

**City of San José Federated City  
Employees' Retirement System**

**June 30, 2014  
Actuarial Valuation**

**Produced by [Cheiron](#)**

**January 14, 2015**

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## LETTER OF TRANSMITTAL

January 14, 2015

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

Dear Members of the Board:

The purpose of this report is to present the June 30, 2014 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, 2016, 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



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



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



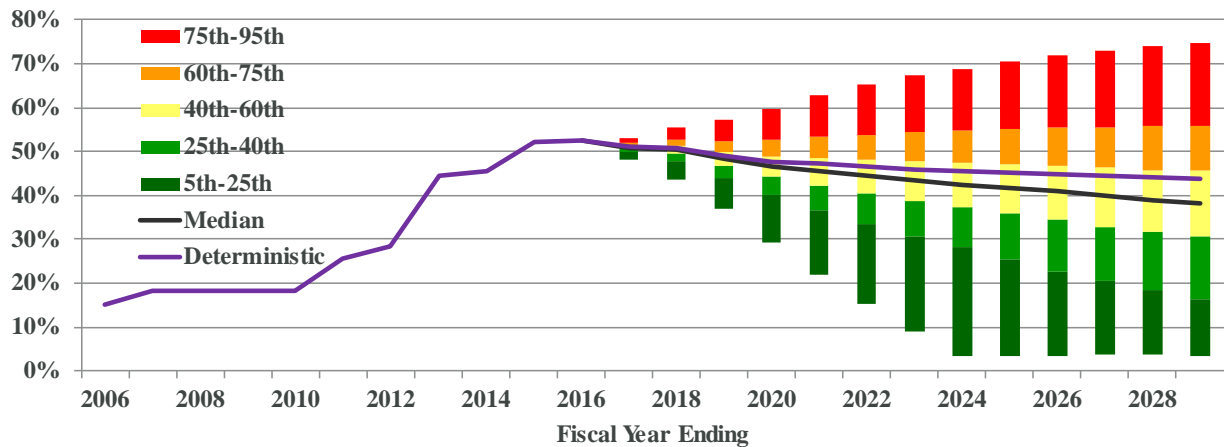
FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
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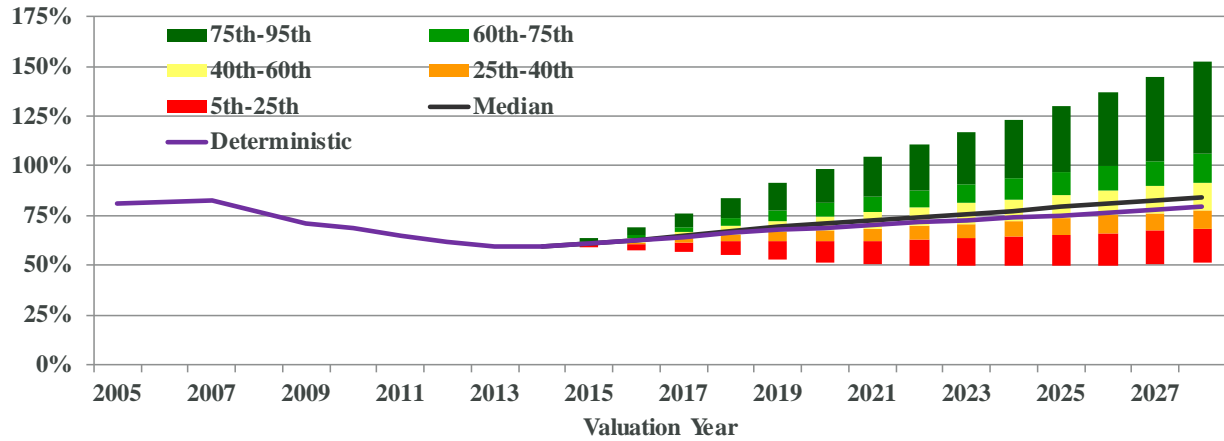
Highlights of this report are summarized in the tables and graphs below.

<u>Aggregate Contributions</u>			<b>Actuarial Liability</b>	<u>Funding Status</u>		
	Fiscal Year Ending				Valuation Date	
	2016	2015		6/30/2014	6/30/2013	
Member Rate	6.19%	5.63%		Actuarial Liability	\$ 3,235	\$ 3,014
City Rate	52.48%	52.31%		Market Value of Assets	1,983	1,762
City BOY Amount	\$ 122.5	\$ 116.3		<b>UAL - Market Value</b>	<b>\$ 1,252</b>	<b>\$ 1,252</b>
Normal Cost Rate	20.70%	19.41%		Funded Percentage	61.3%	58.5%
Interest on MV UAL	37.36%	40.21%		Actuarial Value of Assets	1,912	1,783
Additional UAL Rate	0.60%	-1.68%	<b>UAL - Actuarial Value</b>	<b>\$ 1,323</b>	<b>\$ 1,231</b>	
Total UAL Rate	37.96%	38.53%	Funded Percentage	59.1%	59.2%	
<b>Total Rate</b>	<b>58.67%</b>	<b>57.94%</b>		<i>Amounts in Millions</i>		

Aggregate City Contribution Rates



Aggregate Funded Status (AVA Basis)



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**Funded Status**

This report measures assets and liabilities for funding purposes. Table I-1 below summarizes the actuarial liability, assets, and related ratios for each tier as of June 30, 2014. Tier 2 is relatively new, and consequently has very little impact on the measures for the total System.

<b>Table I-1 Summary of Funded Status and Related Ratios by Tier</b>			
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>
Actuarial Liability			
Actives	\$ 899,918	\$ 3,374	\$ 903,292
Deferred Vested	156,336	117	156,453
In Pay Status	<u>2,175,320</u>	<u>0</u>	<u>2,175,320</u>
Total	\$ 3,231,574	\$ 3,491	\$ 3,235,065
Market Value of Assets (MVA)	\$ 1,978,358	\$ 4,146	\$ 1,982,504
Actuarial Value of Assets (AVA)	\$ 1,907,822	\$ 3,950	\$ 1,911,772
Unfunded Actuarial Liability - MVA Basis	\$ 1,253,216	\$ (655)	\$ 1,252,561
Unfunded Actuarial Liability - AVA Basis	\$ 1,323,752	\$ (459)	\$ 1,323,293
Funding Ratio - MVA Basis	61.2%	118.8%	61.3%
Funding Ratio - AVA Basis	59.0%	113.1%	59.1%
FYE 2015 Expected Payroll	\$ 192,746	\$ 41,931	\$ 234,677
Asset Leverage Ratio	10.3	0.1	8.4
Actuarial Liability Leverage Ratio	16.8	0.1	13.8
Interest on UAL - MVA Basis	\$ 87,725	\$ (46)	\$ 87,679
Interest Cost as Percent of Payroll	45.5%	-0.1%	37.4%

*Dollar amounts in thousands*

The market value of assets is greater than the actuarial value, so if assumptions are met in the future, we expect a decrease in contribution rates as the deferred asset gains are recognized in the actuarial value of assets.

The asset leverage ratio of 8.4 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 84% of payroll. Interest payments on such a loss would be approximately 5.9% of payroll. Interest payments on the current UAL are approximately 37% 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 13.8. This leverage ratio is high compared to other plans indicating that this plan is more sensitive to

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investment gains and losses than other large public pension plans. By comparison, the median asset leverage ratio in our survey of California retirement systems was 6.7.

Table I-2 below compares the same measures for Tier 1 between June 30, 2014 and June 30, 2013. The actuarial liability increased 7.3% while the market value of assets increased 12.3%. Because the System is approximately 59% funded, the unfunded actuarial liability measured on the market value of assets remained relatively level increasing from approximately \$1,252 million to \$1,253 million, and the funding ratio on an MVA basis increased from 58.4% to 61.2%.

<b>Table I-2</b>			
<b>Tier 1 Summary of Change in Funded Status and Related Ratios</b>			
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>% Change</b>
Actuarial Liability			
Actives	\$ 899,918	\$ 848,918	6.0%
Terminated Vested	156,336	134,484	16.2%
In Pay Status	<u>2,175,320</u>	<u>2,029,670</u>	<u>7.2%</u>
Total	\$ 3,231,574	\$ 3,013,072	7.3%
Market Value of Assets (MVA)	\$ 1,978,358	\$ 1,760,904	12.3%
Actuarial Value of Assets (AVA)	\$ 1,907,822	\$ 1,782,629	7.0%
Unfunded Actuarial Liability - MVA Basis	\$ 1,253,216	\$ 1,252,168	0.1%
Unfunded Actuarial Liability - AVA Basis	\$ 1,323,752	\$ 1,230,443	7.6%
Funding Ratio - MVA Basis	61.2%	58.4%	4.8%
Funding Ratio - AVA Basis	59.0%	59.2%	-0.2%
Expected Payroll	\$ 192,746	\$ 204,176	-5.6%
Asset Leverage Ratio	10.3	8.6	19.0%
Actuarial Liability Leverage Ratio	16.8	14.8	13.6%
Interest on UAL - MVA Basis	\$ 87,725	\$ 90,782	-3.4%
Interest Cost as Percent of Payroll	45.5%	44.5%	2.4%

*Dollar amounts in thousands*

The increase in assets combined with the decrease in payroll for the closed Tier resulted in an increase in the asset leverage ratio from 8.6 to 10.3 indicating an increase in the sensitivity of Tier 1 to investment returns. The positive investment returns also reduced the interest cost on the UAL by approximately \$3.4 million, but due to the declining payroll for the closed tier, the interest cost as a percentage of payroll increased from 44.5% to 45.5% of payroll.

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Table I-3 below compares the same measures for Tier 2 between June 30, 2014 and June 30, 2013. Because Tier 2 is new and growing rapidly, the actuarial liability increased 405% while the market value of assets increased 546%. The unfunded actuarial liability measured on the market value of assets decreased from approximately \$50 thousand to a surplus of \$655 thousand, and the funding ratio on an MVA basis increased from 92.8% to 118.8%.

<b>Table I-3</b>			
<b>Tier 2 Summary of Change in Funded Status and Related Ratios</b>			
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>% Change</b>
Actuarial Liability			
Actives	\$ 3,374	\$ 688	390.4%
Terminated Vested	117	4	2825.0%
In Pay Status	0	0	N/A
Total	\$ 3,491	\$ 692	404.5%
Market Value of Assets (MVA)	\$ 4,146	\$ 642	545.8%
Actuarial Value of Assets (AVA)	\$ 3,950	\$ 641	516.2%
Unfunded Actuarial Liability - MVA Basis	\$ (655)	\$ 50	-1410.0%
Unfunded Actuarial Liability - AVA Basis	\$ (459)	\$ 51	-1000.0%
Funding Ratio - MVA Basis	118.8%	92.8%	28.0%
Funding Ratio - AVA Basis	113.1%	92.6%	22.2%
Expected Payroll	\$ 41,931	\$ 21,603	94.1%
Asset Leverage Ratio	0.1	0.0	232.7%
Actuarial Liability Leverage Ratio	0.1	0.0	159.9%
Interest on UAL - MVA Basis	\$ (46)	\$ 4	-1364.8%
Interest Cost as Percent of Payroll	-0.1%	0.0%	-751.6%

*Dollar amounts in thousands*

The asset leverage ratio for Tier 2 is negligible increasing from 0.0 to 0.1 indicating that Tier 2 contribution rates are not sensitive to investment returns. The positive investment returns reduced the interest cost on the UAL by approximately \$50 thousand, and reduced the interest cost as a percentage of payroll by 0.1% of payroll.

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**Membership**

As shown in Table I-4 below, total membership grew 2.4% from 2013 to 2014, but the changes within categories of membership were significant. Active membership increased 0.9%, terminated vested membership increased 7.0%, and the number of members receiving benefits increased 2.4%. Total payroll increased by 3.9%, while the average pay per active member increased by 3.0%.

<b>Table I-4 Total Membership</b>			
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>% Change</b>
<b>Active Members</b>			
Tier 1	2,593	2,856	-9.2%
Tier 2	<u>528</u>	<u>238</u>	<u>121.8%</u>
Total Actives	3,121	3,094	0.9%
<b>Terminated Vested Members</b>			
Tier 1	1,026	994	3.2%
Tier 2	<u>45</u>	<u>7</u>	<u>542.9%</u>
Total Terminated Vesteds	1,071	1,001	7.0%
<b>Members In Pay Status</b>			
Service Retirees	3,113	3,033	2.6%
Beneficiaries	486	477	1.9%
Disabled Retirees	<u>201</u>	<u>201</u>	<u>0.0%</u>
Total In Pay Status	3,800	3,711	2.4%
Total Membership	7,992	7,806	2.4%
<b>Active Member Payroll</b>			
Tier 1	\$ 199,794	\$ 211,302	-5.4%
Tier 2	<u>34,883</u>	<u>14,478</u>	<u>140.9%</u>
Total	\$ 234,677	\$ 225,779	3.9%
<b>Average Pay per Active Member</b>			
Tier 1	\$ 77.1	\$ 74.0	4.1%
Tier 2	<u>66.1</u>	<u>60.8</u>	<u>8.6%</u>
Total	\$ 75.2	\$ 73.0	3.0%

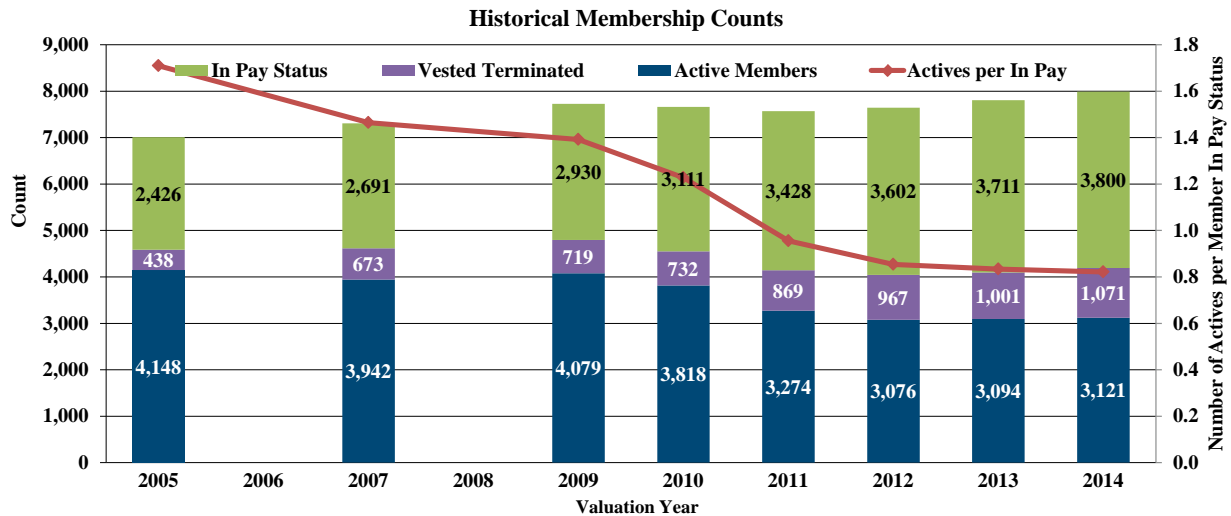
*Dollar amounts in thousands*



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As shown in the chart below, the number of active members has declined about 23% from 4,079 in 2009 to 3,121 in 2014. At the same time, the number of members in pay status has increased 30% from 2,930 in 2007 to 3,800 in 2014. 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 2014. 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.



### Contribution Rates

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

- A portion (8/11<sup>th</sup>) 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.

The unfunded actuarial liability as of June 30, 2009 (including the Golden Handshake) 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 amortizations are a level percent of expected Tier 1 and Tier 2 payroll.

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

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

Table I-5 below summarizes the member and City contribution rates for the fiscal years ending in 2015 and 2016. Tier 1 rates have increased slightly from 2015 to 2016, reflecting the assumption changes and the decline in Tier 1 payroll. Tier 2 rates have increased slightly largely due to the assumption changes.

<b>Table I-5 Components of Contribution Rates</b>						
	<b>Fiscal Year Ending 2016</b>			<b>Fiscal Year Ending 2015</b>		
	<b>Member</b>	<b>City</b>	<b>Total</b>	<b>Member</b>	<b>City</b>	<b>Total</b>
<b>Tier 1</b>						
Normal Cost	6.14%	16.57%	22.71%	5.45%	14.68%	20.13%
Administrative Expenses	0.19%	0.51%	0.70%	0.19%	0.51%	0.70%
UAL	<u>0.00%</u>	<u>49.07%</u>	<u>49.07%</u>	<u>0.00%</u>	<u>45.06%</u>	<u>45.06%</u>
Total	6.33%	66.15%	72.48%	5.64%	60.25%	65.89%
<b>Tier 2</b>						
Normal Cost	5.39%	5.39%	10.78%	5.17%	5.17%	10.34%
Administrative Expenses	0.35%	0.35%	0.70%	0.35%	0.35%	0.70%
UAL	<u>-0.03%</u>	<u>-0.03%</u>	<u>-0.07%</u>	<u>0.01%</u>	<u>0.01%</u>	<u>0.01%</u>
Total	5.71%	5.71%	11.41%	5.53%	5.53%	11.05%

*Dollar amounts in thousands*

At its November 2014 meeting, the Board changed the wage inflation assumption from 2.00% for the next four years and 2.85% thereafter to 2.85% for all years. At its December 2014 meeting, the Board reduced the discount rate from 7.25% to 7.00%. The impact of these changes is shown in Table I-6 on the following page.

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<b>Table I-6 Impact of Assumption Changes</b>			
		<b>June 30, 2014</b>	
	<b>New</b>	<b>Old</b>	<b>% Change</b>
<b>Actuarial Liability</b>			
Actives	\$ 903,293	\$ 862,010	4.8%
Deferred Vested	156,453	147,223	6.3%
In Pay Status	2,175,320	2,122,429	2.5%
<b>Total</b>	<b>\$ 3,235,065</b>	<b>\$ 3,131,661</b>	<b>3.3%</b>
<b>Total Normal Cost Rate</b>			
Tier 1	22.71%	19.94%	13.9%
Tier 2	10.78%	10.34%	4.3%

*Dollar amounts in thousands*

The increase in wage inflation increased the projected benefits for active employees. Because costs are allocated as a level percentage of pay and future pay levels are expected to be higher, this change also shifted the allocation of the liability for active employee benefits toward later years of service.

The reduction in the discount rate increased the measure of liability for all members. The impact of the two changes is an increase in the actuarial liability of approximately 3.3%. The total normal cost rate, however, increased by 2.77% of pay for Tier 1 members and 0.44% of pay for Tier 2 members.

Table I-7 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 primarily due to assumption changes 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.

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<b>Table I-7 Reconciliation of Changes in Tier 1 Contribution Rates and Amounts</b>						
	<b>Member Rate</b>	<b>City Normal Cost</b>	<b>City UAL Rate</b>	<b>City Total Rate</b>	<b>Projected Payroll</b>	<b>BOY City Amount</b>
FYE 2015 Contribution	5.6%	15.2%	45.1%	60.3%	\$ 196,895	\$ 114,551
Expected FYE 2016 Contribution	5.6%	15.2%	47.5%	62.7%	188,737	114,250
Changes Due to:						
Investment experience	0.0%	0.0%	-1.8%	-1.8%	188,737	(3,244)
Demographic experience	-0.1%	-0.1%	0.6%	0.5%	188,737	929
Payroll Change	0.0%	0.0%	4.0%	4.0%	185,247	(508)
Assumption Change	<u>0.8%</u>	<u>2.0%</u>	<u>1.2%</u>	<u>3.2%</u>	186,762	<u>6,829</u>
Subtotal	0.7%	1.9%	4.0%	5.9%	186,762	\$ 4,006
<b>FYE 2016 Contribution</b>	<b>6.3%</b>	<b>17.1%</b>	<b>49.1%</b>	<b>66.2%</b>	<b>\$ 186,762</b>	<b>\$ 119,438</b>

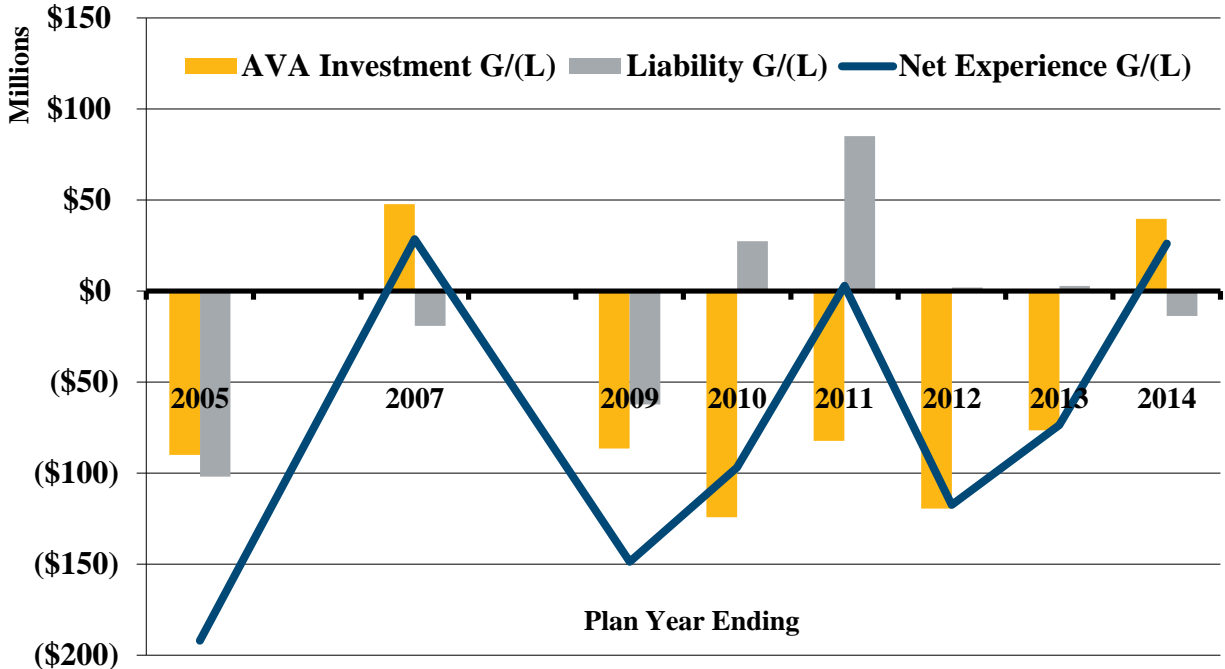
*Dollar amounts in thousands*

The chart on the following page puts the experience gains and losses in an historical perspective. It is worth noting that 2014 is the only year in the last 10 years other than 2007 in which there was an investment gain on the actuarial value of assets. The recent investment losses on the actuarial value of assets have been due to the five-year smoothing of the large losses experienced in 2009. This year is also the first year since 2009 in which there was an actuarial loss on the actuarial liability. The large gain in 2011 on the actuarial liability is due to the significant reductions in pay that year.

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SJFCERS Historical Gain/(Loss) 2005-2014



**Historical and Projected Trends**

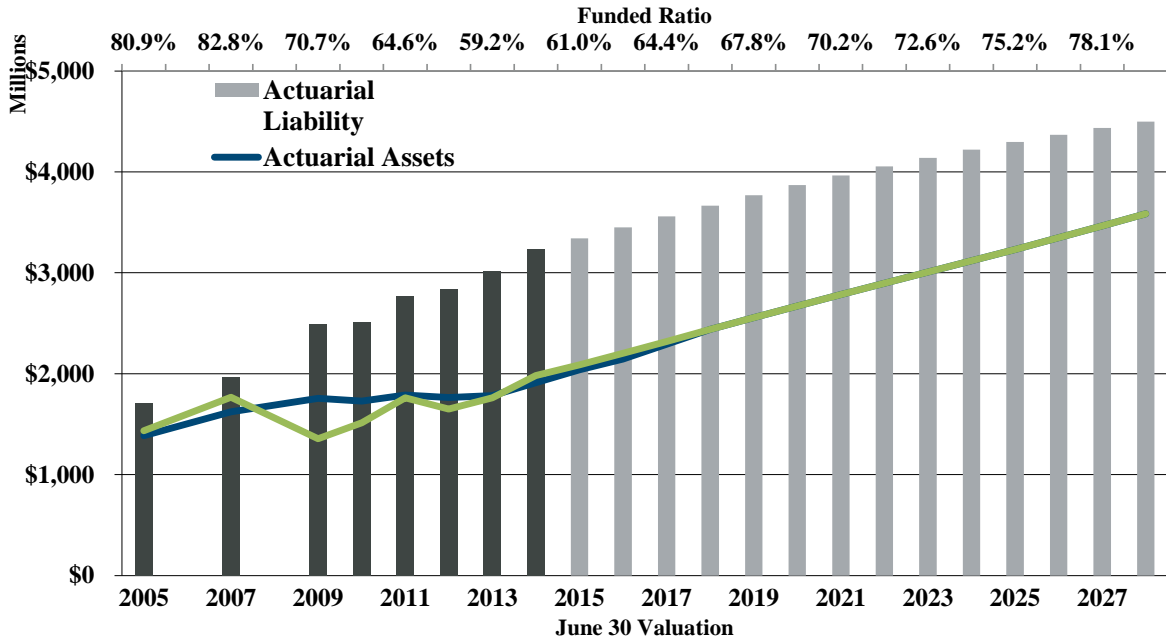
Despite the fact that most of the attention given to the valuation is with respect to the most recently computed unfunded actuarial liability, funding ratio, and the System's contribution rates, it is important to remember that each valuation is merely a snapshot of the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to 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 80% by 2029.

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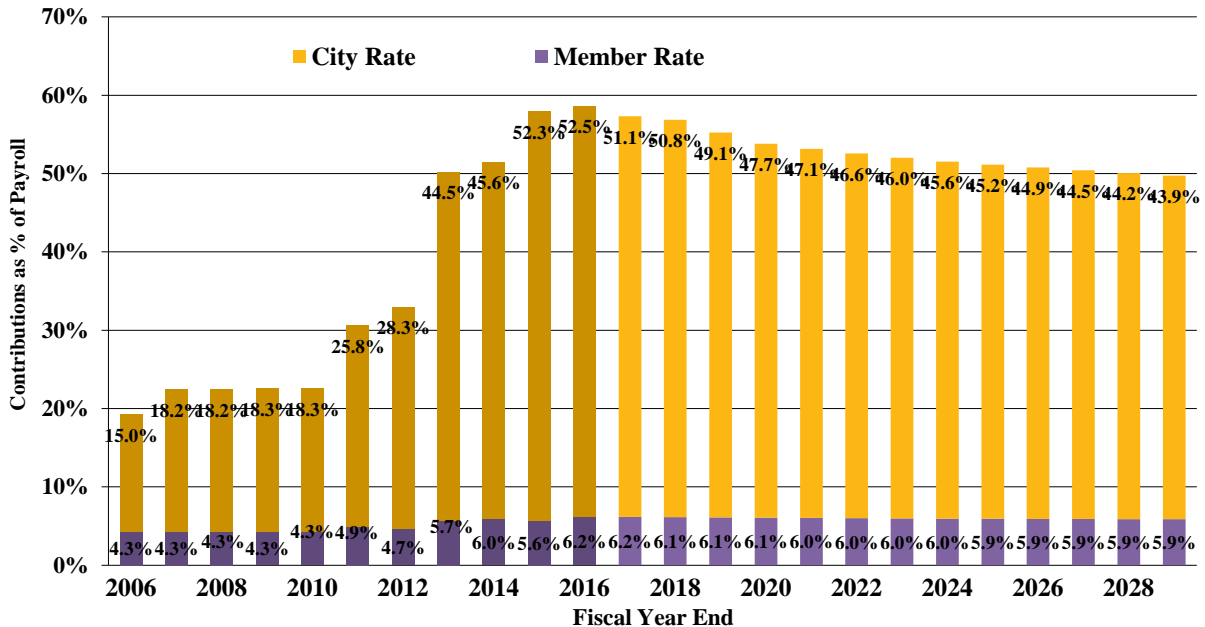
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Assets and Actuarial Liability 2005-2028



The chart below shows the historical and projected trends for the System's aggregate contribution rates from the fiscal year ending June 30, 2006 through June 30, 2029. Historical rates and rates calculated through the fiscal year ending June 30, 2016 are shown in a darker shade than the projected future contribution rates.

Aggregate City and Member Contribution Rates FYE 2006-2029



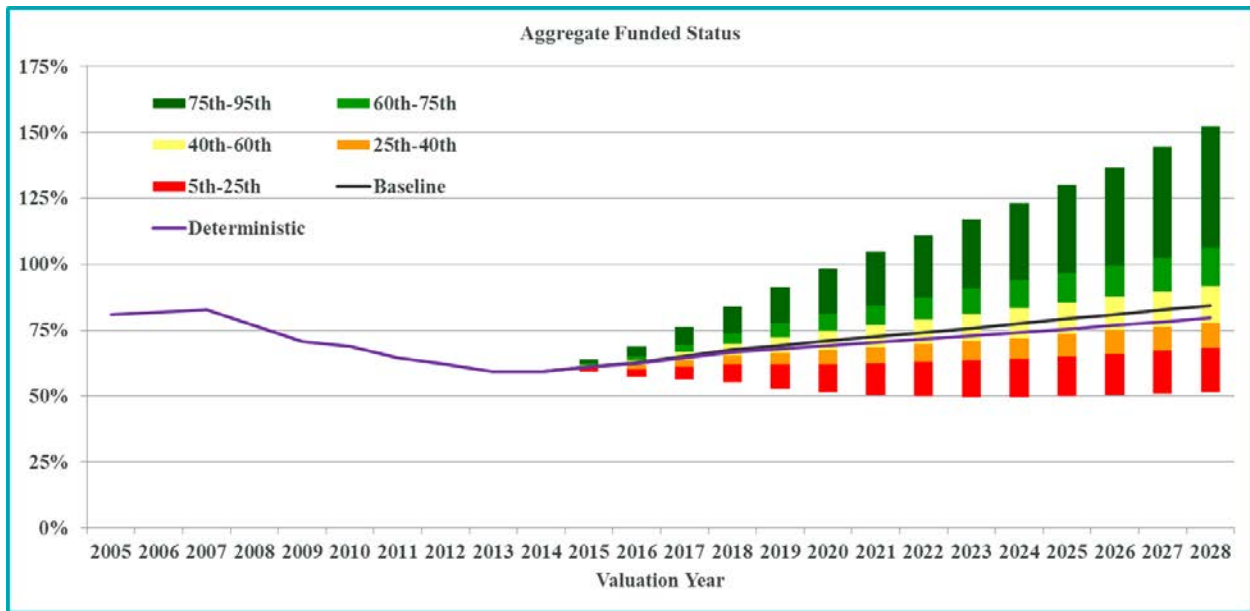
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The aggregate City contribution rate has increased dramatically since FYE 2010 primarily due to investment losses, assumption changes, and reductions in payroll that increased the UAL rate. In aggregate, the discount rate over this period has been reduced from 8.25% to 7.00%. With the investment losses from 2009 now fully recognized and the recent investment gains only partially recognized, future aggregate City contribution rates are expected to gradually decrease over time.

The projections shown above assume all assumptions are met each and every year in the future. We know that will not be the case. The charts below use a stochastic projection of future contribution rates based on Meketa's long-term expected investment return of 7.58% and standard deviation of 11.88%.

The chart below shows the projected funded status of the System, including both Tier 1 and Tier 2. For each year in the projection, the results of the 10,000 trials are rank ordered and the percentile ranges of the results are shown on the chart. The black line represents the median result and the purple line represents the historical funded status and the projected funded status based on all actuarial valuation assumptions being met. Since the valuation uses a discount rate of 7.00%, which is lower than Meketa's expected rate of return, the purple line projects a lower funded status than the median result.



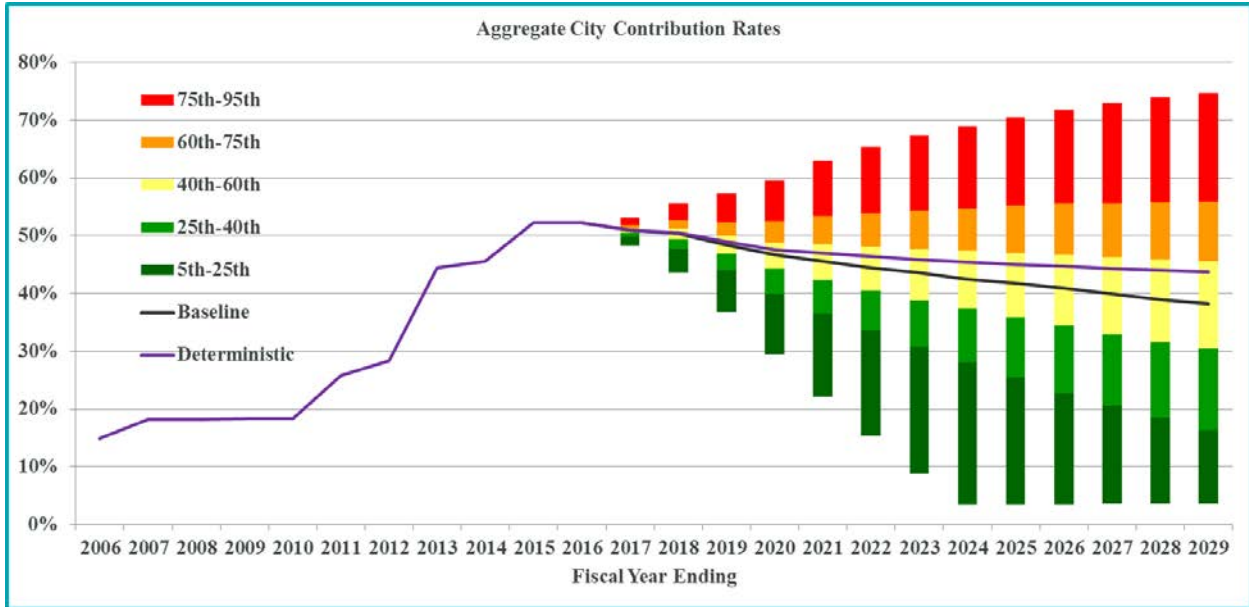
The projections of aggregate funded status assume that there are no changes to the benefits provided under the plan and that the City and members make whatever contributions are required by the contribution policy. As a result, in the best case scenarios, the funded status exceeds 150% while in the worst case scenarios, the funded status does not go below 50%.

The chart below shows the historical and projected aggregate City contribution rates for the same 10,000 trials. Again, the purple line is based on a 7.00% discount rate which results in expected

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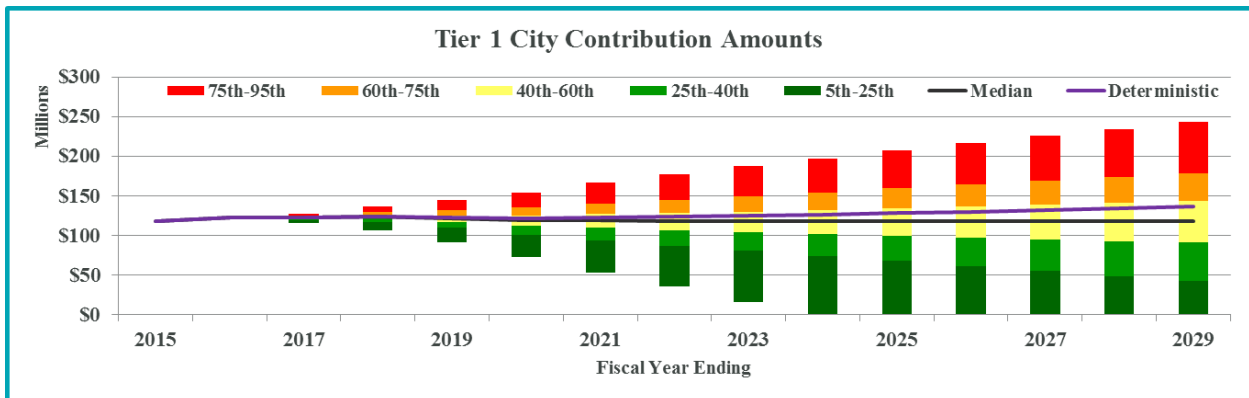
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contribution rates greater than the median using Meketa's expected return. The overall trend is for lower contribution rates in the future, but the range of potential contribution rates is large.



In the worst scenarios, the City's aggregate contribution rate can exceed 70% 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 2021 (based on the 2019 valuation), the range from the 5<sup>th</sup> to 95<sup>th</sup> percentile for City's aggregate contribution rate is from 22% of pay to 63% of pay.

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 2021 (based on the 2019 valuation), the range from the 5<sup>th</sup> to 95<sup>th</sup> percentile for City's Tier 1 contribution is from \$54 million to \$167 million. By the end of the projection period, the range extends up to \$240 million.

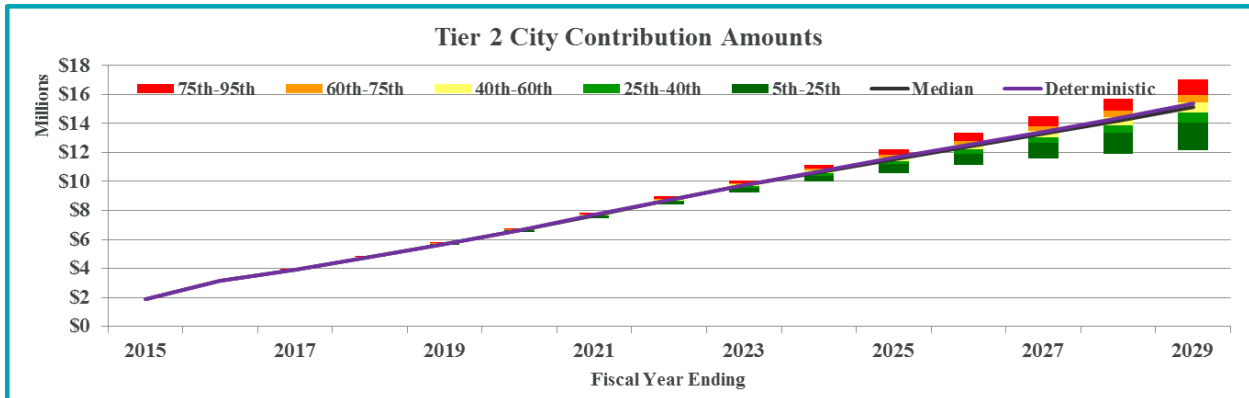




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Because Tier 2 is relatively young and growing rapidly, the contribution amounts are much less sensitive to investment returns. By the end of the projection period, the range from the 5<sup>th</sup> to 95<sup>th</sup> percentile for City's Tier 2 contribution is only from \$12 million to \$17 million. Tier 2 member contributions are identical to the City's contributions.



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JUNE 30, 2014 ACTUARIAL VALUATION**

**SECTION II  
CERTIFICATION**

The purpose of this report is to present the June 30, 2014 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.

The wage inflation and discount rate assumptions in this report were adopted by the Board of Administration with our input at the November 20, 2014 and December 18, 2014 Board meetings respectively. All other assumptions were adopted at the October 20, 2011 Board meeting based on recommendations from our experience study covering plan experience during the period from July 1, 2005 through June 30, 2010.

The 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, 2014 ACTUARIAL VALUATION**

**SECTION III  
ASSETS**

The System uses and discloses two different asset measurements which are presented in this section of the report: 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 multiple 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.

<b>Table III-1 Change in Market Value of Assets</b>						
	<b>Fiscal Year Ending 2014</b>			<b>Fiscal Year Ending 2013</b>		
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>
Beginning Market Value	\$ 1,760,904	\$ 642	\$ 1,761,546	\$ 1,649,249	\$ 0	\$ 1,649,249
Contributions						
Member	11,944	1,652	13,596	12,338	315	12,653
City	101,160	1,652	102,812	102,795	315	103,110
Total	<u>\$ 113,104</u>	<u>\$ 3,304</u>	<u>\$ 116,408</u>	<u>\$ 115,133</u>	<u>\$ 630</u>	<u>\$ 115,763</u>
Net Investment Earnings	263,281	406	263,687	146,353	12	146,365
Benefit Payments	(155,839)	(97)	(155,936)	(146,807)	0	(146,807)
Administrative Expenses	(3,092)	(109)	(3,201)	(3,024)	0	(3,024)
Market Value, End of Year	<b>\$ 1,978,358</b>	<b>\$ 4,146</b>	<b>\$ 1,982,504</b>	<b>\$ 1,760,904</b>	<b>\$ 642</b>	<b>\$ 1,761,546</b>
Estimated Rate of Return	14.7%	18.5%	14.7%	8.7%	8.7%	8.7%

*Dollar amounts in thousands*

The net investment earnings for the year ended June 30, 2014 represent approximately a 14.7% return on the market value of assets compared to an assumed return of 7.25%. For the year ended June 30, 2013, the net investment return was approximately 8.7% (7.25% was assumed).

**Actuarial Value of Assets**

To determine on-going funding requirements, 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, 2014 ACTUARIAL VALUATION**

**SECTION III  
ASSETS**

The actuarial value of assets is calculated by recognizing the deviation of actual investment returns compared to the expected return (7.25% for 2013-2014, 7.50% for 2011-2013, 7.95% for 2010-2011) 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.

<b>Table III-2 Development of Actuarial Value of Assets</b>						
	<b>Tier 1</b>			<b>Tier 2</b>		
	<b>Basic</b>	<b>COLA</b>	<b>Total</b>	<b>Basic</b>	<b>COLA</b>	<b>Total</b>
Market Value of Assets (MVA)	\$ 1,429,727	\$ 548,631	\$ 1,978,358	\$ 3,796	\$ 350	\$ 4,146
<b><u>FYE 2014</u></b>						
Actual Earnings	\$ 193,556	\$ 69,725	\$ 263,281	\$ 374	\$ 32	\$ 406
Expected Earnings	<u>93,765</u>	<u>36,000</u>	<u>129,765</u>	<u>150</u>	<u>13</u>	<u>163</u>
Investment Gain or (Loss)	99,791	33,725	133,516	224	19	243
Deferred (80%)	\$ 79,833	\$ 26,980	\$ 106,813	\$ 180	\$ 15	\$ 195
<b><u>FYE 2013</u></b>						
Actual Earnings	\$ 109,541	\$ 36,812	\$ 146,353	\$ 12	\$ 1	\$ 13
Expected Earnings	<u>92,786</u>	<u>33,568</u>	<u>126,354</u>	<u>10</u>	<u>1</u>	<u>11</u>
Investment Gain or (Loss)	16,755	3,244	19,999	2	0	2
Deferred (60%)	\$ 10,053	\$ 1,946	\$ 11,999	\$ 1	\$ 0	\$ 1
<b><u>FYE 2012</u></b>						
Actual Earnings	\$ (51,611)	\$ (17,290)	\$ (68,901)	\$ 0	\$ 0	\$ 0
Expected Earnings	<u>98,323</u>	<u>35,470</u>	<u>133,793</u>	<u>0</u>	<u>0</u>	<u>0</u>
Investment Gain or (Loss)	(149,934)	(52,760)	(202,694)	0	0	0
Deferred (40%)	\$ (59,974)	\$ (21,104)	\$ (81,078)	\$ 0	\$ 0	\$ 0
<b><u>FYE 2011</u></b>						
Actual Earnings	\$ 213,159	\$ 71,153	\$ 284,312	\$ 0	\$ 0	\$ 0
Expected Earnings	<u>87,954</u>	<u>32,355</u>	<u>120,309</u>	<u>0</u>	<u>0</u>	<u>0</u>
Investment Gain or (Loss)	125,205	38,798	164,003	0	0	0
Deferred (20%)	\$ 25,041	\$ 7,760	\$ 32,801	\$ 0	\$ 0	\$ 0
Total Deferred Gain or (Loss)	\$ 54,954	\$ 15,582	\$ 70,536	\$ 181	\$ 15	\$ 196
<b>Actuarial Value of Assets</b>	<b>\$ 1,374,773</b>	<b>\$ 533,049</b>	<b>\$ 1,907,822</b>	<b>\$ 3,615</b>	<b>\$ 335</b>	<b>\$ 3,950</b>
Ratio of Actuarial to Market	96.2%	97.2%	96.4%	95.2%	95.8%	95.3%
Estimated Rate of Return	9.7%	8.8%	9.4%	9.7%	9.3%	9.7%

*Dollar amounts in thousands*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**SECTION III  
ASSETS**

On an actuarial value of assets basis, the aggregate return for the year ending June 30, 2014 was 9.4%, more than the assumed return of 7.25%, but less than the return on the market value of assets. This return produced an investment gain of \$39.7 million for the year ending June 30, 2014.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**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 off 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, 2014 and June 30, 2013 separately by Tier.

<b>Table IV-1 Present Value of Future Benefits</b>					
	<b>June 30, 2014</b>			<b>June 30, 2013</b>	
	<b>Basic</b>	<b>COLA</b>	<b>Total</b>	<b>Total</b>	<b>% Change</b>
<b>Tier 1</b>					
Actives	\$ 897,063	\$ 326,136	\$ 1,223,199	\$ 1,151,103	6.3%
Deferred Vested	113,847	42,489	156,336	134,484	16.2%
In Pay Status	<u>1,290,480</u>	<u>884,840</u>	<u>2,175,320</u>	<u>2,029,670</u>	<u>7.2%</u>
<b>Tier 1 Total</b>	<b>\$ 2,301,390</b>	<b>\$ 1,253,465</b>	<b>\$ 3,554,855</b>	<b>\$ 3,315,257</b>	<b>7.2%</b>
<b>Tier 2</b>					
Actives	\$ 35,224	\$ 4,382	\$ 39,606	\$ 13,927	184.4%
Deferred Vested	<u>116</u>	<u>1</u>	<u>117</u>	<u>4</u>	<u>2825.0%</u>
<b>Tier 2 Total</b>	<b>\$ 35,340</b>	<b>\$ 4,383</b>	<b>\$ 39,723</b>	<b>\$ 13,931</b>	<b>185.1%</b>
<b>Total</b>	<b>\$ 2,336,730</b>	<b>\$ 1,257,848</b>	<b>\$ 3,594,578</b>	<b>\$ 3,329,188</b>	<b>8.0%</b>

*Dollar amounts in thousands*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**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. It is also the difference between the present value of future benefits and the present value of future normal costs. Table IV-2 below shows the actuarial liability as of June 30, 2014 and June 30, 2013 separately by Tier.

<b>Table IV-2 Actuarial Liability</b>					
	<b>June 30, 2014</b>			<b>June 30, 2013</b>	
	<b>Basic</b>	<b>COLA</b>	<b>Total</b>	<b>Total</b>	<b>% Change</b>
<b>Tier 1</b>					
Actives					
Retirement	\$ 620,244	\$ 226,102	\$ 846,346	\$ 793,177	6.7%
Termination	12,097	8,445	20,542	22,687	-9.5%
Death	10,677	3,433	14,110	13,971	1.0%
Disability	<u>14,243</u>	<u>4,677</u>	<u>18,920</u>	<u>19,083</u>	-0.9%
Total Actives	\$ 657,261	\$ 242,657	\$ 899,918	\$ 848,918	6.0%
Deferred Vested	\$ 113,847	\$ 42,489	\$ 156,336	\$ 134,484	16.2%
In Pay Status					
Retirees	\$ 1,187,368	\$ 790,010	\$ 1,977,378	\$ 1,846,327	7.1%
Beneficiaries	61,636	59,651	121,287	110,478	9.8%
Disabled	<u>41,476</u>	<u>35,178</u>	<u>76,654</u>	<u>72,865</u>	5.2%
Total In Pay Status	\$ 1,290,480	\$ 884,839	\$ 2,175,319	\$ 2,029,670	7.2%
<b>Tier 1 Total</b>	<b>\$ 2,061,588</b>	<b>\$ 1,169,985</b>	<b>\$ 3,231,573</b>	<b>\$ 3,013,072</b>	<b>7.3%</b>
<b>Tier 2</b>					
Actives					
Retirement	\$ 2,368	\$ 318	\$ 2,686	\$ 464	478.9%
Termination	410	17	427	155	175.5%
Death	25	-	25	17	47.1%
Disability	<u>208</u>	<u>29</u>	<u>237</u>	<u>52</u>	355.8%
Total Actives	\$ 3,011	\$ 364	\$ 3,375	\$ 688	390.6%
Deferred Vested	116	1	117	4	2825.0%
<b>Tier 2 Total</b>	<b>\$ 3,127</b>	<b>\$ 365</b>	<b>\$ 3,492</b>	<b>\$ 692</b>	<b>404.6%</b>
<b>System Total</b>	<b>\$ 2,064,715</b>	<b>\$ 1,170,350</b>	<b>\$ 3,235,065</b>	<b>\$ 3,013,764</b>	<b>7.3%</b>

*Dollar amounts in thousands*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**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 Plan 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 Plan, 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 in the System. 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, 2014 and June 30, 2013 separately by Tier.

<b>Table IV-3 Normal Cost</b>						
	<b>June 30, 2014</b>			<b>June 30, 2013</b>		
	<b>Basic</b>	<b>COLA</b>	<b>Total</b>	<b>Total</b>	<b>% Change</b>	
<b>Tier 1</b>						
Retirement	\$ 23,478	\$ 8,495	\$ 31,973	\$ 29,758	7.4%	
Termination	4,898	1,239	6,137	5,908	3.9%	
Death	914	327	1,241	1,205	3.0%	
Disability	1,857	720	2,577	2,505	2.9%	
Reciprocity	280	106	386	311	24.1%	
<b>Total</b>	<b>\$ 31,427</b>	<b>\$ 10,887</b>	<b>\$ 42,314</b>	<b>\$ 39,687</b>	<b>6.6%</b>	
Expected Payroll	\$ 186,335	\$ 186,335	\$ 186,335	\$ 197,155	-5.5%	
Normal Cost Rate	16.87%	5.84%	22.71%	20.13%	12.8%	
Admin Expense	<u>0.51%</u>	<u>0.19%</u>	<u>0.70%</u>	<u>0.70%</u>	<u>0.0%</u>	
<b>Total Rate</b>	<b>17.38%</b>	<b>6.03%</b>	<b>23.41%</b>	<b>20.83%</b>	<b>12.4%</b>	
<b>Tier 2</b>						
Retirement	\$ 2,318	\$ 312	\$ 2,630	\$ 981	168.1%	
Termination	383	22	405	171	136.8%	
Death	21	0	21	34	-38.2%	
Disability	269	38	307	119	158.0%	
<b>Total</b>	<b>\$ 2,991</b>	<b>\$ 372</b>	<b>\$ 3,363</b>	<b>\$ 1,305</b>	<b>157.7%</b>	
Expected Payroll	\$ 31,189	\$ 31,189	\$ 31,189	\$ 12,628	147.0%	
Normal Cost Rate	9.59%	1.19%	10.78%	10.34%	4.3%	
Admin Expense	<u>0.64%</u>	<u>0.06%</u>	<u>0.70%</u>	<u>0.70%</u>	<u>0.0%</u>	
<b>Total Rate</b>	<b>10.23%</b>	<b>1.25%</b>	<b>11.48%</b>	<b>11.04%</b>	<b>4.0%</b>	

*Dollar amounts in thousands*



**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**SECTION IV  
MEASURES OF LIABILITY**

**Analysis of Changes in the Unfunded Actuarial Liability**

The UAL of any retirement plan is expected to change at each subsequent valuation for a variety of reasons. In each valuation, we report on those elements of change in the UAL that have particular significance or could potentially affect the long-term financial outlook of the System. Table IV-4 on the following page summarizes the key changes in the UAL since the last valuation.

<b>Table IV-4 Development of 2014 Experience Gain/(Loss)</b>			
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>
Unfunded Actuarial Liability, June 30, 2013	\$ 1,230,443	\$ 51	\$ 1,230,494
Expected unfunded accrued liability payment	(68,756)	0	(68,756)
Interest	84,222	4	84,226
Assumption Changes	<u>103,289</u>	<u>115</u>	<u>103,404</u>
Expected Unfunded Actuarial Liability, June 30, 2014	\$ 1,349,198	\$ 170	\$ 1,349,368
Actual Unfunded Liability, June 30, 2014	<u>1,323,751</u>	<u>(459)</u>	<u>1,323,292</u>
<b>Experience Gain or (Loss):</b>	<b>\$ 25,447</b>	<b>\$ 629</b>	<b>\$ 26,076</b>
Portion due to investment gain or (loss)	\$ 39,681	\$ 55	\$ 39,736
Portion due to salary changes	(15,209)	0	(15,209)
Portion due to retirement	(13,063)	0	(13,063)
Portion due to termination	1,289	0	1,289
Portion due to mortality	8,750	0	8,750
Portion due to other experience	<u>3,999</u>	<u>574</u>	<u>4,573</u>
Total	<b>\$ 25,447</b>	<b>\$ 629</b>	<b>\$ 26,076</b>

*Dollar amounts in thousands*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**SECTION V  
CONTRIBUTIONS**

Under the contribution allocation procedure employed by the System, there are two components to the contribution: the normal cost 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, 2013 plus the impact of the 2014 experience, the 2014 assumption changes and the 2013 UAL payment that is made by the City on July 1, 2014.

Table V-1(a) provides the payment schedule to amortize the Tier 1 unfunded liability 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. The amortizations are a level percent of expected Tier 1 and Tier 2 payroll. Table V-1(b) provides the payment schedule to amortize the Tier 2 unfunded liability as of June 30, 2013, and any additional actuarial gains/(losses), assumption or method changes after June 30, 2013 over 20 years.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
 JUNE 30, 2014 ACTUARIAL VALUATION

SECTION V  
 CONTRIBUTIONS

<b>Table V-1(a)</b>				
<b>UAL Amortization - Tier 1</b>				
	<b>Outstanding Balance</b>	<b>Remaining Period</b>	<b>Payment</b>	
			<b>\$ Amount</b>	<b>% of Pay</b>
<b>Basic Retirement Benefit</b>				
Golden Handshake	\$ 16,967	25	\$ 1,121	0.62%
2009 UAL	607,956	25	40,174	22.25%
2010 (Gain) or Loss	46,367	16	4,103	2.27%
2010 Assumption Change	(37,247)	16	(3,296)	(1.83%)
2011 (Gain) or Loss	9,192	17	779	0.43%
2011 Assumption Changes	114,773	17	9,729	5.39%
2012 (Gain) or Loss	(190,159)	18	(15,493)	(8.58%)
SRBR Elimination	(42,593)	18	(3,470)	(1.92%)
2013 (Gain) or Loss	51,473	19	4,043	2.24%
2013 Assumption Changes	31,902	19	2,506	1.39%
2014 (Gain) or Loss	(23,088)	20	(1,753)	-0.97%
2014 Assumption Changes	59,371	20	4,507	2.50%
7/1/2014 Payment	41,899		0	0.00%
<b>Total</b>	<b>\$ 686,814</b>		<b>\$ 42,950</b>	<b>23.79%</b>
<b>Cost of Living Benefit</b>				
Golden Handshake	\$ 4,126	25	\$ 273	0.15%
2009 UAL	148,880	25	9,838	5.45%
2010 (Gain) or Loss	3,379	16	299	0.17%
2010 Assumption Change	(20,677)	16	(1,830)	(1.01%)
2011 (Gain) or Loss	(12,136)	17	(1,029)	(0.57%)
2011 Assumption Changes	69,177	17	5,864	3.25%
2012 (Gain) or Loss	306,062	18	24,937	13.81%
2013 (Gain) or Loss	21,516	19	1,690	0.94%
2013 Assumption Changes	31,279	19	2,457	1.36%
2014 (Gain) or Loss	(2,359)	20	(179)	-0.10%
2014 Assumption Changes	43,918	20	3,334	1.85%
7/1/2014 Payment	43,772		0	0.00%
<b>Total</b>	<b>\$ 636,937</b>		<b>\$ 45,653</b>	<b>25.29%</b>
<b>Total</b>	<b>\$ 1,323,751</b>		<b>\$ 88,603</b>	<b>49.07%</b>

*Dollar amounts in thousands*

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION

SECTION V  
CONTRIBUTIONS

Table V-1 (b) UAL Amortization - Tier 2				
	Outstanding Balance	Remaining Period	Payment \$ Amount	% of Pay
<b>Basic Retirement Benefit</b>				
2013 (Gain) or Loss	\$ 41	19	\$ 3	0.01%
2013 Assumption Changes	1	19	0	0.00%
2014 (Gain) or Loss	(629)	20	(48)	-0.09%
2014 Assumption Changes	95	20	7	0.01%
7/1/2014 Payment	3		0	0.00%
<b>Total</b>	<b>\$ (489)</b>		<b>\$ (37)</b>	<b>-0.07%</b>
<b>Cost of Living Benefit</b>				
2013 (Gain) or Loss	\$ 10	19	\$ 1	0.00%
2013 Assumption Changes	(1)	19	(0)	0.00%
2014 (Gain) or Loss	1	20	0	0.00%
2014 Assumption Changes	19	20	1	0.00%
7/1/2014 Payment	1		0	0.00%
<b>Total</b>	<b>\$ 30</b>		<b>\$ 2</b>	<b>0.00%</b>
<b>Total</b>	<b>\$ (459)</b>		<b>\$ (35)</b>	<b>-0.07%</b>

*Dollar amounts in thousands*

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 2016 and 2015.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
 JUNE 30, 2014 ACTUARIAL VALUATION

SECTION V  
 CONTRIBUTIONS

Table V-2  
 Contribution Rates

	Fiscal Year 2015-16			Fiscal Year 2014-15		
	Basic	COLA	Total	Basic	COLA	Total
<b><u>Tier 1</u></b>						
<b>Member Rate</b>	<b>4.70%</b>	<b>1.63%</b>	<b>6.33%</b>	<b>4.27%</b>	<b>1.37%</b>	<b>5.64%</b>
City Service Normal Rate	12.53%	4.34%	16.87%	11.38%	3.65%	15.03%
City Reciprocity Normal Rate	<u>0.15%</u>	<u>0.06%</u>	<u>0.21%</u>	<u>0.11%</u>	<u>0.05%</u>	<u>0.16%</u>
<b>City Normal Rate</b>	<b>12.68%</b>	<b>4.40%</b>	<b>17.08%</b>	<b>11.49%</b>	<b>3.70%</b>	<b>15.19%</b>
City Deficiency Rate	23.17%	25.13%	48.30%	21.42%	22.87%	44.30%
City Golden Handshake Rate	<u>0.62%</u>	<u>0.15%</u>	<u>0.77%</u>	<u>0.61%</u>	<u>0.15%</u>	<u>0.76%</u>
<b>City UAL Rate</b>	<b>23.79%</b>	<b>25.29%</b>	<b>49.07%</b>	<b>22.04%</b>	<b>23.02%</b>	<b>45.06%</b>
<b>City Rate</b>	<b>36.47%</b>	<b>29.68%</b>	<b>66.15%</b>	<b>33.53%</b>	<b>26.72%</b>	<b>60.25%</b>
<b><u>Tier 2</u></b>						
Member Normal Rate	5.12%	0.62%	5.74%	4.97%	0.55%	5.52%
Member UAL Rate	<u>-0.04%</u>	<u>0.00%</u>	<u>-0.03%</u>	<u>0.01%</u>	<u>0.00%</u>	<u>0.01%</u>
<b>Member Rate</b>	<b>5.08%</b>	<b>0.62%</b>	<b>5.71%</b>	<b>4.98%</b>	<b>0.55%</b>	<b>5.53%</b>
City Normal Rate	5.12%	0.62%	5.74%	4.97%	0.55%	5.52%
City UAL Rate	<u>-0.04%</u>	<u>0.00%</u>	<u>-0.03%</u>	<u>0.01%</u>	<u>0.00%</u>	<u>0.01%</u>
<b>City Rate</b>	<b>5.08%</b>	<b>0.62%</b>	<b>5.71%</b>	<b>4.98%</b>	<b>0.55%</b>	<b>5.53%</b>

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
 JUNE 30, 2014 ACTUARIAL VALUATION

SECTION V  
 CONTRIBUTIONS

Table V-3 shows the City's contribution dollar amounts for FYE 2016 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.

	July 1, 2015			July 1, 2014		
	Basic	COLA	Total	Basic	COLA	Total
<b><u>Tier 1</u></b>						
City Service Normal Cost	\$ 22,623	\$ 7,833	\$ 30,455	\$ 21,636	\$ 6,940	\$ 28,576
City Reciprocity Normal Cost	<u>271</u>	<u>108</u>	<u>379</u>	<u>209</u>	<u>95</u>	<u>304</u>
<b>City Normal Cost</b>	<b>\$ 22,894</b>	<b>\$ 7,941</b>	<b>\$ 30,835</b>	<b>\$ 21,845</b>	<b>\$ 7,035</b>	<b>\$ 28,880</b>
City Deficiency Cost	\$ 41,829	\$ 45,381	\$ 87,209	\$ 40,730	\$ 43,488	\$ 84,218
City Golden Handshake Cost	<u>1,121</u>	<u>273</u>	<u>1,394</u>	<u>1,169</u>	<u>284</u>	<u>1,453</u>
<b>City UAL Cost</b>	<b>\$ 42,950</b>	<b>\$ 45,653</b>	<b>\$ 88,603</b>	<b>\$ 41,899</b>	<b>\$ 43,772</b>	<b>\$ 85,671</b>
<b>City Contribution</b>	<b>\$ 65,844</b>	<b>\$ 53,594</b>	<b>\$ 119,438</b>	<b>\$ 63,744</b>	<b>\$ 50,807</b>	<b>\$ 114,551</b>
<b><u>Tier 2</u></b>						
City Normal Cost	\$ 2,703	\$ 327	\$ 3,030	\$ 1,605	\$ 178	\$ 1,782
City UAL Cost	<u>(19)</u>	<u>1</u>	<u>(18)</u>	<u>2</u>	<u>0</u>	<u>2</u>
<b>City Contribution</b>	<b>\$ 2,684</b>	<b>\$ 328</b>	<b>\$ 3,012</b>	<b>\$ 1,606</b>	<b>\$ 178</b>	<b>\$ 1,784</b>

*Dollar amounts in thousands*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**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.

<b>Table VI-1 Schedule of Funding Progress</b>						
<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Liability (AL)</b>	<b>Unfunded AL</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>Unfunded AL as a % of Covered Payroll</b>
6/30/2014 <sup>7</sup>	\$ 1,911,773	\$ 3,235,065	\$ 1,323,292	59%	\$ 234,677	564%
6/30/2013 <sup>6</sup>	1,783,270	3,013,763	1,230,493	59%	225,779	545%
6/30/2012 <sup>5</sup>	1,762,973	2,841,000	1,078,027	62%	225,859	477%
6/30/2011 <sup>4</sup>	1,788,660	2,770,227	981,567	65%	228,936	429%
6/30/2010 <sup>3</sup>	1,729,413	2,510,358	780,945	69%	300,811	260%
6/30/2009 <sup>2</sup>	1,756,558	2,486,155	729,597	71%	323,020	226%
6/30/2007	1,622,851	1,960,943	338,092	83%	291,405	116%
6/30/2005 <sup>1</sup>	1,384,454	1,711,370	326,916	81%	286,446	114%

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

*Dollar amounts in thousands*

<sup>1</sup> Demographic assumption changes increased AL by \$83 million.

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

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

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

<sup>5</sup> Elimination of the Supplemental Retirement Benefit Reserve reduced the AL by \$43 million

<sup>6</sup> 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

<sup>7</sup> 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, 2014 ACTUARIAL VALUATION**

**SECTION VI  
ACTUARIAL SECTION OF THE CAFR**

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 Inactive	(C) Remaining Active Members' Liabilities		(A)	(B)	(C)
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%
6/30/2005	230,027	824,043	657,300	1,384,454	100%	100%	50%

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

*Dollar amounts in thousands*

Actuarial Valuation Date	Gain or (Loss) for Year Ending on Valuation Date Due To:				
	Investment Income	Combined Liability Experience	Total Financial Experience	Non-Recurring Items	Total Experience
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, 2014 ACTUARIAL VALUATION

APPENDIX A  
 MEMBERSHIP INFORMATION

<b>Table A-1</b>			
<b>San Jose Federated City Employees' Retirement System</b>			
<b>Active Member Data</b>			
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>% Change</b>
<b><u>Tier 1</u></b>			
Count	2,593	2,856	-9.2%
Average Current Age	47.6	46.8	1.7%
Average Eligibility Service	14.1	13.1	7.6%
Average Benefit Service	13.8	12.9	7.0%
Annual Expected Pensionable Earnings	\$ 199,794,046	\$ 211,301,632	-5.4%
Average Expected Pensionable Earnings	\$ 77,051	\$ 73,985	4.1%
<b><u>Tier 2</u></b>			
Count	528	238	121.8%
Average Current Age	36.3	35.8	1.4%
Average Eligibility Service	1.1	0.8	37.5%
Average Tier 2 Benefit Service	0.8	0.4	100.0%
Average Total Benefit Service*	1.1	0.8	37.5%
Annual Expected Pensionable Earnings	\$ 34,883,085	\$ 14,477,583	140.9%
Average Expected Pensionable Earnings	\$ 66,066	\$ 60,830	8.6%
<b><u>Total</u></b>			
Count	3,121	3,094	0.9%
Average Current Age	45.7	45.9	-0.4%
Average Eligibility Service	11.9	12.2	-2.5%
Average Benefit Service	11.7	11.9	-1.7%
Annual Expected Pensionable Earnings	\$ 234,677,131	\$ 225,779,216	3.9%
Average Expected Pensionable Earnings	\$ 75,193	\$ 72,973	3.0%

\* Includes service attributable to Tier 1 benefits

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
 JUNE 30, 2014 ACTUARIAL VALUATION

APPENDIX A  
 MEMBERSHIP INFORMATION

<b>Table A-2</b>			
<b>San Jose Federated City Employees' Retirement System</b>			
<b>Payee Member Data</b>			
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>%Change</b>
<b>Retired &amp; Disabled</b>			
Count	3,314	3,234	2.5%
Average Age	68.5	68.2	0.4%
Total Annual Benefit	\$ 148,398,243	\$ 140,966,722	5.3%
Average Annual Benefit	\$ 44,779	\$ 43,589	2.7%
<b>Beneficiaries</b>			
Count	486	477	1.9%
Average Age	74.3	74.1	0.3%
Total Annual Benefit	\$ 10,725,968	\$ 9,967,125	7.6%
Average Annual Benefit	\$ 22,070	\$ 20,895	5.6%
<b>Total</b>			
Count	3,800	3,711	2.4%
Average Age	69.2	69.0	0.3%
Total Annual Benefit	\$ 159,124,211	\$ 150,933,848	5.4%
Average Annual Benefit	\$ 41,875	\$ 40,672	3.0%

*Benefits provided in June 30 valuation data*

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Table A-3</b>			
<b>San Jose Federated City Employees' Retirement System</b>			
<b>Inactive Member Data</b>			
	<b>Count</b>		
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>%Change</b>
<b>Tier 1</b>			
<b>Vested</b>			
Count	740	708	4.5%
Average Age	46.8	46.6	0.4%
Total Annual Benefit	\$ 14,394,286	\$ 13,364,947	7.7%
Average Annual Benefit	\$ 19,452	\$ 18,877	3.0%
Total Contribution Balance with Interest	\$ 46,187,514	\$ 41,029,193	12.6%
Average Contribution Balance with Interest	\$ 62,416	\$ 57,951	7.7%
<b>Non-Vested</b>			
Count	286	286	0.0%
Average Age	42.8	42.3	1.2%
Total Annual Benefit	\$ 1,088,851	\$ 1,084,423	0.4%
Average Annual Benefit	\$ 3,807	\$ 3,792	0.4%
Total Contribution Balance with Interest	\$ 4,061,966	\$ 3,953,683	2.7%
Average Contribution Balance with Interest	\$ 14,203	\$ 13,824	2.7%
<b>Total</b>			
Count	1,026	994	3.2%
Average Age	45.7	45.4	0.7%
Total Annual Benefit	\$ 15,483,137	\$ 14,449,369	7.2%
Average Annual Benefit	\$ 15,091	\$ 14,537	3.8%
Total Contribution Balance with Interest	\$ 50,249,480	\$ 44,982,876	11.7%
Average Contribution Balance with Interest	\$ 48,976	\$ 45,254	8.2%

*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, 2014 ACTUARIAL VALUATION

APPENDIX A  
MEMBERSHIP INFORMATION

<b>Table A-3 (continued)</b>			
<b>San Jose Federated City Employees' Retirement System</b>			
<b>Inactive Member Data</b>			
	<b>Count</b>		
	<b>June 30, 2014</b>	<b>June 30, 2013</b>	<b>%Change</b>
<b>Tier 2</b>			
<b>Vested</b>			
Count	1	N/A	N/A
Average Age	47.0	N/A	N/A
Total Annual Benefit*	\$ 6,717	N/A	N/A
Average Annual Benefit*	\$ 6,717	N/A	N/A
Total Contribution Balance with Interest**	\$ 27,057	N/A	N/A
Average Contribution Balance with Interest**	\$ 27,057	N/A	N/A
<b>Non-Vested</b>			
Count	44	7	528.6%
Average Age	38.6	44.4	-13.1%
Total Annual Benefit*	\$ 31,179	\$ 419	7341.3%
Average Annual Benefit*	\$ 709	\$ 60	1081.7%
Total Contribution Balance with Interest**	\$ 137,377	\$ 4,047	3294.5%
Average Contribution Balance with Interest**	\$ 3,122	\$ 578	440.1%
<b>Total</b>			
Count	45	7	542.9%
Average Age	38.8	44.4	-12.7%
Total Annual Benefit*	\$ 37,897	\$ 419	8944.6%
Average Annual Benefit*	\$ 842	\$ 60	1303.3%
Total Contribution Balance with Interest**	\$ 164,433	\$ 4,047	3963.1%
Average Contribution Balance with Interest**	\$ 3,654	\$ 578	532.2%
<b>Total</b>			
Count	1,071	1,001	7.0%
Average Age	45.4	45.4	0.0%
Total Annual Benefit	\$ 15,521,034	\$ 14,449,788	7.4%
Average Annual Benefit	\$ 14,492	\$ 14,435	0.4%
Total Contribution Balance with Interest	\$ 50,413,913	\$ 44,986,923	12.1%
Average Contribution Balance with Interest	\$ 47,072	\$ 44,942	4.7%

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, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-4  
San Jose Federated City Employees' Retirement System  
Distribution of Active Members as of June 30, 2014**

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	18	15	0	0	0	0	0	0	0	0	33
25 to 29	75	76	23	0	0	0	0	0	0	0	174
30 to 34	79	112	111	26	0	0	0	0	0	0	328
35 to 39	46	72	129	113	21	1	0	0	0	0	382
40 to 44	27	54	89	151	109	16	3	0	0	0	449
45 to 49	25	36	80	127	117	70	41	0	0	0	496
50 to 54	18	32	83	120	127	128	120	0	0	0	628
55 to 59	19	27	67	75	68	46	40	3	0	0	345
60 to 64	5	19	40	70	41	21	11	0	1	0	208
65 to 69	0	4	18	19	14	3	2	0	1	1	62
70 and up	0	0	3	10	1	1	1	0	0	0	16
<b>Total Count</b>	<b>312</b>	<b>447</b>	<b>643</b>	<b>711</b>	<b>498</b>	<b>286</b>	<b>218</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>3,121</b>

**Table A-5  
San Jose Federated City Employees' Retirement System  
Distribution of Active Members as of June 30, 2014**

Age	Average Expected Salary										Total
	Years of Service										
	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	\$ 55,987	\$ 55,004	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 55,540
25 to 29	60,057	59,757	57,150	0	0	0	0	0	0	0	59,542
30 to 34	64,822	61,102	68,597	64,541	0	0	0	0	0	0	64,807
35 to 39	63,401	66,631	68,073	71,054	74,392	74,914	0	0	0	0	68,486
40 to 44	74,577	72,501	72,929	76,110	79,668	80,135	72,283	0	0	0	75,935
45 to 49	80,469	72,460	73,056	79,242	76,614	82,918	78,748	0	0	0	77,672
50 to 54	84,706	66,782	81,144	81,794	83,940	86,993	81,845	0	0	0	82,530
55 to 59	77,309	78,813	74,023	80,619	78,069	84,704	77,173	92,358	0	0	78,759
60 to 64	100,241	91,404	74,491	83,267	83,005	87,288	89,824	0	47,144	0	83,258
65 to 69	0	117,251	67,972	74,530	72,386	91,502	77,920	0	88,862	125,238	76,878
70 and up	0	0	84,213	88,674	77,695	48,157	95,456	0	0	0	85,043
<b>Avg. Salary</b>	<b>\$ 67,531</b>	<b>\$ 67,118</b>	<b>\$ 71,844</b>	<b>\$ 77,717</b>	<b>\$ 79,665</b>	<b>\$ 85,135</b>	<b>\$ 80,703</b>	<b>\$ 92,358</b>	<b>\$ 68,003</b>	<b>\$ 125,238</b>	<b>\$ 75,193</b>



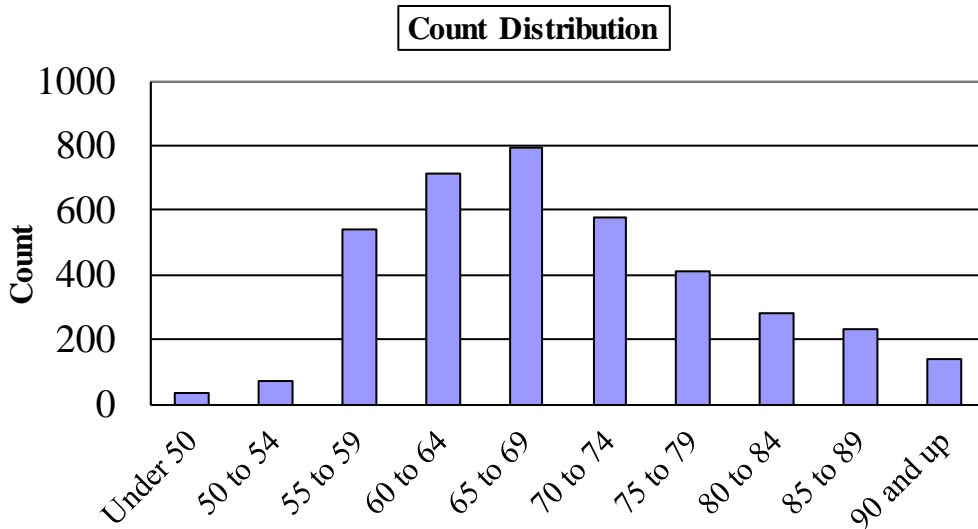
FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
 JUNE 30, 2014 ACTUARIAL VALUATION

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, 2014**

Age	Count
Under 50	35
50 to 54	74
55 to 59	542
60 to 64	713
65 to 69	796
70 to 74	577
75 to 79	408
80 to 84	283
85 to 89	232
90 and up	140
Total	3,800

**Chart A-1**



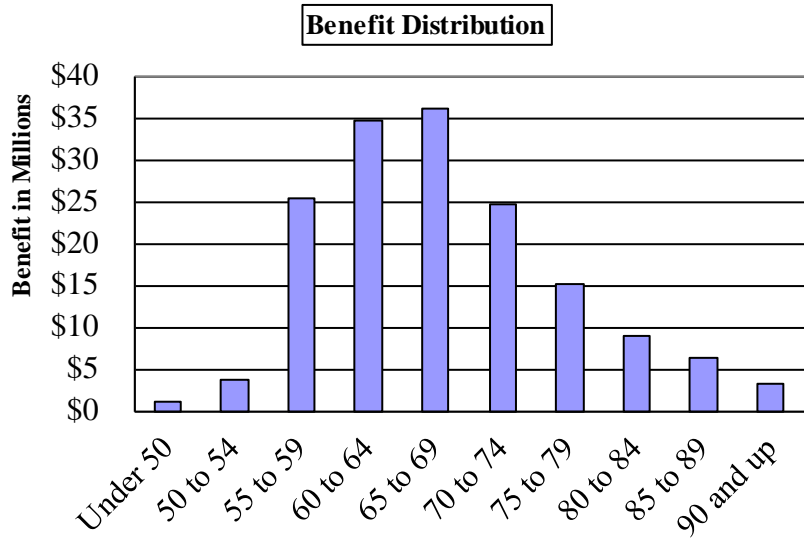
FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
 JUNE 30, 2014 ACTUARIAL VALUATION

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, 2014**

Age	Annual Benefit
Under 50	\$ 965,711
50 to 54	3,675,152
55 to 59	25,326,652
60 to 64	34,628,609
65 to 69	36,043,445
70 to 74	24,635,056
75 to 79	15,197,420
80 to 84	8,933,529
85 to 89	6,424,891
90 and up	3,293,745
Total	\$ 159,124,211

**Chart A-2**





**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
JUNE 30, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Table A-9</b>							
<b>San Jose Federated City Employees' Retirement System</b>							
<b>Change in Plan Membership</b>							
<b>TIER 1</b>							
	<b>Actives</b>	<b>Vested Terminations</b>	<b>Service Disabilities</b>	<b>Non-Service Disabilities</b>	<b>Retirees</b>	<b>Beneficiaries/ QDRO</b>	<b>Total</b>
<b>June 30, 2013</b>	<b>2,856</b>	<b>994</b>	<b>120</b>	<b>81</b>	<b>3,033</b>	<b>477</b>	<b>7,561</b>
New Entrants	0	0	0	0	0	2	2
Rehires	2	(1)	0	0	0	0	1
Vested Terminations	(115)	115	0	0	0	0	0
Return of Contributions	(30)	(34)	0	0	0	0	(64)
Service Disabilities	(1)	0	2	0	(1)	0	0
Non-Service Disabilities	(3)	(2)	0	6	(1)	0	0
Retirements	(109)	(39)	0	0	148	0	0
Deaths	(3)	(2)	(1)	(7)	(67)	34	(46)
Beneficiary Deaths	0	0	0	0	0	(28)	(28)
Benefit Ceased	0	0	0	0	0	(2)	(2)
Tier Adjustments	(4)	(6)	0	0	0	0	(10)
Miscellaneous Adjustments	0	1	0	0	1	3	5
<b>June 30, 2014</b>	<b>2,593</b>	<b>1,026</b>	<b>121</b>	<b>80</b>	<b>3,113</b>	<b>486</b>	<b>7,419</b>
<b>TIER 2</b>							
	<b>Actives</b>	<b>Vested Terminations</b>	<b>Service Disabilities</b>	<b>Non-Service Disabilities</b>	<b>Retirees</b>	<b>Beneficiaries/ QDRO</b>	<b>Total</b>
<b>June 30, 2013</b>	<b>238</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>245</b>
New Entrants	321	0	0	0	0	0	321
Rehires	0	0	0	0	0	0	0
Vested Terminations	(21)	21	0	0	0	0	0
Return of Contributions	(21)	(2)	0	0	0	0	(23)
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	0	0	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustments	11	0	0	0	0	0	11
Miscellaneous Adjustments	0	19	0	0	0	0	19
<b>June 30, 2014</b>	<b>528</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>573</b>

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

**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 actives that have no service amount is calculated to be the time from date of hire to the valuation date.
- 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 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 benefit for inactives is equal to 2.5% of final compensation per year of service, 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.
- 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.

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**Actuarial Assumptions**

The wage inflation and discount rate assumptions were adopted by the Board of Administration with our input at the November 20, 2014 and December 18, 2014 Board meetings respectively. All other assumptions were adopted at the October 20, 2011 Board meeting based on recommendations from our experience study covering plan experience during the period from July 1, 2005 through June 30, 2010.

**1. Discount Rate**

7.00%. The Board expects a long-term rate of return of 7.58% based on Meketa's capital market assumptions and investment policy. A margin for adverse deviation was used to improve the probability of achieving the discount rate.

**2. Interest Credited to Member Contributions**

3.00%, compounded annually.

**3. Administrative Expenses**

0.70% of payroll is added to the normal cost of the system for expected administrative expenses.

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**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**4. Salary Increase Rate**

Wage inflation component: 2.85%

In addition, the following merit component is added based on an individual member's years of service:

<b>Table B-1 Salary Merit Increases</b>	
<b>Years of Service</b>	<b>Merit/ Longevity</b>
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

**5. 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.

<b>Table B-2 Percentage Married</b>	
<b>Gender</b>	<b>Percentage</b>
Males	80%
Females	60%

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
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APPENDIX B  
 ACTUARIAL ASSUMPTIONS AND METHODS

6. Rates of Termination

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

<b>Age</b>	<b>0 Years of Service</b>	<b>1-4 Years of Service</b>	<b>5 or more Years of Service</b>
20	20%	10.00%	5.50%
25	20	10.00	5.30
30	20	9.50	4.85
35	20	7.20	4.20
40	20	5.60	3.00
45	20	4.60	1.85
50	20	4.00	1.75
55	20	4.00	0.00
60	20	4.00	0.00
65	0	0.00	0.00

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

20% of terminating employees are assumed to subsequently work for a reciprocal employer and receive 2.85% pay increases per year.

7. Rates of Refund

Tier 1:

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

<b>Age</b>	<b>Refund</b>
20	40.0%
25	30.0
30	25.0
35	20.0
40	15.0
45	10.0
50	4.0
55	0.0

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APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS

Tier 2:

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

**8. Rates of Disability**

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

<b>Age</b>	<b>Disability</b>
20	0.030%
25	0.033
30	0.056
35	0.098
40	0.162
45	0.232
50	0.302
55	0.376
60	0.455
65	0.504
70	0.000

50% of disabilities are assumed to be duty related, and 50% are assumed to be non-duty.

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**9. Rates of Mortality for Healthy Lives**

Mortality rates for actives, retirees, beneficiaries, terminated vested and reciprocals are based on the male and female RP-2000 combined employee and annuitant tables. To reflect mortality improvements since the date of the table and to project future mortality improvements, the tables are projected to 2015 using scale AA and setback two years. The resulting rates are used for all age cohorts.

<b>Age</b>	<b>Male</b>	<b>Female</b>
20	0.0237%	0.0152%
25	0.0297	0.0155
30	0.0365	0.0196
35	0.0585	0.0344
40	0.0881	0.0484
45	0.1100	0.0747
50	0.1460	0.1092
55	0.2154	0.1841
60	0.4140	0.3639
65	0.8104	0.7094
70	1.4464	1.2471
75	2.4223	2.0673
80	4.3489	3.3835

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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ACTUARIAL ASSUMPTIONS AND METHODS

10. Rates of Mortality for Retired Disabled Lives

Mortality rates for disabled retirees are based on the CALPERS ordinary disability mortality tables from their 2000-04 study for miscellaneous employees.

<b>Age</b>	<b>Male</b>	<b>Female</b>
20	0.664%	0.478%
25	0.719	0.492
30	0.790	0.512
35	0.984	0.548
40	1.666	0.674
45	1.646	0.985
50	1.632	1.245
55	1.936	1.580
60	2.293	1.628
65	3.174	1.969
70	3.870	3.019
75	6.001	3.915
80	8.388	5.555



FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
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 ACTUARIAL ASSUMPTIONS AND METHODS

11. Rates of Retirement

Rates of retirement for Tier 1 members are based on age according to the following Table B-8 – Tier 1.

<b>Table B-8 – Tier 1</b>		
<b>Rates of Retirement by Age and Service</b>		
<b>Age</b>	<b>Less than 30 Years of Service</b>	<b>30 or more Years of Service</b>
50	0.0%	60.0%
51	0.0	60.0
52	0.0	60.0
53	0.0	60.0
54	0.0	60.0
55	17.5	50.0
56	8.5	50.0
57	8.5	50.0
58	8.5	50.0
59	9.5	50.0
60	9.5	50.0
61	16.0	50.0
62	16.0	50.0
63	16.0	50.0
64	16.0	50.0
65	25.0	60.0
66	25.0	60.0
67	25.0	60.0
68	25.0	60.0
69	25.0	60.0
70 & over	100.0	100.0

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ACTUARIAL ASSUMPTIONS AND METHODS**

Rates of retirement for Tier 2 members are based on age according to the following Table B-8 – Tier 2.

<b>Table B-8 – Tier 2 Rates of Retirement by Age and Service</b>		
<b>Age</b>	<b>Less than 32.5 Years of Service</b>	<b>32.5 or more Years of Service</b>
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

**12. 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.

**13. Changes Since Last Valuation**

- The discount rate decreased from 7.25% to 7.00%.
- The wage inflation assumption changed from 2.00% for five years and 2.85% thereafter to 2.85% for all years of service.

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**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. To remain a level 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

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

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.

**Changes Since Last Valuation**

The rate of increase in amortization payments was increased from 2.43% to 2.85%.

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.

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.

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 the last valuation**

None.

**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.



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.

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.**

**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.

**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.