

Orange County Employees Retirement System

Actuarial Valuation and Review as of
December 31, 2014



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

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The Segal Company

100 Montgomery Street, Suite 500 San Francisco, CA 94104

T 415.263.8200 F 415.376.1167 www.segalco.com

June 5, 2015

Board of Retirement

Orange County Employees Retirement System

2223 Wellington Avenue

Santa Ana, CA 92701

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of December 31, 2014. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2016-2017 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census and financial information on which our calculations were based was prepared by the Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary.

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.

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 the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

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

AW/hy

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

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SECTION 1: Valuation Summary for the Orange County Employees Retirement System

Purpose

This report has been prepared by Segal Consulting to present a valuation of the Orange County Employees Retirement System as of December 31, 2014. The valuation was performed to determine whether the assets and contributions are expected to be sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement System, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, retired members, and beneficiaries as of December 31, 2014, provided by the Retirement System;
- The assets of the Plan as of December 31, 2014, provided by the Retirement System;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the Board's funding policy adopted in 2013 to combine and re-amortize the outstanding balance of the unfunded actuarial accrued liability (UAAL) from the December 31, 2012 valuation over a declining 20-year period effective with the December 31, 2013 valuation. 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.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2016 through June 30, 2017 (the rates will go into effect during the pay period in which July 1, 2016 is included).

SECTION 1: Valuation Summary for the Orange County Employees Retirement System

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

Ref: Pgs. 72 and 141

- The results of this valuation reflect changes in the economic and non-economic assumptions as recommended by Segal and adopted by the Board for the December 31, 2014 valuation. These changes were documented in our Review of Economic Assumptions report and Actuarial Experience Study and are also outlined in Section 4 Exhibit V of this report. These assumption changes resulted in an increase in the average employer rate of 0.06% of payroll and a decrease in the aggregate members rate of 0.27% of payroll. A reconciliation of the major assumption modifications that cause the change in the employer's rate for each Rate Group is provided in Appendix F.

Ref: Pg. 81

- As directed by the Board, we have included the additional cashout (terminal pay) assumptions in developing the basic member rates in this valuation. This resulted in a decrease in the average employer rate of 0.18% of payroll and an increase in the aggregate member rate of 0.20% of payroll.

Ref: Pgs. 70 and 136

- The ratio of the valuation value of assets to the actuarial accrued liabilities has increased from 66.0% to 69.8%. For informational purposes only, we have also prepared in Appendix C the funded ratio for each Rate Group. The System's funded ratio measured on a market value basis increased from 67.7% to 69.6%. The System's unfunded actuarial accrued liability has decreased from \$5,367.9 million as of December 31, 2013 to \$4,963.2 million as of December 31, 2014. The decrease in unfunded actuarial accrued liability is mainly due to additional UAAL payments made by certain employers, lower than expected COLA increases and lower than expected salary increases. A reconciliation of the System's unfunded actuarial accrued liability is provided in Section 3, Exhibit H. A schedule showing the reconciliation of the UAAL by Rate Group is provided in Appendix E.

Ref: Pgs. 63 and 139

- The aggregate employer rate calculated in this valuation has decreased from 38.13% of payroll to 37.41% of payroll. The 38.13% rate was calculated after adjusting for the additional UAAL contributions made by O.C. Sanitation District and O.C. Cemetery District during 2014. The contribution rate without adjustment for the additional UAAL contribution was 38.68% of payroll.

Ref: Pgs. 32 and 137

The reasons for the changes in the rates between the 2013 and 2014 valuations are: (i) favorable investment return (after smoothing), (ii) additional UAAL contributions made by certain employers, (iii) lower than expected individual salary increases, (iv) lower than expected individual COLA increases and (v) including the terminal pay assumptions in legacy plan member rates, offset somewhat by (vi) growth in total payroll less than expected, (vii) actual contributions less than expected, (viii) change in actuarial assumptions and (ix) other experience losses. A reconciliation of the System's aggregate employer rate is provided in Section 2, Subsection D (see Chart 15). A reconciliation of the employer contribution rate by Rate Group is provided in Appendix D.

SECTION 1: Valuation Summary for the Orange County Employees Retirement System

Ref: Pg. 15

UAAL Rate for Rate Group #1

It should be noted that in developing the contribution rate to pay off the UAAL in Rate Group #1 in the body of this report, we have continued to follow the policy used in developing the UAAL rate in the December 31, 2013 valuation to allocate the amortized UAAL payment in proportion to payroll. As the Board is in the process of finalizing a new policy for employers with declining payroll that would apply to University of California-Irvine (U.C.I.) and the Department of Education, we have included a footnote to Chart 13 showing what the contribution rates would be for the other employers (i.e., the County and O.C. IHSS Public Authority) when calculated under that new policy.

The UAAL amounts allocated to U.C.I. and the Department of Education determined as of December 31, 2014 are provided in our side letters dated June 3, 2015. We have also included in those letters the UAAL payment amounts for U.C.I. and the Department of Education calculated using a level dollar amortized payment over 20 years.

Ref: Pg. 143

Phase-in Rates for Rate Groups #6, #7 and #8

In developing the Safety employer contribution rates in the body of this report, we have not reflected the two-year or three-year alternative phase-in of the contribution rate impact of all the changes in actuarial assumptions or of just the change in the mortality assumptions. A copy of our letter dated May 19, 2015 describing the phase-in process together with the resulting contribution rates in 2016/2017 under the different phase-in schedules is provided in Appendix G.

- We understand O.C. Transportation Authority (Rate Group #5) will place the new members hired on or after January 1, 2015 into the PEPRA Plan U. The contribution rate for the PEPRA tier prior to having actual members in that tier has been developed based on the same methodology used to estimate contribution rates for all of the PEPRA tiers in the December 31, 2012 valuation together with the new actuarial assumptions used in this report. We have assumed in this valuation that their demographic profiles (e.g., entry age, composition of male versus female, etc.) can be approximated by the data profile of active members hired in the last year prior to the December 31, 2011 actuarial valuation. That profile is also used in preparing our recommended contribution rates for 2015/2016 as provided in our letter dated June 5, 2015.
- The aggregate member rate calculated in this valuation has decreased from 12.47% of payroll to 12.42% of payroll. The change in the aggregate member rate is due to: (i) changes in membership demographics, (ii) changes in actuarial assumptions and (iii) including of the terminal pay assumptions in legacy plan member rates. A reconciliation of the System's aggregate member rate is provided in Section 2, Subsection D (see Chart 16).
- As indicated in Section 2, Subsection B (see Chart 7) of this report, the total net unrecognized investment loss as of December 31, 2014 is \$21,778,000 (as compared to a net unrecognized gain of \$262,167,000 as of December 31, 2013). This deferred investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years and will offset any investment gains that may occur after December 31, 2014. The deferred losses will be recognized over the next four years as shown on Line 7 of Chart 7,

Ref: Pg. 33

Ref: Pg. 5

SECTION 1: Valuation Summary for the Orange County Employees Retirement System

along with any future gains or losses that will occur if the System does not earn the assumed rate of investment return of 7.25% per year (net of expenses) on a market value basis.

The deferred losses of \$22 million represent about 0.2% of the market value of assets. The potential impact associated with the deferred investment losses may be illustrated as follows:

- If the deferred losses were recognized immediately in the valuation value of assets, the funded ratio would decrease from 69.8% to 69.6%.
- If the deferred losses were recognized immediately in the valuation value of assets, the aggregate employer rate would increase from 37.41% to about 37.5% of payroll.
- The actuarial valuation report as of December 31, 2014 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.
- This report reflects the \$125 million and \$1.66 million¹ additional contributions made by O.C. Sanitation District and O.C. Cemetery District, respectively, towards their UAAL. The \$125 million² of additional contributions made by O.C. Sanitation District has been amortized as a level percent of pay over a period of twenty years effective on January 1, 2015 and used to reduce their UAAL rates for one-half of 2014/2015 and all of 2015/2016. The \$1.6 million of additional contributions made by O.C. Cemetery District has been used to reduce their UAAL rate to zero effective for 2014/2015.

This report also reflects the \$22.5 million³ additional contributions made by O.C. Fire Authority towards their UAAL. The \$22.5 million of additional contributions made by O.C. Fire Authority has been amortized as a level percent of pay over a period of twenty years effective on December 31, 2014 and used to reduce their UAAL rates for 2016/2017.

- The Governmental Accounting Standards Board (GASB) approved two Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 is effective with the calendar year ending

¹ \$1.66 million in additional contributions were made by O.C. Cemetery District on June 30, 2014. After adjusting with interest, those contributions have a value of \$1.72 million as of December 31, 2014.

² \$125 million in additional contributions were made by O.C. Sanitation District on November 7, 2014. After adjusting with interest, those contributions have a value of \$126.4 million as of December 31, 2014.

³ \$22.5 million in additional contributions were made by O.C. Fire Authority continuously throughout the year. After adjusting with interest, those contributions have a value of \$23.4 million as of December 31, 2014.

SECTION 1: Valuation Summary for the Orange County Employees Retirement System

December 31, 2014 for plan reporting. Statement 68 is effective with the fiscal year ending June 30, 2015 for employer reporting. The information needed to comply with Statements 67 and 68 will be provided in separate reports.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- difference between actual experience and anticipated experience;
- changes in actuarial assumptions or methods;
- changes in statutory provisions; and
- difference between the contribution rates determined by the valuation and those adopted by the Board.

SECTION 1: Valuation Summary for the Orange County Employees Retirement System

Summary of Key Valuation Results

	December 31, 2014		December 31, 2013	
Aggregate Employer Contribution Rates:				
<u>General</u>	<u>Total Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Total Rate⁽²⁾</u>	<u>Estimated Annual Amount⁽¹⁾</u>
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	18.04%	\$13,437	21.03%	\$15,660
Rate Group #2 – Plans I, J, O, P, S, T and U	34.31	340,899	36.72	364,836
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	18.50	12,215	20.59	13,592
Rate Group #5 – Plans A, B and U (OCTA)	25.18	26,099	27.03	28,017
Rate Group #9 – Plans M, N and U (TCA)	25.72	1,590	25.95	1,604
Rate Group #10 – Plans I, J, M, N and U (OCFA)	33.27	7,417	36.92	8,231
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	11.79	152	12.23	158
<u>Safety</u>				
Rate Group #6 – Plans E, F and V (Probation)	47.16%	\$30,192	40.70%	\$26,055
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	62.66	125,841	56.23	112,921
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	50.89	58,895	49.53	57,316
<u>All Groups Combined</u>	<u>37.41%</u>	<u>\$616,737</u>	<u>38.13%</u>	<u>\$628,390</u>
Average Member Contribution Rates:				
<u>General</u>	<u>Total Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Total Rate⁽³⁾</u>	<u>Estimated Annual Amount⁽¹⁾</u>
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	8.73%	\$6,502	9.04%	\$6,732
Rate Group #2 – Plans I, J, O, P, S, T and U	11.68	116,062	12.03	119,540
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	11.91	7,862	12.25	8,086
Rate Group #5 – Plans A, B and U (OCTA)	9.31	9,650	9.68	10,033
Rate Group #9 – Plans M, N and U (TCA)	10.28	636	10.57	654
Rate Group #10 – Plans I, J, M, N and U (OCFA)	11.80	2,630	12.13	2,704
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	8.86	114	9.18	119
<u>Safety</u>				
Rate Group #6 – Plans E, F and V (Probation)	15.71%	\$10,058	14.72%	\$9,424
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	16.50	33,137	15.43	30,989
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	15.57	18,018	14.89	17,231
<u>All Groups Combined</u>	<u>12.42%</u>	<u>\$204,669</u>	<u>12.47%</u>	<u>\$205,512</u>

⁽¹⁾ Based on December 31, 2014 projected annual compensation.

⁽²⁾ For those Rate Groups with tier specific contribution rates, the total rates shown above have been recalculated by applying the tier specific contribution rates determined in the December 31, 2013 valuation to the corresponding projected payrolls reported as of December 31, 2014.

⁽³⁾ Average rates have been recalculated by applying the individual entry age based rates determined in the December 31, 2013 valuation to the System membership as of December 31, 2014.

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Summary of Key Valuation Results

	December 31, 2014	December 31, 2013
Funded Status:		
Actuarial accrued liability (AAL)	\$16,413,124	\$15,785,042
Valuation value of assets (VVA) ⁽¹⁾	11,449,911	10,417,125
Market value of assets (MVA) ^{(1),(2)}	11,428,133	10,679,292
Funded percentage on a VVA basis	69.76%	65.99%
Funded percentage on a MVA basis	69.63%	67.65%
Unfunded Actuarial Accrued Liability on a VVA basis	\$4,963,213	\$5,367,917
Unfunded Actuarial Accrued Liability on a MVA basis	4,984,991	5,105,750
Key Assumptions:		
Interest rate	7.25%	7.25%
Inflation rate	3.00%	3.25%
Across-the-board real salary increase	0.50%	0.50%

⁽¹⁾ Excludes County Investment Account (funded by pension obligation bond proceeds held by OCERS), prepaid employer contributions account and non-valuation reserves.

⁽²⁾ Based on the preliminary unaudited financial statement provided by OCERS for this valuation.

SECTION 1: Valuation Summary for the Orange County Employees Retirement System

Summary of Key Valuation Demographic and Financial Data

	December 31, 2014	December 31, 2013	Percentage Change
Active Members:			
Number of members	21,459	21,368	0.4%
Average age	45.6	45.6	N/A
Average service	13.2	13.2	N/A
Projected total compensation	\$1,648,160,449	\$1,604,496,236	2.7%
Average projected compensation	\$76,805	\$75,089	2.3%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	11,759	11,228	4.7%
Disability retired	1,364	1,334	2.2%
Beneficiaries	<u>2,046</u>	<u>1,943</u>	5.3%
Total	15,169	14,505	4.6%
Average age	69.4	69.2	N/A
Average monthly benefit ⁽¹⁾	\$3,455	\$3,366	2.6%
Vested Terminated Members:			
Number of vested terminated members ⁽²⁾	4,789	4,613	3.8%
Average age	44.7	44.4	N/A
Summary of Financial Data (dollar amounts in thousands):			
Market value of assets ⁽³⁾	\$11,428,223	\$10,679,507	7.0%
Return on market value of assets	4.52%	10.73%	N/A
Actuarial value of assets ⁽³⁾	\$11,450,001	\$10,417,340	9.9%
Return on actuarial value of assets	7.34%	9.11%	N/A
Valuation value of assets ⁽³⁾	\$11,449,911	\$10,417,125	9.9%
Return on valuation value of assets	7.34%	9.11%	N/A

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

⁽²⁾ This includes members who chose to leave their contributions on deposit even though they have less than five years of service.

⁽³⁾ The market value excludes \$109,103,000 and \$109,254,000 as of December 31, 2014 and December 31, 2013, respectively, in the County Investment Account (funded by pension obligation bond proceeds held by OCERS) and \$207,829,000 and \$172,348,000 as of December 31, 2014 and December 31, 2013, respectively, in the prepaid employer contributions account.

Note that the above market values and actuarial values include the non-valuation reserves, which are excluded from the valuation values.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2005 – 2014

Year Ended December 31	Active Members	Vested Terminated Members ⁽¹⁾	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2005	22,467	2,466	10,218	0.56
2006	22,791	3,195	10,915	0.62
2007	23,618	3,646	11,421	0.64
2008	23,720	3,881	11,778	0.66
2009	22,633	4,094	12,243	0.72
2010	21,742	4,308	12,762	0.79
2011	21,421	4,406	13,289	0.83
2012	21,256	4,415	13,947	0.86
2013	21,368	4,613	14,505	0.89
2014	21,459	4,789	15,169	0.93

⁽¹⁾ Includes terminated members due a refund of member contributions.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 21,459 active members with an average age of 45.6, average years of service of 13.2 years, and average compensation of \$76,805. The 21,368 active members in the prior valuation had an average age of 45.6, average service of 13.2 years, and average compensation of \$75,089.

Inactive Members

In this year's valuation, there were 4,789 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 4,613 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2
Distribution of Active Members by Age as of December 31, 2014

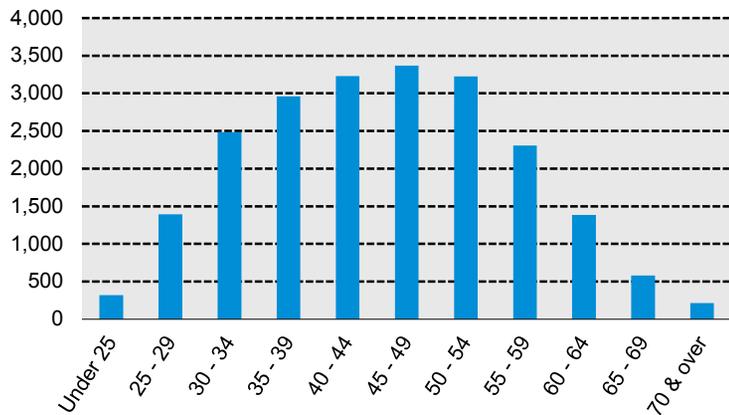
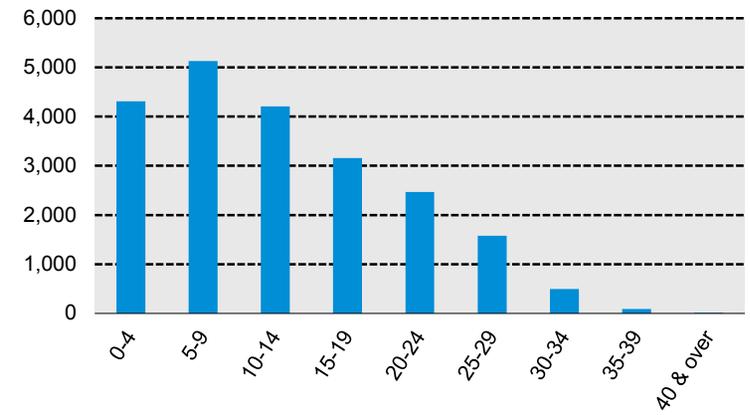


CHART 3
Distribution of Active Members by Years of Service as of December 31, 2014



SECTION 2: Valuation Results for the Orange County Employees Retirement System

Retired Members and Beneficiaries

As of December 31, 2014, 13,123 retired members and 2,046 beneficiaries were receiving total monthly benefits of \$52,407,644. For comparison, in the previous valuation, there were 12,562 retired members and 1,943 beneficiaries receiving total monthly benefits of \$48,822,169. These monthly benefits exclude benefits payable from the Supplemental Targeted Adjustment for Retirees Cost of Living Adjustment (STAR COLA).

These graphs show a distribution of the current retired members based on their monthly amount and age, by type of pension.

CHART 4
Distribution of Retired Members (Excl. Beneficiaries) by Type and by Monthly Amount as of December 31, 2014

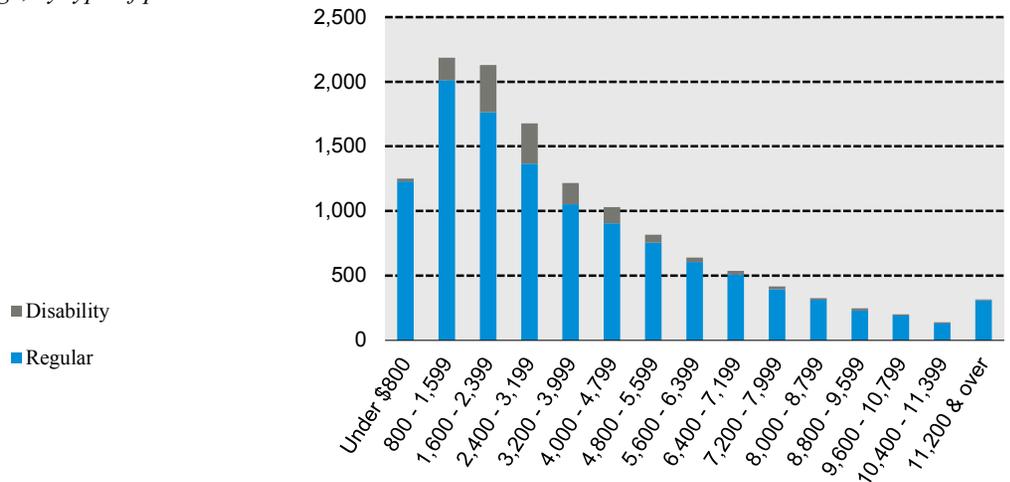
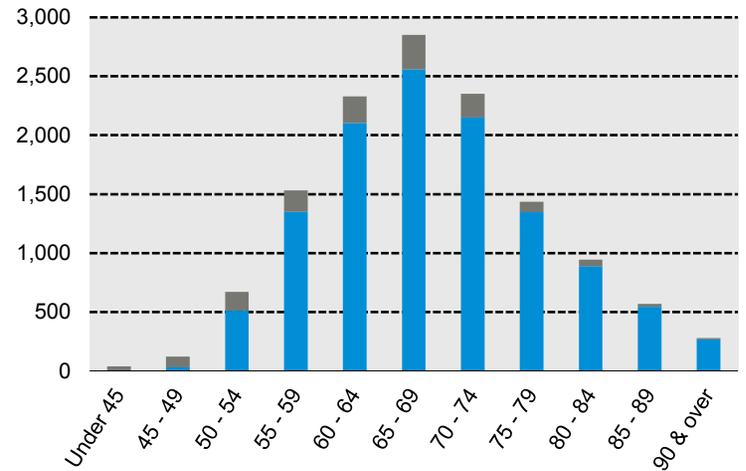


CHART 5
Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of December 31, 2014



SECTION 2: Valuation Results for the Orange County Employees Retirement System

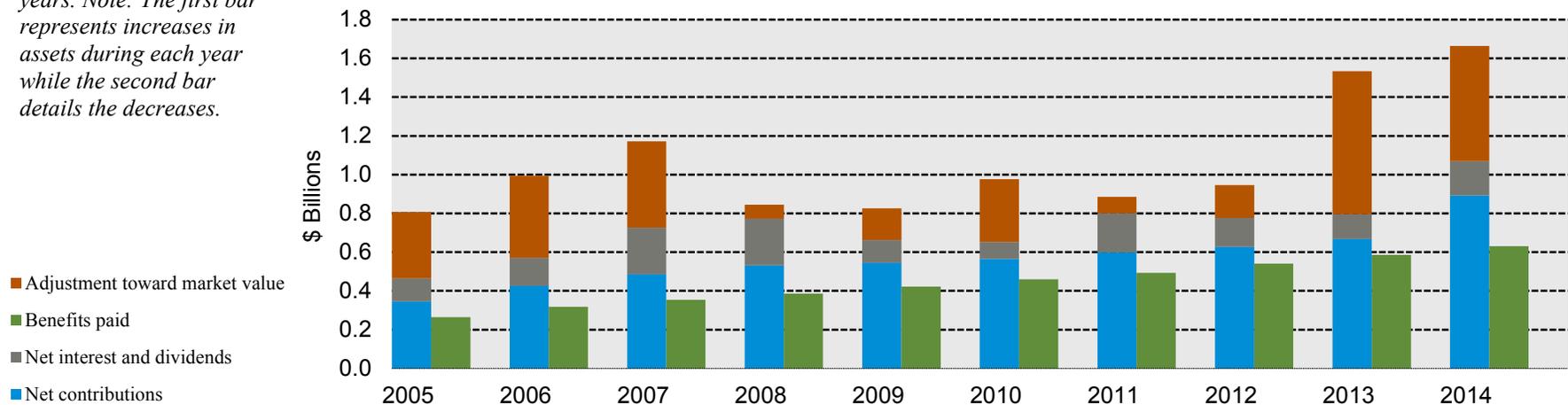
B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the “non-cash” earnings on investments implicitly included in the actuarial value of assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

The chart depicts the components of changes in the actuarial value of assets over the past ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2005 – 2014



SECTION 2: Valuation Results for the Orange County Employees Retirement System

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets does not have an immediate effect on the actuarial value of assets. The determination of the Actuarial Value of Assets and Valuation Value of Assets is provided below.

CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended December 31, 2014

The chart shows the determination of the actuarial value of assets as of the valuation date.

Plan Year Ending	Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain / (Loss)	Deferred Factor	Deferred Return
2010	\$787,215,000	\$582,621,000	\$204,594,000	0.0	\$0
2011	3,236,000	651,782,000	(648,546,000)	0.2	(129,709,000)
2012	1,014,471,000	659,447,000	355,024,000	0.4	142,010,000
2013	1,031,118,000	696,553,000	334,565,000	0.6	200,739,000
2014	487,104,000	780,627,000	(293,523,000)	0.8	<u>(234,818,000)</u>
1. Total Deferred Return					\$(21,778,000)
2. Net Market Value Of Assets (Excludes \$109,103,000 in County Investment Account (funded by pension obligation bond proceeds held by OCERS) and \$207,829,000 in Prepaid Employer Contributions)					\$11,428,223,000 ⁽¹⁾
3. Actuarial Value of Assets (2) – (1)					\$11,450,001,000
4. Ratio of Actuarial Value To Market Value (3) / (2)					100.2%
5. Non-valuation Reserves					
(a) Unclaimed member deposit					\$0
(b) Medicare medical insurance reserve					<u>90,000</u>
(c) Subtotal					\$90,000
6. Valuation value of assets (3) – (5)(c)					\$11,449,911,000
7. Deferred Return Recognized in Each of the Next 4 years					
(a) Amount recognized on 12/31/2015					\$(50,495,000)
(b) Amount recognized on 12/31/2016					79,213,000
(c) Amount recognized on 12/31/2017					8,209,000
(d) Amount recognized on 12/31/2018					<u>(58,705,000)</u>
(e) Subtotal (may not total exactly due to rounding)					\$(21,778,000)

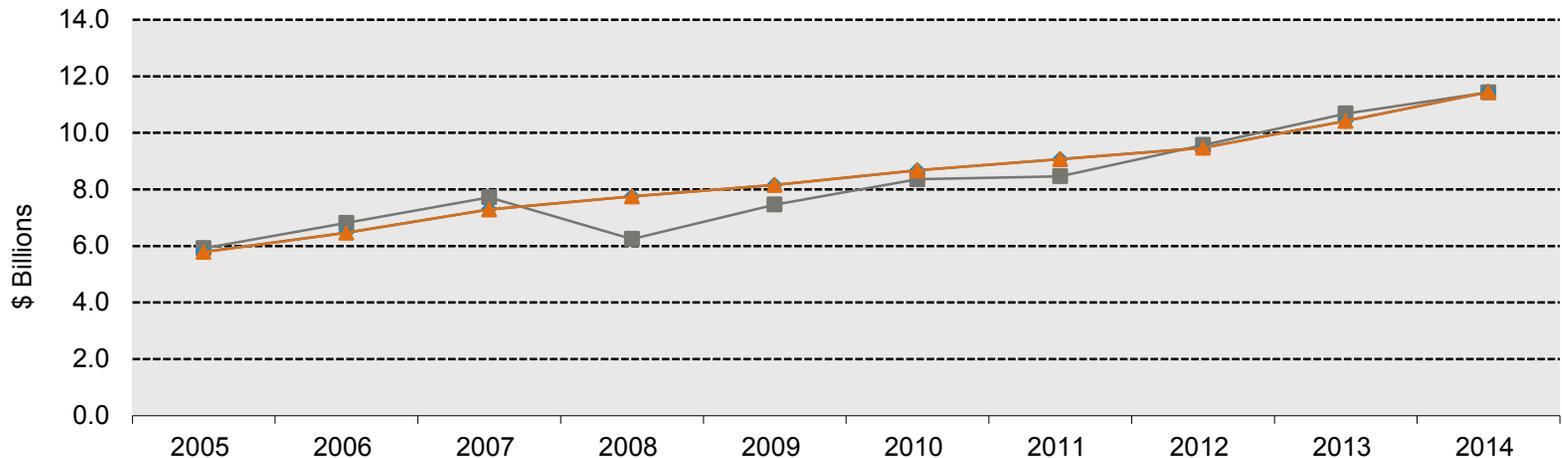
⁽¹⁾ Based on the preliminary unaudited financial statement provided by OCERS for this valuation.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

The market value, actuarial value, and valuation value of assets are representations of OCERS' financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation value of assets is significant because OCERS' liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in market value, actuarial value and valuation value over the past ten years. Note: Market Value of Assets excludes the County Investment Account and Prepaid Employer Contributions.

CHART 8
Market Value, Actuarial Value and Valuation Value of Assets as of December 31, 2005 – 2014



SECTION 2: Valuation Results for the Orange County Employees Retirement System

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will

return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total experience gain was \$284.3 million, a gain of \$9.6 million from investments, a gain of \$62.1 million from contribution experience (includes a gain of \$151.5 million from additional UAAL payments and a loss of \$89.4 million from all other contribution experience) and a gain of \$212.7 million from all other sources. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9

Actuarial Experience for Year Ended December 31, 2014 (Dollar Amounts in Thousands)

1. Net gain/(loss) from investments ⁽¹⁾	\$9,570,000
2. Net gain/(loss) from contribution experience	62,078,000
3. Net gain/(loss) from other experience ⁽²⁾	<u>212,676,000</u>
4. Net experience gain/(loss): (1) + (2) + (3)	<u>\$284,324,000</u>

⁽¹⁾ Details in Chart 10.

⁽²⁾ See Section 3, Exhibit H.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on OCERS’ investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.25% (based on the December 31, 2013 valuation). The actual rate of return on a valuation basis for the 2014 plan year was 7.34%.

Since the actual return for the year was more than the assumed return, OCERS experienced an actuarial gain during the year ended December 31, 2014 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10
Investment Experience for Year Ended December 31, 2014 – Valuation Value and Actuarial Value of Assets

	Valuation Value	Actuarial Value	Market Value
1. Actual return	\$771,174,000	\$771,049,000	\$487,104,000
2. Average value of assets	\$10,504,886,000	\$10,505,101,000	\$10,767,268,000
3. Actual rate of return: (1) ÷ (2)	7.34%	7.34%	4.52%
4. Assumed rate of return	7.25%	7.25%	7.25%
5. Expected return: (2) x (4)	\$761,604,000	\$761,620,000	\$780,627,000
6. Actuarial gain/(loss): (1) – (5)	<u>\$9,570,000</u>	<u>\$9,429,000</u>	<u>\$(293,523,000)</u>

SECTION 2: Valuation Results for the Orange County Employees Retirement System

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an valuation, actuarial and market basis for the last ten years.

CHART 11

Investment Return – Valuation Value, Actuarial Value and Market Value: 2005 - 2014 (Dollar Amounts in Thousands)

Year Ended December 31	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2005	\$449,620	8.50%	\$461,972	8.72%	\$441,178	8.11%
2006	565,491	9.68%	568,254	9.71%	787,330	13.17%
2007	683,212	10.45%	685,780	10.49%	769,613	11.18%
2008	312,821	4.25%	311,887	4.23%	(1,617,791)	-20.76%
2009	282,764	3.62%	281,360	3.60%	1,092,660	17.32%
2010	412,046	5.02%	411,960	5.02%	787,215	10.47%
2011	287,241	3.29%	286,585	3.28%	3,236	0.04%
2012	318,043	3.49%	318,033	3.49%	1,014,471	11.92%
2013	866,402	9.11%	866,402	9.11%	1,031,118	10.73%
2014	771,174	7.34%	771,049	7.34%	487,104	4.52%
5-Year Average Return		5.63%		5.62%		7.44%
10-Year Average Return		6.44%		6.46%		6.11%

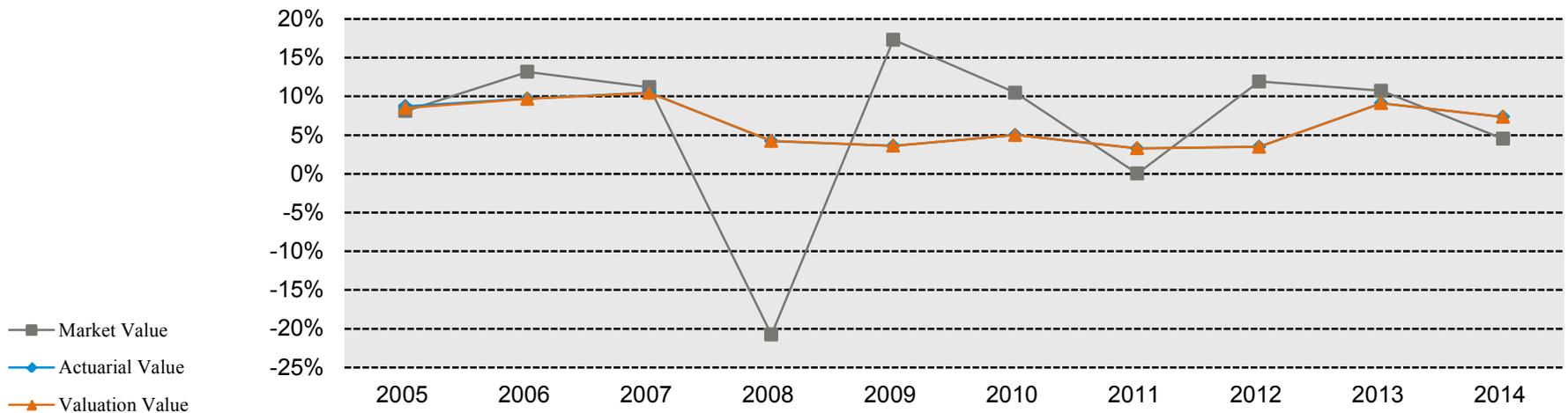
Note: The dollar amount of return on market value is net of the return on the County Investment Account (funded by pension obligation bond proceeds held by OCERS) and prepaid employer contributions account. Furthermore, due to differences in how returns are calculated, these market value rates of return will generally differ somewhat from the return reported by OCERS and its investment consultant.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the past ten years.

CHART 12
Market, Actuarial, and Valuation Value Rates of Return for Years Ended December 31, 2005 – 2014



SECTION 2: Valuation Results for the Orange County Employees Retirement System

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- actual turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),

- the number of disability retirements, and
- salary increases different than assumed.

The net gain from this other experience for the year ended December 31, 2014 amounted to \$212.7 million which is 1.30% of the actuarial accrued liability. See Exhibit H in Section 3 for a detailed development of the Unfunded Actuarial Accrued Liability.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.

For Probation Safety members who have prior benefit service in the General OCERS plan, the normal cost rate for their current plan is calculated based on the entry date for their current plan.

Contribution to the Unfunded

Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative unfunded actuarial accrued liability) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.50% (i.e., 3.00% inflation plus 0.50% across-the-board salary increase). The outstanding balance of the December 31, 2012 UAAL was combined and re-amortized over a declining 20-year period effective with the December 31, 2013 valuation. 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.

The recommended employer contributions are provided in Chart 13.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

Member Contributions

Non-CalPEPRA Members

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General members and Safety members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to:

- 1/200 of Final Average Salary for General Plan A;
- 1/120 of Final Average Salary for General Plan B;
- 1/100 of Final Average Salary for General Plans G, H, I, J, and S;
- 1/120 of Final Average Salary for General Plans M, N, O, and P;
- 1/200 of Final Average Salary for Safety Plans E and Q, and;
- 1/100 of Final Average Salary for Safety Plans F and R.

The annuity age is 60 for General Plans A, B, M, N, O, P and S, 55 for Plans G, H, I, and J, and 50 for Safety Plans E, F, Q, and R. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to the basic contributions, members pay one-half of the total normal cost necessary to fund cost-of-living benefits. Accumulation includes crediting of interest at the assumed investment earnings rate.

Effective with the December 31, 2014 valuation, for determining the cost of the total benefit (i.e., basic and COLA components), the effect of the assumed additional cashouts are recognized in the valuation as an employer and member cost. Prior to the December 31, 2014 valuation, for determining the cost of the basic benefit (i.e., non-COLA component), the effect of the assumed additional cashouts were recognized in the valuation only as an employer cost and did not affect member contribution rates. The assumed additional cashouts were only used in establishing COLA member contribution rates.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CalPEPRA Members

Pursuant to Section 7522.30(a) of the Government Code, CalPEPRA members in Plans T, U and V are required to contribute at least 50% of the Normal Cost rate. We have assumed that exactly 50% of the Normal Cost would be paid by the new members. Also of note is that based on our recommendation, OCERS has decided to use the discretion made available by AB1380 to no longer round the member's contribution rate to the nearest $\frac{1}{4}\%$ as previously required by the California Public Employees' Pension Reform Act of 2013 (CalPEPRA).

Note that for members in Plan T, their basic rates have been calculated using a methodology similar to that used for Plan P. For members in Plan U or Plan V, their basic rates have been calculated using a methodology outlined in our letter dated December 4, 2012 that was previously approved by the Board.

Member contribution rates are provided in Appendix B.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #1 – Plans A and B (2.0% @ 57 and 1.6667% @ 57.5 – non-OCTA, non-OCSD)				
Normal Cost	9.67%	\$4,965	9.82%	\$5,042
UAAL ^{(2),(3)}	<u>8.62%</u>	<u>4,426</u>	<u>11.34%</u>	<u>5,823</u>
Total Contribution	18.29%	\$9,391	21.16%	\$10,865
Rate Group #1 – Plan U (2.5% @ 67 PEPR) ⁽⁴⁾				
Normal Cost	8.87%	\$2,052	9.39%	\$2,172
UAAL ^{(2),(3)}	<u>8.62%</u>	<u>1,994</u>	<u>11.34%</u>	<u>2,623</u>
Total Contribution	17.49%	\$4,046	20.73%	\$4,795
Rate Group #1 – Plans A, B and U Combined				
Normal Cost	9.42%	\$7,017	9.69%	\$7,214
UAAL ^{(2),(3)}	<u>8.62%</u>	<u>6,420</u>	<u>11.34%</u>	<u>8,446</u>
Total Contribution	18.04%	\$13,437	21.03%	\$15,660

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ In developing the above contribution rate to pay off the UAAL, we have continued to follow the policy used in developing the UAAL rate in the December 31, 2013 valuation to allocate the amortized UAAL payment by payroll. As the Board is in the process of finalizing a new policy for the employer with declining payroll that applies to U.C.I. and the Department of Education, we have also calculated what the contribution rate would be for the other employers (i.e., the County and O.C. IHSS Public Authority) when calculated under that new policy once it is finalized. That rate is 5.67% of payroll as of December 31, 2014. The annual payment amounts for U.C.I. and the Department of Education to pay off their UAAL over a 20-year period are provided in our side letters dated June 3, 2015.

⁽⁴⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #2 – Plans I and J (2.7% @ 55 – non-OCFA)				
Normal Cost	13.22%	\$118,832	13.66%	\$122,787
UAAL ⁽²⁾	<u>21.72%</u>	<u>195,237</u>	<u>23.72%</u>	<u>213,215</u>
Total Contribution	34.94%	\$314,069	37.38%	\$336,002
Rate Group #2 – Plans O and P (1.62% @ 65)				
Normal Cost	5.49%	\$774	5.61%	\$791
UAAL ⁽²⁾	<u>21.72%</u>	<u>3,064</u>	<u>23.72%</u>	<u>3,346</u>
Total Contribution	27.21%	\$3,838	29.33%	\$4,137
Rate Group #2 – Plan S (2.0% @ 57)				
Normal Cost	10.54%	\$54	12.46%	\$63
UAAL ⁽²⁾	<u>21.72%</u>	<u>111</u>	<u>23.72%</u>	<u>121</u>
Total Contribution	32.26%	\$165	36.18%	\$184

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

Note: For employers with future service only benefit improvements under 2.7% @ 55, refer to the employer rate adjustment on page 28.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #2 – Plan T (1.62% @ 65 PEPRAs)⁽³⁾				
Normal Cost	6.61%	\$4,874	6.70%	\$4,941
UAAL ⁽²⁾	<u>21.72%</u>	<u>16,016</u>	<u>23.72%</u>	<u>17,491</u>
Total Contribution	28.33%	\$20,890	30.42%	\$22,432
Rate Group #2 – Plan U (2.5% @ 67 PEPRAs)⁽⁴⁾				
Normal Cost	8.33%	\$537	8.56%	\$552
UAAL ⁽²⁾	<u>21.72%</u>	<u>1,400</u>	<u>23.72%</u>	<u>1,529</u>
Total Contribution	30.05%	\$1,937	32.28%	\$2,081
Rate Group #2 – Plans I, J, O, P, S, T and U Combined				
Normal Cost	12.59%	\$125,071	13.00%	\$129,134
UAAL ⁽²⁾	<u>21.72%</u>	<u>215,828</u>	<u>23.72%</u>	<u>235,702</u>
Total Contribution	34.31%	\$340,899	36.72%	\$364,836

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013 except for County Attorneys, San Juan Capistrano employees and OCERS management employees.

⁽⁴⁾ Applicable for County Attorneys, San Juan Capistrano employees and OCERS management employees hired on or after January 1, 2013.

Note: For employers with future service only benefit improvements under 2.7% @ 55, refer to the employer rate adjustment on page 28.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #3 – Plans G and H (2.5% @ 55 – OCSD)				
Normal Cost	12.40%	\$6,760	12.89%	\$7,027
UAAL ⁽²⁾	<u>6.26%</u>	<u>3,413</u>	<u>7.86%</u>	<u>4,285</u>
Total Contribution	18.66%	\$10,173	20.75%	\$11,312
Rate Group #3 – Plans G and H (2.5% @ 55 – Law Library)				
Normal Cost	12.40%	\$159	12.89%	\$166
UAAL ⁽²⁾	<u>20.21%</u>	<u>260</u>	<u>21.87%</u>	<u>281</u>
Total Contribution	32.61%	\$419	34.76%	\$447
Rate Group #3 – Plan B (1.64% @ 57 – OCSD)				
Normal Cost	10.30%	\$517	10.53%	\$529
UAAL ⁽²⁾	<u>6.26%</u>	<u>314</u>	<u>7.86%</u>	<u>394</u>
Total Contribution	16.56%	\$831	18.39%	\$923

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

Note: For employers with future service only benefit improvements under 2.5% @ 55, refer to the employer rate adjustment on page 28.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #3 – Plan U (2.5% @ 67 PEPR – OCSD)⁽³⁾				
Normal Cost	9.00%	\$467	9.66%	\$502
UAAL ⁽²⁾	<u>6.26%</u>	<u>325</u>	<u>7.86%</u>	<u>408</u>
Total Contribution	15.26%	\$792	17.52%	\$910
Rate Group #3 – Plan U (2.5% @ 67 PEPR – Law Library)⁽³⁾				
Normal Cost	9.00%	\$0	9.66%	\$0
UAAL ⁽²⁾	<u>20.21%</u>	<u>0</u>	<u>21.87%</u>	<u>0</u>
Total Contribution	29.21%	\$0	31.53%	\$0
Rate Group #3 – Plans B, G, H and U Combined				
Normal Cost	11.97%	\$7,903	12.46%	\$8,224
UAAL ⁽²⁾	<u>6.53%</u>	<u>4,312</u>	<u>8.13%</u>	<u>5,368</u>
Total Contribution	18.50%	\$12,215	20.59%	\$13,592

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

Note: For employers with future service only benefit improvements under 2.5% @ 55, refer to the employer rate adjustment on page 28.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #5 – Plans A and B (2.0% @ 57 and 1.6667% @ 57.5 – OCTA)				
Normal Cost	10.78%	\$11,173	11.81%	\$12,241
UAAL ⁽²⁾	<u>14.40%</u>	<u>14,926</u>	<u>15.22%</u>	<u>15,776</u>
Total Contribution	25.18%	\$26,099	27.03%	\$28,017
Rate Group #5 – Plan U (2.5% @ 67 PEPPRA)⁽³⁾				
Normal Cost	10.04%	\$0	10.69%	\$0
UAAL ⁽²⁾	<u>14.40%</u>	<u>0</u>	<u>15.22%</u>	<u>0</u>
Total Contribution	24.44%	\$0	25.91%	\$0
Rate Group #5 – Plans A, B and U Combined				
Normal Cost	10.78%	\$11,173	11.81%	\$12,241
UAAL ⁽²⁾	<u>14.40%</u>	<u>14,926</u>	<u>15.22%</u>	<u>15,776</u>
Total Contribution	25.18%	\$26,099	27.03%	\$28,017

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2015.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #9 – Plans M and N (2.0% @ 55 – TCA)				
Normal Cost	13.59%	\$696	14.13%	\$724
UAAL ⁽²⁾	<u>12.78%</u>	<u>655</u>	<u>12.28%</u>	<u>629</u>
Total Contribution	26.37%	\$1,351	26.41%	\$1,353
Rate Group #9 – Plan U (2.5% @ 67 PEPR) ⁽³⁾				
Normal Cost	9.85%	\$104	11.40%	\$121
UAAL ⁽²⁾	<u>12.78%</u>	<u>135</u>	<u>12.28%</u>	<u>130</u>
Total Contribution	22.63%	\$239	23.68%	\$251
Rate Group #9 – Plans M, N and U Combined				
Normal Cost	12.94%	\$800	13.67%	\$845
UAAL ⁽²⁾	<u>12.78%</u>	<u>790</u>	<u>12.28%</u>	<u>759</u>
Total Contribution	25.72%	\$1,590	25.95%	\$1,604

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #10 – Plans I and J (2.7% @ 55 – OCFA)				
Normal Cost	13.53%	\$2,388	14.06%	\$2,482
UAAL ⁽²⁾	<u>20.28%</u>	<u>3,579</u>	<u>23.34%</u>	<u>4,120</u>
Total Contribution	33.81%	\$5,967	37.40%	\$6,602
Rate Group #10 – Plans M and N (2.0% @ 55 – OCFA)				
Normal Cost	12.47%	\$266	14.15%	\$302
UAAL ⁽²⁾	<u>20.28%</u>	<u>433</u>	<u>23.34%</u>	<u>498</u>
Total Contribution	32.75%	\$699	37.49%	\$800
Rate Group #10 – Plan U (2.5% @ 67 PEPRA)⁽³⁾				
Normal Cost	9.63%	\$242	9.71%	\$244
UAAL ⁽²⁾	<u>20.28%</u>	<u>509</u>	<u>23.34%</u>	<u>585</u>
Total Contribution	29.91%	\$751	33.05%	\$829
Rate Group #10 – Plans I, J, M, N and U Combined				
Normal Cost	12.99%	\$2,896	13.58%	\$3,028
UAAL ⁽²⁾	<u>20.28%</u>	<u>4,521</u>	<u>23.34%</u>	<u>5,203</u>
Total Contribution	33.27%	\$7,417	36.92%	\$8,231

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #11 – Plans M and N, future service (2.0% @ 55 – Cemetery)				
Normal Cost	11.79%	\$146	12.33%	\$153
UAAL ⁽²⁾	<u>0.00%</u>	<u>0</u>	<u>0.00%</u>	<u>0</u>
Total Contribution	11.79%	\$146	12.33%	\$153
Rate Group #11 – Plan U (2.5% @ 67 PEPRA) ⁽³⁾				
Normal Cost	11.81%	\$6	8.66%	\$5
UAAL ⁽²⁾	<u>0.00%</u>	<u>0</u>	<u>0.00%</u>	<u>0</u>
Total Contribution	11.81%	\$6	8.66%	\$5
Rate Group #11 – Plans M, N and U Combined				
Normal Cost	11.79%	\$152	12.23%	\$158
UAAL ⁽²⁾	<u>0.00%</u>	<u>0</u>	<u>0.00%</u>	<u>0</u>
Total Contribution	11.79%	\$152	12.23%	\$158

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

Safety Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>
Rate Group #6 – Plans E and F (3% @ 50 – Probation)				
Normal Cost	22.17%	\$14,149	21.00%	\$13,402
UAAL ⁽²⁾	<u>25.01%</u>	<u>15,962</u>	<u>19.72%</u>	<u>12,586</u>
Total Contribution	47.18%	\$30,111	40.72%	\$25,988
Rate Group #6 – Plan V (2.7% @ 57 PEPR) ⁽³⁾				
Normal Cost	15.25%	\$31	13.95%	\$28
UAAL ⁽²⁾	<u>25.01%</u>	<u>50</u>	<u>19.72%</u>	<u>39</u>
Total Contribution	40.26%	\$81	33.67%	\$67
Rate Group #6 – Plans E, F and V Combined				
Normal Cost	22.15%	\$14,180	20.98%	\$13,430
UAAL ⁽²⁾	<u>25.01%</u>	<u>16,012</u>	<u>19.72%</u>	<u>12,625</u>
Total Contribution	47.16%	\$30,192	40.70%	\$26,055

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

Safety Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #7 – Plans E and F (3% @ 50 – Law Enforcement)				
Normal Cost	25.79%	\$41,668	24.23%	\$39,148
UAAL ⁽²⁾	<u>37.46%</u>	<u>60,523</u>	<u>32.47%</u>	<u>52,461</u>
Total Contribution	63.25%	\$102,191	56.70%	\$91,609
Rate Group #7 – Plans Q and R (3% @ 55 – Law Enforcement)				
Normal Cost	23.55%	\$7,154	22.58%	\$6,859
UAAL ⁽²⁾	<u>37.46%</u>	<u>11,379</u>	<u>32.47%</u>	<u>9,863</u>
Total Contribution	61.01%	\$18,533	55.05%	\$16,722
Rate Group #7 – Plan V (2.7% @ 57 PEPR) ⁽³⁾				
Normal Cost	20.10%	\$1,787	19.17%	\$1,704
UAAL ⁽²⁾	<u>37.46%</u>	<u>3,330</u>	<u>32.47%</u>	<u>2,886</u>
Total Contribution	57.56%	\$5,117	51.64%	\$4,590
Rate Group #7 – Plans E, F, Q, R and V Combined				
Normal Cost	25.20%	\$50,609	23.76%	\$47,711
UAAL ⁽²⁾	<u>37.46%</u>	<u>75,232</u>	<u>32.47%</u>	<u>65,210</u>
Total Contribution	62.66%	\$125,841	56.23%	\$112,921

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

Safety Employers	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Group #8 – Plans E and F (3% @ 50 – Fire Authority)				
Normal Cost	27.05%	\$29,209	25.86%	\$27,924
UAAL ⁽²⁾	<u>24.42%</u>	<u>26,369</u>	<u>24.14%</u>	<u>26,066</u>
Total Contribution	51.47%	\$55,578	50.00%	\$53,990
Rate Group #8 – Plans Q and R (3% @ 55 – Fire Authority)				
Normal Cost	22.38%	\$701	21.70%	\$680
UAAL ⁽²⁾	<u>24.42%</u>	<u>765</u>	<u>24.14%</u>	<u>756</u>
Total Contribution	46.80%	\$1,466	45.84%	\$1,436
Rate Group #8 – Plan V (2.7% @ 57 PEPR) ⁽³⁾				
Normal Cost	15.71%	\$725	16.85%	\$777
UAAL ⁽²⁾	<u>24.42%</u>	<u>1,126</u>	<u>24.14%</u>	<u>1,113</u>
Total Contribution	40.13%	\$1,851	40.99%	\$1,890
Rate Group #8 – Plans E, F, Q, R and V Combined				
Normal Cost	26.47%	\$30,635	25.39%	\$29,381
UAAL ⁽²⁾	<u>24.42%</u>	<u>28,260</u>	<u>24.14%</u>	<u>27,935</u>
Total Contribution	50.89%	\$58,895	49.53%	\$57,316

⁽¹⁾ See page 27 for projected annual compensation.

⁽²⁾ UAAL rate has been adjusted to reflect 18-month delay between date of valuation and date of rate implementation.

⁽³⁾ Applicable for members hired on or after January 1, 2013.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

General and Safety Combined	December 31, 2014 Valuation		December 31, 2013 Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Rate Groups #1 – #11				
Total Contribution	37.41%	\$616,737	38.13%	\$628,390

⁽¹⁾ Based on December 31, 2014 projected annual compensation (also in thousands):

Rate Group #1 – Plans A and B	\$51,345
Rate Group #1 – Plan U	23,129
Rate Group #2 – Plans I and J	898,882
Rate Group #2 – Plans O and P	14,106
Rate Group #2 – Plan S	509
Rate Group #2 – Plan T	73,740
Rate Group #2 – Plan U	6,445
Rate Group #3 – Plans G and H (OCSD)	54,513
Rate Group #3 – Plans G and H (Law Library)	1,285
Rate Group #3 – Plan B	5,019
Rate Group #3 – Plan U (OCSD)	5,193
Rate Group #3 – Plan U (Law Library)	0
Rate Group #5 – Plans A and B	103,650
Rate Group #5 – Plan U	0
Rate Group #9 – Plans M and N	5,125
Rate Group #9 – Plan U	1,058
Rate Group #10 – Plans I and J	17,650
Rate Group #10 – Plans M and N	2,133
Rate Group #10 – Plan U	2,508
Rate Group #11 – Plans M and N	1,237
Rate Group #11 – Plan U	55
Rate Group #6 – Plans E and F	63,821
Rate Group #6 – Plan V	200
Rate Group #7 – Plans E and F	161,567
Rate Group #7 – Plans Q and R	30,377
Rate Group #7 – Plan V	8,889
Rate Group #8 – Plans E and F	107,980
Rate Group #8 – Plans Q and R	3,132
Rate Group #8 – Plan V	<u>4,612</u>
Total	\$1,648,160

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 13 (Continued)

Recommended Employer Contribution Rates as of December 31, 2014 (Dollar Amounts in Thousands)

**December 31, 2014 Rate Adjustment for General Employers with 2.7% @ 55 – Rate Group #2
Future Service Only Benefit Improvement (Plans I and J)**

Reduction to UAAL Rate Calculated in December 31, 2014 Valuation	<u>Rate</u>	Estimated Annual <u>Amount⁽¹⁾</u>
Reduction to Total Contribution	-1.79%	-\$77

⁽¹⁾ Based on December 31, 2014 projected annual compensation (also in thousands):

Retirement System	\$3,157
Local Agency Formation Commission	268
Children & Family Commission	<u>900</u>
Total	\$4,325

**December 31, 2014 Rate Adjustment for General Employers with 2.5% @ 55 – Rate Group #3
Future Service Only Benefit Improvement (Plans G and H)**

Reduction to UAAL Rate Calculated in December 31, 2014 Valuation	<u>Rate</u>	Estimated Annual <u>Amount⁽²⁾</u>
Reduction to Total Contribution	-3.41%	-\$44

⁽²⁾ Based on December 31, 2014 projected annual compensation (also in thousands):

Law Library	\$1,285
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SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 14

“Pick – Up” - Discount Percentages

For every dollar of member contribution “picked up” by the employer and not deposited in the member’s contribution account, the employer can contribute less than a dollar. This is because the “pick-up” amount is not deposited in the member’s contribution account and so is not payable to a member who withdraws his or her contributions following termination of employment, and is not payable as an additional death benefit. The contribution discount percentages are as follows:

	December 31, 2014 Valuation Pick-Up Percentage		December 31, 2013 Valuation Pick-Up Percentage	
<i>General Members</i>				
Rate Group #1 Plan A/B (non-OCTA, non-OCSD)	Plan A: 98.41%	Plan B: 96.94%	Plan A: 97.73%	Plan B: 93.86%
Rate Group #1 Plan U (non-OCTA, non-OCSD)		Plan U: 95.82%		Plan U: 93.25%
Rate Group #2 (2.7% @ 55 – non-OCFA)	Plan I: 98.83%	Plan J: 97.28%	Plan I: 97.49%	Plan J: 94.46%
Rate Group #2 (1.62% @ 65)	Plan O: Not calculated	Plan P: 95.93%	Plan O: Not calculated	Plan P: 92.82%
Rate Group #2 (2.0% @ 57)		Plan S: 95.93%		Plan S: 92.56%
Rate Group #2 (1.62% @ 65 PEPRA)		Plan T: 94.75%		Plan T: 91.49%
Rate Group #2 (2.5% @ 67 PEPRA)		Plan U: 95.86%		Plan U: 93.17%
Rate Group #3 (2.5% @ 55)	Plan G: 98.44%	Plan H: 97.58%	Plan G: 96.58%	Plan H: 95.15%
Rate Group #3 (1.64% @ 57)		Plan B: 96.03%		Plan B: 92.86%
Rate Group #3 (2.5% @ 67 PEPRA)		Plan U: 95.92%		Plan U: 93.83%
Rate Group #5 Plan A/B (OCTA)	Plan A: 98.05%	Plan B: 94.27%	Plan A: 98.74%	Plan B: 94.53%
Rate Group #5 (2.5% @ 67 PEPRA)		Plan U: 88.64%		Plan U: 91.11%
Rate Group #9 (2.0% @ 55 – TCA)	Plan M: 97.50%	Plan N: 97.50%	Plan M: 95.19%	Plan N: 95.19%
Rate Group #9 (2.5% @ 67 PEPRA)		Plan U: 95.91%		Plan U: 94.44%
Rate Group #10 (2.7% @ 55 – OCFA)	Plan I: Not calculated	Plan J: 97.56%	Plan I: Not calculated	Plan J: 95.00%
Rate Group #10 (2.0% @ 55 – OCFA)	Plan M: Not calculated	Plan N: 96.61%	Plan M: Not calculated	Plan N: 93.77%
Rate Group #10 (2.5% @ 67 PEPRA – OCFA)		Plan U: 95.90%		Plan U: 93.70%
Rate Group #11 (2.0% @ 55 – Cemetery)	Plan M: 97.32%	Plan N: 97.32%	Plan M: 94.55%	Plan N: 94.55%
Rate Group #11 (2.5% @ 67 PEPRA – Cemetery)		Plan U: 96.72%		Plan U: 93.64%

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 14 (Continued)

“Pick – Up” - Discount Percentages

	December 31, 2014 Valuation Pick-Up Percentage		December 31, 2013 Valuation Pick-Up Percentage	
<i>Safety Members</i>				
Rate Group #6 (3% @ 50 – Probation)	Plan E: 100.00%	Plan F: 98.61%	Plan E: 100.00%	Plan F: 95.88%
Rate Group #6 (2.7% @ 57 PEPRA – Probation)		Plan V: 97.36%		Plan V: 94.78%
Rate Group #7 (3% @ 50 – Law Enforcement)	Plan E: 100.00%	Plan F: 99.56%	Plan E: 100.00%	Plan F: 99.38%
Rate Group #7 (3% @ 55 – Law Enforcement)	Plan Q: Not calculated	Plan R: 99.13%	Plan Q: Not calculated	Plan R: 98.61%
Rate Group #7 (2.7% @ 57 PEPRA – Law Enforcement)		Plan V: 99.31%		Plan V: 99.03%
Rate Group #8 (3% @ 50 – Fire Authority)	Plan E: 100.00%	Plan F: 99.45%	Plan E: 100.00%	Plan F: 99.42%
Rate Group #8 (3% @ 55 – Fire Authority)	Plan Q: Not calculated	Plan R: 99.21%	Plan Q: Not calculated	Plan R: 98.80%
Rate Group #8 (2.7% @ 57 PEPRA – Fire Authority)		Plan V: 99.22%		Plan V: 99.02%

SECTION 2: Valuation Results for the Orange County Employees Retirement System

CHART 14 (Continued)
“Pick – Up” - Average Entry Age

The following table provides the average entry age by employer used in determining the “pick-up” contributions under Section 31581.1.

<u>Employer</u>	<u>Code</u>	<u>Average Entry Age for All (non-PEPRA and PEPRA) Members</u>
<i>General</i>		
Orange County	101	32
Cemetery District	102	30
Law Library	103	42
Retirement System	105	34
Fire Authority	106	33
Transportation Corridor Agency	109	39
City of San Juan Capistrano	110	34
Sanitation District	111	34
OCTA	112	36
U.C.I. (Bi-weekly)	113	19
Children & Families Commission	118	31
Local Agency Formation Commission	119	35
Superior Court	121	33
IHSS Public Authority	122	41
<i>Safety</i>		
Probation	101	28
Law Enforcement	101	27
Fire Authority	106	30

SECTION 2: Valuation Results for the Orange County Employees Retirement System

The contribution rates as of December 31, 2014 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions or methods.

Reconciliation of Recommended Contribution

The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation, for the entire Retirement System. A reconciliation of the recommended contribution from the prior valuation to the current year's valuation by Rate Group is provided in Appendix D.

The chart reconciles the employer contribution from the prior valuation to the amount determined in this valuation.

CHART 15

Reconciliation of Recommended Employer Contribution Rate from December 31, 2013 to December 31, 2014 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount ⁽¹⁾
Aggregate Recommended Contribution Rate as of December 31, 2013 (before UAAL credit)	38.68%	\$637,586
Adjustment to contribution rates for 2015-2016 for additional UAAL contributions from O.C. Sanitation and O.C. Cemetery Districts	-0.55%	-9,196
Aggregate Recommended Contribution Rate as of December 31, 2013 (after UAAL credit)	38.13%	\$628,390
Effect of investment gain (after smoothing)	-0.04%	-659
Effect of additional UAAL contributions from O.C.Fire Authority	-0.10%	-1,648
Effect of difference in actual versus expected contributions	0.39%	6,428
Effect of difference in actual versus expected COLA increases	-0.65%	-10,713
Effect of difference in actual versus expected salary increases	-0.53%	-8,735
Effect of growth in total payroll less than expected	0.27%	4,450
Effect of changes in actuarial assumptions	0.06%	989
Effect of including terminal pay assumptions in legacy plan member rates	-0.18%	-2,967
Effect of other experience (gain)/loss ⁽²⁾	<u>0.06%</u>	<u>1,202</u>
Subtotal	-0.72%	-\$11,653
Aggregate Recommended Contribution Rate as of December 31, 2014	37.41%	\$616,737

⁽¹⁾ Based on December 31, 2014 projected annual compensation of \$1,648,160,000.

⁽²⁾ Net of an adjustment of -0.06% to reflect 18-month delay between date of valuation and date of rate implementation for the rate impact of all actuarial experience.

SECTION 2: Valuation Results for the Orange County Employees Retirement System

The member contribution rates as of December 31, 2014 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, and changes in the actuarial assumptions or methods.

Reconciliation of Recommended Contribution Rate
The chart below details the changes in the aggregate recommended member contribution rate from the prior valuation to the current year’s valuation.

The chart reconciles the member contribution from the prior valuation to the amount determined in this valuation.

CHART 16
Reconciliation of Average Recommended Member Contribution from December 31, 2013 to December 31, 2014 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount ⁽¹⁾
Average Recommended Contribution Rate as of December 31, 2013 ⁽²⁾	12.47%	\$205,512
Effect of change in demographics	0.02%	311
Effect of changes in actuarial assumptions	-0.27%	-4,450
Effect of including terminal pay assumptions in legacy plan member rates	<u>0.20%</u>	<u>3,296</u>
Subtotal	-0.05%	-\$843
Average Recommended Contribution Rate as of December 31, 2014	12.42%	\$204,669

⁽¹⁾ Based on December 31, 2014 projected annual compensation of \$1,648,160,000.

⁽²⁾ Rates have been recalculated by applying the individual entry age based rates determined in the December 31, 2013 valuation to the System membership as of December 31, 2014.

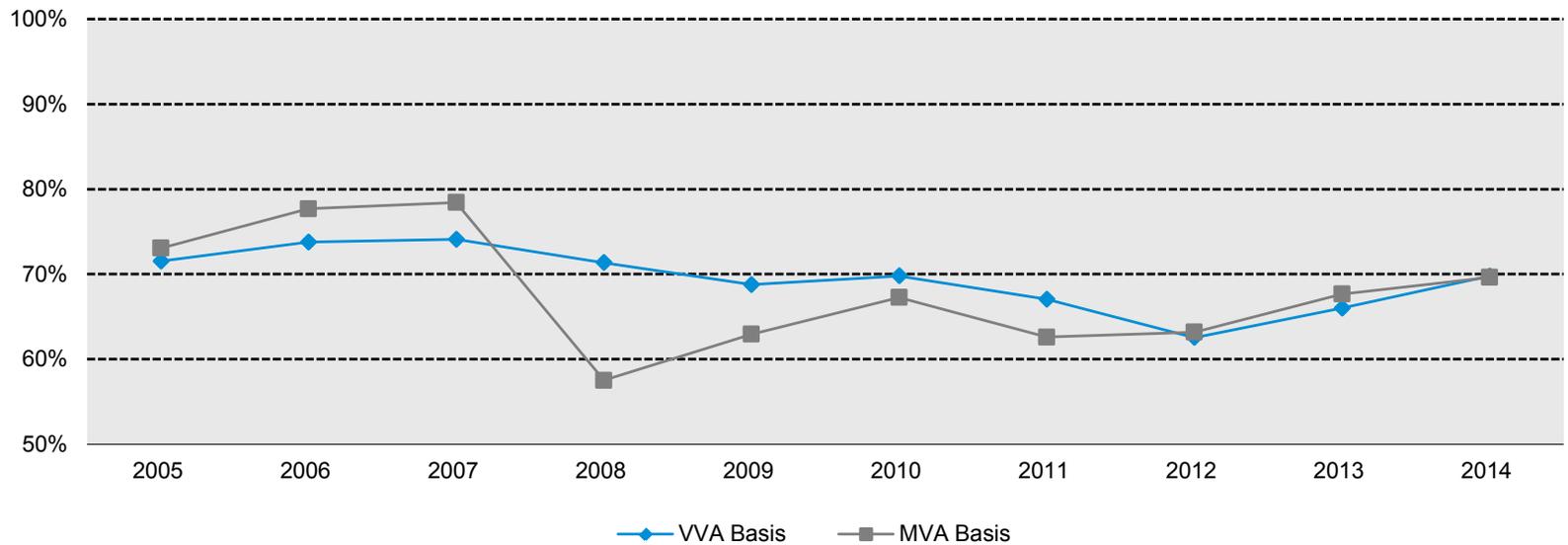
SECTION 2: Valuation Results for the Orange County Employees Retirement System

E. FUNDED RATIO

A critical piece of information regarding the Plan’s financial status is the funded ratio. The ratios compare the valuation value of assets and market value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan’s actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset

performance, or a variety of other factors. The chart below depicts a history of the funded ratio for this plan.

CHART 17
Funded Ratio for Plan Years Ending December, 31 2005 – 2014



SECTION 2: Valuation Results for the Orange County Employees Retirement System

F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For OCERS, the current AVR is about 6.9. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 6.9% of one-year’s payroll. Since OCERS amortizes actuarial gains and losses over a 20-year period, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan’s assets should track the plan’s liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For OCERS, the current LVR is about 10.0. This is about 45% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 18
Volatility Ratios for Years Ended December 31, 2009 – 2014

Year Ended December 31	Asset Volatility Ratio	Liability Volatility Ratio
2009	4.6	7.3
2010	5.3	7.9
2011	5.2	8.4
2012	5.9	9.4
2013	6.7	9.8
2014	6.9	10.0

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

i. Rate Group #1 – General – Plans A, B and U (non-OCTA, non-OCSD)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	1,542	1,408	9.5%
Average age	42.9	44.0	N/A
Average service	9.2	10.3	N/A
Projected total compensation	\$74,474,442	\$66,672,983	11.7%
Projected average compensation	\$48,297	\$47,353	2.0%
Account balances	\$39,701,027	\$38,142,418	4.1%
Total active vested members	880	949	-7.3%
Vested terminated members			
Number	280	319	-12.2%
Average age	43.5	42.5	N/A
Retired members			
Number in pay status	592	583	1.5%
Average age	73.9	73.7	N/A
Average monthly benefit ⁽¹⁾	\$2,556	\$2,513	1.7%
Disabled members			
Number in pay status	36	33	9.1%
Average age	67.2	67.6	N/A
Average monthly benefit ⁽¹⁾	\$2,228	\$2,263	-1.5%
Beneficiaries			
Number in pay status	84	75	12.0%
Average age	75.8	74.8	N/A
Average monthly benefit ⁽¹⁾	\$1,378	\$1,217	13.2%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

ii. Rate Group #2 – General – Plans I, J, O, P, S, T and U

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	13,761	13,671	0.7%
Average age	46.1	46.1	N/A
Average service	13.2	13.2	N/A
Projected total compensation	\$993,682,493	\$967,015,507	2.8%
Projected average compensation	\$72,210	\$70,735	2.1%
Account balances	\$1,590,348,357	\$1,462,349,824	8.8%
Total active vested members	11,469	11,902	-3.6%
Vested terminated members			
Number	3,305	3,130	5.6%
Average age	44.5	44.4	N/A
Retired members			
Number in pay status	8,172	7,864	3.9%
Average age	70.6	70.4	N/A
Average monthly benefit ⁽¹⁾	\$3,343	\$3,261	2.5%
Disabled members			
Number in pay status	567	564	0.5%
Average age	66.1	65.8	N/A
Average monthly benefit ⁽¹⁾	\$2,362	\$2,318	1.9%
Beneficiaries			
Number in pay status	1,348	1,305	3.3%
Average age	75.2	75.0	N/A
Average monthly benefit ⁽¹⁾	\$1,674	\$1,605	4.3%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

iii. Rate Group #3 – General – Plans B, G, H and U (Law Library, OCSD)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	611	604	1.2%
Average age	48.3	48.5	N/A
Average service	13.5	13.6	N/A
Projected total compensation	\$66,009,510	\$63,125,635	4.6%
Projected average compensation	\$108,035	\$104,513	3.4%
Account balances	\$85,734,935	\$80,507,736	6.5%
Total active vested members	484	493	-1.8%
Vested terminated members			
Number	97	98	-1.0%
Average age	46.7	46.3	N/A
Retired members			
Number in pay status	317	296	7.1%
Average age	67.3	67.2	N/A
Average monthly benefit ⁽¹⁾	\$4,691	\$4,663	0.6%
Disabled members			
Number in pay status	12	12	0.0%
Average age	64.5	63.5	N/A
Average monthly benefit ⁽¹⁾	\$3,074	\$3,035	1.3%
Beneficiaries			
Number in pay status	56	50	12.0%
Average age	71.0	70.1	N/A
Average monthly benefit ⁽¹⁾	\$1,982	\$1,846	7.4%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

iv. Rate Group #5 – General – Plans A, B and U (OCTA)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	1,454	1,519	-4.3%
Average age	50.1	49.7	N/A
Average service	13.6	13.1	N/A
Projected total compensation	\$103,650,844	\$101,443,921	2.2%
Projected average compensation	\$71,287	\$66,783	6.7%
Account balances	\$118,946,235	\$114,324,193	4.0%
Total active vested members	1,192	1,260	-5.4%
Vested terminated members			
Number	536	524	2.3%
Average age	49.1	48.9	N/A
Retired members			
Number in pay status	761	705	7.9%
Average age	69.0	68.7	N/A
Average monthly benefit ⁽¹⁾	\$2,287	\$2,237	2.2%
Disabled members			
Number in pay status	253	247	2.4%
Average age	64.1	63.4	N/A
Average monthly benefit ⁽¹⁾	\$2,184	\$2,162	1.0%
Beneficiaries			
Number in pay status	157	148	6.1%
Average age	70.1	69.3	N/A
Average monthly benefit ⁽¹⁾	\$1,225	\$1,235	-0.8%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

v. Rate Group #9 – General – Plans M, N and U (TCA)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	65	77	-15.6%
Average age	50.0	49.8	N/A
Average service	10.0	9.6	N/A
Projected total compensation	\$6,182,268	\$6,492,514	-4.8%
Projected average compensation	\$95,112	\$84,318	12.8%
Account balances	\$5,112,999	\$5,456,492	-6.3%
Total active vested members	50	64	-21.9%
Vested terminated members			
Number	52	40	30.0%
Average age	43.5	43.4	N/A
Retired members			
Number in pay status	33	26	26.9%
Average age	67.1	66.8	N/A
Average monthly benefit ⁽¹⁾	\$2,755	\$3,002	-8.2%
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽¹⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	2	2	0.0%
Average age	72.9	71.9	N/A
Average monthly benefit ⁽¹⁾	\$318	\$314	1.3%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

vi. Rate Group #10 – General – Plans I, J, M, N and U (OCFA)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	251	247	1.6%
Average age	46.8	46.5	N/A
Average service ⁽¹⁾	12.9	12.5	N/A
Projected total compensation	\$22,290,639	\$21,160,575	5.3%
Projected average compensation	\$88,807	\$85,670	3.7%
Account balances	\$25,385,283	\$23,676,389	7.2%
Total active vested members	197	203	-3.0%
Vested terminated members			
Number	104	91	14.3%
Average age	41.8	41.7	N/A
Retired members			
Number in pay status	116	110	5.5%
Average age	65.3	65.0	N/A
Average monthly benefit ⁽²⁾	\$4,106	\$4,022	2.1%
Disabled members			
Number in pay status	9	8	12.5%
Average age	60.6	61.5	N/A
Average monthly benefit ⁽²⁾	\$2,536	\$2,512	1.0%
Beneficiaries			
Number in pay status	7	7	0.0%
Average age	58.1	57.1	N/A
Average monthly benefit ⁽²⁾	\$1,327	\$1,314	1.0%

⁽¹⁾ For some former Santa Ana employees, service used in calculating the average above is only used for vesting purposes. Benefit service starts to accrue only effective April 2012.

⁽²⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

vii. Rate Group #11 – General – Plans M and N, future service, and U (Cemetery)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	21	21	0.0%
Average age	47.3	47.2	N/A
Average service	15.9	15.2	N/A
Projected total compensation	\$1,292,021	\$1,241,960	4.0%
Projected average compensation	\$61,525	\$59,141	4.0%
Account balances	\$1,686,594	\$1,564,713	7.8%
Total active vested members	18	19	-5.3%
Vested terminated members			
Number	2	2	0.0%
Average age	36.1	35.1	N/A
Retired members			
Number in pay status	5	5	0.0%
Average age	72.8	75.3	N/A
Average monthly benefit ⁽¹⁾	\$2,347	\$2,517	-6.8%
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽¹⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	4	3	33.3%
Average age	76.0	72.0	N/A
Average monthly benefit ⁽¹⁾	\$1,529	\$1,625	-5.9%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

viii. Rate Group #6 – Safety – Plans E, F and V (Probation)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	843	871	-3.2%
Average age	42.8	42.1	N/A
Average service	15.1	14.3	N/A
Projected total compensation	\$64,020,760	\$63,851,828	0.3%
Projected average compensation	\$75,944	\$73,309	3.6%
Account balances	\$111,090,176	\$102,310,351	8.6%
Total active vested members	809	833	-2.9%
Vested terminated members			
Number	170	203	-16.3%
Average age	38.7	38.0	N/A
Retired members			
Number in pay status	241	226	6.6%
Average age	65.3	64.8	N/A
Average monthly benefit ⁽¹⁾	\$5,495	\$5,436	1.1%
Disabled members			
Number in pay status	22	19	15.8%
Average age	53.8	54.3	N/A
Average monthly benefit ⁽¹⁾	\$2,679	\$2,655	0.9%
Beneficiaries			
Number in pay status	21	20	5.0%
Average age	60.8	59.3	N/A
Average monthly benefit ⁽¹⁾	\$2,580	\$2,424	6.4%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

ix. Rate Group #7 – Safety – Plans E, F, Q, R and V (Law Enforcement)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	1,949	2,012	-3.1%
Average age	41.2	41.0	N/A
Average service	13.9	13.9	N/A
Projected total compensation	\$200,833,715	\$202,561,948	-0.9%
Projected average compensation	\$103,044	\$100,677	2.4%
Account balances	\$222,990,905	\$210,267,095	6.1%
Total active vested members	1,556	1,634	-4.8%
Vested terminated members			
Number	204	169	20.7%
Average age	43.0	43.5	N/A
Retired members			
Number in pay status	1,158	1,067	8.5%
Average age	63.3	63.3	N/A
Average monthly benefit ⁽¹⁾	\$6,529	\$6,449	1.2%
Disabled members			
Number in pay status	332	327	1.5%
Average age	61.8	61.4	N/A
Average monthly benefit ⁽¹⁾	\$4,521	\$4,413	2.4%
Beneficiaries			
Number in pay status	292	268	9.0%
Average age	66.5	66.0	N/A
Average monthly benefit ⁽¹⁾	\$2,781	\$2,609	6.6%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

x. Rate Group #8 – Safety – Plans E, F, Q, R and V (Fire Authority)

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	962	938	2.6%
Average age	43.9	44.0	N/A
Average service ⁽¹⁾	14.2	14.4	N/A
Projected total compensation	\$115,723,757	\$110,929,365	4.3%
Projected average compensation	\$120,295	\$118,262	1.7%
Account balances	\$97,747,420	\$87,583,258	11.6%
Total active vested members	746	750	-0.5%
Vested terminated members			
Number	38	36	5.6%
Average age	41.8	40.8	N/A
Retired members			
Number in pay status	364	346	5.2%
Average age	62.8	62.3	N/A
Average monthly benefit ⁽²⁾	\$7,423	\$7,226	2.7%
Disabled members			
Number in pay status	133	124	7.3%
Average age	63.7	63.3	N/A
Average monthly benefit ⁽²⁾	\$6,192	\$5,939	4.3%
Beneficiaries			
Number in pay status	75	65	15.4%
Average age	60.1	59.6	N/A
Average monthly benefit ⁽²⁾	\$2,823	\$2,848	-0.9%

⁽¹⁾ For some former Santa Ana employees, service used in calculating the average above is only used for vesting purposes. Benefit service starts to accrue only effective April 2012.

⁽²⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT A

Table of Plan Coverage

xi. Total

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	21,459	21,368	0.4%
Average age	45.6	45.6	N/A
Average service	13.2	13.2	N/A
Projected total compensation	\$1,648,160,449	\$1,604,496,236	2.7%
Projected average compensation	\$76,805	\$75,089	2.3%
Account balances	\$2,298,743,933	\$2,126,182,470	8.1%
Total active vested members	17,401	18,107	-3.9%
Vested terminated members			
Number	4,789	4,613	3.8%
Average age	44.7	44.4	N/A
Retired members			
Number in pay status	11,759	11,228	4.7%
Average age	69.4	69.3	N/A
Average monthly benefit ⁽¹⁾	\$3,761	\$3,670	2.5%
Disabled members			
Number in pay status	1,364	1,334	2.2%
Average age	64.2	63.9	N/A
Average monthly benefit ⁽¹⁾	\$3,237	\$3,150	2.8%
Beneficiaries			
Number in pay status	2,046	1,943	5.3%
Average age	72.7	72.5	N/A
Average monthly benefit ⁽¹⁾	\$1,842	\$1,754	5.0%

⁽¹⁾ Excludes monthly benefits payable from the STAR COLA.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

i. Rate Group #1 – General – Plans A, B and U (non-OCTA, non-OCSD)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	76	76	--	--	--	--	--	--	--	--
	\$43,851	\$43,851	--	--	--	--	--	--	--	--
25-29	188	173	15	--	--	--	--	--	--	--
	43,638	42,987	\$51,144	--	--	--	--	--	--	--
30-34	222	144	55	21	2	--	--	--	--	--
	46,888	44,147	51,676	\$52,709	\$51,466	--	--	--	--	--
35-39	212	78	63	51	20	--	--	--	--	--
	48,572	43,437	51,749	51,468	51,203	--	--	--	--	--
40-44	229	56	63	53	37	20	--	--	--	--
	49,552	42,261	52,752	50,831	51,901	\$52,152	--	--	--	--
45-49	165	43	39	27	14	36	6	--	--	--
	49,518	42,395	51,026	51,197	52,037	53,775	\$51,778	--	--	--
50-54	135	39	24	23	13	25	8	3	--	--
	48,697	42,484	50,326	50,721	51,107	52,205	51,782	\$53,025	--	--
55-59	147	37	19	22	8	39	13	7	--	2
	50,270	42,226	50,850	51,019	50,713	52,322	54,205	51,272	--	\$114,502
60-64	97	15	10	11	12	28	13	5	1	2
	51,842	42,951	49,356	51,244	52,504	52,676	52,122	53,030	\$48,572	115,467
65-69	55	4	8	12	6	17	6	1	--	1
	52,683	50,189	57,290	51,117	50,390	52,798	54,246	48,572	--	51,118
70 & over	16	--	1	4	2	8	--	1	--	--
	51,469	--	51,853	50,053	52,015	51,620	--	54,449	--	--
Total	1,542	665	297	224	114	173	46	17	1	5
	\$48,297	\$43,261	\$51,719	\$51,225	\$51,600	\$52,659	\$52,884	\$52,126	\$48,572	\$102,211

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

ii. Rate Group #2 – General – Plans I, J, O, P, S, T and U

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	170	169	1	--	--	--	--	--	--	--
	\$45,189	\$45,108	\$58,859	--	--	--	--	--	--	--
25-29	817	597	216	4	--	--	--	--	--	--
	54,208	54,740	52,725	\$54,947	--	--	--	--	--	--
30-34	1,559	530	849	176	4	--	--	--	--	--
	64,200	63,424	65,551	60,179	\$57,271	--	--	--	--	--
35-39	1,827	318	761	552	193	3	--	--	--	--
	69,446	69,754	70,168	69,203	66,947	\$59,136	--	--	--	--
40-44	2,035	232	535	612	480	171	5	--	--	--
	75,231	70,204	72,307	78,861	77,606	70,959	\$95,011	--	--	--
45-49	2,131	199	399	446	454	470	162	1	--	--
	76,503	73,690	72,980	77,866	78,605	77,449	76,210	\$81,944	--	--
50-54	2,142	149	360	335	379	394	385	133	7	--
	77,980	77,442	74,889	74,095	79,528	77,450	84,383	75,732	\$70,962	--
55-59	1,515	96	247	253	264	267	251	111	26	--
	76,862	78,453	71,119	71,894	76,213	76,989	82,190	86,940	84,699	--
60-64	969	45	142	199	209	153	141	59	20	1
	75,377	85,632	72,143	70,858	76,804	73,888	78,663	83,195	70,545	\$74,463
65-69	427	18	72	94	96	71	50	16	4	6
	73,483	71,494	69,496	70,690	70,057	79,178	83,768	73,790	101,531	53,242
70 & over	169	3	32	29	32	28	26	11	6	2
	63,478	33,159	74,472	63,405	68,575	47,526	63,420	49,674	89,344	74,998
Total	13,761	2,356	3,614	2,700	2,111	1,557	1,020	331	63	9
	\$72,210	\$64,245	\$69,302	\$73,184	\$76,419	\$75,813	\$81,242	\$79,880	\$80,191	\$60,434

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

iii. Rate Group #3 – General – Plans B, G, H and U (Law Library, OCSD)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	5	5	--	--	--	--	--	--	--	--
	\$71,805	\$71,805	--	--	--	--	--	--	--	--
25-29	23	21	2	--	--	--	--	--	--	--
	79,942	78,763	\$92,318	--	--	--	--	--	--	--
30-34	60	32	21	7	--	--	--	--	--	--
	91,098	86,399	96,333	\$96,877	--	--	--	--	--	--
35-39	62	24	22	16	--	--	--	--	--	--
	93,777	88,068	101,893	91,182	--	--	--	--	--	--
40-44	70	23	25	11	3	6	2	--	--	--
	104,703	101,660	105,034	108,032	\$92,517	\$118,237	\$94,937	--	--	--
45-49	100	11	14	21	17	28	9	--	--	--
	116,302	104,061	121,929	110,699	125,018	117,455	115,528	--	--	--
50-54	120	15	20	21	15	30	16	3	--	--
	114,356	97,634	108,645	112,176	130,750	119,194	117,720	\$102,988	--	--
55-59	94	12	15	17	13	17	15	5	--	--
	118,492	99,642	105,382	117,232	124,082	126,777	118,027	166,039	--	--
60-64	49	4	2	12	8	9	12	2	--	--
	113,409	80,465	117,988	101,286	113,719	124,115	128,552	107,192	--	--
65-69	18	1	3	5	2	4	3	--	--	--
	113,260	102,687	88,893	116,675	182,008	105,380	100,136	--	--	--
70 & over	10	--	--	--	1	4	5	--	--	--
	111,567	--	--	--	116,327	112,406	109,943	--	--	--
Total	611	148	124	110	59	98	62	10	--	--
	\$108,035	\$90,940	\$105,148	\$107,250	\$124,869	\$119,565	\$117,360	\$135,354	--	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

iv. Rate Group #5 – General – Plans A, B and U (OCTA)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	11	11	--	--	--	--	--	--	--	--
	\$45,685	\$45,685	--	--	--	--	--	--	--	--
25-29	39	34	5	--	--	--	--	--	--	--
	53,132	52,238	\$59,210	--	--	--	--	--	--	--
30-34	88	39	34	15	--	--	--	--	--	--
	66,489	64,799	66,033	\$71,914	--	--	--	--	--	--
35-39	133	35	33	57	8	--	--	--	--	--
	68,168	64,857	69,728	67,398	\$81,705	--	--	--	--	--
40-44	150	33	34	54	22	7	--	--	--	--
	69,869	69,414	76,316	63,980	73,742	\$73,965	--	--	--	--
45-49	231	45	41	83	35	19	8	--	--	--
	72,879	69,372	79,691	69,321	71,069	83,791	\$76,620	--	--	--
50-54	288	34	39	101	41	34	33	6	--	--
	74,053	71,379	81,552	67,433	72,475	85,300	77,424	\$80,395	--	--
55-59	264	23	30	66	42	34	31	29	9	--
	75,118	66,907	83,417	65,335	75,931	87,716	76,723	74,456	\$85,383	--
60-64	179	14	19	53	16	20	22	19	15	1
	69,171	58,943	70,763	68,404	59,717	74,303	75,495	69,120	73,677	\$65,580
65-69	57	3	9	19	8	7	6	4	1	--
	75,012	74,252	74,731	88,218	64,368	57,633	78,561	60,772	71,367	--
70 & over	14	2	2	6	2	1	--	--	--	1
	73,416	87,263	48,262	67,820	60,779	93,371	--	--	--	134,931
Total	1,454	273	246	454	174	122	100	58	25	2
	\$71,287	\$64,749	\$75,207	\$68,194	\$71,931	\$81,764	\$76,786	\$72,379	\$77,799	\$100,255

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

v. Rate Group #9 – General – Plans M, N and U (TCA)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	1	1	--	--	--	--	--	--	--	--
	\$59,020	\$59,020	--	--	--	--	--	--	--	--
25-29	1	1	--	--	--	--	--	--	--	--
	72,618	72,618	--	--	--	--	--	--	--	--
30-34	4	1	2	1	--	--	--	--	--	--
	64,834	43,512	\$77,943	\$59,939	--	--	--	--	--	--
35-39	8	3	4	1	--	--	--	--	--	--
	81,716	99,358	73,772	60,562	--	--	--	--	--	--
40-44	7	3	1	3	--	--	--	--	--	--
	81,929	113,700	69,560	54,281	--	--	--	--	--	--
45-49	7	1	2	3	1	--	--	--	--	--
	88,533	97,449	98,892	81,759	\$79,218	--	--	--	--	--
50-54	14	3	5	4	--	1	1	--	--	--
	106,092	119,525	67,368	124,201	--	\$111,814	\$181,257	--	--	--
55-59	14	3	1	4	4	1	1	--	--	--
	119,607	174,682	77,784	116,203	110,781	92,248	72,480	--	--	--
60-64	4	--	1	3	--	--	--	--	--	--
	91,745	--	53,967	104,338	--	--	--	--	--	--
65-69	3	--	2	1	--	--	--	--	--	--
	52,129	--	53,812	48,762	--	--	--	--	--	--
70 & over	2	--	1	1	--	--	--	--	--	--
	130,592	--	206,279	54,906	--	--	--	--	--	--
Total	65	16	19	21	5	2	2	--	--	--
	\$95,112	\$112,150	\$78,990	\$90,806	\$104,469	\$102,031	\$126,868	--	--	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

vi. Rate Group #10 – General – Plans I, J, M, N and U (OCFA)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	3	3	--	--	--	--	--	--	--	--
	\$61,328	\$61,328	--	--	--	--	--	--	--	--
25-29	10	7	3	--	--	--	--	--	--	--
	53,139	47,110	\$67,207	--	--	--	--	--	--	--
30-34	23	13	8	2	--	--	--	--	--	--
	78,347	79,641	85,252	\$42,321	--	--	--	--	--	--
35-39	33	14	11	7	1	--	--	--	--	--
	77,854	66,556	83,330	88,485	\$101,372	--	--	--	--	--
40-44	30	8	8	9	4	1	--	--	--	--
	89,265	93,366	89,478	79,512	105,367	\$78,125	--	--	--	--
45-49	46	8	3	16	8	10	1	--	--	--
	94,578	109,775	76,308	88,949	104,242	88,547	\$100,889	--	--	--
50-54	55	8	6	10	11	9	7	3	1	--
	91,585	100,376	103,354	73,831	93,937	89,339	89,886	\$98,600	\$113,383	--
55-59	27	3	3	10	4	2	3	2	--	--
	102,130	153,080	85,618	94,964	94,667	115,901	118,901	62,302	--	--
60-64	19	3	2	6	5	1	2	--	--	--
	100,947	99,350	115,767	100,284	116,853	62,206	70,121	--	--	--
65-69	5	--	--	3	--	2	--	--	--	--
	92,568	--	--	100,014	--	81,399	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	251	67	44	63	33	25	13	5	1	--
	\$88,807	\$84,572	\$87,580	\$86,231	\$101,606	\$88,978	\$94,387	\$84,081	\$113,383	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

vii. Rate Group #11 – General – Plans M and N, future service, and U (Cemetery)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25-29	--	--	--	--	--	--	--	--	--	--
30-34	3	2	--	1	--	--	--	--	--	--
35-39	\$45,777	\$44,111	--	\$49,110	--	--	--	--	--	--
40-44	4	--	2	--	2	--	--	--	--	--
45-49	60,685	--	\$47,769	--	\$73,601	--	--	--	--	--
50-54	7	1	1	1	2	--	2	--	--	--
55-59	62,984	55,030	128,946	61,355	48,876	--	\$48,902	--	--	--
60-64	2	--	--	1	1	--	--	--	--	--
65-69	75,954	--	--	66,061	85,847	--	--	--	--	--
70 & over	1	--	--	--	1	--	--	--	--	--
	62,320	--	--	--	62,320	--	--	--	--	--
	4	--	--	--	--	1	3	--	--	--
	64,209	--	--	--	--	\$73,236	61,199	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	21	3	3	3	6	1	5	--	--	--
	\$61,525	\$47,751	\$74,828	\$58,842	\$65,520	\$73,236	\$56,280	--	--	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

viii. Rate Group #6 – Safety – Plans E, F and V (Probation)

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	1	1	--	--	--	--	--	--	--	--
	\$51,379	\$51,379	--	--	--	--	--	--	--	--
25-29	22	14	7	1	--	--	--	--	--	--
	55,572	53,199	\$58,745	\$66,593	--	--	--	--	--	--
30-34	101	13	78	10	--	--	--	--	--	--
	64,370	49,635	66,181	69,400	--	--	--	--	--	--
35-39	223	5	53	131	33	1	--	--	--	--
	73,291	49,304	66,142	75,365	\$79,855	\$83,732	--	--	--	--
40-44	203	1	15	61	108	18	--	--	--	--
	77,941	49,230	59,333	72,723	82,118	87,669	--	--	--	--
45-49	148	--	7	33	48	48	12	--	--	--
	80,030	--	65,917	70,893	78,542	87,371	\$89,974	--	--	--
50-54	70	2	1	5	17	20	22	3	--	--
	88,660	60,410	66,379	74,423	79,945	83,884	107,467	\$81,956	--	--
55-59	52	--	3	2	10	13	17	6	1	--
	83,570	--	65,911	74,864	68,643	83,188	90,326	99,711	\$96,467	--
60-64	20	--	1	5	6	4	3	1	--	--
	73,250	--	65,991	70,941	67,745	85,785	70,337	83,691	--	--
65-69	3	--	--	2	--	1	--	--	--	--
	72,737	--	--	65,057	--	88,096	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	843	36	165	250	222	105	54	10	1	--
	\$75,944	\$51,611	\$65,215	\$73,663	\$79,847	\$86,152	\$96,121	\$92,783	\$96,467	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

ix. Rate Group #7 – Safety – Plans E, F, Q, R and V (Law Enforcement)

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	47	46	1	--	--	--	--	--	--	--
	\$74,981	\$74,884	\$79,419	--	--	--	--	--	--	--
25-29	233	175	57	1	--	--	--	--	--	--
	81,381	77,782	92,168	\$96,417	--	--	--	--	--	--
30-34	291	112	152	26	1	--	--	--	--	--
	90,194	79,113	96,754	99,123	\$102,035	--	--	--	--	--
35-39	278	28	106	81	63	--	--	--	--	--
	99,683	82,593	97,937	102,712	106,323	--	--	--	--	--
40-44	363	18	41	78	160	66	--	--	--	--
	106,936	96,293	100,005	104,014	108,915	\$112,799	--	--	--	--
45-49	386	8	25	44	94	138	77	--	--	--
	113,895	114,991	107,451	113,335	108,441	113,893	\$122,853	--	--	--
50-54	231	15	10	18	22	47	105	14	--	--
	119,070	117,952	110,900	107,064	111,606	110,085	125,694	\$133,752	--	--
55-59	92	25	18	--	8	13	20	8	--	--
	116,641	120,371	123,481	--	101,355	111,739	111,499	125,698	--	--
60-64	19	1	5	4	1	1	6	1	--	--
	118,114	124,679	119,480	119,025	112,850	119,057	119,849	94,984	--	--
65-69	9	--	2	2	1	1	2	1	--	--
	125,352	--	166,959	106,747	97,451	158,300	111,609	101,785	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	1,949	428	417	254	350	266	210	24	--	--
	\$103,044	\$83,613	\$99,449	\$105,157	\$108,276	\$113,030	\$122,999	\$128,120	--	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

x. Rate Group #8 – Safety – Plans E, F, Q, R and V (Fire Authority)

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	7	7	--	--	--	--	--	--	--	--
	\$78,640	\$78,640	--	--	--	--	--	--	--	--
25-29	61	47	14	--	--	--	--	--	--	--
	87,287	80,452	\$110,232	--	--	--	--	--	--	--
30-34	132	65	62	5	--	--	--	--	--	--
	104,661	92,292	116,340	\$120,634	--	--	--	--	--	--
35-39	180	57	75	37	11	--	--	--	--	--
	115,775	106,227	119,084	124,570	\$113,106	--	--	--	--	--
40-44	141	33	35	35	24	13	1	--	--	--
	124,165	122,315	119,654	123,334	129,493	\$132,310	\$138,390	--	--	--
45-49	146	25	11	30	19	45	16	--	--	--
	130,188	131,447	116,314	129,818	127,732	133,491	132,079	--	--	--
50-54	166	40	3	17	22	32	40	12	--	--
	133,055	135,124	121,582	123,542	129,474	129,906	139,147	\$137,158	--	--
55-59	99	31	--	5	5	22	11	23	2	--
	130,704	127,076	--	116,324	117,291	129,546	130,339	141,511	\$146,861	--
60-64	25	11	--	1	1	5	1	6	--	--
	125,774	126,663	--	129,677	99,766	114,117	151,623	133,234	--	--
65-69	4	2	--	--	1	--	--	1	--	--
	111,515	109,974	--	--	126,542	--	--	99,573	--	--
70 & over	1	--	--	--	1	--	--	--	--	--
	62,128	--	--	--	62,128	--	--	--	--	--
Total	962	318	200	130	84	117	69	42	2	--
	\$120,295	\$109,012	\$117,599	\$124,885	\$125,027	\$130,810	\$136,274	\$138,087	\$146,861	--

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of December 31, 2014
By Age and Years of Service**

xi. Total

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	321	319	2	--	--	--	--	--	--	--
	\$50,608	\$50,492	\$69,139	--	--	--	--	--	--	--
25-29	1,394	1,069	319	6	--	--	--	--	--	--
	59,193	58,079	62,840	\$63,799	--	--	--	--	--	--
30-34	2,483	951	1,261	264	7	--	--	--	--	--
	68,698	65,127	71,914	66,376	\$62,007	--	--	--	--	--
35-39	2,960	562	1,130	933	331	4	--	--	--	--
	74,465	70,814	75,510	74,606	76,812	\$65,285	--	--	--	--
40-44	3,228	407	757	916	838	302	8	--	--	--
	79,817	74,176	75,550	80,070	84,601	83,527	\$100,415	--	--	--
45-49	3,367	341	542	704	692	794	293	1	--	--
	83,127	76,218	75,768	81,164	84,436	88,188	92,699	\$81,944	--	--
50-54	3,223	305	468	535	521	592	617	177	8	--
	84,124	83,750	76,963	76,365	83,532	84,833	96,076	85,214	\$76,265	--
55-59	2,305	230	336	379	359	408	362	191	38	2
	81,265	85,914	75,509	73,252	78,818	81,967	85,944	94,146	88,443	\$114,502
60-64	1,385	93	182	294	258	222	203	93	36	4
	76,104	80,223	72,897	72,723	76,553	74,554	80,680	82,574	71,240	92,744
65-69	581	28	96	138	114	103	67	23	5	7
	74,012	72,609	71,280	73,987	71,322	75,276	82,222	72,768	95,498	52,938
70 & over	212	5	36	40	38	41	31	12	6	3
	66,123	54,800	76,049	62,519	68,380	55,773	70,923	50,072	89,344	94,976
Total	21,459	4,310	5,129	4,209	3,158	2,466	1,581	497	93	16
	\$76,805	\$67,559	\$73,833	\$76,195	\$81,532	\$83,440	\$90,095	\$86,721	\$81,173	\$78,467

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT C

Reconciliation of Member Data – December 31, 2013 to December 31, 2014

	Active Members	Vested Former Members	Pensioners	Disableds	Beneficiaries	Total
Number as of December 31, 2013	21,368	4,613	11,228	1,334	1,943	40,486
New members	1,284	86	0	0	177	1,547
Terminations – with vested rights	-332 ⁽¹⁾	332	0	0	0	0
Contributions refunds	-150 ⁽²⁾	-103	0	0	0	-253
Retirements	-685	-97	782	0	0	0
New disabilities	-31	-3	-26	60	0	0
Return to work	33	-32	-1	0	0	0
Deaths	-28	-7	-225	-30	-74	-364
Data adjustments	0	0	1	0	0	1
Number as of December 31, 2014	21,459	4,789	11,759	1,364	2,046	41,417

⁽¹⁾ Includes 12 terminated before January 1, 2014.

⁽²⁾ Includes 4 terminated before January 1, 2014.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended December 31, 2014	Year Ended December 31, 2013
Contribution income:		
Employer contributions	\$625,520,000	\$427,095,000
Employee contributions	232,656,000	209,301,000
Discount for prepaid contributions	29,114,000	26,392,000
Transfer from County Investment Account ⁽¹⁾	<u>5,000,000</u>	<u>5,000,000</u>
Net contribution income	\$892,290,000	\$667,788,000
Investment income:		
Interest, dividends and other income	\$225,760,000	\$178,427,000
Recognition of capital appreciation	598,681,000	741,638,000
Less investment and administrative fees	<u>-53,392,000</u>	<u>-53,663,000</u>
Net investment income	<u>\$771,049,000</u>	<u>\$866,402,000</u>
Total income available for benefits	\$1,663,339,000	\$1,534,190,000
Less benefit payments	-\$630,678,000	-\$586,273,000
Change in reserve for future benefits	\$1,032,661,000	\$947,917,000

⁽¹⁾ Funded by pension obligation bond proceeds held by OCERS.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT E

Summary Statement of Assets

	Year Ended December 31, 2014	Year Ended December 31, 2013
Cash equivalents	\$375,708,000	\$372,841,000
Accounts receivable:		
Contributions	\$17,470,000	\$14,857,000
Investment income	20,325,000	17,766,000
Securities settlements	138,819,000	89,493,000
Other	<u>5,944,000</u>	<u>4,297,000</u>
Total accounts receivable	\$182,558,000	\$126,413,000
Investments:		
Fixed income investments	\$1,961,219,000	\$2,011,257,000
Equities	4,328,917,000	4,226,395,000
Real estate	1,090,592,000	978,269,000
Alternative investments and diversified credit	3,944,608,000	3,396,927,000
Security lending collateral	197,345,000	300,092,000
Fixed assets net of accumulated depreciation	<u>21,482,000</u>	<u>17,778,000</u>
Total investments at market value	<u>\$11,544,163,000</u>	<u>\$10,930,718,000</u>
Total assets	\$12,102,429,000	\$11,429,972,000
Less accounts payable:		
Securities settlements	-\$94,290,000	-\$107,778,000
Security lending liability	-197,345,000	-300,092,000
All other	<u>-65,639,000</u>	<u>-60,993,000</u>
Total accounts payable	-\$357,274,000	-\$468,863,000
Net assets at market value⁽¹⁾	<u>\$11,428,223,000</u>	<u>\$10,679,507,000</u>
Net assets at actuarial value	<u>\$11,450,001,000</u>	<u>\$10,417,340,000</u>
Net assets at valuation value	<u>\$11,449,911,000</u>	<u>\$10,417,125,000</u>

⁽¹⁾ The market value excludes \$109,103,000 and \$109,254,000 as of December 31, 2014 and December 31, 2013, respectively, in the County Investment Account (funded by pension obligation bond proceeds held by OCERS) and \$207,829,000 and \$172,348,000 as of December 31, 2014 and December 31, 2013, respectively, in the prepaid employer contributions account.

Note: Results may not total exactly due to rounding.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT F

Actuarial Balance Sheet

An overview of the Plan’s funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the “liability” of the Plan.

Second, we determine how this liability will be met. These actuarial “assets” include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments.

Assets

1. Total valuation value of assets	\$11,449,911,000
2. Present value of future contributions by members	1,818,812,000
3. Present value of future employer contributions for:	
a. entry age normal cost	2,072,253,000
b. unfunded actuarial accrued liability	<u>4,963,213,000</u>
4. Total current and future assets	\$20,304,189,000

Liabilities

5. Present value of retirement allowance payable to present retired members	\$8,644,999,000
6. Present value of retirement allowances to be granted to present non-retired members	<u>11,659,190,000</u>
7. Total liabilities	\$20,304,189,000

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT G

Summary of Reported Asset Information as of December 31, 2014

Reserves

Included in Valuation Value of Assets

Active Members Reserve (Book Value)	\$2,490,971,000
Retired Members Reserve (Book Value)	8,221,366,000
Employer Advanced Reserve (Book Value)	1,576,559,000
ERI Contribution Reserve	7,266,000
STAR COLA Contribution Reserve	0
Unrealized Appreciation Included in Valuation Value of Assets	<u>-846,251,000</u>
Subtotal: Valuation Value of Assets	\$11,449,911,000

Not Included in Valuation Value of Assets

RMBR	\$0
Unclaimed Member Deposit	0
Medicare Medical Insurance Reserve	<u>90,000</u>
Total	\$90,000
Subtotal: Actuarial Value of Assets	\$11,450,001,000
Unrecognized Investment Income	<u>-21,778,000</u>
Subtotal: Market Value of Assets (Net of County Investment Account ⁽¹⁾ and Prepaid Employer Contributions)	\$11,428,223,000
County Investment Account ⁽¹⁾	109,103,000
Prepaid Employer Contributions	<u>207,829,000</u>
Total: Gross Market Value of Assets	\$11,745,155,000

⁽¹⁾ Funded by pension obligation bond proceeds held by OCERS.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT H

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended December 31, 2014

1.	Unfunded actuarial accrued liability at beginning of year		\$5,367,917,000
2.	Total normal cost at middle of year		454,221,000
3.	Expected employer and member contributions		-829,361,000
4.	Interest		<u>376,931,000</u>
5.	Expected unfunded actuarial accrued liability		\$5,369,708,000
6.	Actuarial (gain)/loss and other changes:		
	(a) Gain from additional UAAL contributions	-\$151,485,000	
	(b) Loss from actual contributions less than expected	89,407,000	
	(c) Gain from investment return	-9,570,000	
	(d) Gain from lower than expected salary increases	-125,746,000	
	(e) Gain from lower than expected COLA increases	-153,484,000	
	(f) Other experience (gain)/loss	66,554,000	
	(g) Changes in actuarial assumptions	<u>-122,171,000</u>	
	Total changes		<u>-\$406,495,000</u>
7.	Unfunded actuarial accrued liability at end of year		<u>\$4,963,213,000</u>

Note: The sum of 6(d) through 6(f) is equal to the "other experience" gain of \$212,676,000 provided on page 7.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT I

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar indexed for inflation. That limit is \$210,000 for both 2014 and 2015. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits for non-CalPEPRA plans that are in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contributions rates for non-CalPEPRA plans determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

EXHIBIT J

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial

Assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age; and
- (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost:

The amount of contributions required to fund the level cost allocated to the current year of service.

Actuarial Accrued Liability

For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability

For Pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

SECTION 3: Supplemental Information for the Orange County Employees Retirement System

Unfunded Actuarial Accrued Liability:

The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan. There are many approaches to paying off the unfunded or overfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded (Overfunded) Actuarial Accrued Liability:

Payments made over a period of years equal in value to the Plan's unfunded or overfunded actuarial accrued liability.

Investment Return:

The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the market gains and losses to avoid significant swings in the value of assets from one year to the next.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1. Retired members as of the valuation date (including 2,046 beneficiaries in pay status)	15,169
2. Members inactive during year ended December 31, 2014 with vested rights ⁽¹⁾	4,789
3. Members active during the year ended December 31, 2014	21,459

The actuarial factors as of the valuation date are as follows (amounts in 000s):

1. Normal cost	\$455,105
2. Present value of future benefits	20,304,189
3. Present value of future normal costs	3,891,065
4. Actuarial accrued liability ⁽²⁾	16,413,124
Retired members and beneficiaries	\$8,644,999
Inactive members with vested rights ⁽¹⁾	372,875
Active members	7,395,250
5. Valuation value of assets ⁽³⁾ (\$11,428,223 at market value as reported by Retirement System)	11,449,911
6. Unfunded actuarial accrued liability	\$4,963,213

⁽¹⁾ This includes members who chose to leave their contributions on deposit even though they have less than five years of service.

⁽²⁾ Excludes liabilities held for STAR COLA.

⁽³⁾ Excludes assets held for Unclaimed member deposit and Medicare medical insurance reserve.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows (amounts in 000s):

	Dollar Amount	% of Payroll
1. Total normal cost	\$455,105	27.61%
2. Expected employee contributions	<u>-204,669</u>	<u>-12.42%</u>
3. Employer normal cost: (1) + (2)	\$250,436	15.19%
4. Amortization of unfunded actuarial accrued liability	<u>366,301</u>	<u>22.22%</u>
5. Total recommended average employer contribution: (3) + (4)	\$616,737	37.41%
6. Projected compensation	\$1,648,160	

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**EXHIBIT II
Schedule of Employer Contributions**

Plan Year Ended December 31	Annual Required Contributions	Actual Contributions⁽¹⁾	Percentage Contributed
2005	\$227,892,000	\$227,892,000	100.0%
2006	277,368,000	277,368,000	100.0%
2007	326,736,000	326,736,000	100.0%
2008	359,673,000	360,365,000 ⁽²⁾	100.2%
2009	337,496,000	338,387,000 ⁽³⁾	100.3%
2010	372,437,000	372,437,000	100.0%
2011	387,585,000	387,585,000	100.0%
2012	406,521,000	406,521,000	100.0%
2013	426,020,000	427,095,000 ⁽⁴⁾	100.3%
2014	476,320,000	625,520,000 ⁽⁵⁾	131.3%

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

<i>Plan Year Ended December 31</i>	<i>Transfers from County Investment Account</i>
2005	\$9,675,000
2006	0
2007	0
2008	0
2009	34,900,000
2010	11,000,000
2011	11,000,000
2012	5,500,000
2013	5,000,000
2014	5,000,000

⁽²⁾ Includes \$692,000 in additional contributions made by O.C. Fire Authority towards the reduction of their UAAL.

⁽³⁾ Includes \$891,000 in additional contributions made by O.C. Fire Authority towards the reduction of their UAAL.

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

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

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**EXHIBIT III
Schedule of Funding Progress**

Actuarial Valuation Date December 31	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
2005	\$5,786,617,000	\$8,089,627,000	\$2,303,010,000	71.53%	\$1,276,764,000	180.38%
2006	6,466,085,000	8,765,045,000	2,298,960,000	73.77%	1,322,952,000	173.78%
2007	7,288,900,000	9,838,686,000	2,549,786,000	74.08%	1,457,159,000	174.98%
2008	7,748,380,000	10,860,715,000	3,112,335,000	71.34%	1,569,764,000	198.27%
2009	8,154,687,000	11,858,578,000	3,703,891,000	68.77%	1,618,491,000	228.85%
2010	8,672,592,000	12,425,873,000	3,753,281,000	69.79%	1,579,239,000	237.66%
2011	9,064,355,000	13,522,978,000	4,458,623,000	67.03%	1,619,474,000	275.31%
2012	9,469,208,000	15,144,888,000	5,675,680,000	62.52%	1,609,600,000	352.55%
2013	10,417,125,000	15,785,042,000	5,367,917,000	65.99%	1,604,496,000	334.55%
2014	11,449,911,000	16,413,124,000	4,963,213,000	69.76%	1,648,160,000	301.14%

For informational purposes only, we have also developed the funded ratio determined using the historical market value of assets after adjustment for amounts in the County Investment Account (funded by pension obligation bond proceeds held by OCERS), prepaid employer contributions, unclaimed member reserve and Medicare Medical Insurance Reserve.

Actuarial Valuation Date December 31	Funded Ratio Based on Net Market Value of Assets
2005	73.07%
2006	77.69%
2007	78.43%
2008	57.51%
2009	62.94%
2010	67.25%
2011	62.60%
2012	63.17%
2013	67.65%
2014	69.63%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

EXHIBIT IV

Supplementary Information Required on Actuarial Determined Contribution by GASB

Valuation date	December 31, 2014
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll for total unfunded liability (3.50% payroll growth assumed)
Remaining amortization period	Effective December 31, 2013, 20 years closed (declining) amortization of outstanding balance of December 31, 2012 UAAL. 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	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized 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.
Actuarial assumptions:	
Investment rate of return	7.25%
Inflation rate	3.00%
Real across-the-board salary increase	0.50%
Projected salary increases ⁽¹⁾	4.25% to 13.50% for General members; 5.00% to 17.50% for Safety members based on service.
Cost of living adjustments	3.00%
Plan membership:	
Retired members and beneficiaries receiving benefits	15,169
Terminated members entitled to, but not yet receiving benefits	4,789
Active members	<u>21,459</u>
Total	41,417

⁽¹⁾ See Exhibit V for these increases, including inflation rate.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

EXHIBIT V Actuarial Assumptions and Actuarial Cost Method

Post – Retirement Mortality Rates:

<i>Healthy:</i>	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020. For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years.
<i>Disabled:</i>	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set forward six years for males and set forward three years for females. For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020.
<i>Beneficiaries:</i>	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who is receiving a service (non-disability) retirement.

The mortality tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of the mortality experience in the January 1, 2011 through December 31, 2013 Actuarial Experience Study.

<i>Employee Contribution Rates:</i>	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 40% male and 60% female. For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years weighted 80% male and 20% female.
<i>Optional Forms of Benefits:</i>	For General Service Retirees: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 40% male and 60% female. For Safety Service Retirees: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years weighted 80% male and 20% female. For General Disabled Retirees: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set forward six years for males and set forward three years for females weighted 40% male and 60% female. For Safety Disabled Retirees: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 80% male and 20% female. For General Beneficiaries: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 60% male and 40% female. For Safety Beneficiaries: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 20% male and 80% female.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Termination Rates Before Retirement:

Age	Rate (%)			
	Mortality			
	General		Safety	
	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.07	0.04	0.06	0.04
40	0.10	0.07	0.09	0.06
45	0.14	0.11	0.12	0.09
50	0.20	0.16	0.18	0.14
55	0.34	0.25	0.27	0.21
60	0.59	0.41	0.48	0.33
65	1.00	0.76	0.82	0.60

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.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Termination Rates Before Retirement (Continued):

Age	Rate (%)			
	Disability			
	General All Other ⁽¹⁾	General OCTA ⁽²⁾	Safety - Law & Fire ⁽³⁾	Safety - Probation ⁽³⁾
20	0.00	0.00	0.00	0.00
25	0.00	0.00	0.01	0.03
30	0.01	0.03	0.04	0.08
35	0.03	0.20	0.14	0.10
40	0.08	0.36	0.26	0.10
45	0.11	0.43	0.42	0.16
50	0.14	0.48	0.92	0.20
55	0.18	0.74	1.98	0.23
60	0.29	1.41	5.20	0.10

⁽¹⁾ 55% of General All Other disabilities are assumed to be service connected disabilities. The other 45% 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, Fire and Probation disabilities are assumed to be service connected disabilities.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Termination Rates Before Retirement (Continued):

Years of Service	Rate (%) Termination			
	General All Other⁽¹⁾	General OCTA⁽²⁾	Safety – Law & Fire⁽³⁾	Safety - Probation⁽⁴⁾
0	11.00	17.50	4.00	16.00
1	8.00	13.50	3.00	13.00
2	7.00	10.50	2.00	10.00
3	5.00	10.00	1.00	6.00
4	4.00	9.00	1.00	4.00
5	3.75	7.00	1.00	3.50
6	3.50	5.00	0.95	3.00
7	3.00	5.00	0.90	2.50
8	2.75	4.00	0.85	2.25
9	2.50	3.50	0.80	2.00
10	2.25	3.50	0.75	1.75
11	2.00	3.50	0.65	1.75
12	2.00	3.00	0.60	1.50
13	1.75	3.00	0.50	1.25
14	1.75	3.00	0.50	1.00
15	1.75	3.00	0.50	1.00
16	1.50	3.00	0.50	1.00
17	1.50	2.75	0.50	0.50
18	1.50	2.75	0.50	0.50
19	1.50	2.75	0.50	0.50
20 +	1.25	1.75	0.25	0.50

SECTION 4: Reporting Information for the Orange County Employees Retirement System

- (1) *40% of all terminated members with less than 5 years of service and 25% of all terminated members with 5 or more years of service will choose a refund of contributions.*
- (2) *45% of all terminated members with less than 5 years of service and 35% of all terminated members with 5 or more years of service will choose a refund of contributions.*
- (3) *20% of all terminated members with less than 5 years of service and 20% of all terminated members with 5 or more years of service will choose a refund of contributions.*
- (4) *40% of all terminated members with less than 5 years of service and 30% of all terminated members with 5 or more years of service will choose a refund of contributions.*

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Retirement Rates:

Age	Rate (%)							
	General - Enhanced	General - Non-Enhanced ⁽¹⁾	General - SJC (31676.12)	Safety - Law (31664.1) ⁽²⁾	Safety - Law (31664.2) ⁽²⁾	Safety - Fire (31664.1) ⁽²⁾	Safety - Fire (31664.2) ⁽²⁾	Safety - Probation ⁽²⁾
49	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
50	2.5	2.5	3.0	16.0	11.5	6.0	8.0	3.0
51	2.0	2.5	3.0	16.0	12.0	8.0	10.0	3.0
52	2.0	2.5	3.0	16.0	12.7	9.0	11.0	4.0
53	2.0	2.5	3.0	16.0	17.9	10.0	12.0	4.0
54	5.0	2.5	3.0	22.0	18.8	16.0	14.0	6.0
55	15.0	3.0	4.0	22.0	30.7	19.0	24.0	11.0
56	10.0	3.5	5.0	20.0	20.0	20.0	23.0	11.0
57	10.0	5.0	6.0	20.0	20.0	23.0	27.0	17.0
58	10.0	5.0	7.0	20.0	25.0	30.0	27.0	20.0
59	11.0	7.0	9.0	26.0	30.0	30.0	36.0	20.0
60	12.0	9.0	11.0	45.0	100.0	45.0	100.0	20.0
61	12.0	10.0	13.0	45.0	100.0	45.0	100.0	20.0
62	15.0	16.0	15.0	45.0	100.0	45.0	100.0	25.0
63	16.0	16.0	15.0	45.0	100.0	45.0	100.0	50.0
64	16.0	18.0	20.0	45.0	100.0	45.0	100.0	50.0
65	21.0	21.0	20.0	100.0	100.0	100.0	100.0	100.0
66	22.0	26.0	24.0	100.0	100.0	100.0	100.0	100.0
67	23.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
68	23.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
69	23.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
70	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
71	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
72	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
73	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
74	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

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

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Retirement Rates (Continued):

Age	Rate (%)			
	CalPEPRA 2.5% @ 67 General Formula	CalPEPRA Safety - Probation Formula ⁽¹⁾	CalPEPRA Safety - Law Formula ⁽¹⁾	CalPEPRA Safety - Fire Formula ⁽¹⁾
50	0.0	2.5	11.0	6.5
51	0.0	2.5	11.5	8.0
52	4.0	3.0	12.0	9.0
53	1.5	3.0	16.0	10.0
54	1.5	5.5	17.0	12.0
55	2.5	10.0	28.0	21.0
56	3.5	10.0	18.0	20.0
57	5.5	15.0	17.5	22.0
58	7.5	20.0	22.0	25.0
59	7.5	20.0	26.0	31.5
60	7.5	100.0	100.0	100.0
61	7.5	100.0	100.0	100.0
62	14.0	100.0	100.0	100.0
63	14.0	100.0	100.0	100.0
64	14.0	100.0	100.0	100.0
65	18.0	100.0	100.0	100.0
66	22.0	100.0	100.0	100.0
67	23.0	100.0	100.0	100.0
68	23.0	100.0	100.0	100.0
69	23.0	100.0	100.0	100.0
70	30.0	100.0	100.0	100.0
71	30.0	100.0	100.0	100.0
72	30.0	100.0	100.0	100.0
73	30.0	100.0	100.0	100.0
74	30.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0

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

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested members, we make the following retirement age assumptions:

General Age: 58

Safety Age: 53

We assume that 20% of future General and 30% of future Safety deferred vested members are reciprocal. For reciprocals, we assume 4.25% compensation increases for General and 5.00% for Safety per annum.

Liability Calculation for Current Deferred Vested Members:

Liability for a current deferred vested member is calculated based on salary, 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.

Percent Married:

75% of male members and 50% of female members are assumed to be married at retirement or time of pre-retirement death.

Age of Spouse:

Female (or male) three years younger (or older) than spouse.

Net Investment Return:

7.25%; net of investment and administrative expenses.

Employee Contribution Crediting Rate:

5.00%, compounded semi-annually.

Consumer Price Index:

Increase of 3.00% per year, retiree COLA increases due to CPI subject to a 3.0% maximum change per year.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.00% per year, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Years of Service	General	Safety
Less than 1	10.00%	14.00%
1	7.25	10.00
2	6.00	8.50
3	4.75	6.75
4	4.00	5.25
5	3.25	4.50
6	2.25	3.50
7	2.00	3.25
8	1.50	2.25
9	1.25	2.25
10	1.25	1.75
11	1.25	1.75
12	1.25	1.75
13	1.25	1.75
14	1.25	1.75
15	1.25	1.75
16	0.75	1.50
17	0.75	1.50
18	0.75	1.50
19	0.75	1.50
20 & over	0.75	1.50

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Additional Cashout 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	3.50%	2.80%
Safety - Probation	3.80%	2.80%
Safety - Law	5.20%	4.70%
Safety - Fire	2.00%	2.00%

The additional cashout assumptions are the same for service and disability retirements.

CalPEPRA Formulas

None

**Increase in Section 7522.10
Compensation Limit:**

Increase of 3.00% per year from the valuation date.

Actuarial Value of Assets:

Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized over a five-year period.

Valuation Value of Assets:

The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

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 allocated by salaries, with Normal Cost determined as a level percentage of individual salary, as if the current benefit accrual rate had always been in effect. 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.

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.

Changes in Actuarial Assumptions and Methods:

Based on the actuarial experience study, the following actuarial assumptions were changed. Previously these assumptions were as follows:

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Post – Retirement Mortality Rates:

Healthy:

For General Members and all Beneficiaries: RP-2000 Combined Healthy Mortality Table set back three years.

For Safety Members: RP-2000 Combined Healthy Mortality Table set back two years.

Disabled:

For General Members: RP-2000 Combined Healthy Mortality Table set forward three years.

For Safety Members: RP-2000 Combined Healthy Mortality Table set forward two years.

The mortality tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of the mortality experience in the January 1, 2008 through December 31, 2010 Actuarial Experience Study.

Employee Contribution Rates:

For General Members: RP-2000 Combined Healthy Mortality Table set back three years, weighted 40% male and 60% female.

For Safety Members: RP-2000 Combined Healthy Mortality Table set back two years, weighted 80% male and 20% female.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement:

Age	Rate (%)			
	Mortality			
	General		Safety	
	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.06	0.04	0.06	0.04
40	0.09	0.06	0.10	0.06
45	0.12	0.09	0.13	0.09
50	0.17	0.13	0.19	0.14
55	0.27	0.20	0.29	0.22
60	0.47	0.35	0.53	0.39
65	0.88	0.67	1.00	0.76

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

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement (Continued):

Age	Rate (%)			
	Disability			
	General All Other ⁽¹⁾	General OCTA ⁽²⁾	Safety - Law & Fire ⁽³⁾	Safety - Probation ⁽³⁾
20	0.00	0.00	0.01	0.00
25	0.00	0.00	0.04	0.06
30	0.02	0.03	0.08	0.16
35	0.06	0.08	0.22	0.20
40	0.11	0.28	0.36	0.20
45	0.14	0.46	0.52	0.20
50	0.15	0.56	0.96	0.20
55	0.18	0.84	1.68	0.20
60	0.32	1.30	3.80	0.08

⁽¹⁾ 50% of General All Other disabilities are assumed to be service connected disabilities. The other 50% are assumed to be non-service connected.

⁽²⁾ 70% of General - OCTA disabilities are assumed to be service connected disabilities. The other 30% are assumed to be non-service connected.

⁽³⁾ 100% of Safety – Law Enforcement, Fire and Probation disabilities are assumed to be service connected disabilities.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement (Continued):

Years of Service	Rate (%)			
	Termination (< 5 Years of Service)			
	General All Other ⁽¹⁾	General OCTA ⁽¹⁾	Safety – Law & Fire ⁽²⁾	Safety - Probation ⁽²⁾
0	13.0	20.0	4.0	20.0
1	8.0	16.0	3.0	15.0
2	7.0	12.0	2.0	10.0
3	6.0	9.0	2.0	5.0
4	5.0	7.0	1.0	4.0

Age	Termination (5+ Years of Service)			
	General All Other ⁽³⁾	General OCTA ⁽³⁾	Safety – Law & Fire ⁽³⁾	Safety – Probation ⁽³⁾
20	5.0	4.0	1.0	4.0
25	4.4	4.0	1.0	4.0
30	4.0	4.0	1.0	3.4
35	3.4	4.0	0.9	3.0
40	3.0	3.4	0.6	2.4
45	2.4	3.0	0.5	2.0
50	2.3	3.0	0.2	2.0
55	2.5	3.0	0.0	1.4
60	2.5	3.0	0.0	0.4

⁽¹⁾ 50% of all terminated members will choose a refund of contributions and 50% will choose a deferred vested benefit.

⁽²⁾ 40% of all terminated members will choose a refund of contributions and 60% will choose a deferred vested benefit.

⁽³⁾ 30% of terminated members will choose a refund of contributions and 70% will choose a deferred vested benefit.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Retirement Rates:

Age	Rate (%)							
	General - Enhanced	General - Non-Enhanced ⁽¹⁾	General - SJC (31676.12)	Safety - Law (31664.1) ⁽²⁾	Safety - Law (31664.2) ⁽²⁾	Safety - Fire (31664.1) ⁽²⁾	Safety - Fire (31664.2) ⁽²⁾	Safety - Probation ⁽²⁾
49	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
50	3.0	2.0	3.0	14.0	11.5	7.0	8.0	4.0
51	2.0	2.0	3.0	14.0	12.0	9.0	10.0	4.0
52	2.0	2.0	3.0	14.0	12.7	11.0	11.0	4.0
53	2.0	2.0	3.0	14.0	17.9	12.0	12.0	4.0
54	5.0	2.0	3.0	20.0	18.8	16.0	14.0	8.0
55	15.0	3.0	4.0	20.0	30.7	20.0	24.0	12.0
56	9.0	4.0	5.0	20.0	20.0	20.0	23.0	12.0
57	9.0	6.0	6.0	20.0	20.0	25.0	27.0	16.0
58	9.0	8.0	7.0	20.0	25.0	25.0	27.0	25.0
59	9.0	8.0	9.0	25.0	30.0	30.0	36.0	25.0
60	12.0	8.0	11.0	60.0	100.0	60.0	100.0	25.0
61	12.0	8.0	13.0	60.0	100.0	60.0	100.0	25.0
62	17.0	16.0	15.0	60.0	100.0	60.0	100.0	25.0
63	15.0	16.0	15.0	60.0	100.0	60.0	100.0	50.0
64	18.0	16.0	20.0	60.0	100.0	60.0	100.0	100.0
65	20.0	20.0	20.0	100.0	100.0	100.0	100.0	100.0
66	25.0	25.0	24.0	100.0	100.0	100.0	100.0	100.0
67	21.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
68	21.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
69	21.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
70	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
71	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
72	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
73	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
74	60.0	40.0	100.0	100.0	100.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

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

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Retirement Rates (Continued):

Age	Rate (%)			
	CalPEPRA 2.5% @ 67 General Formula	CalPEPRA Safety - Probation Formula ⁽¹⁾	CalPEPRA Safety - Law Formula ⁽¹⁾	CalPEPRA Safety - Fire Formula ⁽¹⁾
50	0.0	3.0	10.0	7.0
51	0.0	3.0	10.5	8.5
52	4.0	3.0	11.0	9.5
53	1.5	3.0	15.5	10.5
54	1.5	7.0	16.5	12.0
55	2.5	10.5	27.0	21.0
56	3.5	10.5	17.5	20.0
57	5.5	14.0	18.0	23.5
58	7.5	22.0	22.0	23.5
59	7.5	22.0	26.0	31.5
60	7.5	100.0	100.0	100.0
61	7.5	100.0	100.0	100.0
62	15.0	100.0	100.0	100.0
63	15.0	100.0	100.0	100.0
64	15.0	100.0	100.0	100.0
65	19.0	100.0	100.0	100.0
66	25.0	100.0	100.0	100.0
67	21.0	100.0	100.0	100.0
68	21.0	100.0	100.0	100.0
69	21.0	100.0	100.0	100.0
70	40.0	100.0	100.0	100.0
71	40.0	100.0	100.0	100.0
72	40.0	100.0	100.0	100.0
73	40.0	100.0	100.0	100.0
74	40.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0

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

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

**Retirement Age and Benefit for
Deferred Vested Members:**

For deferred vested members, we make the following retirement age assumptions:

General Age: 57

Safety Age: 53

We assume that 25% of future General and 30% of future Safety deferred vested members are reciprocal. For reciprocals, we assume 4.75% compensation increases per annum.

Percent Married:

80% of male members and 50% of female members are assumed to be married at retirement or time of pre-retirement death.

Consumer Price Index:

Increase of 3.25% per year, retiree COLA increases due to CPI subject to a 3.0% maximum change per year.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.25% per year, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Years of Service	General	Safety
Less than 1	10.00%	14.00%
1	7.00	9.00
2	6.00	8.00
3	5.00	7.00
4	4.00	5.00
5	3.00	4.00
6	2.00	3.00
7	1.75	3.00
8	1.50	2.00
9	1.25	2.00
10	1.25	1.50
11	1.25	1.50
12	1.25	1.50
13	1.25	1.50
14	1.25	1.50
15	1.25	1.50
16	1.00	1.00
17	1.00	1.00
18	1.00	1.00
19	1.00	1.00
20 & over	1.00	1.00

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Additional Cashout 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	4.00%	2.70%
Safety - Probation	5.20%	2.70%
Safety - Law	6.60%	4.50%
Safety - Fire	4.00%	2.00%

The additional cashout assumptions are the same for service and disability retirements.

CalPEPRA Formulas

None

Increase in Section 7522.10

Compensation Limit:

Increase of 3.25% per year from the valuation date.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

EXHIBIT VI

Summary of Plan Provisions

This exhibit summarizes the major provisions of the OCERS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility: Membership with OCERS begins with the day of employment in an eligible position by the County or a participating employer.

Non-CalPEPRA General Plans

2.5% @ 55 Plans (Orange County Sanitation District and Law Library⁽¹⁾)

Plan G General members hired before September 21, 1979.

Plan H General members hired on or after September 21, 1979
(Sanitation District members within Supervisors and Professional unit hired on or after October 1, 2010 are in Plan B)

2.7% @ 55 Plans (City of San Juan Capistrano, Orange County Employees except bargaining unit AFSCME members, Orange County Superior Court, Orange County Local Agency Formation Commission⁽¹⁾, Orange County Employees Retirement System⁽²⁾, Children and Family Commission⁽³⁾ and Orange County Fire Authority)

Plan I General members hired before September 21, 1979.

Plan J General members hired on or after September 21, 1979.

⁽¹⁾ *Improvement is prospective only for service after June 23, 2005.*

⁽²⁾ *Improvement for management employees is prospective only for service after June 30, 2005.*

⁽³⁾ *Improvement is prospective only for service after December 22, 2005.*

2.0% @ 55 Plans (Transportation Corridor Agency, Cemetery District – future service effective December 7, 2007 and General OCFA employees effective July 1, 2011)

Plan M General members hired before September 21, 1979.

Plan N General members hired on or after September 21, 1979.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

1.62% @ 65 Plans (Orange County Employees, Orange County Superior Court, Local Agency Formation Commission and County Managers unit)

Plan O County OCEA members and Superior Court members rehired on or after May 7, 2010, LAFCO members rehired on or after July 1, 2010 and County Managers unit members rehired on or after August 17, 2010 and not electing to rejoin Plan I.

Plan P County OCEA members and Superior Court members hired on or after May 7, 2010, LAFCO members hired on or after July 1, 2010 and County Managers unit members hired on or after August 17, 2010 and not electing Plan J.

2.0% @ 57 Plan (City of San Juan Capistrano)

Plan S General members hired on or after July 1, 2012.

All Other General Employers

Plan A General members hired before September 21, 1979.

Plan B General members hired on or after September 21, 1979 and Sanitation District members within Supervisors and Professional unit hired on or after October 1, 2010

Non-CalPEPRA Safety Plans

3% @ 50 Plans (Law Enforcement, Fire Authority and Probation Members)

Plan E Safety members hired before September 21, 1979.

Plan F Safety members hired on or after September 21, 1979 and before April 9, 2010 for Law Enforcement, before July 1, 2011 for Safety employees of OCFA Executive Management, and before July 1, 2012 for other OCFA Safety employees.

3% @ 55 Plans (Law Enforcement, Fire Authority)

Plan Q Safety Law Enforcement members rehired on or after April 9, 2010, Safety employees of OCFA Executive Management rehired on or after July 1, 2011, and other OCFA Safety employees rehired on or after July 1, 2012 and previously in Plan E.

Plan R Safety Law Enforcement members hired on or after April 9, 2010, Safety employees of OCFA Executive Management hired on or after July 1, 2011, and other OCFA Safety employees hired on or after July 1, 2012.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

CalPEPRA General Plans

1.62% @ 65 Plan (Orange County Employees except County Attorneys, Orange County Employees Retirement System except Management Employees, Children and Family Commission, Local Agency Formation Commission, and Orange County Superior Court)

Plan T General members with membership dates on or after January 1, 2013.

2.5% @ 67 Plan (All Other General Employers, Orange County Attorneys, Orange County Employees Retirement System Management Employees)

Plan U General Non-Orange County Transportation Authority members with membership dates on or after January 1, 2013 and Orange County Transportation Authority members with membership dates on or after January 1, 2015.

CalPEPRA Safety Plans

2.7% @ 57 Plan (Law Enforcement, Fire Authority and Probation Members)

Plan V Safety members with membership dates on or after January 1, 2013.

**Final Compensation for
Benefit Determination:**

Plans A, E, G, I, M, O and Q Highest consecutive twelve months of compensation earnable. (§31462.1) (FAS1)

Plans B, F, H, J, N, P, R and S Highest consecutive thirty-six months of compensation earnable. (§31462) (FAS3)

Plans T, U and V Highest consecutive thirty-six months of pensionable compensation. (§7522.10(c), §7522.32 and §7522.34) (FAS3)

Service: Years of service. (Yrs)

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Service Retirement Eligibility:

<i>Plans A, B, G, H, I, J, M, N, O, P, S and T</i>	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age. (§31672)
<i>Plan U</i>	Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3).
<i>Plans E, F, Q and R</i>	Age 50 with 10 years of service, or after 20 years, regardless of age. (§31663.25) All part time employees over age 55 with 10 years of employment may retire with 5 years of service.
<i>Plan V</i>	Age 50 with 5 years of service. (§7522.20(d)) or age 70 regardless of service (§31672.3).

Benefit Formula:

General Plans

<i>2.5% @ 55</i>	Retirement Age	Benefit Formula
<i>Plan G (§31676.18)</i>	50	(2.00% x FAS1 x Yrs)
	55	(2.50% x FAS1 x Yrs)
	60	(2.50% x FAS1 x Yrs)
	62	(2.62% x FAS1 x Yrs)*
	65 or later	(2.62% x FAS1 x Yrs)*
<i>Plan H (§31676.18)</i>	50	(2.00% x FAS3 x Yrs)
	55	(2.50% x FAS3 x Yrs)
	60	(2.50% x FAS3 x Yrs)
	62	(2.50% x FAS3 x Yrs)
	65 or later	(2.50% x FAS3 x Yrs)

* Reflects benefit factors from Plan A as they provide a better benefit than those under 2.5% @ 55.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Benefit Formula (continued):

	Retirement Age	Benefit Formula
<i>2.7% @ 55</i>		
<i>Plan I (§31676.19)</i>	50	(2.00% x FAS1 x Yrs)
	55	(2.70% x FAS1 x Yrs)
	60	(2.70% x FAS1 x Yrs)
	62	(2.70% x FAS1 x Yrs)
	65 or later	(2.70% x FAS1 x Yrs)
 <i>Plan J (§31676.19)</i>	50	(2.00% x FAS3 x Yrs)
	55	(2.70% x FAS3 x Yrs)
	60	(2.70% x FAS3 x Yrs)
	62	(2.70% x FAS3 x Yrs)
	65 or later	(2.70% x FAS3 x Yrs)

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Benefit Formula (continued):

<i>2.0% @ 55</i>	Retirement Age	Benefit Formula
<i>Plan M (§31676.16)</i>	50	(1.43% x FAS1 x Yrs)
	55	(2.00% x FAS1 x Yrs)
	60	(2.34% x FAS1 x Yrs)**
	62	(2.62% x FAS1 x Yrs)**
	65 or later	(2.62% x FAS1 x Yrs)**
 <i>Plan N (§31676.16)</i>	 50	 (1.43% x FAS3 x Yrs)
	55	(2.00% x FAS3 x Yrs)
	60	(2.26% x FAS3 x Yrs)
	62	(2.37% x FAS3 x Yrs)
	65 or later	(2.43% x FAS3 x Yrs)***

** Reflects benefit factors from Plan A as they provide a better benefit than those under 2.0% @ 55.

*** Reflects benefit factors from Plan B as they provide a better benefit than those under 2.0% @ 55.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Benefit Formula (continued):

	Retirement Age	Benefit Formula
<i>1.62% @ 65 Plan O (§31676.01)</i>	50	(0.79% x FAS1 x Yrs)
	55	(0.99% x FAS1 x Yrs)
	60	(1.28% x FAS1 x Yrs)
	62	(1.39% x FAS1 x Yrs)
	65 or later	(1.62% x FAS1 x Yrs)
<i>Plan P and Plan T (§31676.01)</i>	50	(0.79% x FAS3 x Yrs)
	55	(0.99% x FAS3 x Yrs)
	60	(1.28% x FAS3 x Yrs)
	62	(1.39% x FAS3 x Yrs)
	65 or later	(1.62% x FAS3 x Yrs)

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Benefit Formula (continued):

<i>2.0% @ 57 Plan S (§31676.12)</i>	Retirement Age	Benefit Formula
	50	(1.34% x FAS3 x Yrs)
	55	(1.77% x FAS3 x Yrs)
	60	(2.34% x FAS3 x Yrs)
	62	(2.62% x FAS3 x Yrs)
	65 or later	(2.62% x FAS3 x Yrs)

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Benefit Formula (continued):

	Retirement Age	Benefit Formula
<i>Plan A (§31676.12)</i>	50	(1.34% x FAS1 x Yrs)
	55	(1.77% x FAS1 x Yrs)
	60	(2.34% x FAS1 x Yrs)
	62	(2.62% x FAS1 x Yrs)
	65 or later	(2.62% x FAS1 x Yrs)
<i>Plan B (§31676.1)</i>	50	(1.18% x FAS3 x Yrs)
	55	(1.49% x FAS3 x Yrs)
	60	(1.92% x FAS3 x Yrs)
	62	(2.09% x FAS3 x Yrs)
	65 or later	(2.43% x FAS3 x Yrs)
<i>Plan U (§7522.20(a))</i>	52	(1.00% x FAS3 x Yrs)
	55	(1.30% x FAS3 x Yrs)
	60	(1.80% x FAS3 x Yrs)
	62	(2.00% x FAS3 x Yrs)
	65	(2.30% x FAS3 x Yrs)
	67 or later	(2.50% x FAS3 x Yrs)

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Benefit Formula (continued):

Safety Plans

	Retirement Age	Benefit Formula
<i>3% @ 50</i>		
<i>Plan E (§31664.1)</i>	50	(3.00% x FAS1 x Yrs)
	55	(3.00% x FAS1 x Yrs)
	60 or later	(3.00% x FAS1 x Yrs)
<i>Plan F (§31664.1)</i>	50	(3.00% x FAS3 x Yrs)
	55	(3.00% x FAS3 x Yrs)
	60 or later	(3.00% x FAS3 x Yrs)
<i>3% @ 55</i>		
<i>Plan Q (§31664.2)</i>	50	(2.29% x FAS1 x Yrs)
	55	(3.00% x FAS1 x Yrs)
	60 or later	(3.00% x FAS1 x Yrs)
<i>Plan R (§31664.2)</i>	50	(2.29% x FAS3 x Yrs)
	55	(3.00% x FAS3 x Yrs)
	60 or later	(3.00% x FAS3 x Yrs)
<i>Plan V (§7522.25(d))</i>	50	(2.00% x FAS3 x Yrs)
	55	(2.50% x FAS3 x Yrs)
	57 or later	(2.70% x FAS3 x Yrs)

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Maximum Benefit:

Plans A, B, E, F, G, H, I, J, M, N, O, P, Q, R, S, and T 100% of Highest Average Compensation.
(§31676.01, §31676.1, §31676.12, §31676.16, §31676.18, §31676.19, §31664.1, §31664.2)

Plans U and V None.

Ordinary Disability:

General Plans

Plans A, B, G, H, I, J, M, N, O, P, S, T and U

Eligibility Five years of service. (§31720)

Benefit Formula Plans A, G, I, M and O:
1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62, but the total benefit cannot be more than one-third of Final Compensation. (§31727.1)

Plans B, H, J, N, P, S, T and U:
1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total benefit cannot be more than one-third of Final Compensation. (§31727)

Safety Plans

Plans E, F, Q, R and V

Eligibility Five years of service. (§31720)

Benefit Formula 1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation. (§31727.2)

For all members, 100% of the Service Retirement benefit will be paid, if greater.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Line-of-Duty Disability:

All Members

Eligibility

No age or service requirements. (§31720)

Benefit Formula

50% of the Final Compensation or 100% of Service Retirement benefit, if greater. (§31727.4)

Pre-Retirement Death:

All Members

Eligibility

None.

Benefit

Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of six month's compensation. (§31781) A lump sum benefit in the amount of \$1,000 is payable upon the death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790)

Death in line of duty

50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children. (§31787)

OR

Vested Members

Eligibility

Five years of service.

Benefit

60% of the greater of Service or Ordinary Disability Retirement benefit payable to eligible surviving spouse (§31765.1, §31781.1), in lieu of §31781.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Death After Retirement:

All Members

Service or

Ordinary Disability Retirement

60% of member's unmodified allowance continued to eligible spouse. (§31760.1) A lump sum benefit in the amount of \$1,000 is payable upon the death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790) An eligible spouse is a surviving spouse who was 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.

Line-of-Duty Disability

100% of member's allowance continued to eligible spouse. (§31786) A lump sum benefit in the amount of \$1,000 is payable upon the death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790)

Withdrawal Benefits:

Less than Five Years of Service

Refund of accumulated employee contributions with interest or earned benefit at age 70. (§31628) Effective January 1, 2003, a member may also elect to leave contributions on deposit in the retirement fund. (§31629.5)

Five or More Years of Service

If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire. (§31700)

Post-retirement

Cost-of-Living Benefits:

Future changes based on Consumer Price Index to a maximum of 3% per year, excess "banked." (§31870.1)

Supplemental Benefit:

Non-vested supplemental COLA and medical benefits are also paid by the System to eligible retirees and survivors. These benefits have been excluded from this valuation.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Member Contributions:	Please refer to Appendix B for the specific rates.
Non-CalPEPRA General Plans	
<i>Plan A</i>	
<i>Basic</i>	Provide for an average annuity payable at age 60 equal to 1/200 of FAS1. (§31621.5)
<i>Cost-of-Living</i>	Provide for 50% of future Cost-of-Living costs.
<i>Plan B</i>	
<i>Basic</i>	Provide for an average annuity payable at age 60 equal to 1/120 of FAS3. (§31621)
<i>Cost-of-Living</i>	Provide for 50% of future Cost-of-Living costs.
<i>Plans G, H, I and J</i>	
<i>Basic</i>	Provide for an average annuity payable at age 55 equal to 1/100 of FAS3 (FAS1 for Plans G and I). (§31621.8)
<i>Cost-of-Living</i>	Provide for 50% of future Cost-of-Living costs.
<i>Plan M, N, O and P</i>	
<i>Basic</i>	Provide for an average annuity payable at age 60 equal to 1/120 of FAS3 (FAS1 for Plans M and O). (§31621)
<i>Cost-of-Living</i>	Provide for 50% of future Cost-of-Living costs.
<i>Plan S</i>	
<i>Basic</i>	Provide for an average annuity at age 60 equal to 1/100 of FAS3. (§31621.2)
<i>Cost-of-Living</i>	Provide for 50% of future Cost-of-Living costs.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Member Contributions (Continued):

Non-CalPEPRA Safety Plans

Plans E and Q

Basic

Provide for an average annuity payable at age 50 equal to 1/200 FAS1. (\$31639.5)

Cost-of-Living

Provide for 50% of future Cost-of-Living costs.

Plans F and R

Basic

Provide for an average annuity payable at age 50 equal to 1/100 of FAS3. (\$31639.25)

Cost-of-Living

Provide for 50% of future Cost-of-Living costs.

CalPEPRA Plans

Plans T, U and V

50% of total Normal Cost rate.

Other Information:

Non-CalPEPRA Safety members with 30 or more years of service are exempt from paying member contributions. This also applies for General members hired on or before March 7, 1973.

NOTE: *The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so that both can be sure the proper provisions are valued.*

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Appendix A
UAAL Amortization Schedule as of December 31, 2014**

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
<i>General Members</i>						
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)						
	12/31/2012	Restart amortization	\$116,996,000	19	\$117,035,000	\$8,648,000
	12/31/2013	Actuarial (gain) or loss	(9,575,000)	19	(9,578,000)	(708,000)
	12/31/2014	Actuarial (gain) or loss	(4,568,000)	20	(4,568,000)	(326,000)
	12/31/2014	Assumption changes	(10,895,000)	20	<u>(10,895,000)</u>	<u>(777,000)</u>
Subtotal					\$91,994,000 ⁽¹⁾	\$6,837,000 ⁽¹⁾

⁽¹⁾ Included in the remaining base is an estimated liability of \$2.8 million due to the withdrawal of Vector Control from OCERS. After adjusting for this liability, the amortization amount is reduced to \$6.6 million.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #2 – Plans I, J, O, P, S, T and U						
	12/31/2012	Restart amortization	\$3,438,555,000	19	\$3,439,702,000	\$254,157,000
	12/31/2013	Actuarial (gain) or loss	(173,790,000)	19	(173,848,000)	(12,845,000)
	12/31/2014	Actuarial (gain) or loss	(78,001,000)	20	(78,001,000)	(5,562,000)
	12/31/2014	Assumption changes	(246,714,000)	20	<u>(246,714,000)</u>	<u>(17,593,000)</u>
Subtotal					\$2,941,139,000	\$218,157,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)						
	12/31/2012	Restart amortization	\$213,425,000	19	\$213,496,000	\$15,775,000
	12/31/2013	Actuarial (gain) or loss	(15,594,000)	19	(15,599,000)	(1,153,000)
	12/31/2014	OCSD additional UAAL contribution	(126,350,000)	20	(126,350,000)	(1)
	12/31/2014	Actuarial (gain) or loss	(2,345,000)	20	(2,345,000)	(167,000)
	12/31/2014	Assumption changes	(13,379,000)	20	<u>(13,379,000)</u>	<u>(954,000)</u>
Subtotal					\$55,823,000	\$13,501,000

⁽¹⁾ This additional UAAL contribution has been amortized as a level percent of pay over a period of twenty years effective on January 1, 2015 and used to reduce O.C. Sanitation District's UAAL rates for one-half of 2014/2015 and all of 2015/2016. The amortization credit available from annuitizing the remaining balance of the additional UAAL contributions over 18.5 years is about \$9.5 million in 2016/2017.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #5 – Plans A, B and U (OCTA)						
	12/31/2012	Restart amortization	\$232,513,000	19	\$232,591,000	\$17,186,000
	12/31/2013	Actuarial (gain) or loss	(13,471,000)	19	(13,475,000)	(996,000)
	12/31/2014	Actuarial (gain) or loss	4,522,000	20	4,522,000	322,000
	12/31/2014	Assumption changes	(19,944,000)	20	<u>(19,944,000)</u>	<u>(1,422,000)</u>
Subtotal					\$203,694,000	\$15,090,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #9 – Plans M, N and U (TCA)						
	12/31/2012	Restart amortization	\$11,906,000	19	\$11,910,000	\$880,000
	12/31/2013	Actuarial (gain) or loss	(684,000)	19	(684,000)	(51,000)
	12/31/2014	Actuarial (gain) or loss	496,000	20	496,000	35,000
	12/31/2014	Assumption changes	(1,032,000)	20	<u>(1,032,000)</u>	<u>(74,000)</u>
Subtotal					\$10,690,000	\$790,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #10 – Plans I, J, M, N and U (OCFA)						
	12/31/2012	Restart amortization	\$72,750,000	19	\$72,774,000	\$5,377,000
	12/31/2013	Actuarial (gain) or loss	(2,659,000)	19	(2,660,000)	(197,000)
	12/31/2014	Actuarial (gain) or loss	(3,755,000)	20	(3,755,000)	(268,000)
	12/31/2014	Assumption changes	(4,489,000)	20	<u>(4,489,000)</u>	<u>(320,000)</u>
Subtotal					\$61,870,000	\$4,592,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #11 – Plans M and N, future service, and U (Cemetery)						
Subtotal					\$(73,000)	\$0

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
<i>Safety Members</i>						
Rate Group #6 – Plans E, F and V (Probation)						
	12/31/2012	Restart amortization	\$192,912,000	19	\$192,976,000	\$14,259,000
	12/31/2013	Actuarial (gain) or loss	(14,039,000)	19	(14,044,000)	(1,038,000)
	12/31/2014	Actuarial (gain) or loss	(2,596,000)	20	(2,596,000)	(185,000)
	12/31/2014	Assumption changes	36,260,000	20	<u>36,260,000</u>	<u>2,586,000</u>
Subtotal					\$212,596,000	\$15,622,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)						
	12/31/2012	Restart amortization	\$988,833,000	19	\$989,163,000	\$73,088,000
	12/31/2013	Actuarial (gain) or loss	(51,652,000)	19	(51,669,000)	(3,818,000)
	12/31/2014	Actuarial (gain) or loss	(34,729,000)	20	(34,729,000)	(2,476,000)
	12/31/2014	Assumption changes	102,262,000	20	<u>102,262,000</u>	<u>7,292,000</u>
Subtotal					\$1,005,027,000	\$74,086,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)						
	12/31/2012	Restart amortization	\$399,947,000	19	\$400,080,000	\$29,562,000
	12/31/2013	Actuarial (gain) or loss	(20,177,000)	19	(20,184,000)	(1,491,000)
	12/31/2014	Actuarial (gain) or loss	(35,400,000)	20	(35,400,000)	(2,524,000)
	12/31/2014	Assumption changes	35,957,000	20	<u>35,957,000</u>	<u>2,564,000</u>
Subtotal					\$380,453,000	\$28,111,000

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix A (Continued)

UAAL Amortization Schedule as of December 31, 2014

Rate Groups	Date Established	Source	Initial Base	Years Remaining	Remaining Base	Amortization Amount
All Rate Groups Combined						
	12/31/2012	Restart amortization	\$5,669,830,000	19	\$5,669,740,000	\$418,932,000
	12/31/2013	Actuarial (gain) or loss	(301,913,000)	19	(301,754,000)	(22,297,000)
	12/31/2014	OCSD additional UAAL contribution	(126,350,000)	20	(126,350,000)	(1)
	12/31/2014	Actuarial (gain) or loss	(156,250,000)	20	(156,250,000)	(11,151,000)
	12/31/2014	Assumption changes	(122,173,000)	20	<u>(122,173,000)</u>	<u>(8,698,000)</u>
Grand Total					\$4,963,213,000	\$376,786,000

⁽¹⁾ This additional UAAL contribution has been amortized as a level percent of pay over a period of twenty years effective on January 1, 2015 and used to reduce O.C. Sanitation District's UAAL rates for one-half of 2014/2015 and all of 2015/2016. The amortization credit available from annuitizing the remaining balance of the additional UAAL contributions over 18.5 years is about \$9.5 million in 2016/2017.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Appendix B
Member Contribution Rates**

**General Tier 1 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan I (2.7% @ 55 Non-OCFA)</u>		<u>Plan G (2.5% @ 55)</u>		<u>Plan M (2.0% @ 55)*</u>		<u>Plan A (OCTA)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	6.99%	9.66%	6.99%	9.52%	5.01%	7.21%	3.00%	4.90%
16	6.99%	9.66%	6.99%	9.52%	5.01%	7.21%	3.00%	4.90%
17	7.12%	9.83%	7.12%	9.68%	5.09%	7.34%	3.06%	4.99%
18	7.24%	10.01%	7.24%	9.85%	5.18%	7.47%	3.11%	5.08%
19	7.37%	10.18%	7.37%	10.03%	5.28%	7.60%	3.17%	5.17%
20	7.50%	10.36%	7.50%	10.20%	5.37%	7.73%	3.22%	5.26%
21	7.63%	10.55%	7.63%	10.38%	5.46%	7.87%	3.28%	5.35%
22	7.77%	10.73%	7.77%	10.57%	5.56%	8.01%	3.34%	5.45%
23	7.90%	10.92%	7.90%	10.75%	5.66%	8.15%	3.40%	5.54%
24	8.04%	11.11%	8.04%	10.94%	5.76%	8.29%	3.46%	5.64%
25	8.18%	11.31%	8.18%	11.13%	5.86%	8.44%	3.52%	5.74%
26	8.33%	11.51%	8.33%	11.33%	5.96%	8.59%	3.58%	5.84%
27	8.48%	11.71%	8.48%	11.53%	6.07%	8.74%	3.64%	5.94%
28	8.63%	11.92%	8.63%	11.74%	6.17%	8.89%	3.70%	6.05%
29	8.78%	12.13%	8.78%	11.95%	6.28%	9.05%	3.77%	6.15%
30	8.94%	12.35%	8.94%	12.16%	6.39%	9.21%	3.84%	6.26%
31	9.10%	12.57%	9.10%	12.38%	6.51%	9.37%	3.90%	6.37%
32	9.26%	12.80%	9.26%	12.60%	6.62%	9.54%	3.97%	6.49%
33	9.43%	13.03%	9.43%	12.83%	6.74%	9.71%	4.04%	6.60%
34	9.61%	13.28%	9.61%	13.07%	6.86%	9.88%	4.12%	6.72%
35	9.79%	13.52%	9.79%	13.32%	6.98%	10.06%	4.19%	6.84%
36	9.97%	13.78%	9.97%	13.57%	7.11%	10.24%	4.27%	6.96%
37	10.17%	14.05%	10.17%	13.83%	7.24%	10.42%	4.34%	7.09%
38	10.37%	14.32%	10.37%	14.10%	7.37%	10.62%	4.42%	7.22%
39	10.53%	14.54%	10.53%	14.32%	7.51%	10.81%	4.50%	7.35%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 1 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan I (2.7% @ 55 Non-OCFA)</u>		<u>Plan G (2.5% @ 55)</u>		<u>Plan M (2.0% @ 55)*</u>		<u>Plan A (OCTA)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
40	10.69%	14.77%	10.69%	14.54%	7.65%	11.01%	4.59%	7.49%
41	10.86%	15.01%	10.86%	14.78%	7.79%	11.22%	4.68%	7.63%
42	11.04%	15.26%	11.04%	15.02%	7.94%	11.44%	4.77%	7.78%
43	11.23%	15.52%	11.23%	15.28%	8.10%	11.67%	4.86%	7.93%
44	11.44%	15.80%	11.44%	15.56%	8.22%	11.84%	4.93%	8.05%
45	11.66%	16.11%	11.66%	15.86%	8.35%	12.03%	5.01%	8.18%
46	11.87%	16.41%	11.87%	16.15%	8.49%	12.22%	5.09%	8.31%
47	12.06%	16.66%	12.06%	16.41%	8.63%	12.43%	5.18%	8.45%
48	12.24%	16.92%	12.24%	16.66%	8.78%	12.64%	5.27%	8.60%
49	12.35%	17.06%	12.35%	16.80%	8.94%	12.87%	5.36%	8.75%
50	12.40%	17.13%	12.40%	16.87%	9.11%	13.12%	5.47%	8.92%
51	12.40%	17.13%	12.40%	16.87%	9.28%	13.36%	5.57%	9.09%
52	12.30%	16.99%	12.30%	16.73%	9.42%	13.57%	5.65%	9.23%
53	12.08%	16.70%	12.08%	16.44%	9.57%	13.78%	5.74%	9.37%
54	11.56%	15.97%	11.56%	15.73%	9.65%	13.90%	5.79%	9.45%
55	11.56%	15.97%	11.56%	15.73%	9.69%	13.95%	5.81%	9.49%
56	11.56%	15.97%	11.56%	15.73%	9.69%	13.95%	5.81%	9.49%
57	11.56%	15.97%	11.56%	15.73%	9.61%	13.84%	5.76%	9.41%
58	11.56%	15.97%	11.56%	15.73%	9.44%	13.60%	5.67%	9.25%
59	11.56%	15.97%	11.56%	15.73%	9.03%	13.01%	5.42%	8.84%
60	11.56%	15.97%	11.56%	15.73%	9.03%	13.01%	5.42%	8.84%
<i>COLA Loading:</i>		38.17%		36.05%		44.02%		63.22%
<i>Interest:</i>		7.25%						
<i>Salary Increases:</i>		See Exhibit V, page 79						
<i>Mortality:</i>		See Exhibit V, page 72						

* Payable by members in Rate Group #9 and Rate Group #11.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 1 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan A (Non-OCTA)</u>		<u>Plan I (2.7% @ 55 OCFA)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	3.00%	4.80%	6.99%	9.67%
16	3.00%	4.80%	6.99%	9.67%
17	3.06%	4.89%	7.12%	9.84%
18	3.11%	4.98%	7.24%	10.02%
19	3.17%	5.06%	7.37%	10.19%
20	3.22%	5.15%	7.50%	10.37%
21	3.28%	5.25%	7.63%	10.56%
22	3.34%	5.34%	7.77%	10.74%
23	3.40%	5.43%	7.90%	10.93%
24	3.46%	5.53%	8.04%	11.12%
25	3.52%	5.62%	8.18%	11.32%
26	3.58%	5.72%	8.33%	11.52%
27	3.64%	5.82%	8.48%	11.72%
28	3.70%	5.93%	8.63%	11.93%
29	3.77%	6.03%	8.78%	12.15%
30	3.84%	6.14%	8.94%	12.36%
31	3.90%	6.25%	9.10%	12.59%
32	3.97%	6.36%	9.26%	12.81%
33	4.04%	6.47%	9.43%	13.05%
34	4.12%	6.58%	9.61%	13.29%
35	4.19%	6.70%	9.79%	13.54%
36	4.27%	6.82%	9.97%	13.80%
37	4.34%	6.95%	10.17%	14.06%
38	4.42%	7.07%	10.37%	14.34%
39	4.50%	7.21%	10.53%	14.56%
40	4.59%	7.34%	10.69%	14.79%
41	4.68%	7.48%	10.86%	15.03%
42	4.77%	7.62%	11.04%	15.27%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 1 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan A (Non-OCTA)</u>		<u>Plan I (2.7% @ 55 OCFA)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
43	4.86%	7.77%	11.23%	15.54%
44	4.93%	7.89%	11.44%	15.82%
45	5.01%	8.02%	11.66%	16.13%
46	5.09%	8.15%	11.87%	16.42%
47	5.18%	8.28%	12.06%	16.68%
48	5.27%	8.42%	12.24%	16.93%
49	5.36%	8.58%	12.35%	17.08%
50	5.47%	8.74%	12.40%	17.15%
51	5.57%	8.90%	12.40%	17.15%
52	5.65%	9.04%	12.30%	17.01%
53	5.74%	9.18%	12.08%	16.72%
54	5.79%	9.26%	11.56%	15.99%
55	5.81%	9.30%	11.56%	15.99%
56	5.81%	9.30%	11.56%	15.99%
57	5.76%	9.22%	11.56%	15.99%
58	5.67%	9.06%	11.56%	15.99%
59	5.42%	8.67%	11.56%	15.99%
60	5.42%	8.67%	11.56%	15.99%

COLA Loading: 59.97% 38.32%

Interest: 7.25%

Salary Increases: See Exhibit V, page 79

Mortality: See Exhibit V, page 72

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 2 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan J (2.7% @ 55 non-OCFA)</u>		<u>Plan H (2.5% @ 55)</u>		<u>Plan N (2.0% @ 55)*</u>		<u>Plan B (OCTA)</u>		<u>Plan B (non-OCTA, non-OCSD)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	6.66%	9.21%	6.66%	9.06%	4.77%	6.87%	4.77%	6.58%	4.77%	6.48%
16	6.66%	9.21%	6.66%	9.06%	4.77%	6.87%	4.77%	6.58%	4.77%	6.48%
17	6.78%	9.37%	6.78%	9.22%	4.85%	6.99%	4.85%	6.69%	4.85%	6.60%
18	6.90%	9.53%	6.90%	9.39%	4.94%	7.11%	4.94%	6.81%	4.94%	6.72%
19	7.02%	9.70%	7.02%	9.55%	5.03%	7.24%	5.03%	6.93%	5.03%	6.84%
20	7.14%	9.87%	7.14%	9.72%	5.12%	7.37%	5.12%	7.06%	5.12%	6.96%
21	7.27%	10.04%	7.27%	9.89%	5.21%	7.50%	5.21%	7.18%	5.21%	7.08%
22	7.40%	10.22%	7.40%	10.06%	5.30%	7.63%	5.30%	7.31%	5.30%	7.20%
23	7.53%	10.40%	7.53%	10.24%	5.39%	7.76%	5.39%	7.43%	5.39%	7.33%
24	7.66%	10.58%	7.66%	10.42%	5.48%	7.90%	5.48%	7.57%	5.48%	7.46%
25	7.79%	10.77%	7.79%	10.60%	5.58%	8.04%	5.58%	7.70%	5.58%	7.59%
26	7.93%	10.96%	7.93%	10.79%	5.68%	8.18%	5.68%	7.83%	5.68%	7.72%
27	8.07%	11.15%	8.07%	10.98%	5.78%	8.32%	5.78%	7.97%	5.78%	7.86%
28	8.21%	11.35%	8.21%	11.17%	5.88%	8.47%	5.88%	8.11%	5.88%	8.00%
29	8.36%	11.55%	8.36%	11.37%	5.98%	8.62%	5.98%	8.25%	5.98%	8.14%
30	8.51%	11.75%	8.51%	11.57%	6.09%	8.77%	6.09%	8.40%	6.09%	8.28%
31	8.66%	11.97%	8.66%	11.78%	6.20%	8.92%	6.20%	8.55%	6.20%	8.43%
32	8.82%	12.18%	8.82%	11.99%	6.31%	9.08%	6.31%	8.70%	6.31%	8.57%
33	8.98%	12.40%	8.98%	12.21%	6.42%	9.24%	6.42%	8.85%	6.42%	8.73%
34	9.14%	12.63%	9.14%	12.44%	6.53%	9.41%	6.53%	9.01%	6.53%	8.88%
35	9.31%	12.86%	9.31%	12.67%	6.65%	9.57%	6.65%	9.17%	6.65%	9.04%
36	9.49%	13.11%	9.49%	12.91%	6.77%	9.74%	6.77%	9.33%	6.77%	9.20%
37	9.65%	13.34%	9.65%	13.13%	6.89%	9.92%	6.89%	9.50%	6.89%	9.37%
38	9.81%	13.56%	9.81%	13.35%	7.01%	10.10%	7.01%	9.67%	7.01%	9.54%
39	9.96%	13.76%	9.96%	13.55%	7.14%	10.29%	7.14%	9.85%	7.14%	9.71%
40	10.11%	13.97%	10.11%	13.76%	7.27%	10.48%	7.27%	10.03%	7.27%	9.89%
41	10.27%	14.19%	10.27%	13.98%	7.41%	10.67%	7.41%	10.22%	7.41%	10.08%
42	10.44%	14.43%	10.44%	14.20%	7.54%	10.86%	7.54%	10.40%	7.54%	10.26%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 2 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	Plan J (2.7% @ 55 non-OCFA)		Plan H (2.5% @ 55)		Plan N (2.0% @ 55)*		Plan B (OCTA)		Plan B (non-OCTA, non-OCSD)	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
43	10.62%	14.67%	10.62%	14.44%	7.67%	11.04%	7.67%	10.57%	7.67%	10.42%
44	10.80%	14.92%	10.80%	14.69%	7.78%	11.21%	7.78%	10.73%	7.78%	10.58%
45	10.97%	15.15%	10.97%	14.92%	7.90%	11.38%	7.90%	10.90%	7.90%	10.75%
46	11.12%	15.36%	11.12%	15.13%	8.03%	11.56%	8.03%	11.07%	8.03%	10.92%
47	11.23%	15.52%	11.23%	15.28%	8.16%	11.75%	8.16%	11.25%	8.16%	11.09%
48	11.30%	15.62%	11.30%	15.38%	8.30%	11.95%	8.30%	11.44%	8.30%	11.28%
49	11.31%	15.63%	11.31%	15.39%	8.44%	12.15%	8.44%	11.64%	8.44%	11.47%
50	11.25%	15.54%	11.25%	15.30%	8.57%	12.34%	8.57%	11.82%	8.57%	11.65%
51	11.10%	15.34%	11.10%	15.11%	8.69%	12.51%	8.69%	11.98%	8.69%	11.81%
52	10.82%	14.95%	10.82%	14.72%	8.78%	12.64%	8.78%	12.11%	8.78%	11.94%
53	11.18%	15.45%	11.18%	15.21%	8.83%	12.72%	8.83%	12.18%	8.83%	12.01%
54	11.56%	15.97%	11.56%	15.73%	8.84%	12.73%	8.84%	12.19%	8.84%	12.02%
55	11.56%	15.97%	11.56%	15.73%	8.79%	12.66%	8.79%	12.12%	8.79%	11.95%
56	11.56%	15.97%	11.56%	15.73%	8.68%	12.50%	8.68%	11.97%	8.68%	11.80%
57	11.56%	15.97%	11.56%	15.73%	8.45%	12.17%	8.45%	11.66%	8.45%	11.49%
58	11.56%	15.97%	11.56%	15.73%	8.73%	12.58%	8.73%	12.05%	8.73%	11.88%
59	11.56%	15.97%	11.56%	15.73%	9.03%	13.01%	9.03%	12.46%	9.03%	12.28%
60	11.56%	15.97%	11.56%	15.73%	9.03%	13.01%	9.03%	12.46%	9.03%	12.28%
<i>COLA Loading:</i>		38.17%		36.05%		44.02%		37.93%		35.98%

Interest: 7.25%
Salary Increases: See Exhibit V, page 79
Mortality: See Exhibit V, page 72

* Payable by members in Rate Group #9 and Rate Group #11.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 2 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan J (2.7% @ 55 OCFA)</u>		<u>Plan P (1.62% @ 65)</u>		<u>Plan B (OCSD)</u>		<u>Plan N (OCFA)</u>		<u>Plan S (City of SJC)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	6.66%	9.22%	4.77%	5.97%	4.77%	6.54%	4.77%	6.84%	5.72%	7.82%
16	6.66%	9.22%	4.77%	5.97%	4.77%	6.54%	4.77%	6.84%	5.72%	7.82%
17	6.78%	9.38%	4.85%	6.08%	4.85%	6.65%	4.85%	6.96%	5.82%	7.96%
18	6.90%	9.54%	4.94%	6.18%	4.94%	6.77%	4.94%	7.08%	5.93%	8.10%
19	7.02%	9.71%	5.03%	6.29%	5.03%	6.89%	5.03%	7.21%	6.03%	8.24%
20	7.14%	9.88%	5.12%	6.40%	5.12%	7.01%	5.12%	7.33%	6.14%	8.39%
21	7.27%	10.05%	5.21%	6.52%	5.21%	7.13%	5.21%	7.46%	6.25%	8.54%
22	7.40%	10.23%	5.30%	6.63%	5.30%	7.26%	5.30%	7.60%	6.36%	8.69%
23	7.53%	10.41%	5.39%	6.75%	5.39%	7.39%	5.39%	7.73%	6.47%	8.84%
24	7.66%	10.59%	5.48%	6.87%	5.48%	7.52%	5.48%	7.86%	6.58%	8.99%
25	7.79%	10.78%	5.58%	6.99%	5.58%	7.65%	5.58%	8.00%	6.70%	9.15%
26	7.93%	10.97%	5.68%	7.11%	5.68%	7.78%	5.68%	8.14%	6.82%	9.31%
27	8.07%	11.16%	5.78%	7.24%	5.78%	7.92%	5.78%	8.29%	6.93%	9.48%
28	8.21%	11.36%	5.88%	7.36%	5.88%	8.06%	5.88%	8.43%	7.06%	9.64%
29	8.36%	11.56%	5.98%	7.49%	5.98%	8.20%	5.98%	8.58%	7.18%	9.81%
30	8.51%	11.77%	6.09%	7.62%	6.09%	8.34%	6.09%	8.73%	7.31%	9.99%
31	8.66%	11.98%	6.20%	7.76%	6.20%	8.49%	6.20%	8.88%	7.44%	10.16%
32	8.82%	12.19%	6.31%	7.89%	6.31%	8.64%	6.31%	9.04%	7.57%	10.34%
33	8.98%	12.42%	6.42%	8.03%	6.42%	8.79%	6.42%	9.20%	7.70%	10.52%
34	9.14%	12.64%	6.53%	8.18%	6.53%	8.95%	6.53%	9.36%	7.84%	10.71%
35	9.31%	12.88%	6.65%	8.32%	6.65%	9.11%	6.65%	9.53%	7.98%	10.90%
36	9.49%	13.12%	6.77%	8.47%	6.77%	9.27%	6.77%	9.70%	8.12%	11.10%
37	9.65%	13.35%	6.89%	8.62%	6.89%	9.44%	6.89%	9.88%	8.27%	11.30%
38	9.81%	13.57%	7.01%	8.78%	7.01%	9.61%	7.01%	10.06%	8.42%	11.50%
39	9.96%	13.78%	7.14%	8.94%	7.14%	9.79%	7.14%	10.24%	8.57%	11.71%
40	10.11%	13.99%	7.27%	9.11%	7.27%	9.97%	7.27%	10.43%	8.73%	11.93%
41	10.27%	14.21%	7.41%	9.28%	7.41%	10.16%	7.41%	10.63%	8.89%	12.15%
42	10.44%	14.44%	7.54%	9.44%	7.54%	10.34%	7.54%	10.81%	9.05%	12.37%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General Tier 2 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan J (2.7% @ 55 OCFA)</u>		<u>Plan P (1.62% @ 65)</u>		<u>Plan B (OCSD)</u>		<u>Plan N (OCFA)</u>		<u>Plan S (City of SJC)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Normal</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
43	10.62%	14.69%	7.67%	9.60%	7.67%	10.51%	7.67%	10.99%	9.20%	12.57%
44	10.80%	14.93%	7.78%	9.74%	7.78%	10.66%	7.78%	11.16%	9.34%	12.76%
45	10.97%	15.17%	7.90%	9.89%	7.90%	10.83%	7.90%	11.33%	9.48%	12.96%
46	11.12%	15.38%	8.03%	10.05%	8.03%	11.00%	8.03%	11.51%	9.63%	13.16%
47	11.23%	15.54%	8.16%	10.21%	8.16%	11.18%	8.16%	11.70%	9.79%	13.38%
48	11.30%	15.63%	8.30%	10.39%	8.30%	11.37%	8.30%	11.89%	9.95%	13.60%
49	11.31%	15.64%	8.44%	10.56%	8.44%	11.56%	8.44%	12.10%	10.12%	13.83%
50	11.25%	15.56%	8.57%	10.73%	8.57%	11.74%	8.57%	12.29%	10.28%	14.05%
51	11.10%	15.36%	8.69%	10.88%	8.69%	11.91%	8.69%	12.46%	10.43%	14.25%
52	10.82%	14.96%	8.78%	10.99%	8.78%	12.03%	8.78%	12.59%	10.53%	14.39%
53	11.18%	15.46%	8.83%	11.06%	8.83%	12.10%	8.83%	12.66%	10.60%	14.48%
54	11.56%	15.99%	8.84%	11.06%	8.84%	12.11%	8.84%	12.67%	10.60%	14.49%
55	11.56%	15.99%	8.79%	11.00%	8.79%	12.05%	8.79%	12.60%	10.55%	14.41%
56	11.56%	15.99%	8.68%	10.86%	8.68%	11.89%	8.68%	12.44%	10.41%	14.23%
57	11.56%	15.99%	8.45%	10.58%	8.45%	11.58%	8.45%	12.12%	10.14%	13.86%
58	11.56%	15.99%	8.73%	10.94%	8.73%	11.97%	8.73%	12.52%	10.48%	14.32%
59	11.56%	15.99%	9.03%	11.31%	9.03%	12.38%	9.03%	12.95%	10.84%	14.81%
60	11.56%	15.99%	9.03%	11.31%	9.03%	12.38%	9.03%	12.95%	10.84%	14.81%
<i>COLA Loading:</i>		38.32%		25.20%		37.05%		43.38%		36.66%
<i>Interest:</i>	7.25%									
<i>Salary Increases:</i>	See Exhibit V, page 79									
<i>Mortality:</i>	See Exhibit V, page 72									

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General CalPEPRA Members' Contribution Rates from the December 31, 2014 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)**

Calculated Under Recommended Assumptions

<u>Entry Age</u>	<u>Rate Group 1 – Plan U</u>		<u>Rate Group 2 – Plan T</u>		<u>Rate Group 2 – Plan U</u>		<u>Rate Group 3 – Plan U</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	5.39%	7.34%	3.47%	4.65%	4.97%	6.78%	5.19%	7.11%
16	5.39%	7.34%	3.47%	4.65%	4.97%	6.78%	5.19%	7.11%
17	5.14%	7.00%	3.53%	4.73%	4.74%	6.47%	4.95%	6.78%
18	4.88%	6.64%	3.59%	4.82%	4.50%	6.14%	4.70%	6.43%
19	4.97%	6.76%	3.66%	4.90%	4.58%	6.25%	4.79%	6.55%
20	5.05%	6.88%	3.72%	4.99%	4.66%	6.36%	4.87%	6.67%
21	5.15%	7.01%	3.79%	5.08%	4.74%	6.48%	4.96%	6.79%
22	5.24%	7.13%	3.85%	5.17%	4.83%	6.59%	5.05%	6.91%
23	5.33%	7.26%	3.92%	5.26%	4.91%	6.71%	5.14%	7.03%
24	5.43%	7.39%	3.99%	5.35%	5.00%	6.83%	5.23%	7.16%
25	5.52%	7.52%	4.06%	5.45%	5.09%	6.95%	5.32%	7.28%
26	5.62%	7.65%	4.13%	5.54%	5.18%	7.07%	5.42%	7.41%
27	5.72%	7.79%	4.21%	5.64%	5.27%	7.20%	5.51%	7.54%
28	5.82%	7.93%	4.28%	5.74%	5.36%	7.33%	5.61%	7.68%
29	5.92%	8.07%	4.36%	5.84%	5.46%	7.46%	5.71%	7.81%
30	6.03%	8.21%	4.43%	5.94%	5.55%	7.59%	5.81%	7.95%
31	6.13%	8.35%	4.51%	6.05%	5.65%	7.72%	5.91%	8.09%
32	6.24%	8.50%	4.59%	6.16%	5.75%	7.86%	6.02%	8.23%
33	6.35%	8.65%	4.67%	6.27%	5.85%	8.00%	6.12%	8.38%
34	6.46%	8.80%	4.76%	6.38%	5.96%	8.14%	6.23%	8.52%
35	6.58%	8.96%	4.84%	6.49%	6.06%	8.28%	6.34%	8.68%
36	6.69%	9.12%	4.93%	6.61%	6.17%	8.43%	6.45%	8.83%
37	6.81%	9.28%	5.02%	6.73%	6.28%	8.58%	6.57%	8.98%
38	6.93%	9.44%	5.11%	6.86%	6.39%	8.73%	6.68%	9.14%
39	7.06%	9.61%	5.21%	6.98%	6.50%	8.88%	6.80%	9.31%
40	7.18%	9.78%	5.31%	7.11%	6.62%	9.04%	6.92%	9.47%
41	7.31%	9.96%	5.41%	7.25%	6.74%	9.20%	7.05%	9.64%
42	7.44%	10.13%	5.50%	7.38%	6.86%	9.37%	7.17%	9.81%
43	7.58%	10.32%	5.60%	7.50%	6.98%	9.54%	7.30%	9.99%
44	7.71%	10.51%	5.68%	7.62%	7.11%	9.71%	7.44%	10.17%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General CalPEPRA Members' Contribution Rates from the December 31, 2014 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Rate Group 1 – Plan U</u>		<u>Rate Group 2 – Plan T</u>		<u>Rate Group 2 – Plan U</u>		<u>Rate Group 3 – Plan U</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
45	7.86%	10.70%	5.77%	7.74%	7.24%	9.89%	7.57%	10.36%
46	8.00%	10.90%	5.87%	7.87%	7.37%	10.07%	7.71%	10.55%
47	8.15%	11.10%	5.96%	8.00%	7.51%	10.26%	7.86%	10.75%
48	8.31%	11.31%	6.07%	8.14%	7.66%	10.46%	8.01%	10.96%
49	8.46%	11.52%	6.18%	8.28%	7.79%	10.65%	8.15%	11.15%
50	8.60%	11.71%	6.28%	8.42%	7.92%	10.82%	8.29%	11.34%
51	8.73%	11.89%	6.37%	8.55%	8.05%	10.99%	8.42%	11.51%
52	8.87%	12.08%	6.45%	8.64%	8.17%	11.16%	8.55%	11.70%
53	9.01%	12.27%	6.50%	8.71%	8.31%	11.35%	8.69%	11.89%
54	9.16%	12.48%	6.52%	8.74%	8.45%	11.54%	8.84%	12.09%
55	9.33%	12.70%	6.50%	8.71%	8.59%	11.74%	8.99%	12.30%
56	9.49%	12.93%	6.44%	8.64%	8.75%	11.95%	9.15%	12.52%
57	9.65%	13.14%	6.31%	8.47%	8.89%	12.15%	9.30%	12.72%
58	9.79%	13.34%	6.53%	8.75%	9.03%	12.33%	9.44%	12.92%
59	9.91%	13.49%	6.75%	9.05%	9.13%	12.47%	9.55%	13.07%
60	9.98%	13.59%	6.75%	9.05%	9.20%	12.57%	9.62%	13.17%
61	10.01%	13.63%	6.75%	9.05%	9.23%	12.60%	9.65%	13.20%
62	9.98%	13.60%	6.75%	9.05%	9.20%	12.57%	9.63%	13.17%
63	9.90%	13.48%	6.75%	9.05%	9.12%	12.46%	9.54%	13.05%
64	9.70%	13.21%	6.75%	9.05%	8.94%	12.21%	9.35%	12.80%
65	10.03%	13.65%	6.75%	9.05%	9.24%	12.62%	9.67%	13.22%
66 and thereafter	10.37%	14.12%	6.75%	9.05%	9.55%	13.05%	9.99%	13.67%
<i>COLA Loading:</i>		36.25%		34.08%		36.78%		36.99%
<i>Interest:</i>	7.25%							
<i>Salary Increases:</i>	See Exhibit V, page 79							
<i>Mortality:</i>	See Exhibit V, page 72							

It is our understanding that in the determination of pension benefits under the CalPEPRA 2.5% at 67 formula, the compensation that can be taken into account for 2015 is equal to \$140,424 (reference: Section 7522.10). This amount should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015 (reference: Section 7522.10(d)).

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General CalPEPRA Members' Contribution Rates from the December 31, 2014 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Rate Group 5 – Plan U</u>		<u>Rate Group 9 – Plan U</u>		<u>Rate Group 10 – Plan U</u>		<u>Rate Group 11 – Plan U</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	5.40%	7.36%	5.10%	6.89%	5.35%	7.29%	6.17%	7.42%
16	5.40%	7.36%	5.10%	6.89%	5.35%	7.29%	6.17%	7.42%
17	5.16%	7.02%	4.86%	6.57%	5.10%	6.95%	5.89%	7.08%
18	4.89%	6.66%	4.61%	6.24%	4.84%	6.60%	5.59%	6.72%
19	4.98%	6.78%	4.70%	6.35%	4.93%	6.72%	5.69%	6.84%
20	5.07%	6.90%	4.78%	6.46%	5.02%	6.84%	5.79%	6.96%
21	5.16%	7.03%	4.87%	6.58%	5.11%	6.96%	5.89%	7.09%
22	5.25%	7.15%	4.95%	6.70%	5.20%	7.08%	6.00%	7.21%
23	5.35%	7.28%	5.04%	6.81%	5.29%	7.21%	6.10%	7.34%
24	5.44%	7.41%	5.13%	6.94%	5.38%	7.34%	6.21%	7.47%
25	5.54%	7.54%	5.22%	7.06%	5.48%	7.47%	6.32%	7.61%
26	5.64%	7.68%	5.32%	7.18%	5.58%	7.60%	6.44%	7.74%
27	5.74%	7.81%	5.41%	7.31%	5.68%	7.74%	6.55%	7.88%
28	5.84%	7.95%	5.51%	7.44%	5.78%	7.87%	6.67%	8.02%
29	5.94%	8.09%	5.60%	7.57%	5.88%	8.01%	6.78%	8.16%
30	6.05%	8.23%	5.70%	7.71%	5.98%	8.15%	6.90%	8.30%
31	6.15%	8.38%	5.80%	7.84%	6.09%	8.30%	7.02%	8.45%
32	6.26%	8.53%	5.90%	7.98%	6.19%	8.44%	7.15%	8.60%
33	6.37%	8.68%	6.01%	8.12%	6.30%	8.59%	7.27%	8.75%
34	6.48%	8.83%	6.11%	8.26%	6.41%	8.74%	7.40%	8.90%
35	6.60%	8.98%	6.22%	8.41%	6.53%	8.90%	7.53%	9.06%
36	6.72%	9.14%	6.33%	8.56%	6.64%	9.06%	7.67%	9.22%
37	6.83%	9.31%	6.44%	8.71%	6.76%	9.22%	7.80%	9.38%
38	6.95%	9.47%	6.56%	8.86%	6.88%	9.38%	7.94%	9.55%
39	7.08%	9.64%	6.67%	9.02%	7.00%	9.55%	8.08%	9.72%
40	7.20%	9.81%	6.79%	9.18%	7.13%	9.72%	8.22%	9.89%
41	7.33%	9.99%	6.92%	9.35%	7.25%	9.89%	8.37%	10.07%
42	7.47%	10.16%	7.04%	9.51%	7.38%	10.07%	8.52%	10.25%
43	7.60%	10.35%	7.17%	9.69%	7.52%	10.25%	8.68%	10.43%
44	7.74%	10.54%	7.30%	9.86%	7.66%	10.44%	8.83%	10.62%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**General CalPEPRA Members' Contribution Rates from the December 31, 2014 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Rate Group 5 – Plan U</u>		<u>Rate Group 9 – Plan U</u>		<u>Rate Group 10 – Plan U</u>		<u>Rate Group 11 – Plan U</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
45	7.88%	10.73%	7.43%	10.04%	7.80%	10.63%	9.00%	10.82%
46	8.03%	10.93%	7.57%	10.23%	7.94%	10.82%	9.16%	11.02%
47	8.18%	11.14%	7.71%	10.42%	8.09%	11.03%	9.34%	11.23%
48	8.33%	11.35%	7.86%	10.62%	8.24%	11.24%	9.51%	11.44%
49	8.48%	11.55%	8.00%	10.81%	8.39%	11.44%	9.68%	11.65%
50	8.62%	11.74%	8.13%	10.99%	8.53%	11.63%	9.85%	11.84%
51	8.76%	11.93%	8.26%	11.16%	8.66%	11.81%	10.00%	12.02%
52	8.90%	12.11%	8.39%	11.34%	8.80%	12.00%	10.16%	12.22%
53	9.04%	12.31%	8.53%	11.52%	8.94%	12.19%	10.32%	12.41%
54	9.19%	12.52%	8.67%	11.72%	9.09%	12.40%	10.50%	12.62%
55	9.36%	12.74%	8.82%	11.92%	9.25%	12.62%	10.68%	12.84%
56	9.52%	12.96%	8.98%	12.13%	9.42%	12.84%	10.87%	13.07%
57	9.68%	13.18%	9.13%	12.33%	9.57%	13.05%	11.05%	13.29%
58	9.82%	13.38%	9.26%	12.52%	9.72%	13.25%	11.21%	13.49%
59	9.94%	13.53%	9.37%	12.66%	9.83%	13.40%	11.34%	13.64%
60	10.01%	13.64%	9.44%	12.76%	9.91%	13.50%	11.43%	13.75%
61	10.04%	13.67%	9.47%	12.80%	9.93%	13.54%	11.46%	13.79%
62	10.02%	13.64%	9.45%	12.76%	9.91%	13.51%	11.43%	13.75%
63	9.93%	13.52%	9.36%	12.65%	9.82%	13.39%	11.33%	13.63%
64	9.73%	13.25%	9.18%	12.40%	9.63%	13.12%	11.11%	13.36%
65	10.06%	13.70%	9.48%	12.82%	9.95%	13.56%	11.48%	13.81%
66 and thereafter	10.40%	14.16%	9.81%	13.25%	10.29%	14.02%	11.87%	14.28%
<i>COLA Loading:</i>		36.23%		35.12%		36.21%		30.79%
<i>Interest:</i>		7.25%						
<i>Salary Increases:</i>		See Exhibit V, page 79						
<i>Mortality:</i>		See Exhibit V, page 72						

It is our understanding that in the determination of pension benefits under the CalPEPRA 2.5% at 67 formula, the compensation that can be taken into account for 2015 is equal to \$140,424 (reference: Section 7522.10). This amount should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015 (reference: Section 7522.10(d)).

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Safety Tier 1 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan E (Fire Authority)</u>		<u>Plan E (Law Enforcement)</u>		<u>Plan E (Probation)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	4.54%	10.49%	4.68%	10.97%	4.62%	10.11%
16	4.54%	10.49%	4.68%	10.97%	4.62%	10.11%
17	4.60%	10.63%	4.74%	11.11%	4.68%	10.25%
18	4.66%	10.77%	4.81%	11.26%	4.74%	10.38%
19	4.73%	10.91%	4.87%	11.41%	4.81%	10.52%
20	4.79%	11.06%	4.93%	11.56%	4.87%	10.66%
21	4.85%	11.20%	5.00%	11.71%	4.94%	10.80%
22	4.92%	11.35%	5.07%	11.87%	5.00%	10.94%
23	4.98%	11.51%	5.14%	12.03%	5.07%	11.09%
24	5.05%	11.66%	5.21%	12.19%	5.14%	11.24%
25	5.12%	11.82%	5.28%	12.36%	5.21%	11.40%
26	5.19%	11.99%	5.35%	12.53%	5.28%	11.55%
27	5.27%	12.16%	5.42%	12.71%	5.35%	11.72%
28	5.34%	12.33%	5.50%	12.89%	5.43%	11.88%
29	5.42%	12.51%	5.58%	13.07%	5.51%	12.05%
30	5.50%	12.69%	5.66%	13.26%	5.59%	12.23%
31	5.58%	12.89%	5.75%	13.46%	5.67%	12.42%
32	5.67%	13.09%	5.84%	13.67%	5.76%	12.61%
33	5.76%	13.29%	5.93%	13.89%	5.85%	12.81%
34	5.84%	13.48%	6.01%	14.08%	5.94%	12.99%
35	5.93%	13.68%	6.10%	14.29%	6.02%	13.18%
36	6.02%	13.89%	6.19%	14.50%	6.12%	13.38%
37	6.12%	14.12%	6.29%	14.74%	6.21%	13.60%
38	6.22%	14.36%	6.40%	14.99%	6.32%	13.83%
39	6.34%	14.63%	6.52%	15.27%	6.44%	14.09%
40	6.44%	14.87%	6.62%	15.51%	6.54%	14.31%
41	6.55%	15.13%	6.74%	15.78%	6.66%	14.56%
42	6.63%	15.30%	6.81%	15.94%	6.73%	14.72%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Safety Tier 1 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan E (Fire Authority)</u>		<u>Plan E (Law Enforcement)</u>		<u>Plan E (Probation)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
43	6.70%	15.48%	6.88%	16.12%	6.80%	14.89%
44	6.74%	15.57%	6.92%	16.20%	6.84%	14.97%
45	6.76%	15.61%	6.93%	16.22%	6.85%	15.00%
46	6.72%	15.52%	6.87%	16.10%	6.81%	14.89%
47	6.61%	15.27%	6.74%	15.80%	6.69%	14.63%
48	6.45%	14.89%	6.54%	15.33%	6.50%	14.23%
49	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
50	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
51	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
52	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
53	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
54	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
55	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
56	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
57	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
58	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
59	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
60	6.11%	14.11%	6.11%	14.31%	6.11%	13.37%
<i>COLA Loading:</i>		<i>130.88%</i>		<i>134.24%</i>		<i>118.80%</i>
<i>Interest:</i>	<i>7.25%</i>					
<i>Salary Increases:</i>	<i>See Exhibit V, page 79</i>					
<i>Mortality:</i>	<i>See Exhibit V, page 72</i>					

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Safety Tier 2 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan F (Fire Authority)</u>		<u>Plan F (Law Enforcement)</u>		<u>Plan F (Probation)</u>		<u>Plan R (Fire Authority)</u>		<u>Plan R (Law Enforcement)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	8.66%	14.32%	8.87%	14.82%	8.72%	13.90%	8.66%	13.70%	8.87%	13.97%
16	8.66%	14.32%	8.87%	14.82%	8.72%	13.90%	8.66%	13.70%	8.87%	13.97%
17	8.77%	14.51%	8.98%	15.01%	8.83%	14.08%	8.77%	13.88%	8.98%	14.16%
18	8.88%	14.70%	9.10%	15.21%	8.95%	14.26%	8.88%	14.06%	9.10%	14.34%
19	9.00%	14.89%	9.22%	15.41%	9.07%	14.45%	9.00%	14.25%	9.22%	14.53%
20	9.12%	15.09%	9.34%	15.61%	9.18%	14.64%	9.12%	14.44%	9.34%	14.72%
21	9.24%	15.29%	9.46%	15.82%	9.31%	14.83%	9.24%	14.63%	9.46%	14.91%
22	9.36%	15.49%	9.59%	16.02%	9.43%	15.03%	9.36%	14.82%	9.59%	15.11%
23	9.49%	15.70%	9.72%	16.24%	9.56%	15.23%	9.49%	15.02%	9.72%	15.31%
24	9.62%	15.91%	9.85%	16.46%	9.69%	15.44%	9.62%	15.23%	9.85%	15.52%
25	9.75%	16.13%	9.98%	16.68%	9.82%	15.65%	9.75%	15.43%	9.98%	15.73%
26	9.88%	16.35%	10.12%	16.91%	9.95%	15.86%	9.88%	15.65%	10.12%	15.94%
27	10.02%	16.58%	10.26%	17.14%	10.09%	16.09%	10.02%	15.87%	10.26%	16.16%
28	10.16%	16.82%	10.40%	17.38%	10.23%	16.31%	10.16%	16.09%	10.40%	16.39%
29	10.31%	17.06%	10.55%	17.63%	10.38%	16.55%	10.31%	16.32%	10.55%	16.62%
30	10.46%	17.31%	10.70%	17.88%	10.53%	16.79%	10.46%	16.56%	10.70%	16.86%
31	10.62%	17.57%	10.86%	18.14%	10.69%	17.04%	10.62%	16.81%	10.86%	17.11%
32	10.77%	17.82%	11.01%	18.40%	10.84%	17.29%	10.77%	17.06%	11.01%	17.35%
33	10.93%	18.08%	11.17%	18.66%	11.00%	17.53%	10.93%	17.30%	11.17%	17.59%
34	11.08%	18.33%	11.32%	18.92%	11.15%	17.77%	11.08%	17.54%	11.32%	17.83%
35	11.24%	18.60%	11.48%	19.18%	11.31%	18.03%	11.24%	17.80%	11.48%	18.09%
36	11.41%	18.88%	11.65%	19.47%	11.48%	18.30%	11.41%	18.07%	11.65%	18.35%
37	11.59%	19.18%	11.83%	19.77%	11.66%	18.59%	11.59%	18.36%	11.83%	18.64%
38	11.77%	19.48%	12.00%	20.06%	11.84%	18.88%	11.77%	18.64%	12.00%	18.92%
39	11.95%	19.78%	12.18%	20.35%	12.02%	19.16%	11.95%	18.93%	12.18%	19.19%
40	12.10%	20.02%	12.32%	20.59%	12.17%	19.40%	12.10%	19.16%	12.32%	19.41%
41	12.23%	20.24%	12.44%	20.79%	12.29%	19.59%	12.23%	19.36%	12.44%	19.60%
42	12.31%	20.36%	12.50%	20.89%	12.36%	19.71%	12.31%	19.48%	12.50%	19.69%
43	12.34%	20.41%	12.51%	20.91%	12.39%	19.75%	12.34%	19.54%	12.51%	19.72%
44	12.29%	20.34%	12.44%	20.79%	12.34%	19.67%	12.29%	19.46%	12.44%	19.60%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Safety Tier 2 Members' Contribution Rates from the December 31, 2014 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Plan F (Fire Authority)</u>		<u>Plan F (Law Enforcement)</u>		<u>Plan F (Probation)</u>		<u>Plan R (Fire Authority)</u>		<u>Plan R (Law Enforcement)</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
45	12.15%	20.10%	12.26%	20.49%	12.18%	19.42%	12.15%	19.23%	12.26%	19.32%
46	11.89%	19.67%	11.96%	19.98%	11.91%	18.98%	11.89%	18.82%	11.96%	18.84%
47	11.45%	18.94%	11.45%	19.14%	11.45%	18.25%	11.45%	18.13%	11.45%	18.04%
48	11.82%	19.56%	11.82%	19.76%	11.82%	18.85%	11.82%	18.72%	11.82%	18.63%
49	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
50	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
51	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
52	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
53	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
54	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
55	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
56	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
57	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
58	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
59	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
60	12.22%	20.22%	12.22%	20.42%	12.22%	19.48%	12.22%	19.35%	12.22%	19.25%
<i>COLA Loading:</i>		65.44%		67.12%		59.40%		58.32%		57.57%
<i>Interest:</i>	7.25%									
<i>Salary Increases:</i>	See Exhibit V, page 79									
<i>Mortality:</i>	See Exhibit V, page 72									

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Safety CalPEPRA Members' Contribution Rates from the December 31, 2014 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)**

Calculated Under Recommended Assumptions

<u>Entry Age</u>	<u>Rate Group 6 – Plan V</u>		<u>Rate Group 7 – Plan V</u>		<u>Rate Group 8 – Plan V</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
15	9.30%	13.32%	10.76%	15.43%	9.07%	13.04%
16	9.30%	13.32%	10.76%	15.43%	9.07%	13.04%
17	9.42%	13.49%	10.90%	15.63%	9.18%	13.21%
18	9.54%	13.66%	11.04%	15.83%	9.30%	13.38%
19	9.66%	13.84%	11.19%	16.04%	9.43%	13.55%
20	9.79%	14.02%	11.33%	16.25%	9.55%	13.73%
21	9.92%	14.20%	11.48%	16.46%	9.67%	13.91%
22	10.05%	14.39%	11.63%	16.68%	9.80%	14.09%
23	10.18%	14.58%	11.78%	16.89%	9.93%	14.28%
24	10.31%	14.77%	11.94%	17.12%	10.06%	14.46%
25	10.45%	14.96%	12.10%	17.34%	10.19%	14.65%
26	10.58%	15.16%	12.26%	17.57%	10.32%	14.85%
27	10.72%	15.36%	12.42%	17.80%	10.46%	15.04%
28	10.87%	15.57%	12.58%	18.04%	10.60%	15.24%
29	11.01%	15.78%	12.75%	18.28%	10.74%	15.45%
30	11.16%	15.99%	12.93%	18.53%	10.89%	15.66%
31	11.31%	16.21%	13.10%	18.78%	11.04%	15.87%
32	11.47%	16.43%	13.28%	19.04%	11.19%	16.09%
33	11.63%	16.66%	13.47%	19.31%	11.34%	16.32%
34	11.79%	16.90%	13.66%	19.58%	11.50%	16.55%
35	11.96%	17.14%	13.85%	19.86%	11.67%	16.78%
36	12.14%	17.39%	14.05%	20.15%	11.84%	17.03%
37	12.32%	17.64%	14.26%	20.45%	12.01%	17.28%
38	12.50%	17.91%	14.48%	20.76%	12.20%	17.54%
39	12.69%	18.18%	14.69%	21.07%	12.38%	17.80%
40	12.87%	18.44%	14.91%	21.37%	12.56%	18.06%
41	13.06%	18.70%	15.12%	21.68%	12.74%	18.32%
42	13.25%	18.98%	15.34%	22.00%	12.93%	18.59%
43	13.46%	19.28%	15.58%	22.34%	13.13%	18.88%
44	13.68%	19.59%	15.84%	22.71%	13.34%	19.19%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Safety CalPEPRA Members' Contribution Rates from the December 31, 2014 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)
Calculated Under Recommended Assumptions**

<u>Entry Age</u>	<u>Rate Group 6</u>		<u>Rate Group 7</u>		<u>Rate Group 8</u>	
	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>	<u>Normal</u>	<u>Total</u>
45	13.90%	19.91%	16.09%	23.07%	13.56%	19.49%
46	14.12%	20.22%	16.35%	23.44%	13.77%	19.80%
47	14.30%	20.49%	16.56%	23.74%	13.95%	20.06%
48	14.46%	20.72%	16.75%	24.01%	14.11%	20.29%
49	14.57%	20.87%	16.87%	24.18%	14.21%	20.43%
50	14.62%	20.94%	16.93%	24.27%	14.26%	20.51%
51	14.59%	20.90%	16.89%	24.22%	14.23%	20.46%
52	14.44%	20.69%	16.72%	23.98%	14.09%	20.26%
53	14.18%	20.31%	16.41%	23.53%	13.83%	19.89%
54	13.71%	19.65%	15.88%	22.77%	13.38%	19.24%
55	14.16%	20.29%	16.40%	23.51%	13.82%	19.87%
56 and thereafter	14.63%	20.96%	16.95%	24.29%	14.28%	20.53%
<i>COLA Loading:</i>		46.07%		43.37%		43.86%
<i>Interest:</i>	7.25%					
<i>Salary Increases:</i>	See Exhibit V, page 79					
<i>Mortality:</i>	See Exhibit V, page 72					

It is our understanding that in the determination of pension benefits under the CalPEPRA 2.5% at 67 formula, the compensation that can be taken into account for 2015 is equal to \$140,424 (reference: Section 7522.10). This amount should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015 (reference: Section 7522.10(d)).

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Appendix C
Funded Percentages**

The funded percentages on a valuation value of assets basis by rate group provided for informational purposes only are as follows:

	Funded Percentage	
	December 31, 2014 Valuation	December 31, 2013 Valuation
<i>General Members</i>		
Rate Group #1 – Plans A, B and U (non-OCTA, non-OCSD)	78.07%	74.42%
Rate Group #2 – Plans I, J, O, P, S, T and U	68.17%	64.05%
Rate Group #3 – Plans B, G, H and U (Law Library, OCSD)	90.01%	63.44%
Rate Group #5 – Plans A, B and U (OCTA)	74.03%	71.06%
Rate Group #9 – Plans M, N and U (TCA)	69.65%	66.09%
Rate Group #10 – Plans I, J, M, N and U (OCFA)	65.99%	59.89%
Rate Group #11 – Plans M and N, future service, and U (Cemetery)	100.94%	76.53%
<i>Safety Members</i>		
Rate Group #6 – Plans E, F and V (Probation)	67.21%	68.71%
Rate Group #7 – Plans E, F, Q, R and V (Law Enforcement)	68.26%	68.08%
Rate Group #8 – Plans E, F, Q, R and V (Fire Authority)	72.25%	69.95%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix D

Reconciliation of Employer Contribution Rates (by Rate Group)

The reconciliation of the employer contribution rates for the General rate groups are as follows:

	Rate Group						
	#1	#2	#3	#5	#9	#10	#11
Recommended Contribution Rate as of December 31, 2013 (before UAAL credit)	21.03%	36.72%	34.33%	27.03%	25.95%	36.92%	22.10%
Adjustment to contribution rates for 2015-2016 for additional UAAL contributions	<u>0.00%</u>	<u>0.00%</u>	<u>-13.74%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>-9.87%</u>
Recommended Contribution Rate as of December 31, 2013 (after UAAL credit)	21.03%	36.72%	20.59%	27.03%	25.95%	36.92%	12.23%
Effect of investment gain	-0.03%	-0.04%	-0.04%	-0.03%	-0.02%	-0.03%	N/A ⁽¹⁾
Effect of additional UAAL contributions	0.00%	0.00%	0.00%	0.00%	0.00%	-1.17%	N/A ⁽¹⁾
Effect of actual contributions (more)/less than expected	0.12%	0.38%	0.65%	0.29%	0.45%	0.20%	N/A ⁽¹⁾
Effect of COLA increases less than expected	-0.39%	-0.58%	-0.50%	-0.48%	-0.29%	-0.41%	N/A ⁽¹⁾
Effect of actual individual salary increases more/(less) than expected	-0.12%	-0.56%	0.13%	0.17%	-0.12%	-0.41%	N/A ⁽¹⁾
Effect of growth in total payroll (more)/less than expected	-0.83%	0.16%	-0.09%	0.19%	1.05%	-0.41%	N/A ⁽¹⁾
Effect of changes in actuarial assumptions	-1.01%	-1.68%	-1.82%	-2.06%	-1.47%	-1.40%	-0.01%
Effect of including terminal pay assumptions in legacy plan member rates	-0.10%	-0.16%	-0.15%	-0.13%	-0.13%	-0.16%	-0.16%
Effect of other experience (gain)/loss ⁽²⁾	<u>-0.63%</u> ⁽³⁾	<u>0.07%</u>	<u>-0.27%</u>	<u>0.20%</u>	<u>0.30%</u>	<u>0.14%</u>	<u>-0.27%</u>
Subtotal	-2.99%	-2.41%	-2.09%	-1.85%	-0.23%	-3.65%	-0.44%
Recommended Contribution Rate as of December 31, 2014	18.04%	34.31%	18.50%	25.18%	25.72%	33.27%	11.79%

⁽¹⁾ N/A because RG #11 has become overfunded and under CalPEPRA, the employer's contribution rate cannot be less than the Normal Cost unless the funded ratio is over 120% and other conditions in CalPEPRA are met. If that restriction did not apply, the UAAL rate would have been -0.31% if the overfunded amount is amortized over 30 years.

⁽²⁾ Net of an adjustment to reflect 18-month delay between date of valuation and date of rate implementation for all actuarial experience.

⁽³⁾ Effect of other experience (gain)/loss includes a rate reduction of -0.28% due to the recognition of \$2.8 million in estimated withdrawal liability as of December 31, 2014 that would be paid by Vector Control.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix D (Continued)

Reconciliation of Employer Contribution Rates (by Rate Group)

The reconciliation of the employer contribution rates for the Safety rate groups are as follows:

	Rate Group		
	#6	#7	#8
Recommended Contribution Rate as of December 31, 2013 (before UAAL credit)	40.70%	56.23%	49.53%
Adjustment to contribution rates for 2015-2016 for additional UAAL contributions	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Recommended Contribution Rate as of December 31, 2013 (after UAAL credit)	40.70%	56.23%	49.53%
Effect of investment gain	-0.04%	-0.06%	-0.05%
Effect of additional UAAL contributions	0.00%	0.00%	-1.19%
Effect of actual contributions (more)/less than expected	0.38%	0.55%	0.43%
Effect of COLA increases less than expected	-0.54%	-1.17%	-0.88%
Effect of actual individual salary increases more/(less) than expected	-0.58%	-1.10%	-0.60%
Effect of growth in total payroll (more)/less than expected	0.70%	1.55%	-0.10%
Effect of changes in actuarial assumptions	6.51%	6.40%	4.26%
Effect of including terminal pay assumptions in legacy plan member rates	-0.22%	-0.35%	-0.13%
Effect of other experience (gain)/loss ⁽¹⁾	<u>0.25%</u>	<u>0.61%</u> ⁽²⁾	<u>-0.38%</u>
Subtotal	6.46%	6.43%	1.36%
Recommended Contribution Rate as of December 31, 2014	47.16%	62.66%	50.89%

⁽¹⁾ Net of an adjustment to reflect 18-month delay between date of valuation and date of rate implementation for all actuarial experience.

⁽²⁾ Effect of other experience (gain)/loss includes a rate increase of 0.83% due to a loss from retirement.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

**Appendix E
Reconciliation of UAAL (by Rate Group)**

The reconciliation of UAAL for the General rate groups are as follows:

	Rate Group (\$000s)						
	#1	#2	#3	#5	#9	#10	#11
1. UAAL as of December 31, 2013	\$107,421	\$3,264,765	\$197,831	\$219,042	\$11,222	\$70,091	\$1,721
2. Total normal cost at middle of year	12,547	248,658	15,838	21,862	1,609	5,534	269
3. Expected employer and member contributions	-20,054	-476,814	-29,664	-37,170	-2,395	-10,432	-391
4. Interest	<u>7,543</u>	<u>229,245</u>	<u>13,892</u>	<u>15,382</u>	<u>790</u>	<u>4,921</u>	<u>123</u>
5. Expected UAAL as of December 31, 2014	\$107,457	\$3,265,854	\$197,897	\$219,116	\$11,226	\$70,114	\$1,722
6. Actuarial (gain)/loss and other changes:							
(a) Gain on investment return	-\$274	-\$5,265	-\$420	-\$485	-\$21	-\$100	-\$7
(b) Gain from additional UAAL contributions	0	0	-126,350	0	0	-3,746	-1,723
(c) (Gain)/loss from actual contributions less than expected	1,241	54,161	2,335	4,320	399	648	101
(d) (Gain)/loss on lower than expected salary increases	-1,235	-80,190	1,274	2,585	-104	-1,315	62
(e) Gain on lower than expected COLA increases	-4,172	-82,827	-4,775	-7,116	-253	-1,313	-45
(f) Other experience (gain)/loss	-128	36,120 ⁽¹⁾	-759	5,218	475	2,071	14
(g) Changes in actuarial assumptions	<u>-10,895</u>	<u>-246,714</u>	<u>-13,379</u>	<u>-19,944</u>	<u>-1,032</u>	<u>-4,489</u>	<u>-197</u>
Total Changes	-\$15,463	-\$324,715	-\$142,074	-\$15,422	-\$536	-\$8,244	-\$1,795
7. UAAL as of December 31, 2014	<u>\$91,994</u>	<u>\$2,941,139</u>	<u>\$55,823</u>	<u>\$203,694</u>	<u>\$10,690</u>	<u>\$61,870</u>	<u>-\$73</u>

⁽¹⁾ Effect of other experience (gain)/loss includes: Rate Group #2 Primarily due to retirement loss offset by other gains

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix E (Continued)
Reconciliation of UAAL (by Rate Group)

The reconciliation of UAAL for the Safety rate groups are as follows:

	Rate Group (\$000s)		
	#6	#7	#8
1. UAAL as of December 31, 2013	\$178,873	\$937,181	\$379,770
2. Total normal cost at middle of year	22,871	80,037	44,996
3. Expected employer and member contributions	-35,373	-145,533	-71,535
4. Interest	<u>12,561</u>	<u>65,809</u>	<u>26,665</u>
5. Expected UAAL as of December 31, 2014	\$178,932	\$937,494	\$379,896
6. Actuarial (gain)/loss and other changes:			
(a) Gain on investment return	-\$364	-\$1,806	-\$828
(b) Gain from additional UAAL contributions	0	0	-19,666
(c) (Gain)/loss from actual contributions less than expected	3,439	15,660	7,103
(d) (Gain)/loss on lower than expected salary increases	-5,272	-31,687	-9,864
(e) Gain on lower than expected COLA increases	-4,936	-33,462	-14,585
(f) Other experience (gain)/loss	4,537	16,566 ⁽¹⁾	2,440
(g) Changes in actuarial assumptions	<u>36,260</u>	<u>102,262</u>	<u>35,957</u>
Total Changes	\$33,664	\$67,533	\$557
7. UAAL as of December 31, 2014	<u>\$212,596</u>	<u>\$1,005,027</u>	<u>\$380,453</u>

⁽¹⁾ Effect of other experience (gain)/loss includes: Rate Group #7 Retirement loss \$23,951

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix F

Reconciliation of Impact of Assumption Changes on Employer Contribution Rates (by Rate Group)

The reconciliation of the impact of assumption changes on employer contribution rates for the General rate groups are as follows:

	Rate Group						
	#1	#2	#3	#5	#9	#10	#11
Effect of changes in mortality rates ⁽¹⁾	-0.84%	-1.17%	-0.96%	-0.74%	-0.75%	-1.00%	-0.09%
Effect of changes in merit and promotional salary increases ⁽²⁾	-0.41%	-0.58%	-0.46%	-0.39%	-0.22%	-0.51%	-0.09%
Effect of changes in retirement rates ⁽³⁾	-0.12%	-0.35%	-0.30%	-0.15%	-0.43%	-0.30%	-0.04%
Effect of changes in termination rates ⁽⁴⁾	0.94%	1.07%	0.90%	0.01%	0.56%	1.00%	0.57%
Effect of 18-month delay	-0.14%	-0.18%	-0.18%	-0.20%	-0.15%	-0.15%	0.00%
Effect of new lower inflation component of individual salary increases ⁽⁵⁾	-0.55%	-0.74%	-0.63%	-0.52%	-0.44%	-0.65%	-0.30%
Effect of amortization of established UAAL bases using new lower payroll growth rate ⁽⁵⁾	0.19%	0.45%	0.11%	0.30%	0.26%	0.41%	0.00%
Effect of other changes in actuarial assumptions ⁽⁶⁾	<u>-0.08%</u>	<u>-0.18%</u>	<u>-0.30%</u>	<u>-0.37%</u>	<u>-0.30%</u>	<u>-0.20%</u>	<u>-0.06%</u>
Total	-1.01%	-1.68%	-1.82%	-2.06%	-1.47%	-1.40%	-0.01%
Liability Volatility Index (AAL/Payroll)	5.6	9.3	8.5	7.6	5.7	8.2	6.0

⁽¹⁾ Includes pre-retirement mortality, healthy post-retirement mortality and disabled post-retirement mortality.

⁽²⁾ Includes salary increase assumption for deferred vested members with reciprocity.

⁽³⁾ Includes deferred vested retirement age.

⁽⁴⁾ Includes percent assumed to elect a refund and percent assumed to be reciprocal.

⁽⁵⁾ These two changes are the result from lowering the inflation assumption from 3.25% to 3.00%.

⁽⁶⁾ Includes changes in disability rates, percent married at retirement and annual leave assumptions.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix F (Continued)

Reconciliation of Impact of Assumption Changes on Employer Contribution Rates (by Rate Group)

The reconciliation of the impact of assumption changes on employer contribution rates for the Safety rate groups are as follows:

	Rate Group		
	#6	#7	#8
Effect of changes in mortality rates ⁽¹⁾	2.76%	3.33%	2.77%
Effect of changes in merit and promotional salary increases ⁽²⁾	2.04%	1.82%	1.52%
Effect of changes in retirement rates	-0.71%	0.40%	-0.42%
Effect of changes in termination rates ⁽³⁾	1.90%	0.20%	0.12%
Effect of 18-month delay	0.59%	0.56%	0.38%
Effect of new lower inflation component of individual salary increases ⁽⁴⁾	-1.01%	-0.98%	-0.84%
Effect of amortization of established UAAL bases using new lower payroll growth rate ⁽⁴⁾	0.39%	0.64%	0.42%
Effect of other changes in actuarial assumptions ⁽⁵⁾	<u>0.55%</u>	<u>0.43%</u>	<u>0.31%</u>
Subtotal	6.51%	6.40%	4.26%
Liability Volatility Index (AAL/Payroll)	10.1	15.8	11.8

⁽¹⁾ Includes pre-retirement mortality, healthy post-retirement mortality and disabled post-retirement mortality as well as percent of pre-retirement deaths that are assumed to be duty related.

⁽²⁾ Includes salary increase assumption for deferred vested members with reciprocity.

⁽³⁾ Includes percent assumed to elect a refund.

⁽⁴⁾ These two changes are the result from lowering the inflation assumption from 3.25% to 3.00%.

⁽⁵⁾ Includes changes in disability rates, percent married at retirement and annual leave assumptions.

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix G

Phase-in of Increase in Contribution Rates for Safety Rate Groups

The contribution rates reflecting the phase-in for the Safety rate groups are as follows:

	Rate Group		
	#6	#7	#8
2015/2016 Employer Contribution Rate	40.70%	56.23%	49.53%
2016/2017 Employer Contribution Rate <u>before</u> Changes in Actuarial Assumptions	40.65%	56.26%	46.63%
2016/2017 Employer Contribution Rate <u>after</u> Changes in Actuarial Assumptions	47.16%	62.66%	50.89%
Phase-in of Cost Impact of All the Changes in Actuarial Assumptions			
2016/2017 Employer Contribution Rate after Change in Actuarial Assumptions (First Year of a Two Year Phase-in)	43.91%	59.46%	48.76%
2016/2017 Employer Contribution Rate after Change in Actuarial Assumptions (First Year of a Three Year Phase-in)	42.82%	58.39%	48.05%
Phase-in of Cost Impact of Only the Mortality Assumption Change			
2016/2017 Employer Contribution Rate after Change in Actuarial Assumptions (First Year of a Two Year Phase-in)	45.78%	61.00%	49.51%
2016/2017 Employer Contribution Rate after Change in Actuarial Assumptions (First Year of a Three Year Phase-in)	45.32%	60.44%	49.04%

SECTION 4: Reporting Information for the Orange County Employees Retirement System

Appendix G (Continued)

Phase-in of Increase in Contribution Rates for Safety Rate Groups

A copy of our letter dated May 19, 2015 follows this page.



100 Montgomery Street Suite 500 San Francisco, CA 94104-4308
T 415.263.8200 www.segalco.com

May 19, 2015

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
Phase-in of Increase in Employer Contribution Rate for Safety Rate Groups Due
to Changes in Actuarial Assumptions Implemented in the December 31, 2014
Actuarial Valuation**

Dear Steve:

We have been requested to provide information on the operation of a “phase-in” of the employer contribution rates for the Safety Rate Groups due to changes in actuarial assumptions implemented in the December 31, 2014 valuation. The assumption changes include an increase in the life expectancy for Safety members, as well as an overall increase in the merit and promotional salary increase together with other changes.

This letter provides an illustration of a phased-in contribution rate and discusses the impact of any possible phase-in on the ultimate employer contribution rate after the phase-in is over. As requested, we have provided the results under four scenarios:

- (1) phase-in over two years of the cost impact of all the changes in actuarial assumptions,
- (2) phase-in over three years of the cost impact of all the changes in actuarial assumptions,
- (3) phase-in over two years of the cost impact of only the mortality assumption change and
- (4) phase-in over three years of the cost impact of only the mortality assumption change.

Impact of Phase-in on Employer Contribution Rate

Throughout this letter, we are assuming that the phase-in would only apply to the portion of the employer contribution rate increase due to changes in actuarial assumptions and not to other changes in the employer contribution rate due to other actuarial experience that occurred in calendar year 2014. The estimated impact on the average employer contribution rate measured using the membership data reported for the December 31, 2014 valuation for each of the Safety Rate Groups for all the changes in actuarial assumptions as well as for only the mortality assumption change is shown in the following table. These are the amounts that would be phased-in over two or three-year periods depending on the scenario chosen.

Table One

	Rate Group #6 <u>(Probation)</u>	Rate Group #7 <u>(Law)</u>	Rate Group #8 <u>(Fire)</u>
All Assumptions	6.51%	6.40%	4.26%
Mortality Only	2.76%	3.33%	2.77%

To illustrate the mechanics of a phase-in, based on a hypothetical change in the average employer contribution rate of 6.00% of payroll, the three-year phase-in would work as follows:

- The portion of the employer contribution rate to be phased in would be determined one time, as part of the December 31, 2014 valuation. That total fixed amount would not be re-determined in later valuations. In this illustration that amount is 6.00% of payroll.
- The actual employer contribution rate in the December 31, 2014 valuation would only reflect one-third of the total impact of the assumption changes (i.e., $1/3 \times 6.00\%$ or 2.00% of payroll in this illustration). The way this would work is that the actual employer rate would defer recognition of two-thirds of the impact (i.e., $2/3$ of 6.00% or 4.00%) by deducting 4.00% from the employer rate produced in the 2014 valuation.
- The employer contribution rate in the December 31, 2015 valuation would only reflect two-thirds of the total impact of the assumption changes as originally determined in the 2014 valuation (4.00% of payroll in this illustration). Again, the way this would work is that the actual employer rate would defer recognition of one-third of the original impact (i.e., $1/3 \times 6.00\%$ or 2.00%) by deducting 2.00% from the employer rate produced in the 2015 valuation.
- Finally, the employer contribution rate in the December 31, 2016 valuation would reflect the full impact of the assumption changes shown above (6.00% of payroll). None of the original impact would be deferred and there would be no deduction from the employer rate produced in the 2016 valuation.

Note that during the phase-in period, the plan is not receiving the full Unfunded Actuarial Accrued Liability (UAAL) amortization payments. That means that in the next actuarial valuation (for a two-year phase-in) or the next two actuarial valuations (for a three-year phase-in) there will be an actuarial loss that will increase the future UAAL and future UAAL contributions. Each of these contribution losses will be amortized and paid off over a period of 20 years starting with the actuarial valuation that follows the contribution loss (i.e., following the year of the phased-in contribution). In our experience these “contribution losses” due to phase-ins are usually relatively small and so are not identified separately, but simply become part of “other gains and losses”.

An illustrative comparison of the cumulative incremental contribution rates based on the hypothetical change of 6.00% both before and after applying the two-year and three-year phase-in is provided in the table below:

Table Two

Fiscal Year	Without <u>Phase-in</u>	With Two-year <u>Phase-in</u>	With Three-year <u>Phase-in</u>
2016/17	6.00%	3.00%	2.00%
2017/18	6.00%	6.21%	4.29%
2018/19 and later	6.00%	6.21%	6.41%

For the hypothetical 6.00% rate increase, the table above shows that the rate impact for the second year of the two-year phase-in and the second or the third year of the three-year phase-in are somewhat higher than simply adding another one-half or one-third to the contribution rates for the preceding year. This is because of the contribution losses discussed earlier.

Based on the actual rate impact provided in Table One, we have provided the cumulative incremental contribution rate impact for each of the three Safety Rate Groups in Exhibit A.

As we previously discussed with the Board, phase-in of the contribution rate impact of assumption changes is a common practice here in California and has been offered by the OCERS Board during the last several years. Some systems routinely phase-in such rate changes whenever assumptions are changed while other retirement boards generally consider a phase-in only at the request of the primary plan sponsor.

There is a technical detail that we mention here only for completeness. The increase in the employer contribution rate due to these proposed assumption changes has both Normal Cost and UAAL amortization components. However, the phase-in is applied by reducing only the UAAL component of the employer contributions. This does not change the total amount of the phased-in contributions, only the allocation of the phased-in rates between Normal Cost and UAAL amortization.

As we also discussed with the Board, any changes in employee rates due to the assumption changes would not be phased-in. First, because employee contribution rates are based solely on Normal Cost and are unaffected by changes in the UAAL, the effect on employee rates is much smaller than for employer rates. Second, because the phase-in increases the UAAL which is funded only by the employer, a phase-in of the employee rates would in effect shift cost from the employees to the employers.

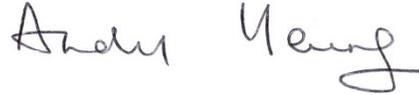
Mr. Steve Delaney
May 19, 2015
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Please let us know if you have any questions.

Sincerely,



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



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

AW/bqb
Enclosure

cc: Brenda Shott

Exhibit A

Cumulative Incremental Contribution Rate Impact of Assumption Changes Percentage of Payroll

Fiscal Year	Rate Group #6 - All Assumptions			Rate Group #6 - Mortality Only (of the 6.51%, 2.76% is due to mortality)		
	<u>Without</u>	<u>With Two-Year</u>	<u>With Three-Year</u>	<u>Without</u>	<u>With Two-Year</u>	<u>With Three-Year</u>
	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>
2016/17	6.51%	3.26%	2.17%	6.51%	5.13%	4.67%
2017/18	6.51%	6.74%	4.65%	6.51%	6.61%	5.72%
2018/19 and later	6.51%	6.74%	6.95%	6.51%	6.61%	6.70%

Fiscal Year	Rate Group #7 - All Assumptions			Rate Group #7 - Mortality Only (of the 6.40%, 3.33% is due to mortality)		
	<u>Without</u>	<u>With Two-Year</u>	<u>With Three-Year</u>	<u>Without</u>	<u>With Two-Year</u>	<u>With Three-Year</u>
	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>
2016/17	6.40%	3.20%	2.13%	6.40%	4.74%	4.18%
2017/18	6.40%	6.63%	4.57%	6.40%	6.52%	5.45%
2018/19 and later	6.40%	6.63%	6.83%	6.40%	6.52%	6.63%

Fiscal Year	Rate Group #8 - All Assumptions			Rate Group #8 - Mortality Only (of the 4.26%, 2.77% is due to mortality)		
	<u>Without</u>	<u>With Two-Year</u>	<u>With Three-Year</u>	<u>Without</u>	<u>With Two-Year</u>	<u>With Three-Year</u>
	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>	<u>Phase-in</u>
2016/17	4.26%	2.13%	1.42%	4.26%	2.88%	2.41%
2017/18	4.26%	4.41%	3.04%	4.26%	4.36%	3.47%
2018/19 and later	4.26%	4.41%	4.55%	4.26%	4.36%	4.45%