

*Classic Values, Innovative Advice*

City of San José Federated City Employees' Retirement System

**Actuarial Valuation Report
as of June 30, 2015**

Produced by Cheiron

December 9, 2015

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LETTER OF TRANSMITTAL

December 9, 2015

Board of Administration
City of San José Federated City
Employees' Retirement System
1737 North 1st Street, Suite 580
San José, California 95112

Dear Members of the Board:

The purpose of this report is to present the June 30, 2015 actuarial valuation of the City of San José Federated City Employees' Retirement System ("System"). The report includes:

- Measures of funded status,
- Analysis of changes since the prior valuation,
- Development of City and member contribution rates for the fiscal year ending (FYE) June 30, 2017, and
- Historical and projected trends.

This report is for the use of the Board of Administration and its auditors in preparing financial reports in accordance with applicable laws and accounting requirements.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,
Cheiron

A handwritten signature in blue ink that reads "William R. Hallmark".

William R. Hallmark, ASA, FCA, EA, MAAA
Consulting Actuary

A handwritten signature in blue ink that reads "Gene Kalwarski".

Gene Kalwarski, FSA, FCA, EA, MAAA
Principal Consulting Actuary

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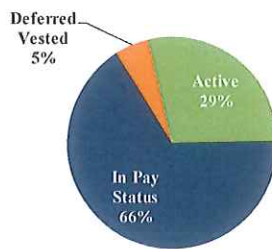
SECTION I - BOARD SUMMARY

Highlights of this report are summarized in the tables and graphs below.

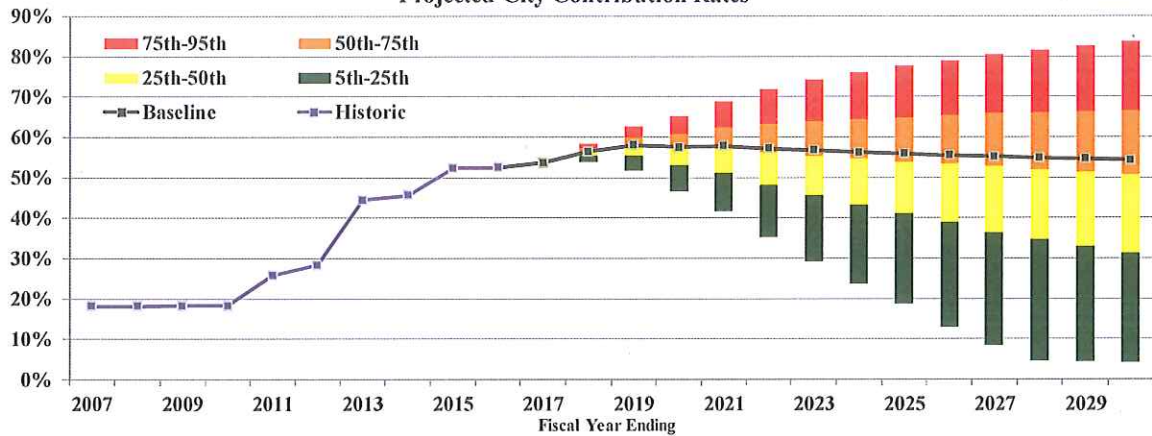
<u>Contributions</u>			<u>Funding Status</u>	
	Fiscal Year Ending		Valuation Date	
	2017	2016	6/30/2015	6/30/2014
Member Rate	6.33%	6.19%	Actuarial Liability (AL)	\$ 3,570 \$ 3,235
City Rate	53.60%	52.48% *	Market Value of Assets (MVA)	1,926 1,983
City BOY Amount	\$ 134.0	\$ 126.7	Unfunded AL (UAL) - MVA	\$ 1,644 \$ 1,253
			Funded Ratio - MVA	53.9% 61.3%
Normal Cost Rate	20.85%	20.71%	Actuarial Value of Assets (AVA)	2,004 1,912
Interest on MVA UAL	43.63%	37.36%	UAL - AVA	\$ 1,565 \$ 1,323
Additional UAL Rate	-4.55%	0.60%	Funded Ratio - AVA	56.1% 59.1%
Total UAL Rate	39.08%	37.96%		
Total Rate	59.93%	58.67%		

Amounts in Millions

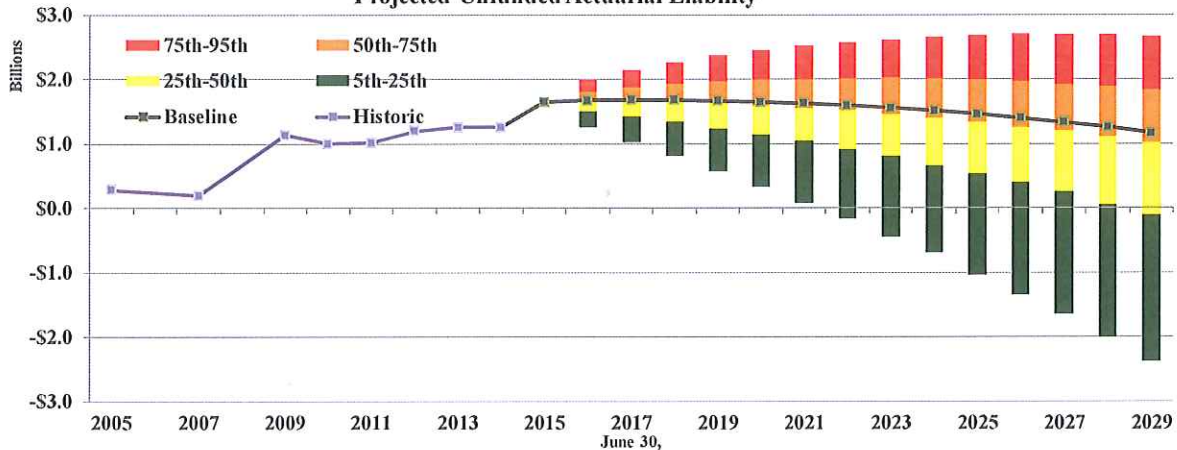
Actuarial Liability



Projected City Contribution Rates



Projected Unfunded Actuarial Liability



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SECTION I - BOARD SUMMARY

Membership

Underlying the changes in the actuarial valuation from one year to the next are changes in the membership of the System. These changes affect the liability of the System as well as contributions to the System. As shown in Table I-1 below, total membership grew 3.6% from 2014 to 2015. In particular, active membership increased 3.7% and total payroll increased by 7.1%, accelerating the rate of recovery from the precipitous decline following the recession.

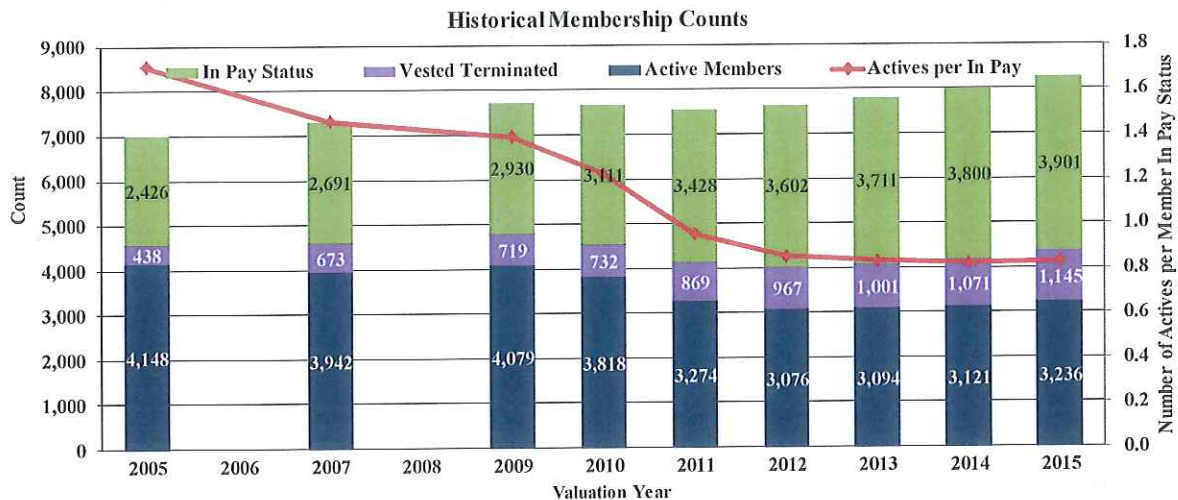
Table I-1 Total Membership			
	June 30, 2015	June 30, 2014	% Change
Active Members			
Tier 1	2,363	2,593	-8.9%
Tier 2	<u>873</u>	<u>528</u>	<u>65.3%</u>
Total Actives	3,236	3,121	3.7%
Terminated Vested Members			
Tier 1	1,047	1,026	2.0%
Tier 2	<u>98</u>	<u>45</u>	<u>117.8%</u>
Total Terminated Vesteds	1,145	1,071	6.9%
Members In Pay Status			
Service Retirees	3,205	3,113	3.0%
Beneficiaries	493	486	1.4%
Disabled Retirees	<u>203</u>	<u>201</u>	<u>1.0%</u>
Total In Pay Status	3,901	3,800	2.7%
Total Membership	8,282	7,992	3.6%
Active Member Payroll			
Tier 1	\$ 192,615	\$ 199,794	-3.6%
Tier 2	<u>58,814</u>	<u>34,883</u>	<u>68.6%</u>
Total	\$ 251,430	\$ 234,677	7.1%
Average Pay per Active Member			
Tier 1	\$ 81.5	\$ 77.1	5.8%
Tier 2	<u>67.4</u>	<u>66.1</u>	<u>2.0%</u>
Total	\$ 77.7	\$ 75.2	3.3%

Dollar amounts in thousands

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As shown in the chart below, the number of active members declined about 25% from 4,079 in 2009 to 3,076 in 2012. Since then, there has been a gradual increase in the number of active members to 3,326 in 2015. At the same time, the number of members in pay status has increased 33% from 2,930 in 2009 to 3,901 in 2015. As a result, the number of active members available to support each member in pay status has declined from approximately 1.4 in 2009 to 0.8 in 2015. This type of progression is to be expected for a maturing plan over a long period of time, but the impact of the recession accelerated the trend significantly. As there are fewer actives to support each retiree, contributions tend to become more volatile and sensitive to gains and losses.



Assets and Liabilities

This report measures assets and liabilities for funding purposes only. There is a separate report for financial reporting. Table I-2 on the next page summarizes the actuarial liability, assets, and related ratios for the System as of June 30, 2015 compared to June 30, 2014. The actuarial liability grew over 10%, reflecting the continued accrual of benefits and the changes in assumptions that were adopted this year. Before reflecting the assumption changes, the actuarial liability grew approximately 4.4%. The assumption changes increased the actuarial liability another 5.7%.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION I - BOARD SUMMARY

Table I-2 Aggregate Summary of Funded Status and Related Ratios			
	June 30, 2015	June 30, 2014	% Change
Actuarial Liability			
Actives	\$ 1,015,529	\$ 903,292	12.4%
Deferred Vested	186,816	156,453	19.4%
In Pay Status	<u>2,367,553</u>	<u>2,175,320</u>	<u>8.8%</u>
Total	\$ 3,569,898	\$ 3,235,065	10.4%
Market Value of Assets (MVA)	\$ 1,925,774	\$ 1,982,504	-2.9%
Actuarial Value of Assets (AVA)	\$ 2,004,481	\$ 1,911,773	4.8%
Unfunded Actuarial Liability - MVA Basis	\$ 1,644,124	\$ 1,252,561	31.3%
Unfunded Actuarial Liability - AVA Basis	\$ 1,565,417	\$ 1,323,292	18.3%
Funding Ratio - MVA Basis	53.9%	61.3%	-12.0%
Funding Ratio - AVA Basis	56.1%	59.1%	-5.0%
FYE 2015 Expected Payroll	\$ 251,430	\$ 234,677	7.1%
Asset Leverage Ratio	7.7	8.4	-9.3%
Actuarial Liability Leverage Ratio	14.2	13.8	3.0%
Interest on UAL - MVA Basis	\$ 115,089	\$ 87,679	31.3%
Interest Cost as Percent of Payroll	45.8%	37.4%	22.5%

Dollar amounts in thousands

The market value of assets is now less than the actuarial value, so if assumptions are met in the future, we expect an increase in contribution rates as the deferred asset losses are recognized in the actuarial value of assets.

The asset leverage ratio (market value of assets divided by payroll) of 7.7 means that if the System experiences a 10% loss on assets compared to the discount rate of 7.0%, the loss would be equivalent to 77% of payroll. Interest payments on such a loss would be approximately 5.4% of payroll. Interest payments on the current UAL are approximately 46% of payroll. As the System becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the leverage ratio would be 14.2 (actuarial liability divided by payroll). By comparison, the median asset leverage ratio in our survey of California retirement systems was 7.5, indicating that the System is slightly more sensitive to investment returns than the median California plan. The decline in asset leverage ratio reflects both the decline in the market value of assets and the increase in payroll.

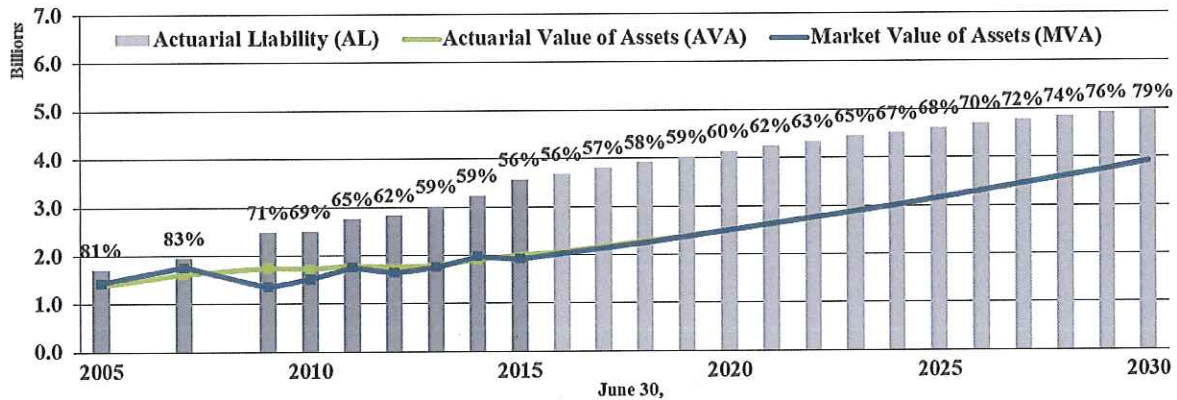
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Despite the tendency to focus on the most recent valuation results, it is important to remember that each valuation is merely a snapshot of the long-term progress of the System. The results of the current year's valuation should be evaluated in the context of historical trends, as well as trends expected into the future.

The chart below shows the historical and projected trends for assets (both market and smoothed actuarial) versus the actuarial liability, and also shows the progress of the funded ratios (based on the actuarial value of assets) since 2005. The historical actuarial liability is shown in dark gray while the projected actuarial liability is shown in a lighter gray. From 2007 to 2013, the funding ratio declined primarily because the plan experienced lower than expected investment returns on the actuarial value of assets and reduced its assumption of future investment returns. With the full recognition of the 2009 investment losses in the past, the funded status has stabilized, and if all assumptions are met in the future including an expected return of 7.00% each year, the funded status is expected to reach about 76.4% by 2030.

Assets and Actuarial Liability 2005-2029

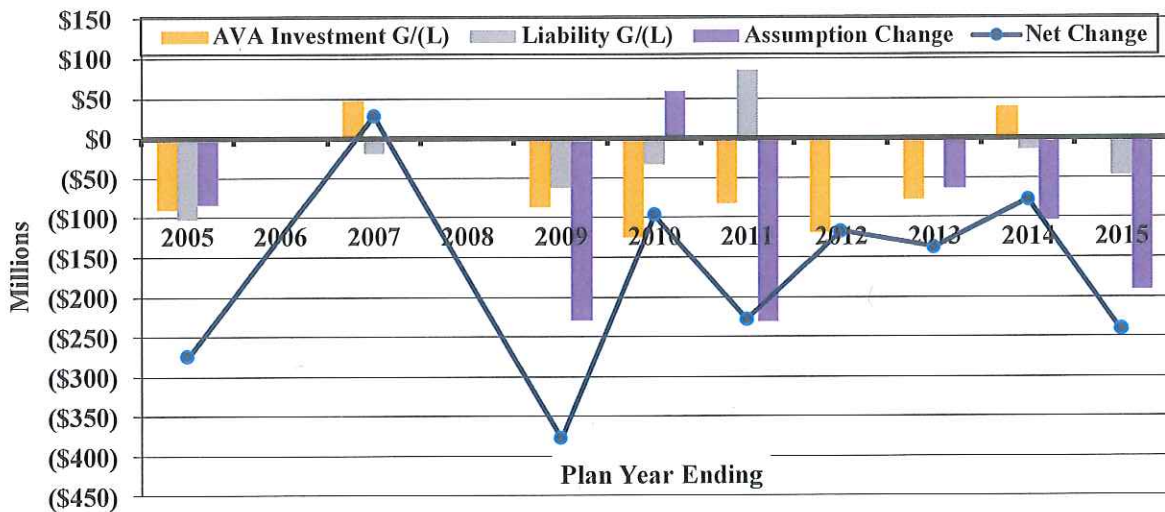


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The following chart summarizes the historical gains and losses and assumption changes that lead to the current unfunded actuarial liability. It is worth noting that 2007 and 2014 are the only years since 2005 in which there was an investment gain on the actuarial value of assets. This year is the second year in a row in which there was an actuarial loss on the actuarial liability, and six of the last nine actuarial valuations have reported an actuarial loss on the actuarial liability. In 2011, the only valuation in the last nine with a significant gain on the actuarial liability, there were significant one-time reductions in pay across the board that created the gain. Finally, there have been significant assumption changes, including reductions in the discount rate in steps from 8.25% in 2007 to 7.00% in 2014, that have significantly increased the measure of the unfunded actuarial liability.

Historical Gains and (Losses) and Assumption Changes



Contribution Rates

The System's contribution policy sets City contributions for Tier 1 equal to the sum of:

- A portion (8/11th) of the Service Normal Rate (Regular Current Service Rate) including administrative expenses.
- The Reciprocity Rate, which is the prefunding of the liability for reciprocal benefits with certain other California public pension plans.
- The Deficiency Rate, which is the amortization payment on the unfunded actuarial liability.
- The Golden Handshake Rate, which is the cost for funding the additional benefits granted in the past to certain retiring employees.

For Tier 2, City contributions equal 50% of the total contribution rate for Tier 2.

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Member contributions equal 3/11th of the Service Normal Rate for Tier 1 and 50% of the total contribution rate for Tier 2.

Table I-3 below summarizes the member and City contribution rates for the fiscal years ending in 2016 and 2017. Tier 1 rates have increased significantly from 2016 to 2017, reflecting the assumption changes and the decline in Tier 1 payroll. Tier 2 rates have increased slightly due to experience.

Table I-3 Components of Contribution Rates						
	Fiscal Year Ending 2017			Fiscal Year Ending 2016		
	Member	City	Total	Member	City	Total
Tier 1						
Normal Cost	6.20%	16.97%	23.17%	6.14%	16.57%	22.71%
Administrative Expenses	0.27%	0.73%	1.00%	0.19%	0.51%	0.70%
UAL	0.00%	60.36%	60.36%	0.00%	49.07%	49.07%
Total	6.47%	78.06%	84.53%	6.33%	66.15%	72.48%
Tier 2						
Normal Cost	5.52%	5.52%	11.04%	5.39%	5.39%	10.78%
Administrative Expenses	0.50%	0.50%	1.00%	0.35%	0.35%	0.70%
UAL	0.02%	0.02%	0.04%	-0.03%	-0.03%	-0.06%
Total	6.04%	6.04%	12.08%	5.71%	5.71%	11.42%

Dollar amounts in thousands

At its November 2015 meeting, the Board adopted demographic assumption changes based on recommendations from our experience study covering plan experience during the period from July 1, 2010 through June 30, 2015. The impact of these changes is shown in Table I-4 below.

Table I-4 Impact of Assumption Changes				
	June 30, 2015			
	New	Old	Change	
Actuarial Liability				
Actives	\$ 1,015,530	\$ 915,710	10.9%	
Deferred Vested	186,816	167,985	11.2%	
In Pay Status	2,367,553	2,294,676	3.2%	
Total	\$ 3,569,898	\$ 3,378,371	5.7%	
Total Normal Cost Rate				
Tier 1	23.17%	22.51%	0.7%	
Tier 2	11.04%	11.06%	0.0%	

Dollar amounts in thousands

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The change in the demographic assumptions increased the actuarial liability by approximately 5.7%. The total normal cost rate (excluding administrative expenses) increased by 0.7% of pay for Tier 1 members and remained almost level for Tier 2 members. In addition, the change in the administrative expense assumption increased contribution rates by 0.3% of pay.

Table I-5 shows sources for the change in the Tier 1 contribution rates and the City's Tier 1 contribution amount from the rates and amount calculated in the prior report. The increase in the City's Tier 1 contribution rate is due to assumption changes, investment and demographic experience, and the decreased payroll over which the UAL is spread. Payroll for Tier 1 is expected to decrease over time as members leave the system and new entrants join Tier 2.

Table I-5 Reconciliation of Changes in Tier 1 Contribution Rates and Amounts						
	Member Rate	City Normal Cost	City UAL Rate	City Total Rate	Projected Payroll	BOY City Amount
FYE 2016 Contribution	6.33%	17.08%	49.07%	66.15%	\$ 186,762	\$ 119,441
Expected FYE 2017 Contribution	6.33%	17.08%	51.55%	68.63%	179,270	118,941
Changes Due to:						
Investment experience	0.00%	0.00%	1.54%	1.54%	179,270	2,669
Demographic experience	-0.09%	-0.12%	1.63%	1.51%	179,270	2,618
Payroll Change	0.00%	0.00%	0.26%	0.26%	178,415	(140)
Assumption Change	0.23%	0.74%	5.38%	6.12%	170,792	4,803
Subtotal	0.14%	0.62%	8.81%	9.43%	170,792	\$ 9,950
FYE 2017 Contribution	6.47%	17.70%	60.36%	78.06%	\$ 170,792	\$ 128,891

Dollar amounts in thousands

Table I-6 shows sources for the change in the Tier 2 contribution rates and the City's Tier 2 contribution amount from the rates and amount calculated in the prior report. The increase in the City's Tier 2 contribution rate is primarily due to assumption changes and demographic experience.

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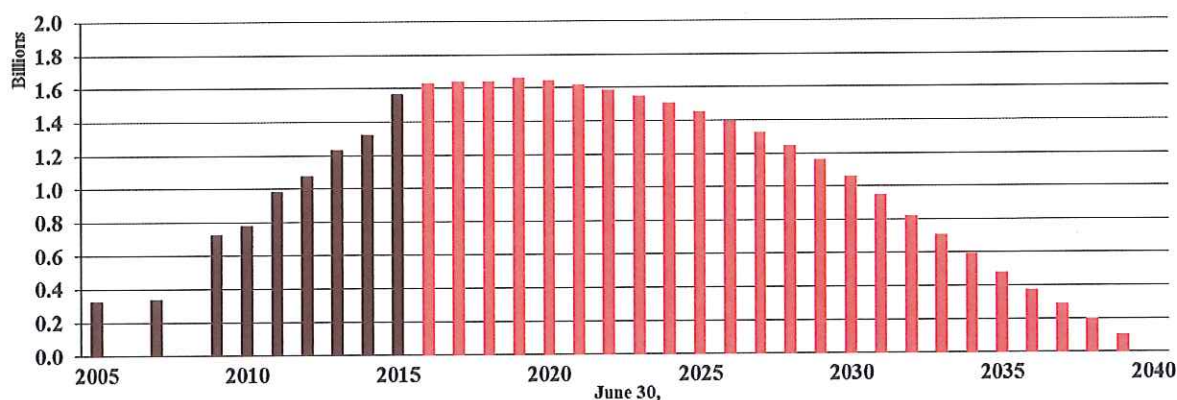
Table I-6
Reconciliation of Changes in Tier 2 Member + City Contribution Rates and Amounts

	Normal Cost	UAL Rate	Total Rate	Projected Payroll	BOY Amount
FYE 2016 Contribution	11.48%	-0.06%	11.42%	\$ 54,604	\$ 6,028
Expected FYE 2017 Contribution	11.48%	-0.06%	11.42%	68,974	7,615
Changes Due to:					
Investment experience	0.00%	0.02%	0.02%	68,974	13
Demographic experience	0.28%	0.09%	0.37%	68,974	245
Payroll Change	0.00%	-0.01%	-0.01%	80,180	1,274
Assumption Change	<u>0.28%</u>	<u>0.00%</u>	<u>0.28%</u>	87,803	<u>1,107</u>
Subtotal	0.56%	0.10%	0.66%	87,803	\$ 2,639
FYE 2017 Contribution	12.04%	0.04%	12.08%	\$ 87,803	\$ 10,254

The unfunded actuarial liability as of June 30, 2009 is amortized over 30 years from that date, and any subsequent gains or losses or assumption changes are amortized as part of the Deficiency Rate over 20 years from the valuation in which they are first recognized. The amortization payment for the 2015 assumption changes is phased in over a 3-year period. The amortizations are a level percent of expected Tier 1 and Tier 2 payroll.

The chart below shows the historic and current UAL and its projected decline as unrecognized investment gains and losses from the asset smoothing method are recognized over the next four years and as payments are made on the amortization schedules over the next 25 years.

Historic and Deterministic Projected Unfunded Actuarial Liability



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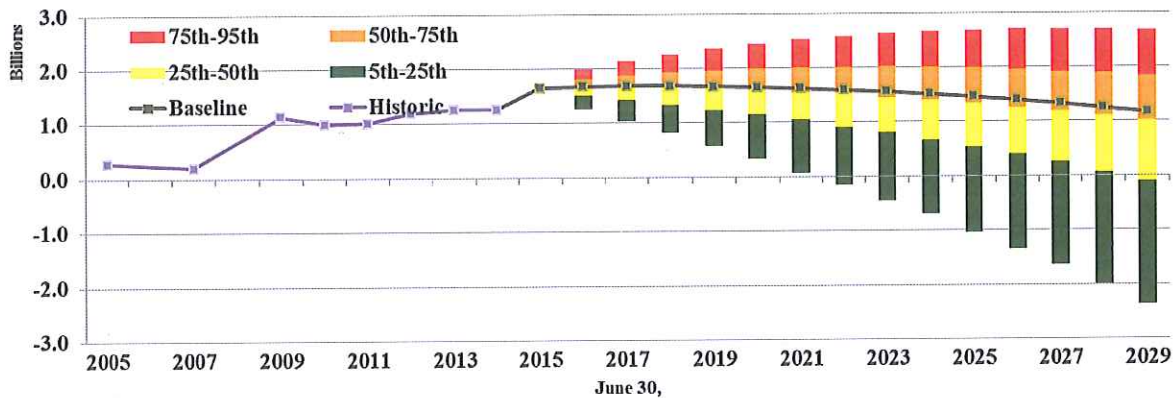
SECTION I - BOARD SUMMARY

This amortization structure results in a total UAL rate of 39.9% of payroll for FYE 2017, which is less than the amount needed to pay the interest on the UAL (45.8% of payroll). As a result, the dollar amount of the UAL is expected to increase in the short term as shown in the chart above. As the phase-in of the amortization for the 2015 assumption changes is completed and as the remaining period for the amortization of the 2009 UAL shortens, the UAL rate will exceed the interest cost on the UAL and pay off the principal and interest in 25 years.

If experience has taught us anything, it is that there is a significant level of uncertainty in projections of the future. The largest source of uncertainty is the projection of investment returns. In order to better understand the potential impact of investment returns on the System, we have included stochastic projections throughout this report based on Meketa's assumed rate of return of 7.40% with an estimated standard deviation of 11.91%. Each projection contains 10,000 trials that are 15 years in length.

The chart below shows the historic and stochastically projected unfunded actuarial liability based on the market value of assets. The black line shows the projected UAL for each year if all valuation assumptions are met, including a 7.00% investment return each and every year. The colored ranges represent different percentiles of the 10,000 results. For example, the red range represents the 5th through 25th percentile of the UAL for each year seen among the 10,000 trials. Based on the assumed distribution of investment returns, there is a 5% chance the result will be worse than the red range and a 5% chance that the result will be better than the green range.

Historic and Stochastic Projection of Unfunded Actuarial Liability



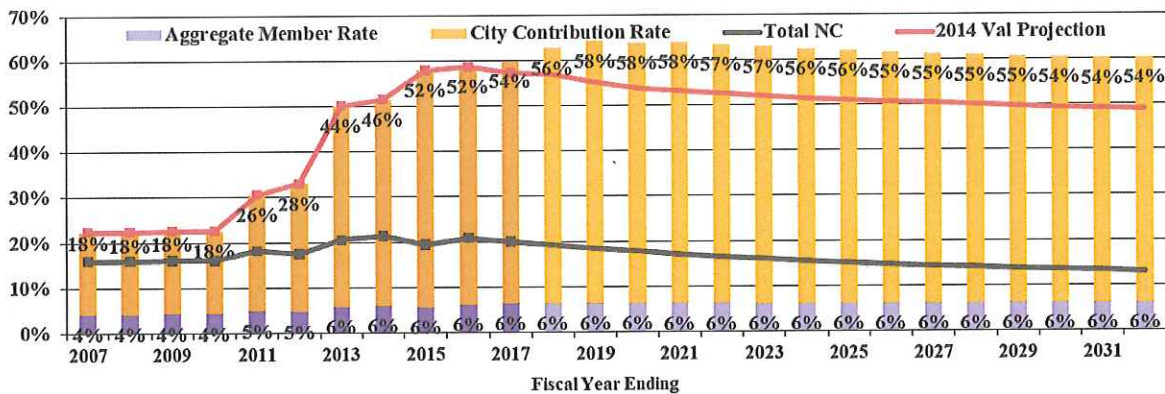
While the amortization methods are designed to pay off the entirety of the current UAL in 25 years, the stochastic projection shows that there is a 5% chance that it will be paid off in as early as 7 years. It also shows, however, that the UAL could be more than \$2.5 billion in 7 years.

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The chart below shows the historic and projected aggregate member contribution rates (purple bars) and City contribution rates (gold bars) compared to the projection of member plus City contributions from the prior valuation, indicated by the red line. These contribution rates assume that all assumptions are met. The black line shows the historic and projected total normal cost rate. Historic rates and rates calculated through the fiscal year ending June 30, 2017 are shown in a darker shade than the projected future contribution rates.

Aggregate City and Member Contribution Rates FYE 2006-2030



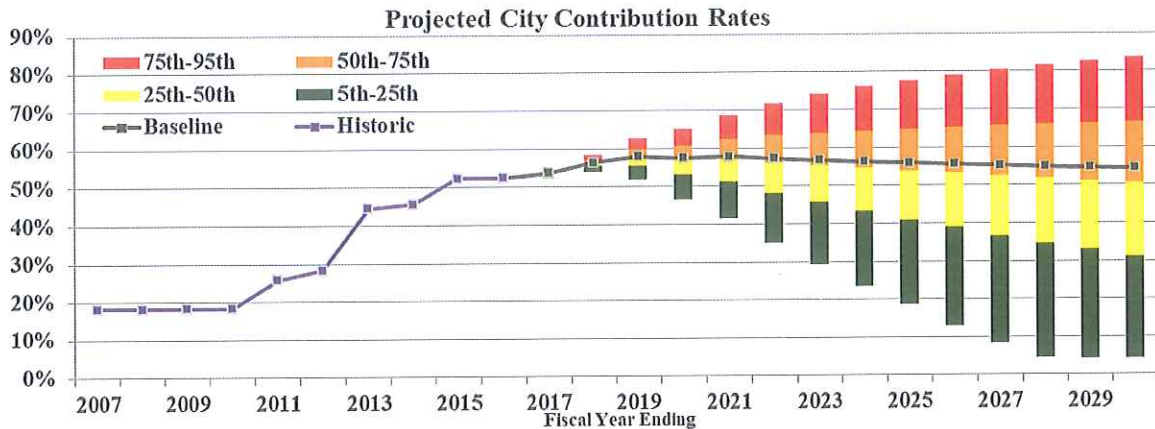
The aggregate City contribution rate has increased dramatically since FYE 2010 primarily due to investment losses, assumption changes, and reductions in payroll that increased the UAL rate. In aggregate, the discount rate over this period has been reduced from 8.25% to 7.00%. Future aggregate City contribution rates are expected to increase slightly in the next few years due to the recognition of recent investment losses and the phase-in of the amortization of the 2015 assumption changes, and then gradually decrease over time after that. The gradual decrease in the total rate is driven by the projected gradual decrease in total normal cost rate as Tier 2 becomes a greater proportion of the active membership. After the projection period shown, contribution rates are expected to drop more rapidly as some amortization bases are fully paid off.

The chart on the following page shows the historic and projected aggregate City contribution rates. The purple line shows the historic rates and the black line shows the projected rates based on a 7.00% return each and every year. The colored ranges represent different percentiles of the 10,000 trials. The overall trend is for lower contribution rates in the future, but the range of potential contribution rates that depend on actual investment returns is large.

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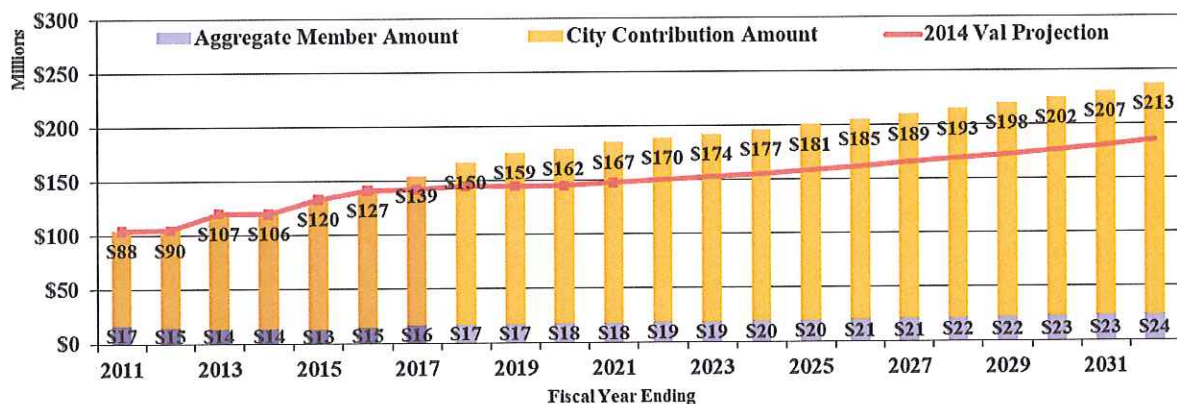
Historic and Stochastic Projection of City Aggregate Contribution Rates



In the worst scenarios, the City's aggregate contribution rate can exceed 80% of payroll. In the best scenarios, the City's Tier 1 rate can drop to 0%, leaving a relatively small Tier 2 rate for the City. For the fiscal year ending 2022 (based on the 2020 valuation), the range from the 5th to 95th percentile for City's aggregate contribution rate is from 35% of pay to 72% of pay.

The chart below shows historic and projected member (purple bars) and City (gold bars) contribution amounts (assuming contributions throughout the year) compared to the projected amounts shown in the prior valuation. If all actuarial assumptions are exactly met, City contributions are expected to increase at a rate slower than payroll growth from \$139 million in FYE 2017 to a peak of approximately \$213 million in FYE 2032, before declining as portions of the UAL are paid off.

Historic and Deterministic Projection of Contribution Amounts

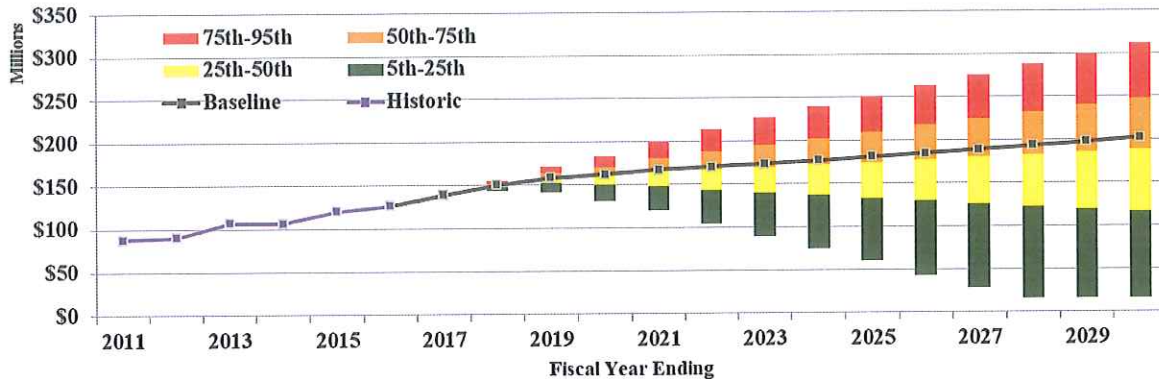


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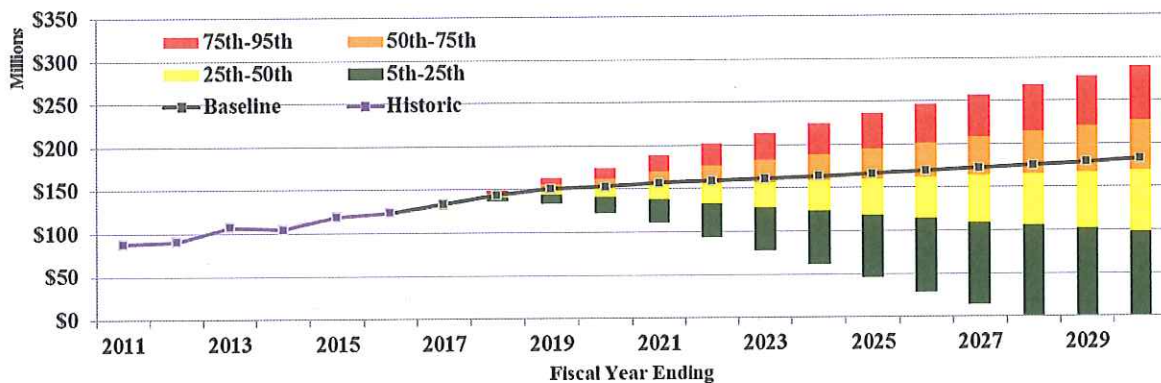
The chart below shows the historic and stochastic projection of City contribution amounts. The black line shows the projected contribution amount for each year if all assumptions are met. The colored ranges represent different percentiles of the 10,000 results. There is significant uncertainty in the level of City contributions depending on investment returns.

Historic and Stochastic Projection of City Contribution Amounts



With declining payroll for the closed Tier 1, projections of contribution rates are not meaningful. As a result, the projections shown below show the projected range of City contribution amounts for Tier 1. For the fiscal year ending 2022 (based on the 2020 valuation), the range from the 5th to 95th percentile for City's Tier 1 contribution is from \$94 million to \$203 million. By the end of the projection period, the range extends up to \$290 million.

Historic and Stochastic Projection of Tier 1 City Contribution Amounts

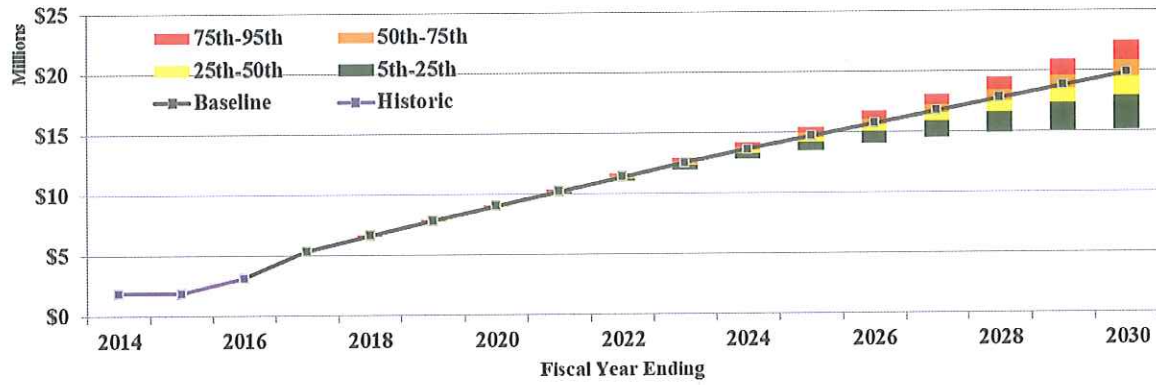


Because Tier 2 is relatively young and growing rapidly, the contribution amounts are much less sensitive to investment returns. By the end of the projection period, the range from the 5th to 95th percentile for City's Tier 2 contribution is only from \$20 million to \$22 million. Tier 2 member contributions are identical to the City's contributions.

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Historic and Stochastic Projection of Tier 2 City Contribution Amounts



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SECTION II - CERTIFICATION

The purpose of this report is to present the June 30, 2015 actuarial valuation of the City of San José Federated City Employees' Retirement System ("System"). This report is for the use of the System and the City of San José.

In preparing our report, we relied on information, some oral and some written, supplied by the Plan. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

All the assumptions in this report were adopted at the November 19, 2015 Board meeting based on recommendations from our experience study covering plan experience during the period from July 1, 2010 through June 30, 2015. Please refer to the experience study report for an explanation of the rationale for each assumption.

The liability measures and funding ratios in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. The schedules provided for financial reporting purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for the System for the purposes described herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

William R. Hallmark, ASA, FCA, EA, MAAA
Consulting Actuary

Gene Kalwarski, FSA, FCA, EA, MAAA
Principal Consulting Actuary

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

SECTION III - ASSETS

The System uses and discloses two different asset measurements: the market value and actuarial value of assets. The market value represents the value of the assets if they were liquidated on the valuation date. The actuarial value of assets is a value that smoothes annual investment returns over five years to reduce the impact of short-term investment volatility on employer contribution rates. The market value of assets is used primarily for reporting and disclosure, and the actuarial value of assets is used primarily to determine contribution rates.

This section shows the changes in the market value of assets and develops the actuarial value of assets.

Statement of Change in Market Value of Assets

Table III-1 shows the changes in the market value of assets for the current and prior fiscal years for each tier.

Table III-1 Change in Market Value of Assets						
	Fiscal Year Ending 2015			Fiscal Year Ending 2014		
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total
Beginning Market Value	\$1,978,358	\$ 4,146	\$1,982,504	\$1,760,904	\$ 642	\$1,761,546
Contributions						
Member	11,062	2,559	13,621	11,944	1,652	13,596
City	112,193	2,559	114,752	101,159	1,652	102,811
Total	\$ 123,255	\$ 5,118	\$ 128,373	\$ 113,103	\$ 3,304	\$ 116,407
Net Investment Earnings	(16,588)	(54)	(16,642)	263,281	405	263,686
Benefit Payments	(164,264)	(299)	(164,563)	(155,839)	(97)	(155,936)
Administrative Expenses	(3,422)	(477)	(3,899)	(3,092)	(109)	(3,201)
Market Value, End of Year	\$1,917,339	\$ 8,435	\$1,925,774	\$1,978,358	\$ 4,146	\$1,982,504
Estimated Rate of Return	-0.8%	-0.8%	-0.8%	14.7%	18.5%	14.7%

Dollar amounts in thousands

The net investment earnings for the year ended June 30, 2015 represent approximately a -0.8% return on the market value of assets compared to an assumed return of 7.00%. This return produced an investment loss of 158.0 million for the year ending June 30, 2015. For the year ended June 30, 2014, the net investment return was approximately 14.7% (7.25% was assumed), which produced an investment gain of \$133.8 million.

Actuarial Value of Assets

To determine on-going contributions, most pension funds utilize an actuarial value of assets that differs from the market value of assets. The actuarial value of assets is based on smoothing year-to-year market value returns for purposes of reducing the resulting volatility on contributions.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT

SECTION III - ASSETS

The actuarial value of assets is calculated by recognizing the deviation of actual investment returns compared to the expected return (7.00% for FYE 2015, 7.25% for FYE 2014, and 7.50% for FYE 2012 and 2013) over a five-year period. The dollar amount of the expected return on the market value of assets is determined using actual contributions, benefit payments, and administrative expenses during the year. Any difference between this amount and the actual net investment earnings is considered a gain or loss. Table III-2 below shows the calculation of the actuarial value of assets separately for Tier 1 and Tier 2. For each of the last four years, it shows the actual earnings, the expected earnings, the gain or loss and the portion of the gain or loss that is not recognized in the current actuarial value of assets. These deferred amounts will be recognized in future years.

Table III-2 Development of Actuarial Value of Assets						
	Basic	Tier 1 COLA	Total	Basic	Tier 2 COLA	Total
Market Value of Assets (MVA)	\$ 1,362,115	\$ 555,224	\$ 1,917,339	\$ 7,723	\$ 712	\$ 8,435
FYE 2015						
Actual Earnings	(11,897)	(4,691)	(16,588)	(49)	(5)	(54)
Expected Earnings	100,386	40,564	140,949	403	37	440
Investment Gain or (Loss)	(112,283)	(45,255)	(157,537)	(452)	(42)	(494)
Deferred (80%)	(89,826)	(36,204)	(126,030)	(361)	(33)	(394)
FYE 2014						
Actual Earnings	\$ 193,556	\$ 69,726	\$ 263,281	\$ 374	\$ 32	\$ 406
Expected Earnings	93,765	36,000	129,765	150	13	163
Investment Gain or (Loss)	99,791	33,726	133,516	224	19	243
Deferred (60%)	\$ 59,875	\$ 20,235	\$ 80,110	\$ 135	\$ 11	\$ 146
FYE 2013						
Actual Earnings	\$ 109,541	\$ 36,811	\$ 146,353	\$ 12	\$ 1	\$ 13
Expected Earnings	92,786	33,568	126,354	10	1	11
Investment Gain or (Loss)	16,755	3,243	19,999	2	0	2
Deferred (40%)	\$ 6,702	\$ 1,297	\$ 7,999	\$ 1	\$ 0	\$ 1
FYE 2012						
Actual Earnings	\$ (51,611)	\$ (17,290)	\$ (68,901)	\$ 0	\$ 0	\$ 0
Expected Earnings	98,323	35,470	133,793	0	0	0
Investment Gain or (Loss)	(149,934)	(52,760)	(202,694)	0	0	0
Deferred (20%)	\$ (29,987)	\$ (10,551)	\$ (40,539)	\$ 0	\$ 0	\$ 0
Total Deferred Gain or (Loss)	\$ (53,236)	\$ (25,223)	\$ (78,459)	\$ (226)	\$ (22)	\$ (247)
Actuarial Value of Assets	\$ 1,415,351	\$ 580,447	\$ 1,995,798	\$ 7,948	\$ 734	\$ 8,683
Ratio of Actuarial to Market	103.9%	104.5%	104.1%	102.9%	103.1%	102.9%
Estimated Rate of Return	7.0%	6.4%	6.8%	6.4%	6.3%	6.4%

Dollar amounts in thousands

On an actuarial value of assets basis, the aggregate return for the year ending June 30, 2015 was 6.8% for Tier 1 and 6.4% for Tier 2, both slightly less than the assumed return of 7.00%, but more than the return on the market value of assets. This return on the actuarial value of assets produced an investment loss of \$3.6 million for the year ending June 30, 2015.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

SECTION IV - MEASURES OF LIABILITY

This section presents detailed information on liability measures for the System for funding purposes, including:

- Present value of future benefits,
- Actuarial liability,
- Normal cost, and
- Analysis of changes in the unfunded actuarial liability during the year.

Present Value of Future Benefits: The present value of future benefits represents the expected amount of money needed today to pay for all benefits both earned as of the valuation date and expected to be earned in the future by current plan members under the current plan provisions. Table IV-1 below shows the present value of future benefits as of June 30, 2015 and June 30, 2014 separately by Tier.

Table IV-1 Present Value of Future Benefits					
	June 30, 2015			June 30, 2014	
	Basic	COLA	Total	Total	% Change
Tier 1					
Actives	\$ 906,144	\$ 360,449	\$ 1,266,593	\$ 1,223,199	3.5%
Deferred Vested	132,438	53,902	186,340	156,336	19.2%
In Pay Status	<u>1,375,763</u>	<u>991,790</u>	<u>2,367,553</u>	<u>2,175,320</u>	<u>8.8%</u>
Tier 1 Total	\$ 2,414,345	\$ 1,406,141	\$ 3,820,486	\$ 3,554,855	7.5%
Tier 2					
Actives	\$ 55,104	\$ 7,254	\$ 62,358	\$ 39,606	57.4%
Deferred Vested	<u>465</u>	<u>11</u>	<u>476</u>	<u>117</u>	<u>306.8%</u>
Tier 2 Total	\$ 55,569	\$ 7,265	\$ 62,834	\$ 39,723	58.2%
Total	\$ 2,469,914	\$ 1,413,406	\$ 3,883,320	\$ 3,594,578	8.0%

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

SECTION IV - MEASURES OF LIABILITY

Actuarial Liability

The actuarial liability represents the expected amount of money needed today to pay for benefits attributed to service prior to the valuation date under the Entry Age actuarial cost method. As such, it is the amount of assets targeted by the actuarial cost method for the System to hold as of the valuation date. It is not the amount necessary to settle the obligation. Table IV-2 below shows the actuarial liability as of June 30, 2015 and June 30, 2014 separately by Tier.

Table IV-2 Actuarial Liability					
	June 30, 2015			June 30, 2014	% Change
	Basic	COLA	Total	Total	
Tier 1					
Actives					
Retirement	\$ 664,481	\$ 263,268	\$ 927,749	\$ 846,346	9.6%
Termination	37,586	21,559	59,145	20,542	187.9%
Death	6,488	2,343	8,831	14,110	-37.4%
Disability	<u>7,782</u>	<u>3,012</u>	<u>10,794</u>	<u>18,920</u>	<u>-42.9%</u>
Total Actives	\$ 716,337	\$ 290,182	\$ 1,006,519	\$ 899,918	11.8%
Deferred Vested	\$ 132,438	\$ 53,902	\$ 186,340	\$ 156,336	19.2%
In Pay Status					
Retirees	\$ 1,264,028	\$ 885,016	\$ 2,149,044	\$ 1,977,378	8.7%
Beneficiaries	66,958	66,771	133,729	121,287	10.3%
Disabled	<u>44,777</u>	<u>40,003</u>	<u>84,780</u>	<u>76,654</u>	<u>10.6%</u>
Total In Pay Status	\$ 1,375,763	\$ 991,790	\$ 2,367,553	\$ 2,175,319	8.8%
Tier 1 Total	\$ 2,224,538	\$ 1,335,874	\$ 3,560,412	\$ 3,231,573	10.2%
Tier 2					
Actives					
Retirement	\$ 5,761	\$ 842	\$ 6,603	\$ 2,686	145.8%
Termination	1,830	117	1,947	427	356.0%
Death	122	13	135	25	440.0%
Disability	<u>282</u>	<u>44</u>	<u>326</u>	<u>237</u>	<u>37.6%</u>
Total Actives	\$ 7,995	\$ 1,016	\$ 9,011	\$ 3,375	167.0%
Deferred Vested	465	11	476	117	306.8%
Tier 2 Total	\$ 8,460	\$ 1,027	\$ 9,487	\$ 3,492	171.7%
System Total	\$ 2,232,998	\$ 1,336,901	\$ 3,569,899	\$ 3,235,065	10.4%

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

SECTION IV - MEASURES OF LIABILITY

Normal Cost

Under the Entry Age (EA) actuarial cost method, the present value of future benefits for each individual is spread over the individual's expected working career under the System as a level percentage of the individual's expected pay. The normal cost rate is determined by taking the value, as of entry age into the System, of each member's projected future benefits divided by the value, also at entry age, of the each member's expected future salary. The normal cost rate is multiplied by current salary to determine each member's normal cost. The normal cost of the System is the sum of the normal costs for each individual. The normal cost represents the expected amount of money needed to fund the benefits attributed to the next year of service under the Entry Age actuarial cost method. In addition, administrative expenses are added to the EA normal cost rate to get the total normal cost rate. Table IV-3 below shows the EA normal cost and Total normal cost rates as of June 30, 2015 and June 30, 2014 separately by Tier.

Table IV-3 Normal Cost						
	June 30, 2015			June 30, 2014		
	Basic	COLA	Total	Total	% Change	
Tier 1						
Retirement	\$ 20,097	\$ 7,905	\$ 28,002	\$ 31,973	-12.4%	
Termination	7,785	2,022	9,807	6,137	59.8%	
Death	667	258	925	1,241	-25.5%	
Disability	999	425	1,424	2,577	-44.7%	
Reciprocity	<u>372</u>	<u>387</u>	<u>759</u>	<u>386</u>	<u>96.6%</u>	
Total	\$ 29,920	\$ 10,997	\$ 40,917	\$ 42,314	-3.3%	
Expected Payroll	\$ 176,632	\$ 176,632	\$ 176,632	\$ 186,335	-5.2%	
Normal Cost Rate	16.94%	6.23%	23.17%	22.71%	2.0%	
Admin Expense	<u>0.71%</u>	<u>0.29%</u>	<u>1.00%</u>	<u>0.70%</u>	<u>42.9%</u>	
Total Rate	17.65%	6.52%	24.17%	23.41%	3.2%	
Tier 2						
Retirement	\$ 3,829	\$ 558	\$ 4,387	\$ 2,630	66.8%	
Termination	999	71	1,070	405	164.2%	
Death	74	9	83	21	295.2%	
Disability	<u>252</u>	<u>42</u>	<u>294</u>	<u>307</u>	<u>-4.2%</u>	
Total	\$ 5,154	\$ 680	\$ 5,834	\$ 3,363	73.5%	
Expected Payroll	\$ 52,868	\$ 52,868	\$ 52,868	\$ 31,189	69.5%	
Normal Cost Rate	9.75%	1.29%	11.04%	10.78%	2.4%	
Admin Expense	<u>0.92%</u>	<u>0.08%</u>	<u>1.00%</u>	<u>0.70%</u>	<u>42.9%</u>	
Total Rate	10.67%	1.37%	12.04%	11.48%	4.9%	

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

SECTION IV - MEASURES OF LIABILITY

Analysis of Changes in the Unfunded Actuarial Liability

The UAL changes at each subsequent valuation for a variety of reasons. In each valuation, those elements of change in the UAL that have particular significance or could potentially affect the long-term financial outlook of the System are reported. Table IV-4 summarizes the key changes in the UAL since the last valuation.

Table IV-4 Development of 2015 Experience Gain/(Loss)			
	Tier 1	Tier 2	Total
Unfunded Actuarial Liability, June 30, 2014	\$ 1,323,751	\$ (459)	\$ 1,323,292
Expected unfunded accrued liability payment	(85,671)	(4)	(85,675)
Interest	86,666	(32)	86,634
Assumption Changes	191,124	403	191,527
Expected Unfunded Actuarial Liability, June 30, 2015	\$ 1,515,870	\$ (92)	\$ 1,515,778
Actual Unfunded Liability, June 30, 2015	1,564,614	804	1,565,418
Experience Gain or (Loss):	\$ (48,744)	\$ (896)	\$ (49,640)
Portion due to investment gain or (loss)	\$ (3,605)	\$ (36)	\$ (3,641)
Portion due to salary changes	(17,369)	73	(17,296)
Portion due to retirement	(16,332)	(5)	(16,337)
Portion due to contributions	(6,854)	1,459	(5,395)
Portion due to mortality	(1,103)	(4)	(1,107)
Portion due to other experience	(3,481)	(2,383)	(5,864)
Total	\$ (48,744)	\$ (896)	\$ (49,640)

Dollar amounts in thousands

Amortization of the Unfunded Actuarial Liability

Under the contribution allocation procedure employed by the System, there are two components to the contribution: the normal cost (including administrative expenses) and an amortization payment on the unfunded actuarial liability. The normal cost rate was developed in Section IV. This section develops the UAL contribution rate.

The difference between the actuarial liability and the actuarial value of assets is the unfunded actuarial liability. The UAL is made up of the unamortized UAL as of June 30, 2014 plus the impact of the 2015 experience, the 2015 assumption changes, and the 2014 UAL payment that is made by the City on July 1, 2015.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION V - CONTRIBUTIONS

Table V-1(a) provides the payment schedule to amortize the Tier 1 UAL as of June 30, 2009 over 30 years, and any additional actuarial gains/(losses), assumption or method changes after June 30, 2009 over 20 years from the valuation in which they are first recognized. Table V-1(b) provides the payment schedule to amortize the components of the Tier 2 UAL over 20 years from the valuation in which the component is first recognized. The amortization payment for the 2015 assumption changes is phased in over a 3-year period such that the payment in the first year is one third of the regular amortization payment. The amortization payments increase 2.85% each year so that they are a level percent of expected combined Tier 1 and Tier 2 payroll.

Table V-1(a) UAL Amortization - Tier 1							
	Outstanding Balance			Remaining Period	Payment		
	Basic	COLA	Total		Basic	COLA	Total
Golden Handshake	\$ 17,034	\$ 4,142	\$ 21,176	24	\$ 1,153	\$ 280	\$ 1,434
2009 UAL	610,339	149,464	759,803	24	41,319	10,118	51,437
2010 (Gain) or Loss	45,509	3,317	48,826	15	4,220	308	4,528
2010 Assumption Change	(36,558)	(20,294)	(56,853)	15	(3,390)	(1,882)	(5,272)
2011 (Gain) or Loss	9,056	(11,956)	(2,900)	16	801	(1,058)	(257)
2011 Assumption Changes	113,078	68,155	181,233	16	10,007	6,031	16,038
2012 (Gain) or Loss	(187,976)	302,550	114,573	17	(15,935)	25,647	9,712
SRBR Elimination	(42,104)		(42,104)	17	(3,569)		(3,569)
2013 (Gain) or Loss	51,033	21,332	72,365	18	4,158	1,738	5,896
2013 Assumption Changes	31,630	31,012	62,641	18	2,577	2,527	5,104
2014 (Gain) or Loss	(22,952)	(2,345)	(25,296)	19	(1,803)	(184)	(1,987)
2014 Assumption Changes	59,020	43,658	102,678	19	4,636	3,429	8,065
2015 (Gain) or Loss	28,520	20,224	48,744	20	2,165	1,535	3,700
2015 Assumption Changes	90,608	100,517	191,124	20	2,293	2,544	4,836
7/1/2015 Payment	42,950	45,653	88,603				
Total	\$ 809,187	\$ 755,427	\$1,564,614		\$ 48,632	\$ 51,033	\$ 99,665

Dollar amounts in thousands

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT

SECTION V - CONTRIBUTIONS

Table V-1 (b) UAL Amortization - Tier 2								
	Outstanding Balance			Remaining Period	Payment			
	Basic	COLA	Total		Basic	COLA	% of Pay	
2013 (Gain) or Loss	\$ 40	\$ 10	\$ 50	18	\$ 3	\$ 1	\$ 4	
2013 Assumption Changes	1	(1)	0	18	0	(0)	0	
2014 (Gain) or Loss	(625)	1	(624)	19	(49)	0	(49)	
2014 Assumption Changes	95	19	114	19	7	2	9	
2015 (Gain) or Loss	722	174	896	20	55	13	68	
2015 Assumption Changes	316	87	403	20	8	2	10	
7/1/2015 Payment	(37)	2	(35)		0	0	0	
Total	\$ 511	\$ 293	\$ 804		\$ 24	\$ 18	\$ 42	

Dollar amounts in thousands

Contribution Rates and Amounts

Tier 1 members pay 3/11ths of the EA normal cost (including administrative expenses, but excluding reciprocity normal cost). For Tier 1, the City pays 8/11ths of the EA normal cost (including administrative expenses, but excluding reciprocity normal cost) plus the reciprocity normal cost and the UAL payments shown above.

For Tier 2, members and the City each pay half of the EA normal cost, half of administrative expenses, and half of the UAL payments. Table V-2 shows the components of the contribution rates for FYE 2017 and 2016.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT

SECTION V - CONTRIBUTIONS

Table V-2 Contribution Rates						
	Fiscal Year 2015-16			Fiscal Year 2014-15		
	Basic	COLA	Total	Basic	COLA	Total
<u>Tier 1</u>						
Member Rate	4.75%	1.72%	6.47%	4.70%	1.63%	6.33%
City Service Normal Rate	12.69%	4.58%	17.27%	12.53%	4.34%	16.87%
City Reciprocity Normal Rate	<u>0.21%</u>	<u>0.22%</u>	<u>0.43%</u>	<u>0.15%</u>	<u>0.06%</u>	<u>0.21%</u>
City Normal Rate	12.90%	4.80%	17.70%	12.68%	4.40%	17.08%
City Deficiency Rate	28.76%	30.74%	59.49%	23.17%	25.13%	48.30%
City Golden Handshake Rate	<u>0.70%</u>	<u>0.17%</u>	<u>0.87%</u>	<u>0.62%</u>	<u>0.15%</u>	<u>0.77%</u>
City UAL Rate	29.45%	30.91%	60.36%	23.79%	25.29%	49.07%
City Rate	42.35%	35.71%	78.06%	36.47%	29.69%	66.15%
<u>Tier 2</u>						
Member Normal Rate	5.34%	0.68%	6.02%	5.12%	0.62%	5.74%
Member UAL Rate	<u>0.01%</u>	<u>0.01%</u>	<u>0.02%</u>	<u>-0.04%</u>	<u>0.01%</u>	<u>-0.03%</u>
Member Rate	5.35%	0.69%	6.04%	5.08%	0.63%	5.71%
City Normal Rate	5.34%	0.68%	6.02%	5.12%	0.62%	5.74%
City UAL Rate	<u>0.01%</u>	<u>0.01%</u>	<u>0.02%</u>	<u>-0.04%</u>	<u>0.01%</u>	<u>-0.03%</u>
City Rate	5.35%	0.69%	6.04%	5.08%	0.63%	5.71%

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION V - CONTRIBUTIONS

Table V-3 shows the City's contribution dollar amounts for FYE 2017 assuming contributions are made at the beginning of the fiscal year. To the extent contributions are made after the beginning of the fiscal year, the amounts should be increased at an annual rate of 7.00 percent.

Table V-3 City Contribution Amounts (BOY)						
	July 1, 2016			July 1, 2015		
	Basic	COLA	Total	Basic	COLA	Total
<u>Tier 1</u>						
City Service Normal Cost	\$ 20,953	\$ 7,564	\$ 28,516	\$ 22,623	\$ 7,836	\$ 30,459
City Reciprocity Normal Cost	347	363	710	271	108	379
City Normal Cost	\$ 21,299	\$ 7,927	\$ 29,226	\$ 22,894	\$ 7,944	\$ 30,838
City Deficiency Cost	\$ 47,479	\$ 50,753	\$ 98,232	\$ 41,829	\$ 45,381	\$ 87,209
City Golden Handshake Cost	1,153	280	1,434	1,121	273	1,394
City UAL Cost	\$ 48,632	\$ 51,033	\$ 99,665	\$ 42,950	\$ 45,653	\$ 88,603
 City Contribution	 \$ 69,931	 \$ 58,960	 \$128,891	 \$ 65,844	 \$ 53,598	 \$119,441
<u>Tier 2</u>						
City Normal Cost	\$ 4,533	\$ 577	\$ 5,110	\$ 2,703	\$ 327	\$ 3,030
City UAL Cost	8	8	17	(21)	5	(16)
City Contribution	\$ 4,541	\$ 586	\$ 5,127	\$ 2,682	\$ 333	\$ 3,014

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VI - ACTUARIAL SECTION OF THE CAFR

The Government Finance Officers Association (GFOA) maintains a checklist of items to be included in the System's Comprehensive Annual Financial Report (CAFR) in order to receive recognition for excellence in financial reporting. The schedules in this section are listed by the GFOA for inclusion in the Actuarial Section of the System's CAFR.

Table VI-1 Schedule of Funding Progress						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded AL	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
6/30/2015 ⁷	\$ 2,004,481	\$ 3,569,898	\$ 1,565,417	56%	\$ 251,430	623%
6/30/2014 ⁶	1,911,773	3,235,065	1,323,292	59%	234,677	564%
6/30/2013 ⁵	1,783,270	3,013,763	1,230,493	59%	225,779	545%
6/30/2012 ⁴	1,762,973	2,841,000	1,078,027	62%	225,859	477%
6/30/2011 ³	1,788,660	2,770,227	981,567	65%	228,936	429%
6/30/2010 ²	1,729,413	2,510,358	780,945	69%	300,811	260%
6/30/2009	1,756,558	2,486,155	729,597	71%	323,020	226%
6/30/2007 ¹	1,622,851	1,960,943	338,092	83%	291,405	116%

Amounts prior to 6/30/2010 were calculated by the prior actuary

Dollar amounts in thousands

¹ Demographic assumption changes increased AL by \$83 million.

² Demographic and economic assumption changes, including reducing the discount rate from 8.25% to 7.75% increased the AL by \$229 million

³ Increasing the discount rate from 7.75% to 7.95% decreased the AL by \$59 million.

⁴ Demographic and economic assumption changes, including reducing the discount rate from 7.95% to 7.5% increased the AL by \$188 million

⁵ Elimination of the Supplemental Retirement Benefit Reserve reduced the AL by \$43 million

⁶ Reducing the discount rate from 7.5% to 7.25% and wage inflation to 2% for 5 years and 2.85% thereafter increased the AL by \$64 million

⁷ Reducing the discount rate from 7.25% to 7.0% and eliminating the temporary 2% wage inflation increased the AL by \$103 million

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

SECTION VI - ACTUARIAL SECTION OF THE CAFR

Table VI-2 Solvency Test								
Actuarial Valuation Date	Actuarial Liability for			Reported Assets	Portion of Actuarial Liability Covered by Reported Assets			
	(A) Active Member Contributions	(B) Retirees, Beneficiaries and Other Inactives	(C) Remaining Active Members' Liabilities		(A)	(B)	(C)	
6/30/2015	\$ 243,828	\$ 2,553,892	\$ 772,178	\$ 2,004,481	100%	69%	0%	
6/30/2014	233,289	2,331,656	670,120	1,911,773	100%	72%	0%	
6/30/2013	234,217	2,164,153	615,393	1,783,270	100%	72%	0%	
6/30/2012	234,619	2,001,498	604,883	1,762,973	100%	76%	0%	
6/30/2011	234,574	1,848,254	687,400	1,788,660	100%	84%	0%	
6/30/2010	242,944	1,504,698	762,716	1,729,413	100%	99%	0%	
6/30/2009	228,967	1,393,114	864,074	1,756,558	100%	100%	16%	
6/30/2007	214,527	1,003,001	743,415	1,622,851	100%	100%	55%	

Amounts prior to 6/30/2010 were calculated by the prior actuary

Dollar amounts in thousands

The Government Finance Officers Association has named this exhibit the Solvency Test. It should be noted, however, that it doesn't test the solvency of the plan in the sense understood by financial economists that a 100 percent ratio would mean that there were sufficient assets to settle the obligation on the valuation date (e.g., by purchasing annuities). Instead, a 100 percent ratio only means that assets are expected to be sufficient if all assumptions are met in the future, including the expected rate of return on investments.

Table VI-3 Analysis of Financial Experience						
Actuarial Valuation Date	Gain or (Loss) for Year Ending on Valuation Date Due To:					Total Experience
	Investment Income	Combined Liability Experience	Total Financial Experience	Non-Recurring Items		
6/30/2015	\$ (3,641)	\$ (45,998)	\$ (49,639)	\$ (191,527)	\$	(241,167)
6/30/2014	39,675	(13,600)	26,075	(103,404)		(77,329)
6/30/2013	(76,502)	2,899	(73,603)	(63,668)		(137,271)
6/30/2012	(119,331)	2,023	(117,308)	43,109		(74,199)
6/30/2011	(82,166)	83,403	1,237	(187,548)		(186,311)
6/30/2010	(124,137)	45,785	(78,352)	(18,467)		(96,819)

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

Table A-1 San Jose Federated City Employees' Retirement System Active Member Data			
	June 30, 2015	June 30, 2014	% Change
<u>Tier 1</u>			
Count	2,363	2,593	-8.9%
Average Current Age	48.3	47.6	1.5%
Average Eligibility Service	14.8	14.1	5.0%
Average Benefit Service	14.6	13.8	5.8%
Annual Expected Pensionable Earnings	\$ 192,615,490	\$ 199,794,046	-3.6%
Average Expected Pensionable Earnings	\$ 81,513	\$ 77,051	5.8%
<u>Tier 2</u>			
Count	873	528	65.3%
Average Current Age	36.8	36.3	1.4%
Average Eligibility Service	1.5	1.1	36.4%
Average Tier 2 Benefit Service	1.1	0.8	37.5%
Average Total Benefit Service*	1.4	1.1	27.3%
Annual Expected Pensionable Earnings	\$ 58,814,232	\$ 34,883,085	68.6%
Average Expected Pensionable Earnings	\$ 67,370	\$ 66,066	2.0%
<u>Total</u>			
Count	3,236	3,121	3.7%
Average Current Age	45.2	45.7	-1.1%
Average Eligibility Service	11.2	11.9	-5.9%
Average Benefit Service	11.0	11.7	-6.0%
Annual Expected Pensionable Earnings	\$ 251,429,721	\$ 234,677,131	7.1%
Average Expected Pensionable Earnings	\$ 77,698	\$ 75,193	3.3%

* Includes service attributable to Tier 1 benefits

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX A - MEMBERSHIP INFORMATION

Table A-2 San Jose Federated City Employees' Retirement System Payee Member Data			
	June 30, 2015	June 30, 2014	%Change
Retired & Disabled			
Count	3,408	3,314	2.8%
Average Age	68.6	68.5	0.1%
Total Annual Benefit	\$ 157,347,079	\$ 148,398,243	6.0%
Average Annual Benefit	\$ 46,170	\$ 44,779	3.1%
Beneficiaries & SADROs			
Count	493	486	1.4%
Average Age	74.5	74.3	0.3%
Total Annual Benefit	\$ 11,569,776	\$ 10,725,968	7.9%
Average Annual Benefit	\$ 23,468	\$ 22,070	6.3%
Total			
Count	3,901	3,800	2.7%
Average Age	69.4	69.2	0.3%
Total Annual Benefit	\$ 168,916,855	\$ 159,124,211	6.2%
Average Annual Benefit	\$ 43,301	\$ 41,875	3.4%

Benefits provided in June 30 valuation data

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

Table A-3 San Jose Federated City Employees' Retirement System Inactive Member Data			
	Count		
	June 30, 2015	June 30, 2014	%Change
Tier 1			
Vested			
Count	766	740	3.5%
Average Age	47.1	46.8	0.6%
Total Annual Benefit	\$ 15,144,608	\$ 14,394,286	5.2%
Average Annual Benefit	\$ 19,771	\$ 19,452	1.6%
Total Contribution Balance with Interest	\$ 50,719,943	\$ 46,187,514	9.8%
Average Contribution Balance with Interest	\$ 66,214	\$ 62,416	6.1%
Non-Vested			
Count	281	286	-1.7%
Average Age	43.3	42.8	1.2%
Total Annual Benefit	\$ 1,072,775	\$ 1,088,851	-1.5%
Average Annual Benefit	\$ 3,818	\$ 3,807	0.3%
Total Contribution Balance with Interest	\$ 4,189,688	\$ 4,061,966	3.1%
Average Contribution Balance with Interest	\$ 14,910	\$ 14,203	5.0%
Total			
Count	1,047	1,026	2.0%
Average Age	46.1	45.7	0.9%
Total Annual Benefit	\$ 16,217,383	\$ 15,483,137	4.7%
Average Annual Benefit	\$ 15,489	\$ 15,091	2.6%
Total Contribution Balance with Interest	\$ 54,909,631	\$ 50,249,480	9.3%
Average Contribution Balance with Interest	\$ 52,445	\$ 48,976	7.1%

For Inactives, benefit is calculated on the data assumptions and methods outlined in Appendix A if not provided in the June 30 valuation data

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT

APPENDIX A - MEMBERSHIP INFORMATION

Table A-3 (continued) San Jose Federated City Employees' Retirement System Inactive Member Data			
	Count		
	June 30, 2015	June 30, 2014	%Change
Tier 2			
Vested			
Count	1	1	0.0%
Average Age	29.0	47.0	-38.3%
Total Annual Benefit*	\$ 2,719	6,717	-59.5%
Average Annual Benefit*	\$ 2,719	6,717	-59.5%
Total Contribution Balance with Interest**	\$ 11,956	27,057	-55.8%
Average Contribution Balance with Interest**	\$ 11,956	27,057	-55.8%
Non-Vested			
Count	97	44	120.5%
Average Age	38.4	38.6	-0.5%
Total Annual Benefit*	\$ 98,322	\$ 31,179	215.3%
Average Annual Benefit*	\$ 1,014	\$ 709	43.0%
Total Contribution Balance with Interest**	\$ 596,319	\$ 137,377	334.1%
Average Contribution Balance with Interest**	\$ 6,148	\$ 3,122	96.9%
Total			
Count	98	45	117.8%
Average Age	38.3	38.8	-1.2%
Total Annual Benefit*	\$ 101,040	\$ 37,897	166.6%
Average Annual Benefit*	\$ 1,031	\$ 842	22.4%
Total Contribution Balance with Interest**	\$ 608,275	\$ 164,433	269.9%
Average Contribution Balance with Interest**	\$ 6,207	\$ 3,654	69.9%
Total			
Count	1,145	1,071	6.9%
Average Age	45.4	45.4	0.0%
Total Annual Benefit	\$ 16,318,423	\$ 15,521,034	5.1%
Average Annual Benefit	\$ 14,252	\$ 14,492	-1.7%
Total Contribution Balance with Interest	\$ 55,517,906	\$ 50,413,913	10.1%
Average Contribution Balance with Interest	\$ 48,487	\$ 47,072	3.0%

For Inactives, benefit is calculated on the data assumptions and methods outlined in Appendix A if not provided in the June 30 valuation data

** Includes benefits attributable to Tier 1*

*** Includes contributions attributable to Tier 1*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

Table A-4

**San Jose Federated City Employees' Retirement System
Distribution of Active Members as of June 30, 2015**

Age	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	32	5	0	0	0	0	0	0	0	0	37
25 to 29	111	125	12	0	0	0	0	0	0	0	248
30 to 34	84	157	101	13	0	0	0	0	0	0	355
35 to 39	65	103	121	92	27	0	0	0	0	0	408
40 to 44	30	63	74	131	127	14	0	0	0	0	439
45 to 49	27	60	67	112	127	59	39	0	0	0	491
50 to 54	21	41	67	90	142	80	139	2	0	0	582
55 to 59	27	43	69	66	70	37	55	4	0	0	371
60 to 64	8	25	38	58	48	16	18	0	1	0	212
65 to 69	3	3	15	24	16	8	4	0	1	1	75
70 and up	0	0	5	8	4	1	0	0	0	0	18
Total Count	408	625	569	594	561	215	255	6	2	1	3,236

Table A-5

**San Jose Federated City Employees' Retirement System
Distribution of Active Members as of June 30, 2015**

Age	Average Expected Salary Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	\$ 51,565	\$ 49,476	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 51,283
25 to 29	56,697	64,597	56,921	0	0	0	0	0	0	0	60,689
30 to 34	61,501	65,301	71,124	64,187	0	0	0	0	0	0	66,018
35 to 39	73,204	74,482	71,627	78,955	73,305	0	0	0	0	0	74,362
40 to 44	60,639	77,272	76,023	77,360	81,720	88,934	0	0	0	0	77,610
45 to 49	81,986	78,134	78,723	83,286	82,240	87,978	87,901	0	0	0	82,622
50 to 54	76,765	72,888	79,849	83,865	87,318	89,819	85,550	82,092	0	0	84,430
55 to 59	76,539	84,200	77,405	81,773	86,724	94,878	84,653	89,364	0	0	83,611
60 to 64	61,659	92,204	76,978	86,672	87,446	102,817	92,049	0	49,380	0	86,317
65 to 69	99,141	89,718	86,766	75,261	74,139	78,581	88,808	0	92,869	129,484	80,890
70 and up	0	0	79,020	88,626	97,311	49,594	0	0	0	0	85,719
Avg. Salary	\$ 64,632	\$ 71,976	\$ 75,125	\$ 80,888	\$ 83,859	\$ 90,489	\$ 86,226	\$ 86,940	\$ 71,124	\$ 129,484	\$ 77,698

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

**Table A-6
San Jose Federated City Employees' Retirement System
Retirees and Disabled by Attained Age and Benefit Effective Date
as of June 30, 2015**

Benefit Effective Fiscal Year End	Age										Total
	Under 50	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and up	
Prior to 1995	0	2	3	9	11	33	135	162	138	88	581
1996	2	0	1	1	0	10	13	9	1	1	38
1997	0	1	0	0	2	34	17	12	2	0	68
1998	0	1	0	3	2	27	15	12	0	0	60
1999	0	0	1	1	6	46	13	7	3	0	77
2000	0	0	0	1	11	53	15	5	1	0	86
2001	0	0	1	2	12	43	19	3	1	0	81
2002	0	1	2	2	62	34	30	5	2	0	138
2003	0	1	1	6	58	28	17	4	2	0	117
2004	1	3	0	18	74	24	13	2	0	0	135
2005	0	0	3	12	92	39	19	5	1	0	171
2006	3	3	5	31	68	29	13	1	0	0	153
2007	0	1	8	61	47	25	10	1	3	0	156
2008	1	2	7	71	50	23	8	1	0	0	163
2009	3	1	17	66	35	17	6	0	0	0	145
2010	0	1	23	110	53	21	2	1	0	0	211
2011	2	3	63	155	89	33	4	1	1	0	351
2012	0	9	88	54	44	15	6	0	0	0	216
2013	1	4	88	23	26	2	2	0	0	0	146
2014	0	11	96	26	12	6	0	0	0	0	151
2015	1	17	99	28	15	3	1	0	0	0	164
Total	14	61	506	680	769	545	358	231	155	89	3,408

Average Age at Retirement/Disability	57.5
Average Current Age	68.6
Average Annual Pension	\$ 46,170

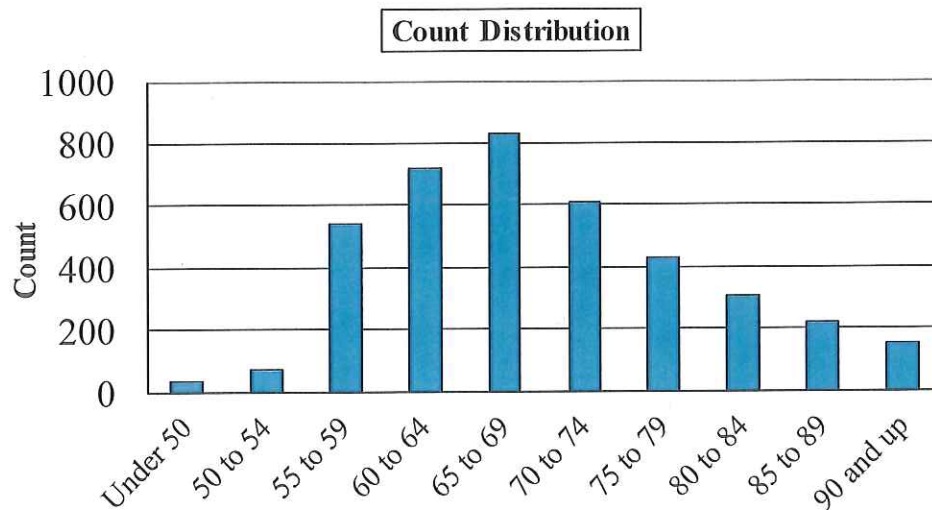
**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

**Table A-7
San Jose Federated City Employees' Retirement System
Distribution of Retirees, Disabled Members,
and Beneficiaries as of June 30, 2015**

Age	Count
Under 50	31
50 to 54	73
55 to 59	543
60 to 64	720
65 to 69	828
70 to 74	608
75 to 79	426
80 to 84	306
85 to 89	217
90 and up	149
Total	3,901

Chart A-1

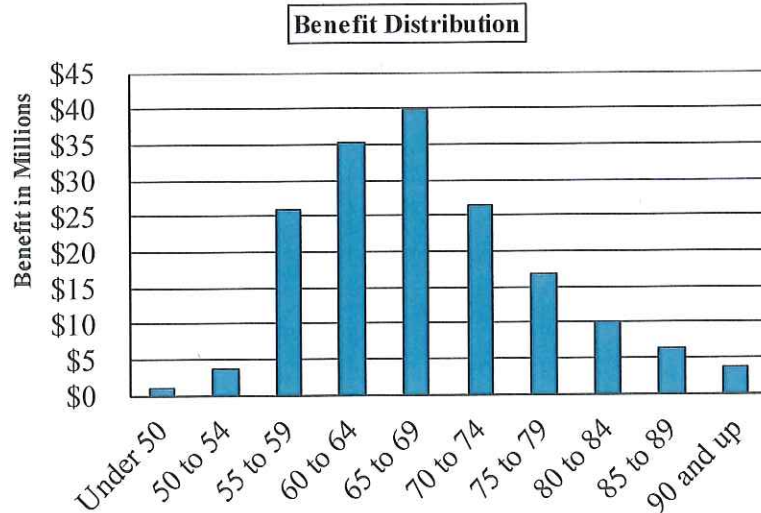


**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

Table A-8 San Jose Federated City Employees' Retirement System Distribution of Retirees, Disabled Members, and Beneficiaries as of June 30, 2015		
Age	Annual Benefit	
Under 50	\$	882,134
50 to 54		3,654,206
55 to 59		25,825,876
60 to 64		35,296,325
65 to 69		39,810,759
70 to 74		26,496,045
75 to 79		16,789,512
80 to 84		10,156,338
85 to 89		6,379,639
90 and up		3,626,021
Total	\$	168,916,855

Chart A-2



**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX A - MEMBERSHIP INFORMATION

Table A-9 San Jose Federated City Employees' Retirement System Change in Plan Membership							
TIER 1							
	Actives	Vested Terminations *	Service Disabilities	Non-Service Disabilities	Retirees	Beneficiaries/ SADRO	Total
June 30, 2014	2,593	1,026	121	80	3,113	486	7,419
New Entrants	0	0	0	0	0	0	0
Rehires	0	0	0	0	0	0	0
Vested Terminations	(82)	82	0	0	0	0	0
Return of Contributions	(12)	(20)	0	0	0	0	(32)
Service Disabilities	(3)	(2)	5	0	0	0	0
Non-Service Disabilities	(2)	(2)	0	4	0	0	0
Retirements	(127)	(32)	0	0	159	0	0
Deaths	(2)	(1)	(1)	(6)	(67)	30	(47)
Beneficiary Deaths	0	0	0	0	0	(24)	(24)
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustment **	(3)	(5)	0	0	(1)	0	(9)
Miscellaneous Adjustments	1	1	0	0	1	1	4
June 30, 2015	2,363	1,047	125	78	3,205	493	7,311
TIER 2							
	Actives	Vested Terminations *	Service Disabilities	Non-Service Disabilities	Retirees	Beneficiaries/ SADRO	Total
June 30, 2014	528	45	0	0	0	0	573
New Entrants	408	0	0	0	0	0	408
Rehires	1	0	0	0	0	0	1
Vested Terminations	(47)	47	0	0	0	0	0
Return of Contributions	(25)	(12)	0	0	0	0	(37)
Service Disabilities	0	0	0	0	0	0	0
Non-Service Disabilities	0	0	0	0	0	0	0
Retirements	0	0	0	0	0	0	0
Deaths	(1)	0	0	0	0	0	(1)
Beneficiary Deaths	0	0	0	0	0	0	0
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustment **	9	0	0	0	0	0	9
Miscellaneous Adjustments	0	18	0	0	0	0	18
June 30, 2015	873	98	0	0	0	0	971
TOTAL							
	Actives	Vested Terminations *	Service Disabilities	Non-Service Disabilities	Retirees	Beneficiaries/ SADRO	Total
June 30, 2014	3,121	1,071	121	80	3,113	486	7,992
New Entrants	408	0	0	0	0	0	408
Rehires	1	0	0	0	0	0	1
Vested Terminations	(129)	129	0	0	0	0	0
Return of Contributions	(37)	(32)	0	0	0	0	(69)
Service Disabilities	(3)	(2)	5	0	0	0	0
Non-Service Disabilities	(2)	(2)	0	4	0	0	0
Retirements	(127)	(32)	0	0	159	0	0
Deaths	(3)	(1)	(1)	(6)	(67)	30	(48)
Beneficiary Deaths	0	0	0	0	0	(24)	(24)
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustment **	6	(5)	0	0	(1)	0	0
Miscellaneous Adjustments	1	19	0	0	1	1	22
June 30, 2015	3,236	1,145	125	78	3,205	493	8,282

* Vested terminations includes non-vested and reciprocal terms that are still due a refund or benefit.

** Members that terminated from Tier 1 and rehired into Tier 2

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX A - MEMBERSHIP INFORMATION

Data Assumptions and Methods

In preparing our data, we relied on information supplied by the San José Department of Retirement Services. This information includes, but is not limited to, plan provisions, employee data, and financial information. Our methodology for obtaining the data used for the valuation is based upon the following assumptions and practices:

- Records on the “Active” data file are considered to be Active if they do not have a reason for termination.
- Records on any of the data files are considered to be Inactive if they have a reason for termination of deferred vested or leave of absence/inactive.
- Records on the “Retiree” and “Beneficiary/QDRO” files are considered in pay status if they do not have a date of death, are not inactive and have not withdrawn from the plan.
- Service for inactives that have no service amount is calculated to be the time from date of hire to date of termination.
- The most recent annual salary for continuing actives is set to be “earnable income.” If “earnable income” was not provided, then the most recent annual salary is calculated to be “compensation rate 2” multiplied by 26.
- The annual salary for new active hires and rehires is calculated to be “compensation rate 2” multiplied by 26.
- The Tier 1 annual benefit for inactives is set to be the accrued benefit provided. If an accrued benefit is not provided, then the annual benefit is calculated to be 2.5% of final compensation per year of service in Tier 1, up to a maximum of 75% of final compensation. Members who terminated prior to June 30, 2001 have their final compensation adjusted for a three-year average rather than a 12-month average.
- The Tier 2 annual benefit for inactives is set to be the accrued benefit provided. If an accrued benefit is not provided, then the annual benefit is calculated to be 2.0% of final compensation per year of service in Tier 2, up to a maximum of 65% of final compensation. The final compensation is adjusted for a three-year average.
- We assume any member found in last year’s “Retiree” file and not in this year’s file is deceased without a beneficiary and should be removed from the valuation data.
- We assume all deceased members with payments continuing to a beneficiary have already been accounted for in the “Retiree” file.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

All assumptions were adopted at the November 19, 2015 Board meeting based on recommendations from our experience study covering plan experience during the period from July 1, 2010 through June 30, 2015. Please refer to the full experience study report for details, including the rationale for each assumption.

1. Discount Rate

7.00%. The Board expects a long-term rate of return of 7.40% based on Meketa's 20-year capital market assumptions and the System's current investment policy. A margin for adverse deviation was used to improve the probability of achieving the discount rate.

2. Wage Inflation and Payroll Growth

2.85%, compounded annually.

3. Price Inflation

2.50%, compounded annually.

4. Administrative Expenses

1.0% of payroll is added to the normal cost of the system for expected administrative expenses.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT

APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS

5. Salary Increase Rate

In addition to the wage inflation component of 2.85% shown above, the following merit component is added based on an individual member's years of service:

Table B-1 Salary Merit Increases	
Years of Service	Merit/ Longevity
0	4.50%
1	3.50
2	2.50
3	1.85
4	1.40
5	1.15
6	0.95
7	0.75
8	0.60
9	0.50
10	0.45
11	0.40
12	0.35
13	0.30
14	0.25
15+	0.25

6. Family Composition

Percentage married is shown in the following Table B-2. Male retirees are assumed to be three years older than their partner, and female retirees are assumed to be two years younger than their partner.

Table B-2 Percentage Married	
Gender	Percentage
Males	80%
Females	60%

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2015 ACTUARIAL VALUATION REPORT**

APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS

8. Rates of Termination

Sample rates of termination are shown in the following Table B-3.

Table B-3 Rates of Termination			
Age	0 Years of Service	1-4 Years of Service	5 or more Years of Service
20	18.00%	17.50%	9.00%
25	18.00	15.50	9.00
30	18.00	13.50	7.00
35	18.00	11.50	5.50
40	18.00	9.50	4.50
45	18.00	8.00	3.50
50	18.00	7.00	3.00
55	18.00	6.00	3.00
60	18.00	5.00	0.00
65	0.00	0.00	0.00

*Withdrawal/termination rates do not apply once a member is eligible for retirement

25% of terminating employees are assumed to subsequently work for a reciprocal employer and receive 2.85% pay increases per year.

9. Rates of Refund

Tier 1:

Sample rates of vested terminated employees electing a refund of contributions are shown in the following Table B-4.

Table B-4 Rates of Refund	
Age	Refund
20	40.00%
25	40.00
30	27.50
35	17.00
40	8.00
45	3.00
50	1.00
55	0.00

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Tier 2:

Vested terminated employees are expected to take a refund if it exceeds the actuarial present value of their deferred benefit payment.

10. Rates of Disability

Sample disability rates of active members are provided in Table B-5.

Table B-5 Rates of Disability at Selected Ages	
Age	Disability
20	0.014%
25	0.014
30	0.021
35	0.063
40	0.136
45	0.201
50	0.218
55	0.200
60	0.181
65	0.167
70	0.149

40% of disabilities are assumed to be duty related, and 60% are assumed to be non-duty.

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11. Rates of Mortality

Mortality rates for actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex-distinct employee and annuitant CalPERS mortality tables as described below. The CalPERS tables are from their 2014 experience study with a central experience year of 2009 and prior to the 20-year projection of those rates using Scale BB. Future mortality improvements are reflected by applying the SOA MP-2015 projection scale on a generational basis from the base year of 2009.

Base Mortality Tables		
Category	Male	Female
Healthy Annuitant	0.952 times the CalPERS 2009 Healthy Annuitant Mortality Table (Male)	0.921 times the CalPERS 2009 Healthy Annuitant Mortality Table (Female)
Healthy Non-Annuitant	0.919 times the CalPERS 2009 Employee Mortality Table (Male)	0.918 times the CalPERS 2009 Employee Mortality Table (Female)
Disabled Annuitant	1.051 times the CalPERS 2009 Ordinary Disability Mortality Table (Male)	1.002 times the CalPERS 2009 Ordinary Disability Mortality Table (Female)

100% of Tier 1 active member deaths and 99% of Tier 2 active member deaths are assumed to be service connected.

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12. Rates of Retirement

Rates of retirement for Tier 1 members are based on age according to the following Table B-6 – Tier 1.

Table B-6 – Tier 1 Rates of Retirement by Age and Service			
Age	Less than 15 Years of Service	15 or more Years of Service and less than 30 Years of Service	30 or more Years of Service
50	0.0%	0.0%	70.0%
51	0.0	0.0	70.0
52	0.0	0.0	70.0
53	0.0	0.0	70.0
54	0.0	0.0	70.0
55	8.0	35.0	50.0
56	8.0	22.5	50.0
57	8.0	22.5	50.0
58	8.0	22.5	50.0
59	8.0	22.5	50.0
60	8.0	22.5	45.0
61	8.0	30.0	45.0
62	9.0	30.0	45.0
63	10.0	30.0	45.0
64	15.0	35.0	45.0
65	20.0	40.0	45.0
66	20.0	40.0	45.0
67	20.0	40.0	45.0
68	20.0	40.0	45.0
69	20.0	40.0	45.0
70 & over	100.0	100.0	100.0

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Rates of retirement for Tier 2 members are based on age according to the following Table B-6 – Tier 2.

Table B-6 – Tier 2 Rates of Retirement by Age and Service		
Age	Less than 32.5 Years of Service	32.5 or more Years of Service
55	4.0%	7.0%
56	3.0	6.0
57	3.0	6.0
58	3.0	6.0
59	5.0	10.0
60	7.5	15.0
61	10.0	25.0
62	10.0	25.0
63	10.0	25.0
64	10.0	25.0
65	40.0	70.0
66	25.0	50.0
67	25.0	50.0
68	25.0	50.0
69	25.0	50.0
70 & over	100.0	100.0

13. Deferred Member Benefit

The benefit was estimated based on information provided by the Department of Retirement Services. The data used to value the estimated deferred benefit were credited service, date of termination, and last pay rate. Based on the data provided, the highest average salary was estimated.

Tier 1 terminated vested members are assumed to retire at age 57 and Tier 2 terminated vested members are assumed to retire at age 65.

14. Changes Since Last Valuation

All demographic assumptions were updated based on the most recent experience study covering the period from July 1, 2010 through June 30, 2015. Please refer to the full experience study report for detail on the specific changes.

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Contribution Allocation Procedure

The contribution allocation procedure primarily consists of an actuarial cost method, an asset smoothing method, and an amortization method as described below. All components of the contribution allocation procedure were established prior to the June 30, 2010 actuarial valuation except as specifically noted below.

1. Actuarial Cost Method

The Entry Age actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of hire and assumed retirement. The actuarial liability is the difference between the present value of future benefits and the present value of future normal costs. Or, equivalently, it is the accumulation of normal costs for all periods prior to the valuation date. The normal cost and actuarial liability are calculated on an individual basis. The sum of the individual amounts is the normal cost and actuarial liability for the System. The actuarial liability for the System represents the target amount of assets the System should have as of the valuation date according to the actuarial cost method.

2. Asset Valuation Method

For the purpose of determining contribution rates and amounts, an actuarial value of assets is used that dampens the volatility in the market value of assets, resulting in a smoother pattern of contribution rates.

The actuarial value of assets is calculated by recognizing 20% of the difference in each of the prior four years of actual investment returns compared to the expected return on the market value of assets.

3. Amortization Method

The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets. The unfunded actuarial liability as of June 30, 2009 is amortized as a level percentage of Tier 1 pay over a closed 30-year period commencing June 30, 2009. Actuarial gains and losses, assumption changes, and plan changes are amortized as a level percentage of Tier 1 and Tier 2 pay over 20-year periods beginning with the valuation date in which they first arise. The amortization payment for the 2015 assumption changes is phased in over a 3-year period. The phase-in is calculated by multiplying the first year amortization payment by one third. For the second year, the amortization schedule is recalculated reflecting the one-third payment in the first year and the remaining 19-year period, and the calculated amortization payment is then multiplied by two-thirds. For the third year, the amortization schedule is again recalculated reflecting the prior payments and the remaining 18-year period. To remain a level

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percentage of expected future payroll, each annual amortization payment increases by 2.85%.

4. Contributions

At its November 2010 meeting, the Board adopted a policy setting the City's contribution to be the greater of the dollar amount reported in the actuarial valuation (adjusted for interest based on the time of the contribution) and the dollar amount determined by applying the percent of payroll reported in the actuarial valuation to the actual payroll for the fiscal year. The City and Member contributions determined by a valuation become effective for the fiscal year commencing one year after the valuation date. For Tier 1, City contributions are normally made on the first day of the fiscal year. All other contributions are made on a payroll-by-payroll basis.

The total contribution rate is the sum of the normal cost rate (including assumed administrative expenses) and the UAL rate. The normal cost rate is determined by dividing the total normal cost determined under the actuarial cost method by the payroll expected for members active on the valuation date. The UAL payments are adjusted for interest from the valuation date to the date of expected payment in the following fiscal year. The UAL rate is determined by dividing the UAL payments by the total expected payroll for the year (including members active on the valuation date and new entrants expected to replace active members who are expected to leave employment).

For Tier 1, members contribute 3/11ths of the normal cost rate (including administrative expenses, but excluding reciprocity), and the City pays the remainder of the total contribution rate. For Tier 2, the members and the City each pay half of the total contribution rate.

5. Changes Since Last Valuation

The amortization payments for the 2015 assumption changes will be phased in over 3 years.

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**APPENDIX C - SUMMARY OF PLAN PROVISIONS
TIER 1**

1. Membership Requirement

Participation in the Plan is immediate upon the first day of full-time employment for members hired before September 30, 2012.

2. Final Compensation

Members who separated from city service prior to June 30, 2001

The highest average annual compensation earnable during any period of three consecutive years.

Members who separated from city service on or after June 30, 2001

The highest average annual compensation earnable during any period of twelve consecutive months.

3. Credited Service

One year of service credit is given for 1,739 or more hours of Federated city service rendered in any calendar year. A partial year (fraction with the numerator equal to the hours worked, and the denominator equal to 1,739) is given for each calendar year with less than 1,739 hours worked.

4. Member Contributions

Member

The amount needed to fund 3/11ths of benefits accruing for the current year. These contributions are credited with interest at 3.0% per year, compounded annually.

Employer

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System.

5. Service Retirement

Eligibility

Age 55 with five years of service, or any age with 30 years of service.

Benefit – Member

2.5% of Final Compensation for each year of credited service, subject to a maximum of 75% of Final Compensation.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS
TIER 1

Benefit - Survivor

50% of the service retirement benefit paid to a qualified survivor.

6. Service-Connected Disability Retirement

Eligibility

No age or service requirement.

Benefit - Member

2.5% of Final Compensation for each year of credited service, subject to a minimum of 40% and a maximum of 75% of Final Compensation. Workers' Compensation benefits are generally offset from the service-connected benefits under this system.

Benefit - Survivor

50% of the disability retirement benefit paid to a qualified survivor.

7. Non-Service Connected Disability Retirement

Eligibility

Five years of service.

Benefit - Member

Members who were hired prior to September 1, 1998:

The amount of the service-connected benefit reduced by 0.5% for each year that the disability age preceded 55.

Members who were hired on or after September 1, 1998:

20% of Final Compensation, plus 2% of Final Compensation for each year of credited service between six and 16 years, plus 2.5% of Final Compensation for each year of credited service in excess of 16 years, subject to a maximum of 75% of Final Compensation.

Benefit - Survivor

50% of the disability retirement benefit paid to a qualified survivor.

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**APPENDIX C - SUMMARY OF PLAN PROVISIONS
TIER 1**

8. Death While an Active Employee

Less than five Years of Service, or No Qualified Survivor

Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus one month of salary for each year of service, up to a maximum of six years.

Five or more Years of Service

2.5% of Final Compensation for each year of credited service, subject to a minimum of 40% and a maximum of 75% of Final Compensation. The benefit is payable until the spouse or registered domestic partner marries or establishes a domestic partnership. If the member was age 55 with 20 years of service at death, the benefit is payable for the lifetime of the member's spouse or registered domestic partner.

9. Withdrawal Benefits

Less than five Years of Service

Lump sum benefit equal to the accumulated employee contributions with interest.

Five or more years of credited service

The amount of the service retirement benefit, payable at age 55.

10. Additional Post-retirement Death Benefit

A death benefit payable as a lump sum equal to \$500 will be paid to a qualified survivor upon the member's death.

11. Post-retirement Cost-of-Living Benefit

Benefits are increased every April 1 by 3.0%, regardless of actual inflation.

12. Changes Since Last Valuation

None.

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**APPENDIX C - SUMMARY OF PLAN PROVISIONS
TIER 2**

1. Membership Requirement

Any person who is hired, rehired or reinstated by the City on or after September 30, 2012.

2. Final Compensation

The average annual compensation earnable during the highest three consecutive years of service. Final compensation only includes base pay, excluding premium pay and any other additional compensation.

3. Credited Service

One year of service credit is given for 2,080 or more hours of Federated city service rendered in any calendar year. A partial year (fraction with the numerator equal to the hours worked, and the denominator equal to 2,080) is given for each calendar year with less than 2,080 hours worked.

4. Member Contributions

50% of total Tier 2 contributions to the pension plan, including, but not limited to administrative expenses, normal cost and unfunded actuarial liability.

5. Unreduced Service Retirement

Eligibility

Age 65 with five years of service.

Benefit - Member

2.0% of Final Compensation for each year of credited service attributable to Tier 2 and 2.5% of Final Compensation for each year of credited service attributable to Tier 1, subject to a maximum of 65% of Final Compensation.

Benefit - Survivor

Single life annuity.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS
TIER 2

6. Early Service Retirement

Eligibility

Age 55 with five years of service.

Benefit - Member

Reduced benefit actuarially equivalent to the unreduced service retirement benefits commencing at age 65. The early retirement reduction is applied to the benefit after the application of the maximum of 65% of final compensation.

7. Service-Connected Disability Retirement

Eligibility

No age or service requirement.

Benefit - Member

Monthly benefit equivalent to 50% of Final Compensation less the amounts specified in Section 3.28.1330 and Section 3.28.1340.

8. Non-Service Connected Disability Retirement

Eligibility

Five years of service.

Benefit - Member

2.0% of Final Compensation for each year of credited service attributable to Tier 2 and 2.5% of Final Compensation for each year of credited service attributable to Tier 1, subject to a minimum of 20% of Final Compensation and a maximum of 50% of Final Compensation less the amounts specified in Section 3.28.1330 and Section 3.28.1340.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS
TIER 2

9. Death Before Retirement

If death occurs before retirement eligibility is reached

Lump sum benefit equal to the accumulated refund of all employee contributions with interest.

If death occurs after retirement eligibility is reached

Benefit equivalent to what the employee would have received if retired at the time of death.

Employees killed in the line of duty

Monthly benefit equivalent to 50% of Final Compensation.

10. Withdrawal Benefits

Less than five Years of Service

Lump sum benefit equal to the accumulated employee contributions with interest.

Five or more years of credited service

The amount of the service retirement benefit, actuarially reduced for early retirement, and payable when retirement eligibility is reached.

11. Benefit Forms

Annuity benefits are paid in the form of a life annuity or an actuarially equivalent annuity with 50%, 75% or 100% continuance to a survivor.

12. Post-retirement Cost-of-Living Benefit

Benefits are increased every April 1 by the change in the December CPI-U for San José-San Francisco-Oakland, subject to a cap of 1.5%. The first COLA after retirement shall be prorated based on the number of months retired.

Note: The summary of major plan provisions is designed to outline principal plan benefits. If the Department of Retirement Services should find the plan summary not in accordance with the actual provisions, the actuary should immediately be alerted so the proper provisions are valued.

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APPENDIX D - GLOSSARY OF TERMS

1. Actuarial Liability

The Actuarial Liability is the difference between the Present Value of Future Benefits and the present value of total future Normal Costs. This is also referred to by some actuaries as the "accrued liability" or "actuarial accrued liability." The Actuarial Liability represents the amount of assets a plan should have as of a valuation date according to the Actuarial Cost Method.

2. Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement rate or rates of investment income and salary increases. Demographic actuarial assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (price inflation, wage inflation, and investment income) are generally based on expectations for the future that may differ from the Plan's past experience.

3. Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the Present Value of Future Benefits between future Normal Cost and Actuarial Liability.

4. Actuarial Gain (Loss)

The difference between actual experience and the anticipated experience based on the actuarial assumptions during the period between two actuarial valuation dates.

5. Actuarial Present Value

The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at the discount rate and by probabilities of payment.

6. Actuarially Determined Contribution

The payment to the Plan as determined by the actuary using a Contribution Allocation Procedure. It may or may not be the actual amount contributed to the Plan.

7. Amortization Method

A method for determining the amount, timing, and pattern of payment of the Unfunded Actuarial Liability.

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APPENDIX D - GLOSSARY OF TERMS

8. Asset Valuation Method

The method used to develop the actuarial value of assets from the market value of assets typically by smoothing investment returns above or below the assumed rate of return over a period of time.

9. Contribution Allocation Procedure

A procedure typically using an Actuarial Cost Method, an Asset Valuation Method, and an Amortization Method to develop the Actuarially Determined Contribution.

10. Discount Rate

The rate of interest used to discount future benefit payments to determine the Actuarial Present Value. For purposes of determining an Actuarially Determined Contribution, the Discount Rate is typically based on the long-term expected return on assets.

11. Funded Status or Funding Ratio

The Actuarial Liability divided by either the market or actuarial value of assets. For purposes of this report, the Funded Status represents the proportion of the assets expected by the Actuarial Cost Method compared to the actual assets as of the valuation date. These measures are for contribution budgeting purposes and are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

12. Normal Cost

The portion of the Present Value of Future Benefits allocated to the current year by the Actuarial Cost Method.

13. Present Value of Future Benefits

The Actuarial Present Value of all benefits both earned as of the valuation date and expected to be earned in the future by current plan members based on current plan provisions and actuarial assumptions.

14. Unfunded Actuarial Liability (UAL)

The unfunded actuarial liability is the difference between actuarial liability and either the market or the actuarial value of assets. This value is sometimes referred to as "unfunded actuarial accrued liability." It represents the difference between the actual assets and the amount of assets expected by the Actuarial Cost Method as of the valuation date.



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