is to maintain a well-diversified portfolio in order to mitigate the risk of market uncertainty. The System is exposed to general and private market risk. In a pension plan context, this is the risk that the long-term rate of return earned on the pension plan assets could be below the actuarially assumed rate of return, which is 7.00%. Market risk could impact the financial condition of the System and the plan participant actuarial determined contributions. The System's actuarial valuations use a five year smoothing method for investment returns; any contribution rate impact from the capital markets depends in large measure on how deep the future market downturn is, how long it lasts, and how it fits within the fiscal year reporting periods. There has not been any significant decline in OCERS' investment portfolio. The fair value of the System's investments as of December 31, 2019 and March 31, 2020 (based on available information) were \$16.9 billion and \$15.5 billion, respectively. The fair value of the portfolio declined approximately -8.87% during the quarter ended March 31, 2020, (based on available information). Constructed to protect assets in down markets, the OCERS' investment portfolio ranked in the top 7% of peer U.S. pension plans and in the top 11% for the quarter and trailing one-year period ended March 31, 2020, respectively. OCERS' defensive positioning has propelled the System to a top quartile ranking amongst other U.S. pensions for the trailing three- and five-year periods ended March 31, 2020. Subsequent to March 31, 2020, the global markets have recouped approximately 50% of early 2020 losses and the OCERS' portfolio has responded accordingly.

Questions?



Please refer to the Financial Reports on the OCERS' website (<https://www.ocers.org/financial-reports>) to view the final version of the audited financial statements included in the Comprehensive Annual Financial Report for the Fiscal Year Ended December 31, 2019.

Orange County Employees Retirement System (OCERS)

Governmental Accounting Standards Board Statement 67 (GASB 67) Actuarial Valuation

As of December 31, 2019

Draft

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. 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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May 1, 2020

Board of Retirement
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2019. It contains various information that will need to be disclosed in order to comply with GASB Statement 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist Orange County Employees Retirement System (OCERS) in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based were prepared by OCERS. 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; 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 the System.

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

Sincerely,

Segal

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

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

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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 (GASB) Statement 67 as of December 31, 2019. This valuation is based on:

- The benefit provisions of OCERS, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of December 31, 2018, provided by OCERS;
- The assets of the Plan as of December 31, 2019, provided by OCERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the December 31, 2019 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the December 31, 2019 valuation.

General observations on GASB 67 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 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 OCERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is generally determined on the same basis as OCERS' Actuarial Accrued Liability (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's Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis.
4. For this report, the reporting dates for the Plan are December 31, 2019 and 2018. The NPLs measured as of December 31, 2019 and 2018 have been determined by rolling forward the TPLs as of December 31, 2018 and 2017,

Section 1: Actuarial Valuation Summary

respectively. The Plan's Fiduciary Net Positions were valued as of the measurement dates. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected.

Highlights of the valuation

1. The NPL decreased from \$6,197.2 million as of December 31, 2018 to \$5,075.7 million as of December 31, 2019 primarily as a result a 14.79%¹ return on the market value of assets during 2019 that was higher than the assumed return of 7.00% of approximately \$1,171 million. Changes in these values during the last two fiscal years ending December 31, 2019 and December 31, 2018 can be found in *Section 2, Schedule of changes in Net Pension Liability* on page 16.
2. The discount rate used to determine the TPL and NPL as of both December 31, 2019 and 2018 was 7.00% following the same assumption used by the System in the pension funding valuations as of the same dates. The detailed calculation of the discount rate of 7.00% used in the calculation of the TPL and NPL as of December 31, 2019 can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
3. The Plan's Fiduciary Net Position of \$14,481,680,000 as of December 31, 2018 is equal to the final market value of assets in the Pension Trust Fund as of December 31, 2018. This differs from the \$14,349,790,000 market value of assets used in our December 31, 2018 funding valuation because the funding valuation excludes \$131,890,000 in the County Investment Account. (The balance of the O.C. Sanitation District Deferred Account as of December 31, 2018 was \$0 after a transfer of \$14,589,000 to offset a portion of the District's UAAL as of December 31, 2018.)

The Plan's Fiduciary Net Position of \$16,678,581,000 as of December 31, 2019 is equal to the final market value of assets in the Pension Trust Fund as of December 31, 2019. This differs from the \$16,516,108,000 market value of assets used in our December 31, 2019 funding valuation because the funding valuation excludes \$150,416,000 in the County Investment Account and \$12,057,000 in O.C. Sanitation District UAAL Deferred Account (after transfer of \$18,631,000 to offset the District's entire UAAL as of December 31, 2019).

It is important to note that this actuarial valuation is based on plan assets as of December 31, 2019. Due to the COVID-19 pandemic, market conditions have changed significantly since the valuation date. The Plan's actuarial 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. While it is impossible to determine how the market will perform over the next several months, and how that will affect the results of next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

¹ As documented in the funding valuation report, return on market value was calculated using a modified dollar-weighted approach based on pension plan assets net of accounting liabilities. Actual investment gain on net pension plan assets was \$2,123,258,000 during 2019 after including both the administrative expenses and discount for prepaid contributions while excluding the gains credited to County Investment Account and O.C. Sanitation District UAAL Deferred Account. Without these adjustments, the actual investment gain was \$2,183,808,000.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Measurement Date		December 31, 2019	December 31, 2018
Disclosure elements for fiscal year ending December 31:	• Service cost ⁽¹⁾	\$499,255,591	\$491,372,822
	• Total Pension Liability	21,754,263,463	20,678,882,089
	• Plan's Fiduciary Net Position	16,678,581,000	14,481,680,000
	• Net Pension Liability	5,075,682,463	6,197,202,089
Schedule of contributions for fiscal year ending December 31:	• Actuarially determined contributions	\$583,057,000	\$556,728,000
	• Actual contributions ⁽²⁾	653,793,000	580,905,000 ⁽³⁾
	• Contribution deficiency / (excess) ⁽⁴⁾	(70,736,000)	(24,177,000)
Demographic data for plan year ending December 31:	• Number of retired members and beneficiaries	18,420	17,674
	• Number of inactive vested members	6,520	6,026
	• Number of active members	22,257	21,929
Key assumptions as of December 31:	• Investment rate of return	7.00%	7.00%
	• Inflation rate	2.75%	2.75%
	• Projected salary increases ⁽⁵⁾	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%

⁽¹⁾ The Service Cost is based on the previous year's valuation, meaning the December 31, 2019 and December 31, 2018 measurement date values are based on the valuations as of December 31, 2018 and December 31, 2017, respectively. Both service costs have been calculated using the assumptions shown in the December 31, 2018 measurement date column, as there had been no changes in the actuarial assumptions between the December 31, 2017 and December 31, 2018 valuations.

⁽²⁾ Reduced by discount for prepaid contributions and transfer from County Investment Account, if any.

⁽³⁾ Exclude transfer of \$14,589,000 from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase.

⁽⁴⁾ Includes additional contributions made by employers toward the reduction of their UAAL. Details are shown in Schedule of Contributions on page 17.

⁽⁵⁾ For December 31, 2019 and December 31, 2018, includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases.

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 OCERS. 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 market value of assets as of the measurement date, as provided by OCERS.
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. 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.

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 OCERS 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 OCERS 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 OCERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to OCERS.

Section 2: GASB 67 Information

General information about the pension plan

Plan Description

Plan administration. The Orange County Employees Retirement System (OCERS) was established by the County of Orange in 1945. OCERS is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.). OCERS is a cost-sharing multiple employer public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the Safety and General members employed by the County of Orange. OCERS also provides retirement benefits to the employee members of the Orange County Courts, the Orange County Retirement System, two cities and thirteen special districts.

The management of OCERS is vested with the Orange County Board of Retirement. The Board consists of nine members and one alternate. The County Treasurer is a member of the Board of Retirement by law. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor. Two members are elected by the General membership; one member and one alternate are elected by the Safety membership, one member is elected by the retired members of the System. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with the County Treasurer term.

Plan membership. At December 31, 2019, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	18,420
Inactive vested members entitled to but not yet receiving benefits	6,520
Active members	<u>22,257</u>
Total	47,197

Note: Data as of December 31, 2019 is not used in the measurement of the TPL as of December 31, 2019.

Section 2: GASB 67 Information

Benefits provided. OCERS provides service retirement, disability, death and survivor benefits to eligible employees. All regular full-time employees of the County of Orange or contracting agencies who work a minimum of 20 hours per week become members of OCERS effective on the first day of employment in an eligible position. There are separate retirement plans for General and Safety member employees. Safety membership is extended to those involved in active law enforcement, fire suppression, and certain probation officers. Any new Safety member who becomes a member on or after January 1, 2013 is designated PEPRA Safety and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA), California Government Code 7522 et seq. All other employees are classified as General members. New General members employed on or after January 1, 2013 are designated as PEPRA General subject to the provisions of California Government Code 7522 et. seq.

General members hired prior to January 1, 2013, including all members of Plan T and Plan W hired on or after January 1, 2013, are eligible to retire once they attain the age of 50 and have acquired ten or more years of retirement service credit. A member with thirty years of service is eligible to retire regardless of age. General members who are first hired on or after January 1, 2013, excluding members of Plan T and Plan W, are eligible to retire once they have attained the age of 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 50 and have acquired ten or more years of retirement service credit. A member with twenty 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 50, and have acquired five years of retirement service credit.

All General and Safety members can also retire at the age of 70 regardless of service.

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 member benefits are calculated pursuant to the provisions of Sections 31676.01, 31676.1, 31676.12, 31676.16, 31676.18 or 31676.19. For Section 31676.01, the monthly allowance is equal to 1/90th of final compensation times years of accrued retirement service credit times age factor from that Section. For Section 31676.1, the monthly allowance is equal to 1/60th of final compensation times years of accrued retirement service credit times age factor from that Section. For Sections 31676.12, 31676.16, 31676.18 or 31676.19, the monthly allowance is equal to 1/50th of final compensation times years of accrued retirement service credit times age factor from the corresponding Section. General member benefits for those who are first hired on or after January 1, 2013, excluding members of Plan T and Plan W, are calculated pursuant to the provision of 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 31664.1 and 31664.2. The monthly allowance is equal to 3% of final compensation times years of accrued retirement service credit times age factor from the corresponding Section. Safety member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision of California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.25(d).

Section 2: GASB 67 Information

For members with membership dates before January 1, 2013, including all members of Plan T and Plan W hired on or after January 1, 2013, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members with membership dates on or after January 1, 2013, excluding members of Plan T and Plan W.

Final average compensation consists of the highest 12 consecutive months for a General Tier 1 or Safety Tier 1 member and the highest 36 consecutive months for a General Tier 2, General PEPRA, Safety Tier 2 or Safety PEPRA member.

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. Certain surviving spouses or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner has attained age 55. 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.

OCERS provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for All Urban Consumers for the Los Angeles-Long Beach-Anaheim Area, is capped at 3.0%.

The County of Orange and contracting 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 OCERS' actuary after the completion of the annual actuarial valuation. The average employer contribution rate for the first six months of calendar year 2019 or the second half of fiscal year 2018-2019 (based on the December 31, 2016 valuation) was 36.56%² of compensation. The average employer contribution rate for the last six months of calendar year 2019 or the first half of fiscal year 2019-2020 (based on the December 31, 2017 valuation) was 37.97%³ of compensation.

All members are required to make contributions to OCERS regardless of the retirement plan or tier in which they are included. The average member contribution rate for the first six months of calendar year 2019 or the second half of fiscal year 2018-2019 (based on the December 31, 2016 valuation) was 12.01%³ of compensation. The average member contribution rate for the last six months of calendar year 2019 or the first half of fiscal year 2019-2020 (based on the December 31, 2017 valuation) was 12.63%³ of compensation.

² These employer contribution rates may be higher or lower than the composite rate for 2019 as shown on page 17 of this report because these rates have not been adjusted to reflect any pick-ups or reverse pick-ups. These employer contribution rates also do not reflect the shift in payroll to the lower cost plans from the valuation date to the date of rate implementation.

³ It should be noted that these member contribution rates provided above have not been adjusted to reflect any pick-ups or reverse pick-ups.

Section 2: GASB 67 Information

Net pension liability

Measurement Date	December 31, 2019	December 31, 2018
Components of the Net Pension Liability		
Total Pension Liability	\$21,754,263,463	\$20,678,882,089
Plan's Fiduciary Net Position	(16,678,581,000)	(14,481,680,000)
Net Pension Liability	\$5,075,682,463	\$6,197,202,089
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	76.67%	70.03%

The Net Pension Liability (NPL) was measured as of December 31, 2019 and 2018. The Plan's Fiduciary Net Position (plan assets) 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, 2018 and 2017, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of December 31, 2019 and 2018 are the same as those used in the OCERS actuarial valuations as of December 31, 2019 and 2018, respectively.

Actuarial assumptions. The TPLs as of December 31, 2019 and 2018 were determined by actuarial valuations as of December 31, 2018 and 2017, respectively. The actuarial assumptions used were based on the results of an experience study for the period from January 1, 2014 through December 31, 2016 and they are the same assumptions used in the December 31, 2019 and 2018 funding valuations for OCERS. In particular, the following actuarial assumptions were applied to all periods included in the measurements:

Inflation:	2.75%
Salary increases:	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%, vary by service, including inflation
Investment rate of return:	7.00%, net of pension plan investment expense, including inflation
Other assumptions:	See analysis of actuarial experience during the period January 1, 2014 through December 31, 2016

Section 2: GASB 67 Information

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments⁴ was determined in 2017 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 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, 2019 and 2018 actuarial valuations. This information will change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Global Equity	35.0%	6.38%
Core Bonds	13.0%	1.03%
High Yield Bonds	4.0%	3.52%
Bank Loan	2.0%	2.86%
TIPS	4.0%	0.96%
Emerging Market Debt	4.0%	3.78%
Real Estate	10.0%	4.33%
Core Infrastructure	2.0%	5.48%
Natural Resources	10.0%	7.86%
Risk Mitigation	5.0%	4.66%
Mezzanine/Distressed Debts	3.0%	6.53%
Private Equity	8.0%	9.48%
Total	100.00%	

⁴ Note that the investment return assumption for funding purposes is developed net of both investment and administrative expenses; however, the same investment return assumption is used for financial reporting purposes, where it is considered gross of administrative expenses.

Section 2: GASB 67 Information

Discount rate. The discount rate used to measure the TPL was 7.00% as of December 31, 2019 and 2018. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only 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 Plan's 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, 2019 and 2018.

Section 2: GASB 67 Information

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL as of December 31, 2019, calculated using the discount rate of 7.00%, as well as what the 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:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net Pension Liability as of December 31, 2019	\$8,216,743,406	\$5,075,682,463	\$2,520,727,245

Section 2: GASB 67 Information

Schedule of changes in Net Pension Liability – Last two fiscal years

Measurement Date	December 31, 2019	December 31, 2018
Total Pension Liability		
• Service cost	\$499,255,591	\$491,372,822
• Interest	1,452,644,872	1,379,917,267
• Change of benefit terms	0	0
• Differences between expected and actual experience	24,382,911	(118,124,401)
• Changes of assumptions	0	0
• Benefit payments, including refunds of member contributions	(900,902,000)	(828,278,000)
• Transfer of members among Rate Groups	0	0
• Other	0	0
Net change in Total Pension Liability	\$1,075,381,374	\$924,887,688
Total Pension Liability – beginning	20,678,882,089	19,753,994,401
Total Pension Liability – ending	<u>\$21,754,263,463</u>	<u>\$20,678,882,089</u>
Plan's Fiduciary Net Position		
• Contributions – employer ⁽¹⁾	\$653,793,000	\$580,905,000 ⁽²⁾
• Contributions – member	279,373,000	270,070,000
• Net investment income	2,183,808,000	(324,628,000)
• Benefit payments, including refunds of member contributions	(900,902,000)	(828,278,000)
• Transfer of members among Rate Groups	0	0
• Administrative expense	(19,171,000)	(18,284,000)
• Other	0	0
Net change in Plan's Fiduciary Net Position	\$2,196,901,000	\$(320,215,000)
Plan's Fiduciary Net Position – beginning	14,481,680,000	14,801,895,000
Plan's Fiduciary Net Position – ending	<u>\$16,678,581,000</u>	<u>\$14,481,680,000</u>
Net Pension Liability – ending	<u>\$5,075,682,463</u>	<u>\$6,197,202,089</u>
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	76.67%	70.03%
Covered payroll⁽³⁾	\$1,783,054,000	\$1,718,798,000
Plan Net Pension Liability as percentage of covered payroll	284.66%	360.55%

(1) Reduced by discount for prepaid contributions and transfer from County Investment Account, if any.

(2) \$14,589,000 transfer from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase for the actuarial losses as of December 31, 2018 has been excluded from this amount.

(3) Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GASB 67 Information

Schedule of contributions – Last ten fiscal years

Year Ended December 31	Actuarially Determined Contributions ^{(1),(2)}	Contributions in Relation to the Actuarially Determined Contributions ^{(1),(2)}	Contribution Deficiency / (Excess)	Covered Payroll ⁽³⁾	Contributions as a Percentage of Covered Payroll ^{(1),(2)}
2010	\$372,437,000	\$372,437,000	\$0	\$1,511,569,000	24.64%
2011	387,585,000	387,585,000	0	1,498,914,000	25.86%
2012	406,521,000	406,521,000	0	1,497,475,000	27.15%
2013	426,020,000	427,095,000 ⁽⁴⁾	(1,075,000)	1,494,745,000	28.57%
2014	476,320,000	625,520,000 ⁽⁵⁾	(149,200,000)	1,513,206,000	41.34%
2015	502,886,000	571,298,000 ⁽⁶⁾	(68,412,000)	1,521,036,000	37.56%
2016	521,447,000	567,196,000 ⁽⁷⁾	(45,749,000)	1,602,675,000	35.40%
2017	536,726,000 ⁽⁸⁾	572,104,000 ⁽⁸⁾⁽⁹⁾	(35,378,000)	1,678,322,000	34.09%
2018	556,728,000 ⁽¹⁰⁾	580,905,000 ⁽¹⁰⁾⁽¹¹⁾	(24,177,000)	1,718,798,000	33.80%
2019	583,057,000	653,793,000 ⁽¹²⁾	(70,736,000)	1,783,054,000	36.67%

(1) Reduced by transfers from County Investment Account (funded by pension obligation proceeds held by OCERS). Those transfers are as follows:

Plan Year Ended December 31	Transfers from County Investment Account	Plan Year Ended December 31	Transfers from County Investment Account
2010	\$11,000,000	2015	\$0
2011	11,000,000	2016	0
2012	5,500,000	2017	0
2013	5,000,000	2018	0
2014	5,000,000	2019	0

(2) Reduced by discount for prepaid contributions.

(3) Covered payroll represents payroll on which contributions to the pension plan are based.

(4) Includes additional contributions of \$1,075,000 made by O.C. Fire Authority towards the reduction of their UAAL.

(5) Includes additional contributions of \$1,663,000 made by O.C. Cemetery District, \$22,537,000 made by O.C. Fire Authority and \$125,000,000 made by O.C. Sanitation District towards the reduction of their UAAL.

(6) Includes additional contributions of \$18,412,000 made by O.C. Fire Authority and \$50,000,000 made by O.C. Sanitation District towards the reduction of their UAAL.

(7) Includes additional contributions of \$5,133,000 made by O.C. Fire Authority, \$1,500,000 made by Law Library and \$5,587,000 made by O.C. Sanitation District towards the reduction of their UAAL as well as \$33,529,000 made by O.C. Sanitation District to their UAAL Deferred Account.

Section 2: GASB 67 Information

- (8) \$24,042,000 transfer from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase for the assumption changes has been excluded from both these amounts.
- (9) Includes additional contributions of \$32,096,000 made by O.C. Fire Authority, \$1,538,000 made by Law Library and \$1,744,000 made by O.C. Children and Families Commission towards the reduction of their UAAL.
- (10) \$14,589,000 transfer from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase for the actuarial losses as of December 31, 2018 has been excluded from both these amounts.
- (11) Includes additional contributions of \$23,437,000 made by O.C. Fire Authority and \$740,000 made by Cypress Recreation and Parks District towards the reduction of their UAAL.
- (12) Includes additional contributions of \$19,043,000 made by O.C. Fire Authority, \$878,000 made by O.C. Vector Control, \$12,815,000 Transportation Corridor and \$8,116,000 made by O.C. Sanitation District towards the reduction of their UAAL as well as \$29,884,000 made by O.C. Sanitation District to their UAAL Deferred Account.

Section 2: GASB 67 Information

Notes to Schedule:

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

Valuation date:	Actuarially determined contribution rates for the first six months of calendar year 2019 or the second half of fiscal year 2018-2019 are calculated based on the December 31, 2016 valuation. Actuarially determined contribution rates for the last six months of calendar year 2019 or the first half of fiscal year 2019-2020 are calculated based on the December 31, 2017 valuation.
Actuarial cost method:	Entry Age Actuarial Cost Method
Amortization method:	Level percent of payroll for total unfunded actuarial accrued liability
Remaining amortization period:	Effective December 31, 2013, the outstanding balance of the UAAL from the December 31, 2012 valuation was combined and re-amortized over a declining 20-year period. Any changes in UAAL due to actuarial gains or losses or due to changes in assumptions or methods will be amortized over separate 20-year periods. Any changes in UAAL due to plan amendments will be amortized over separate 15-year periods and any change in UAAL due to early retirement incentive programs will be amortized over a separate period of up to 5 years.
Asset valuation method:	The Actuarial Value of Assets is determined by recognizing any difference between the actual and the expected market return over a five-year period. The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.

Section 2: GASB 67 Information

Actuarial assumptions:		
Valuation Date:	December 31, 2016 valuation	December 31, 2017 Valuation
Investment rate of return:	7.25%, net of pension plan investment expense, including inflation	7.00%, net of pension plan investment expense, including inflation
Inflation rate:	3.00%	2.75%
Real across-the-board salary increase:	0.50%	0.50%
Projected salary increases:	General: 4.25% to 13.50% and Safety: 5.00% to 17.50%, vary by service, including inflation	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%, vary by service, including inflation
Cost of living adjustments:	3.00% of retirement income	2.75% of retirement income
Other assumptions:	Same as those used in the December 31, 2016 funding actuarial valuation	Same as those used in the December 31, 2017 funding actuarial valuation

Section 3: Appendices

Appendix A: Projection of Pension Plan's Fiduciary Net Position (\$ in millions) for use in the Calculation of Discount Rate as of December 31, 2019

Year Beginning January 1	Projected Beginning Plan's Fiduciary Net Position (a)	Projected Total Contributions * (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2019	\$14,482	\$933	\$901	\$19	\$2,184	\$16,679
2020	16,679	976	971	22	1,167	17,829
2021	17,829	972	1,031	24	1,245	18,992
2022	18,992	969	1,094	25	1,324	20,167
2023	20,167	974	1,159	27	1,404	21,359
2024	21,359	958	1,227	28	1,485	22,547
2025	22,547	964	1,296	30	1,566	23,752
2026	23,752	972	1,368	31	1,648	24,972
2027	24,972	979	1,441	33	1,731	26,208
2028	26,208	987	1,516	35	1,815	27,460
2044	37,085	191	2,721	49	2,507	37,014
2045	37,014	181	2,773	49	2,500	36,873
2046	36,873	170	2,820	49	2,488	36,663
2047	36,663	160	2,862	49	2,472	36,384
2048	36,384	153	2,894	48	2,451	36,045
2093	23,410	48	252	31	1,631	24,805
2094	24,805	48	209	33	1,730	26,342
2095	26,342	49	171	35	1,839	28,023
2096	28,023	49	138	37	1,957	29,855
2097	29,855	50	110	40	2,086	31,843
2133	337,557	447	0 **	447	23,629	361,186
2134	361,186					
2134 Discounted Value:	161 ***					

* Of all the projected total contributions, only the first year's (i.e., 2019) contribution has been reduced by discount for prepaid contributions and transfers from County Investment Account, if any.

** Less than \$1 million, when rounded.

*** \$361,186 million when discounted with interest at the rate of 7.00% per annum has a value of \$161 million as of December 31, 2019. Of this amount, about \$150 million is the balance available in the County Investment Account and \$12 million is the O.C. Sanitation District UAAL Deferred Account as of December 31, 2019.

Note: We have not utilized the balance in the County Investment Account to reduce the projected total contributions in column (b) even though those amounts have been used to reduce the NPL for the County as of December 31, 2019.

Section 3: Appendices

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Amounts shown in the year beginning January 1, 2019 row are actual amounts, based on the financial statements provided by OCERS.
- (3) Years 2029-2043, 2049-2092, and 2098-2132 have been omitted from this table.
- (4) Column (a): Except for the "discounted value" shown for 2134, all of the projected beginning Plan's Fiduciary Net Position amounts shown have not 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, 2018), 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, 2018. The projected benefit payments reflect the cost of living increase assumptions used in the December 31, 2019 valuation report. The 2019 benefit payments have been increased by the balance of the Medicare Insurance Reserve as of December 31, 2019.
- (7) Column (d): Projected administrative expenses are calculated as approximately 0.13% of the projected beginning Plan's Fiduciary Net Position amount. The 0.13% portion was based on the actual calendar year 2019 administrative expenses (unaudited) as a percentage of the actual beginning Plan's Fiduciary Net Position as of January 1, 2019. Administrative expenses 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's 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, 2019 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

Section 3: Appendices

Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 67. The terms may have different meanings in other contexts.

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 GASB.
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.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes 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).
Automatic Postemployment Benefit Changes:	Postemployment benefit changes 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).
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
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 a pension plan are based.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.

Section 3: Appendices

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 67.)
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's 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 normal cost. 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 actuarial accrued liability.
Inactive Employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
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 (NPL):	The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan.

Section 3: Appendices

Other Postemployment Benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
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.
Postemployment Healthcare Benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
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.
Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
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 (TPL):	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 67.

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Orange County Employees Retirement System

FY 2019 Audit Results

PRESENTED BY

Linda Hurley

Partner

June 4, 2020



Certified
Public
Accountants



Certified
Public
Accountants

Overview

Deliverables/Report Products:

- **Independent Auditor's Report – Basic Financial Statements**
- **Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed In Accordance with Government Auditing Standards**
- **Schedule of Allocated Pension Amounts by Employer**
- **Required Communications**



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Audit Results

Basic Financial Statements:

- **Framework**
 - U.S. Generally Accepted Accounting Principles
 - U.S. Generally Accepted Auditing Standards
 - Government Auditing Standards

- **Unmodified Opinion on Financial Statements**

- **Unmodified Opinion on Schedule of Allocated Pension Amounts by Employer**



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Audit Results

Required Communications:

- **Qualitative Aspects of Significant Accounting Practices**
 - Significant Accounting Policies
 - Significant Accounting Estimates
 - Financial Statement Disclosures
- **Identified or Suspected Fraud**
- **Significant Difficulties Encountered during the Audit**
- **Uncorrected and Corrected Misstatements**
- **Disagreements with Management**
- **Representations Requested from Management**
- **Management's Consultations with Other Accountants**
- **Other Significant Matters, Findings, or Issues**

Questions?

**Independent Auditor's Report on Internal Control Over
Financial Reporting and on Compliance and Other Matters
Based on an Audit of Financial Statements Performed
In Accordance With *Government Auditing Standards***

To the Board of Retirement of the
Orange County Employees Retirement System
Santa Ana, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Orange County Employees Retirement System (the System), California, as of and for the year ended December 31, 2019, and the related notes to the financial statements, which collectively comprise the System's basic financial statements, and have issued our report thereon dated June __, 2020. Our report contained emphasis-of-matter paragraphs that describes the System's implementation of Governmental Accounting Standards Board Statement No. 84, *Fiduciary Activities* for the year ended December 31, 2019 and the net pension liability as of December 31, 2019.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the System's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Newport Beach, California
June __, 2020

DRAFT



Memorandum

DATE: June 4, 2020

TO: Audit Committee Members

FROM: Brenda Shott, Assistant CEO, Finance and Internal Operations; Tracy Bowman, Director of Finance

SUBJECT: GASB 68 VALUATION AND AUDIT REPORT

Recommendation

Recommend to the Board of Retirement the following:

1. Approve OCERS' audited Schedule of Allocated Pension Amounts by Employer as of and for the Year Ended December 31, 2019.
2. Approve the Governmental Accounting Standards Board (GASB) Statement 68 Actuarial Valuation as of December 31, 2019 for distribution to employers.

Background/Discussion

GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*, requires employers to record their proportionate share of the total pension liability less the plan's fiduciary net position (i.e., net pension liability) on the face of their financial statements. A proportionate share of the total pension expense and collective deferred inflows of resources and deferred outflows of resources of the pension trust fund at OCERS is shown on the face of each employer's financial statements.

Net Pension Liability vs. Unfunded Actuarial Accrued Liability

The Governmental Accounting Standards Board (GASB) Statement 68 Actuarial Valuation Based on December 31, 2019 Measurement Date for Employer Reporting as of June 30, 2020 is used for financial reporting purposes and was prepared by Segal Consulting ([Attachment 1](#)). This report is *separate and distinct from the funding actuarial valuation*. The net pension liability (NPL) shown in Exhibit 2 of the GASB 68 valuation as of December 31, 2019 is \$5.1 billion compared to the unfunded actuarial accrued liability (UAAL) of \$5.9 billion in the funding actuarial valuation as of December 31, 2019. The differences between the NPL and the UAAL are a direct result of the different liability and asset values used in measuring these amounts as detailed in the attached letter from Segal Consulting which includes a reconciliation of the Plan's December 31, 2019 NPL and UAAL ([Attachment 2](#)). The primary differences can be attributed to NPL being calculated using the Plan's current market value of assets, including the proceeds available in the County Investment Account and the Orange County Sanitation District UAAL Deferred Account; the UAAL is calculated by adjusting the market value of assets for asset smoothing per OCERS Actuarial Funding Policy and excludes the County Investment Account reserves. Differences are also created by timing differences of when actuarial gains and losses are recognized in the liability calculation for financial reporting purposes compared to funding valuation purposes.



Memorandum

Schedule of Allocated Pension Amounts by Employer

The Schedule of Allocated Pension Amounts by Employer as of and for the Year Ended December 31, 2019 and related notes were audited by OCERS' independent auditor, Macias Gini & O'Connell LLP (MGO) ([Attachment 3](#)). The proportionate share allocation is based on rate groups. All rate groups, with the exception of rate groups 1 and 2, have only one active employer, so all of the NPL for those rate groups is allocated to that employer. For rate groups 1 and 2, the NPL is allocated based on the actual employer contributions within the rate group and excludes employers with inactive membership. If an employer participates in several rate groups, the employer's total proportionate share of the NPL is the sum of its allocated NPL from each rate group.

The audit report and GASB 68 valuation, once approved by the Audit Committee and Board of Retirement, will be made available to participating employers with the following disclaimer:

To complete its financial statements, each participating employer will need to record its own proportionate share of collective pension amounts for all benefits provided through OCERS' cost-sharing multiple-employer defined benefit pension plan. OCERS has provided a schedule of pension amounts by employer, prepared by independent actuary Segal Consulting, in accordance with the methodology set forth in GASB 68, based on data maintained and provided by OCERS. This schedule has been audited by independent auditor, MGO. Please note that OCERS is not responsible for employers' compliance with the requirements of GASB 68. Employers are solely responsible for accurately presenting their financial statements within the requirements of GASB 68.

Submitted by:

Tracy Bowman
Director of Finance

Approved by:

Brenda Shott
Asst. CEO, Finance & Internal Operations

2011



GASB 68 Valuation and Audit Report

Presented on June 4, 2020

by

Brenda Shott and Tracy Bowman



Recommendation

- Recommend to the Board of Retirement the following:
 1. Approve OCERS' audited Schedule of Allocated Pension Amounts by Employer as of and for the Year Ended December 31, 2019
 2. Approve the Governmental Accounting Standards Board (GASB) Statement 68 Actuarial Valuation as of December 31, 2019 for distribution to employers



Overview

- This information is needed by Plan Sponsors for their annual financial reporting.
- **Reports are prepared for GASB reporting purposes only - there are no actionable decisions to be made on content.**
- This item is brought before you because the Audit Committee Charter requires approval of all audit reports.



Audit Report on GASB 68 Schedules

- Using the NPL calculated for GASB 67, Segal prepares the Schedule of Allocated Pension Amounts by Employer (included in Appendix B of the full GASB 68 valuation - Section 3)
- MGO audits this schedule which includes amounts and information required for GASB 68 reporting for each employer
- MGO has issued a “clean opinion” on the 2019 schedule and related notes which will allow our Employers’ auditors to rely on MGO’s work, avoiding multiple audits of OCERS’ information.





Conclusion

Questions?



Orange County Employees Retirement System (OCERS)

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

Actuarial Valuation Based on December 31, 2019
Measurement Date for Employer Reporting
as of June 30, 2020

Draft



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 OCERS 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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segalco.com

May 27, 2020

Board of Retirement
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board (GASB) Statement 68 Actuarial Valuation based on December 31, 2019 measurement date for employer reporting as of June 30, 2020. It contains various information that will need to be disclosed in order for OCERS employers to comply with GASB Statement 68.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist Orange County Employees Retirement System (OCERS) in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based were prepared by OCERS. 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 the System.

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

Sincerely,

Segal

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

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

JY/

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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 (GASB) Statement 68 for employer reporting as of June 30, 2020. The results used in preparing this GASB 68 report are comparable to those used in preparing the Governmental Accounting Standards Board (GASB) Statement 67 report for the plan based on a reporting date and a measurement date as of December 31, 2019. This valuation is based on:

- The benefit provisions of OCERS, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of December 31, 2018, provided by OCERS;
- The assets of the Plan as of December 31, 2019, provided by OCERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the December 31, 2019 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the December 31, 2019 valuation.

General observations on GASB 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 still 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 OCERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on generally the same basis as OCERS' Actuarial Accrued Liability (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's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis.

Section 1: Actuarial Valuation Summary

- For this report, the reporting dates for the employers are June 30, 2020 and 2019. The NPL's measured as of December 31, 2019 and 2018 have been determined by rolling forward the TPL as of December 31, 2018 and 2017, respectively. The Plan's Fiduciary Net Positions were valued as of the measurement dates. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected.

Highlights of the valuation

- The NPL decreased from \$6,197.2 million as of December 31, 2018 to \$5,075.7 million as of December 31, 2019 primarily as a result a 14.79%¹ return on the market value of assets during 2019 that was higher than the assumed return of 7.00% of approximately \$1,171 million. The decrease in the total employer Pension Expense from \$783.7 million calculated last year to \$590.7 million calculated this year was mainly due to this investment gain. Changes in these values during the last two fiscal years ending December 31, 2019 and December 31, 2018 can be found in *Section 2, Schedule of changes in Net Pension Liability* on page 17.
- The discount rate used to determine the TPL and NPL as of both December 31, 2019 and 2018 was 7.00% following the same assumption used by the System in the pension funding valuations as of the same dates. The detailed calculation of the discount rate of 7.00% used in the calculation of the TPL and NPL as of December 31, 2019 can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
- The Plan's Fiduciary Net Position of \$14,481,680,000 as of December 31, 2018 is equal to the final market value of assets in the Pension Trust Fund as of December 31, 2018. This differs from the \$14,349,790,000 market value of assets used in our December 31, 2018 funding valuation because the funding valuation excludes \$131,890,000 in the County Investment Account. (The balance of the O.C. Sanitation District Deferred Account as of December 31, 2018 was \$0 after a transfer of \$14,589,000 to offset a portion of the District's UAAL as of December 31, 2018.)

The Plan's Fiduciary Net Position of \$16,678,581,000 as of December 31, 2019 is equal to the final market value of assets in the Pension Trust Fund as of December 31, 2019. This differs from the \$16,516,108,000 market value of assets used in our December 31, 2019 funding valuation because the funding valuation excludes \$150,416,000 in the County Investment Account and \$12,057,000 in O.C. Sanitation District UAAL Deferred Account (after transfer of \$18,631,000 to offset the District's entire UAAL as of December 31, 2019).

¹ As documented in the funding valuation report, return on market value was calculated using a modified dollar-weighted approach based on pension plan assets net of accounting liabilities. Actual investment gain on net pension plan assets was \$2,123,258,000 during 2019 after including both the administrative expenses and discount for prepaid contributions while excluding the gains credited to County Investment Account and O.C. Sanitation District UAAL Deferred Account. Without these adjustments, the actual investment gain was \$2,183,808,000.

Section 1: Actuarial Valuation Summary

4. In Appendix B, we show the Schedule of Pension Amounts by Employer. The expanded information shown in Appendix B has been used to prepare the Schedules that show the Pension Expense as well as the Deferred Outflows of Resources and Deferred Inflows of Resources.
5. Results shown in this report exclude any employer contributions made after the measurement date of December 31, 2019. Employers should consult with their auditors to determine the deferred outflow that should be created for these contributions.
6. All Rate Groups except Rate Groups #1 and #2 only have one active employer, so all of the NPL for those Rate Groups is allocated to that employer.

For Rate Groups #1² and #2, the NPL is allocated based on the actual employer contributions within the Rate Group. The steps we used are as follows:

- Calculate ratio of employer's contributions to the total contributions for the Rate Group.
- Multiply this ratio by the NPL for the Rate Group to determine the employer's proportionate share of the NPL for the Rate Group.

If the employer is in several Rate Groups, the employer's total allocated NPL is the sum of its allocated NPL from each Rate Group. 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 the Schedule of Determination of Proportionate Share in Section 2.

7. The Coronavirus (COVID-19) pandemic is rapidly evolving and is having a significant impact on the US economy in 2020, including most retirement plans, and will likely continue to have an impact in the future. Our results do not include the impact of the following:
 - Changes in the market value of plan assets since December 31, 2019
 - Changes in interest rates since December 31, 2019
 - Short-term or long-term impacts on mortality of the covered population
 - The potential for federal or state fiscal relief

Each of the above factors could significantly impact these results. The above factors generally will not have an impact on the December 31, 2019 valuation, since that is based on a snapshot of assets and liabilities prior to recent events. Given the high level of uncertainty and fluidity of the current events, you may wish to consider updated estimates to monitor the plan's financial status. We will keep you updated on emerging developments.

² The NPL for Rate Group #1 was adjusted by the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I. prior to allocating the net NPL to the other employers in Rate Group #1 as the NPLs for these four employers were calculated separately.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Reporting Date for Employer under GASB 68 ¹		June 30, 2020	June 30, 2019
Measurement Date for Employer under GASB 68		December 31, 2019	December 31, 2018
Disclosure elements for fiscal year ending December 31:	• Service cost ²	\$499,255,591	\$491,372,822
	• Total Pension Liability	21,754,263,463	20,678,882,089
	• Plan's Fiduciary Net Position	16,678,581,000	14,481,680,000
	• Net Pension Liability	5,075,682,463	6,197,202,089
	• Pension expense	590,748,219	783,713,497
Schedule of contributions For plan year ending December 31:	• Actuarially determined contributions ³	\$583,057,000	\$556,728,000 ⁴
	• Actual contributions ³	653,793,000	580,905,000 ⁴
	• Contribution deficiency / (excess) ⁵	(70,736,000)	(24,177,000)
Demographic data for plan year ending December 31:	• Number of retired members and beneficiaries	18,420	17,674
	• Number of inactive vested members	6,520	6,026
	• Number of active members	22,257	21,929
Key assumptions as of December 31:	• Investment rate of return	7.00%	7.00%
	• Inflation rate	2.75%	2.75%
	• Projected salary increases ⁶	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%

¹ The reporting date and measurement date for the plan are December 31, 2019 and December 31, 2018.

² The service cost is based on the previous year's valuation, meaning the 2019 and 2018 measurement date values are based on the valuations as of December 31, 2018 and December 31, 2017, respectively. Both service costs have been calculated using the assumptions shown in the December 31, 2018 measurement date column, as there had been no changes in the actuarial assumptions between the December 31, 2017 and December 31, 2018 valuations.

³ Reduced by discount for prepaid contributions and transfer from County Investment Account, if any.

⁴ Exclude transfer of \$14,589,000 from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase.

⁵ Includes additional contributions made by employers toward the reduction of their UAAL. Details are shown in Schedule of Contributions on page 20.

⁶ For measurement dates December 31, 2019 and December 31, 2018, includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases.

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 OCERS. 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 market value of assets as of the measurement date, as provided by OCERS.
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. 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.

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 OCERS 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 OCERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to OCERS.

Section 2: GASB 68 Information

General information about the pension plan

Plan Description

Plan administration. The Orange County Employees Retirement System (OCERS) was established by the County of Orange in 1945. OCERS is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.). OCERS is a cost-sharing multiple employer public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the Safety and General members employed by the County of Orange. OCERS also provides retirement benefits to the employee members of the Orange County Courts, the Orange County Retirement System, two cities and thirteen special districts.

The management of OCERS is vested with the Orange County Board of Retirement. The Board consists of nine members and one alternate. The County Treasurer is a member of the Board of Retirement by law. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor. Two members are elected by the General membership; one member and one alternate are elected by the Safety membership, one member is elected by the retired members of the System. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with the County Treasurer term.

Plan membership. At December 31, 2019, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	18,420
Inactive vested members entitled to but not yet receiving benefits	6,520
Active members	<u>22,257</u>
Total	47,197

Note: Data as of December 31, 2019 is not used in the measurement of the TPL as of December 31, 2019.

Section 2: GASB 68 Information

Benefits provided. OCERS provides service retirement, disability, death and survivor benefits to eligible employees. All regular full-time employees of the County of Orange or contracting agencies who work a minimum of 20 hours per week become members of OCERS effective on the first day of employment in an eligible position. There are separate retirement plans for General and Safety member employees. Safety membership is extended to those involved in active law enforcement, fire suppression, and certain probation officers. Any new Safety member who becomes a member on or after January 1, 2013 is designated PEPRA Safety and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA), California Government Code 7522 et seq. All other employees are classified as General members. New General members employed on or after January 1, 2013 are designated as PEPRA General subject to the provisions of California Government Code 7522 et. seq.

General members hired prior to January 1, 2013, including all members of Plan T and Plan W hired on or after January 1, 2013, are eligible to retire once they attain the age of 50 and have acquired ten or more years of retirement service credit. A member with thirty years of service is eligible to retire regardless of age. General members who are first hired on or after January 1, 2013, excluding members of Plan T and Plan W, are eligible to retire once they have attained the age of 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 50 and have acquired ten or more years of retirement service credit. A member with twenty 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 50, and have acquired five years of retirement service credit.

All General and Safety members can also retire at the age of 70 regardless of service.

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 member benefits are calculated pursuant to the provisions of Sections 31676.01, 31676.1, 31676.12, 31676.16, 31676.18 or 31676.19. For Section 31676.01, the monthly allowance is equal to 1/90th of final compensation times years of accrued retirement service credit times age factor from that Section. For Section 31676.1, the monthly allowance is equal to 1/60th of final compensation times years of accrued retirement service credit times age factor from that Section. For Sections 31676.12, 31676.16, 31676.18 or 31676.19, the monthly allowance is equal to 1/50th of final compensation times years of accrued retirement service credit times age factor from the corresponding Section. General member benefits for those who are first hired on or after January 1, 2013, excluding members of Plan T and Plan W, are calculated pursuant to the provision of 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 31664.1 and 31664.2. The monthly allowance is equal to 3% of final compensation times years of accrued retirement service credit times age factor from the corresponding Section. Safety member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision of California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.25(d).

Section 2: GASB 68 Information

For members with membership dates before January 1, 2013, including all members of Plan T and Plan W hired on or after January 1, 2013, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members with membership dates on or after January 1, 2013, excluding members of Plan T and Plan W.

Final average compensation consists of the highest 12 consecutive months for a General Tier 1 or Safety Tier 1 member and the highest 36 consecutive months for a General Tier 2, General PEPRA, Safety Tier 2 or Safety PEPRA member.

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. Certain surviving spouses or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner has attained age 55. 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.

OCERS provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for All Urban Consumers for the Los Angeles-Long Beach-Anaheim Area, is capped at 3.0%.

The County of Orange and contracting 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 OCERS' actuary after the completion of the annual actuarial valuation. The average employer contribution rate for the first six months of calendar year 2019 or the second half of fiscal year 2018-2019 (based on the December 31, 2016 valuation) was 36.56%¹ of compensation. The average employer contribution rate for the last six months of calendar year 2019 or the first half of fiscal year 2019-2020 (based on the December 31, 2017 valuation) was 37.97%¹ of compensation.

All members are required to make contributions to OCERS regardless of the retirement plan or tier in which they are included. The average member contribution rate for the first six months of calendar year 2019 or the second half of fiscal year 2018-2019 (based on the December 31, 2016 valuation) was 12.01%² of compensation. The average member contribution rate for the last six months of calendar year 2019 or the first half of fiscal year 2019-2020 (based on the December 31, 2017 valuation) was 12.63%² of compensation.

¹ These employer contribution rates may be higher or lower than the composite rate for 2019 as shown on page 18 of this report because these rates have not been adjusted to reflect any pick-ups or reverse pick-ups. These employer contribution rates also do not reflect the shift in payroll to the lower cost plans from the valuation date to the date of rate implementation.

² It should be noted that these member contribution rates provided above have not been adjusted to reflect any pick-ups or reverse pick-ups.

Section 2: GASB 68 Information

Net Pension Liability

Reporting Date for Employer under GASB 68	June 30, 2020	June 30, 2019
Measurement Date for Employer under GASB 68	December 31, 2019	December 31, 2018
Components of the Net Pension Liability		
Total Pension Liability	\$21,754,263,463	\$20,678,882,089
Plan's Fiduciary Net Position	(16,678,581,000)	(14,481,680,000)
Net Pension Liability	\$5,075,682,463	\$6,197,202,089
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	76.67%	70.03%

The Net Pension Liability (NPL) was measured as of December 31, 2019 and 2018. The Plan's Fiduciary Net Position (plan assets) 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, 2018 and 2017, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of December 31, 2019 and 2018 are the same as those used in the OCERS actuarial valuations as of December 31, 2019 and 2018, respectively.

Actuarial assumptions. The TPLs as of December 31, 2019 and 2018 were determined by actuarial valuations as of December 31, 2018 and 2017, respectively. The actuarial assumptions used were based on the results of an experience study for the period from January 1, 2014 through December 31, 2016 and they are the same assumptions used in the December 31, 2019 and 2018 funding valuations for OCERS. In particular, the following actuarial assumptions were applied to all periods included in the measurements:

Inflation	2.75%
Salary Increases	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%, vary by service, including inflation
Investment Rate of Return	7.00%, net of pension plan investment expense, including inflation
Other Assumptions	See analysis of actuarial experience during the period January 1, 2014 through December 31, 2016

Section 2: GASB 68 Information

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments¹ was determined in 2017 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 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, 2019 and 2018 actuarial valuations. This information will change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Global Equity	35.0%	6.38%
Core Bonds	13.0%	1.03%
High Yield Bonds	4.0%	3.52%
Bank Loan	2.0%	2.86%
TIPS	4.0%	0.96%
Emerging Market Debt	4.0%	3.78%
Real Estate	10.0%	4.33%
Core Infrastructure	2.0%	5.48%
Natural Resources	10.0%	7.86%
Risk Mitigation	5.0%	4.66%
Mezzanine/Distressed Debts	3.0%	6.53%
Private Equity	8.0%	9.48%
Total	100.00%	

¹ Note that the investment return assumption for funding purposes is developed net of both investment and administrative expenses; however, the same investment return assumption is used for financial reporting purposes, where it is considered gross of administrative expenses.

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Discount rate. The discount rate used to measure the TPL was 7.00% as of December 31, 2019 and 2018. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only 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 Plan's 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, 2019 and 2018.

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Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL as of December 31, 2019, calculated using the discount rate of 7.00%, as well as what the 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:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Orange County	\$6,456,264,720	\$4,124,212,240	\$2,227,308,689
O.C. Cemetery District	1,360,254	(228,119)	(1,520,109)
O.C. Law Library	1,563,992	(74,515)	(1,407,285)
O.C. Vector Control District	3,315,913	(625,500)	(3,831,466)
O.C. Retirement System	41,265,624	26,824,264	15,077,587
O.C. Fire Authority	664,737,575	354,395,457	101,961,573
Cypress Recreation and Parks	1,631,167	262,415	(850,935)
Department of Education	4,877,710	3,099,339	1,652,803
Transportation Corridor Agency	5,792,435	(1,753,164)	(7,890,793)
City of San Juan Capistrano	40,292,922	26,191,970	14,722,183
O.C. Sanitation District	58,125,867	(49,446,617)	(136,946,632)
O.C. Transportation Authority	370,129,397	224,284,548	105,653,594
U.C.I.	45,586,926	30,213,739	17,709,109
O.C. Children and Families Comm.	(34,892)	(646,472)	(1,143,934)
Local Agency Formation Comm.	2,291,619	1,489,642	837,309
Rancho Santa Margarita	4,604	(2,214)	(7,760)
O.C. Superior Court	518,070,697	336,766,149	189,292,092
O.C. IHSS Public Authority	1,466,876	719,301	111,220
Total for all Employers	\$8,216,743,406	\$5,075,682,463	\$2,520,727,245

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Schedule of changes in Net Pension Liability — Last two plan years

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Total Pension Liability		
• Service cost	\$499,255,591	\$491,372,822
• Interest	1,452,644,872	1,379,917,267
• Change of benefit terms	0	0
• Differences between expected and actual experience	24,382,911	(118,124,401)
• Changes of assumptions	0	0
• Benefit payments, including refunds of member contributions	(900,902,000)	(828,278,000)
• Transfer of members among Rate Groups	0	0
• Other	0	0
Net change in Total Pension Liability	\$1,075,381,374	\$924,887,688
Total Pension Liability – beginning	20,678,882,089	19,753,994,401
Total Pension Liability – ending	\$21,754,263,463	\$20,678,882,089
Plan's Fiduciary Net Position		
• Contributions – employer ¹	\$653,793,000	\$580,905,000 ²⁽²⁾
• Contributions – member	279,373,000	270,070,000
• Net investment income	2,183,808,000	(324,628,000)
• Benefit payments, including refunds of member contributions	(900,902,000)	(828,278,000)
• Transfer of members among Rate Groups	0	0
• Administrative expense	(19,171,000)	(18,284,000)
• Other	0	0
Net change in Plan's Fiduciary Net Position	\$2,196,901,000	\$(320,215,000)
Plan's Fiduciary Net Position – beginning	14,481,680,000	14,801,895,000
Plan's Fiduciary Net Position – ending	\$16,678,581,000	\$14,481,680,000
Net Pension Liability – ending	\$5,075,682,463	\$6,197,202,089
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	76.67%	70.03%
Covered payroll³	\$1,783,054,000	\$1,718,798,000
Plan Net Pension Liability as percentage of covered payroll	284.66%	360.55%

¹ Reduced by discount for prepaid contributions and transfer from County Investment Account, if any

² \$14,589,000 transfer from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase for the actuarial losses as of December 31, 2018 has been excluded from this amount.

³ Covered payroll represents payroll on which contributions to the pension plan are based.

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Schedule of employer contributions — Last ten fiscal years

Year Ended December 31	Actuarially Determined Contributions ^{1,2}	Contributions in Relation to the Actuarially Determined Contributions ^{1,2}	Contribution Deficiency / (Excess)	Covered Payroll ³	Contributions as a Percentage of Covered Payroll ^{1,2}
2010	\$372,437,000	\$372,437,000	\$0	\$1,511,569,000	24.64%
2011	387,585,000	387,585,000	0	1,498,914,000	25.86%
2012	406,521,000	406,521,000	0	1,497,475,000	27.15%
2013	426,020,000	427,095,000 ⁴	(1,075,000)	1,494,745,000	28.57%
2014	476,320,000	625,520,000 ⁵	(149,200,000)	1,513,206,000	41.34%
2015	502,886,000	571,298,000 ⁶	(68,412,000)	1,521,036,000	37.56%
2016	521,447,000	567,196,000 ⁷	(45,749,000)	1,602,675,000	35.40%
2017	536,726,000 ⁸	572,104,000 ^{8,9}	(35,378,000)	1,678,322,000	34.09%
2018	556,728,000 ¹⁰	580,905,000 ^{10,11}	(24,177,000)	1,718,798,000	33.80%
2019	583,057,000	653,793,000 ¹²	(70,736,000)	1,783,054,000	36.67%

¹ Reduced by transfers from County Investment Account (funded by pension obligation proceeds held by OCERS). Those transfers are as follows:

Plan Year Ended December 31	Transfers from County Investment Account	Plan Year Ended December 31	Transfers from County Investment Account
2010	\$11,000,000	2015	\$0
2011	11,000,000	2016	0
2012	5,500,000	2017	0
2013	5,000,000	2018	0
2014	5,000,000	2019	0

² Reduced by discount for prepaid contributions.

³ Covered payroll represents payroll on which contributions to the pension plan are based.

⁴ Includes additional contributions of \$1,075,000 made by O.C. Fire Authority towards the reduction of their UAAL.

⁵ Includes additional contributions of \$1,663,000 made by O.C. Cemetery District, \$22,537,000 made by O.C. Fire Authority and \$125,000,000 made by O.C. Sanitation District towards the reduction of their UAAL.

⁶ Includes additional contributions of \$18,412,000 made by O.C. Fire Authority and \$50,000,000 made by O.C. Sanitation District towards the reduction of their UAAL.

⁷ Includes additional contributions of \$5,133,000 made by O.C. Fire Authority, \$1,500,000 made by Law Library and \$5,587,000 made by O.C. Sanitation District towards the reduction of their UAAL as well as \$33,529,000 made by O.C. Sanitation District to their UAAL Deferred Account.

⁸ \$24,042,000 transfer from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase for the assumption changes has been excluded from both these amounts.

⁹ Includes additional contributions of \$32,096,000 made by O.C. Fire Authority, \$1,538,000 made by Law Library and \$1,744,000 made by O.C. Children and Families Commission towards the reduction of their UAAL.

¹⁰ \$14,589,000 transfer from O.C. Sanitation District Deferred UAAL Account required to offset UAAL increase for the actuarial losses as of December 31, 2018 has been excluded from both these amounts.

¹¹ Includes additional contributions of \$23,437,000 made by O.C. Fire Authority and \$740,000 made by Cypress Recreation and Parks District towards the reduction of their UAAL.

¹² Includes additional contributions of \$19,043,000 made by O.C. Fire Authority, \$878,000 made by O.C. Vector Control, \$12,815,000 Transportation Corridor and \$8,116,000 made by O.C. Sanitation District towards the reduction of their UAAL as well as \$29,884,000 made by O.C. Sanitation District to their UAAL Deferred Account.

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Notes to Schedule:

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

Valuation Date:	Actuarially determined contribution rates for the first six months of calendar year 2019 or the second half of fiscal year 2018-2019 are calculated based on the December 31, 2016 valuation. Actuarially determined contribution rates for the last six months of calendar year 2019 or the first half of fiscal year 2019-2020 are calculated based on the December 31, 2017 valuation.
Actuarial Cost Method:	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll for total unfunded actuarial accrued liability
Remaining Amortization Period:	Effective December 31, 2013, the outstanding balance of the UAAL from the December 31, 2012 valuation was combined and re-amortized over a declining 20-year period. Any changes in UAAL due to actuarial gains or losses or due to changes in assumptions or methods will be amortized over separate 20-year periods. Any changes in UAAL due to plan amendments will be amortized over separate 15-year periods and any change in UAAL due to early retirement incentive programs will be amortized over a separate period of up to 5 years.
Asset Valuation Method:	The Actuarial Value of Assets is determined by recognizing any difference between the actual and the expected market return over a five-year period. The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.

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Actuarial assumptions		
Valuation Date	December 31, 2016 valuation	December 31, 2017 Valuation
Investment rate of return:	7.25%, net of pension plan investment expense, including inflation	7.00%, net of pension plan investment expense, including inflation
Inflation rate:	3.00%	2.75%
Real across-the-board salary increase:	0.50%	0.50%
Projected salary increases:	General: 4.25% to 13.50% and Safety: 5.00% to 17.50%, vary by service, including inflation	General: 4.25% to 12.25% and Safety: 4.75% to 17.25%, vary by service, including inflation
Cost of living adjustments:	3.00% of retirement income	2.75% of retirement income
Other assumptions:	Same as those used in the December 31, 2016 funding actuarial valuation	Same as those used in the December 31, 2017 funding actuarial valuation

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Determination of proportionate share

Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group

January 1, 2018 to December 31, 2018

	Rate Group #1	Rate Group #1 Percentage	Rate Group #2	Rate Group #2 Percentage	Rate Group #3	Rate Group #3 Percentage
Orange County	\$13,361,000	98.591%	\$252,306,000	87.908%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	2,187,000	0.762%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	2,437,000	0.849%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	7,728,000	100.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	185,000	0.064%	0	0.000%
Local Agency Formation Comm.	0	0.000%	120,000	0.042%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	29,779,000	10.375%	0	0.000%
O.C. IHSS Public Authority	191,000	1.409%	0	0.000%	0	0.000%
Total for all Employers	\$13,552,000	100.000%	\$287,014,000	100.000%	\$7,728,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2018 to December 31, 2018

	Rate Group #4	Rate Group #4 Percentage	Rate Group #5	Rate Group #5 Percentage	Rate Group #9	Rate Group #9 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	1,641,000	100.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	24,725,000	100.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	100.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$0	100.000%	\$24,725,000	100.000%	\$1,641,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2018 to December 31, 2018

	Rate Group #10	Rate Group #10 Percentage	Rate Group #11	Rate Group #11 Percentage	Rate Group #12	Rate Group #12 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	171,000	100.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	169,000	100.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	8,206,000	100.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$8,206,000	100.000%	\$171,000	100.000%	\$169,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2018 to December 31, 2018

	Rate Group #6	Rate Group #6 Percentage	Rate Group #7	Rate Group #7 Percentage	Rate Group #8	Rate Group #8 Percentage
Orange County	\$28,033,000	100.000%	\$143,462,000	100.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	59,905,000	100.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$28,033,000	100.000%	\$143,462,000	100.000%	\$59,905,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2018 to December 31, 2018

	Total Contributions ¹	Total Percentage
Orange County	\$437,162,000	76.079%
O.C. Cemetery District	171,000	0.030%
O.C. Law Library	169,000	0.029%
O.C. Vector Control District	0	0.000%
O.C. Retirement System	2,187,000	0.381%
O.C. Fire Authority	68,111,000	11.854%
Cypress Recreation and Parks	0	0.000%
Department of Education	0	0.000%
Transportation Corridor Agency	1,641,000	0.286%
City of San Juan Capistrano	2,437,000	0.424%
O.C. Sanitation District	7,728,000	1.345%
O.C. Transportation Authority	24,725,000	4.303%
U.C.I.	0	0.000%
O.C. Children and Families Comm.	185,000	0.032%
Local Agency Formation Comm.	120,000	0.021%
Rancho Santa Margarita	0	0.000%
O.C. Superior Court	29,779,000	5.183%
O.C. IHSS Public Authority	191,000	0.033%
Total for all Employers	\$574,606,000	100.000%

Note: Results may not total due to rounding.

¹ Excludes additional contributions of \$23,437,000 made by O.C. Fire Authority towards the reduction of their UAALs, combined contributions of \$3,916,000 made by Cypress Recreation and Parks, Department of Education and U.C.I. and combined employer pick-up contributions of \$164,000.

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Allocation of December 31, 2018 Net Pension Liability

	Rate Group #1	Rate Group #1 Percentage	Rate Group #2	Rate Group #2 Percentage	Rate Group #3	Rate Group #3 Percentage
Orange County	\$71,865,137	62.935%	\$3,246,653,910	87.685%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District ¹	2,492,695	2.183%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	28,844,760	0.779%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks ¹	408,781	0.358%	0	0.000%	0	0.000%
Department of Education ¹	3,517,372	3.080%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	32,142,058	0.868%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	29,029,145	100.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I. ¹	34,808,679	30.483%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	630,610	0.017%	0	0.000%
Local Agency Formation Comm.	0	0.000%	1,582,703	0.043%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	392,760,910	10.608%	0	0.000%
O.C. IHSS Public Authority	<u>1,097,009</u>	<u>0.961%</u>	<u>0</u>	<u>0.000%</u>	<u>0</u>	<u>0.000%</u>
Total for all Employers	\$114,189,673	100.000%	\$3,702,614,951	100.000%	\$29,029,145	100.000%

Note: Results may not total due to rounding.

¹ In determining the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I., we first start by rolling forward the VVAs of these employers as of December 31, 2017 to December 31, 2018 for the actual contributions, benefit payments and return on their VVAs during 2018. Those VVAs are then marked to the Plan's Fiduciary Net Position as of December 31, 2018. The TPLs for these employers are obtained from internal valuation results (by rolling forward their TPLs from December 31, 2017).

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Allocation of December 31, 2018 Net Pension Liability

	Rate Group #4	Rate Group #4 Percentage	Rate Group #5	Rate Group #5 Percentage	Rate Group #9	Rate Group #9 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	13,253,632	100.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	269,788,642	100.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	1,284	100.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$1,284	100.000%	\$269,788,642	100.000%	\$13,253,632	100.000%

Note: Results may not total due to rounding.

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Allocation of December 31, 2018 Net Pension Liability

	Rate Group #10	Rate Group #10 Percentage	Rate Group #11	Rate Group #11 Percentage	Rate Group #12	Rate Group #12 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	962,119	100.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	573,252	100.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	55,836,641	100.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$55,836,641	100.000%	\$962,119	100.000%	\$573,252	100.000%

Note: Results may not total due to rounding.

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Allocation of December 31, 2018 Net Pension Liability

	Rate Group #6	Rate Group #6 Percentage	Rate Group #7	Rate Group #7 Percentage	Rate Group #8	Rate Group #8 Percentage
Orange County	\$289,061,877	100.000%	\$1,310,995,988	100.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	410,894,885	100.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$289,061,877	100.000%	\$1,310,995,988	100.000%	\$410,894,885	100.000%

Note: Results may not total due to rounding.

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Allocation of December 31, 2018 Net Pension Liability

	Total NPL	Total Percentage
Orange County	\$4,918,576,912	79.367%
O.C. Cemetery District	962,119	0.016%
O.C. Law Library	573,252	0.009%
O.C. Vector Control District ²	2,492,695	0.040%
O.C. Retirement System	28,844,760	0.465%
O.C. Fire Authority	466,731,526	7.531%
Cypress Recreation and Parks ²	408,781	0.007%
Department of Education ²	3,517,372	0.057%
Transportation Corridor Agency	13,253,632	0.214%
City of San Juan Capistrano	32,142,058	0.519%
O.C. Sanitation District	29,029,145	0.468%
O.C. Transportation Authority	269,788,642	4.353%
U.C.I. ²	34,808,679	0.562%
O.C. Children and Families Comm.	630,610	0.010%
Local Agency Formation Comm.	1,582,703	0.026%
Rancho Santa Margarita	1,284	0.000%
O.C. Superior Court	392,760,910	6.338%
O.C. IHSS Public Authority	1,097,009	0.018%
Total for all Employers	\$6,197,202,089	100.000%

Note: Results may not total due to rounding.

² In determining the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I., we first start by rolling forward the VVAs of these employers as of December 31, 2017 to December 31, 2018 for the actual contributions, benefit payments and return on their VVAs during 2018. Those VVAs are then marked to the Plan's Fiduciary Net Position as of December 31, 2018. The TPLs for these employers are obtained from internal valuation results (by rolling forward their TPLs from December 31, 2017).

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Notes regarding determination of proportionate share as of December 31, 2018 measurement date

1. Based on the January 1, 2018 through December 31, 2018 employer contributions as provided by OCERS. These contributions have been adjusted to exclude employer paid member contributions and they have not been reduced for discount due to prepaid contributions. (It should be noted that we would also have included transfers made from the County Investment Account had those transfers been made in 2018.)
2.
 - a. The Net Pension Liability (NPL) for each Rate Group is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position (plan assets). The TPL for each Rate Group is obtained from internal valuation results. The Plan's Fiduciary Net Position for each Rate Group is estimated by adjusting the Valuation Value of Assets (VVA) for each membership class by the ratio of the total OCERS Plan's Fiduciary Net Position (excluding the balance of the County Investment Account) to total OCERS VVA. As previously directed by OCERS, the County Investment Account is then allocated among the four County Rate Groups using the proportions of County POB contributions made during 2018. Again, as there were no such County POB contributions made during 2018, we have continued to apply the same proportions determined in 2014 for each of the four County Rate Groups to allocate the \$131,890,000 in the County Investment Account as of December 31, 2018. These amounts are provided in item 3. The O.C. Sanitation District UAAL Deferred Account is allocated entirely to Rate Group #3 and the remaining balance of \$14,589,000 in that account has been transferred at the end of the year to partially offset the actuarial losses (primarily from investment after smoothing) during 2018. The balance of the O.C. Sanitation District UAAL Deferred Account is \$0 at the end of the year after the transfer.
 - b. Each of General Rate Groups #3, #4, #5, #9, #10, #11 and #12 and Safety Rate Groups #6, #7 and #8 have only one active employer, so all of the NPL for that Rate Group is allocated to the corresponding employer.
 - c. For General Rate Groups #1 and #2, the NPL is allocated based on the actual employer contributions within the General Rate Group.
 - The NPL for Rate Group #1 was adjusted by the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I. prior to allocating the net NPL to the other employers in Rate Group #1 as the NPLs for these four employers were calculated separately.

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- Calculate ratio of employer's contributions to the total contributions for the Rate Group. For this purpose, the employer contributions exclude the following amounts:
 - 1) Rate Group #1 (Department of Education): \$301,000
 - 2) Rate Group #1 (U.C.I.): \$2,875,000
 - 3) Rate Group #1 (Cypress Recreation and Parks): \$740,000
 - Multiply this ratio (unrounded) by the NPL for the Rate Group to determine the employer's proportionate share of the NPL for the Rate Group.
 - The UAAL contributions referenced in (i), (ii) and (iii) above are adjusted with interest to December 31, 2018 and are used to reduce the NPL for the three employers as of December 31, 2018.
3. The percentages of contributions by employer are not exactly equal to the percentages we use to allocate the NPL by employer because the NPL for the County has been reduced to reflect the portion of the County Investment Account that has been allocated among the four County Rate Groups. The amounts of the County Investment Account that have been allocated to those Rate Groups are as follows:
- | | |
|----------------|----------------------|
| Rate Group #1: | \$4,873,766 |
| Rate Group #2: | 81,058,036 |
| Rate Group #6: | 8,424,297 |
| Rate Group #7: | <u>37,533,901</u> |
| Total: | \$131,890,000 |
- In addition, the NPL for Rate Group #2 was allocated prior to applying the adjusted balance of the \$1,744,454 in additional UAAL contributions made by O.C. Children and Families Commission on November 15, 2017. That balance is equal to \$1,809,390 as of December 31, 2018 when adjusted with interest for the entire year and UAAL contribution offset starting from July 1, 2018 to December 31, 2018. We would continue to maintain the outstanding balance of the additional UAAL contributions for use in determining the NPL for this employer.
4. If the employer is in several Rate Groups, the employer's total allocated NPL is the sum of its allocated NPL from each Rate Group. Proportionate share of total plan NPL is then the ratio of the employer's total allocated NPL to the total NPL of all employers.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2019 to December 31, 2019

	Rate Group #1	Rate Group #1 Percentage	Rate Group #2	Rate Group #2 Percentage	Rate Group #3	Rate Group #3 Percentage
Orange County	\$13,232,000	98.599%	\$264,402,000	87.836%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	2,503,000	0.832%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	2,444,000	0.812%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	8,056,000	100.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	106,000	0.035%	0	0.000%
Local Agency Formation Comm.	0	0.000%	139,000	0.046%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	31,424,000	10.439%	0	0.000%
O.C. IHSS Public Authority	<u>188,000</u>	<u>1.401%</u>	<u>0</u>	<u>0.000%</u>	<u>0</u>	<u>0.000%</u>
Total for all Employers	\$13,420,000	100.000%	\$301,018,000	100.000%	\$8,056,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2019 to December 31, 2019

	Rate Group #4	Rate Group #4 Percentage	Rate Group #5	Rate Group #5 Percentage	Rate Group #9	Rate Group #9 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	1,248,000	100.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	26,415,000	100.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	100.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$0	100.000%	\$26,415,000	100.000%	\$1,248,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2019 to December 31, 2019

	Rate Group #10	Rate Group #10 Percentage	Rate Group #11	Rate Group #11 Percentage	Rate Group #12	Rate Group #12 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	187,000	100.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	118,000	100.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	8,578,000	100.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$8,578,000	100.000%	\$187,000	100.000%	\$118,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2019 to December 31, 2019

	Rate Group #6	Rate Group #6 Percentage	Rate Group #7	Rate Group #7 Percentage	Rate Group #8	Rate Group #8 Percentage
Orange County	\$30,025,000	100.000%	\$151,060,000	100.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	61,888,000	100.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$30,025,000	100.000%	\$151,060,000	100.000%	\$61,888,000	100.000%

Note: Results may not total due to rounding.

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Actual Contributions (Excluding Employer Paid Member Contributions and Not Reduced for Discount Due to Prepaid Contributions) by Employer and Rate Group January 1, 2019 to December 31, 2019

	Total Contributions ³	Total Percentage
Orange County	\$458,719,000	76.197%
O.C. Cemetery District	187,000	0.031%
O.C. Law Library	118,000	0.020%
O.C. Vector Control District	0	0.000%
O.C. Retirement System	2,503,000	0.416%
O.C. Fire Authority	70,466,000	11.705%
Cypress Recreation and Parks	0	0.000%
Department of Education	0	0.000%
Transportation Corridor Agency	1,248,000	0.207%
City of San Juan Capistrano	2,444,000	0.406%
O.C. Sanitation District	8,056,000	1.338%
O.C. Transportation Authority	26,415,000	4.388%
U.C.I.	0	0.000%
O.C. Children and Families Comm.	106,000	0.018%
Local Agency Formation Comm.	139,000	0.023%
Rancho Santa Margarita	0	0.000%
O.C. Superior Court	31,424,000	5.220%
O.C. IHSS Public Authority	188,000	0.031%
Total for all Employers	\$602,013,000	100.000%

Note: Results may not total due to rounding.

³ Excludes combined additional contributions of \$69,858,000 made by O.C. Fire Authority, Transportation Corridor Agency and O.C. Sanitation District towards the reduction of their UAALs, combined contributions of \$3,934,000 made by O.C. Vector Control District, Department of Education and U.C.I. and combined employer pick-up contributions of \$35,000.

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Allocation of December 31, 2019 Net Pension Liability

	Rate Group #1	Rate Group #1 Percentage	Rate Group #2	Rate Group #2 Percentage	Rate Group #3	Rate Group #3 Percentage
Orange County	\$45,068,171	57.238%	\$2,741,111,450	87.527%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District ⁴	(625,500)	(0.794%)	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	26,824,264	0.857%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks ⁴	262,415	0.333%	0	0.000%	0	0.000%
Department of Education ⁴	3,099,339	3.936%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	26,191,970	0.836%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	(49,446,617)	100.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I. ⁴	30,213,739	38.373%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	(646,472)	(0.021%)	0	0.000%
Local Agency Formation Comm.	0	0.000%	1,489,642	0.048%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	336,766,149	10.753%	0	0.000%
O.C. IHSS Public Authority	719,301	0.914%	0	0.000%	0	0.000%
Total for all Employers	\$78,737,465	100.000%	\$3,131,737,003	100.000%	\$(49,446,617)	100.000%

Note: Results may not total due to rounding.

⁴ In determining the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I., we first start by rolling forward the VVAs of these employers as of December 31, 2018 to December 31, 2019 for the actual contributions, benefit payments and return on their VVAs during 2019. Those VVAs are then marked to the Plan's Fiduciary Net Position as of December 31, 2019. The TPLs for these employers are obtained from internal valuation results (by rolling forward their TPLs from December 31, 2018).

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Allocation of December 31, 2019 Net Pension Liability

	Rate Group #4	Rate Group #4 Percentage	Rate Group #5	Rate Group #5 Percentage	Rate Group #9	Rate Group #9 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	(1,753,164)	100.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	224,284,548	100.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	(2,214)	100.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$(2,214)	100.000%	\$224,284,548	100.000%	\$(1,753,164)	100.000%

Note: Results may not total due to rounding.

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Allocation of December 31, 2019 Net Pension Liability

	Rate Group #10	Rate Group #10 Percentage	Rate Group #11	Rate Group #11 Percentage	Rate Group #12	Rate Group #12 Percentage
Orange County	\$0	0.000%	\$0	0.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	(228,119)	100.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	(74,515)	100.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	32,453,715	100.000%	0	0.000%	0	0.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$32,453,715	100.000%	\$(228,119)	100.000%	\$(74,515)	100.000%

Note: Results may not total due to rounding.

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Allocation of December 31, 2019 Net Pension Liability

	Rate Group #6	Rate Group #6 Percentage	Rate Group #7	Rate Group #7 Percentage	Rate Group #8	Rate Group #8 Percentage
Orange County	\$235,494,376	100.000%	\$1,102,538,243	100.000%	\$0	0.000%
O.C. Cemetery District	0	0.000%	0	0.000%	0	0.000%
O.C. Law Library	0	0.000%	0	0.000%	0	0.000%
O.C. Vector Control District	0	0.000%	0	0.000%	0	0.000%
O.C. Retirement System	0	0.000%	0	0.000%	0	0.000%
O.C. Fire Authority	0	0.000%	0	0.000%	321,941,742	100.000%
Cypress Recreation and Parks	0	0.000%	0	0.000%	0	0.000%
Department of Education	0	0.000%	0	0.000%	0	0.000%
Transportation Corridor Agency	0	0.000%	0	0.000%	0	0.000%
City of San Juan Capistrano	0	0.000%	0	0.000%	0	0.000%
O.C. Sanitation District	0	0.000%	0	0.000%	0	0.000%
O.C. Transportation Authority	0	0.000%	0	0.000%	0	0.000%
U.C.I.	0	0.000%	0	0.000%	0	0.000%
O.C. Children and Families Comm.	0	0.000%	0	0.000%	0	0.000%
Local Agency Formation Comm.	0	0.000%	0	0.000%	0	0.000%
Rancho Santa Margarita	0	0.000%	0	0.000%	0	0.000%
O.C. Superior Court	0	0.000%	0	0.000%	0	0.000%
O.C. IHSS Public Authority	0	0.000%	0	0.000%	0	0.000%
Total for all Employers	\$235,494,376	100.000%	\$1,102,538,243	100.000%	\$321,941,742	100.000%

Note: Results may not total due to rounding.

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Allocation of December 31, 2019 Net Pension Liability

	Total NPL	Total Percentage
Orange County	\$4,124,212,240	81.254%
O.C. Cemetery District	(228,119)	(0.004%)
O.C. Law Library	(74,515)	(0.001%)
O.C. Vector Control District ⁵	(625,500)	(0.012%)
O.C. Retirement System	26,824,264	0.529%
O.C. Fire Authority	354,395,457	6.982%
Cypress Recreation and Parks ⁵	262,415	0.005%
Department of Education ⁵	3,099,339	0.061%
Transportation Corridor Agency	(1,753,164)	(0.035%)
City of San Juan Capistrano	26,191,970	0.516%
O.C. Sanitation District	(49,446,617)	(0.974%)
O.C. Transportation Authority	224,284,548	4.419%
U.C.I. ⁵	30,213,739	0.595%
O.C. Children and Families Comm.	(646,472)	(0.013%)
Local Agency Formation Comm.	1,489,642	0.029%
Rancho Santa Margarita	(2,214)	(0.000%)
O.C. Superior Court	336,766,149	6.635%
O.C. IHSS Public Authority	719,301	0.014%
Total for all Employers	\$5,075,682,463	100.000%

Note: Results may not total due to rounding.

⁵ In determining the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I., we first start by rolling forward the VVAs of these employers as of December 31, 2018 to December 31, 2019 for the actual contributions, benefit payments and return on their VVAs during 2019. Those VVAs are then marked to the Plan's Fiduciary Net Position as of December 31, 2019. The TPLs for these employers are obtained from internal valuation results (by rolling forward their TPLs from December 31, 2018).

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Notes regarding determination of proportionate share as of December 31, 2019 measurement date

5. Based on the January 1, 2019 through December 31, 2019 employer contributions as provided by OCERS. These contributions have been adjusted to exclude employer paid member contributions and they have not been reduced for discount due to prepaid contributions. (It should be noted that we would also have included transfers made from the County Investment Account had those transfers been made in 2019.)
6.
 - a. The Net Pension Liability (NPL) for each Rate Group is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position (plan assets). The TPL for each Rate Group is obtained from internal valuation results. The Plan's Fiduciary Net Position for each Rate Group is estimated by adjusting the Valuation Value of Assets (VVA) for each membership class by the ratio of the total OCERS Plan's Fiduciary Net Position (excluding the balance of the County Investment Account and the O.C. Sanitation District UAAL Deferred Account) to total OCERS VVA. As previously directed by OCERS, the County Investment Account is then allocated among the four County Rate Groups using the proportions of County POB contributions made during 2019. Again, as there were no such County POB contributions made during 2019, we have continued to apply the same proportions determined in 2014 for each of the four County Rate Groups to allocate the \$150,416,000 in the County Investment Account as of December 31, 2019. These amounts are provided in item 3. The O.C. Sanitation District UAAL Deferred Account is allocated entirely to Rate Group #3 and the balance of that account has been reduced by from \$30,688,000 to \$12,057,000 at the end of the year to mitigate the additional UAAL due to actuarial losses (and that UAAL was measured on a VVA basis). Nonetheless, the balance of the O.C. Sanitation District UAAL Deferred Account was used to reduce the NPL for the O.C. Sanitation District as of the measurement date.
 - b. Each of General Rate Groups #3, #4, #5, #9, #10, #11 and #12 and Safety Rate Groups #6, #7 and #8 have only one active employer, so all of the NPL for that Rate Group is allocated to the corresponding employer.
 - c. For General Rate Groups #1 and #2, the NPL is allocated based on the actual employer contributions within the General Rate Group.
 - The NPL for Rate Group #1 was adjusted by the NPLs for the O.C. Vector Control District, Cypress Recreation and Parks, Department of Education and U.C.I. prior to allocating the net NPL to the other employers in Rate Group #1 as the NPLs for these four employers were calculated separately.

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- Calculate ratio of employer's contributions to the total contributions for the Rate Group. For this purpose, the employer contributions exclude the following amounts:
 - 1) Rate Group #1 (Department of Education): \$267,000
 - 2) Rate Group #1 (U.C.I.): \$2,789,000
 - 3) Rate Group #1 (Cypress Recreation and Parks): \$878,000
 - Multiply this ratio (unrounded) by the NPL for the Rate Group to determine the employer's proportionate share of the NPL for the Rate Group.
 - The UAAL contributions referenced in (i), (ii) and (iii) above are adjusted with interest to December 31, 2019 and are used to reduced the NPL for the three employers as of December 31, 2019.
7. The percentages of contributions by employer are not exactly equal to the percentages we use to allocate the NPL by employer because the NPL for the County has been reduced to reflect the portion of the County Investment Account that has been allocated among the four County Rate Groups. The amounts of the County Investment Account that have been allocated to those Rate Groups are as follows:

Rate Group #1:	\$5,558,363
Rate Group #2:	92,443,896
Rate Group #6:	9,607,620
Rate Group #7:	<u>42,806,121</u>
Total:	\$150,416,000

In addition, the NPL for Rate Group #2 was allocated prior to applying the adjusted balance of the \$1,744,454 in additional UAAL contributions made by O.C. Children and Families Commission on November 15, 2017. That balance is equal to \$1,809,390 as of December 31, 2018 and is equal to \$1,782,458 as of December 31, 2019 when adjusted with interest for the entire year and UAAL contribution offset starting from January 1, 2019 to December 31, 2019. We would continue to maintain the outstanding balance of the additional UAAL contributions for use in determining the NPL for this employer.

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8. If the employer is in several Rate Groups, the employer's total allocated NPL is the sum of its allocated NPL from each Rate Group. Proportionate share of total plan NPL is then the ratio of the employer's total allocated NPL to the total NPL of all employers.

For the active employers, the following items are allocated based on the corresponding proportionate share within each Rate Group:

- a. Net Pension Liability
- b. Service cost
- c. Interest on the Total Pension Liability
- d. Expensed portion of current-period benefit changes
- e. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- f. Expensed portion of current-period changes of assumptions or other inputs
- g. Member contributions
- h. Projected earnings on plan investments
- i. Expensed portion of current-period differences between actual and projected earnings on plan investments
- j. Administrative expense
- k. Recognition of beginning of year deferred outflows of resources as pension expense
- l. Recognition of beginning of year deferred inflows of resources as pension expense

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Pension expense

Total for All Employers

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$499,255,591	\$491,372,822
• Interest on the Total Pension Liability	1,452,644,872	1,379,917,267
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	4,160,905	(19,987,206)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(279,408,000)	(270,234,000)
• Projected earnings on plan investments	(1,012,912,065)	(1,035,650,701)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(234,179,185)	272,055,741
• Administrative expense	19,171,000	18,284,000
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	613,106,124	399,004,768
• Recognition of beginning of year deferred inflows of resources as pension expense	(471,091,023)	(451,049,194)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$590,748,219	\$783,713,497

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

Orange County

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$366,249,523	\$361,704,111
• Interest on the Total Pension Liability	1,076,190,936	1,025,915,198
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(971,449)	2,225,549
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(2,795,814)	(14,167,674)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(213,046,536)	(207,127,558)
• Projected earnings on plan investments	(730,206,990)	(748,179,749)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(168,900,852)	195,956,417
• Administrative expense	13,419,571	13,464,032
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	449,703,448	298,563,409
• Recognition of beginning of year deferred inflows of resources as pension expense	(341,078,002)	(327,351,945)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>7,241,587</u>	<u>5,016,038</u>
Pension Expense	\$455,805,422	\$606,017,828

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Cemetery District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$351,892	\$348,025
• Interest on the Total Pension Liability	730,794	708,227
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(83,319)	24,792
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(153,000)	(141,000)
• Projected earnings on plan investments	(684,372)	(696,211)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(155,024)	185,536
• Administrative expense	6,821	6,553
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	415,056	232,446
• Recognition of beginning of year deferred inflows of resources as pension expense	(301,651)	(301,651)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>0</u>	<u>0</u>
Pension Expense	\$127,197	\$366,717

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Law Library

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$303,555	\$322,890
• Interest on the Total Pension Liability	757,369	710,772
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	8,931	(59,333)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(159,000)	(159,000)
• Projected earnings on plan investments	(701,619)	(726,252)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(158,795)	193,384
• Administrative expense	5,567	6,897
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	862,354	782,777
• Recognition of beginning of year deferred inflows of resources as pension expense	(686,027)	(626,694)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>(372,508)</u>	<u>(372,508)</u>
Pension Expense	\$(140,173)	\$72,933

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Vector Control District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	1,838,973	1,848,812
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(63,304)	(196,473)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(1,749,918)	(1,848,408)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(395,310)	497,306
• Administrative expense	18,033	0
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	1,062,703	721,308
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,062,441)	(865,968)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$(351,264)	\$156,577

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Retirement System

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$2,204,272	\$1,995,184
• Interest on the Total Pension Liability	6,886,777	5,980,605
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	449,510	368,482
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(10,876)	(79,280)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(1,499,664)	(1,344,479)
• Projected earnings on plan investments	(4,653,533)	(4,355,868)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(1,072,280)	1,144,155
• Administrative expense	81,847	75,152
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	2,728,584	1,591,215
• Recognition of beginning of year deferred inflows of resources as pension expense	(2,347,848)	(2,056,153)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>703,821</u>	<u>335,339</u>
Pension Expense	\$3,470,610	\$3,654,352

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Fire Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$58,846,217	\$57,116,725
• Interest on the Total Pension Liability	143,191,634	132,967,401
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	4,913,957	(2,961,807)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(25,523,000)	(23,623,000)
• Projected earnings on plan investments	(107,793,739)	(107,511,750)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(24,840,760)	28,451,707
• Administrative expense	2,331,831	2,443,231
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	60,681,021	37,792,896
• Recognition of beginning of year deferred inflows of resources as pension expense	(44,682,965)	(41,721,158)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$67,124,196	\$82,954,245

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

Cypress Recreation and Parks

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	308,444	300,934
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	20,711	3,345
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(271,334)	(259,495)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(60,969)	70,660
• Administrative expense	0	15,899
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	807,951	733,946
• Recognition of beginning of year deferred inflows of resources as pension expense	(800,458)	(800,458)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>0</u>	<u>0</u>
Pension Expense	\$4,345	\$64,831

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

Department of Education

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	846,896	856,137
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	44,534	34,113
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(590,740)	(675,747)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(134,644)	180,008
• Administrative expense	5,494	6,477
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	596,709	382,586
• Recognition of beginning of year deferred inflows of resources as pension expense	(496,921)	(504,215)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>0</u>	<u>0</u>
Pension Expense	\$271,328	\$279,359

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

Transportation Corridor Agency

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$1,628,951	\$1,693,722
• Interest on the Total Pension Liability	3,487,510	3,137,101
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	111,634	(31,117)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(748,000)	(840,000)
• Projected earnings on plan investments	(2,907,084)	(2,396,991)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(683,108)	624,025
• Administrative expense	303,189	51,803
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	1,317,753	806,977
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,134,685)	(1,103,568)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$1,376,160	\$1,941,952

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

City of San Juan Capistrano

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$2,152,313	\$2,223,256
• Interest on the Total Pension Liability	6,724,443	6,664,259
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(197,603)	(24,181)
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(10,620)	(88,342)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(1,464,314)	(1,498,168)
• Projected earnings on plan investments	(4,543,841)	(4,853,795)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(1,047,004)	1,274,945
• Administrative expense	79,918	83,742
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	2,664,267	1,773,109
• Recognition of beginning of year deferred inflows of resources as pension expense	(2,292,505)	(2,291,196)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>(100,772)</u>	<u>(76,591)</u>
Pension Expense	\$1,964,282	\$3,187,038

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Sanitation District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$17,019,396	\$16,436,454
• Interest on the Total Pension Liability	49,777,766	46,856,849
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	1,527,660	558,074
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(7,999,000)	(7,825,000)
• Projected earnings on plan investments	(46,959,052)	(48,767,818)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(10,929,917)	13,140,559
• Administrative expense	1,103,626	327,747
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	25,093,591	12,786,061
• Recognition of beginning of year deferred inflows of resources as pension expense	(18,624,486)	(18,624,486)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>372,508</u>	<u>372,508</u>
Pension Expense	\$10,382,092	\$15,260,948

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Transportation Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$22,489,191	\$21,969,087
• Interest on the Total Pension Liability	67,523,163	64,268,721
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	434,162	(2,053,634)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(9,822,000)	(9,162,000)
• Projected earnings on plan investments	(48,088,883)	(49,856,360)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(11,118,571)	13,108,760
• Administrative expense	721,096	705,212
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	29,054,915	18,923,272
• Recognition of beginning of year deferred inflows of resources as pension expense	(24,856,850)	(22,803,216)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$26,336,223	\$35,099,842

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

U.C.I

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	7,314,482	7,453,561
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	217,420	115,980
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(4,883,758)	(5,577,083)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(1,113,640)	1,483,017
• Administrative expense	57,294	61,773
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	3,586,875	1,987,876
• Recognition of beginning of year deferred inflows of resources as pension expense	(3,010,050)	(3,684,569)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Pension Expense	\$2,168,623	\$1,840,555

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Children and Families Comm.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$(53,122)	\$43,618
• Interest on the Total Pension Liability	(165,973)	130,749
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(189,450)	(61,098)
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	262	(1,733)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	36,142	(29,393)
• Projected earnings on plan investments	112,151	(95,229)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	25,842	25,014
• Administrative expense	(1,973)	1,643
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	(65,760)	34,787
• Recognition of beginning of year deferred inflows of resources as pension expense	56,584	(44,952)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>(350,297)</u>	<u>(289,199)</u>
Pension Expense	\$(595,594)	\$(285,793)

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

Local Agency Formation Comm.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$122,410	\$109,475
• Interest on the Total Pension Liability	382,446	328,154
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	26,906	2,334
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(604)	(4,350)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(83,281)	(73,771)
• Projected earnings on plan investments	(258,426)	(239,005)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(59,547)	62,779
• Administrative expense	4,545	4,124
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	151,527	87,309
• Recognition of beginning of year deferred inflows of resources as pension expense	(130,384)	(112,820)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>31,249</u>	<u>28,915</u>
Pension Expense	\$186,841	\$193,144

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

Rancho Santa Margarita

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$0	\$0
• Interest on the Total Pension Liability	3,220	3,220
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	133	132
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	0	0
• Projected earnings on plan investments	(3,076)	(3,328)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(884)	586
• Administrative expense	0	0
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	3,874	4,028
• Recognition of beginning of year deferred inflows of resources as pension expense	(3,362)	(3,362)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>0</u>	<u>0</u>
Pension Expense	\$(95)	\$1,276

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. Superior Court

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$27,673,610	\$27,167,159
• Interest on the Total Pension Liability	86,460,274	81,434,123
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	878,732	(2,508,769)
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(136,545)	(1,079,499)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(18,827,583)	(18,306,917)
• Projected earnings on plan investments	(58,422,939)	(59,311,106)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(13,461,975)	15,579,236
• Administrative expense	1,027,549	1,023,291
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	34,256,104	21,666,565
• Recognition of beginning of year deferred inflows of resources as pension expense	(29,476,139)	(27,997,338)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>(7,563,741)</u>	<u>(5,054,972)</u>
Pension Expense	\$22,407,347	\$32,611,773

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Pension expense (continued)

O.C. IHSS Public Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Service cost	\$267,383	\$243,116
• Interest on the Total Pension Liability	385,718	352,444
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	3,354	(2,317)
• Expensed portion of current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	(17,417)	(400)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions ¹	(118,764)	(103,714)
• Projected earnings on plan investments	(304,912)	(296,506)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	(71,747)	77,647
• Administrative expense	6,592	6,424
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	185,152	134,201
• Recognition of beginning of year deferred inflows of resources as pension expense	(162,833)	(155,445)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>38,153</u>	<u>40,470</u>
Pension Expense	\$210,679	\$295,920

¹ Member contributions include employer paid member contributions, if any.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources

Total For All Employers

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$28,080,600	\$30,727,591
• Changes of assumptions or other inputs	419,380,310	585,314,769
• Difference between projected and actual earnings on pension plan investments	816,168,467	1,258,427,015
• Difference between expected and actual experience in the Total Pension Liability	55,757,456	18,724,448
• Total Deferred Outflows of Resources	\$1,319,386,833	\$1,893,193,823
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$28,080,600	\$30,727,591
• Changes of assumptions or other inputs	8,813,853	57,779,687
• Difference between projected and actual earnings on pension plan investments	1,383,375,142	691,386,466
• Difference between expected and actual experience in the Total Pension Liability	298,374,305	454,047,301
• Total Deferred Inflows of Resources	\$1,718,643,900	\$1,233,941,045
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$142,015,101
2021	\$(197,815,147)	32,203,133
2022	(106,623,593)	123,394,687
2023	148,545,006	378,563,286
2024	(246,941,719)	(16,923,429)
2025	3,578,386	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Orange County

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$18,170,596	\$25,452,653
• Changes of assumptions or other inputs	322,870,826	451,779,162
• Difference between projected and actual earnings on pension plan investments	587,160,184	907,051,313
• Difference between expected and actual experience in the Total Pension Liability	13,982,779	10,053,569
• Total Deferred Outflows of Resources	\$942,184,385	\$1,394,336,697
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$4,789,699	\$108,921
• Changes of assumptions or other inputs	6,642,961	43,625,464
• Difference between projected and actual earnings on pension plan investments	997,095,584	498,410,128
• Difference between expected and actual experience in the Total Pension Liability	206,914,979	315,142,849
• Total Deferred Inflows of Resources	\$1,215,443,223	\$857,287,362
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$115,938,471
2021	\$(135,857,568)	36,829,538
2022	(67,712,535)	105,067,064
2023	116,022,910	289,031,435
2024	(182,471,793)	(9,817,173)
2025	(3,239,852)	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Cemetery District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	244,428	325,633
• Difference between projected and actual earnings on pension plan investments	556,607	859,393
• Difference between expected and actual experience in the Total Pension Liability	103,588	134,653
• Total Deferred Outflows of Resources	\$904,623	\$1,319,679
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	5,895	38,647
• Difference between projected and actual earnings on pension plan investments	911,694	450,507
• Difference between expected and actual experience in the Total Pension Liability	582,255	287,311
• Total Deferred Inflows of Resources	\$1,499,844	\$776,465
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$113,405
2021	\$(181,116)	57,227
2022	(145,381)	92,962
2023	18,248	256,591
2024	(215,315)	23,029
2025	(71,657)	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Law Library

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$9,214	\$60,420
• Changes of assumptions or other inputs	214,778	286,133
• Difference between projected and actual earnings on pension plan investments	580,153	1,371,152
• Difference between expected and actual experience in the Total Pension Liability	43,407	0
• Total Deferred Outflows of Resources	\$847,552	\$1,717,705
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$449,137	\$872,851
• Changes of assumptions or other inputs	30,514	200,032
• Difference between projected and actual earnings on pension plan investments	921,702	437,711
• Difference between expected and actual experience in the Total Pension Liability	409,176	774,494
• Total Deferred Inflows of Resources	\$1,810,529	\$2,285,088
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$(196,181)
2021	\$(666,537)	(516,673)
2022	(145,192)	4,672
2023	44,331	194,195
2024	(203,262)	(53,396)
2025	7,683	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Vector Control District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	435,411	580,065
• Difference between projected and actual earnings on pension plan investments	1,491,917	2,352,302
• Difference between expected and actual experience in the Total Pension Liability	170,770	228,434
• Total Deferred Outflows of Resources	\$2,098,098	\$3,160,801
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
• Difference between projected and actual earnings on pension plan investments	2,404,780	1,278,263
• Difference between expected and actual experience in the Total Pension Liability	1,511,789	1,811,847
• Total Deferred Inflows of Resources	\$3,916,569	\$3,090,110
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$262
2021	\$(821,430)	(362,816)
2022	(349,110)	109,504
2023	41,921	500,535
2024	(635,409)	(176,794)
2025	(54,443)	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Retirement System

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$3,962,866	\$2,594,615
• Changes of assumptions or other inputs	2,018,023	2,445,231
• Difference between projected and actual earnings on pension plan investments	3,773,899	5,304,404
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Outflows of Resources	\$9,754,788	\$10,344,250
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$218,343	\$330,892
• Changes of assumptions or other inputs	62,731	374,031
• Difference between projected and actual earnings on pension plan investments	6,362,377	2,919,627
• Difference between expected and actual experience in the Total Pension Liability	1,273,114	1,894,371
• Total Deferred Inflows of Resources	\$7,916,565	\$5,518,921
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$1,050,111
2021	\$27,575	652,140
2022	246,502	826,474
2023	1,558,040	2,027,486
2024	(371,122)	269,118
2025	377,228	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Fire Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹⁽¹⁾	\$0	\$0
• Changes of assumptions or other inputs	29,267,911	44,462,250
• Difference between projected and actual earnings on pension plan investments	85,355,117	130,602,672
• Difference between expected and actual experience in the Total Pension Liability	24,478,887	703,034
• Total Deferred Outflows of Resources	\$139,101,915	\$175,767,956
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	130,986	858,688
• Difference between projected and actual earnings on pension plan investments	144,282,784	69,359,310
• Difference between expected and actual experience in the Total Pension Liability	38,937,675	58,320,223
• Total Deferred Inflows of Resources	\$183,351,445	\$128,538,221
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$15,998,056
2021	\$(22,142,217)	(2,215,414)
2022	(14,700,769)	5,226,034
2023	10,935,776	30,862,579
2024	(22,568,325)	(2,641,520)
2025	4,226,005	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Cypress Recreation and Parks

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	70,336	93,704
• Difference between projected and actual earnings on pension plan investments	211,982	282,642
• Difference between expected and actual experience in the Total Pension Liability	2,252,572	2,865,838
• Total Deferred Outflows of Resources	\$2,534,890	\$3,242,184
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
• Difference between projected and actual earnings on pension plan investments	1,844,790	2,401,373
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Inflows of Resources	\$1,844,790	\$2,401,373
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$7,493
2021	\$(32,765)	7,493
2022	(32,764)	7,494
2023	767,695	807,953
2024	(29,879)	10,378
2025	17,813	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Department of Education

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	177,787	236,853
• Difference between projected and actual earnings on pension plan investments	540,022	872,456
• Difference between expected and actual experience in the Total Pension Liability	380,618	369,390
• Total Deferred Outflows of Resources	\$1,098,427	\$1,478,699
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	10,085	66,119
• Difference between projected and actual earnings on pension plan investments	858,174	499,033
• Difference between expected and actual experience in the Total Pension Liability	678,741	940,191
• Total Deferred Inflows of Resources	\$1,547,000	\$1,505,343
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$99,788
2021	\$(237,096)	(146,986)
2022	(166,861)	(76,751)
2023	(22,380)	67,730
2024	(60,537)	29,575
2025	38,301	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Transportation Corridor Agency

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	880,388	1,172,875
• Difference between projected and actual earnings on pension plan investments	1,872,077	2,855,534
• Difference between expected and actual experience in the Total Pension Liability	615,484	114,750
• Total Deferred Outflows of Resources	\$3,367,949	\$4,143,159
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	28,116	184,306
• Difference between projected and actual earnings on pension plan investments	3,760,486	1,588,385
• Difference between expected and actual experience in the Total Pension Liability	940,190	1,358,355
• Total Deferred Inflows of Resources	\$4,728,792	\$3,131,046
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$183,068
2021	\$(519,370)	52,104
2022	(387,284)	184,190
2023	49,310	620,784
2024	(599,506)	(28,033)
2025	96,007	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

City of San Juan Capistrano

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹⁽¹⁾	\$887,243	\$1,434,064
• Changes of assumptions or other inputs	1,970,455	2,724,750
• Difference between projected and actual earnings on pension plan investments	3,684,941	5,910,760
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Outflows of Resources	\$6,542,639	\$10,069,574
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,975,710	\$1,662,955
• Changes of assumptions or other inputs	61,252	416,787
• Difference between projected and actual earnings on pension plan investments	6,212,405	3,253,375
• Difference between expected and actual experience in the Total Pension Liability	1,243,105	2,110,920
• Total Deferred Inflows of Resources	\$9,492,472	\$7,444,037
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$285,103
2021	\$(1,477,829)	(218,881)
2022	(718,794)	558,425
2023	771,469	2,093,974
2024	(1,345,609)	(93,084)
2025	(179,070)	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Sanitation District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$449,137	\$872,851
• Changes of assumptions or other inputs	12,311,067	16,401,122
• Difference between projected and actual earnings on pension plan investments	39,421,678	59,867,140
• Difference between expected and actual experience in the Total Pension Liability	9,606,499	2,740,145
• Total Deferred Outflows of Resources	\$61,788,381	\$79,881,258
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$9,214	\$60,420
• Changes of assumptions or other inputs	372,978	2,445,073
• Difference between projected and actual earnings on pension plan investments	64,842,567	32,687,002
• Difference between expected and actual experience in the Total Pension Liability	5,416,832	10,405,119
• Total Deferred Inflows of Resources	\$70,641,591	\$45,597,614
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$6,841,613
2021	\$(5,922,898)	3,479,359
2022	(2,855,374)	6,546,883
2023	7,473,909	16,876,166
2024	(8,862,635)	539,623
2025	1,313,788	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Transportation Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	21,920,909	29,203,603
• Difference between projected and actual earnings on pension plan investments	39,326,279	60,889,928
• Difference between expected and actual experience in the Total Pension Liability	2,331,117	429,659
• Total Deferred Outflows of Resources	\$63,578,305	\$90,523,190
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	595,454	3,903,525
• Difference between projected and actual earnings on pension plan investments	66,279,519	33,794,383
• Difference between expected and actual experience in the Total Pension Liability	21,768,391	31,328,024
• Total Deferred Inflows of Resources	\$88,643,364	\$69,025,932
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$4,198,065
2021	\$(10,403,779)	280,630
2022	(7,287,395)	3,397,014
2023	4,762,038	15,446,447
2024	(12,509,305)	(1,824,898)
2025	373,382	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

U.C.I.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	1,425,191	1,898,677
• Difference between projected and actual earnings on pension plan investments	4,449,052	7,212,467
• Difference between expected and actual experience in the Total Pension Liability	1,790,493	1,083,806
• Total Deferred Outflows of Resources	\$7,664,736	\$10,194,950
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	79,608	521,873
• Difference between projected and actual earnings on pension plan investments	7,119,985	4,163,238
• Difference between expected and actual experience in the Total Pension Liability	2,432,087	3,502,059
• Total Deferred Inflows of Resources	\$9,631,680	\$8,187,170
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$576,825
2021	\$(1,008,659)	(112,439)
2022	(736,329)	159,891
2023	384,924	1,281,144
2024	(793,861)	102,359
2025	186,981	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Children and Families Comm.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	(48,635)	53,458
• Difference between projected and actual earnings on pension plan investments	(90,952)	115,966
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Outflows of Resources	\$(139,587)	\$169,424
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,652,118	\$1,081,690
• Changes of assumptions or other inputs	(1,512)	8,177
• Difference between projected and actual earnings on pension plan investments	(153,335)	63,829
• Difference between expected and actual experience in the Total Pension Liability	(30,682)	41,415
• Total Deferred Inflows of Resources	\$1,466,589	\$1,195,111
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$(342,726)
2021	\$(471,966)	(304,205)
2022	(411,273)	(221,833)
2023	(342,312)	(99,138)
2024	(217,925)	(57,785)
2025	(162,700)	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Local Agency Formation Comm.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ⁽¹⁾	\$246,158	\$204,067
• Changes of assumptions or other inputs	112,068	134,169
• Difference between projected and actual earnings on pension plan investments	209,577	291,051
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Outflows of Resources	\$567,803	\$629,287
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$77,447	\$134,872
• Changes of assumptions or other inputs	3,484	20,523
• Difference between projected and actual earnings on pension plan investments	353,324	160,199
• Difference between expected and actual experience in the Total Pension Liability	70,700	103,944
• Total Deferred Inflows of Resources	\$504,955	\$419,538
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$50,250
2021	\$(24,951)	7,729
2022	39,056	68,962
2023	61,377	84,409
2024	(35,256)	(1,601)
2025	22,622	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Rancho Santa Margarita

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
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	480	639
• Difference between projected and actual earnings on pension plan investments	3,008	6,148
• Difference between expected and actual experience in the Total Pension Liability	<u>1,242</u>	<u>1,170</u>
• Total Deferred Outflows of Resources	\$4,730	\$7,957
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	29	203
• Difference between projected and actual earnings on pension plan investments	5,535	2,995
• Difference between expected and actual experience in the Total Pension Liability	<u>5,388</u>	<u>7,578</u>
• Total Deferred Inflows of Resources	\$10,952	\$10,776
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$512
2021	\$(1,764)	(1,013)
2022	(2,772)	(2,021)
2023	(1,159)	(408)
2024	(642)	111
2025	115	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. Superior Court

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$4,270,636	\$0
• Changes of assumptions or other inputs	25,335,345	33,295,171
• Difference between projected and actual earnings on pension plan investments	47,379,540	72,226,722
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Outflows of Resources	\$76,985,521	\$105,521,893
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$18,899,874	\$26,463,615
• Changes of assumptions or other inputs	787,559	5,092,945
• Difference between projected and actual earnings on pension plan investments	79,876,681	39,754,715
• Difference between expected and actual experience in the Total Pension Liability	15,983,355	25,794,457
• Total Deferred Inflows of Resources	\$115,547,469	\$97,105,732
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$(2,848,528)
2021	\$(18,032,264)	(5,329,545)
2022	(11,227,431)	1,391,461
2023	5,992,846	18,403,968
2024	(15,933,378)	(3,201,195)
2025	638,279	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

O.C. IHSS Public Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
Deferred Outflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$84,750	\$108,921
• Changes of assumptions or other inputs	173,542	221,274
• Difference between projected and actual earnings on pension plan investments	243,386	354,965
• Difference between expected and actual experience in the Total Pension Liability	0	0
• Total Deferred Outflows of Resources	\$501,678	\$685,160
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$9,058	\$11,375
• Changes of assumptions or other inputs	3,713	23,294
• Difference between projected and actual earnings on pension plan investments	396,090	162,393
• Difference between expected and actual experience in the Total Pension Liability	237,210	224,144
• Total Deferred Inflows of Resources	\$646,071	\$421,206
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
2020	N/A	\$59,514
2021	\$(40,513)	44,885
2022	(29,887)	54,262
2023	26,063	107,436
2024	(87,960)	(2,143)
2025	(12,096)	0
2026	0	0
Thereafter	0	0

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

Section 2: GASB 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, 2019. 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., 2019) is recognized over the average of the expected remaining service lives of all employees that are provided with pensions through OCERS which is 5.86 years determined as of December 31, 2018 (the beginning of the measurement period ended December 31, 2019). This is described in Paragraph 33a. of GASB 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, 2019 is recognized over the same period.

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 service lives of all employees is 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 nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability

Total for All Employers

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	100.000%	\$5,291,126,088	\$1,494,745,333	353.98%	67.16%
2015	100.000%	5,082,480,673	1,513,206,357	335.87%	69.42%
2016	100.000%	5,716,604,741	1,521,035,820	375.84%	67.10%
2017	100.000%	5,191,216,603	1,602,675,426	323.91%	71.16%
2018	100.000%	4,952,099,401	1,678,322,080	295.06%	74.93%
2019	100.000%	6,197,202,089	1,718,798,287	360.55%	70.03%
2020	100.000%	5,075,682,463	1,783,054,087	284.66%	76.67%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

Orange County

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	74.198%	\$3,925,918,613	\$1,086,993,804	361.17%	66.88%
2015	76.680%	3,897,232,634	1,107,550,873	351.88%	68.16%
2016	76.813%	4,391,070,880	1,117,547,827	392.92%	65.66%
2017	77.898%	4,043,855,643	1,199,272,843	337.19%	69.56%
2018	80.445%	3,983,695,231	1,246,487,036	319.59%	72.85%
2019	79.367%	4,918,576,912	1,271,800,976	386.74%	68.06%
2020	81.254%	4,124,212,240	1,312,799,835	314.15%	74.47%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Cemetery District

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.034%	\$1,820,018	\$1,183,960	153.72%	76.02%
2015	(0.002%)	(95,350)	1,202,916	(7.93%)	101.24%
2016	0.009%	533,906	1,247,006	42.82%	93.62%
2017	0.004%	222,409	1,288,388	17.26%	97.47%
2018	(0.004%)	(173,677)	1,419,045	(12.24%)	101.78%
2019	0.016%	962,119	1,518,808	63.35%	91.02%
2020	(0.004%)	(228,119)	1,595,506	(14.30%)	102.07%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Law Library

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.063%	\$3,314,766	\$1,191,662	278.16%	63.14%
2015	0.063%	3,221,570	1,193,852	269.85%	66.76%
2016	0.061%	3,472,003	1,153,022	301.12%	62.38%
2017	0.034%	1,770,282	1,106,587	159.98%	80.96%
2018	(0.001%)	(36,317)	1,095,599	(3.31%)	100.35%
2019	0.009%	573,252	1,075,119	53.32%	94.64%
2020	(0.001%)	(74,515)	1,057,915	(7.04%)	100.66%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Vector Control District

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.047%	\$2,464,723	\$0	N/A	91.24%
2015	0.057%	2,900,367	0	N/A	89.85%
2016	0.034%	1,941,891	0	N/A	92.66%
2017	0.032%	1,669,793	0	N/A	93.78%
2018	0.024%	1,166,920	0	N/A	95.89%
2019	0.040%	2,492,695	0	N/A	90.92%
2020	(0.012%)	(625,500)	0	N/A	102.29%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Retirement System

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.402%	\$21,259,813	\$5,368,550	396.01%	64.40%
2015	0.406%	20,656,114	5,655,725	365.22%	67.15%
2016	0.433%	24,747,342	6,063,327	408.15%	64.73%
2017	0.422%	21,886,393	6,190,905	353.52%	68.69%
2018	0.433%	21,427,080	6,486,488	330.33%	71.95%
2019	0.465%	28,844,760	7,501,588	384.52%	67.06%
2020	0.528%	26,824,264	8,491,615	315.89%	73.18%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Fire Authority

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	8.366%	\$442,651,348	\$129,689,221	341.32%	69.66%
2015	9.188%	466,968,323	129,187,729	361.46%	70.35%
2016	9.056%	517,669,806	129,452,647	399.89%	68.90%
2017	9.043%	469,430,660	124,514,004	377.01%	73.11%
2018	7.485%	370,674,668	148,890,685	248.96%	80.44%
2019	7.531%	466,731,526	155,479,486	300.19%	76.63%
2020	6.982%	354,395,457	164,583,742	215.33%	83.51%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

Cypress Recreation and Parks

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.000%	\$0	\$0	N/A	N/A
2015	0.000%	0	0	N/A	N/A
2016	0.000%	0	0	N/A	N/A
2017	0.000%	0	0	N/A	N/A
2018	0.015%	718,340	0	N/A	83.78%
2019	0.007%	408,781	0	N/A	90.81%
2020	0.005%	262,415	0	N/A	94.23%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

Department of Education

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.051%	\$2,691,224	\$62,538	4303.34%	81.08%
2015	0.072%	3,637,615	0	N/A	75.31%
2016	0.075%	4,306,689	0	N/A	69.50%
2017	0.085%	4,415,517	0	N/A	68.18%
2018	0.051%	2,530,324	0	N/A	80.00%
2019	0.057%	3,517,372	0	N/A	71.79%
2020	0.061%	3,099,339	0	N/A	74.84%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

Transportation Corridor Agency

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.215%	\$11,359,334	\$6,054,822	187.61%	66.44%
2015	0.210%	10,682,807	6,118,067	174.61%	69.62%
2016	0.222%	12,713,136	6,088,331	208.81%	66.45%
2017	0.239%	12,423,364	6,431,272	193.17%	69.93%
2018	0.207%	10,242,769	6,775,031	151.18%	76.84%
2019	0.214%	13,253,632	6,609,886	200.51%	71.83%
2020	(0.035%)	(1,753,164)	6,809,655	(25.75%)	103.35%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

City of San Juan Capistrano

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.535%	\$28,312,625	\$6,324,207	447.69%	64.40%
2015	0.548%	27,866,378	6,863,345	406.02%	67.15%
2016	0.512%	29,249,120	6,464,876	452.43%	64.73%
2017	0.483%	25,089,009	6,636,488	378.05%	68.69%
2018	0.528%	26,138,852	7,227,226	361.67%	71.95%
2019	0.519%	32,142,058	7,253,654	443.12%	67.06%
2020	0.516%	26,191,970	7,294,439	359.07%	73.18%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Sanitation District

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	3.832%	\$202,747,516	\$58,954,754	343.90%	63.14%
2015	1.130%	57,418,760	58,641,163	97.92%	89.61%
2016	0.742%	42,439,759	59,789,927	70.98%	92.74%
2017	(0.200%)	(10,384,510)	60,000,017	(17.31%)	101.70%
2018	(0.799%)	(39,571,102)	62,341,796	(63.47%)	105.96%
2019	0.468%	29,029,145	66,475,479	43.67%	95.86%
2020	(0.974%)	(49,446,617)	71,395,906	(69.26%)	106.64%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Transportation Authority

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	4.112%	\$217,568,793	\$92,199,745	235.98%	71.77%
2015	4.006%	203,591,950	95,061,437	214.17%	74.00%
2016	4.377%	250,192,983	93,109,984	268.71%	69.82%
2017	4.436%	230,260,478	94,507,309	243.64%	73.17%
2018	4.283%	212,117,162	94,528,116	224.40%	77.15%
2019	4.353%	269,788,642	97,229,545	277.48%	71.97%
2020	4.419%	224,284,548	101,980,885	219.93%	77.80%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

U.C.I.

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.609%	\$32,214,491	\$643,375	5007.11%	74.44%
2015	0.523%	26,578,391	574,780	4624.10%	77.81%
2016	0.633%	36,184,065	285,025	12695.05%	69.50%
2017	0.696%	36,113,699	43,707	82626.81%	68.96%
2018	0.558%	27,644,960	14,874	185860.97%	75.13%
2019	0.562%	34,808,679	0	N/A	67.93%
2020	0.595%	30,213,739	0	N/A	71.62%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Children and Families Comm.

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.087%	\$4,590,845	\$1,116,074	411.34%	64.40%
2015	0.078%	3,957,425	1,043,030	379.42%	67.15%
2016	0.071%	4,066,523	1,042,786	389.97%	64.73%
2017	0.061%	3,158,290	925,031	341.43%	68.69%
2018	0.019%	962,204	849,266	113.30%	90.09%
2019	0.010%	630,610	966,061	65.28%	91.49%
2020	(0.013%)	(646,472)	1,061,044	(60.93%)	115.26%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

Local Agency Formation Comm.

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.022%	\$1,187,537	\$273,719	433.85%	64.40%
2015	0.026%	1,303,484	334,804	389.33%	67.15%
2016	0.020%	1,156,534	287,698	402.00%	64.73%
2017	0.026%	1,340,888	374,792	357.77%	68.69%
2018	0.026%	1,268,133	394,760	321.24%	71.95%
2019	0.026%	1,582,703	419,538	377.25%	67.06%
2020	0.029%	1,489,642	475,099	313.54%	73.18%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

Rancho Santa Margarita

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	(0.000%)	\$(4,181)	\$0	N/A	108.66%
2015	0.000%	1,729	0	N/A	96.78%
2016	0.000%	6,660	0	N/A	88.06%
2017	0.000%	9,332	0	N/A	82.95%
2018	(0.000%)	(2,320)	0	N/A	104.91%
2019	0.000%	1,284	0	N/A	97.28%
2020	(0.000%)	(2,214)	0	N/A	104.69%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. Superior Court

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	7.415%	\$392,321,750	\$103,987,082	377.28%	64.40%
2015	7.002%	355,886,410	99,034,265	359.36%	67.15%
2016	6.926%	395,957,480	97,656,241	405.46%	64.73%
2017	6.726%	349,173,850	100,413,439	347.74%	68.69%
2018	6.716%	332,589,831	100,683,255	330.33%	71.95%
2019	6.338%	392,760,910	101,374,099	387.44%	67.06%
2020	6.635%	336,766,149	104,356,239	322.71%	73.18%

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

Section 2: GASB 68 Information

Schedule of proportionate share of the net pension liability (continued)

O.C. IHSS Public Authority

Reporting Date for Employer under GASB 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's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.013%	\$706,873	\$701,820	100.72%	73.15%
2015	0.013%	672,066	744,371	90.29%	75.26%
2016	0.016%	895,964	847,123	105.77%	73.52%
2017	0.015%	781,506	970,644	80.51%	79.30%
2018	0.014%	706,343	1,128,903	62.57%	84.20%
2019	0.018%	1,097,009	1,094,048	100.27%	77.97%
2020	0.014%	719,301	1,152,206	62.43%	86.11%

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

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability

Total for All Employer

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$6,197,202,089	\$4,952,099,401
• Pension Expense	590,748,219	783,713,497
• Employer Contributions	(653,758,000)	(580,741,000)
• New Net Deferred Inflows/Outflows	(916,494,744)	990,085,765
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(142,015,101)	52,044,426
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$5,075,682,463	\$6,197,202,089

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

Orange County

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$4,918,576,912	\$3,983,695,231
• Pension Expense	455,805,422	606,017,828
• Employer Contributions	(439,861,920)	(418,974,842)
• New Net Deferred Inflows/Outflows	(689,191,062)	714,262,376
• Change in Allocation of Prior Deferred Inflows/Outflows	(528,831)	(1,123,621)
• New Net Deferred Flows Due to Change in Proportion ¹	(4,721,248)	10,927,442
• Recognition of Prior Deferred Inflows/Outflows	(108,625,446)	28,788,536
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>(7,241,587)</u>	<u>(5,016,038)</u>
• Ending Net Pension Liability	\$4,124,212,240	\$4,918,576,912

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Cemetery District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$962,119	\$(173,677)
• Pension Expense	127,197	366,717
• Employer Contributions	(179,000)	(164,000)
• New Net Deferred Inflows/Outflows	(1,025,030)	863,874
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(113,405)	69,205
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>0</u>	<u>0</u>
• Ending Net Pension Liability	\$(228,119)	\$962,119

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Law Library

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$573,252	\$(36,317)
• Pension Expense	(140,173)	72,933
• Employer Contributions	(112,000)	(162,000)
• New Net Deferred Inflows/Outflows	(591,775)	482,211
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(176,327)	(156,083)
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>372,508</u>	<u>372,508</u>
• Ending Net Pension Liability	\$(74,515)	\$573,252

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Vector Control District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$2,492,695	\$1,166,920
• Pension Expense	(351,264)	156,577
• Employer Contributions	(877,769)	0
• New Net Deferred Inflows/Outflows	(1,888,900)	1,024,538
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(262)	144,660
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$(625,500)	\$2,492,695

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Retirement System

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$28,844,760	\$21,427,080
• Pension Expense	3,470,610	3,654,352
• Employer Contributions	(2,504,000)	(2,187,000)
• New Net Deferred Inflows/Outflows	(4,341,978)	4,187,357
• Change in Allocation of Prior Deferred Inflows/Outflows	254,808	(175,876)
• New Net Deferred Flows Due to Change in Proportion ¹	2,184,621	1,809,248
• Recognition of Prior Deferred Inflows/Outflows	(380,736)	464,938
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>(703,821)</u>	<u>(335,339)</u>
• Ending Net Pension Liability	\$26,824,264	\$28,844,760

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Fire Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$466,731,526	\$370,674,668
• Pension Expense	67,124,196	82,954,245
• Employer Contributions	(87,981,000)	(90,090,000)
• New Net Deferred Inflows/Outflows	(75,481,209)	99,264,351
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(15,998,056)	3,928,262
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>0</u>	<u>0</u>
• Ending Net Pension Liability	\$354,395,457	\$466,731,526

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

Cypress Recreation and Parks

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$408,781	\$718,340
• Pension Expense	4,345	64,831
• Employer Contributions	0	(739,966)
• New Net Deferred Inflows/Outflows	(143,218)	299,064
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(7,493)	66,512
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$262,415	\$408,781

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

Department of Education

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$3,517,372	\$2,530,324
• Pension Expense	271,328	279,359
• Employer Contributions	(267,432)	(301,464)
• New Net Deferred Inflows/Outflows	(322,141)	887,524
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(99,788)	121,629
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$3,099,339	\$3,517,372

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

Transportation Corridor Agency

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$13,253,632	\$10,242,769
• Pension Expense	1,376,160	1,941,952
• Employer Contributions	(14,010,000)	(1,571,000)
• New Net Deferred Inflows/Outflows	(2,189,888)	2,343,320
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(183,068)	296,591
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$(1,753,164)	\$13,253,632

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

City of San Juan Capistrano

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$32,142,058	\$26,138,852
• Pension Expense	1,964,282	3,187,038
• Employer Contributions	(2,339,000)	(2,332,000)
• New Net Deferred Inflows/Outflows	(4,239,630)	4,666,022
• Change in Allocation of Prior Deferred Inflows/Outflows	(104,402)	6,197
• New Net Deferred Flows Due to Change in Proportion ¹	(960,348)	(118,729)
• Recognition of Prior Deferred Inflows/Outflows	(371,762)	518,087
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>100,772</u>	<u>76,591</u>
• Ending Net Pension Liability	\$26,191,970	\$32,142,058

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Sanitation District

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$29,029,145	\$(39,571,102)
• Pension Expense	10,382,092	15,260,948
• Employer Contributions	(45,721,000)	(7,429,000)
• New Net Deferred Inflows/Outflows	(36,295,241)	55,302,382
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(6,469,105)	5,838,425
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>(372,508)</u>	<u>(372,508)</u>
• Ending Net Pension Liability	\$(49,446,617)	\$29,029,145

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Transportation Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$269,788,642	\$212,117,162
• Pension Expense	26,336,223	35,099,842
• Employer Contributions	(25,278,000)	(23,660,000)
• New Net Deferred Inflows/Outflows	(42,364,252)	42,351,694
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(4,198,065)	3,879,944
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$224,284,548	\$269,788,642

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

U.C.I.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$34,808,679	\$27,644,960
• Pension Expense	2,168,623	1,840,555
• Employer Contributions	(2,788,839)	(2,875,057)
• New Net Deferred Inflows/Outflows	(3,397,899)	6,501,528
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(576,825)	1,696,693
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$30,213,739	\$34,808,679

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Children and Families Comm.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$630,610	\$962,204
• Pension Expense	(595,594)	(285,793)
• Employer Contributions	(101,000)	(177,000)
• New Net Deferred Inflows/Outflows	104,643	91,545
• Change in Allocation of Prior Deferred Inflows/Outflows	(123,879)	40,279
• New Net Deferred Flows Due to Change in Proportion ¹	(920,725)	(299,989)
• Recognition of Prior Deferred Inflows/Outflows	9,176	10,165
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>350,297</u>	<u>289,199</u>
• Ending Net Pension Liability	\$(646,472)	\$630,610

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

Local Agency Formation Comm.

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$1,582,703	\$1,268,133
• Pension Expense	186,841	193,144
• Employer Contributions	(133,000)	(115,000)
• New Net Deferred Inflows/Outflows	(241,125)	229,759
• Change in Allocation of Prior Deferred Inflows/Outflows	15,850	(1,390)
• New Net Deferred Flows Due to Change in Proportion ¹	130,765	11,461
• Recognition of Prior Deferred Inflows/Outflows	(21,143)	25,511
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>(31,249)</u>	<u>(28,915)</u>
• Ending Net Pension Liability	\$1,489,642	\$1,582,703

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

Rancho Santa Margarita

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$1,284	\$(2,320)
• Pension Expense	(95)	1,276
• Employer Contributions	0	0
• New Net Deferred Inflows/Outflows	(2,891)	2,994
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	(512)	(666)
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	0	0
• Ending Net Pension Liability	\$(2,214)	\$1,284

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. Superior Court

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$392,760,910	\$332,589,831
• Pension Expense	22,407,347	32,611,773
• Employer Contributions	(31,424,000)	(29,779,000)
• New Net Deferred Inflows/Outflows	(54,511,512)	57,016,602
• Change in Allocation of Prior Deferred Inflows/Outflows	478,992	1,254,017
• New Net Deferred Flows Due to Change in Proportion ¹	4,270,636	(12,318,058)
• Recognition of Prior Deferred Inflows/Outflows	(4,779,965)	6,330,773
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>7,563,741</u>	<u>5,054,972</u>
• Ending Net Pension Liability	\$336,766,149	\$392,760,910

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of net pension liability (continued)

O.C. IHSS Public Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
• Beginning Net Pension Liability	\$1,097,009	\$706,343
• Pension Expense	210,679	295,920
• Employer Contributions	(180,040)	(183,671)
• New Net Deferred Inflows/Outflows	(371,636)	308,624
• Change in Allocation of Prior Deferred Inflows/Outflows	7,462	394
• New Net Deferred Flows Due to Change in Proportion ¹	16,299	(11,375)
• Recognition of Prior Deferred Inflows/Outflows	(22,319)	21,244
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>(38,153)</u>	<u>(40,470)</u>
• Ending Net Pension Liability	\$719,301	\$1,097,009

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 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 GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:							
			2015	2016	2017	2018	2019	2020	2021	2022
2015	\$(327,402,088)	6.18	\$(52,977,684)	\$(52,977,684)	\$(52,977,684)	\$(52,977,684)	\$(52,977,684)	\$(52,977,684)	\$(9,535,984)	\$0
2016	(205,462,673)	6.06	N/A	(33,904,732)	(33,904,732)	(33,904,732)	(33,904,732)	(33,904,732)	(33,904,732)	(2,034,281)
2017	(323,565,741)	5.94	N/A	N/A	(54,472,347)	(54,472,347)	(54,472,347)	(54,472,347)	(54,472,347)	(51,204,006)
2018	(66,963,603)	6.01	N/A	N/A	N/A	(11,142,029)	(11,142,029)	(11,142,029)	(11,142,029)	(11,142,029)
2019	(118,124,401)	5.91	N/A	N/A	N/A	N/A	(19,987,206)	(19,987,206)	(19,987,206)	(19,987,206)
2020	24,382,911	5.86	0	0	0	0	0	4,160,905	4,160,905	4,160,905
Net increase (decrease) in pension expense			\$(52,977,684)	\$(86,882,416)	\$(141,354,763)	\$(152,496,792)	\$(172,483,998)	\$(168,323,093)	\$(124,881,393)	\$(80,206,617)

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:							
			2023	2024	2025	2026	2027	2028	2029	2030
2015	\$(327,402,088)	6.18	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	(205,462,673)	6.06	0	0	0	0	0	0	0	0
2017	(323,565,741)	5.94	0	0	0	0	0	0	0	0
2018	(66,963,603)	6.01	(11,142,029)	(11,142,429)	0	0	0	0	0	0
2019	(118,124,401)	5.91	(19,987,206)	(18,188,371)	0	0	0	0	0	0
2020	24,382,911	5.86	4,160,905	4,160,905	3,578,386	0	0	0	0	0
Net increase (decrease) in pension expense			\$(26,968,330)	\$(14,138,895)	\$3,578,386	\$0	\$0	\$0	\$0	\$0

As described in the 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 OCERS (active and inactive employees) determined as of December 31, 2018 (the beginning of the measurement period ending December 31, 2019) is 5.86 years.

Section 2: GASB 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

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:								
			2015	2016	2017	2018	2019	2020	2021	2022	
2015	\$(127,729,220)	6.18	\$(20,668,159)	\$(20,668,159)	\$(20,668,159)	\$(20,668,159)	\$(20,668,159)	\$(20,668,159)	\$(20,668,159)	\$(3,720,266)	\$0
2016	0	6.06	N/A	0	0	0	0	0	0	0	0
2017	0	5.94	N/A	N/A	0	0	0	0	0	0	0
2018	827,197,075	6.01	N/A	N/A	N/A	137,636,784	137,636,784	137,636,784	137,636,784	137,636,784	137,636,784
2019	0	5.91	N/A	N/A	N/A	N/A	0	0	0	0	0
2020	0	5.86	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0
Net increase (decrease) in pension expense			\$(20,668,159)	\$(20,668,159)	\$(20,668,159)	\$116,968,625	\$116,968,625	\$116,968,625	\$133,916,518	\$137,636,784	

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:								
			2023	2024	2025	2026	2027	2028	2029	2030	
2015	\$(127,729,220)	6.18	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	0	6.06	0	0	0	0	0	0	0	0	0
2017	0	5.94	0	0	0	0	0	0	0	0	0
2018	827,197,075	6.01	137,636,784	1,376,371	0	0	0	0	0	0	0
2019	0	5.91	0	0	0	0	0	0	0	0	0
2020	0	5.86	0	0	0	0	0	0	0	0	0
Net increase (decrease) in pension expense			\$137,636,784	\$1,376,371	\$0	\$0	\$0	\$0	\$0	\$0	\$0

As described in the 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 OCERS (active and inactive employees) determined as of December 31, 2018 (the beginning of the measurement period ending December 31, 2019) is 5.86 years.

Section 2: GASB 68 Information

Schedule of recognition of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Pension Plan Investments

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:							
			2015	2016	2017	2018	2019	2020	2021	2022
2015	\$290,045,074	6.18	\$58,009,015	\$58,009,015	\$58,009,015	\$58,009,015	\$58,009,014	\$0	\$0	\$0
2016	851,007,781	6.06	N/A	170,201,555	170,201,555	170,201,555	170,201,555	170,201,561	0	0
2017	(213,982,570)	5.94	N/A	N/A	(42,796,514)	(42,796,514)	(42,796,514)	(42,796,514)	(42,796,514)	0
2018	(1,009,651,572)	6.01	N/A	N/A	N/A	(201,930,314)	(201,930,314)	(201,930,314)	(201,930,314)	(201,930,316)
2019	1,360,278,701	5.91	N/A	N/A	N/A	N/A	272,055,741	272,055,741	272,055,741	272,055,741
2020	(1,170,895,935)	5.86	N/A	N/A	N/A	N/A	N/A	(234,179,185)	(234,179,185)	(234,179,185)
Net increase (decrease) in pension expense			\$58,009,015	\$228,210,570	\$185,414,056	\$(16,516,258)	\$255,539,482	\$(36,648,711)	\$(206,850,272)	\$(164,053,760)

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:							
			2023	2024	2025	2026	2027	2028	2029	2030
2015	\$290,045,074	6.18	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	851,007,781	6.06	0	0	0	0	0	0	0	0
2017	(213,982,570)	5.94	0	0	0	0	0	0	0	0
2018	(1,009,651,572)	6.01	0	0	0	0	0	0	0	0
2019	1,360,278,701	5.91	272,055,737	0	0	0	0	0	0	0
2020	(1,170,895,935)	5.86	(234,179,185)	(234,179,195)	0	0	0	0	0	0
Net increase (decrease) in pension expense			\$37,876,552	\$(234,179,195)	\$0	\$0	\$0	\$0	\$0	\$0

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

Section 2: GASB 68 Information

Schedule of recognition of changes in total Net Pension Liability (continued)

Total Increase (Decrease) in Pension Expense

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Reporting Date for Employer under GASB 68 Year Ended June 30:							
		2015	2016	2017	2018	2019	2020	2021	2022
2015	\$(165,086,234)	\$(15,636,828)	\$(15,636,828)	\$(15,636,828)	\$(15,636,828)	\$(15,636,829)	\$(73,645,843)	\$(13,256,250)	\$0
2016	645,545,108	N/A	136,296,823	136,296,823	136,296,823	136,296,823	136,296,829	(33,904,732)	(2,034,281)
2017	(537,548,311)	N/A	N/A	(97,268,861)	(97,268,861)	(97,268,861)	(97,268,861)	(97,268,861)	(51,204,006)
2018	(249,418,100)	N/A	N/A	N/A	(75,435,559)	(75,435,559)	(75,435,559)	(75,435,559)	(75,435,561)
2019	1,242,154,300	N/A	N/A	N/A	N/A	252,068,535	252,068,535	252,068,535	252,068,535
2020	(1,146,513,024)	N/A	N/A	N/A	N/A	N/A	(230,018,280)	(230,018,280)	(230,018,280)
Net increase (decrease) in pension expense		\$(15,636,828)	\$120,659,995	\$23,391,134	\$(52,044,425)	\$200,024,109	\$(88,003,179)	\$(197,815,147)	\$(106,623,593)

Reporting Date for Employer under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Reporting Date for Employer under GASB 68 Year Ended June 30:							
		2023	2024	2025	2026	2027	2028	2029	2030
2015	\$(165,086,234)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	645,545,108	0	0	0	0	0	0	0	0
2017	(537,548,311)	0	0	0	0	0	0	0	0
2018	(249,418,100)	126,494,755	1,264,942	0	0	0	0	0	0
2019	1,242,154,300	252,068,531	(18,188,371)	0	0	0	0	0	0
2020	(1,146,513,024)	(230,018,280)	(230,018,280)	3,578,386	0	0	0	0	0
Net increase (decrease) in pension expense		\$148,545,006	\$(246,941,719)	\$3,578,386	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability

In addition to the amounts shown in the Schedule of Recognition of Changes in Total Net Pension Liability, there are changes in each employer's proportionate share of the total Net Pension Liability (NPL) during the measurement period ending on December 31, 2019. 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 shown above. The difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ending on December 31, 2019 is recognized over the same periods. These amounts are shown on the following table, with the corresponding amounts for the measurement periods ending on December 31 beginning in 2014 shown on the following pages. While these amounts are different for each employer, they sum to zero over the entire OCERS.

Section 2: GASB 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 to be Recognized	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	Thereafter
Orange County	\$(5,692,697)	5.86	\$(971,449)	\$(971,449)	\$(971,449)	\$(971,449)	\$(971,449)	\$(835,452)	\$0
O.C. Cemetery District	0	5.86	0	0	0	0	0	0	0
O.C. Law Library	0	5.86	0	0	0	0	0	0	0
O.C. Vector Control District	0	5.86	0	0	0	0	0	0	0
O.C. Retirement System	2,634,131	5.86	449,510	449,510	449,510	449,510	449,510	386,581	0
O.C. Fire Authority	0	5.86	0	0	0	0	0	0	0
Cypress Recreation and Parks	0	5.86	0	0	0	0	0	0	0
Department of Education	0	5.86	0	0	0	0	0	0	0
Transportation Corridor Agency	0	5.86	0	0	0	0	0	0	0
City of San Juan Capistrano	(1,157,951)	5.86	(197,603)	(197,603)	(197,603)	(197,603)	(197,603)	(169,936)	0
O.C. Sanitation District	0	5.86	0	0	0	0	0	0	0
O.C. Transportation Authority	0	5.86	0	0	0	0	0	0	0
U.C.I.	0	5.86	0	0	0	0	0	0	0
O.C. Children and Families Comm.	(1,110,175)	5.86	(189,450)	(189,450)	(189,450)	(189,450)	(189,450)	(162,925)	0
Local Agency Formation Comm.	157,671	5.86	26,906	26,906	26,906	26,906	26,906	23,141	0
Rancho Santa Margarita	0	5.86	0	0	0	0	0	0	0
O.C. Superior Court	5,149,368	5.86	878,732	878,732	878,732	878,732	878,732	755,708	0
O.C. IHSS Public Authority	19,653	5.86	3,354	3,354	3,354	3,354	3,354	2,883	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 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 to be Recognized	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	Thereafter
Orange County	\$13,152,991	5.91	\$2,225,549	\$2,225,549	\$2,225,549	\$2,225,549	\$2,225,549	\$2,025,246	\$0
O.C. Cemetery District	0	5.91	0	0	0	0	0	0	0
O.C. Law Library	0	5.91	0	0	0	0	0	0	0
O.C. Vector Control District	0	5.91	0	0	0	0	0	0	0
O.C. Retirement System	2,177,730	5.91	368,482	368,482	368,482	368,482	368,482	335,320	0
O.C. Fire Authority	0	5.91	0	0	0	0	0	0	0
Cypress Recreation and Parks	0	5.91	0	0	0	0	0	0	0
Department of Education	0	5.91	0	0	0	0	0	0	0
Transportation Corridor Agency	0	5.91	0	0	0	0	0	0	0
City of San Juan Capistrano	(142,910)	5.91	(24,181)	(24,181)	(24,181)	(24,181)	(24,181)	(22,005)	0
O.C. Sanitation District	0	5.91	0	0	0	0	0	0	0
O.C. Transportation Authority	0	5.91	0	0	0	0	0	0	0
U.C.I.	0	5.91	0	0	0	0	0	0	0
O.C. Children and Families Comm.	(361,087)	5.91	(61,098)	(61,098)	(61,098)	(61,098)	(61,098)	(55,597)	0
Local Agency Formation Comm.	13,795	5.91	2,334	2,334	2,334	2,334	2,334	2,125	0
Rancho Santa Margarita	0	5.91	0	0	0	0	0	0	0
O.C. Superior Court	(14,826,827)	5.91	(2,508,769)	(2,508,769)	(2,508,769)	(2,508,769)	(2,508,769)	(2,282,982)	0
O.C. IHSS Public Authority	(13,692)	5.91	(2,317)	(2,317)	(2,317)	(2,317)	(2,317)	(2,107)	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 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 to be Recognized	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	Thereafter
Orange County	\$8,107,013	6.01	\$1,348,921	\$1,348,921	\$1,348,921	\$1,348,921	\$1,348,921	\$1,348,921	\$13,487
O.C. Cemetery District	0	6.01	0	0	0	0	0	0	0
O.C. Law Library	0	6.01	0	0	0	0	0	0	0
O.C. Vector Control District	0	6.01	0	0	0	0	0	0	0
O.C. Retirement System	49,770	6.01	8,281	8,281	8,281	8,281	8,281	8,281	84
O.C. Fire Authority	0	6.01	0	0	0	0	0	0	0
Cypress Recreation and Parks	0	6.01	0	0	0	0	0	0	0
Department of Education	0	6.01	0	0	0	0	0	0	0
Transportation Corridor Agency	0	6.01	0	0	0	0	0	0	0
City of San Juan Capistrano	1,675,195	6.01	278,735	278,735	278,735	278,735	278,735	278,735	2,785
O.C. Sanitation District	0	6.01	0	0	0	0	0	0	0
O.C. Transportation Authority	0	6.01	0	0	0	0	0	0	0
U.C.I.	0	6.01	0	0	0	0	0	0	0
O.C. Children and Families Comm.	(445,507)	6.01	(74,128)	(74,128)	(74,128)	(74,128)	(74,128)	(74,128)	(739)
Local Agency Formation Comm.	(51,088)	6.01	(8,500)	(8,500)	(8,500)	(8,500)	(8,500)	(8,500)	(88)
Rancho Santa Margarita	0	6.01	0	0	0	0	0	0	0
O.C. Superior Court	(9,400,312)	6.01	(1,564,112)	(1,564,112)	(1,564,112)	(1,564,112)	(1,564,112)	(1,564,112)	(15,640)
O.C. IHSS Public Authority	<u>64,929</u>	6.01	<u>10,803</u>	<u>10,803</u>	<u>10,803</u>	<u>10,803</u>	<u>10,803</u>	<u>10,803</u>	<u>111</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 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 to be Recognized	Recognition Period (Years)	2017	2018	2019	2020	2021	2022	Thereafter
Orange County	\$14,453,662	5.94	\$2,433,278	\$2,433,278	\$2,433,278	\$2,433,278	\$2,433,278	\$2,287,272	\$0
O.C. Cemetery District	0	5.94	0	0	0	0	0	0	0
O.C. Law Library	0	5.94	0	0	0	0	0	0	0
O.C. Vector Control District	0	5.94	0	0	0	0	0	0	0
O.C. Retirement System	(668,539)	5.94	(112,549)	(112,549)	(112,549)	(112,549)	(112,549)	(105,794)	0
O.C. Fire Authority	0	5.94	0	0	0	0	0	0	0
Department of Education	0	5.94	0	0	0	0	0	0	0
Transportation Corridor Agency	0	5.94	0	0	0	0	0	0	0
City of San Juan Capistrano	(1,754,991)	5.94	(295,453)	(295,453)	(295,453)	(295,453)	(295,453)	(277,726)	0
O.C. Sanitation District	0	5.94	0	0	0	0	0	0	0
O.C. Transportation Authority	0	5.94	0	0	0	0	0	0	0
U.C.I.	0	5.94	0	0	0	0	0	0	0
O.C. Children and Families Comm.	(598,916)	5.94	(100,828)	(100,828)	(100,828)	(100,828)	(100,828)	(94,776)	0
Local Agency Formation Comm.	306,180	5.94	51,545	51,545	51,545	51,545	51,545	48,455	0
Rancho Santa Margarita	0	5.94	0	0	0	0	0	0	0
O.C. Superior Court	(11,785,507)	5.94	(1,984,092)	(1,984,092)	(1,984,092)	(1,984,092)	(1,984,092)	(1,865,047)	0
O.C. IHSS Public Authority	<u>48,111</u>	5.94	<u>8,099</u>	<u>8,099</u>	<u>8,099</u>	<u>8,099</u>	<u>8,099</u>	<u>7,616</u>	<u>0</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 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, 2015

	Total Change to be Recognized	Recognition Period (Years)	2016	2017	2018	2019	2020	2021	Thereafter
Orange County	\$2,736,401	6.06	\$451,552	\$451,552	\$451,552	\$451,552	\$451,552	\$451,552	\$27,089
O.C. Cemetery District	0	6.06	0	0	0	0	0	0	0
O.C. Law Library	(2,567,707)	6.06	(423,714)	(423,714)	(423,714)	(423,714)	(423,714)	(423,714)	(25,423)
O.C. Vector Control District	0	6.06	0	0	0	0	0	0	0
O.C. Retirement System	1,607,456	6.06	265,257	265,257	265,257	265,257	265,257	265,257	15,914
O.C. Fire Authority	0	6.06	0	0	0	0	0	0	0
Department of Education	0	6.06	0	0	0	0	0	0	0
Transportation Corridor Agency	0	6.06	0	0	0	0	0	0	0
City of San Juan Capistrano	(1,987,430)	6.06	(327,959)	(327,959)	(327,959)	(327,959)	(327,959)	(327,959)	(19,676)
O.C. Sanitation District	2,567,707	6.06	423,714	423,714	423,714	423,714	423,714	423,714	25,423
O.C. Transportation Authority	0	6.06	0	0	0	0	0	0	0
U.C.I.	0	6.06	0	0	0	0	0	0	0
O.C. Children and Families Comm.	(366,436)	6.06	(60,468)	(60,468)	(60,468)	(60,468)	(60,468)	(60,468)	(3,628)
Local Agency Formation Comm.	(296,484)	6.06	(48,925)	(48,925)	(48,925)	(48,925)	(48,925)	(48,925)	(2,934)
Rancho Santa Margarita	0	6.06	0	0	0	0	0	0	0
O.C. Superior Court	(1,805,959)	6.06	(298,013)	(298,013)	(298,013)	(298,013)	(298,013)	(298,013)	(17,881)
O.C. IHSS Public Authority	<u>112,452</u>	6.06	<u>18,556</u>	<u>18,556</u>	<u>18,556</u>	<u>18,556</u>	<u>18,556</u>	<u>18,556</u>	<u>1,116</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 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, 2014

	Total Change to be Recognized	Recognition Period (Years)	2015	2016	2017	2018	2019	2020	Thereafter
Orange County	\$4,834,533	6.18	\$782,287	\$782,287	\$782,287	\$782,287	\$782,287	\$782,287	\$140,811
O.C. Cemetery District	0	6.18	0	0	0	0	0	0	0
O.C. Law Library	316,450	6.18	51,206	51,206	51,206	51,206	51,206	51,206	9,214
O.C. Vector Control District	0	6.18	0	0	0	0	0	0	0
O.C. Retirement System	1,077,481	6.18	174,350	174,350	174,350	174,350	174,350	174,350	31,381
O.C. Fire Authority	0	6.18	0	0	0	0	0	0	0
Department of Education	0	6.18	0	0	0	0	0	0	0
Transportation Corridor Agency	0	6.18	0	0	0	0	0	0	0
City of San Juan Capistrano	1,656,769	6.18	268,086	268,086	268,086	268,086	268,086	268,086	48,253
O.C. Sanitation District	(316,450)	6.18	(51,206)	(51,206)	(51,206)	(51,206)	(51,206)	(51,206)	(9,214)
O.C. Transportation Authority	0	6.18	0	0	0	0	0	0	0
U.C.I.	0	6.18	0	0	0	0	0	0	0
O.C. Children and Families Comm.	(332,329)	6.18	(53,775)	(53,775)	(53,775)	(53,775)	(53,775)	(53,775)	(9,679)
Local Agency Formation Comm.	215,036	6.18	34,795	34,795	34,795	34,795	34,795	34,795	6,266
Rancho Santa Margarita	0	6.18	0	0	0	0	0	0	0
O.C. Superior Court	(7,470,106)	6.18	(1,208,755)	(1,208,755)	(1,208,755)	(1,208,755)	(1,208,755)	(1,208,755)	(217,576)
O.C. IHSS Public Authority	<u>18,616</u>	6.18	<u>3,012</u>	<u>3,012</u>	<u>3,012</u>	<u>3,012</u>	<u>3,012</u>	<u>3,012</u>	<u>544</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 3: Actuarial Assumptions and Methods and Appendices

Actuarial assumptions and methods

For December 31, 2019 Measurement Date and Employer Reporting as of June 30, 2020

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, 2014 through December 31, 2016 Actuarial Experience Study dated August 14, 2017 and PowerPoint presentation dated October 16, 2017. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all tiers. These assumptions were adopted by the Board.

Economic Assumptions

Net Investment Return:	7.00%; net of investment expenses.
Member Contribution Crediting Rate:	5.00%, compounded semi-annually.
Consumer Price Index:	Increase of 2.75% per year, retiree COLA increases due to CPI subject to a 3.0% maximum change per year.
Payroll Growth:	Inflation of 2.75% per year plus “across the board” real salary increases of 0.50% per year.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.75% per year from the valuation date.

Section 3: Actuarial Assumptions and Methods and Appendices

Salary increases:

Inflation: 2.75% per year; plus “across the board” real salary increases of 0.50% per year; plus the following merit and promotion increases.

Annual Rate of Compensation Increase Rate (%)

Years of Service	General	Safety
Less than 1	9.50	9.00
1 – 2	7.00	5.50
2 – 3	4.75	4.00
3 – 4	4.25	3.80
4 – 5	4.00	3.70
5 – 6	3.50	3.60
6 – 7	3.25	3.50
7 – 8	3.00	3.25
8 – 9	2.50	3.00
9 – 10	2.00	2.75
10 – 11	1.75	2.25
11 – 12	1.50	2.00
12 – 13	1.45	1.90
13 – 14	1.40	1.85
14 – 15	1.35	1.80
15 – 16	1.30	1.75
16 – 17	1.30	1.70
17 – 18	1.30	1.65
18 – 19	1.30	1.60
19 – 20	1.30	1.55
20 & Over	1.30	1.50

In addition to the individual salary increase assumptions, we have applied an average of two hours of additional salary annually for leap-year salary adjustment.

Section 3: Actuarial Assumptions and Methods and Appendices

Demographic assumptions

Post — retirement mortality rates

Healthy

- **For General Members and All Beneficiaries:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, projected generationally with the two-dimensional MP-2016 projection scale.
- **For Safety Members:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, projected generationally with the two-dimensional MP-2016 projection scale, setback four years.

Disabled

- **For General Members:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, projected generationally with the two-dimensional MP-2016 projection scale, set forward five years,
- **For Safety Members:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, projected generationally with the two-dimensional MP-2016 projection scale.

The RP-2014 mortality tables and adjustments as shown above reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Mortality rates — member contribution rates

- **For General Members:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, weighted 40% male and 60% female.
- **For Safety Members:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, setback four years, weighted 80% male and 20% female.

Section 3: Actuarial Assumptions and Methods and Appendices

Mortality rates — optional forms of benefits

- **For General Service Retirees:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, weighted 40% male and 60% female.
- **For Safety Service Retirees:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, setback four years, weighted 80% male and 20% female.
- **For General Disabled Retirees:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, set forward five years, weighted 40% male and 60% female.
- **For Safety Disabled Retirees:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, weighted 80% male and 20% female.
- **For General Beneficiaries:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, weighted 60% male and 40% female.
- **For Safety Beneficiaries:** Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table (separate tables for males and females), projected 20 years with the two-dimensional mortality improvement scale MP-2016, weighted 20% male and 80% female.

Pre-retirement mortality rates

- **For General and Safety Members:** Headcount-Weighted RP-2014 Employee Mortality Table times 80%, projected generationally with the two-dimensional MP-2016 projection scale.

Section 3: Actuarial Assumptions and Methods and Appendices

Termination rates before retirement

Mortality (General and Safety)

Rate (%)

Age	Male	Female
25	0.05	0.02
30	0.05	0.02
35	0.05	0.03
40	0.06	0.04
45	0.10	0.07
50	0.17	0.11
55	0.27	0.17
60	0.45	0.24
65	0.78	0.36
70	1.27	0.59

Note that generational projections beyond the base year (2014) are not reflected in the above mortality rates.

All General pre-retirement deaths are assumed to be non-service connected. For Safety, 90% of pre-retirement deaths are assumed to be non-service connected. The other 10% are assumed to be service connected.

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Disability Rate (%)

Age	General All Other ¹	General OCTA ²	Safety — Law & Fire ³	Safety — Probation ⁴
25	0.00	0.00	0.00	0.00
30	0.00	0.00	0.01	0.03
35	0.01	0.03	0.04	0.08
40	0.03	0.20	0.14	0.10
45	0.08	0.36	0.23	0.13
50	0.13	0.43	0.40	0.21
55	0.18	0.48	1.10	0.28
60	0.23	0.65	2.40	0.42
65	0.31	1.26	4.80	0.20
70	0.00	0.00	0.00	0.00

¹ 60% of General All Other disabilities are assumed to be service connected disabilities. The other 40% are assumed to be non-service connected.

² 65% of General OCTA disabilities are assumed to be service connected disabilities. The other 35% are assumed to be non-service connected.

³ 100% of Safety Law Enforcement and Fire disabilities are assumed to be service connected disabilities.

⁴ 75% of Safety Probation disabilities are assumed to be service connected disabilities. The other 25% are assumed to be non-service connected.

Section 3: Actuarial Assumptions and Methods and Appendices

Termination Rate (%)

Years of Service	General All Other	General OCTA	Safety — Law & Fire	Safety — Probation
Less than 1	11.00	17.50	4.50	14.00
1 – 2	7.50	11.00	2.50	13.00
2 – 3	6.50	9.00	2.00	10.00
3 – 4	5.00	8.50	1.50	5.00
4 – 5	4.50	7.50	1.25	4.00
5 – 6	4.25	7.00	1.00	3.50
6 – 7	3.75	4.50	0.95	2.75
7 – 8	3.25	4.00	0.90	2.00
8 – 9	3.00	3.50	0.85	2.00
9 – 10	2.75	3.00	0.80	1.75
10 – 11	2.50	3.00	0.75	1.75
11 – 12	2.00	3.00	0.65	1.50
12 – 13	2.00	3.00	0.60	1.25
13 – 14	1.75	2.50	0.55	1.00
14 – 15	1.50	2.50	0.50	0.75
15 – 16	1.40	2.50	0.45	0.75
16 – 17	1.30	2.00	0.40	0.75
17 – 18	1.20	1.80	0.35	0.25
18 – 19	1.10	1.60	0.30	0.25
19 – 20	1.00	1.40	0.25	0.25
20 & Over	0.90	1.20	0.20	0.25

Section 3: Actuarial Assumptions and Methods and Appendices

Election for Withdrawal of Contributions

Rate (%)

Age	General All Other	General OCTA	Safety — Law & Fire	Safety — Probation
0 – 4	35.0	40.0	20.0	25.0
5 – 9	30.0	35.0	20.0	25.0
10 – 14	25.0	30.0	20.0	25.0
15 & Over	20.0	20.0	20.0	25.0

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Rates

Rate (%)

Age	General — Enhanced	General — Non-Enhanced ¹	General — SJC (31676.12)	Safety — Law (31664.1) ²	Safety — Law (31664.2) ²	Safety — Fire (31664.1)	Safety — Fire (31664.2)	Safety — Probation ²
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	30.00	25.00	0.00	12.00	0.00	2.00	0.00	0.00
50	2.50	2.00	3.00	18.00	11.50	5.00	8.00	3.25
51	2.00	2.00	3.00	18.00	12.00	7.00	10.00	3.25
52	2.50	2.00	3.00	17.00	12.70	9.50	11.00	4.25
53	2.50	2.75	3.00	17.00	17.90	10.50	12.00	4.25
54	5.50	2.75	3.00	22.00	18.80	15.00	14.00	7.00
55	15.00	3.25	4.00	22.00	30.70	18.00	24.00	12.00
56	10.00	3.50	5.00	20.00	20.00	20.00	23.00	12.00
57	10.00	5.50	6.00	20.00	20.00	21.00	27.00	18.00
58	11.00	5.50	7.00	20.00	25.00	28.00	27.00	18.00
59	11.00	6.50	9.00	26.00	30.00	28.00	36.00	18.00
60	12.00	9.25	11.00	35.00	40.00	30.00	40.00	20.00
61	12.00	12.00	13.00	35.00	40.00	30.00	40.00	20.00
62	14.00	16.00	15.00	40.00	40.00	35.00	40.00	25.00
63	16.00	16.00	15.00	40.00	40.00	35.00	40.00	40.00
64	16.00	18.00	20.00	40.00	40.00	35.00	40.00	40.00
65	22.00	22.00	20.00	100.00	100.00	100.00	100.00	100.00
66	22.00	28.00	24.00	100.00	100.00	100.00	100.00	100.00
67	23.00	24.00	24.00	100.00	100.00	100.00	100.00	100.00
68	23.00	24.00	24.00	100.00	100.00	100.00	100.00	100.00
69	23.00	20.00	24.00	100.00	100.00	100.00	100.00	100.00
70	25.00	20.00	50.00	100.00	100.00	100.00	100.00	100.00
71	25.00	25.00	50.00	100.00	100.00	100.00	100.00	100.00
72	25.00	25.00	50.00	100.00	100.00	100.00	100.00	100.00
73	25.00	25.00	50.00	100.00	100.00	100.00	100.00	100.00
74	25.00	25.00	50.00	100.00	100.00	100.00	100.00	100.00
75	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

¹ These assumptions are also used for the CalPEPRA 1.62% @ 65 formula (Plan T and Plan W).

² Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Rates

Rate (%)

Age	CalPEPRA 2.5% @ 67 General Formula	CalPEPRA Safety Formula — Probation ¹	CalPEPRA Safety Formula — Law ¹	CalPEPRA Safety Formula — Fire
50	0.00	2.50	11.00	6.00
51	0.00	2.50	11.50	7.00
52	4.00	3.00	12.00	9.00
53	1.50	3.00	16.00	10.00
54	1.50	5.50	17.00	11.50
55	2.50	10.00	28.00	21.00
56	3.50	10.00	18.00	20.00
57	5.50	15.00	17.50	22.00
58	7.50	20.00	22.00	25.00
59	7.50	20.00	26.00	30.00
60	7.50	40.00	40.00	40.00
61	7.50	40.00	40.00	40.00
62	14.00	40.00	40.00	40.00
63	14.00	40.00	40.00	40.00
64	14.00	40.00	40.00	40.00
65	18.00	100.00	100.00	100.00
66	22.00	100.00	100.00	100.00
67	23.00	100.00	100.00	100.00
68	23.00	100.00	100.00	100.00
69	23.00	100.00	100.00	100.00
70	25.00	100.00	100.00	100.00
71	25.00	100.00	100.00	100.00
72	25.00	100.00	100.00	100.00
73	25.00	100.00	100.00	100.00
74	25.00	100.00	100.00	100.00
75	100.00	100.00	100.00	100.00

¹ Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Age and Benefit for Deferred Vested Members:

General Retirement Age: 59

Safety Retirement Age: 53

Future deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 for both General and Safety if they decide to leave their contributions on deposit.

15% of future General and 25% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.25% and 4.75% compensation increases are assumed per annum for General and Safety, respectively.

Liability Calculation for Current Deferred Vested Members:

Liability for a current deferred vested member is calculated based on salary (adjusted with the additional cashout assumptions for non-CalPEPRA members), service, and eligibility for reciprocal benefit as provided by the Retirement System. For those members without salary information that have 3 or more years of service, we used an average salary. For those members without salary information that have less than 3 years of service or for those members without service information, we assumed a refund of account balance.

Future Benefit Accruals:

1.0 year of service per year of employment. There is no assumption to anticipate conversion of unused sick leave at retirement.

Unknown Data for Members:

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

Form of Payment:

All active and inactive members are assumed to elect the unmodified option at retirement.

Percent Married:

For all active and inactive members, 75% of male members and 55% of female members are assumed to be married at retirement or time of pre-retirement death.

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 3 years older than the member.

Section 3: Actuarial Assumptions and Methods and Appendices

Terminal Pay Assumptions:

Non-CalPEPRA Formulas

Additional compensation amounts are expected to be received during a member's final average earnings period. The percentages used in this valuation are:

	<u>Final One Year Salary</u>	<u>Final Three Year Salary</u>
General Members	3.00%	2.80%
Safety - Probation	3.80%	3.40%
Safety - Law	5.20%	4.60%
Safety - Fire	2.00%	1.70%

The terminal pay assumptions are the same for service and disability retirements.

CalPEPRA Formulas

None

Actuarial Methods

Actuarial Cost Method:

Entry Age Actuarial Cost Method. Entry Age is the current age minus Vesting Credit. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").

Please note that for Probation members who have prior benefit service in another General OCERS plan, the normal cost rate for the current plan is calculated assuming their Entry Age is the date they entered service with their current plan.

Expected Remaining Service Lives:

The average of the expected 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 nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

Changes in Actuarial Assumptions and Methods:

None.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix A: Projection of Plan's Fiduciary Net Position for Use in the Calculation of Discount Rate as of December 31, 2019 (\$ in millions)

Year Beginning January 1	Projected Beginning Plan's Fiduciary Net Position (a)	Projected Total Contributions * (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2019	\$14,482	\$933	\$901	\$19	\$2,184	\$16,679
2020	16,679	976	971	22	1,167	17,829
2021	17,829	972	1,031	24	1,245	18,992
2022	18,992	969	1,094	25	1,324	20,167
2023	20,167	974	1,159	27	1,404	21,359
2024	21,359	958	1,227	28	1,485	22,547
2025	22,547	964	1,296	30	1,566	23,752
2026	23,752	972	1,368	31	1,648	24,972
2027	24,972	979	1,441	33	1,731	26,208
2028	26,208	987	1,516	35	1,815	27,460
2044	37,085	191	2,721	49	2,507	37,014
2045	37,014	181	2,773	49	2,500	36,873
2046	36,873	170	2,820	49	2,488	36,663
2047	36,663	160	2,862	49	2,472	36,384
2048	36,384	153	2,894	48	2,451	36,045
2093	23,410	48	252	31	1,631	24,805
2094	24,805	48	209	33	1,730	26,342
2095	26,342	49	171	35	1,839	28,023
2096	28,023	49	138	37	1,957	29,855
2097	29,855	50	110	40	2,086	31,843
2133	337,557	447	0 **	447	23,629	361,186
2134	361,186					
2134 Discounted Value:	161 ***					

* Of all the projected total contributions, only the first year's (i.e., 2019) contribution has been reduced by discount for prepaid contributions and transfers from County Investment Account, if any.

** Less than \$1 million, when rounded.

*** \$361,186 million when discounted with interest at the rate of 7.00% per annum has a value of \$161 million as of December 31, 2019. Of this amount, about \$150 million is the balance available in the County Investment Account and \$12 million is the O.C. Sanitation District UAAL Deferred Account as of December 31, 2019.

Note: We have not utilized the balance in the County Investment Account to reduce the projected total contributions in column (b) even though those amounts have been used to reduce the NPL for the County as of December 31, 2019.

Section 3: Actuarial Assumptions and Methods and Appendices

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Amounts shown in the year beginning January 1, 2019 row are actual amounts, based on the financial statements provided by OCERS.
- (3) Years 2029-2043, 2049-2092, and 2098-2132 have been omitted from this table.
- (4) Column (a): Except for the "discounted value" shown for 2134, all of the projected beginning Plan's Fiduciary Net Position amounts shown have not 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, 2018), 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, 2018. The projected benefit payments reflect the cost of living increase assumptions used in the December 31, 2019 valuation report. The 2019 benefit payments have been increased by the balance of the Medicare Insurance Reserve as of December 31, 2019.
- (7) Column (d): Projected administrative expenses are calculated as approximately 0.13% of the projected beginning Plan's Fiduciary Net Position amount. The 0.13% portion was based on the actual calendar year 2019 administrative expenses (unaudited) as a percentage of the actual beginning Plan's Fiduciary Net Position as of January 1, 2019. Administrative expenses 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's 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, 2019 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix B: Schedule of Pension Amounts by Employer as of December 31, 2019

Deferred Outflows of Resources	Orange County	O.C. Cemetery District	O.C. Law Library	O.C. Vector Control District	O.C. Retirement System
• Differences Between Expected and Actual Experience	\$13,982,779	\$103,588	\$43,407	\$170,770	\$0
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	587,160,184	556,607	580,153	1,491,917	3,773,899
• Changes of Assumptions	322,870,826	244,428	214,778	435,411	2,018,023
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>18,170,596</u>	<u>0</u>	<u>9,214</u>	<u>0</u>	<u>3,962,866</u>
• Total Deferred Outflows of Resources	\$942,184,385	\$904,623	\$847,552	\$2,098,098	\$9,754,788
Deferred Inflows of Resources					
• Differences Between Expected and Actual Experience	\$206,914,979	\$582,255	\$409,176	\$1,511,789	\$1,273,114
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	997,095,584	911,694	921,702	2,404,780	6,362,377
• Changes of Assumptions	6,642,961	5,895	30,514	0	62,731
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>4,789,699</u>	<u>0</u>	<u>449,137</u>	<u>0</u>	<u>218,343</u>
• Total Deferred Inflows of Resources	\$1,215,443,223	\$1,499,844	\$1,810,529	\$3,916,569	\$7,916,565
Net Pension Liability as of December 31, 2018	\$4,918,576,912	\$962,119	\$573,252	\$2,492,695	\$28,844,760
Net Pension Liability as of December 31, 2019	\$4,124,212,240	\$(228,119)	\$(74,515)	\$(625,500)	\$26,824,264
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
• Proportionate Share of Allocable Plan Pension Expense	\$449,535,284	\$127,197	\$232,335	\$(351,264)	\$2,317,279
• Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>6,270,138</u>	<u>0</u>	<u>(372,508)</u>	<u>0</u>	<u>1,153,331</u>
• Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$455,805,422	\$127,197	\$(140,173)	\$(351,264)	\$3,470,610

Section 3: Actuarial Assumptions and Methods and Appendices

Deferred Outflows of Resources	O.C. Fire Authority	Cypress Recreation and Parks	Department of Education	Transportation Corridor Agency	City of San Juan Capistrano
• Differences Between Expected and Actual Experience	\$24,478,887	\$2,252,572	\$380,618	\$615,484	\$0
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	85,355,117	211,982	540,022	1,872,077	3,684,941
• Changes of Assumptions	29,267,911	70,336	177,787	880,388	1,970,455
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	0	0	0	0	887,243
• Total Deferred Outflows of Resources	\$139,101,915	\$2,534,890	\$1,098,427	\$3,367,949	\$6,542,639
Deferred Inflows of Resources					
• Differences Between Expected and Actual Experience	\$38,937,675	\$0	\$678,741	\$940,190	\$1,243,105
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	144,282,784	1,844,790	858,174	3,760,486	6,212,405
• Changes of Assumptions	130,986	0	10,085	28,116	61,252
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	0	0	0	0	1,975,710
• Total Deferred Inflows of Resources	\$183,351,445	\$1,844,790	\$1,547,000	\$4,728,792	\$9,492,472
Net Pension Liability as of December 31, 2018	\$466,731,526	\$408,781	\$3,517,372	\$13,253,632	\$32,142,058
Net Pension Liability as of December 31, 2019	\$354,395,457	\$262,415	\$3,099,339	\$(1,753,164)	\$26,191,970
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
• Proportionate Share of Allocable Plan Pension Expense	\$67,124,196	\$4,345	\$271,328	\$1,376,160	\$2,262,657
• Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	0	0	0	0	(298,375)
• Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$67,124,196	\$4,345	\$271,328	\$1,376,160	\$1,964,282

Section 3: Actuarial Assumptions and Methods and Appendices

Deferred Outflows of Resources	O.C. Sanitation District	O.C. Transportation Authority	U.C.I.	O.C. Children and Families Comm.	Local Agency Formation Comm.
• Differences Between Expected and Actual Experience	\$9,606,499	\$2,331,117	\$1,790,493	\$0	\$0
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	39,421,678	39,326,279	4,449,052	(90,952)	209,577
• Changes of Assumptions	12,311,067	21,920,909	1,425,191	(48,635)	112,068
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>449,137</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>246,158</u>
• Total Deferred Outflows of Resources	\$61,788,381	\$63,578,305	\$7,664,736	\$(139,587)	\$567,803
Deferred Inflows of Resources					
• Differences Between Expected and Actual Experience	\$5,416,832	\$21,768,391	\$2,432,087	\$(30,682)	\$70,700
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	64,842,567	66,279,519	7,119,985	(153,335)	353,324
• Changes of Assumptions	372,978	595,454	79,608	(1,512)	3,484
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>9,214</u>	<u>0</u>	<u>0</u>	<u>1,652,118</u>	<u>77,447</u>
• Total Deferred Inflows of Resources	\$70,641,591	\$88,643,364	\$9,631,680	\$1,466,589	\$504,955
Net Pension Liability as of December 31, 2018	\$29,029,145	\$269,788,642	\$34,808,679	\$630,610	\$1,582,703
Net Pension Liability as of December 31, 2019	\$(49,446,617)	\$224,284,548	\$30,213,739	\$(646,472)	\$1,489,642
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
• Proportionate Share of Allocable Plan Pension Expense	\$10,009,584	\$26,336,223	\$2,168,623	\$(55,847)	\$128,686
• Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>372,508</u>	<u>0</u>	<u>0</u>	<u>(539,747)</u>	<u>58,155</u>
• Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$10,382,092	\$26,336,223	\$2,168,623	\$(595,594)	\$186,841

Section 3: Actuarial Assumptions and Methods and Appendices

	Rancho Santa Margarita	O.C. Superior Court	O.C. IHSS Public Authority	Total for all Employers
Deferred Outflows of Resources				
• Differences Between Expected and Actual Experience	\$1,242	\$0	\$0	\$55,757,456
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	3,008	47,379,540	243,386	816,168,467
• Changes of Assumptions	480	25,335,345	173,542	419,380,310
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>0</u>	<u>4,270,636</u>	<u>84,750</u>	<u>28,080,600</u>
• Total Deferred Outflows of Resources	\$4,730	\$76,985,521	\$501,678	\$1,319,386,833
Deferred Inflows of Resources				
• Differences Between Expected and Actual Experience	\$5,388	\$15,983,355	\$237,210	\$298,374,305
• Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	5,535	79,876,681	396,090	1,383,375,142
• Changes of Assumptions	29	787,559	3,713	8,813,853
• Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>0</u>	<u>18,899,874</u>	<u>9,058</u>	<u>28,080,600</u>
• Total Deferred Inflows of Resources	\$10,952	\$115,547,469	\$646,071	\$1,718,643,900
Net Pension Liability as of December 31, 2018	\$1,284	\$392,760,910	\$1,097,009	\$6,197,202,089
Net Pension Liability as of December 31, 2019	\$(2,214)	\$336,766,149	\$719,301	\$5,075,682,463
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions				
• Proportionate Share of Allocable Plan Pension Expense	\$(95)	\$29,092,356	\$169,172	\$590,748,219
• Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	<u>0</u>	<u>(6,685,009)</u>	<u>41,507</u>	<u>0</u>
• Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$(95)	\$22,407,347	\$210,679	\$590,748,219

Section 3: Actuarial Assumptions and Methods and Appendices

Notes:

Amounts shown in this Appendix were allocated by employer based on the Employer Allocation Percentage calculated in the Schedule of Determination of Proportionate Share in this report.

In determining the pension expense:

- Any differences between projected and actual investment earnings on pension plan investments are recognized over a period of five years beginning with the year in which they occur.
- Current-period (i.e., 2019) differences between expected and actual experience and changes of assumptions are recognized over the average of the expected remaining service lives of all employees that are provided with pensions through OCERS determined as of December 31, 2018 (the beginning of the measurement period ending December 31, 2019) and is 5.86
- Prior-period differences between expected and actual experience and changes of assumptions 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 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 nonactive or retired members.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

There was a decrease in the total employer pension expense from \$783.7 million calculated last year to \$590.7 million calculated this year. The primary cause of the decrease was due to an investment gain of \$1.2 billion with \$234.2 million being recognized in this year's expense.

Note: Results may not total due to rounding.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix C: 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's 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 GASB.
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's Fiduciary Net Position for amounts from employers, nonemployer 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	The payroll of members that are provided with pensions through the pension plan.
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's 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 nonemployer 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.

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Via Email

June 2, 2020

Mr. Steve Delaney
Chief Executive Officer
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701-3101

**Re: Orange County Employees Retirement System (OCERS)
Reconciliation of the Plan's December 31, 2019 Net Pension Liability (NPL) and
Unfunded Actuarial Accrued Liability (UAAL)**

Dear Steve:

We have been requested by the Retirement System to reconcile, for each Rate Group, the December 31, 2019 Net Pension Liability (NPL) and the Unfunded Actuarial Accrued Liability (UAAL) as shown in the December 31, 2019 Governmental Accounting Standards Board (GASB) Statement 67 addendum letter and funding valuation report, respectively. (The breakdown of the NPL as disclosed in the GASB 67 addendum letter also appears in our GASB 68 financial report.)

The reconciliation is provided in Attachment A of this letter. The difference between the NPL and the UAAL is a direct result of the different liability and asset values we used in those developments.

Liability

The Total Pension Liability (TPL) shown in the GASB 67 addendum letter was measured based on the December 31, 2018 demographic data by: (i) rolling forward the liability from December 31, 2018 to December 31, 2019 and (ii) assuming that the actuarial experience of the System would match with that anticipated by the demographic assumptions. On the other hand, the Actuarial Accrued Liability (AAL) shown in the funding valuation report was measured based on the December 31, 2019 demographic data.

The differences between the TPL and the AAL were primarily due to: (a) actuarial gains/losses on the liability items as documented in Section 4, Exhibit VI of the December 31, 2019 funding valuation report for each Rate Group and (b) differences between the rolled forward liabilities and the actual liabilities.

Assets

The Plan Fiduciary Net Position shown in the GASB 67 report as of December 31, 2019 (that we subsequently used for our GASB 67 addendum letter) was based on the plan's Market Value of Assets (MVA) including the proceeds available in the County Investment Account and O.C. Sanitation District (OCSD) UAAL Deferred Account. On the other hand, the funding valuation report used the Valuation Value of Assets (VVA) after adjusting the MVA for asset smoothing and excluding the non-valuation reserve.

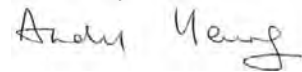
The differences between the Plan Fiduciary Net Position and the VVA were primarily due to adjustment of deferred investment gain and the non-valuation reserve.

The NPL and UAAL were calculated by taking the TPL and the AAL and subtracting the Plan Fiduciary Net Position and the VVA, respectively.

The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standard of the American Academy of Actuaries to render the actuarial opinion contained herein.

Please let us know if you have any questions or comments.

Sincerely,



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

JY/hy

Enclosures

cc: Tracy Bowman
Brenda Shott

All Rate Groups (Results are as of December 31, 2019)

(A) Liability Reconciliation	Rate Group #1	Rate Group #2	Rate Group #3	Rate Group #4
(1) Total Pension Liability Included in the development of the GASB 67 Addendum Letter	\$520,222,888	\$12,028,396,063	\$745,022,205	\$47,220
(2) (Gain)/Loss from (Lower)/Higher than Expected Salary Increases ¹	(7,606,000)	(57,650,000)	4,962,000	0
(3) (Gain)/Loss from (Lower)/Higher than Expected COLA Increases ¹	2,862,000	72,274,000	4,887,000	1,000
(4) Other Experience (Gain)/Loss ¹	(2,688,000)	55,487,000	4,832,000	0
(5) Other (Gain)/Loss from Rolled Forward Liabilities to Actual Liabilities	<u>108,112</u>	<u>3,987,937</u>	<u>5,795</u>	<u>(220)</u>
(6) Actuarial Accrued Liability Included in the Funding Valuation Report (1) + (2) + (3) + (4) + (5)	\$512,899,000	\$12,102,496,000	\$759,709,000	\$48,000
(B) Asset Reconciliation				
(1) Market Value of Assets Excluding County Investment Account and OCSD UAAL Deferred Account	\$435,927,060	\$8,804,215,164	\$782,411,822	\$49,434
(2) County Investment Account and OCSD UAAL Deferred Account	<u>5,558,363</u>	<u>92,443,896</u>	<u>12,057,000</u>	<u>0</u>
(3) Plan's Fiduciary Net Position Included in the development of the GASB 67 Addendum Letter (1) + (2)	\$441,485,423	\$8,896,659,060	\$794,468,822	\$49,434
(4) Adjustment for Deferred Investment Return and Non-Valuation Reserve	<u>(12,649,060)</u>	<u>(255,467,164)</u>	<u>(22,702,822)</u>	<u>(1,434)</u>
(5) Valuation of Assets Included in the Funding Valuation Report (1) + (4)	\$423,278,000	\$8,548,748,000	\$759,709,000	\$48,000
Net Pension Liability Shown in the GASB 67 Addendum Letter (A1) - (B3)	\$78,737,465	\$3,131,737,003	\$(49,446,617)	\$(2,214)
Unfunded Actuarial Accrued Liability Shown in the Funding Valuation Report (A6) - (B5)	\$89,621,000	\$3,553,748,000	\$0	\$0

¹ These actuarial gain/loss items can be found in Section 4, Exhibit VI of our December 31, 2019 funding valuation report.

All Rate Groups (Results are as of December 31, 2019)

(A) Liability Reconciliation	Rate Group #5	Rate Group #9	Rate Group #10	Rate Group #11
(1) Total Pension Liability Included in the development of the GASB 67 Addendum Letter	\$1,010,087,777	\$52,259,080	\$257,504,904	\$11,000,702
(2) (Gain)/Loss from (Lower)/Higher than Expected Salary Increases ¹	(3,953,000)	168,000	1,951,000	(39,000)
(3) (Gain)/Loss from (Lower)/Higher than Expected COLA Increases ¹	6,575,000	303,000	2,285,000	42,000
(4) Other Experience (Gain)/Loss ¹	(922,000)	79,000	2,907,000	547,000
(5) Other (Gain)/Loss from Rolled Forward Liabilities to Actual Liabilities	<u>400,223</u>	<u>8,920</u>	<u>(23,904)</u>	<u>298</u>
(6) Actuarial Accrued Liability Included in the Funding Valuation Report (1) + (2) + (3) + (4) + (5)	\$1,012,188,000	\$52,818,000	\$264,624,000	\$11,551,000
(B) Asset Reconciliation				
(1) Market Value of Assets Excluding County Investment Account and OCSD UAAL Deferred Account	\$785,803,229	\$54,012,244	\$225,051,189	\$11,228,821
(2) County Investment Account and OCSD UAAL Deferred Account	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(3) Plan's Fiduciary Net Position Included in the development of the GASB 67 Addendum Letter (1) + (2)	\$785,803,229	\$54,012,244	\$225,051,189	\$11,228,821
(4) Adjustment for Deferred Investment Return and Non-Valuation Reserve	<u>(22,801,229)</u>	<u>(1,567,244)</u>	<u>(6,530,189)</u>	<u>(325,821)</u>
(5) Valuation of Assets Included in the Funding Valuation Report (1) + (4)	\$763,002,000	\$52,445,000	\$218,521,000	\$10,903,000
Net Pension Liability Shown in the GASB 67 Addendum Letter (A1) - (B3)	\$224,284,548	\$(1,753,164)	\$32,453,715	\$(228,119)
Unfunded Actuarial Accrued Liability Shown in the Funding Valuation Report (A6) - (B5)	\$249,186,000	\$373,000	\$46,103,000	\$648,000

¹ These actuarial gain/loss items can be found in Section 4, Exhibit VI of our December 31, 2019 funding valuation report.

All Rate Groups (Results are as of December 31, 2019)

(A) Liability Reconciliation	Rate Group #12	Rate Group #6	Rate Group #7	Rate Group #8	Total
(1) Total Pension Liability Included in the development of the GASB 67 Addendum Letter	\$11,347,924	\$936,107,531	\$4,290,414,158	\$1,891,853,011	\$21,754,263,463
(2) (Gain)/Loss from (Lower)/Higher than Expected Salary Increases ¹	(112,000)	(7,746,000)	11,137,000	6,172,000	(52,716,000)
(3) (Gain)/Loss from (Lower)/Higher than Expected COLA Increases ¹	59,000	4,695,000	26,520,000	10,717,000	131,220,000
(4) Other Experience (Gain)/Loss ¹	(222,000)	1,024,000	12,801,000	3,788,000	77,633,000
(5) Other (Gain)/Loss from Rolled Forward Liabilities to Actual Liabilities	<u>49,076</u>	<u>351,469</u>	<u>1,033,842</u>	<u>406,989</u>	<u>6,329,537</u>
(6) Actuarial Accrued Liability Included in the Funding Valuation Report (1) + (2) + (3) + (4) + (5)	\$11,122,000	\$934,432,000	\$4,341,906,000	\$1,912,937,000	\$21,916,730,000
(B) Asset Reconciliation					
(1) Market Value of Assets Excluding County Investment Account and OCSD UAAL Deferred Account	\$11,422,439	\$691,005,535	\$3,145,069,794	\$1,569,911,269	\$16,516,108,000
(2) County Investment Account and OCSD UAAL Deferred Account	<u>0</u>	<u>9,607,620</u>	<u>42,806,121</u>	<u>0</u>	<u>162,473,000</u>
(3) Plan's Fiduciary Net Position Included in the development of the GASB 67 Addendum Letter (1) + (2)	\$11,422,439	\$700,613,155	\$3,187,875,915	\$1,569,911,269	\$16,678,581,000
(4) Adjustment for Deferred Investment Return and Non-Valuation Reserve	<u>(331,439)</u>	<u>(20,050,535)</u>	<u>(91,258,794)</u>	<u>(45,553,269)</u>	<u>(479,239,000)</u>
(5) Valuation of Assets Included in the Funding Valuation Report (1) + (4)	\$11,091,000	\$670,955,000	\$3,053,811,000	\$1,524,358,000	\$16,036,869,000
Net Pension Liability Shown in the GASB 67 Addendum Letter (A1) - (B3)	\$(74,515)	\$235,494,376	\$1,102,538,243	\$321,941,742	\$5,075,682,463
Unfunded Actuarial Accrued Liability Shown in the Funding Valuation Report (A6) - (B5)	\$31,000	\$263,477,000	\$1,288,095,000	\$388,579,000	\$5,879,861,000

¹ These actuarial gain/loss items can be found in Section 4, Exhibit VI of our December 31, 2019 funding valuation report.

**ORANGE COUNTY EMPLOYEES
RETIREMENT SYSTEM
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019**

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

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Independent Auditor's Report

To the Board of Retirement of the
Orange County Employees Retirement System
Santa Ana, California

We have audited the employer allocations and the total for all employers of the rows titled total deferred outflows of resources, total deferred inflows of resources, net pension liability, and total pension expense excluding employer-paid member contributions (specified row totals) included in the accompanying Schedule of Allocated Pension Amounts by Employer (Schedule) of the Orange County Employees Retirement System (OCERS) Cost-Sharing Multiple-Employer Defined Benefit Pension Plan as of and for the year ended December 31, 2019, and the related notes to the Schedule of Allocated Pension Amounts by Employer.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the Schedule 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 the Schedule that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on the employer allocations and the specified row totals in the Schedule 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 is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Schedule. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Schedule, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the Schedule 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 the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the Schedule.

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 Schedule referred to above presents fairly, in all material respects, the employer allocations, and the total deferred outflows of resources, total deferred inflows of resources, net pension liability, and total pension expense excluding employer-paid member contributions for the total of all employers participating in the Orange County Employees Retirement System Cost-Sharing Multiple-Employer Defined Benefit Pension Plan as of and for the year ended December 31, 2019, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of OCERS as of and for the year ended December 31, 2019, and our report thereon dated June __, 2020, expressed an unmodified opinion on those financial statements.

Restriction on Use

Our report is intended solely for the information and use of OCERS' management, the Board of Retirement, the Orange County Employees Retirement System Cost-Sharing Multiple-Employer Defined Benefit Pension Plan employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

Newport Beach, California
June __, 2020

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

	Orange County	O.C. Cemetery District	O.C. Public Law Library	O.C. Mosquito and Vector Control District	O.C. Employees Retirement System
Deferred Outflows of Resources					
Differences Between Expected and Actual Experience	\$ 13,982,779	\$ 103,588	\$ 43,407	\$ 170,770	\$ -
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	-	-	-	-	-
Changes of Assumptions	322,870,826	244,428	214,778	435,411	2,018,023
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,170,596	-	9,214	-	3,962,866
Total Deferred Outflows of Resources	\$ 355,024,201	\$ 348,016	\$ 267,399	\$ 606,181	\$ 5,980,889
Deferred Inflows of Resources					
Differences Between Expected and Actual Experience	\$ 206,914,979	\$ 582,255	\$ 409,176	\$ 1,511,789	\$ 1,273,114
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	409,935,400	355,087	341,549	912,863	2,588,478
Changes of Assumptions	6,642,961	5,895	30,514	-	62,731
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	4,789,699	-	449,137	-	218,343
Total Deferred Inflows of Resources	\$ 628,283,039	\$ 943,237	\$ 1,230,376	\$ 2,424,652	\$ 4,142,666
Net Pension Liability as of December 31, 2019	\$ 4,124,212,240	\$ (228,119)	\$ (74,515)	\$ (625,500)	\$ 26,824,264
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
Proportionate Share of Allocable Plan Pension Expense	\$ 449,535,284	\$ 127,197	\$ 232,335	\$ (351,264)	\$ 2,317,279
Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	6,270,138	-	(372,508)	-	1,153,331
Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$ 455,805,422	\$ 127,197	\$ (140,173)	\$ (351,264)	\$ 3,470,610

(Continued)

The accompanying notes are an integral part of these schedules.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

	O.C. Fire Authority	Cypress Recreation & Parks District	O.C. Department of Education	Transportation Corridor Agencies	City of San Juan Capistrano
Deferred Outflows of Resources					
Differences Between Expected and Actual Experience	\$ 24,478,887	\$ 2,252,572	\$ 380,618	\$ 615,484	\$ -
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	-	-	-	-	-
Changes of Assumptions	29,267,911	70,336	177,787	880,388	1,970,455
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	-	-	-	887,243
Total Deferred Outflows of Resources	\$ 53,746,798	\$ 2,322,908	\$ 558,405	\$ 1,495,872	\$ 2,857,698
Deferred Inflows of Resources					
Differences Between Expected and Actual Experience	\$ 38,937,675	\$ -	\$ 678,741	\$ 940,190	\$ 1,243,105
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	58,927,667	1,632,808	318,152	1,888,409	2,527,464
Changes of Assumptions	130,986	-	10,085	28,116	61,252
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	-	-	-	1,975,710
Total Deferred Inflows of Resources	\$ 97,996,328	\$ 1,632,808	\$ 1,006,978	\$ 2,856,715	\$ 5,807,531
Net Pension Liability as of December 31, 2019	\$ 354,395,457	\$ 262,415	\$ 3,099,339	\$ (1,753,164)	\$ 26,191,970
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
Proportionate Share of Allocable Plan Pension Expense	\$ 67,124,196	\$ 4,345	\$ 271,328	\$ 1,376,160	\$ 2,262,657
Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	-	-	-	(298,375)
Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$ 67,124,196	\$ 4,345	\$ 271,328	\$ 1,376,160	\$ 1,964,282

(Continued)

The accompanying notes are an integral part of these schedules.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

	O.C. Sanitation District	O.C. Transportation Authority	U.C.I Medical Center and Campus	Children and Families Commission of O.C.	O.C. Local Agency Formation Commission
Deferred Outflows of Resources					
Differences Between Expected and Actual Experience	\$ 9,606,499	\$ 2,331,117	\$ 1,790,493	\$ -	\$ -
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	-	-	-	62,383	-
Changes of Assumptions	12,311,067	21,920,909	1,425,191	(48,635)	112,068
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	449,137	-	-	-	246,158
Total Deferred Outflows of Resources	\$ 22,366,703	\$ 24,252,026	\$ 3,215,684	\$ 13,748	\$ 358,226
Deferred Inflows of Resources					
Differences Between Expected and Actual Experience	\$ 5,416,832	\$ 21,768,391	\$ 2,432,087	\$ (30,682)	\$ 70,700
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	25,420,889	26,953,240	2,670,933	-	143,747
Changes of Assumptions	372,978	595,454	79,608	(1,512)	3,484
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	9,214	-	-	1,652,118	77,447
Total Deferred Inflows of Resources	\$ 31,219,913	\$ 49,317,085	\$ 5,182,628	\$ 1,619,924	\$ 295,378
Net Pension Liability as of December 31, 2019	\$ (49,446,617)	\$ 224,284,548	\$ 30,213,739	\$ (646,472)	\$ 1,489,642
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
Proportionate Share of Allocable Plan Pension Expense	\$ 10,009,584	\$ 26,336,223	\$ 2,168,623	\$ (55,847)	\$ 128,686
Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	372,508	-	-	(539,747)	58,155
Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$ 10,382,092	\$ 26,336,223	\$ 2,168,623	\$ (595,594)	\$ 186,841

(Continued)

The accompanying notes are an integral part of these schedules.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

	City of Rancho Santa Margarita	O.C. Superior Court of California	O.C. IHSS Public Authority	Total for all Employers
Deferred Outflows of Resources				
Differences Between Expected and Actual Experience	\$ 1,242	\$ -	\$ -	\$ 55,757,456
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	-	-	-	62,383
Changes of Assumptions	480	25,335,345	173,542	419,380,310
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	4,270,636	84,750	28,080,600
Total Deferred Outflows of Resources	\$ 1,722	\$ 29,605,981	\$ 258,292	\$ 503,280,749
Deferred Inflows of Resources				
Differences Between Expected and Actual Experience	\$ 5,388	\$ 15,983,355	\$ 237,210	\$ 298,374,305
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,527	32,497,141	152,704	567,269,058
Changes of Assumptions	29	787,559	3,713	8,813,853
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	18,899,874	9,058	28,080,600
Total Deferred Inflows of Resources	\$ 7,944	\$ 68,167,929	\$ 402,685	\$ 902,537,816
Net Pension Liability as of December 31, 2019	\$ (2,214)	\$ 336,766,149	\$ 719,301	\$ 5,075,682,463
Pension Expense Excluding That Attributable to Employer-Paid Member Contributions				
Proportionate Share of Allocable Plan Pension Expense	\$ (95)	\$ 29,092,356	\$ 169,172	\$ 590,748,219
Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(6,685,009)	41,507	-
Total Employer Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	\$ (95)	\$ 22,407,347	\$ 210,679	\$ 590,748,219

The accompanying notes are an integral part of these schedules.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Notes to the Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

NOTE 1 – PLAN DESCRIPTION

The Orange County Employees Retirement System (OCERS or System) administers a cost-sharing multiple-employer defined benefit pension plan (the Plan) for the County of Orange, Orange County Superior Court of California, City of San Juan Capistrano, and ten special districts: Orange County Cemetery District, Children and Families Commission of Orange County, Orange County Employees Retirement System, Orange County Fire Authority, Orange County In-Home Supportive Services Public Authority, Orange County Local Agency Formation Commission, Orange County Public Law Library, Orange County Sanitation District, Orange County Transportation Authority and the Transportation Corridor Agencies. The Orange County Department of Education, University of California, Irvine Medical Center and Campus, Capistrano Beach Sanitation District, Cypress Recreation & Parks District, Orange County Mosquito and Vector Control District and City of Rancho Santa Margarita are no longer active employers, but retired members and their beneficiaries, as well as deferred members, remain in the System. Capistrano Beach is not presented in the accompanying schedule as this employer is no longer in existence and OCERS does not have the ability to collect any unfunded liabilities from this inactive employer. OCERS is legally and fiscally independent of the County of Orange.

OCERS provides retirement, disability and death benefits to general and safety members. Safety membership includes those members serving in active law enforcement, fire suppression and as probation officers. General membership applies to all other occupations. Plan retirement benefits are tiered based upon the date of OCERS membership. Additional information regarding the pensions plan's benefit structure is included in the Summary of Plan Description that is available on the web at: <https://www.ocers.org/summary-plan-description>.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Basis of Accounting

Employers participating in the Plan are required to report pension information in their financial statements 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 Allocated Pension Amounts by Employer (the Schedule) along with OCERS' audited financial statements, the GASB Statement 67 Actuarial Valuation as of December 31, 2019 and the GASB Statement 68 Actuarial Valuation Based on the December 31, 2019 Measurement Date for Employer Reporting as of June 30, 2020, prepared by OCERS' third-party actuary, provide the required information for financial reporting related to the Plan that employers may use in their financial statements.

The accompanying Schedule was prepared by OCERS' third-party actuary and was derived from information provided by OCERS in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental organizations.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
 Notes to the Schedule of Allocated Pension Amounts by Employer
 As of and for the Year Ended December 31, 2019

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Basis of Presentation and Basis of Accounting (Continued)

Legally or statutorily required employer contributions for the year ended December 31, 2019, less any amounts of those legally or statutorily required contributions that are paid by the employees (referred to as reverse pick-ups), are used as the basis for determining each employer’s proportion of total contributions. For the year ended December 31, 2019, employer paid member contributions of \$35,000 under Government Code Section 31581.1 which OCERS reports as employer contributions as these payments do not become part of the accumulated employee contributions, have been excluded in determining each employer’s proportion of total contributions. Contributions made by the employer on behalf of employees under Government Code Section 31581.2 are classified as employee contributions and are not included in the proportionate share calculation for the year ended December 31, 2019.

Employer contributions have not been reduced for discount due to prepaid contributions. Contributions for each employer are assigned to its respective participating Rate Group. Rate Groups are a collection of members who are or were employed by employers that offer similar pension benefit formula(s). Rate Groups exist for the purpose of risk-pooling and the contribution rates developed by the actuary should, in the long-term, fairly and accurately reflect the benefits offered/promised to members in each group. Rate Groups can contain one or more employers and employers may be included in one or more Rate Groups. If an employer participates in several Rate Groups, the employer’s total proportionate share of the Net Pension Liability (NPL) and related allocated pension amounts is the sum of its NPL and allocated pension amounts from each Rate Group.

The following Rate Groups have only one active employer, so all of the NPL for that Rate Group is allocated to the corresponding employer:

Rate Group	Employer
3	Orange County Sanitation District
4	City of Rancho Santa Margarita
5	Orange County Transportation Authority
6	County of Orange (Probation)
7	County of Orange (Law Enforcement)
8	Orange County Fire Authority (Safety)
9	Transportation Corridor Agencies
10	Orange County Fire Authority (General)
11	Orange County Cemetery District
12	Orange County Public Law Library

The total Plan contributions are determined through OCERS’ annual actuarial valuation process. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. California Government Code Title 3, Division 4, Parts 3 and 3.9, Articles 6 and 6.8 define the methodology used to calculate member basic contribution rates for General members and Safety members. The employer is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. Legally or statutorily required employer contributions were determined by multiplying the employers’ contribution rate by the employers’ payrolls for the fiscal year.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
 Notes to the Schedule of Allocated Pension Amounts by Employer
 As of and for the Year Ended December 31, 2019

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Basis of Presentation and Basis of Accounting (Continued)

The NPL is the Total Pension Liability (TPL) minus the Plan Fiduciary Net Position (plan assets). The TPL for each Rate Group is obtained from valuation results. The Fiduciary Net Position for each Rate Group is estimated by adjusting the valuation value of assets for each membership class by the ratio of the total Plan Fiduciary Net Position (excluding the balance of the County of Orange (County) Investment Account) to total OCERS’ valuation value of assets. The County Investment Account is then allocated among the four County Rate Groups using the proportion of the County’s most recent contributions that were derived from the proceeds of the Pension Obligation Bonds for each of the four County Rate Groups. The Orange County Sanitation District (OCSD) Unfunded Actuarial Accrued Liability (UAAL) Deferred Account balance of \$30,688,000 was allocated entirely to Rate Group 3 and \$18,631,000 was transferred at the end of the year to offset actuarial losses incurred during 2019, resulting in an account balance of \$12,057,000 as of December 31, 2019. The NPL is then allocated to the respective employers based on the legally or statutorily required employer contributions within each Rate Group.

In developing the pension expense amounts, the NPL proportionate share percentage is used to calculate the employer’s pension expense components (service cost, interest, change in benefit terms, differences between expected and actual experience, differences between actual and projected earnings on plan investments, changes in assumptions, employee contributions, and administrative expenses), with the exception of the Orange County Mosquito and Vector Control District (Vector Control), Cypress Recreation & Parks District (CRPD), University of California, Irvine Medical Center and Campus (UCI) and the Orange County Department of Education (OCDE) which were adjusted to reflect the appropriate amount of service costs based on their current inactive membership.

The employer contributions used to determine the NPL proportionate share percentage for Rate Group 1 excludes UCI, OCDE and the Vector Control employer contributions of \$2,789,000, \$267,000 and \$878,000, respectively. These employer contributions were intended to reduce the NPL of the specific employer, not the respective Rate Group as a whole. The percentages of contributions by employer do not equal the percentages used to allocate the NPL by employer because the NPL for the County has been reduced to reflect the portion of the County Investment Account, as described above. The amounts of the County Investment Account that have been allocated to those Rate Groups are as follows:

Rate Group	2019
1	\$5,558,363
2	92,443,896
6	9,607,620
7	42,806,121
Total	<u>\$150,416,000</u>

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Notes to the Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Basis of Presentation and Basis of Accounting (Continued)

In addition, the NPL for Rate Group 1 was adjusted by the NPL for Vector Control, OCDE, UCI and CRPD prior to allocating the net NPL to the other employers in Rate Group 1. The NPL for these four employers were calculated separately as follows:

The Vector Control is no longer an active employer, but retired members and their beneficiaries, as well as deferred members, remain in the Plan. For this employer, the allocated net pension liability is based on the most recent estimate of the withdrawal liability and adjusted to reflect the Plan Fiduciary Net Position as of December 31, 2019.

The participation in the Plan for the OCDE and UCI is closed to new members. The funding obligation for these employers' UAAL is no longer pro-rata based on its payroll as there are no active members. Instead, the employer's UAAL is determined based on its specific actuarial accrued liability and a share of assets allocated to the employer. The employer's contributions for its UAAL are to be paid at level, fixed-dollar amounts over a period not to exceed twenty years. The employer will also be liable, or receive a credit, for any change in its funding obligation determined annually thereafter as a result of actuarial experience or changes in actuarial assumptions.

On October 19, 2015, the Board of Retirement approved the amortization schedule for payment of the OCDE UAAL and UCI UAAL of \$3,238,000 and \$27,586,000, respectively. These balances were calculated based on the December 31, 2014 actuarial valuation assuming fixed-dollar payments over twenty years beginning on July 1, 2016. As per the Declining Payroll Policy, the UAAL balances were updated as of the December 31, 2018 actuarial valuation to reflect actuarial gains or losses and other events that will be captured in a new twenty-year closed amortization layer. The amortization schedules for the new UAAL layers for the OCDE and UCI, after being adjusted for interest to December 31, 2019, can be found on OCERS' website as discussed in Note 5 – Additional Financial and Actuarial Information.

CRPD and Capistrano Beach Sanitary District (CBSD) are no longer active employers. CRPD has twenty-three retired members and beneficiaries, as well as five deferred members, and CBSD has four retired members remaining in the Plan. At the time these employers left the System, OCERS did not have an express policy addressing how the UAAL would be funded for inactive employers. On October 15, 2018, OCERS entered into a withdrawing employer and continuing contribution agreement with the City of Cypress and received payment of the UAAL associated with CRPD members, including interest through October 14, 2018, for a total of \$740,000. As of December 31, 2020, and every three years thereafter, CRPD's UAAL obligation will be recalculated and in the event there is any new UAAL obligation, CRPD will have three years following the effective date of the recalculation to satisfy the obligation in full, including accrued interest. As of December 31, 2019, the allocated net pension liability is based on the most recent estimate of the withdrawal liability and adjusted to reflect the Plan Fiduciary Net Position as of December 31, 2019. CBSD is no longer in existence and OCERS does not have the ability to collect any UAAL from this inactive employer under OCERS' Declining Employer Payroll Policy; unpaid liabilities from this employer are deemed immaterial.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
 Notes to the Schedule of Allocated Pension Amounts by Employer
 As of and for the Year Ended December 31, 2019

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Use of Estimates in the Preparation of Financial Schedules

The preparation of the Schedule in conformity with GAAP requires management to make significant estimates and assumptions that affect the reported amounts during the reporting period. Actual results could differ from those estimates.

The components of the NPL related to OCERS’ plan at December 31, 2019, are as follows (dollars in thousands):

	2019
Total pension liability	\$ 21,754,263
Less: Plan fiduciary net position	(16,678,581)
Net pension liability	<u>\$ 5,075,682</u>

For the measurement period ended December 31, 2019 (the measurement date), total pension liability was determined by rolling forward the December 31, 2018 (the valuation date) total pension liability. The actuarial assumptions used were based on the results of an experience study for the period from January 1, 2014 through December 31, 2016.

NOTE 3 – ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods and Assumptions Used to Determine Total Pension Liability

The December 31, 2019 total pension liability was based on the following actuarial methods and assumptions:

Actuarial Experience Study	Three-Year Period Ending December 31, 2016
Actuarial Cost Method	Entry Age in accordance with the requirements of GASB Statement No. 68
Actuarial Assumptions	
Investment Rate of Return	7.00%. net of pension plan investment expenses; including inflation
Inflation Rate	2.75%
Projected Salary Increases	General: 4.25% to 12.25% and Safety: 4.75% to 17.25% Vary by service, including inflation
Cost of Living Adjustments	2.75% of retirement income

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Notes to the Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

NOTE 3 – ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

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

Mortality Assumptions

The mortality assumptions used in the TPL at December 31, 2019, were based on the results of the actuarial experience study for the period January 1, 2014 through December 31, 2016, using the Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table as a starting point, projected generationally using the two-dimensional Scale MP-2016, with age adjustments, and adjusted separately for healthy and disabled for both general and safety members.

Discount Rate

The discount rate used to measure the TPL as of December 31, 2019 was 7.00%. In determining the discount rate OCERS took into account the projection of cash flows and assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only 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 Plan's 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 total pension liability as of December 31, 2019.

According to Paragraph 30 of Statement 68, the long-term expected rate of return should be determined net of pension plan investment expense but without reduction for pension plan administrative expense.

The 7.00% investment return assumption used in the actuarial valuation for funding is net of administrative expenses. Administrative expenses are assumed to be 13 basis points. The investment return assumption remained the same for reporting purposes due to the immaterial impact administrative expenses has on the overall assumed rate of return.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and 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 rate of return by the target asset allocation percentage and by adding expected inflation and deducting expected investment expenses. Additional information on the target allocation and projected arithmetic real rate of return for each major asset class is available in the OCERS' Comprehensive Annual Financial Report for the year ended December 31, 2019, which can be found on OCERS' website at www.ocers.org.

Orange County Employees Retirement System
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan
Notes to the Schedule of Allocated Pension Amounts by Employer
As of and for the Year Ended December 31, 2019

NOTE 3 – ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

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

Amortization of Deferred Outflows and Deferred Inflows of Resources

The net difference between projected and actual investment earnings on pension plan investments in the Schedule represents the unamortized balance relating to the current measurement period and the prior measurement periods on a net basis. The net difference between projected and actual investment earnings on pension plan investments is amortized over a five-year period on a straight-line basis beginning with the year in which they occur. One-fifth was recognized in pension expense during the measurement period, and the remaining net difference between projected and actual investment earnings on pension plan investments at the measurement date is to be amortized over the remaining period.

Deferred outflows of resources and deferred inflows of resources related to the differences between expected and actual experience, changes of assumptions, and changes in proportion and differences between employer contributions and proportionate share of contributions are recognized over the average of the expected remaining service lives of all employees that are provided with pensions through the Plan determined as of December 31, 2018 (the beginning of the measurement period ending December 31, 2019) which is 5.86 years. Prior measurement period differences between expected and actual experience, changes of assumptions, and changes in proportion and differences between employer contributions and proportionate share of contributions continue to be recognized based on the expected remaining service lives of all employees calculated as of the beginning of those measurement periods.

The Schedule of Allocated Pension Amounts by Employer does not reflect contributions made to OCERS subsequent to the measurement date as defined in GASB Statement No. 68 paragraph 57. Appropriate treatment of such amounts is the responsibility of the employers.

NOTE 4 – SUBSEQUENT EVENT

In fiscal year 2019, a novel strain of the coronavirus COVID-19 has spread around the world causing a global public health emergency and economic disruption. As of the date of this report, OCERS is able to perform all necessary business functions. The extent to which the COVID-19 pandemic may impact OCERS' NPL and its allocation of pension amounts by employer going forward is uncertain and cannot be predicted at this time.

NOTE 5 - ADDITIONAL FINANCIAL AND ACTUARIAL INFORMATION

Additional financial and actuarial information required for GASB Statement No. 68 disclosures is presented in OCERS' Comprehensive Annual Financial Report as of and for the year ended December 31, 2019, the OCERS' GASB Statement No. 67 Actuarial Valuation as of December 31, 2019, the OCERS' GASB Statement No. 68 Actuarial Valuation Based on the December 31, 2019, Measurement Date for Employer Reporting as of June 30, 2020, and the Unfunded Actuarial Liability and Associated Amortization Schedules as of the December 31, 2018 valuation for the Orange County Department Education and University of California, Irvine Medical Center and Campus, which can be found on OCERS' website at www.ocers.org.

**ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM
2223 E. WELLINGTON AVENUE, SUITE 100
SANTA ANA, CALIFORNIA**

**AUDIT COMMITTEE MEETING
April 20, 2020
11:00 a.m.**

MINUTES

OPEN SESSION

The Chair called the meeting to order at 11:00am.

Attendance was as follows:

Present via Zoom Video conference pursuant to Executive Order N-29-20 issued by Governor Newsom on March 17, 2020:

Frank Eley, Chair; Shari Freidenrich, Vice Chair; Charles Packard; Jeremy Vallone

Also Present via Zoom:

David Kim, Director of Internal Audit; Steve Delaney, Chief Executive Officer; Gina Ratto, General Counsel; Suzanne Jenike, Assistant CEO, External Operations; Brenda Shott, Assistant CEO, Internal Operations; Mark Adviento, Internal Auditor; Sonal Sharma, Recording Secretary; Anthony Beltran, Audio Visual Technician.

PUBLIC COMMENT

None.

C-1 APPROVE AUDIT COMMITTEE MINUTES

Audit Committee Meeting Minutes

January 13, 2020

MOTION was made by Packard, **seconded** by Vallone to approve the minutes.

The motion passed **unanimously**.

I-1 2019 FINANCIAL STATEMENT AUDIT – ENTRANCE CONFERENCE

Presentation by Linda Hurley and Amy Chiang, Macias Gini & O’Connell

A-2 REVIEW OF OCERS’ ETHICS, COMPLIANCE, AND FRAUD HOTLINE POLICY

Presentation by David Kim, Director of Internal Audit

Audit Committee Meeting
April 20, 2020

Recommendation: Approve, and recommend that the Board approve, revisions to the Ethics, Compliance, and Fraud Hotline Policy.

MOTION by Packard, seconded by Vallone to approve, and recommend that the Board approve, revisions to the Ethics, Compliance, and Fraud Hotline Policy.

AMENDED MOTION by Packard, seconded by Vallone, to approve staff’s recommendation with the addition to paragraph 12 of the Policy:

“ 12. The final outcome of all investigations will be reviewed with the Chair of the Audit Committee and a summary will be submitted to the Audit Committee unless deemed confidential by the Director of Internal Audit in consultation with the Chief Executive Officer, the Chair of the Audit Committee **and Legal Counsel.** ”

The motion passed **unanimously.**

I-2 STATUS UPDATE OF 2020 AUDIT PLAN
Written Report

COMMITTEE MEMBER COMMENTS

None.

CHIEF EXECUTIVE OFFICER/STAFF COMMENTS

None.

COUNSEL COMMENTS

None.

ADJOURNMENT

The Chair adjourned the meeting at 11:49pm.

Submitted by:

Approved by:

Steve Delaney
Secretary to the Board

Frank Eley
Chair



Memorandum

DATE: June 4, 2020
TO: Members of the Audit Committee
FROM: D. Kim, Director of Internal Audit
SUBJECT: **AUDIT REPORT – INFORMATION TECHNOLOGY GENERAL CONTROLS**

Presentation

Background/Discussion

As per the 2019 Audit Plan, Internal Audit performed an audit of OCERS Information Technology General Controls.

There were four observations directed towards OCERS management. Further details on the observations and management's responses are provided in the audit report.

The full audit report is attached.

Submitted by:

DK - Approved

David Kim
Director of Internal Audit



Audit of Information Technology General Controls (ITGC)

Report Date: June 4, 2020

Internal Audit Department

David Kim, Director of Internal Audit

Mark Adviento, Internal Auditor

OCERS Internal Audit
Audit of Information Technology General Controls (ITGC)
June 4, 2020

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Audit Objective and Scope

The objective of this audit was to provide an independent review of the OCERS Information Technology General Controls (ITGC) that mitigate corresponding ITGC risks, to ensure the controls are designed and operating effectively.

The scope of the audit included the testing of ITGCs focusing on logical and physical security, IT operations, software development and change management controls. The systems inspected as part of this audit included OCERS' intranet portal, pension and financial systems. The time period covered was August 2018 through August 2019.

The audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing issued by the International Internal Audit Standards Board.

Conclusion / Executive Summary

Opinion: <i>Opportunities for Improvement</i>
--

Overall, the processes are in place to ensure that OCERS is effectively addressing general control risks present in the IT environment, which include risks around change management, operational security, backup and restoration, application security, and technology service provider outsourcing.

There were four Important Observations, which included the need to consistently apply access management processes around user access reviews, as well as segregate administrative access to key systems, to ensure systems are adequately configured to restrict access to properly authorized and appropriate users. In addition, formalizing a process to annually obtain and review System and Organizational Control (SOC) reports for relevant technology vendors, and maintaining data flow diagrams, are necessary to enhance IT risk management documentation and decisions. We also noted opportunities to enhance documentation related to change management testing.

Background

IT General Controls play a critical role in risk management as OCERS increasingly plans, manages, and monitors rapidly changing technologies to enable it to deliver superior services and support to its members with the highest standards of excellence. The rate of these changes and the resulting increased reliance on technology result in IT risk exposures throughout the organization, including the areas of change management, operational security, backup and restoration, application security, and technology service provider outsourcing. As threats to data and systems have evolved, so have the requirements for managing IT risks and safeguarding member information.

This Audit of IT General Controls is OCERS' first IT internal audit in recent history; however, OCERS' external auditor has annually conducted limited procedures around OCERS' IT general controls focused on financial reporting risks. OCERS IT's objective align with organizational goals and mission, and identifies the key technology investments over the next several years as being security and data protection, and modernizing systems and providing new services for staff and members. To help meet its strategic goal of cultivating a risk-intelligent organization, OCERS added an Information Security department to expand OCERS' security programs. These changes highlight the importance of IT general controls, which serve as the foundation of OCERS' IT control environment. To address IT general control risks, OCERS has developed a set of key standards in its IT Logical Security Policy, currently in draft form.

Important Observations

- ▶ **Administrator access granted to the financial reporting and intranet portal applications present a higher than normal risk due to segregation of duties concerns.** During testing, we noted four end users are setup with administrative access on the financial reporting application due to defined roles limitations and three developers are setup with administrative access to the intranet portal application, creating a potential segregation of duties conflict. Based on the privileged permissions granted, users may be able to bypass system and application controls to manipulate the systems and/or data without proper oversight. In response to the observation, OCERS will include the proper segregation of duties controls as part of the new financial system to be implemented in 2021. In addition, OCERS IT will monitor the audit trail and review changes made to the intranet portal source code repository.
- ▶ **OCERS should formalize a process to annually obtain and review SOC2 reports for relevant IT vendors.** We noted vendor review processes are in place for key IT vendors. However, the organization's vendor monitoring procedures does not include a formal annual review of System and Organization Control (SOC reports) from its IT service providers. The lack of monitoring of vendors' SOC2 reports increases the risk that the IT vendors' control environment, and their ability to continually provide secure, efficient and effective service delivery, are not evaluated for their potential impact to OCERS. OCERS IT is developing a process to secure and review SOC2 reports from IT vendors.
- ▶ **OCERS does not maintain data flow diagrams or other documentation of information flow both internally and to external parties.** We noted there is no formal documentation in place to illustrate where sensitive data may reside and flow both within the OCERS environment and to/from external parties. Without a formal process for tracking the flow and nature of data, appropriate safeguards to secure sensitive data may not be in place. During our discussions, we noted management is aware of the concern, and an initiative around data identification and data classification is currently underway. OCERS IT is identifying data elements within the pension benefit system and may develop data flow diagrams as part of future process improvements.

- ▶ **Evidence of testing of intranet portal changes are not retained.** In our review of the testing of intranet portal changes, we were unable to obtain evidence of the changes being tested prior to implementation for 14 of the 16 samples. Upon further inquiry, the sampled changes appear to be authorized and communicated, but the evidence of testing and related approvals was not retained. New changes implemented into the production environment, if not tested, can lead to inaccurate reports, system failures, business disruption, and a failure to meet stakeholder requirements. In response to our observations, OCERS IT included a field in the Intranet Portal IT Programming Requests to capture testing results and supporting testing documentation.

Copies to:

S. Delaney
S. Jenike
M. Murphy
G. Ratto
B. Shott

J. Doezie
M. Eakin
J. Sadoski
J. Gossard
J. Lara

B. Johnson
Audit Committee Members

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
Important Observations	
<p>1. Administrator access granted to the financial reporting and intranet portal applications present a higher than normal risk due to segregation of duties concerns.</p> <p>Administrator access inherently presents a higher risk to the organization, as this privileged level of access presents the ability to override system or application controls. To allow proper segregation of duties, administrator accounts should be restricted to users who are not end users of the system as well as users who are not developers of the system.</p> <p>During our testing, we noted:</p> <ul style="list-style-type: none"> Σ 4 end users are setup with administrative access on the financial reporting application due to a lack of specific roles defined within the system, creating a potential segregation of duties conflict. We noted that Finance is in the process of procuring a new financial reporting application, and the security administration model for the application will be redesigned during the implementation. Σ 3 developers are setup with administrative access to the intranet portal application, creating a potential segregation of duties conflict. These 3 developers also have access to the intranet portal source code repository, resulting in an elevated risk that change management controls over the intranet portal can be overridden. <p>Risks:</p> <p><u>End user access</u> End users being setup with privileged access within the financial reporting application may result in segregation of duties conflicts. Finance personnel may</p>	<p>Management Action Plans: As OCERS is in the process of issuing an RFP for a new financial accounting system, we will defer changes to our current financial accounting system, and focus on building a secure segregated system with the appropriate controls and check and balances as part of the new system to be implemented in 2021.</p> <p>Due to the size of the OCERS IT Programming group, team members share many administrative responsibilities and needs to be able to cover for other team member assignments and responsibilities when out of the office.</p> <p>Both the intranet portal and the intranet portal source code repository provide account auditing features that track all changes are made, along with the user that made the change. This information is reported daily to the IT Programming Supervisor, so that he and the IT Management team have complete visibility into any administrative operations that are performed and by whom.</p> <p>In addition to this audit trail, we have implemented a mandatory workflow process with each IT Programming Request that requires the review of a secondary team member when making changes to the intranet portal or source code in the intranet portal source code repository. This serves as an additional</p>

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>be able to bypass system and application controls and process transactions without sufficient oversight.</p> <p><u>Developer access</u> Developers with privileged access within the production environment may lead to segregation duties conflicts. Developers may be able to bypass change management controls to deploy changes without oversight.</p>	<p>validation and backup to protect against segregation of duties concerns.</p> <p>MAP Responsible Parties: ∑ Jenny Sadoski, Director of Information Technology; ∑ Brandon Johnson, IT Programming Supervisor (Intranet Portal/Intranet Portal Source Code Repository); ∑ Tracy Bowman, Director of Finance (financial accounting system replacement)</p> <p>Completion Dates: ∑ Intranet Portal/Intranet Portal Source Code Repository: February 28, 2020 ∑ Financial Accounting System Replacement: June 30, 2021</p>
<p>2. OCERS should formalize a process to annually obtain and review SOC2 reports for relevant IT vendors.</p> <p>We noted vendor review processes are in place for key IT vendors. However, the organization’s vendor monitoring procedures does not include a formal annual review of System and Organization Control (SOC) reports from its non-finance and investment service providers.</p> <p>A SOC report is an attestation from an independent audit firm, which tests a service organization’s internal controls and issues a report on their effectiveness. SOC reports issued by independent auditors are intended to give the service organization’s customers assurance in regards to the outsourced services. A SOC2 report is for technology risk areas, such as security, availability, processing integrity, confidentiality, and privacy of data.</p> <p>Like most organizations, OCERS outsources various tasks and functions to 3rd party IT service providers. A review of SOC2 reports released by the IT service provider will assist OCERS in assessing the risk posture within the IT service provider’s environment and its potential impact on OCERS. This responsibility</p>	<p>Management Action Plans: OCERS has developed criteria to identify IT vendors and technology service providers’ requiring SOC2 reports, and will enhance our systems to notify staff to request and review SOC2 reports annually. Process and review documentation is being developed along with updates to our procurement process to mandate SOC2 reports as a deliverable</p> <p>MAP Responsible Party: Jenny Sadoski, Director of Information Technology</p> <p>Completion Date: June 30, 2020</p>

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>is typically assigned to a senior member of the end-user department who procured the service. For example, if the general ledger system was provided by a 3rd party IT service provider, the finance manager or another senior finance personnel should review the SOC2 report and assess the potential impact of any findings from the SOC2 report on the accuracy, completeness, timeliness of OCERS' financial reporting.</p> <p>Risk: The lack of monitoring of IT vendors' SOC2 reports increases the risk that the vendors' control environment, and their ability to continually provide secure, efficient and effective service delivery, are not evaluated for their potential impact to OCERS.</p>	
<p>3. OCERS does not maintain data flow diagrams or other documentation of information flow both internally and to external parties.</p> <p>OCERS does not maintain a data flow diagram to illustrate where sensitive data may reside and flow both within the OCERS environment and to/from external parties.</p> <p>We noted there is no formal documentation in place to illustrate where sensitive data may reside and flow both within the OCERS environment and to/from external parties. Without a formal process for tracking the flow and nature of data, appropriate safeguards for data may not be properly implemented. During our discussions, we noted management is aware of the concern, and an initiative around data identification and data classification is currently underway.</p> <p>Risk: Appropriate safeguards for data may not be properly implemented if the organization does not maintain a formal process for tracking the flow and nature of data, especially as the environment changes.</p>	<p>Management Action Plans: Phase one of OCERS Data Classification project, will identify data elements in our pension benefit system and include the creation of data flow diagrams for data elements classified as "sensitive". In addition, OCERS IT Programming team will develop data flow diagrams of their internal datasets and reporting platform.</p> <p>Additional data flow diagrams may be developed along with process flow diagrams as part of future lean process improvements.</p> <p>MAP Responsible Party: Jenny Sadoski, Director of Information Technology</p> <p>Completion Date: December 31, 2020</p>
<p>4. Evidence of testing of Intranet portal changes are not retained.</p> <p>Due to the dynamic nature of technology operations environments, change management procedures and controls should be in place to manage changes.</p>	<p>Management Action Plans: Currently, OCERS IT Programming records all requested changes to its intranet portal environment in an IT Programming Request list located on OCERS Intranet site. The list includes automated notifications sent to stakeholders</p>

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>We attempted to inspect 16 intranet portal changes to confirm that changes were authorized, tested, approved, documented, and properly implemented. For 14 of the 16 samples inspected, we were not able to obtain evidence of the changes being tested prior to implementation.</p> <p>The sampled changes appear to be authorized and communicated. However, in order to demonstrate that changes are properly tested and approved, the evidence of testing and related approvals should be retained.</p> <p>Risk: New changes implemented into the production environment, if not tested, can lead to inaccurate reports, system failures, business disruption, and a failure to meet stakeholder requirements.</p>	<p>and approval workflows generated for approvals and sign off of requests.</p> <p>To better capture evidence of testing performed prior to implementing changes to the intranet portal or hosted reports, this ticketing system has been modified to include a field for 'Testing Performed'. This field will be used to specifically capture testing that was performed by the developer and/or the end user prior to the implementation of the change. In addition, this field will include instructions the 'attach supporting testing documentation as necessary'.</p> <p>MAP Responsible Party: Brandon Johnson, IT Programming Supervisor</p> <p>Completion Date: February 28, 2020</p>

Categories of Observations (Control Exceptions):

Priority Observations:

These are observation(s) that represent critical exceptions to the audit objective(s) and/or business goals. Such conditions may involve either actual or potential large dollar errors or be of such a nature as to compromise OCERS' reputation or integrity. Management is expected to address Priority Observations brought to its attention immediately.

Important Observations:

These items are important to the process owner and they do impact the control environment and/or could be observations for improving the efficiency and/or effectiveness of OCERS' operations. Management is expected to address within six to twelve months.

Management's Responsibility for Internal Control

Management has primary responsibility for establishing and maintaining the internal control system. All levels of management must be involved in assessing and strengthening internal controls. Control systems shall be continuously evaluated by Management and weaknesses, when detected, must be promptly corrected. The criteria for evaluating an entity's internal control structure are the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework. Our Internal Control Audit enhances and complements, but does not substitute for department management's continuing emphasis on control activities and self-assessment of control risks.

Internal Control Limitations

Because of inherent limitations in any system of internal control, errors or irregularities may nevertheless occur and not be detected. Specific examples of limitations include, but are not limited to, resource constraints, unintentional errors, management override, circumvention by collusion, and poor judgment. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or the degree of compliance with the procedures may deteriorate. Accordingly, our audit would not necessarily disclose all weaknesses in the department's operating procedures, accounting practices, and compliance with OCERS' policies.

Audit Report Opinions:

Satisfactory:

No issues or a limited number of “Important Observations”.

Opportunities for Improvement:

Multiple issues classified as “Important Observations” with limited or no “Priority Observations”.

Inadequate:

Usually rendered when multiple issues are classified as “Priority”, together with one or more other issues classified as “Important Observations”. The Priority Observations identified have a major effect on processes, plan sponsors/members, financials, and/or regulatory requirements.



Memorandum

DATE: June 4, 2020
TO: Members of the Audit Committee
FROM: D. Kim, Director of Internal Audit
SUBJECT: **AUDIT REPORT – PENSIONABLE PAY ITEMS REVIEW**

Presentation

Background/Discussion

As per the 2019 Audit Plan, Internal Audit performed an audit of management's controls over the compilation of pay items applicable to OCERS Employers as part of the Master Final Average Salary project presented to the Board in June of 2019.

There were three observations directed towards OCERS management. Further details on the observations and management's responses are provided in the audit report.

The full audit report is attached.

Submitted by:

DK - Approved

David Kim
Director of Internal Audit



Audit of Pensionable Pay Item Review

Report Date: June 4, 2020

Internal Audit Department

David Kim, Director of Internal Audit

Mark Adviento, Internal Auditor

OCERS Internal Audit
Audit of Pensionable Pay Item Review
June 4, 2020

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Audit Objective and Scope

The objective of this audit was to evaluate the adequacy and effectiveness of management's controls over the compilation of the list of pay items applicable to OCERS Employers as part of the Master Final Average Salary project. The list of pay items was communicated to the Board and OCERS Employers upon completion in June of 2019.

The scope of the audit included the OCERS internal working group's supporting documentation, Master Pay Item file, V3 pay item configurations and pay item pensionable status determined by management based on the OCERS' Pay Item Review Policy.

The audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing issued by the International Internal Audit Standards Board.

Conclusion / Executive Summary

Opinion: <i>Opportunities for Improvement</i>
--

During our review, Internal Audit noted opportunities exist to improve processes and controls in relation to the review of the pay item list and subsequent V3 updates. There were three Important Observations. The observations included reconciling the pay item list and V3; Member Services confirming the pay item configurations in V3 were implemented as requested; and improving Employer communications to identify MOU pay item changes.

Background

As one of the 2018 Business Plan Initiatives, OCERS performed a review of all pay items across all active Employers to determine the pensionable status. The OCERS Final Average Salary project team consisted of representatives from Member Services and Legal. The project team would determine whether a pay item is considered Compensation Earnable (Legacy) or Pensionable Compensation (PEPRA) by comparing pay item information gathered from Employer documentation (MOUs, salary agreements and various other documents) to a set of legal standards. The goal of the initiative was to develop a comprehensive list of all pay items transmitted to OCERS with accurate pensionable pay attribute determinations. Additionally, the team developed a process for Employers to request new pay items for OCERS approval going forward, *Pay Item Review Policy*, approved by the Board in March of 2019. The Master Final Average List of pay items was approved by the Board at the June 2019 Board meeting.

Important Observations

- ▶ **A formal reconciliation was not performed to ensure the pay items reported to the Board accurately and completely corresponded with the configuration in V3.** The list of pay items reviewed by the project team were not reconciled among the file presented to the Board, the data configured in V3 and supporting documents. Internal Audit's independent reconciliation noted variances resulting in under and over contribution payment as well as incorrect V3 plan type designations and the pensionable attributes of pay items reported to the Board. Member Services performed an analysis of the variances noted in the audit and calculated \$11,821 in overpayments and \$6,073 in under payments of contributions. In response to our observation, Member Services will perform periodic reconciliations to confirm the completeness and accuracy of the pay item list in V3 and in the file reported to the Board.
- ▶ **Member Services does not have written procedures in regards to the processing, review and authorization of Employer pay items into V3.** Internal Audit was unable to confirm Member Services had reviewed the pay item changes in V3. The lack of a formal process to confirm that the requested changes to V3 were properly made increases the risk of new Employer pay items not being processed completely and accurately. In response to our observation, Member Services will develop a formal process to confirm V3 configurations along with the appropriate documentation once IT has updated the data in V3.
- ▶ **A process does not exist to identify updates to Employer documentation that may impact the list of pay items.** When comparing a sample of pay items from the most recent Employer documentation (MOU) to the project team's working file, differences in the details of two (2) out of the 35 sampled were noted. The differences were due to recent revisions to the selected MOUs that were not reflected in the pay item file. Undetected changes to Employer pay items may not be processed per the OCERS Board Policy - Pay Item Review in an accurate or timely manner. Member Services will develop a process to monitor adjustments to employer documentation to supplement the current pay item request process.

Copies to:

S. Delaney
S. Jenike
M. Murphy
G. Ratto
B. Shott

J. Lamberson
M. Persi
J. Sadoski
M. Wood
Audit Committee Members

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p align="center">Important Observations</p>	
<p>1. A formal reconciliation was not performed to ensure the pay items reported to the Board accurately and completely corresponded with the configuration in V3.</p> <p>Internal Audit performed an independent reconciliation regarding the 573 pay items that were approved by the Board, using the file presented at the June 2019 Board meeting. Internal Audit noted a total of 132 variances. Member Services was able to assess the possible over- or underpayments of contributions due to the variances:</p> <ul style="list-style-type: none"> - 7 pay items variances impacted contribution payments and will need to be reconfigured in V3. Of the 7 pay items, 5 pay items resulted in an overpayment of \$11,821 and 2 pay items resulted in \$6,073 in underpayments. - The remaining 125 pay item variances did not impact contribution payments but require record corrections in the following manner: <ul style="list-style-type: none"> o 20 pay items require corrections to the list of pay items reported to the Board, with 6 of the 20 requiring configuration updates to V3 as well. o 105 pay items only require configuration updates to V3. <p>In discussions with Member Services and Legal, it was determined that a reconciliation was not formally performed among the file approved by the Board, to</p>	<p>Management Action Plan:</p> <p>Member Services will address the variances noted in the audit, which includes making the appropriate configuration updates to the V3 system, communicating the updates to the Employers and following procedures in the OCERS' Overpaid and Underpaid Plan Contributions Policy in regards to the over and underpayment of contributions of the variances noted. At the next update to the Board, Member Services will include the corrections identified in this audit for pensionable attributes of relevant pay items.</p> <p>Going forward, Member Services will develop a process to perform a full reconciliation of the pay item file presented to the Board with the pay item configurations in the V3 system periodically, at least prior to the annual presentation to the Board to ensure accurate and complete reporting of pay items to the Board. Any discrepancies identified by the reconciliation will be addressed as needed.</p> <p>Management Action Plan Responsible Party: Suzanne Jenike, Assistant CEO, External Operations</p> <p>Completion Date: June 30, 2020 or prior to the next Board presentation, whichever is later.</p>

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>what was configured in V3 and the supporting documentation.</p> <p>Member Services has noted there are currently Error and Exception and Contribution Discrepancy reports that are intended to identify variances in transmittal between Employer and OCERS. However, a reconciliation would have prevented the above noted variances not identified by the Discrepancy reports.</p> <p>Risk: If a reconciliation is not formally performed on the pay items list, there is potential for under or over payments in contributions and over or under reported Final Average Salary.</p>	
<p>2. Member Services does not have written procedures in regards to the processing, review and authorization of Employer pay items into V3.</p> <p>In accordance with OCERS Board Policy - Pay Item Review, Employers must submit a new pay item request for approval to OCERS 30 days before implementation of the pay item so OCERS can determine whether the requested pay item is pensionable and can be included in final average salary.</p> <p>Member Services staff must follow specific steps when evaluating the pay item to determine whether it is pensionable (by using the applicable criteria for Compensation Earnable for Legacy members and Pensionable Compensation for PEPRA members).</p>	<p>Management Action Plan:</p> <p>Member Services has since implemented a process to review the configurations made by OCERS IT to ensure every new or updated Pay Item is configured accurately in OCERS V3 Pension Administration System. This process will include a post review notification to all stakeholders from Member Services (IT, Member Services Director, and the Assistant CEO of External Operations) that will be kept in the same Network Directory as the rest of the supporting documentation (e.g. New Pay Item Submission Form, MOU/Side Letter Agreements, New Pay Item approvals)</p> <p>In addition to the above procedure, Member Services is working with our third party vendor (Vitech) to implement a process for submitting and approving pay items within the V3 Pension Administration Software. Early analysis began prior to the work from home order.</p>

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>However, additional procedures must also be performed in order to confirm the new pay item is properly configured in V3. This includes reviewing the pay item attributes (e.g. plan type, pensionable factor) directly in V3 and documenting the approval for requesting any further changes. Currently, a Member Services process of confirming the configuration changes in V3 is not performed and are thus not documented.</p> <p>Risk: The lack of a formal process to confirm that the requested changes to V3 were properly made increases the risk that new Employer pay items will not be processed completely and accurately.</p>	<p>Management Action Plan Responsible Party: Mike Persi, Manager of Employer Payroll Team</p> <p>Completion Date: Process for reviewing configuration updates is in place and will be documented – June 30, 2020</p>
<p>3. A process does not exist to identify updates to Employer documentation that may impact the list of pay items.</p> <p>As part of the Master Final Average Salary project, Member Services, with the assistance from Legal, reviewed Employer documentation to determine whether a pay item is pensionable and can be included in final average salary. However, in certain instances, the Employer documentation (i.e. MOUs, maintenance agreements) had been updated since the completion of the project.</p> <p>Internal Audit noted two (2) out of 35 instances in which the pay item information were included in the updated Employer documentation but were not in the project team’s supporting documentation. However, if the pay codes were included in a payroll transmittal,</p>	<p>Management Action Plan:</p> <ul style="list-style-type: none"> ▶ Member Services is in the process of documenting all current MOU’s and will draft an update to the pay item review procedure to include a section on monitoring MOU’s for adjustments made by Employers to ensure Employers have obtained OCERS approval prior to implementing a new pay item. ▶ Currently, the Employer is required to submit a “pay item request form” to OCERS for approval in order to add a new or adjust an existing pay item. This is required to be done at least two pay periods prior to implementation of the pay item in the Employer payroll. If however an Employer attempts to pass a pay item that has not been added for that Employer, the system will produce an error for the Employer when they submit the payroll. This process assists Member Services in monitoring the implementation of pay items directly by the Employer.

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>the pay codes would error out in V3 if the codes were not created in V3.</p> <p>Member Services has requested to be included in communications when there is a change to Employer documentation. However, the communication has not been consistently performed.</p> <p>Risk: Undetected changes to Employer pay items may not be processed per the OCERS Board Policy - Pay Item Review in an accurate or timely manner.</p>	<p>Management Action Plan Responsible Party: Mike Persi, Manager of Employer Payroll Team</p> <p>Completion Date: October 30, 2020</p>

Categories of Observations (Control Exceptions):

Priority Observations:

These are observation(s) that represent critical exceptions to the audit objective(s) and/or business goals. Such conditions may involve either actual or potential large dollar errors or be of such a nature as to compromise OCERS' reputation or integrity. Management is expected to address Priority Observations brought to its attention immediately.

Important Observations:

These items are important to the process owner and they do impact the control environment and/or could be observations for improving the efficiency and/or effectiveness of OCERS' operations. Management is expected to address within six to twelve months.

Management's Responsibility for Internal Control

Management has primary responsibility for establishing and maintaining the internal control system. All levels of management must be involved in assessing and strengthening internal controls. Control systems shall be continuously evaluated by Management and weaknesses, when detected, must be promptly corrected. The criteria for evaluating an entity's internal control structure are the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework. Our Internal Control Audit enhances and complements, but does not substitute for department management's continuing emphasis on control activities and self-assessment of control risks.

Internal Control Limitations

Because of inherent limitations in any system of internal control, errors or irregularities may nevertheless occur and not be detected. Specific examples of limitations include, but are not limited to, resource constraints, unintentional errors, management override, circumvention by collusion, and poor judgment. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or the degree of compliance with the procedures may deteriorate. Accordingly, our audit would not necessarily disclose all weaknesses in the department's operating procedures, accounting practices, and compliance with OCERS' policies.

Audit Report Opinions:

Satisfactory:

No issues or a limited number of “Important Observations”.

Opportunities for Improvement:

Multiple issues classified as “Important Observations” with limited or no “Priority Observations”.

Inadequate:

Usually rendered when multiple issues are classified as “Priority”, together with one or more other issues classified as “Important Observations”. The Priority Observations identified have a major effect on processes, plan sponsors/members, financials, and/or regulatory requirements.



Memorandum

DATE: June 4, 2020
TO: Members of the Audit Committee
FROM: D. Kim, Director of Internal Audit
SUBJECT: **AUDIT REPORT – ORANGE COUNTY SANITATION DISTRICT PAYROLL TRANSMITTALS**

Presentation

Background/Discussion

As per the 2020 Audit Plan, Internal Audit performed an audit of Orange County Sanitation District (OCSD) Payroll Transmittals.

There was one observation directed towards OCSD management. Further details on the observation and management's response are provided in the audit report.

The full audit report is attached.

Submitted by:

DK - Approved

David Kim
Director of Internal Audit



**Audit of Orange County Sanitation District
(OCSD) Payroll Transmittals**

Report Date: May 26, 2020

Internal Audit Department

David Kim, Director of Internal Audit

Mark Adviento, Internal Auditor

OCERS Internal Audit
Audit of OCSD Payroll Transmittals
May 26, 2020

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Audit Objective and Scope

The objective of this audit was to provide an independent review of the completeness and accuracy of the Orange County Sanitation District (OCSD) payroll transmittal data. This includes, but is not limited to, the controls OCERS/OCSD management has in place over the payroll transmittals.

The scope of the audit included OCSD's payroll data submitted to OCERS between January 2018 and December 2019 on a sample basis

The audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing issued by the International Internal Audit Standards Board.

Conclusion / Executive Summary

Opinion: *Satisfactory*

Internal Audit reviewed, on a sample basis, OCSD's supporting documentation for the pensionable pay reported in its payroll transmittals to OCERS. We verified that base pay reported by OCSD matched OCSD human resource records and publicly available pay schedules. For premium pay items, we verified against OCSD's supporting documentation evidencing that the employee was entitled to that premium pay, such as certification pay. We also recalculated contributions collected from OCSD to ensure that contribution rates matched with Segal's Board approved contribution rates. Additionally, we noted that OCSD has controls in place to ensure its compliance with OCERS' Board Membership Eligibility Policy. This policy clarifies the rules that an Employer must use as the basis for determining eligibility of employees to be members of OCERS. There was one Important Observation, regarding the need to correct overstated pensionable pay and over paid contributions to OCERS for one employee in our test sample.

Background

During calendar years 2017 and 2018, OCSD reported \$63.5 million and \$65.0 million in total pensionable pay, respectively, which included \$3.3 million and \$3.2 million, respectively, in premium pay items. Also during 2017 and 2018, OCSD paid a total of \$14.8 million and \$15.2 million, respectively, in contributions to OCERS (\$7.5 million and \$7.8 million, respectively, from employees and \$7.3 million and \$7.4 million, respectively, from OCSD the employer). As of December 31, 2018 OCSD had 616 active members, which included 209 classified as PEPRA members.

Important Observations

- ▶ **An employee in our sample was not entitled to receive a pensionable premium pay item, resulting in an overpayment of that pensionable premium pay item (and contributions paid to OCERS).** According to OCSD staff, the employee was erroneously granted the premium pay based on certification earned by a different employee with a similar name, who has since left the system. As of the end of our audit fieldwork, a cumulative total of \$594 of this pensionable premium pay item had been paid by OCSD to the employee since January of 2018. Both employee and employer contributions on this pensionable pay item were also remitted to OCERS since January 2018. In response to our observation, OCSD has implemented additional Human Resources controls related to the processing of pensionable pay items. OCSD is also working with the employee on a repayment plan to reimburse OCSD for the pensionable pay granted in error. Finally, for the impacted employee, OCSD will also make payroll transmittal corrections in V3 for each pay period affected.

Copies to:

S. Delaney
S. Jenike
M. Murphy
G. Ratto
B. Shott
J. Lamberson

A. Alvarez (OCSD)
A. Brandt (OCSD)
L. Maravilla (OCSD)
W. Ritchie (OCSD)
Audit Committee Members

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
Important Observation	
<p>1. An employee in our sample was not entitled to receive a pensionable premium pay item, resulting in an overpayment of that pensionable premium pay item and overpayment of contributions to OCERS.</p> <p>During testing, Internal Audit identified one out of 60 samples in which supporting documentation for a pensionable premium pay items was not available. The misapplication of the pensionable premium pay item was caused by manual oversight when entering data in the OCSD Human Resources system. According to OCSD staff, the employee was erroneously granted the premium pay based on certification earned by a different employee with a similar name, who has since left the system. As of the end of our audit fieldwork, a cumulative total of \$594 of this pensionable premium pay item had been paid to the employee since January of 2018. Both employee and employer contributions on this pensionable pay item were also remitted to OCERS since January 2018.</p> <p>OCSD's memorandum of understanding (MOU) states that employees who obtain or who have obtained an OCSD approved certification or license will receive \$7.62 per pay period per certificate or license (updated to \$15.24 per pay period beginning in 2019). Also known as "Development Pay", this pay is pensionable.</p>	<p>OCSD's Management Action Plan:</p> <p>Development Pay requests are manually tracked in Excel, and entered in the FIS system. OCSD staff has begun using an exception report to compare the records from these two data sources, to ensure the number of employees listed on the Excel tracking sheet match the number of employees receiving Development Pay per the FIS system. Secondly, the Development Pay program will be audited bi-annually to capture and correct any administrative errors that may have occurred. Additionally, data entered in the FIS system is now done by using an employee identification (ID) number rather than an employee's last name to ensure the correct record is being updated each time. Lastly, in the past 4 years, we've had 5 different staff members administer the Development Pay program due to staff turnover. We now have a dedicated staff member that is knowledgeable in the program and is solely responsible for entering requests in the Excel worksheet and the FIS system, and a supervisor overseeing the function.</p> <p>OCSD is also working with the employee on a repayment plan to reimburse OCSD for the pensionable pay granted in error. Once this is finalized, the Development Pay for the impacted employee will be reversed and an adjustment entry (for contributions) will be done in V3 for each pay period affected.</p> <p>MAP Responsible Party:</p> <p>Orange County Sanitation District, Human Resources Department. Orange County Sanitation District, Payroll Department.</p> <p>Completion Date:</p>

Observation Details	Management Action Plan (MAP) /MAP Responsible Party / Completion Date
<p>(Continued)</p> <p>Risk: The employee’s Final Average Salary (FAS) is now overstated resulting in an overstated benefit payment were the employee to retire. Also, overpaid contributions have been sent to OCERS.</p>	<p>The aforementioned action plan was implemented immediately upon learning of the audit finding.</p>

Categories of Observations:

Priority Issue:

These are observation(s) that represent critical exceptions to the audit objective(s) and/or business goals. Such conditions may involve either actual or potential large dollar errors or be of such a nature as to compromise OCERS' reputation or integrity. Management is expected to address Priority Observations brought to its attention immediately.

Important Observations:

These items are important to the process owner and they do impact the control environment and/or could be observations for improving the efficiency and/or effectiveness of OCERS' operations. Management is expected to address within six to twelve months.

Management's Responsibility for Internal Control

Management has primary responsibility for establishing and maintaining the internal control system. All levels of management must be involved in assessing and strengthening internal controls. Control systems shall be continuously evaluated by Management and weaknesses, when detected, must be promptly corrected. The criteria for evaluating an entity's internal control structure are the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework. Our Internal Control Audit enhances and complements, but does not substitute for department management's continuing emphasis on control activities and self-assessment of control risks.

Internal Control Limitations

Because of inherent limitations in any system of internal control, errors or irregularities may nevertheless occur and not be detected. Specific examples of limitations include, but are not limited to, resource constraints, unintentional errors, management override, circumvention by collusion, and poor judgment. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or the degree of compliance with the procedures may deteriorate. Accordingly, our audit would not necessarily disclose all weaknesses in the department's operating procedures, accounting practices, and compliance with OCERS' policies.

Audit Report Opinions:

Satisfactory:

No issues or a limited number of “Important Observations”.

Opportunities for Improvement:

Multiple issues classified as “Important Observations” with limited or no “Priority Observations”.

Inadequate:

Usually rendered when multiple issues are classified as “Priority”, together with one or more other issues classified as “Important Observations”. The Priority Observations identified have a major effect on processes, plan sponsors/members, financials, and/or regulatory requirements.



Memorandum

DATE: June 6, 2020
TO: Members of the Audit Committee
FROM: David Kim, Director of Internal Audit
SUBJECT: **MANAGEMENT ACTION PLAN VERIFICATION REPORT**

Written Report

Background/Discussion

Under the International Standards for the Professional Practice of Internal Auditing (“Standards”), Internal Audit must establish and maintain a system to monitor the disposition of prior results communicated to management. This includes a follow-up process to monitor and ensure that management action plans have been implemented or that management and the Audit Committee has accepted the risk of not taking action.

Internal Audit has developed a process to follow-up on management action plans (MAPs):

- Confirming management has implemented an action plan and no further action is required.
- Internal Audit has tested the operational effectiveness MAP.

The following report contains the status of the MAPs that have been reported to the Audit Committee:

- For the MAPs noted as Open, Internal Audit will continue to work with the respective parties until the MAP is closed and verified.
- For the MAPs noted as Closed – No Further Action Required, Internal Audit has confirmed the year to date MAPs have been implemented and operating effectively.

Submitted by:

DK - Approved

David Kim
Director of Internal Auditor



Management Action Plan Status Report

Project(s): ALL
Mgmt. Status: ALL
Plan Year(s): ALL

Process Owner(s): ALL
Total # of Records: 32

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	Open	Closed - No Further Action Required 2020 YTD	Total
Process Owner			
EMPLOYER	3	1	4
FINANCE	2	1	3
INFORMATION TECHNOLOGY	4	0	4
INVESTMENTS	4	4	8
MEMBER SERVICES	9	4	13
Total Count:	22	10	32



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Project: Audit of City of San Juan Capistrano Payroll Transmittals (2017)

Process Owner: Employer
 Report Date: 03/22/2017
 Total Observations: 2

Observation #1 - Manual transmittal file adjustments

OPEN

Due Date:

Action Plan: Management agreed to the following recommendation: San Juan Capistrano should consider the costs and benefits of adjusting GEMS or making manual adjustments to the transmittal file to continue reporting to OCERS pay records, including zero contributions, for employees who have reached the IRS rule 401 (a) limit. San Juan Capistrano will submit manual payroll adjustments into V3 that contain the payroll records required by OCERS for every subsequent pay period until year-end.

IA Follow-Up: Internal Audit to follow-up with plan sponsor.

Observation #3 - Earnable salary records

OPEN

Due Date:

Action Plan: San Juan Capistrano will submit manual payroll adjustments into V3 that contain earnable salary payroll records required by OCERS during each pay period that the employee is out on leave of absence.

IA Follow-Up: Internal Audit to follow-up with plan sponsor.

Project: Audit of Orange County Superior Court Payroll Transmittal (2018)

Process Owner: Employer
 Report Date: 11/08/2018
 Total Observations: 1

Observation #4 - Superior Court's HR Department does not have policies and procedures in place to determine if the independent contractor status for its independent contractors complies with IRS rules

OPEN

Due Date:

Action Plan: Superior Court to review independent contractors working for court reporting services, court language services and court technology to determine if their independent contractor status complies with IRS rules defined for independent contractors.

IA Follow-Up: Internal Audit has spoken with management about this action plan and will verify when policies are updated, 3Q 2020.



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Project: 1944 - Finance Benefits Audit
Process Owner: Finance
Report Date: 01/13/2020
Total Observations: 2

Observation #2 - Finance does not systematically delete V3's ACH files containing beneficiaries' banking information from local hard drives.

OPEN

Due Date: 06/30/2020

Action Plan: Management will establish procedures to delete copies of the ACH text files from local hard drives after a copy of the file has been uploaded to Wells Fargo.

Finance will work with IT and Vitech to consider the cost/benefit of changing the ACH file process to directly upload an ACH file once it has been created in V3 and directly downloading the file to a secured network folder in the Finance directory.

IA Follow-Up: IA confirmed with the Finance team the deletion of the ACH file from the local hard drive is now being performed by management. IA will review the procedures after it has been updated to reflect this practice.

Observation #3 - Finance procedures manual related to benefit and lump sum payments (i.e. payroll) do not reflect all current procedures.

OPEN

Due Date: 06/30/2020

Action Plan: Finance will be creating and updating stand-alone procedures for all of its processes as part of an organization-wide 2020 Business Plan Initiative.

IA Follow-Up:

Project: Audit of Orange County Fire Authority (2018)

Process Owner: Information Technology
Report Date: 10/23/2018
Total Observations: 1

Observation #6 - V3 contribution rate configurations SOD

OPEN

Due Date:

Action Plan: Management agreed to the following recommendation: OCERS' management should re-assign the duties of configuring updated rates in V3 from OCERS' Director of IT to the appropriate personnel for cross-training, process documentation, and backup purposes. The revised process will encompass multiple departments, and will segregate duties related to preparing the rate schedules, data input into V3 and verification/audit of contribution rates.

IA Follow-Up: Internal Audit has spoken with management about this action plan and will verify when duties are transitioned in time for the 2020 annual rate change in V3. ETA mid-2020.



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Project: 1901 - Finance Contributions audit

Process Owner: Information Technology

Report Date: 05/16/2019

Total Observations: 1

Observation #1 - A formal periodic review of proper user access to OCERS applications and network is not documented by the appropriate members of the business.

OPEN

Due Date: 07/31/2020

Action Plan: Per IT Governance and Information Security action items to address Center for Internet Security (CIS) Control 16: Account Monitoring and Control, OCERS IT and the Executive management team are establishing the following:
 1. Develop Account Management and Access Control Policies.
 2. Create an annual User Account review process and supporting documentation.
 3. Setup means for staff to review and enter data in SharePoint with associated workflow to complete and track reviews initiated with IT managed systems.

IA Follow-Up: Internal Audit will continue to follow-up with management.

Project: 1943 2019 BCDR Audit

Process Owner: Information Technology

Report Date: 10/17/2019

Total Observations: 2

Observation #3 - 3. A formal process involving critical OCERS stakeholders is not in place to test the recovery of dependent IT applications.

OPEN

Due Date: 07/31/2020

Action Plan: OCERS IT will formalize and adopt a new Business Continuity and Disaster Recovery test plan that will include test activities, confirmation, and sign-off by the various business units within OCERS.

IA Follow-Up:

Observation #6 - 6. Recovery procedures for dependent IT applications are not documented in the recovery plans.

OPEN

Due Date: 04/30/2020

Action Plan: End User documents are being developed for the purpose of providing recovery instructions to the crisis management team, in the event IT staff are not available in the event of an emergency. The documents will provide simple easy to follow instructions on how to failover and/or recover sites or systems in the event of a technology failure. These documents will be included in OCERS IT Backup and Recovery test plan stored in Catalyst to ensure procedures are complete and can be followed by non- IT staff

IA Follow-Up:



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Project: Review of OCERS' Derivatives Investments (2014)
Process Owner: Investments
Report Date: 07/10/2014
Total Observations: 1

Observation #2 - Annual reporting of derivatives to the Investment Committee

[OPEN](#)

Due Date:

Action Plan: Currently, the quarterly Derivatives Report provides information relating to the separately managed accounts. The commingled fund investments do not provide similar level of transparency, therefore the quarterly report does not include commingled funds data. The Investments staff has created a template (undergoing internal review) which could be used as a tool to receive information relating to derivatives directly from the investment managers. Such a disclosure and declaration is outside the norm, so it is difficult to predict how many or if the investment managers will comply. As soon as the template is finalized, staff will send it out to gather responses from the various investment managers. Our current expectation is that OCERS will not be able to impose periodic reporting requirements of our own on certain managers, and that in some if not most cases, we will be compelled to accept data as it can be provided by them on their annual cycles. Efforts will be made to achieve more-frequent reporting, but at this time there can be no assurance that such efforts will be successful. The Investment Policy Statement, approved at the 6/25/14 Investment Committee meeting, was amended in part to include the following: "The compliance report for separate account managers will be reviewed with the Investment Committee on a quarterly basis. The CIO shall report to the Committee annually on the staff and consultants' surveillance of diversification and risk controls associated with [derivatives]."

IA Follow-Up: The Investment Team provided an update to the action plan. The quarterly Derivatives Report had been discontinued for a number of years and is no longer reported to the Investment Committee. For the action plan, Investments reviews the derivative information in preparation of the CAFR, which is presented to the Audit Committee. Internal Audit to follow-up during the Investment teams review of the derivative information as part of the 2019 CAFR preparation.

Project: Audit of OCERS' Due Diligence Process (2015)
Process Owner: Investments
Report Date: 08/06/2015
Total Observations: 2

Observation #1 - No Due Diligence Policy

[OPEN](#)

Due Date:

Action Plan: Management has agreed to the recommendation: The CIO and his staff should create written procedures that specifically document the steps necessary to conduct adequate due diligence. We concur with the recommendation that written procedures are desirable, and staff is working on the development of a document that would fulfill this objective.

IA Follow-Up: The CIO and Investment Team will finalize the draft written procedures in 2020. Internal Audit to follow-up when the due diligence procedures have been finalized by end of year 2020.

Observation #4 - Manager RFP standardized questioning

[OPEN](#)



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Due Date:

Action Plan: Management has agreed to the recommendation: Future RFP questionnaires should include interrogatories regarding a manager's operational infrastructure and negative findings disclosed from their annual external audit. We agree that future RFPs should include standard (first-stage or second stage) provisions and questions that are relatively uniform regarding due diligence, operations, and related legal, regulatory and compliance risks. The cited incident was an oversight that need not recur. Written procedures and a process to review those routinely will be helpful to assure consistency.

IA Follow-Up: Internal Audit to follow-up once RFP language is standardized for all vendors.

Project: Audit of OCERS' Private Equity Managers Abbott Capital and Pantheon (2016)

Process Owner: Investments
Report Date: 03/21/2016
Total Observations: 1

Observation #4 - Consideratin of ILPA best practices

OPEN

Due Date:

Action Plan: OCERS should implement Institute of Limited Partners Association (ILPA) best practices in LPAs with direct investment private equity funds if OCERS goes into direct private equity program. In considering whether OCERS should adopt a direct private equity program, OCERS' Investments management should consider the cost of implementing the ILPA best practices. OCERS investment staff will first work with our private equity fund of funds managers to monitor their use of ILPA guidelines and best practices, as we further our own internal education about these evolving standards.

IA Follow-Up: Investment Team is working on compiling best practices to develop a guide with a tracking mechanism to monitor terms, market changes and erosion of terms. IA to review once the analysis and guide are complete.

Project: Audit of the Benefit Setup Process (2012)

Process Owner: Member Services
Report Date: 12/04/2012
Total Observations: 2

Observation #1 - Manual FAS override

OPEN

Due Date:

Action Plan: Management agreed to the following recommendation: Subsequent changes made to FAS after the initial benefit setup process should require a supervisory approval prior to making an override in the system. Additionally, management should use a system-generated report from V3 that lists all manual overrides to identify all such changes made in the system. Management should review and sign off on each manual override on that report for propriety and accuracy to mitigate the risk of unauthorized or incorrect amounts being entered in the system.

IA Follow-Up: IA to confirm action plan has been implemented in Q3 2019 and to perform testing in Q4 2019.



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL

Process Owner(s): ALL
 Total # of Records: 32

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Observation #8 - Manual FAS supporting documentation

OPEN

Due Date:

Action Plan: Management agreed to the following recommendation: All manual overrides to data should be fully documented with the staff that made the change, date the change was made, prior amount, revised amount, and reason for the change with supervisory approval documented in V3 in accordance with the current method of maintaining supporting documentation for benefits calculation. Member Services personnel are required to document V3 via note for any member file that requires a manual override.

IA Follow-Up: IA to confirm action plan has been implemented in Q3 2019 and to perform testing in Q4 2019.

Project: Audit of OCERS' Death Match Process (2016)

Process Owner: Member Services

Report Date: 06/24/2016

Total Observations: 5

Observation #1 - Overpayment to deceased members

OPEN

Due Date:

Action Plan: The deceased members identified by Internal Audit will be processed immediately according to the specific circumstances of the accounts. Overpayments will be processed according to policy and beneficiaries will be contacted regarding lump sum payment options for refunds. Management will investigate possible options for instituting a multi-step review process to ensure entries are made into V3 or a quarterly/annually comparison of the database with the information from a death match service provider.

IA Follow-Up: Member Services has repaid or wrote off \$421,402 of the \$990,694 of the 24 deferred members. Additionally, Member Services has recovered \$16,008 of the \$20,620 from the four deceased payees.

Observation #2 - Manual query of V3 until new report is created

OPEN

Due Date:

Action Plan: The overpayment to the specific member and DRO payee identified by Internal Audit will be dealt with immediately according to current policy. As V3 is currently configured the system will prevent future overpayments from occurring by suspending the benefit once a death date is entered. The items on the overpayment log need to be reconciled with V3 as a post-go live project but it was envisioned that V3 will replace the need for a manual spreadsheet outside of the system. A query or report may be needed during the transition period.

IA Follow-Up: 5-21-2019 - Investigation is still ongoing by Member Services

Observation #3 - Certification letters

OPEN

Due Date:



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Action Plan: Management agreed to the following recommendation: OCERS' management should consider sending a certification letter to payees over a selected age to confirm the status of the payee. Management should consider stopping benefit payments if OCERS does not receive a response after a reasonable number of attempts in order to incentivize the payee to return the letter. OCERS' management should also consider the costs/benefits of hiring a third party to perform random physical alive and well checks with payees that meet a given profile. However clear communication will need to be developed as the payees within this demographic may be the hardest to reach. In addition, the implications to payee's medical insurance needs to be considered any time a benefit is suspended.

IA Follow-Up: Member Services management to discuss formulating a formal policy addressing when such certification letters should be sent and to whom after the result of a cost benefit analysis to be performed.

Observation #4 - Death data vendors

OPEN

Due Date:

Action Plan: Management agreed to the following recommendation: OCERS management should consider using only death audit vendors that hire external auditors to review its client data security controls. OCERS should require that death audit vendors provide copies of the audit report and the audit results to OCERS on an annual basis for review. OCERS management should consider using the RFP process to compare the services of death audit vendors and obituary review service vendors. Quality of services, price, and data security controls of vendors should be compared.

IA Follow-Up: Management to discuss the approach for obtaining and reviewing vendor security report.

Observation #5 - Member banking information within V3

OPEN

Due Date:

Action Plan: Management agreed to the following recommendation: To reduce the possibility of fraudulently diverting benefit payments for deceased members, OCERS should implement automated checks and balances within the V3 system to ensure that no one employee can unilaterally change a payee's banking information without supervisory approval. The resulting change to V3 may require an additional change order to reconfigure the V3 system. However, the headline risk to OCERS outweighs the financial cost of making such a change.

IA Follow-Up: Member Services to work with IT to discuss the creation of automated reports identifying abnormal changes to members' banking information for follow up purposes.

Project: Audit of OCERS' Service Credit Purchase Process (2016)
Process Owner: Member Services
Report Date: 11/29/2016
Total Observations: 1

Observation #1 - Work in Process reporting

OPEN

Due Date:

Action Plan: OCERS' management agrees to initiate discussions with Vitech for best cost-benefit solutions to building work-in-process reporting to track the status of buybacks throughout its business processes to provide additional management oversight of staffing and resources; track compliance with business goals; and improve customer service response times to members.

IA Follow-Up: IA has verified that OCERS has implemented a work-in-process tracking database within SharePoint. OCERS yet to implement SCP workflow processes within V3. IA to verify later in Q3 2019.



Management Action Plan Status Report

Project(s):	ALL	Process Owner(s):	ALL
Mgmt. Status:	ALL	Total # of Records:	32
Plan Year(s):	ALL		

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Project: Disability Payment Audit (2018)

Process Owner: Member Services

Report Date: 01/28/2019

Total Observations: 1

Observation #1 - Disability payment calculation

OPEN

Due Date:

Action Plan:

Member Services will be continuing to review with increased diligence or newly implementing to ensure accuracy of Disability benefits that are setup:

- Ensure that all disability benefits are peer audited (FAS calc) before benefit setup, including disability recalculations (from Service Retirement to SCD, Service Retirement to NSCD, NSCD to SCD)
- Verify selected data points on the "New Benefit Setup Validation Report" (which will contain a subset of 16 reports – expected to be ready by Q3 2019)
- Additional training will be provided to the RPS assigned to the disability department (this was a new position in 2018). These types of benefits are more specialized than regular retirement setups, and the Disability RPS will be trained to look for specific factors that affect the benefit, such as gaps in service, measuring period compression, manual calculations of FAS, recalculation issues.

IA Follow-Up:

IA to confirm action plan has been implemented in Q4 2019 and to perform testing in Q1 2020.



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Project: Audit of City of San Juan Capistrano Payroll Transmittals (2017)
Process Owner: Employer
Report Date: 03/22/2017
Total Observations: 1

Observation #2 - Contribution basis dates

CLOSED

Completion Date: 04/27/2020
Action Plan: San Juan Capistrano's V3 transmittal file should reflect the correct reciprocal start date or the correct enrollment date with OCERS in the transmittal file field labeled "Reported Contribution Basis Date" in order to prevent these payroll exceptions from occurring again in V3. San Juan Capistrano concurs with this recommendation, which has been addressed based on information provided by OCERS' Member Services to SJC's Payroll Accountant.
IA Follow-Up: IA examined a recent V3 payroll transmittal exception report for PP#2, 2020 and noted there were no exceptions related to reported contribution basis dates.

Project: 1943 2019 BCDR Audit
Process Owner: Finance
Report Date: 10/17/2019
Total Observations: 1

Observation #2 - The Business Continuity Program Standard Operating Procedures document has existed since 2015 but the documentation of the approvals by the Crisis Management Team were not formalized.

CLOSED

Completion Date: 02/26/2020
Action Plan: We concur with the observation and will formalize the approval of the document.
IA Follow-Up: IA confirmed the Business Continuity Standard Operating Procedure document has been formally approved by the CMT.

Project: Review of OCERS' Derivatives Investments (2014)
Process Owner: Investments
Report Date: 07/10/2014
Total Observations: 1

Observation #3 - Counterparty risk reporting

CLOSED

Completion Date: 05/21/2020



Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Action Plan: Management has agreed to the recommendation: Counterparty risk, the risk that a financial institution will not honor the terms of a derivative contract due to poor financial health, is a key risk for derivatives.
 The Board is not getting complete information on the counterparty risks of all investment managers. Because many of OCERS' investment managers use the same institutions as counterparties, if a counterparty fails, it would affect several investment managers in the OCERS' portfolio simultaneously. Therefore, reporting on total counterparty risk to OCERS would be useful for accessing a concentration of risk with a single counterparty.
 OCERS' custodian bank, State Street, provides data on investment holdings and counterparty holdings that can be used to create a compilation of counterparties in the OCERS portfolio, though this will only include the OCERS' separately managed accounts.
 OCERS should request that State Street on a quarterly basis provide a report listing derivatives holdings by counterparty with amounts of currency forward contracts, swaps, and total fair value.
 The report should also include a credit rating agency's rating.
 This report should be included with the derivatives report to the Investment Committee.

IA Follow-Up: Internal Audit reviewed the 2019 Counterparty Risk Report reviewed and signed by the CIO.

Project: Audit of OCERS' Due Diligence Process (2015)
Process Owner: Investments
Report Date: 08/06/2015
Total Observations: 3

Observation #2 - Operational Due Diligence

CLOSED

Completion Date: 02/13/2020

Action Plan: Management has agreed to the recommendation: For non-traditional pension fund managers that have not undergone an operational due diligence review from the OCERS' investment consultants, OCERS should consider the following on a case-by-case basis or at the CIO's discretion. A criteria or threshold (e.g., a dollar amount of an investment) should be set by the CIO to trigger when such a review will occur.
 Management agrees that a "deeper dive" could be appropriate for certain non-traditional managers, but only if a majority of the Board considers such measures to be necessary, cost-beneficial or justifiable on a risk-vs-cost basis. Cost-sharing strategies and outsourcing-versus-internal capacity should be explored and considered, along with a prioritization protocol.

IA Follow-Up: In discussions with CIO, and review of the September Investment Committee meeting minutes, confirmed OCERS no longer requires the use of a special operational due diligence consultant. The consultant was not used or required when initially contracts.

Observation #3 - Due diligence for RFP managers

CLOSED

Completion Date: 02/13/2020

Action Plan: Management has agreed to the recommendation: For RFP-sourced managers, there should be consistent narrative due diligence reporting provided to the Investment Committee. Investments should consider using a checklist to make sure all documents are included for the Investment Committee to consider.
 We agree that our written procedures and future practices should include routine reporting of internal due diligence when the RFP channel is deployed for manager selection. The Director of Investment Operations has already included this step in the working draft of written procedures we are formulating and refining.

IA Follow-Up: Due Diligence would apply to all managers, not just under an RFP process. Internal Audit observed due diligence process during Investment Consulting engagement.

Observation #5 - Consultant due diligence documentation

CLOSED

Executed: 5/21/2020 4:27:11 PM
 Executed By: OCERS\dkim

Doc. No. 0080-0120-R0001
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Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Completion Date: 02/13/2020
Action Plan: Management has agreed to the recommendation: As part of its due diligence process, OCERS' Investments staff should obtain and review NEPC's Investment Due Diligence Research Report for all managers NEPC recommends to OCERS. We agree that consultant documentation or pertinent summaries of their due diligence should routinely and consistently be included in Committee materials when managers are presented, or subsequently as a validating consent agenda item if their work follows a provisional approval.
IA Follow-Up: As part of the Investment Consulting engagement, Internal Audit was able to observe the due diligence process which included reviewing the materials from the investment consultants.

Project: **Audit of the Benefit Setup Process (2012)**
Process Owner: Member Services
Report Date: 12/04/2012
Total Observations: 1

Observation #9 - FAS audit trail

CLOSED

Completion Date: 04/27/2020
Action Plan: Management agreed to the following recommendation: We recommend that the new pension administration system (V3) include an audit trail within the system for manual override and other changes made to records. There should be a better audit trail in the new pension administration system to account for changes made in the system instead of relying only on records scanned into LibertyNET or similar imaging software for an explanation.
IA Follow-Up: IA confirmed an audit trail function exists in V3 noting the original and new FAS, change date and Changed by.

Project: **Audit of OCERS' Death Match Process (2016)**
Process Owner: Member Services
Report Date: 06/24/2016
Total Observations: 1

Observation #7 - Debt collection versus debt forgiveness

CLOSED

Completion Date: 04/17/2020
Action Plan: Management agreed to the following recommendation: For overpayments in which Member Services has exhausted internal collection efforts, Member Services should inquire of the CEO and/or Board to forgive or partially forgive overpayments to these deceased payees or possibly make use of a collections agency for additional collection efforts.
IA Follow-Up: OCERS' Board Policy Write Off Policy now provides guidelines regarding when OCERS is permitted to forgo collection of amounts overpaid by or owing to OCERS, and when OCERS will not be required to make corrective distributions to OCERS members or their beneficiaries.

Project: **Audit of V3 Benefit Setup Process (2016)**

Executed: 5/21/2020 4:27:11 PM
 Executed By: OCERS\dkim

Doc. No. 0080-0120-R0001
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Management Action Plan Status Report

Project(s): ALL
 Mgmt. Status: ALL
 Plan Year(s): ALL
 Process Owner(s): ALL
 Total # of Records: 32

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Process Owner: Member Services
Report Date: 07/21/2016
Total Observations: 2

Observation #1 - Use of 2,088 hours for benefit calculation

CLOSED

Completion Date: 04/01/2020

Action Plan: Management will follow up with staff regarding the applicability of 2,088 to all retiring members and will review all benefits established in V3 to ensure the appropriate salary was used regardless of status. The part-time member's benefit identified by Internal Audit as being incorrect will be recalculated to reflect the salary associated to 2,088 hours.

IA Follow-Up: IA reviewed the FAS recalculations performed by Member Services.

Observation #2 - V3 workflow process

CLOSED

Completion Date: 04/02/2020

Action Plan: The workflow module in V3 was an area that contained defects when we went live with the new system which prevented effective use. The majority of the defects have been addressed and staff is utilizing the workflows as part of their daily operations. However, we have found that a workflow can be completed without all of the steps being marked individually and as a result additional modifications to the overall configuration are being discussed. Management will work with staff to ensure that proper use of the workflow is being followed for all benefit setups. In addition, we will review the workflow steps as currently configured and make enhancements as needed to ensure all critical steps in the process are appropriated captured.

IA Follow-Up: IA confirmed worksteps are completed and V3 enhancements were implemented.



Memorandum

DATE: June 4, 2020
TO: Members of the Audit Committee
FROM: David Kim, Director of Internal Audit
SUBJECT: **STATUS UPDATE OF 2020 AUDIT PLAN**

Written Report

Background/Discussion

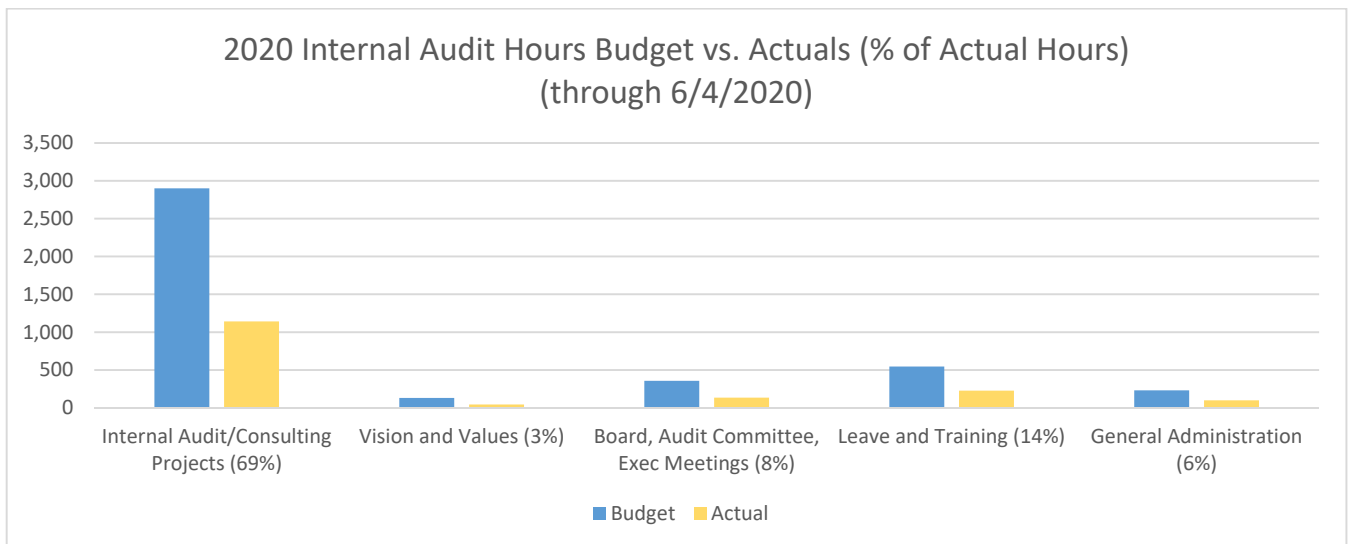
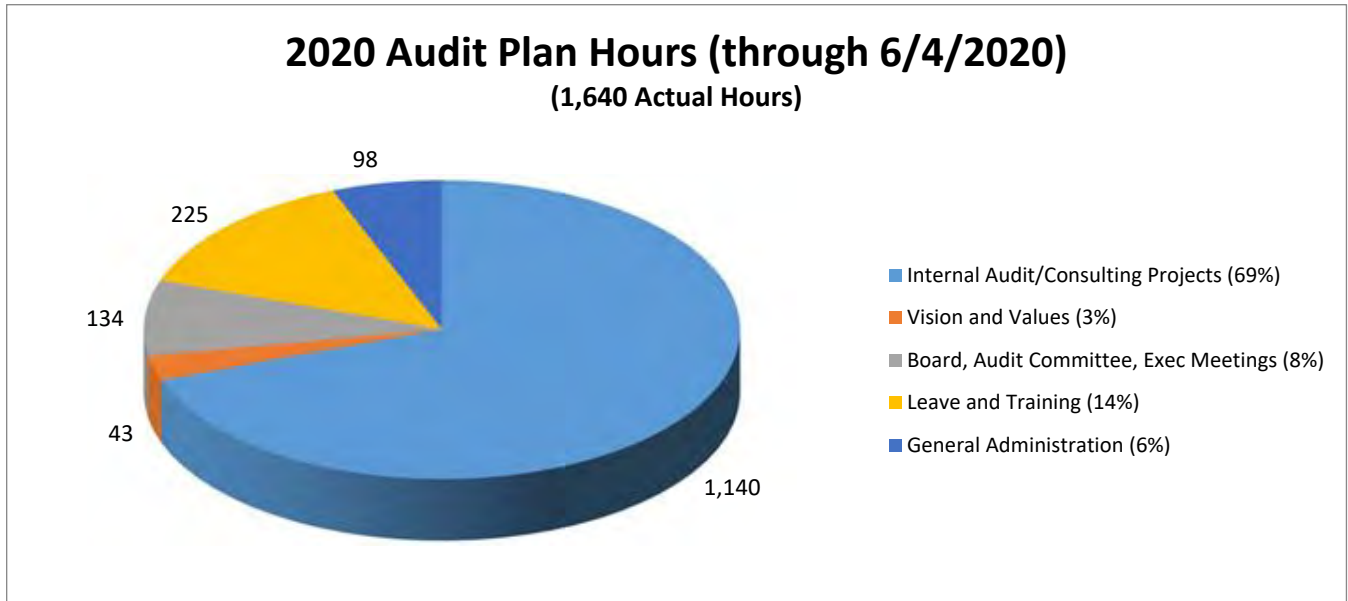
Attached is a comparison of budgeted 2020 audit plan hours versus the completed program actual hours, by project.

Submitted by:

DK - Approved

David Kim
Director of Internal Audit

2020 Internal Audit Plan



2020 Internal Audit Plan

Audit Activity	Description	Planned Hours - Original Budget	Actual Hours	Projected Remaining Hours	Comments
Internal Audits/Consulting/Planning		2,900	1,135	1,793	
Internal Audits - Assurance		2470	1011	1487	
Pay Item Review (Carryover 2019)	Confirm OCERS operational changes made as a result of Management's Final Average Salary project from 2018. Additionally, review OCERS' controls to confirm plan sponsor transmittals are in compliance with the updates from the Final Average Salary project.	210	235	0	
IT General Controls Audit performed by consultants (Carryover 2019)	Develop the Information Technology Risk Assessment and long term IT Audit Program, including testing of IT General Controls.	30	36	0	Provided workpapers to MGO for Financial Statement Audit
Investment manager fees	Review the controls that the fund of funds managers have in place to ensure the distributions from the underlying funds have been performed completely and accurately. (e.g. review the controls at TorreyCove to ensure they are reviewing the audited financial reports for the fund they have investments)	300	0	300	
Securities Lending Income	Review the controls at the custodian bank to ensure the profit distribution from securities lending are calculated completely and accurately and OCERS collateral is sufficient to offset the risk of securities lending. (Per AC Chair request)	100	18	82	To be outsourced to a third party. Revisit timing of audit in May.
Investment accounting and valuation	Review the controls at OCERS Finance to ensure the investment financial reporting is complete and accurate and recorded to the GL timely and accurately/disclosed in the CAFR (e.g. footnotes).	300	0	300	
Contribution transmittals Employer (County - Sheriffs Dept)	Review the controls when setting up the new member or changes, eligibility of the member for the pay items, controls at OCERS MS to monitor transmittal exceptions are addressed timely, compliance at employers of OCERS membership eligibility policy (e.g. contract workers).	300	0	300	
Contribution transmittals Employer (Sanitation District)	Review the controls when setting up the new member or changes, eligibility of the member for the pay items, controls at OCERS MS to monitor transmittal exceptions are addressed timely, compliance at employers of OCERS membership eligibility policy (e.g. contract workers).	300	290	0	Reviewing results with management
IT Audit Program	Vulnerability and Patch Management, IT Automated Controls	80	3	77	Outsourced to a third party. 40 hours to oversee per audit, total of 3 IT audits
Actuarial Extract	Determine the adequacy of the internal controls in place to ensure accurate and complete data transmitted for the actuarial valuation.	320	40	280	Planning is underway

2020 Internal Audit Plan

Audit Activity	Description	Planned Hours - Original Budget	Actual Hours	Projected Remaining Hours	Comments
Ad-hoc project	Open for any ad-hoc project TBD	100	22	78	Request by AC to review controls possibly impacted due to the remote work situation.
Internal Audit - Management Action Plan Follow-up	Action Plan Follow-up - Perform MAP follow-ups with management.	160	90	70	Ongoing review of implemented MAPs from completed audits.
Continuous Audit - Benefit setup (including eligibility, pension spiking)	New for 2020 - Set up a continuous audit of the FAS calculation with criteria for manual adjustments to the FAS (calculations/override/additions). Sample on quarterly basis	270	277	0	
Internal Audits - Consulting		60	39	21	
IT Audit Program	Cloud Risk and Readiness Assessment	40	38	2	Outsourced to a third party. 40 hours to oversee per audit, total of 3 IT audits
Consulting - Annual Employer Report	Provide guidance to management on the preparation of the Annual Employer report of key financial information on OCERS' employers based upon 2019 audited financial statements.	20	1	19	
Internal Audits - Planning		250	40	210	
Annual Audit Planning	Review and update Risk and Control Matrix.	100	10	90	
	Annual preparation of the Audit Plan, updates to the current Audit Plan.	150	30	120	
Internal Audits - Quality Assurance and Improvement Program		120	45	75	
Quality Assurance and Improvement Program	IA Quality Review- self assessment - QAIP program	60	45	15	
	Use of hotline reporting system.	60	0	60	
Vision and Values		130	43	87	
	Vision and Values - Continuous Improvement Program	50	19	31	Route to appropriate parties, report to OCERS executives
	Vision and Values Committee (Internal OCERS Committee)	80	24	56	Internal committee to promote a positive culture at OCERS - Chair of the committee
Board, AC, OCERS Executive Meetings		356	136	220	
	Board meetings, Audit Committee, Personnel Committee, Governance Committee, Executive meeting	290	108	182	
	Weekly meetings with CEO	26	12	14	
	Monthly meeting with Audit Committee Chair	40	16	24	
General admin time		230	101	129	
	General admin time	230	101	129	6% of 2020 budget
Leave (Holiday/Annual) and Training		544	225	319	
	Holidays (12 days), Annual Leave (15 days)	432	114	318	
	Training and Continuing Education	112	111	1	
Grand Total Hours		4,160	1,640	2,548	