

**City and County of San Francisco  
Employees' Retirement System**

**July 1, 2013  
Actuarial Valuation**

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

**March 3, 2014**

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LETTER OF TRANSMITTAL

March 3, 2014

Retirement Board of the City and County of  
 San Francisco Employees' Retirement System  
 c/o Mr. Jay Huish, Executive Director  
 30 Van Ness Avenue, Suite 3000  
 San Francisco, CA 94102

Dear Members of the Board:

The purpose of this report is to present the July 1, 2013 actuarial valuation of the City and County of San Francisco Employees' Retirement System (SFERS). This report is for the use of the Retirement Board and its auditors in preparing financial reports in accordance with applicable laws and accounting requirements.

The table below presents the key results of the 2013 and 2012 valuations for SFERS.

<b>Table I-1</b>		
<b>City and County of San Francisco Employees' Retirement System</b>		
<b>Summary of Key Valuation Results</b>		
(in millions)		
<b>Valuation Date</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>
Actuarial Liability	\$ 20,224.8	\$ 19,393.9
Actuarial Value of Assets	16,303.4	16,027.7
Unfunded Actuarial Liability (actuarial value)	\$ 3,921.4	\$ 3,366.2
Funding Ratio (actuarial value)	80.6%	82.6%
Market Value of Assets	17,011.5	15,293.7
Unfunded Liability (market value)	\$ 3,213.3	\$ 4,100.2
Funding Ratio (market value)	84.1%	78.9%
<b>Fiscal Year End</b>	<b>2015</b>	<b>2014</b>
Net Employer Contribution Rate	26.76%	24.82%
Estimated Net Employer Contributions	\$ 704.6	\$ 629.4

The Charter (as amended by Proposition C effective July 1, 2012) requires employees to pay a portion of the net employer contribution rate. The portion each employee pays depends on the net employer contribution rate, the employee group and the level of pay received by the employee. Unless explicitly identified, the figures shown in this report are before applying the floating contribution rate provisions. Table I-7 in the Board Summary Section of the report shows the adjusted contribution rates for each of the employee groups based on the net



employer contribution rate of 26.76% and estimates the resulting aggregate contribution rates for employees and employers.

- *Unfunded Actuarial Liability (UAL):* SFERS UAL based on the actuarial value of assets increased by \$555.2 million. The primary cause of this increase is the investment experience during the 12 months ended June 30, 2009 that is being recognized over five years and still influencing the net return on the actuarial asset value (3.93% for FYE 2013). SFERS unfunded liability based on the market value of assets decreased by \$886.9 million primarily due to the actual investment return of 13.65% during the 12 months ended June 30, 2013.
- *Funding Ratio:* The ratio of the actuarial value of assets to actuarial liabilities declined since the last valuation from 82.6% to 80.6%. The actuarial value of assets is smoothed in order to mitigate the impact of investment performance volatility on employer contribution rates. Without the asset smoothing, the ratio of the market value of assets to actuarial liabilities increased from 78.9% to 84.1% reflecting the higher than expected investment return on a market value basis during the 12 months ended June 30, 2013.
- *Net Employer Contribution Rate:* The net employer contribution rate before applying the floating employee contribution rate provisions for the fiscal year ending June 30, 2015 increased by 1.94% of payroll. This increase is primarily attributable to the continued recognition of the investment experience during the 12 months ended June 30, 2009.

More details on the plan experience for the past year, including the changes listed above and their impact on these July 1, 2013 valuation results can be found in this report.

In preparing our report, we relied on information (some oral and some written) supplied by SFERS. 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 #23.

The demographic assumptions were adopted by the Retirement Board in November 2010 based upon recommendations contained in our experience study covering the period from July 1, 2004 through June 30, 2009. The economic assumptions (price inflation, wage inflation, and discount rate) were adopted by the Retirement Board in January 2014. Based on our analysis, we communicated our estimates of reasonable ranges for price inflation, wage inflation, and the expected rate of return on which the discount rate is based. The Retirement Board adopted assumptions that are eight basis points higher than the ranges we communicated. Given the proximity to our reasonable ranges, we do not believe the assumptions adopted by the Retirement Board significantly conflict with what is reasonable for the purposes of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

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 which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. 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 actuarial valuation report was prepared for SFERS for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,  
Cheiron



Kenneth A. Kent, FSA, FCA, EA, MAAA  
Principal Consulting Actuary



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

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

The primary purpose of this actuarial valuation is to report, as of the valuation date, on the following:

- The financial condition of the City and County of San Francisco Employees' Retirement System (SFERS),
- Past and expected trends in the financial condition of SFERS,
- The employer's contribution rate for the Fiscal Year Ending June 30, 2015, and
- Information required by the Governmental Accounting Standards Board (GASB).

In this Section, we present a summary of the principal valuation results. This includes the basis upon which the July 1, 2013 valuation was completed and an examination of the current financial condition of SFERS. In addition, we review the key historical trends and project the financial outlook for SFERS assuming all assumptions are met.

**A. Valuation Basis**

SFERS funding policy sets employer contributions equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method, plus
- Expected administrative expenses, and plus
- Amortization payments for changes in the unfunded actuarial liability.

Changes in the unfunded actuarial liability due to assumption changes and actuarial gains and losses are amortized over a rolling 15-year period. Changes due to Propositions are amortized over 20-year closed periods.

The results in this report incorporate the assumptions adopted by the Board at the January 2014 Board Meeting which are identical to the assumptions used in the July 1, 2012 actuarial valuation.

**B. Current Financial Condition of SFERS**

On the following pages, the key results of the July 1, 2013 valuation are summarized and compared to the results from the July 1, 2012 valuation.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**1. SFERS Membership:**

As shown in Table I-2 below, membership in SFERS increased in total by 3.0%. Active membership increased 2.2%, active DROP membership decreased 61.1%, terminated vested membership increased 7.5%, and retiree membership increased 4.4%. Total payroll increased by 6.6% for active members and decreased 61.2% for DROP members. The average pay per active and DROP member increased by 4.1%. The significant decrease in DROP participation is due to the closure of the DROP effective June 30, 2011 and DROP members retiring.

<b>Table I-2 Membership Total</b>			
<b>Item</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>% Change</b>
Actives	28,717	28,097	2.2%
Active DROP	72	185	-61.1%
Terminated Vested	5,973	5,558	7.5%
Retirees	19,525	18,711	4.4%
Disabled	2,672	2,676	-0.1%
Beneficiaries	3,837	3,803	0.9%
<b>Total SFERS Members</b>	<b>60,796</b>	<b>59,030</b>	<b>3.0%</b>
Active Member Payroll (FYE 2014/2013)	\$ 2,527,449,088	\$ 2,371,917,519	6.6%
DROP Member Payroll (FYE 2014/2013)	\$ 8,513,766	\$ 21,924,019	-61.2%
Average Pay per Active (including DROP)	\$ 88,088	\$ 84,642	4.1%

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION I  
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2. SFERS Assets and Liabilities:

Table I-3, below, compares the July 1, 2013 and July 1, 2012 SFERS assets, liabilities, unfunded actuarial liability (UAL), and funding ratios.

The total actuarial liability increased 4.3% and the market value of assets increased 11.2%. SFERS employs an asset smoothing method which dampens investment market volatility. For this year the smoothed value of assets (called the actuarial value of assets) increased by 1.7%, resulting in a decrease in the funding ratio from 82.6% to 80.6%. Based on the market value of assets, the funding ratio increased from 78.9% to 84.1%.

<b>Table I-3</b>			
<b>Assets &amp; Liabilities</b>			
(in millions)			
<b>Item</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>% Change</b>
<b>Actuarial Liability</b>			
Actives	\$ 7,865.3	\$ 7,413.2	6.1%
Active DROP	102.9	322.9	-68.1%
Terminated Vested	378.5	395.9	-4.4%
Retirees	9,046.5	8,482.9	6.6%
Disabled	1,849.5	1,813.8	2.0%
Beneficiaries	982.2	965.2	1.8%
<b>Total Actuarial Liability</b>	<b>\$ 20,224.8</b>	<b>\$ 19,393.9</b>	<b>4.3%</b>
Market Value Assets	\$ 17,011.5	\$ 15,293.7	11.2%
Actuarial Value Assets	\$ 16,303.4	\$ 16,027.7	1.7%
Unfunded Actuarial Liability (market value)	\$ 3,213.3	\$ 4,100.2	-21.6%
Unfunded Actuarial Liability (actuarial value)	\$ 3,921.4	\$ 3,366.2	16.5%
Funding Ratio - Market Value	84.1%	78.9%	5.2%
Funding Ratio - Actuarial Value	80.6%	82.6%	-2.0%



CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION I  
BOARD SUMMARY**

3. Components of UAL Increase between July 1, 2012 and July 1, 2013:

The UAL based on the actuarial value of assets of \$3,366.2 million last year grew to a UAL of \$3,921.5 million this year, representing an increase of \$555.3 million. On a market asset value basis, the unfunded liability decreases year over year from \$4,100.2 million to \$3,313.3 million. Table I-4 presents the components of this change in the UAL used for funding purposes.

<b>Table I-4</b>	
<b>Increase in Unfunded Actuarial Liability</b>	
(in millions)	
1. Unfunded actuarial liability, 7/1/2012	\$ 3,366.2
2. Expected change in unfunded actuarial liability	\$ (80.1)
3. Unfunded increase due to investment loss and expenses	584.0
4. Unfunded decrease due to liability gain	(9.8)
5. Unfunded increase due to contributions less than expected	61.1
6. Total change in unfunded actuarial liability	\$ 555.2
7. Unfunded actuarial liability, 7/1/2013	\$ 3,921.4

Investment losses and expenses increased the UAL by \$584.0 million. In addition, the one-year lag between the valuation date and the change in the employer contribution rate from 20.71% to 24.82% (offset somewhat by the higher than expected payroll) increased the UAL by \$61.1 million.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION I  
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4. SFERS Contributions:

Table I-5 below shows that the SFERS contribution rate for FYE 2015 before adjustment for the floating employee contribution rates, measured as a percent of membership payroll, increased from 24.82% to 26.76%.

<b>Table I-5 Contributions</b>			
<b>Item</b>	<b>FYE 2015</b>	<b>FYE 2014</b>	<b>Change</b>
1. Gross Normal Cost %	18.26%	17.91%	0.35%
2. Member Cost %	<u>7.54%</u>	<u>7.53%</u>	<u>0.01%</u>
3. Employer Normal Cost %	10.72%	10.38%	0.34%
4. Amortization of Remaining UAL%	9.60%	7.88%	1.72%
5. Amortization of Proposition UAL%	<u>5.99%</u>	<u>6.11%</u>	<u>-0.12%</u>
6. Total Employer Unfunded Liability Cost %	15.59%	13.99%	1.60%
7. Administrative Expenses %	<u>0.45%</u>	<u>0.45%</u>	<u>0.00%</u>
8. Net Employer Contribution Rate: (3 + 6 + 7)	26.76%	24.82%	1.94%

Table I-6 shows sources for the change in the net employer contribution rate. The contribution rate increase is primarily attributable to the smoothed asset loss.

<b>Table I-6 Net Employer Contribution Rate Reconciliation</b>			
<b>Item</b>	<b>Total</b>	<b>Normal Cost*</b>	<b>Amortization</b>
FYE 2014 Net Employer Contribution Rate	24.82%	10.83%	13.99%
Change due to asset loss	2.26%	0.00%	2.26%
Change due to liability gain and technical corrections	0.31%	0.34%	-0.03%
Change due to effect of payroll on amortization	-0.32%	0.00%	-0.32%
Other	<u>-0.31%</u>	<u>0.00%</u>	<u>-0.31%</u>
FYE 2015 Net Employer Contribution Rate	26.76%	11.17%	15.59%

\* Includes administrative expenses

The changes due to liability gain also include technical corrections suggested as a result of the actuarial audit. In Section IV of this report, more detail is provided on the development of this contribution rate.

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Table I-7 shows the estimated member and employer contributions adjusted for the floating employee contribution rates under Proposition C. The adjustments are based on the applicable table in the Charter for an employer contribution rate of 26.76%.

<b>Table I-7 Employee and Employer Contribution Rates By Employee Group for FYE 2015</b>							
<b>Hire Date</b>	<b>Hourly Pay</b>	<b>Estimated Payroll</b>		<b>Base Rates</b>		<b>Adjusted Rates</b>	
		<b>FYE 2015</b>		<b>Employee</b>	<b>Employer</b>	<b>Employee</b>	<b>Employer</b>
<b>Police and Fire</b>							
< 11/2/1976	All	\$	61.7	7.0%	26.76%	11.5%	22.26%
11/2/1976 - 6/30/2010	All		385,116.9	7.5%	26.76%	12.0%	22.26%
> 6/30/2010	< \$50		61,658.1	9.0%	26.76%	12.5%	23.26%
> 6/30/2010	>= \$50		5,468.4	9.0%	26.76%	13.0%	22.76%
<b>Miscellaneous</b>							
< 11/2/1976	< \$25		50.9	8.0%	26.76%	8.0%	26.76%
< 11/2/1976	\$25 - \$50		3,185.8	8.0%	26.76%	11.5%	23.26%
< 11/2/1976	>= \$50		1,257.4	8.0%	26.76%	12.0%	22.76%
>= 11/2/1976	< \$25		157,344.4	7.5%	26.76%	7.5%	26.76%
>= 11/2/1976	\$25 - \$50		1,295,764.2	7.5%	26.76%	11.0%	23.26%
>= 11/2/1976	>= \$50		723,182.3	7.5%	26.76%	11.5%	22.76%
<b>Estimated Aggregate</b>			<b>2,633,090.2</b>	<b>7.54%</b>	<b>26.76%</b>	<b>11.11%</b>	<b>23.18%</b>
<b>Estimated \$ Contributions (in thousands)</b>				<b>\$ 198,511</b>	<b>\$ 704,615</b>	<b>\$ 292,661</b>	<b>\$ 610,464</b>

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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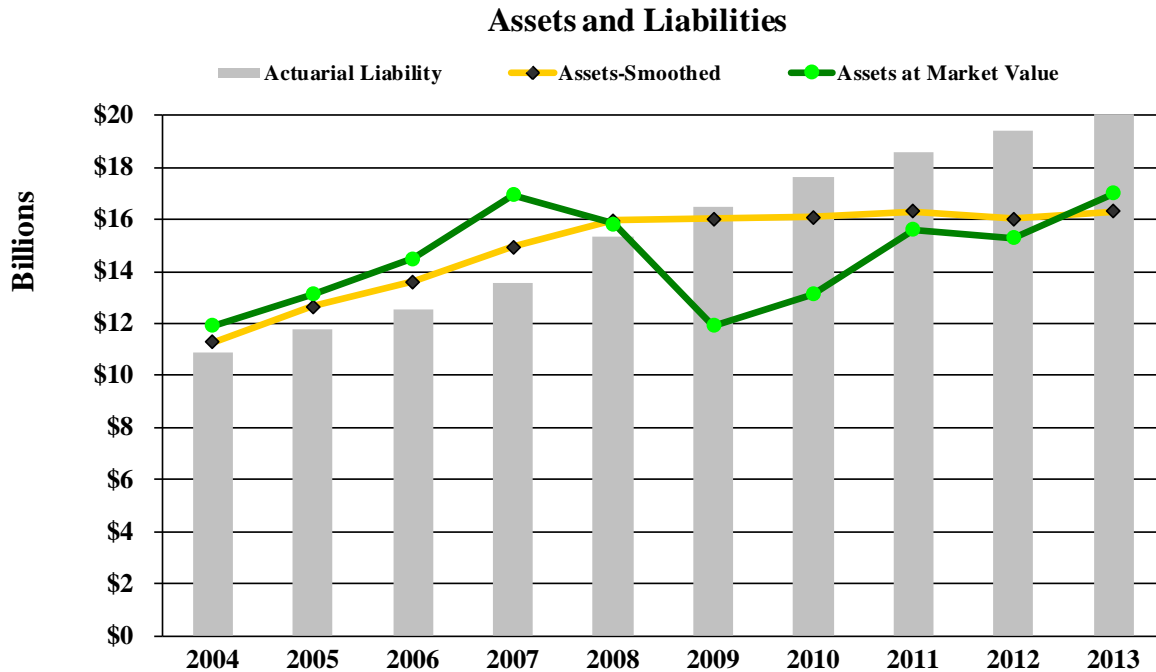
**SECTION I  
 BOARD SUMMARY**

**C. Historical Trends**

Each valuation is a snapshot of the long-term progress of a pension fund. It is 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 trends for assets (both market and smoothed) versus the actuarial liability, and also shows the progress of SFERS funding ratios since 2004.

**SFERS - Assets and Actuarial Liability 2004-2013**



<b>Funded Ratio</b>	<b>103.8%</b>	<b>107.6%</b>	<b>108.6%</b>	<b>110.2%</b>	<b>103.8%</b>	<b>97.0%</b>	<b>91.1%</b>	<b>87.7%</b>	<b>82.6%</b>	<b>80.6%</b>
<b>UAL/(Surplus)</b>	<b>\$ (0.41)</b>	<b>\$ (0.89)</b>	<b>\$ (1.08)</b>	<b>\$ (1.39)</b>	<b>\$ (0.58)</b>	<b>\$ 0.49</b>	<b>\$ 1.57</b>	<b>\$ 2.29</b>	<b>\$ 3.37</b>	<b>\$ 3.92</b>

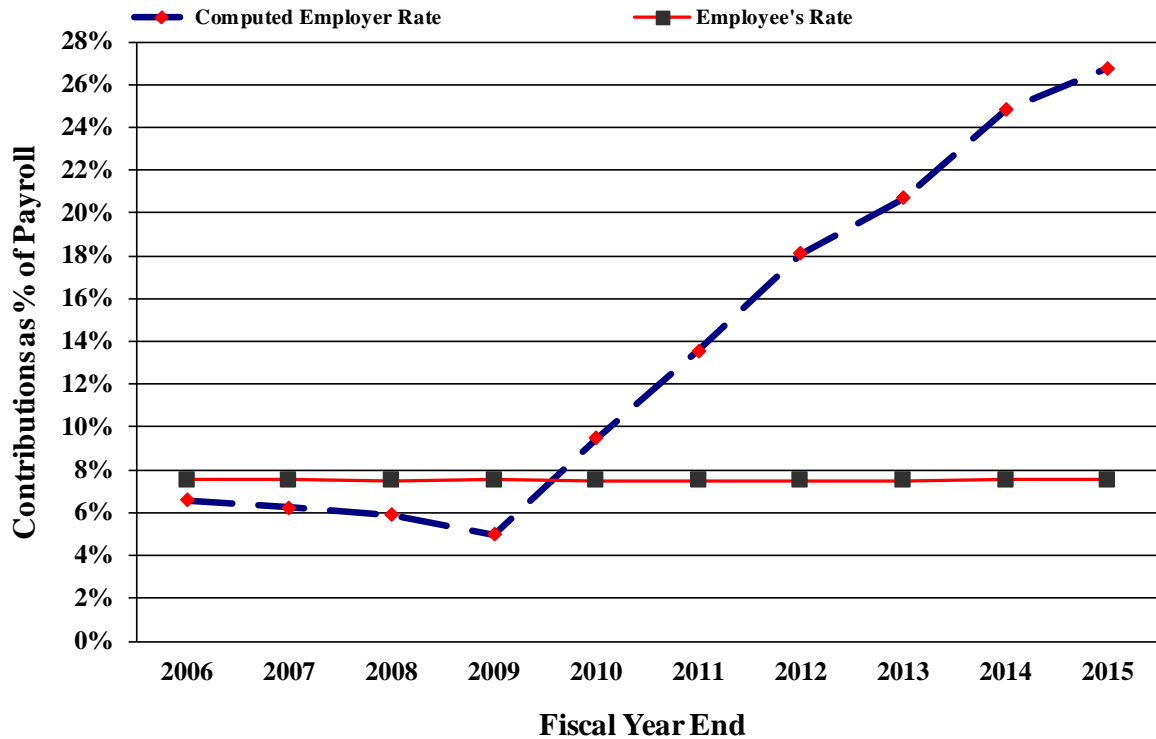
The chart above shows that the System maintained a surplus through July 1, 2008 ending the period at 103.8% funded. Since 2008, the funding ratio has declined primarily due to investment experience, Proposition B and assumption changes. In 2009, the actuarial value of assets was 34 percent greater than the market value of assets. However, as of July 1, 2013, the market value of assets is greater than the actuarial value for the first time since 2007, by 4%.

In the chart below, the historical trends for SFERS contribution rates since the Fiscal Year Ending June 30, 2005 are shown. All information shown prior to the Fiscal Year Ending June 30, 2010 was calculated by the prior actuary.

SECTION I  
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**Employer and Member Contribution Rates Prior to Adjustments Under Prop C  
 for Fiscal Years Ending 2006-2015**

City and County of San Francisco Employees' Retirement System

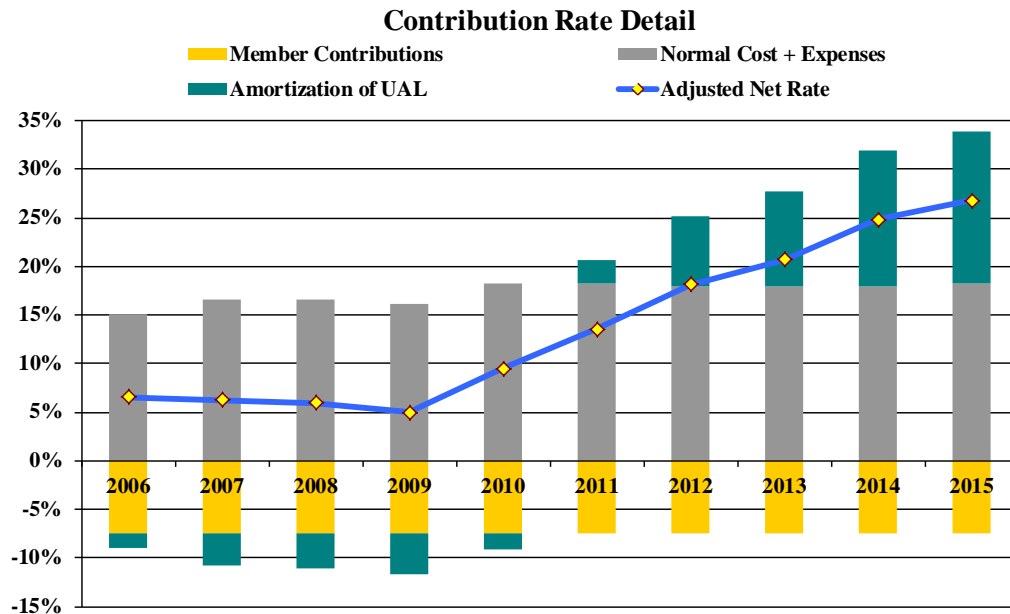


The employer contribution rate has increased significantly since 2009. The increase for the Fiscal Year Ending in 2010 is primarily due to benefit changes under Proposition B and decreasing the investment return assumption from 8.00% to 7.75%. The increases for the Fiscal Years Ending in 2011 through 2014 are primarily due to the investment losses from 2008-09 and 2011-12 being phased-in and assumption changes adopted for the 2010, 2011 and 2012 actuarial valuations. The employer contribution rate is expected to decrease over the next few years because the investment losses from 2009 have been fully recognized in this valuation, and there is currently a net deferred gain from investment experience over the last four years.

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The chart below shows historical trends of SFERS contribution rate components since the Fiscal Year Ending June 30, 2006, and the table below it shows the detail of the components of the contribution rates. All information shown prior to the Fiscal Year Ending June 30, 2010 was calculated by the prior actuary.



**Historic Cost as a Percentage of Pay**

Fiscal Year End	2006	2007	2008	2009	2010	2011	2012	2013*	2014*	2015*
Normal Cost + Expenses	15.51%	17.01%	17.05%	16.64%	18.61%	18.63%	18.35%	18.35%	18.36%	18.71%
Amortization of UAL	-1.41%	-3.25%	-3.63%	-4.13%	-1.62%	2.44%	7.24%	9.87%	13.99%	15.59%
Member Contributions	-7.52%	-7.52%	-7.51%	-7.52%	-7.50%	-7.51%	-7.50%	-7.51%	-7.53%	-7.54%
Adjusted Net Rate	6.58%	6.24%	5.91%	4.99%	9.49%	13.56%	18.09%	20.71%	24.82%	26.76%

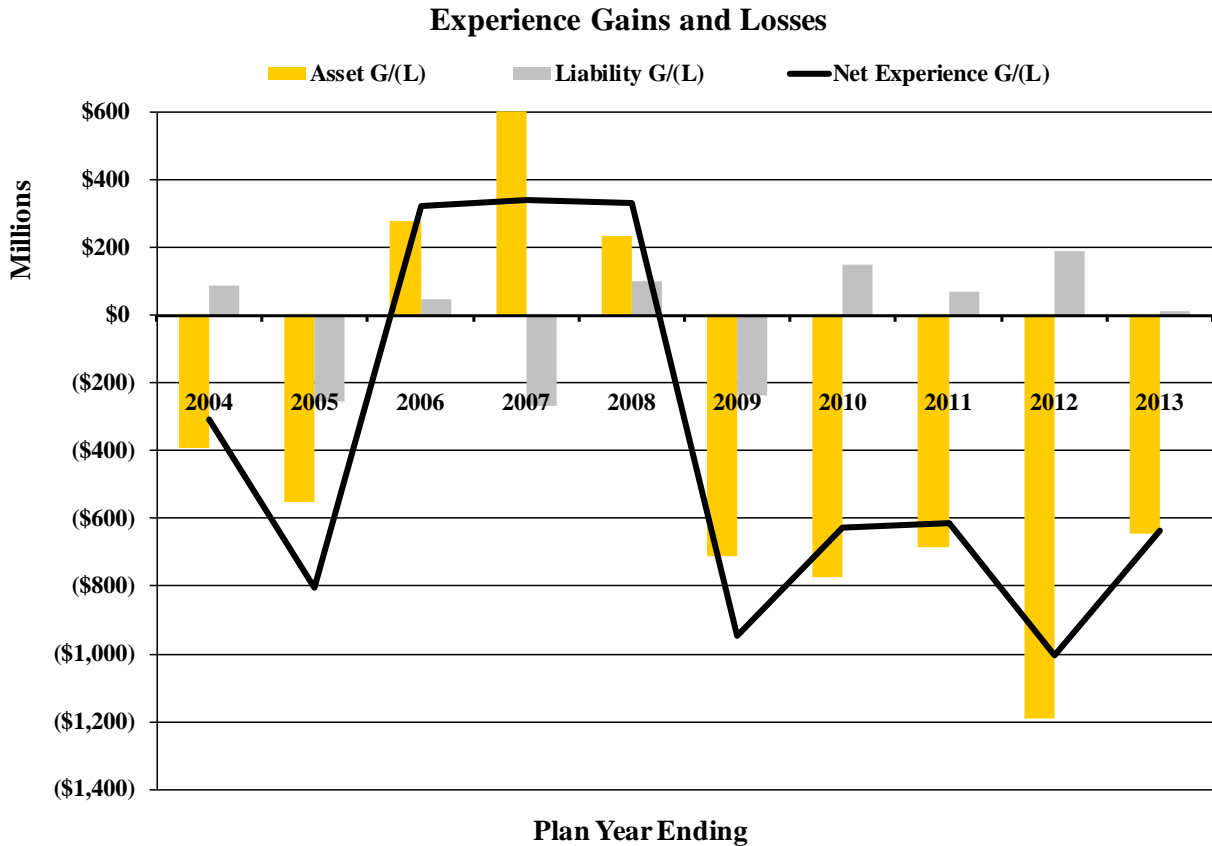
\* Before adjustment to the member contribution rates

The normal cost rate has been relatively stable from the fiscal year ending 2010 through the fiscal year ending 2015. However, the amortization of the UAL has changed over the last decade from -1.41% to 15.59% accounting for the majority of the increase in contribution rates. This increase is due to plan changes, lower than expected investment returns, as well as changes in assumptions. The normal cost as a percent of payroll has also increased from the Fiscal Year Ending in 2006 to the Fiscal Year Ending in 2015, due to plan changes and assumption changes. The chart demonstrates how the total annual cost is offset by member contributions and the amortization of surplus assets (prior to FYE 2011).

The chart below illustrates the pattern of SFERS annual gains and losses, broken into the investment and liability components. The chart does not include any changes in the System's assets and liabilities attributable to changes to methods, procedures or assumptions.

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SFERS Historical Gain/(Loss) 2004-2013



The key insights from this chart are:

- On a smoothed asset basis, the investment gains and losses (gold bars) from 2009 to 2013 reflect material net investment losses driven by the market decline of 2008 which was spread over the five successive years. Since the actuarial value of assets only recognizes a portion of the recent market gains, additional investment gains on the actuarial value of assets are expected in the future.
- On the liability side, gains and losses have been offsetting from 2004 to 2013 and have been small relative to the investment experience. The liability gains in the last four years are due mostly to less than expected salary increases and Old Safety Charter COLAs. In 2013, net liability gains were \$8 million and are shown in detail in Table III-3.

**SECTION I  
 BOARD SUMMARY**

**D. Projected Financial Trends**

The projection of SFERS financial trends is an important part of this valuation. In this Section, we examine the future outlook for SFERS in terms of benefit security (assets over liabilities) and expected future contribution rates.

In the charts that follow, we project SFERS assets and liabilities, the pay down of UAL, and the employer contributions as a percent of payroll on two different bases:

- 1) Assuming 7.58% returns for FYE 2014 and every year thereafter, and
- 2) Assuming returns shown in the table below. These are rates of return that vary each year but over the projection period equal on average the assumed 7.58% return (the average over 20 years reflecting the phase-in described above). SFERS returns will never be level each and every year, and this projection illustrates the effect of investment return volatility on contribution rates.

<b>FYE</b>	<b><u>2014</u></b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>
<b>Return</b>	<b>20.00%</b>	<b>8.00%</b>	<b>3.00%</b>	<b>21.00%</b>	<b>-8.00%</b>	<b>15.00%</b>	<b>13.00%</b>	<b>8.00%</b>	<b>-7.00%</b>	<b>16.00%</b>
<b>FYE</b>	<b><u>2024</u></b>	<b><u>2025</u></b>	<b><u>2026</u></b>	<b><u>2027</u></b>	<b><u>2028</u></b>	<b><u>2029</u></b>	<b><u>2030</u></b>	<b><u>2031</u></b>	<b><u>2032</u></b>	<b><u>2033</u></b>
<b>Return</b>	<b>9.00%</b>	<b>-5.00%</b>	<b>8.00%</b>	<b>14.00%</b>	<b>15.80%</b>	<b>-7.00%</b>	<b>-12.00%</b>	<b>29.50%</b>	<b>20.75%</b>	<b>1.50%</b>

**The investment returns shown above were selected solely to illustrate the impact of investment volatility on the pattern of funded status and employer contribution rates while producing the same average long-term rate of return. They are not intended to be predictive of actual future contribution rates or funded status or even to represent a realistic pattern of investment returns.**

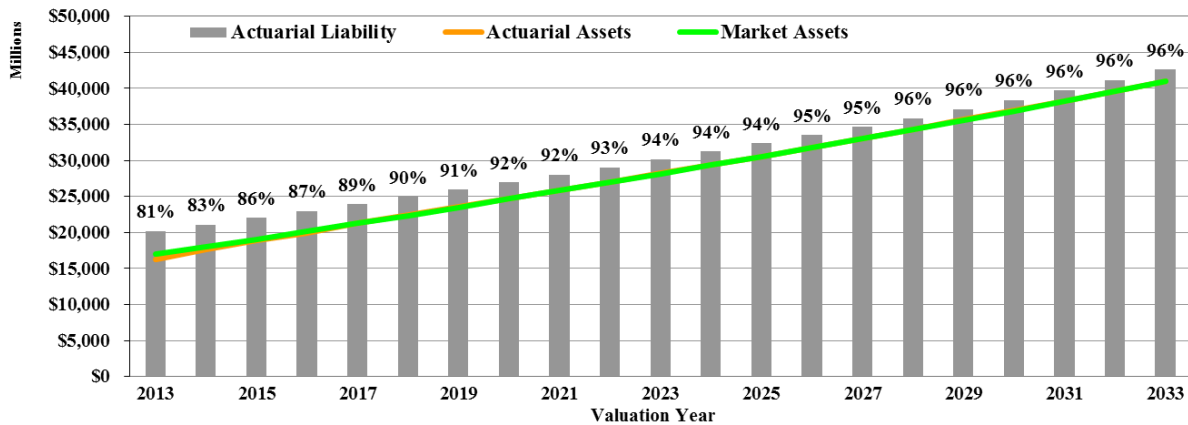


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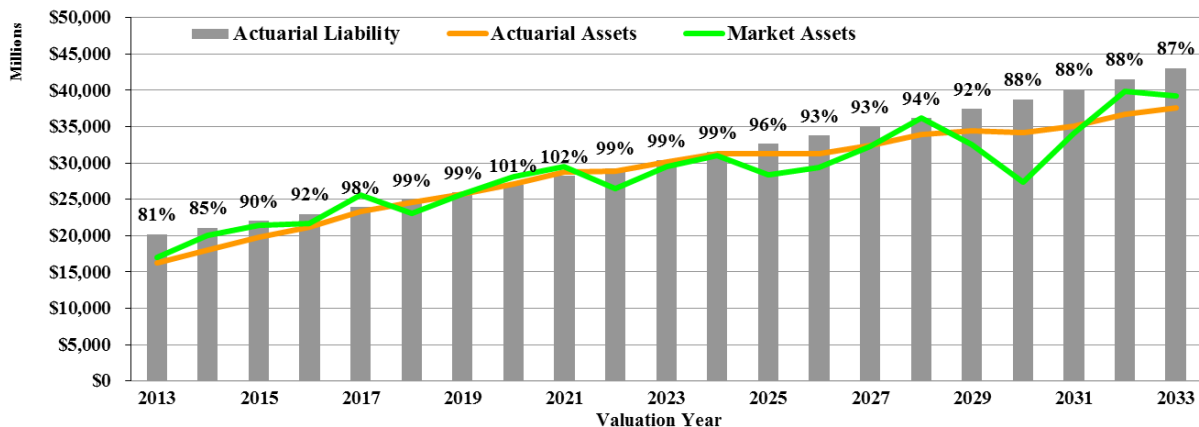
Projection Set 1: Assets and Actuarial Liability - SFERS

The two charts below show asset measures (green and gold lines) compared to the actuarial liability (gray bars). At the top of each chart is the progression of SFERS funding ratios. The two charts show the projected improvement in funded ratios over the projection period, and how varying investment returns can impact SFERS funding ratios.

**Chart 1: Projection of Assets and Actuarial Liability, assumed return each year**



**Chart 2: Projection of Assets and Actuarial Liability, varying returns averaging 7.58%**



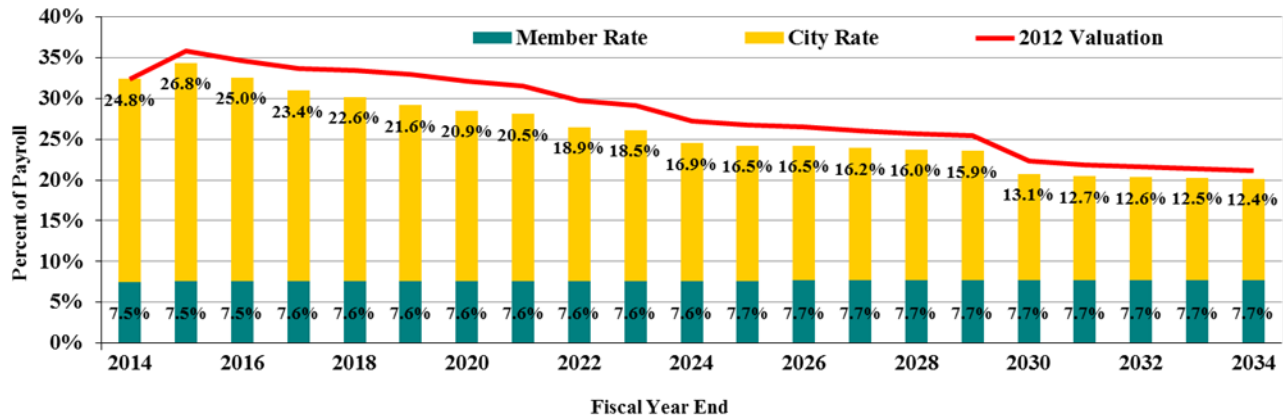
The investment returns used in the projection above were selected solely to illustrate the impact of investment volatility on the pattern of funded status and employer contribution rates while producing the same average long-term rate of return. They are not intended to be predictive of actual future contribution rates or funded status or even to represent a realistic pattern of investment returns.

SECTION I  
 BOARD SUMMARY

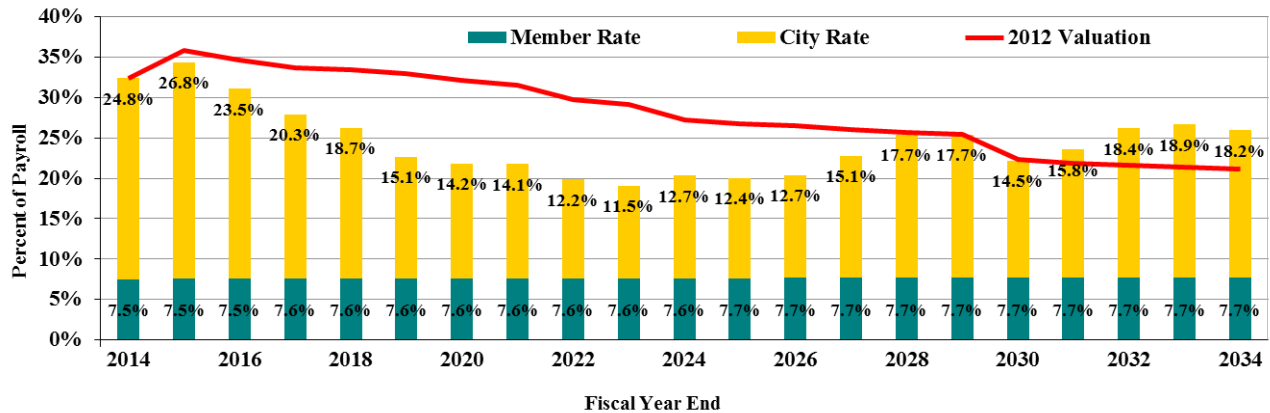
Projection Set 2: Projected Employer Contribution Rate

As seen in the charts below, employer contribution rates (before applying the adjustments for floating employee contribution rates) are expected to increase over the next couple of years. In addition, varying returns will also have a significant impact on the pattern and magnitude of actuarially computed employer contribution rates.

**Chart 1: Assumed return each year**



**Chart 2: Varying returns averaging 7.58% over time**



The investment returns used in the projection above were selected solely to illustrate the impact of investment volatility on the pattern of funded status and employer contribution rates while producing the same average long-term rate of return. They are not intended to be predictive of actual future contribution rates or funded status or even to represent a realistic pattern of investment returns.

SECTION I  
BOARD SUMMARY

**E. Sensitivity to Investment Risk**

One of the most important measures of a plan's sensitivity to investment risk is the ratio of plan assets to payroll. As shown in the table below, plan assets currently are almost seven times covered payroll and would be about eight times covered payroll if SFERS were 100% funded.

Active Member Payroll (Including DROP)	2,536.0
Assets (Market Value)	17,011.5
Ratio of Assets to Payroll	6.71
Ratio with Plan 100% Funded	7.98

To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the contribution rate is negligible because the assets are so small.

On the other hand, consider the situation for SFERS. Suppose SFERS assets earn 10% less than the 7.58% assumption (-2.42%). Based on the current ratio of assets to payroll (671%), that means the loss in assets is 67% of active payroll (671% of the 10% loss). The impact of such an investment loss on contributions is phased in through the five-year asset smoothing method. Unless there are investment gains to offset the investment loss in the interim, the only sources of funding to make up for this loss are the employers and employees. Consequently, barring future offsetting investment gains, future contributions have to make up the asset loss. In this example of a one-year loss of 10%, this shortfall will eventually require an additional amortization payment of approximately 5.9% of payroll if amortized over 15 years.

As the plan matures and becomes better funded, the ratio of asset to payroll will increase. When assets are 798% of pay, the 10% loss discussed above would translate to a loss of 79.8% of payroll, which when amortized over 15 years will increase the amortization payment by about 7.0% of payroll.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

SFERS 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 attempts to smooth annual investment return performance over multiple years to reduce the impact of investment volatility on SFERS contribution rates.

This section includes the following information on SFERS assets:

- A. Statement of changes in the market value of assets during the year,
- B. Development of the actuarial value of assets, and
- C. Discussion of investment performance for the year.

**A. Changes in the Market Value of Assets**

<b>Table II-1</b>		
<b>Change in Market Value of Assets</b>		
(in thousands)		
<b>Item</b>	<b>FYE 2013</b>	<b>FYE 2012</b>
1. Market Value, Beginning of Year	\$ 15,293,724	\$ 15,598,839
2. Additions		
a. Employer contributions	442,870	410,797
b. Member contributions	<u>258,726</u>	<u>198,160</u>
c. Total Additions: (2a + 2b)	\$ 701,596	\$ 608,957
3. Net Investment Income	2,064,550	80,402
4. Benefits and Administrative Expenses	<u>(1,048,325)</u>	<u>(994,474)</u>
5. Net Increase/(Decrease): (2c + 3 + 4)	\$ 1,717,821	\$ (305,115)
<b>6. Market Value, End of Year</b>	<b>\$ 17,011,545</b>	<b>\$ 15,293,724</b>

**B. 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.

The actuarial value is calculated by recognizing 20% of the variance of each of the prior five years of actual investment returns compared to the expected return on the actuarial value of assets. The expected return on the actuarial value of assets is determined using SFERS actual cash flows and the assumed rate of return (7.58% for the year ending 2013, 7.66% for the year ending 2012, 7.75% for years ending 2009-2011, and 8.0% for prior years). (See Appendix B on page 60 for further explanation of the asset valuation method).

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION II  
ASSETS**

<b>Table II-2</b>	
<b>Development of Actuarial Value of Assets for 7/1/2013</b>	
(in thousands)	
<b>Item</b>	<b>Total</b>
1. Actuarial Value as of 7/1/2012	\$ 16,027,683
2. Non-Investment Cash Flow for 2012-2013	(346,729)
3. Expected Return in 2012-2013	<u>1,201,997</u>
4. Expected Actuarial Value as of 7/1/2013: (1 + 2 + 3)	\$ 16,882,951
5. Actual Return in 2012-2013	2,064,550
6. Actual Return Above Expected in 2012-2013: (5 - 3)	862,553
7. Recognition of Returns Above Expected	
a. 2012-2013 (20% of 6.)	172,511
b. 2011-2012	(230,938)
c. 2010-2011	331,681
d. 2009-2010	86,011
e. 2008-2009	<u>(938,819)</u>
f. Total: (7a + 7b + 7c + 7d + 7e)	\$ (579,554)
<b>8. Actuarial Value as of 7/1/2013: (4 + 7f)</b>	<b>\$ 16,303,397</b>

**C. Investment Performance**

The market value of assets internal rate of return, net of investment expenses, was 13.65% for the year ending June 30, 2013. This is compared to an assumed rate of return of 7.58%.

On an actuarial value of assets basis, the return for the year ending June 30, 2013 was 3.93%. This return produced an overall SFERS investment loss on the actuarial value of assets of \$579.6 million for the year ending June 30, 2013.

**SECTION III  
LIABILITIES**

In this section, detailed information on the measurement of liabilities for SFERS is presented, including:

- Disclosure of liabilities as of July 1, 2012 and July 1, 2013, and
- Statement of changes in the unfunded actuarial liability during the year.

**A. Disclosure**

Three measures of liability are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used.

- **Present Value of all Future Benefits:** Used for measuring all future SFERS obligations, represents the expected amount of money needed today to fully pay for all benefits of SFERS both earned as of the valuation date and those to be earned in the future by current plan members, under the current Plan provisions.
- **Normal Cost:** 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 termination of employment. It is one of the components for determining the contribution rate.
- **Actuarial Liability - Entry Age Cost Method:** Used for determining employer contributions and GASB accounting disclosures. This measure of liability is calculated taking the present value of all future benefits and subtracting the present value of future member contributions and future employer normal costs as determined under the Entry Age actuarial cost method.

Table III-1 on the following page discloses these measures of liability for the current and prior year valuations. By subtracting the actuarial value of assets from the actuarial liability, the net surplus or unfunded actuarial liability (UAL) is determined. The division of the present value of future normal costs between employees and employers is prior to applying the floating employee contribution provisions of Proposition C.

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION III  
LIABILITIES**

<b>Table III-1</b>		
<b>Present Value of Future Benefits, Normal Cost and Actuarial Liability</b>		
(in thousands)		
<b>Item</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>
<b>Present Value of Future Benefits</b>		
Actives	\$ 12,056,802	\$ 11,427,849
Active DROP	102,851	322,916
Terminated Vested	378,502	395,892
Retirees	9,046,481	8,482,868
Disabled	1,849,457	1,813,794
Beneficiaries	<u>982,222</u>	<u>965,223</u>
<b>Total SFERS</b>	<b>\$ 24,416,315</b>	<b>\$ 23,408,542</b>
<b>Normal Cost</b>	<b>\$ 448,054</b>	<b>\$ 426,121</b>
<b>Actuarial Liability</b>		
Total Present Value of Benefits	\$ 24,416,315	\$ 23,408,542
Present Value of Future Normal Costs		
Employer Portion	2,532,267	2,451,852
Employee Portion	<u>1,659,271</u>	<u>1,562,837</u>
<b>Actuarial Liability</b>	<b>\$ 20,224,777</b>	<b>\$ 19,393,854</b>
Actuarial Value of Assets	\$ 16,303,397	\$ 16,027,683
<b>Unfunded Actuarial Liability/(Surplus)</b>	<b>\$ 3,921,380</b>	<b>\$ 3,366,171</b>

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION III  
LIABILITIES**

Table III-2 shows the same liability measurements as in the prior table as of July 1, 2013 separately for each of the Miscellaneous, Police, and Fire members of SFERS.

<b>Table III-2</b>				
<b>Liabilities by Group as of July 1, 2013</b>				
(in thousands)				
<b>Present Value of Future Benefits</b>	<b>Police</b>	<b>Fire</b>	<b>Miscellaneous</b>	<b>Total</b>
Actives	\$ 1,923,074	\$ 1,487,244	\$ 8,646,484	\$ 12,056,802
Active DROP	102,851	0	0	102,851
Terminated Vested	15,582	10,623	352,297	378,502
Retirees	1,695,893	1,145,006	6,205,582	9,046,481
Disabled	551,132	920,157	378,168	1,849,457
Beneficiaries	320,729	253,123	408,370	982,222
<b>Total SFERS</b>	<b>\$ 4,609,261</b>	<b>\$ 3,816,153</b>	<b>\$ 15,990,901</b>	<b>\$ 24,416,315</b>
<b>Normal Cost</b>	<b>\$ 66,566</b>	<b>\$ 54,447</b>	<b>\$ 327,041</b>	<b>\$ 448,054</b>
<b>Actuarial Liability</b>				
Actives	\$ 1,156,231	\$ 974,236	\$ 5,734,797	\$ 7,865,264
Active DROP	102,851	0	0	102,851
Terminated Vested	15,582	10,623	352,297	378,502
Retirees	1,695,893	1,145,006	6,205,582	9,046,481
Disabled	551,132	920,157	378,168	1,849,457
Beneficiaries	320,729	253,123	408,370	982,222
<b>Total SFERS</b>	<b>\$ 3,842,418</b>	<b>\$ 3,303,145</b>	<b>\$ 13,079,214</b>	<b>\$ 20,224,777</b>

**B. Changes in 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 a retirement plan. Below we present key changes in the UAL since the last valuation.



CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION III  
LIABILITIES**

<b>Table III-3</b>	
<b>Development of 2013 Experience Gain/(Loss)</b>	
(in millions)	
<b>Item</b>	<b>Cost</b>
1. Unfunded Actuarial Liability at July 1, 2012	\$ 3,366.2
2. Middle of year actuarial liability payment	(323.2)
3. Interest to end of year on 1 and 2	<u>243.1</u>
4. Expected Unfunded Actuarial Liability at July 1, 2013 (1+2+3)	\$ 3,286.1
5. Actual Unfunded Liability at July 1, 2013	<u>3,921.4</u>
6. Difference: (4 - 5)	\$ (635.3)
7. Portion of difference due to:	
a. Investment experience on actuarial value	\$ (579.6)
b. Old safety COLAs	80.9
c. Contributions (rate delay and payroll changes)	(61.1)
d. Retirements	(60.3)
e. Exits from DROP	7.9
f. Mortality	(29.5)
g. New entrant loss	(11.7)
h. DROP account balance	21.3
i. Other experience	<u>(3.2)</u>
j. Total	(635.3)

We understand that the account balances for members in DROP are excluded from SFERS assets as they are treated as currently payable. Consequently, the \$21.3 million gain shown above for DROP account balances represents a one-time adjustment to remove our measure of the liability since the DROP account balance is not included in the SFERS assets.

**SECTION IV  
CONTRIBUTIONS**

The contribution allocation procedure employed by SFERS has two components to the total contribution: the normal cost determined under the Entry Age actuarial cost method and the unfunded actuarial liability contribution. The normal cost is determined by taking the value, as of entry age into the plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future salary. The normal cost for each individual is added up and divided by the projected payroll for the year to determine the normal cost rate. Finally, the normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

Assumed administrative expenses of 0.45% of payroll are added to the normal cost rate.

The difference between the actuarial liability determined under the Entry Age actuarial cost method and the actuarial value of assets is the unfunded actuarial liability (UAL). The UAL is made up of unamortized prior Charter amendments, plus the impact of accumulated experience, assumption changes and method changes.

Table IV-1 on the following page develops the employer's contribution rate for FY 2014-2015. The methodology and assumptions used are in full compliance with the parameters set in GASB Statement No. 25 for purposes of determining the annual required contribution (ARC).

Table IV-2 provides the payment schedules to amortize the changes to the actuarial liability as a result of changes to the Charter. Each Charter change is amortized over 20 years from the date it is first recognized in the valuation. The remaining unfunded liability representing the accumulated experience of gains/losses and changes in the assumptions or methods is amortized over a rolling 15-year period. All amortization schedules are determined on a level percent of pay basis which means that for the duration of the amortization schedule, the payment amount increases each year at the assumed wage inflation rate.

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION IV  
CONTRIBUTIONS**

<b>Table IV-1</b>					
<b>Development of the Net Employer Contribution Rate as of July 1, 2013 for FYE 2015</b>					
(dollars in millions)					
	<b>July 1, 2013</b>				<b>July 1, 2012</b>
	<b>Police</b>	<b>Fire</b>	<b>Miscellaneous</b>	<b>COMPOSITE</b>	<b>COMPOSITE</b>
1. Total Normal Cost Rate	27.96%	31.44%	15.95%	<b>18.26%</b>	<b>17.91%</b>
2. Member Contribution Rate	<u>7.74%</u>	<u>7.70%</u>	<u>7.50%</u>	<u><b>7.54%</b></u>	<u><b>7.53%</b></u>
3. Employer Normal Cost Rate (1-2)	20.22%	23.74%	8.45%	<b>10.72%</b>	<b>10.38%</b>
4. a. UAL - Proposition balance as of 7/1/2013	\$181.2	\$174.3	\$884.3	<b>\$1,239.9</b>	<b>\$1,288.7</b>
b. Remaining balance of 7/1/2013 UAL	<u>270.4</u>	<u>190.0</u>	<u>2,221.1</u>	<u><b>2,681.5</b></u>	<u><b>2,077.5</b></u>
c. Net UAL - as of 7/1/2013 (4a + 4b)	\$451.6	\$364.3	\$3,105.4	<b>\$3,921.4</b>	<b>\$3,366.2</b>
5. a. Amortization of 4.a., Proposition UAL	9.96%	13.89%	4.83%	<b>5.99%</b>	<b>6.11%</b>
b. Amortization of 4.b., Remaining UAL	<u>9.59%</u>	<u>9.60%</u>	<u>9.60%</u>	<u><b>9.60%</b></u>	<u><b>7.88%</b></u>
c. Amortization of Net UAL (5a + 5b)	19.55%	23.49%	14.43%	<b>15.59%</b>	<b>13.99%</b>
6. Administrative Expenses	<u>0.45%</u>	<u>0.45%</u>	<u>0.45%</u>	<u><b>0.45%</b></u>	<u><b>0.45%</b></u>
7. Net Employer Contribution Rate (3+5c+6)	40.22%	47.68%	23.33%	<b>26.76%</b>	<b>24.82%</b>

The employer pays the composite contribution rate on the payroll for all employees. The composite rate shown above is prior to any adjustment necessary for each employee due to the floating contribution rate provisions of Proposition C. The contribution rates shown above for Police, Fire, and Miscellaneous are for illustrative purposes only.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS**

**Table IV-2  
Development of the Proposition Amortization Rate as of July 1, 2013 (FYE 2015)**  
(dollars in thousands)

Item	Remaining Period	Police			Fire			Miscellaneous			Total		
		Outstanding Balance	Total Amortization	Total As a % of Pay	Outstanding Balance	Total Amortization	Total As a % of Pay	Outstanding Balance	Total Amortization	Total As a % of Pay	Outstanding Balance	Total Amortization	Total As a % of Pay
1994 Prop H - Domestic Partners	1	738	823	0.31%	823	918	0.49%	1,248	1,392	0.06%	2,808	3,134	0.12%
1996 Prop C - Retiree Benefits	3	89	34	0.01%	35	14	0.01%	16,172	6,230	0.29%	16,296	6,277	0.24%
1996 Prop D - New Fire Ret Bfts	3	0	0	0.00%	6,786	2,614	1.40%	0	0	0.00%	6,786	2,614	0.10%
1998 Prop A - New Police Ret Bfts	5	20,503	4,906	1.85%	0	0	0.00%	0	0	0.00%	20,503	4,906	0.19%
1998 Prop C - Paramedics Bfts	5	0	0	0.00%	4,249	1,017	0.54%	0	0	0.00%	4,249	1,017	0.04%
2000 Prop C - New Misc Ret Bfts	7	0	0	0.00%	0	0	0.00%	196,941	34,831	1.60%	196,941	34,831	1.32%
6.25% Credited Interest on EE ctrbs	9	65	9	0.00%	16	2	0.00%	9,102	1,295	0.06%	9,183	1,307	0.05%
2002 Prop H - Safety Ret Bfts	9	115,758	16,471	6.20%	123,062	17,510	9.39%	0	0	0.00%	238,819	33,981	1.29%
5.0% Credited Interest on EE ctrbs	11	(466)	(56)	-0.02%	(221)	(27)	-0.01%	(42,714)	(5,141)	-0.24%	(43,401)	(5,224)	-0.20%
2004 Prop E - New Safety LOD Bfts	12	5,585	627	0.24%	7,845	880	0.47%	0	0	0.00%	13,430	1,507	0.06%
2003 Prop F - Misc 3+3 Early Ret Bfts	12	0	0	0.00%	0	0	0.00%	16,897	1,895	0.09%	16,897	1,895	0.07%
Liability of 2003 Prop F (extended) - Misc 3+3 Early Ret Bfts	13	0	0	0.00%	0	0	0.00%	10,002	1,053	0.05%	10,002	1,053	0.04%
Liability of 2003 Prop F (extended) - Misc 3+3 Early Ret Bfts	14	0	0	0.00%	0	0	0.00%	4,577	455	0.02%	4,577	455	0.02%
2008 Prop B - New Misc Ret Bfts and Compound COLA	15	<u>38,897</u>	<u>3,666</u>	<u>1.38%</u>	<u>31,741</u>	<u>2,992</u>	<u>1.60%</u>	<u>672,123</u>	<u>63,347</u>	<u>2.90%</u>	<u>742,760</u>	<u>70,004</u>	<u>2.66%</u>
<b>Total of Propositions</b>		<b>\$181,169</b>	<b>\$ 26,480</b>	<b>9.96%</b>	<b>\$174,335</b>	<b>\$ 25,920</b>	<b>13.89%</b>	<b>\$884,347</b>	<b>\$105,357</b>	<b>4.83%</b>	<b>\$1,239,851</b>	<b>\$157,757</b>	<b>5.99%</b>

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes financial reporting standards for public employee retirement systems. GASB Statement No. 27 establishes accounting and financial reporting standards for pension plans by governmental employers.

Effective for SFERS year ending June 30, 2014, GASB Statement No. 67 will replace Statement No. 25, and effective for the City's fiscal year ending June 30, 2015, GASB Statement No. 68 will replace Statement No. 27. This report only provides information under Statements 25 and 27. A separate report will be issued reporting amounts under Statement 67 as of June 30, 2014.

The actuarial liability is determined assuming that members continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.58% per annum. GASB Statement No. 25 requires the actuarial liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of July 1, 2012 and July 1, 2013 are presented in Table V-1.

<b>Table V-1</b>			
<b>GASB No. 25</b>			
(in thousands)			
<b>Item</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>% Change</b>
<b>GASB No. 25 Basis</b>			
1. Actuarial Liabilities			
a. Members Currently Receiving Payments	\$ 11,878,160	\$ 11,261,886	5.5%
b. Active DROP members	102,851	322,916	-68.1%
c. Vested Terminated and Inactive Members	378,502	395,892	-4.4%
d. Active Members	<u>7,865,264</u>	<u>7,413,160</u>	<u>6.1%</u>
e. Total Actuarial Liability	\$ 20,224,777	\$ 19,393,854	4.3%
2. Actuarial Value of Assets	\$ 16,303,397	\$ 16,027,683	1.7%
3. Unfunded Actuarial Liability	\$ 3,921,380	\$ 3,366,171	16.5%
4. Ratio of Actuarial Value of Assets to Actuarial Liability (2)/(1)(e)	80.61%	82.64%	-2.0%

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

Tables V-2 through V-5 are exhibits for use in SFERS Financial Report. The Government Finance Officers Association (GFOA) recommends showing at least 6 years of experience in each of these exhibits. Table V-2 shows the Notes to Required Supplementary Information. Table V-3 presents an analysis of financial experience for the valuation year, Table V-4 presents the Solvency Test which shows the portion of actuarial liability covered by assets, and Table V-5 shows the Schedule of Funding Progress.

**Table V-2  
San Francisco Employees' Retirement System  
NOTES TO REQUIRED SUPPLEMENTARY INFORMATION**

The information presented in the required supplementary schedules to the Financial Section of the CAFR was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	July 1, 2013
Actuarial funding method	Entry Age Normal
Amortization method	Rolling and Fixed depending upon the source
Equivalent single amortization period	13.1 Years
Asset valuation method	5-year smoothing of return over or under expected returns
Actuarial assumptions:	
Investment rate of return	7.58%
Projected salary increases due to inflation <sup>1</sup>	3.83%
Cost-of-living adjustments	
Old Safety Plans – Charters 8.559 and 8.585	5.0% per year
Old Safety Plans – Charters 8.595 and 8.596	4.0% per year
Old Safety – Pre 7/1/75 Date of Retirement	3.0% per year
Old Plans – Miscellaneous	2.0% per year
New Plans – Police, Fire, and Miscellaneous	2.0% per year

The demographic assumptions were adopted by the Retirement Board in November 2010 based upon recommendations contained in our experience study covering the period from July 1, 2004 through June 30, 2009. The economic assumptions (price inflation, wage inflation, and discount rate) were adopted by the Retirement Board in January 2014. Based on our analysis, we communicated our estimates of reasonable ranges for price inflation, wage inflation, and the expected rate of return on which the discount rate is based. The Retirement Board adopted assumptions that are eight basis points higher than the ranges we communicated. Given the proximity to our reasonable ranges, we do not believe the assumptions selected by the Retirement Board significantly conflict with what is reasonable for the purposes of this report.

The rate of employer contributions to SFERS is composed of the Entry Age normal cost and amortization of the unfunded actuarial liability (UAL). The portion of the UAL attributable to benefit changes is amortized over closed 20 year periods from the date the benefit change is reflected, and the remaining portion of the UAL is amortized over a rolling 15-year period.

<sup>1</sup> Additional merit salary increases of 0.85% to 15.00% based on a participant's years of service and membership group are also assumed. These increases are not used in the amortization of SFERS UAL.

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

**Table V-3**  
**ANALYSIS OF FINANCIAL EXPERIENCE**  
**Gain (or Loss) in Actuarial Liability During Years Ended July 1**  
**Resulting from Differences Between Assumed Experience**  
**and Actual Experience**

(in thousands)

Type of Activity	Gain (or Loss) for Year Ending					
	July 1, 2013	July 1, 2012	July 1, 2011	July 1, 2010	July 1, 2009	July 1, 2008
Investment Income and Expenses	\$ (579,555)	\$ (1,139,038)	\$ (563,305)	\$ (755,593)	\$ (722,712)	\$ 216,709
Contribution Income (Due to Payroll Changes and One-Year Lag) <sup>1</sup>	(61,143)	(51,415)	(122,074)			
Combined Liability Experience	9,873	187,116	70,969	150,330	(235,783)	122,569
Gain (or Loss) During Year from Financial Experience	\$ (630,825)	\$ (1,003,336)	\$ (614,410)	\$ (605,263)	\$ (958,495)	\$ 339,278
Non-Recurring Gain (or Loss) Items	-	(135,527)	(148,758)	(373,175)	12,527	(1,155,958)
Composite Gain (or Loss) During Year	\$ (630,825)	\$ (1,138,863)	\$ (763,168)	\$ (978,438)	\$ (945,968)	\$ (816,680)

<sup>1</sup> Not determined prior to the July 1, 2011 valuation

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

<b>Table V-4 SOLVENCY TEST</b>								
<b>(dollars in thousands)</b>								
<b>Valuation Date</b>	<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	<b>Reported Assets<sup>1</sup></b>	<b>Portion of Actuarial Liabilities Covered by Reported Assets</b>			
	<b>Active Member Contributions</b>	<b>Retirees And Beneficiaries</b>	<b>Remaining Active Members' Liabilities</b>		<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	
<b>July 1,</b>								
2013	\$ 2,828,233	\$ 11,878,160	\$ 5,518,384	\$ 16,303,397	100%	100%	29%	
2012 <sup>2</sup>	2,687,347	11,261,886	5,444,621	16,027,683	100%	100%	38%	
2011 <sup>2</sup>	2,663,625	10,615,852	5,319,251	16,313,120	100%	100%	57%	
2010 <sup>3</sup>	2,593,076	9,761,070	5,289,247	16,069,058	100%	100%	70%	
2009	2,528,667	8,720,050	5,249,932	16,004,730	100%	100%	91%	
2008 <sup>4</sup>	2,411,027	8,013,456	4,934,341	15,941,390	100%	100%	100%	
2007 <sup>5</sup>	2,251,564	7,423,580	3,866,243	14,929,287	100%	100%	100%	

<sup>1</sup> Actuarial Value of Assets

<sup>2</sup> Reflects revised discount rate and wage inflation

<sup>3</sup> Reflects revised economic and demographic assumptions

<sup>4</sup> Reflects revised economic assumptions and Prop B changes

<sup>5</sup> July 1, 2007 numbers calculated by prior actuary



CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

<b>Table V-5</b>						
<b>Schedule of Funding Progress</b>						
(dollars in thousands)						
<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>
July 1, 2013	\$16,303,397	\$20,224,776	\$ 3,921,379	81%	\$2,535,963	155%
July 1, 2012	16,027,683	19,393,854	3,366,171	83%	2,393,842	141%
July 1, 2011	16,313,120	18,598,728	2,285,608	88%	2,360,413	97%
July 1, 2010	16,069,058	17,643,394	1,574,336	91%	2,398,823	66%
July 1, 2009	16,004,730	16,498,649	493,919	97%	2,544,939	19%
July 1, 2008	15,941,390	15,358,823	(582,567)	104%	2,457,196	-24%
July 1, 2007*	14,929,287	13,541,388	(1,387,899)	110%	2,376,221	-58%
July 1, 2006*	13,597,646	12,515,463	(1,082,183)	109%	2,161,261	-50%
July 1, 2005*	12,659,698	11,765,737	(893,961)	108%	2,052,862	-44%
July 1, 2004*	11,299,997	10,885,455	(414,542)	104%	2,155,252	-19%
July 1, 2003*	11,173,636	10,249,896	(923,740)	109%	2,130,071	-43%

\* Amounts for July 1, 2007 and earlier were calculated by the prior actuary

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>ACTIVE MEMBER DATA</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>% Change</b>
<b>Total</b>			
Count	28,717	28,097	2.2%
Average Current Age	47.9	47.8	0.1
Average Service	12.2	12.2	0.0
Annual Pensionable Earnings*	\$ 2,449,531,019	\$ 2,323,991,126	5.4%
Average Pensionable Earnings	\$ 85,299	\$ 82,713	3.1%
<b>Police</b>			
Count	1,967	1,883	4.5%
Average Current Age	42.3	42.5	-0.2
Average Service	13.8	14.1	-0.3
Annual Pensionable Earnings*	\$ 241,398,947	\$ 226,328,638	6.7%
Average Pensionable Earnings	\$ 122,724	\$ 120,196	2.1%
<b>Fire</b>			
Count	1,358	1,336	1.6%
Average Current Age	45.2	45.1	0.1
Average Service	14.8	14.7	0.1
Annual Pensionable Earnings*	\$ 176,144,261	\$ 169,513,902	3.9%
Average Pensionable Earnings	\$ 129,709	\$ 126,882	2.2%
<b>Miscellaneous</b>			
Count	25,392	24,878	2.1%
Average Current Age	48.4	48.4	0.0
Average Service	11.9	11.9	0.0
Annual Pensionable Earnings*	\$ 2,031,987,811	\$ 1,928,148,586	5.4%
Average Pensionable Earnings	\$ 80,025	\$ 77,504	3.3%

\* Fiscal Year ending June 30, 2013 and June 30, 2012, excludes DROP members

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Active Member Data - BY CHARTER</b>		
<b>July 1, 2013</b>		
	<b>Counts</b>	<b>Annual Pensionable Earnings*</b>
<b>Total</b>		
Old	104	\$ 8,963,902
New	24,419	2,137,448,103
Prop D	1,937	138,709,321
Prop C	<u>2,257</u>	<u>164,409,693</u>
Total	28,717	\$ 2,449,531,019
<b>Police</b>		
Old	1	\$ 147,079
New	1,795	225,539,859
Prop D	30	3,065,757
Prop C**	<u>141</u>	<u>12,646,252</u>
Total	1,967	\$ 241,398,947
<b>Fire</b>		
Old	3	\$ 547,717
New	1,236	165,415,417
Prop D	53	5,312,161
Prop C	<u>66</u>	<u>4,868,966</u>
Total	1,358	\$ 176,144,261
<b>Miscellaneous</b>		
Old	100	\$ 8,269,106
New	21,388	1,746,492,827
Prop D	1,854	130,331,403
Prop C	<u>2,050</u>	<u>146,894,475</u>
Total	25,392	\$ 2,031,987,811

\* Fiscal Year ending June 30, 2013 excludes DROP members

\*\* Includes 1 member in the new Sheriff's Plan (Charter A8.608) and 24 members in the new Miscellaneous Safety Plan (Charter A8.610)

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Active DROP Member Data - TOTAL SYSTEM</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>%Change</b>
<b>Total Active DROP</b>			
Count	72	185	-61.1%
Average Current Age	57.3	57.2	0.1
Total Annual Benefit*	\$ 7,760,263	\$ 20,718,754	-62.5%
Average Annual Benefit	\$ 107,781	\$ 111,993	-3.8%
Total DROP Account Balance	\$ 15,879,699	\$ 27,666,179	-42.6%

\* Benefits provided in June 30, valuation data.

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Non-Active Member Data - TOTAL SYSTEM</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>Change</b>
<b>Retired</b>			
Count	19,525	18,711	4.4%
Average Age	69.8	69.7	0.1
Total Annual Benefit*	\$ 795,092,010	\$ 740,008,701	7.4%
Average Annual Benefit	\$ 40,722	\$ 39,549	3.0%
<b>Disabled</b>			
Count	2,672	2,676	-0.1%
Average Age	67.5	67.2	0.3
Total Annual Benefit*	\$ 140,408,629	\$ 135,535,618	3.6%
Average Annual Benefit	\$ 52,548	\$ 50,649	3.8%
<b>Beneficiaries</b>			
Count	3,837	3,803	0.9%
Average Age	77.2	77.0	0.2
Total Annual Benefit*	\$ 110,047,161	\$ 106,705,968	3.1%
Average Annual Benefit	\$ 28,681	\$ 28,058	2.2%
<b>Payee Total</b>			
Count	26,034	25,190	3.4%
Average Age	70.7	70.5	0.2
Total Annual Benefit*	\$1,045,547,799	\$ 982,250,287	6.4%
Average Annual Benefit	\$ 40,161	\$ 38,994	3.0%
<b>Inactives</b>			
Count	5,973	5,558	7.5%
Average Age	47.8	47.0	0.8
Total Contribution Balance with Interest	\$ 176,568,594	\$ 182,611,394	-3.3%
Average Contribution Balance with Interest	\$ 29,561	\$ 32,856	-10.0%

\* Benefits provided in June 30, valuation data

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Non-Active Member Data - Old Safety - Prop H</b>			
<b>Pre 7/1/1975 Retirements</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>Change</b>
<b>Retired</b>			
Count	12	14	-14.3%
Average Age	92.6	91.7	0.9
Total Annual Benefit*	\$ 371,730	\$ 431,876	-13.9%
Average Annual Benefit	\$ 30,977	\$ 30,848	0.4%
<b>Disabled</b>			
Count	84	92	-8.7%
Average Age	81.6	81.2	0.4
Total Annual Benefit*	\$ 3,010,188	\$ 3,199,630	-5.9%
Average Annual Benefit	\$ 35,836	\$ 34,779	3.0%
<b>Beneficiaries</b>			
Count	212	233	-9.0%
Average Age	84.0	84.0	0.0
Total Annual Benefit*	\$ 6,461,436	\$ 7,026,587	-8.0%
Average Annual Benefit	\$ 30,478	\$ 30,157	1.1%
<b>Payee Total</b>			
Count	308	339	-9.1%
Average Age	83.7	83.6	0.1
Total Annual Benefit*	\$ 9,843,353	\$ 10,658,092	-7.6%
Average Annual Benefit	\$ 31,959	\$ 31,440	1.7%
<b>Inactives</b>			
Count	N/A	N/A	
Average Age	N/A	N/A	
Total Contribution Balance with Interest	N/A	N/A	
Average Contribution Balance with Interest	N/A	N/A	

\* Benefits provided in June 30, valuation data

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Non-Active Member Data - Old Safety - Prop M</b>			
<b>Charters A8.559, A8.585, A8.595, and A8.596</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>Change</b>
<b>Retired</b>			
Count	1,165	1,192	-2.3%
Average Age	72.9	72.1	0.8
Total Annual Benefit*	\$ 108,564,090	\$ 108,728,904	-0.2%
Average Annual Benefit	\$ 93,188	\$ 91,216	2.2%
<b>Disabled</b>			
Count	754	768	-1.8%
Average Age	72.8	72.1	0.7
Total Annual Benefit*	\$ 65,950,004	\$ 65,664,741	0.4%
Average Annual Benefit	\$ 87,467	\$ 85,501	2.3%
<b>Beneficiaries</b>			
Count	702	700	0.3%
Average Age	78.3	77.8	0.5
Total Annual Benefit*	\$ 50,854,285	\$ 49,861,652	2.0%
Average Annual Benefit	\$ 72,442	\$ 71,231	1.7%
<b>Payee Total</b>			
Count	2,621	2,660	-1.5%
Average Age	74.3	73.6	0.7
Total Annual Benefit*	\$ 225,368,378	\$ 224,255,296	0.5%
Average Annual Benefit	\$ 85,986	\$ 84,307	2.0%
<b>Inactives</b>			
Count	2	N/A	
Average Age	67.0	N/A	
Total Contribution Balance with Interest	\$ 2,129	N/A	
Average Contribution Balance with Interest	\$ 1,065	N/A	

\* Benefits provided in June 30, valuation data

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Non-Active Member Data - New Safety</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>Change</b>
<b>Retired</b>			
Count	1,101	937	17.5%
Average Age	60.6	60.3	0.3
Total Annual Benefit*	\$ 104,011,489	\$ 83,295,826	24.9%
Average Annual Benefit	\$ 94,470	\$ 88,896	6.3%
<b>Disabled</b>			
Count	441	412	7.0%
Average Age	59.9	59.1	0.8
Total Annual Benefit*	\$ 35,960,422	\$ 31,978,359	12.5%
Average Annual Benefit	\$ 81,543	\$ 77,617	5.1%
<b>Beneficiaries</b>			
Count	93	87	6.9%
Average Age	58.1	57.0	1.1
Total Annual Benefit*	\$ 4,015,299	\$ 3,754,053	7.0%
Average Annual Benefit	\$ 43,175	\$ 43,150	0.1%
<b>Payee Total</b>			
Count	1,635	1,436	13.9%
Average Age	60.2	59.8	0.4
Total Annual Benefit*	\$ 143,987,209	\$ 119,028,239	21.0%
Average Annual Benefit	\$ 88,066	\$ 82,889	6.2%
<b>Inactives</b>			
Count	193	180	7.2%
Average Age	45.4	44.0	1.4
Total Contribution Balance with Interest	\$ 9,919,357	\$ 9,703,656	2.2%
Average Contribution Balance with Interest	\$ 51,396	\$ 53,909	-4.7%

\* Benefits provided in June 30, valuation data



CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
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<b>Non-Active Member Data - Miscellaneous</b>			
	<b>July 1, 2013</b>	<b>July 1, 2012</b>	<b>Change</b>
<b>Retired</b>			
Count	17,247	16,568	4.1%
Average Age	70.2	70.1	0.1
Total Annual Benefit*	\$ 582,144,701	\$ 547,552,095	6.3%
Average Annual Benefit	\$ 33,753	\$ 33,049	2.1%
<b>Disabled</b>			
Count	1,393	1,404	-0.8%
Average Age	66.2	65.9	0.3
Total Annual Benefit*	\$ 35,488,016	\$ 34,692,887	2.3%
Average Annual Benefit	\$ 25,476	\$ 24,710	3.1%
<b>Beneficiaries</b>			
Count	2,830	2,783	1.7%
Average Age	77.0	76.8	0.2
Total Annual Benefit*	\$ 48,716,142	\$ 46,063,677	5.8%
Average Annual Benefit	\$ 17,214	\$ 16,552	4.0%
<b>Payee Total</b>			
Count	21,470	20,755	3.4%
Average Age	70.8	70.7	0.1
Total Annual Benefit*	\$ 666,348,858	\$ 628,308,659	6.1%
Average Annual Benefit	\$ 31,036	\$ 30,273	2.5%
<b>Inactives</b>			
Count	5,778	5,378	7.4%
Average Age	47.9	47.1	0.8
Total Contribution Balance with Interest	\$ 166,647,107	\$ 172,907,738	-3.6%
Average Contribution Balance with Interest	\$ 28,842	\$ 32,151	-10.3%

\* Benefits provided in June 30, valuation data

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members as of July 1, 2013**

**Total System**

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	102	60	0	0	0	0	0	0	0	0	162
25 to 29	403	701	175	0	0	0	0	0	0	0	1,279
30 to 34	371	1,039	876	113	0	0	0	0	0	0	2,399
35 to 39	254	888	1,054	613	86	0	0	0	0	0	2,895
40 to 44	215	732	1,100	1,115	595	81	1	0	0	0	3,839
45 to 49	202	606	885	1,262	871	548	83	1	0	0	4,458
50 to 54	163	533	812	1,130	862	805	563	160	0	1	5,029
55 to 59	101	365	647	995	702	700	812	314	49	7	4,692
60 to 64	59	170	407	609	441	411	481	210	89	15	2,892
65 to 69	12	45	121	195	160	106	97	44	25	16	821
70 and up	2	11	39	59	36	41	26	13	13	11	251
<b>Total Count</b>	<b>1,884</b>	<b>5,150</b>	<b>6,116</b>	<b>6,091</b>	<b>3,753</b>	<b>2,692</b>	<b>2,063</b>	<b>742</b>	<b>176</b>	<b>50</b>	<b>28,717</b>

**Distribution of Active Members as of July 1, 2013**

**Total System**

Age	Average 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	\$ 58,643	\$ 52,386	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 56,325
25 to 29	67,604	67,431	85,595	0	0	0	0	0	0	0	69,971
30 to 34	71,345	72,770	88,366	97,201	0	0	0	0	0	0	79,396
35 to 39	69,619	75,139	87,813	94,666	93,547	0	0	0	0	0	83,950
40 to 44	68,983	72,551	88,730	93,820	107,255	115,262	127,001	0	0	0	89,459
45 to 49	68,036	69,964	83,808	88,782	100,947	109,246	99,331	110,708	0	0	89,390
50 to 54	67,294	72,294	82,989	82,724	92,131	100,350	98,689	102,661	0	179,960	88,036
55 to 59	70,117	74,322	78,035	78,681	85,458	94,918	94,835	106,259	86,129	105,465	86,264
60 to 64	66,775	71,662	75,767	78,106	83,693	88,857	88,377	95,142	92,379	98,711	83,038
65 to 69	80,263	81,539	81,083	78,144	81,553	87,040	89,601	84,262	88,746	87,485	82,793
70 and up	45,481	50,095	76,361	79,301	80,477	79,983	83,004	84,527	80,533	99,195	79,165
<b>Avg. Salary</b>	<b>\$ 68,470</b>	<b>\$ 71,905</b>	<b>\$ 84,732</b>	<b>\$ 86,179</b>	<b>\$ 93,805</b>	<b>\$ 98,608</b>	<b>\$ 94,182</b>	<b>\$ 100,658</b>	<b>\$ 89,248</b>	<b>\$ 97,796</b>	<b>\$ 85,299</b>

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members as of July 1, 2013**

**Police**

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	5	1	0	0	0	0	0	0	0	0	6
25 to 29	42	50	71	0	0	0	0	0	0	0	163
30 to 34	20	42	199	30	0	0	0	0	0	0	291
35 to 39	7	21	115	110	17	0	0	0	0	0	270
40 to 44	6	14	75	125	151	15	0	0	0	0	386
45 to 49	2	4	29	81	153	107	11	0	0	0	387
50 to 54	2	6	9	26	78	70	88	41	0	0	320
55 to 59	1	4	2	7	19	28	28	23	0	0	112
60 to 64	2	0	2	1	7	5	3	1	0	0	21
65 to 69	0	0	0	1	3	1	1	0	0	1	7
70 and up	0	0	0	0	1	1	0	0	1	1	4
<b>Total Count</b>	87	142	502	381	429	227	131	65	1	2	1,967

**Distribution of Active Members as of July 1, 2013**

**Police**

Age	Average 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	\$ 89,184	\$ 89,378	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 89,216
25 to 29	84,764	93,819	112,781	0	0	0	0	0	0	0	99,745
30 to 34	85,329	100,140	115,844	123,934	0	0	0	0	0	0	112,314
35 to 39	93,188	101,055	115,743	124,676	124,356	0	0	0	0	0	118,198
40 to 44	93,864	108,390	115,996	122,382	131,071	150,660	0	0	0	0	124,688
45 to 49	104,270	99,415	114,410	120,334	128,271	136,967	132,663	0	0	0	127,678
50 to 54	86,926	106,569	130,019	126,209	122,868	133,777	137,239	152,472	0	0	132,942
55 to 59	57,081	125,126	120,006	124,940	123,845	137,812	137,264	182,942	0	0	142,277
60 to 64	102,313	0	118,484	126,867	121,772	124,115	117,218	123,269	0	0	119,827
65 to 69	0	0	0	120,293	123,150	124,579	141,560	0	0	211,929	138,259
70 and up	0	0	0	0	119,718	126,299	0	0	147,079	113,527	126,656
<b>Avg. Salary</b>	\$ 87,037	\$ 99,742	\$ 115,609	\$ 123,046	\$ 127,761	\$ 136,608	\$ 136,435	\$ 162,805	\$ 147,079	\$ 162,728	\$ 122,724

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members as of July 1, 2013**

**Fire**

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	0	1	0	0	0	0	0	0	0	0	1
25 to 29	0	28	5	0	0	0	0	0	0	0	33
30 to 34	0	44	53	14	0	0	0	0	0	0	111
35 to 39	0	37	48	65	10	0	0	0	0	0	160
40 to 44	0	18	51	123	87	18	1	0	0	0	298
45 to 49	0	6	28	112	103	103	5	0	0	0	357
50 to 54	0	5	11	60	46	111	20	3	0	1	257
55 to 59	0	1	4	17	14	39	19	8	2	0	104
60 to 64	0	1	0	0	5	14	7	4	3	1	35
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 and up	0	0	0	1	0	0	0	0	0	1	2
<b>Total Count</b>	0	141	200	392	265	285	52	15	5	3	1,358

**Distribution of Active Members as of July 1, 2013**

**Fire**

Age	Average 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	\$ 0	\$ 74,569	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 74,569
25 to 29	0	84,020	82,513	0	0	0	0	0	0	0	83,792
30 to 34	0	81,285	115,492	127,079	0	0	0	0	0	0	103,394
35 to 39	0	89,228	119,182	133,003	119,126	0	0	0	0	0	117,867
40 to 44	0	85,902	117,780	130,503	138,304	148,510	127,001	0	0	0	128,985
45 to 49	0	90,020	122,430	131,907	137,127	147,936	145,545	0	0	0	136,781
50 to 54	0	99,682	122,841	130,577	138,236	141,411	155,060	148,033	0	179,960	137,996
55 to 59	0	60,659	136,545	134,107	121,522	145,930	153,543	170,113	142,644	0	142,719
60 to 64	0	45,000	0	0	135,687	139,162	151,734	146,879	165,888	176,996	142,743
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 and up	0	0	0	168,501	0	0	0	0	0	228,558	198,530
<b>Avg. Salary</b>	\$ 0	\$ 85,075	\$ 117,933	\$ 131,461	\$ 136,175	\$ 144,725	\$ 152,603	\$ 159,501	\$ 156,590	\$ 195,171	\$ 129,709

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members as of July 1, 2013**

Age	Miscellaneous										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	97	58	0	0	0	0	0	0	0	0	155
25 to 29	361	623	99	0	0	0	0	0	0	0	1,083
30 to 34	351	953	624	69	0	0	0	0	0	0	1,997
35 to 39	247	830	891	438	59	0	0	0	0	0	2,465
40 to 44	209	700	974	867	357	48	0	0	0	0	3,155
45 to 49	200	596	828	1,069	615	338	67	1	0	0	3,714
50 to 54	161	522	792	1,044	738	624	455	116	0	0	4,452
55 to 59	100	360	641	971	669	633	765	283	47	7	4,476
60 to 64	57	169	405	608	429	392	471	205	86	14	2,836
65 to 69	12	45	121	194	157	105	96	44	25	15	814
70 and up	2	11	39	58	35	40	26	13	12	9	245
<b>Total Count</b>	<b>1,797</b>	<b>4,867</b>	<b>5,414</b>	<b>5,318</b>	<b>3,059</b>	<b>2,180</b>	<b>1,880</b>	<b>662</b>	<b>170</b>	<b>45</b>	<b>25,392</b>

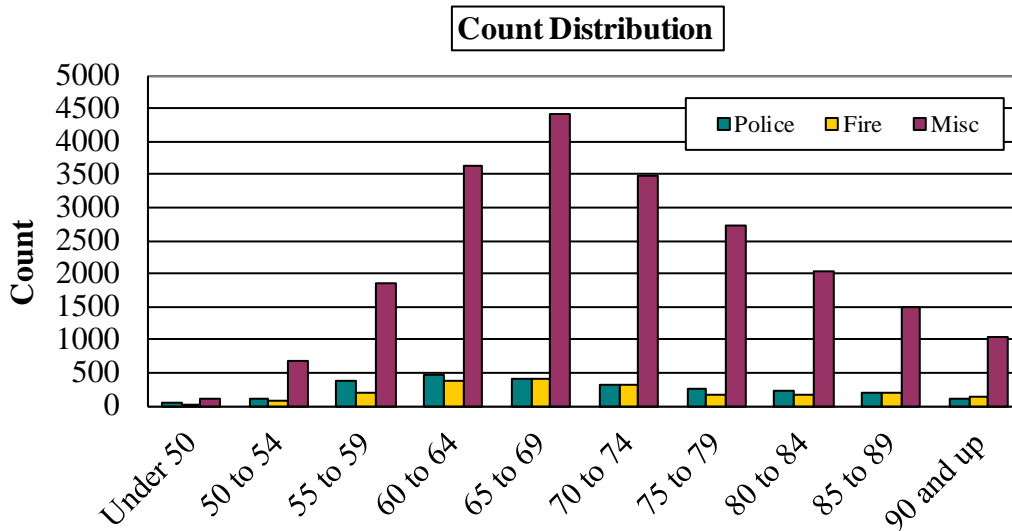
**Distribution of Active Members as of July 1, 2013**

Age	Miscellaneous										Total
	Average Salary 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	\$ 57,069	\$ 51,366	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 54,935
25 to 29	65,608	64,567	66,254	0	0	0	0	0	0	0	65,068
30 to 34	70,548	71,171	77,300	79,516	0	0	0	0	0	0	73,265
35 to 39	68,951	73,855	82,518	81,439	80,335	0	0	0	0	0	77,998
40 to 44	68,269	71,491	85,110	84,498	89,615	91,732	0	0	0	0	81,415
45 to 49	67,674	69,565	81,430	81,873	88,090	88,680	90,409	110,708	0	0	80,845
50 to 54	67,050	71,637	81,901	78,891	86,009	89,297	88,755	83,882	0	0	81,924
55 to 59	70,248	73,796	77,539	77,378	83,613	89,878	91,824	98,222	83,724	105,465	83,551
60 to 64	65,528	71,819	75,556	78,026	82,465	86,610	87,252	93,995	89,815	93,119	82,029
65 to 69	80,263	81,539	81,083	77,927	80,758	86,682	89,060	84,262	88,746	79,188	82,317
70 and up	45,481	50,095	76,361	77,763	79,356	78,826	83,004	84,527	74,987	83,229	77,415
<b>Avg. Salary</b>	<b>\$ 67,571</b>	<b>\$ 70,712</b>	<b>\$ 80,642</b>	<b>\$ 80,200</b>	<b>\$ 85,372</b>	<b>\$ 88,622</b>	<b>\$ 89,622</b>	<b>\$ 93,222</b>	<b>\$ 86,927</b>	<b>\$ 88,418</b>	<b>\$ 80,025</b>

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
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<b>Distribution of Retirees, Disabled Members, and Beneficiaries as of July 1, 2013</b>				
<b>Age</b>	<b>Count</b>			<b>Total</b>
	<b>Police</b>	<b>Fire</b>	<b>Misc</b>	
Under 50	42	27	115	184
50 to 54	100	74	691	865
55 to 59	376	190	1,863	2,429
60 to 64	464	387	3,618	4,469
65 to 69	401	418	4,417	5,236
70 to 74	313	318	3,482	4,113
75 to 79	255	175	2,716	3,146
80 to 84	226	169	2,029	2,424
85 to 89	199	193	1,506	1,898
90 and up	105	132	1,033	1,270
<b>Total</b>	<b>2,481</b>	<b>2,083</b>	<b>21,470</b>	<b>26,034</b>

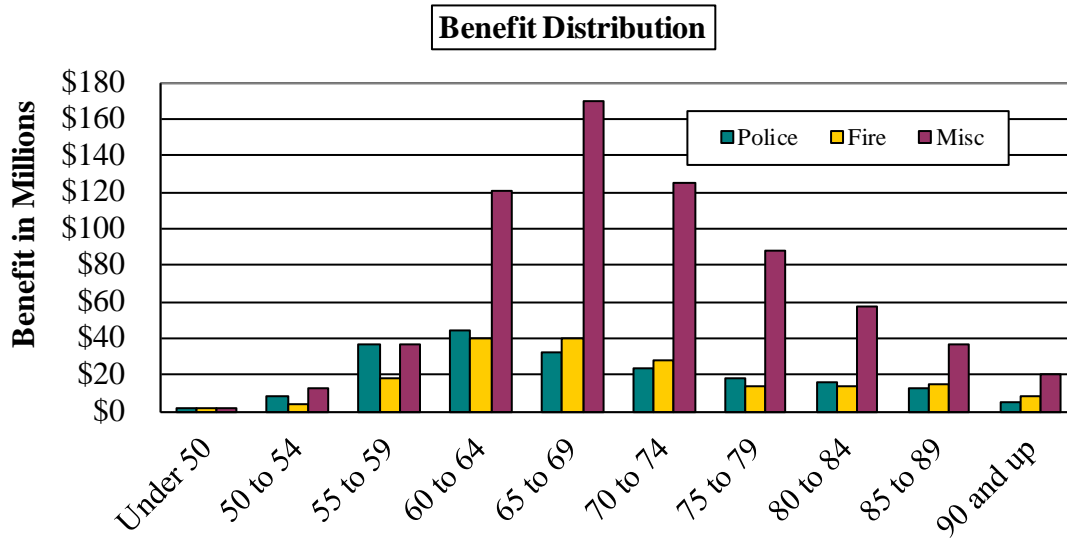


**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
JULY 1, 2013 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Distribution of Retirees, Disabled Members, and Beneficiaries as of July 1, 2013</b>				
<b>Annual Benefit *</b>				
<b>Age</b>	<b>Police</b>	<b>Fire</b>	<b>Misc</b>	<b>Total</b>
Under 50	\$ 2,134,258	\$ 1,155,562	\$ 2,082,876	\$ 5,372,696
50 to 54	8,194,587	4,082,507	12,062,276	24,339,371
55 to 59	36,920,446	18,431,163	36,661,313	92,012,922
60 to 64	44,325,831	40,133,747	120,160,749	204,620,327
65 to 69	32,425,319	39,276,219	169,136,022	240,837,559
70 to 74	23,156,102	27,391,685	124,964,044	175,511,830
75 to 79	17,626,499	13,895,191	88,325,476	119,847,166
80 to 84	15,599,833	13,919,042	56,806,552	86,325,428
85 to 89	12,158,487	14,785,512	36,159,042	63,103,042
90 and up	5,454,063	8,132,887	19,990,508	33,577,458
<b>Total</b>	<b>\$197,995,425</b>	<b>\$181,203,516</b>	<b>\$ 666,348,858</b>	<b>\$1,045,547,799</b>

\* Benefits provided in June 30 valuation data



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
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<b>Summary and Reconciliation of Participant Data Total System</b>									
	<b>Active</b>	<b>Vested Terminated</b>	<b>Reciprocal</b>	<b>Non-Vested Terminated</b>	<b>Disabled</b>	<b>Retired</b>	<b>Beneficiaries</b>	<b>DROP</b>	<b>Totals</b>
<b>Participants as of 7/1/2012</b>	<b>28,097</b>	<b>2,163</b>	<b>973</b>	<b>2,422</b>	<b>2,676</b>	<b>18,711</b>	<b>3,803</b>	<b>185</b>	<b>59,030</b>
New Entrants	2,127	0	0	240	0	0	0	0	2,367
Returned to Work	306	(260)	(2)	(37)	0	(7)	0	0	0
Vested Terminations	(290)	290	0	0	0	0	0	0	0
Reciprocals	(16)	(7)	92	(69)	0	0	0	0	0
Non Vested Terminations	(460)	0	0	460	0	0	0	0	0
Refund/Withdrawal	(197)	(19)	(7)	(214)	0	0	0	0	(437)
Retirements	(840)	(160)	(13)	(5)	0	1,130	0	(112)	0
Disabilities	(6)	(17)	(2)	0	74	(49)	0	0	0
Benefit Ceased *	(4)	(5)	0	0	(82)	(456)	(183)	0	(730)
New Continuants	0	0	0	0	0	0	213	0	213
New Dissolutions	0	0	0	0	4	35	2	0	41
Missing Participants	0	0	0	147	0	0	0	0	147
Duplicate Adjustments	0	1	0	0	0	162	1	0	164
Miscellaneous Adjustments	0	10	(1)	(7)	0	(1)	1	(1)	1
<b>Participants as of 7/1/2013</b>	<b>28,717</b>	<b>1,996</b>	<b>1,040</b>	<b>2,937</b>	<b>2,672</b>	<b>19,525</b>	<b>3,837</b>	<b>72</b>	<b>60,796</b>

\* Includes deaths and benefits that were terminated or suspended



CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
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Summary and Reconciliation of Participant Data									
Police									
	Active	Vested Terminated	Reciprocal	Non-Vested Terminated	Disabled	Retired	Beneficiaries	DROP	Totals
<b>Participants as of 7/1/2012</b>	<b>1,883</b>	<b>54</b>	<b>15</b>	<b>51</b>	<b>526</b>	<b>1,252</b>	<b>577</b>	<b>185</b>	<b>4,543</b>
New Entrants	123	0	0	6	0	0	0	0	129
Returned to Work	2	(2)	0	0	0	0	0	0	0
Vested Terminations	(5)	5	0	0	0	0	0	0	0
Non Vested Terminations	(1)	0	0	1	0	0	0	0	0
Reciprocals	0	(1)	2	(1)	0	0	0	0	0
Refund/Withdrawal	(1)	(2)	0	(1)	0	0	0	0	(4)
Retirements	(46)	(2)	0	0	0	160	0	(112)	0
Disabilities	(1)	(3)	0	0	14	(10)	0	0	0
Benefit Ceased *	0	(1)	0	0	(12)	(27)	(29)	0	(69)
New Continuants	0	0	0	0	0	0	23	0	23
New Dissolutions	0	0	0	0	1	4	0	0	5
Transferred In (From Fire)	0	0	0	0	0	0	0	0	0
Transferred In (From Misc)	15	0	0	0	0	0	0	0	15
Transferred Out (To Fire)	(1)	0	0	0	0	0	0	0	(1)
Transferred Out (To Misc)	(1)	(2)	0	0	0	0	0	0	(3)
Missing Participants	0	0	0	8	0	0	0	0	8
Duplicate Adjustments	0	1	0	0	0	1	1	0	3
Miscellaneous Adjustments	0	0	0	0	0	0	0	(1)	(1)
<b>Participants as of 7/1/2013</b>	<b>1,967</b>	<b>47</b>	<b>17</b>	<b>64</b>	<b>529</b>	<b>1,380</b>	<b>572</b>	<b>72</b>	<b>4,648</b>

\* Includes deaths and benefits that were terminated or suspended

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Summary and Reconciliation of Participant Data								
Fire								
	Active	Vested Terminated	Reciprocal	Non-Vested Terminated	Disabled	Retired	Beneficiaries	Totals
<b>Participants as of 7/1/2012</b>	<b>1,336</b>	<b>29</b>	<b>22</b>	<b>9</b>	<b>746</b>	<b>891</b>	<b>443</b>	<b>3,476</b>
New Entrants	66	0	0	0	0	0	0	66
Returned to Work	0	0	0	0	0	0	0	0
Vested Terminations	(10)	10	0	0	0	0	0	0
Reciprocals	0	0	0	0	0	0	0	0
Non Vested Terminations	0	0	0	0	0	0	0	0
Refund/Withdrawal	(1)	(1)	0	(2)	0	0	0	(4)
Retirements	(35)	(3)	0	0	0	38	0	0
Disabilities	0	0	0	0	18	(18)	0	0
Benefit Ceased *	0	0	0	0	(15)	(17)	(23)	(55)
New Continuants	0	0	0	0	0	0	14	14
New Dissolutions	0	0	0	0	1	3	0	4
Transferred In (From Misc)	2	0	0	0	0	0	0	2
Transferred In (From Police)	1	0	0	0	0	0	0	1
Transferred Out (To Misc)	(1)	0	0	0	0	0	0	(1)
Transferred Out (To Police)	0	0	0	0	0	0	0	0
Missing Participants	0	0	0	3	0	0	0	3
Duplicate Adjustments	0	0	0	0	0	1	0	1
Miscellaneous Adjustments	0	0	0	0	0	0	1	1
<b>Participants as of 7/1/2013</b>	<b>1,358</b>	<b>35</b>	<b>22</b>	<b>10</b>	<b>750</b>	<b>898</b>	<b>435</b>	<b>3,508</b>

\* Includes deaths and benefits that were terminated or suspended

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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<b>Summary and Reconciliation of Participant Data</b>								
	<b>Miscellaneous</b>							
	<b>Active</b>	<b>Vested Terminated</b>	<b>Reciprocal</b>	<b>Non-Vested Terminated</b>	<b>Disabled</b>	<b>Retired</b>	<b>Beneficiaries</b>	<b>Totals</b>
<b>Participants as of 7/1/2012</b>	<b>24,878</b>	<b>2,080</b>	<b>936</b>	<b>2,362</b>	<b>1,404</b>	<b>16,568</b>	<b>2,783</b>	<b>51,011</b>
New Entrants	1,938	0	0	234	0	0	0	2,172
Returned to Work	303	(257)	(2)	(37)	0	(7)	0	0
Vested Terminations	(275)	275	0	0	0	0	0	0
Reciprocals	(16)	(6)	90	(68)	0	0	0	0
Non Vested Terminations	(459)	0	0	459	0	0	0	0
Refund/Withdrawal	(195)	(16)	(7)	(211)	0	0	0	(429)
Retirements	(759)	(155)	(13)	(5)	0	932	0	0
Disabilities	(5)	(14)	(2)	0	42	(21)	0	0
Benefit Ceased *	(4)	(4)	0	0	(55)	(412)	(131)	(606)
New Continuants	0	0	0	0	0	0	176	176
New Dissolutions	0	0	0	0	2	28	2	32
Transferred In (From Fire)	1	0	0	0	0	0	0	1
Transferred In (From Police)	1	0	0	2	0	0	0	3
Transferred Out (To Fire)	(2)	0	0	0	0	0	0	(2)
Transferred Out (To Police)	(14)	0	0	(1)	0	0	0	(15)
Missing Participants	0	0	0	136	0	0	0	136
Duplicate Adjustments	0	0	0	0	0	160	0	160
Miscellaneous Adjustments	0	11	(1)	(8)	0	(1)	0	1
<b>Participants as of 7/1/2013</b>	<b>25,392</b>	<b>1,914</b>	<b>1,001</b>	<b>2,863</b>	<b>1,393</b>	<b>17,247</b>	<b>2,830</b>	<b>52,640</b>

\* Includes deaths and benefits that were terminated or suspended

**APPENDIX A**  
**MEMBERSHIP INFORMATION**

**Data Assumptions and Methods**

In preparing our valuation results, we relied without audit on information supplied by the SFERS staff. 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:

- Service for members on the “Active” data file was calculated using the field “Yrs Svc”. Service buyback that has been paid for is added to the “Yrs Svc” field. Service buyback that is under contract, but not paid in full, as of the valuation date is assumed to be paid in full per the contract and this service is reflected in the projected benefit. An adjusted date of hire is retroactively calculated from the valuation date.
- Valuation Salary for the fiscal year ending 6/30/2013 is equal to “Covered Pay” reported for members hired before the beginning of the previous plan year, and the maximum of “Covered Pay” and “Calculated Pay”, which is an annualized pay rate, reported for new hires. A minimum of \$45,000 annual pay is used for all active members. Valuation Salary for the fiscal year ending 6/30/2014 is equal to Valuation Salary for the prior fiscal year increased for merit according to our assumptions and for wage inflation in accordance with the latest MOUs. The wage inflation by group is:
  - 0.00% for Fire, Police and Muni Drivers
  - 1.76% for Craft Miscellaneous
  - 1.39% for Other Miscellaneous
- Benefits in the valuation data for members in pay status for the Miscellaneous and New Safety Charters include the Basic COLA effective July 1, 2013.
- Based on the latest MOUs and data provided by SFERS, it was assumed that there will be no Basic COLA increases for the fiscal year ending June 30, 2014 for the Old Safety Charter members in pay status
- No Supplemental COLA benefits were granted as of July 1, 2013. Thus, there were no adjustments to the benefits provided in the valuation data for a Supplemental COLA.
- For accounts having duplicate records based on Social Security Number in the “Active” data file, the records are added together for fields “Cvd Pay”, “Contribs”, “Interest”, “Shortage”, “Short Int” and “Yrs Svc”. The other data in the record is determined by the record which is considered open (“Plan Stat” = “O”) with the most recent “Membership Date”.
- Records on the “Active” data file are considered to be Active if they have a status of “AM” or “RT” which mean active, no “Job End Date” or the “Job End Date” is after 6/30/2012, and do not have a retiree record and their “Cvd Pay” is greater than \$0.
- Records on the “Active” data file are considered to be Inactive if they have a status of “VM”, which means vested or they have a status of “AM” but their “Job End Date” is prior to 6/30/2013, or their “Cvd Pay” is \$0. If these inactive members have less than 5 years of service (non-vested), they are assumed to receive a lump sum distribution on the valuation

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date. If these inactive members have 5 or more years of service (vested), they are assumed to have elected a deferred benefit and to retire at age 55.

- 147 missing inactive members, not included in the original data files, were included in the valuation and are assumed to receive a lump sum distribution equal to their employee contribution account balance of \$764,046.
- For Safety members, Final Average Compensation is determined using the greater of data fields "Cvd Pay" or "Calc Pay". If both these fields are \$0, then the pay "Rate" field is used and annualized based on the compensation frequency "Cmp Frq".
- For Safety members, the deferred benefit is estimated using Final Average Compensation multiplied by years of service (including service purchased) multiplied by the appropriate age factor. For Miscellaneous members, the deferred benefit at retirement is 200% of the member's contribution account balance with interest as of the valuation date projected with the assumed interest crediting rate to age 55 and then divided by the appropriate annuity factor from Table 12 of the Operating Tables. When there are deferred vested Miscellaneous Prop C members, their deferred benefit will be calculated the same except 200% will be replaced by 150%.
- Members on the "Inactive" data file are assumed to have elected a refund and receive a lump sum distribution on the valuation date if their "Withdrawal Date" is on or after the valuation date. If their "Withdrawal Date" is before the valuation date, they are assumed to have taken a full refund prior to the valuation date.
- Records on the "Retiree" file are considered in pay status if their benefit is not suspended or terminated.
- Members may retire and receive benefits under multiple Charter sections (e.g. - a police officer can have two benefits, one for the service during the academy training which is considered Miscellaneous service and a second benefit for all other service as a police officer). We value each component of a member's benefit separately under the applicable Charter section. Consequently, the member counts reported in this valuation are slightly higher than the actual number of members due to some individual members being reported under multiple groups.
- We assume any member reported in last year's "Retiree" file and not in this year's file is deceased without a beneficiary and is removed from the valuation data.
- We assume all deceased members with payments continuing to a beneficiary have been reported in the "Retiree" file.

CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions**

**1. Investment Return Assumption**

SFERS assets are assumed to earn 7.58% net of investment expenses.

**2. Inflation**

Wage inflation: 3.83% compounded annually

Consumer Price Inflation: 3.33% compounded annually

**3. Interest Credited to Member Contributions**

4.50%, compounded annually.

**4. 401(a)(17) Maximum Compensation Limit**

Only applies to new plans under Proposition C. Limit is expected to increase with price inflation.

**5. Salary Increase Rate**

Wage inflation component: 3.83%

The additional merit component:

Years of Service	Salary Merit Increases				
	Police	Fire	Muni Drivers	Craft	Misc.
1	11.00%	15.00%	15.00%	4.50%	7.00%
2	8.50	8.00	10.00	3.25	5.25
3	6.50	6.00	2.00	2.50	4.00
4	4.50	4.25	1.00	2.00	3.00
5	3.25	3.00	0.00	1.50	2.50
6	2.30	2.30	0.00	1.25	2.00
7	1.95	1.95	0.00	1.00	1.75
8	1.70	1.70	0.00	0.90	1.65
9	1.50	1.50	0.00	0.85	1.45
10	1.50	1.50	0.00	0.85	1.30
11	1.50	1.50	0.00	0.85	1.20
12	1.50	1.50	0.00	0.85	1.15
13	1.50	1.50	0.00	0.85	1.10
14	1.50	1.50	0.00	0.85	1.05
15 & over	1.50	1.50	0.00	0.85	1.00

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Extra covered wages in the last year before service retirement are assumed to be as follows:

Safety	3.0%
Muni Drivers	6.0%
Craft Workers	4.0%
Miscellaneous	1.5%

**6. Administrative Expense Assumption**

There is a 0.45% of Payroll assumption included in the normal cost rates for administrative expenses.

**7. Timing of Contributions**

Employer and employee contributions are made throughout the year.

**8. Cost-of-Living Increase in Benefits**

Old Plans - Police and Fire, Charters 8.559 and 8.585	5.00% per year
Old Plans - Police and Fire, Charters 8.595 and 8.596	4.00% per year
Old Plans - Police and Fire, pre-7/1/75 DOR	3.00% per year
Old Plans - Miscellaneous	2.00% per year
New Plans - Police, Fire and Miscellaneous	2.00% per year

**9. Rates of Termination of Employment**

Sample rates of termination by age and service for Miscellaneous members are shown below.

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<b>Misc. Rates of Termination by Age and Service Years</b>			
<b>Age</b>	<b>Service</b>		
	<b>0</b>	<b>3</b>	<b>5+</b>
20	37.50%	12.00%	6.50%
25	27.50	9.00	6.50
30	24.00	9.00	5.50
35	20.00	7.00	4.25
40	17.50	6.00	3.00
45	15.00	4.50	2.50
50	15.00	4.50	2.60
55	15.00	4.50	3.15
60	15.00	4.50	4.00
65	15.00	4.50	4.00

Sample rates of termination by service for Police, Fire, Muni Drivers and Craft members are shown below.



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<b>Rates of Termination</b>				
<b>Service</b>	<b>Police</b>	<b>Fire</b>	<b>Muni Drivers</b>	<b>Craft</b>
0	10.00%	4.00%	12.00%	8.00%
1	4.00	1.50	6.00	7.00
2	2.00	1.50	5.00	6.00
3	2.00	1.50	4.00	5.00
4	2.00	1.50	3.50	4.00
5	1.00	1.50	3.25	3.25
6	1.00	1.00	3.00	2.75
7	1.00	1.00	3.00	2.50
8	1.00	1.00	3.00	2.25
9	1.00	1.00	3.00	2.00
10	1.00	1.00	3.00	1.75
11	1.00	0.50	3.00	1.75
12	1.00	0.50	3.00	1.75
13	1.00	0.50	3.00	1.75
14	1.00	0.50	3.00	1.75
15	1.00	0.50	3.00	1.75
16	0.50	0.50	3.00	1.75
17	0.50	0.50	3.00	1.75
18	0.50	0.20	3.00	1.75
19	0.50	0.10	3.00	1.75
20	0.50	0.05	3.00	1.75
21	0.00	0.00	3.00	1.75
22	0.00	0.00	0.00	1.75
23	0.00	0.00	0.00	0.00

30% of terminating employees are assumed to subsequently work for a reciprocal employer and receive pay increases equal to the wage inflation assumption.

In estimating termination benefits for Miscellaneous members, it is assumed that employee contribution rates are, on average, not changed by the floating contribution rate provisions of Proposition C.

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**10. Member Refunds**

Non-vested terminated members are assumed to receive a refund of their contributions with interest. The rates of refund for terminated vested members in the year of termination are shown below.

<b>Vested Terminated Rates of Refund</b>		
<b>Age</b>	<b>Police &amp; Fire</b>	<b>Miscellaneous</b>
Under 25	100%	70%
25	75	55
30	50	40
35	30	35
40	20	30
45	10	20
50 & over	0	0

In estimating refund amounts, it is assumed that employee contribution rates are, on average, not changed by the floating contribution rate provisions of Proposition C.

**11. Rates of Disability**

Sample disability rates of active participants are provided below. 100% of safety and 0% of miscellaneous disabilities are assumed to be duty related.

<b>Rates of Disability at Selected Ages</b>						
<b>Age</b>	<b>Police</b>	<b>Fire</b>	<b>Muni Drivers</b>	<b>Craft</b>	<b>Misc. Females</b>	<b>Misc. Males</b>
30	0.05%	0.06%	0.01%	0.01%	0.01%	0.01%
35	0.09	0.15	0.06	0.06	0.05	0.04
40	0.16	0.38	0.11	0.12	0.10	0.08
45	0.37	0.60	0.17	0.24	0.28	0.11
50	0.79	1.20	0.75	0.44	0.55	0.30
55	3.00	5.00	1.20	0.64	0.60	0.42
60	6.10	12.75	0.00	0.00	0.00	0.00
65	7.50	15.00	0.00	0.00	0.00	0.00

Level of duty disability benefits (if projected to be disabled before service retirement eligibility)	
Police	55% of pay
Fire	60% of pay

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

Mortality rates for actives, retirees, beneficiaries, terminated vested and reciprocals are based on the sex distinct RP 2000 Mortality Tables. The Employee table is used for active employees and the Annuitant table is used for those receiving benefits. To reflect mortality improvements since the date of the table and to project future mortality improvements, the tables have been projected using scale AA to future years as follows:

Active Females: 2030  
Active Males: 2005  
Annuitant Females: 2020  
Annuitant Males: 2020

The table below provides a sample of these rates.

<b>Rates of Mortality for Actives and Annuitants</b>					
<b>Healthy Lives at Selected Ages</b>					
<b>Age</b>	<b>Actives</b>		<b>Age</b>	<b>Annuitants</b>	
	<b>Male</b>	<b>Female</b>		<b>Male</b>	<b>Female</b>
25	0.036%	0.014%	50	0.372%	0.166%
30	0.043	0.020	55	0.402	0.301
35	0.075	0.034	60	0.594	0.561
40	0.104	0.045	65	1.012	0.938
45	0.141	0.069	70	1.641	1.515
50	0.195	0.100	75	2.854	2.394
55	0.275	0.199	80	5.265	3.987
60	0.450	0.338	85	9.624	6.866
65	0.706	0.501	90	16.928	12.400
70	0.920	0.655	95	25.699	18.688
			100	33.773	23.276

For active members, 25% of Safety deaths and 0% of Miscellaneous deaths are assumed to be duty related.

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**13. Rates of Mortality for Retired Disabled Lives**

For Safety, all disabilities are assumed to be duty related and therefore all death benefits of disabled members are assumed to generate duty death benefits. The table below provides a sample of the mortality rates for members with disability retirement.

<b>Rates of Mortality for Disabled Lives at Selected Ages</b>				
<b>Age</b>	<b>Police and Fire</b>		<b>All Miscellaneous</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
50	0.40%	0.33%	1.63%	1.11%
55	0.53	0.50	1.94	1.56
60	0.74	0.74	2.29	1.61
65	1.26	1.09	3.17	1.80
70	2.04	1.59	3.87	2.84
75	3.18	2.47	6.00	3.65
80	6.09	4.08	8.39	5.23
85	10.80	7.16	14.04	8.42
90	15.09	12.35	21.55	14.14
95	23.77	21.24	31.03	20.92
100	37.44	32.55	45.91	34.18

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**14. Rates of Retirement**

Rates of retirement are based on age and service according to the following tables below.

<b>Rates of Retirement by Age and Service</b>						
<b>29 Years of Service or less (24 or less for Safety)</b>						
<b>Age</b>	<b>Police</b>	<b>Fire</b>	<b>Muni Drivers</b>	<b>Craft</b>	<b>Misc. Females</b>	<b>Misc. Males</b>
50	0.0150	0.0200	0.0700	0.0300	0.0300	0.0300
51	0.0150	0.0100	0.0250	0.0250	0.0250	0.0250
52	0.0150	0.0100	0.0250	0.0250	0.0250	0.0250
53	0.0300	0.0100	0.0500	0.0400	0.0400	0.0400
54	0.0300	0.0100	0.0500	0.0400	0.0400	0.0400
55	0.1000	0.0300	0.0600	0.0500	0.0400	0.0400
56	0.1000	0.0300	0.0600	0.0500	0.0450	0.0450
57	0.1000	0.0300	0.1000	0.0500	0.0500	0.0500
58	0.1000	0.0500	0.1000	0.0500	0.0600	0.0600
59	0.1000	0.1000	0.1000	0.0750	0.0750	0.0750
60	0.1000	0.2500	0.1000	0.1000	0.1100	0.1100
61	0.1000	0.2500	0.1250	0.1300	0.1400	0.1400
62	0.3000	0.2500	0.2500	0.2250	0.2250	0.2250
63	0.1000	0.2500	0.2000	0.1750	0.1750	0.1750
64	0.1000	0.2500	0.2000	0.1750	0.1750	0.1750
65	1.0000	1.0000	0.2500	0.2750	0.2250	0.2250
66	1.0000	1.0000	0.2500	0.2750	0.2250	0.2250
67	1.0000	1.0000	0.2500	0.1750	0.2000	0.2000
68	1.0000	1.0000	0.2500	0.1750	0.2000	0.2000
69	1.0000	1.0000	0.2500	0.1750	0.2000	0.2000
70 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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<b>Rates of Retirement by Age and Service 30 Years of Service or more (25 or more for Safety)</b>						
<b>Age</b>	<b>Police</b>	<b>Fire</b>	<b>Muni Drivers</b>	<b>Craft</b>	<b>Misc. Females</b>	<b>Misc. Males</b>
50	0.0300	0.0200	0.0300	0.0300	0.0300	0.0300
51	0.0300	0.0200	0.0300	0.0300	0.0300	0.0300
52	0.0400	0.0200	0.0300	0.0300	0.0300	0.0300
53	0.0700	0.1000	0.0300	0.0300	0.0300	0.0300
54	0.1000	0.2000	0.0300	0.0300	0.0750	0.0300
55	0.1200	0.2250	0.3000	0.0750	0.0750	0.0750
56	0.1400	0.2250	0.3000	0.0750	0.0750	0.0750
57	0.1600	0.2250	0.3000	0.0750	0.0750	0.0750
58	0.1800	0.2500	0.3000	0.1500	0.1250	0.1200
59	0.2000	0.3000	0.3000	0.3000	0.1750	0.1500
60	0.2200	0.3500	0.3000	0.3000	0.2500	0.3000
61	0.2500	0.4000	0.3000	0.3000	0.2500	0.3000
62	0.2500	0.4000	0.3500	0.3500	0.3750	0.3500
63	0.2500	0.3000	0.3000	0.3000	0.2500	0.2500
64	0.2500	0.3000	0.3000	0.3000	0.2500	0.2500
65	1.0000	1.0000	0.4500	0.3000	0.3750	0.2500
66	1.0000	1.0000	0.4500	0.3000	0.3750	0.2500
67	1.0000	1.0000	0.4500	0.3000	0.3750	0.2500
68	1.0000	1.0000	0.4500	0.3000	0.3750	0.2500
69	1.0000	1.0000	0.4500	0.3000	0.3750	0.2500
70 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Safety and Miscellaneous inactive terminated vested members and actives who are expected to terminate are assumed to retire at age 55.

**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**15. Family Composition**

The percentage assumed to be married (including assumption for Domestic Partners, 1994 Proposition H) is shown below. Spouses of male members are assumed to be three years younger than the member and spouses of female members are assumed to be three years older than the member. And, then the spouse is assumed to be an additional year younger in order to value continuance to children and dependent parents.

<b>Percentage Married</b>	
Safety Males	85%
Safety Females	48
Miscellaneous Males	75
Miscellaneous Females	48

**16. Deferred Retirement Option Program (DROP)**

Effective July 1, 2008 new police plan members may be eligible to enter a DROP. Based on the current plan design, limited experience data, and the sunset of the program in 2011, no adjustment to the retirement rates has been made for DROP in this valuation. Because contributions continue to be made by Members in DROP and employers on the payroll of Members in DROP, the payroll for Members in DROP is used as active payroll in the development of contribution rates.

**17. Deferred Member Benefit**

The benefit was estimated based on information provided by SFERS staff. The data used to value the estimated deferred benefit were date of birth, date of hire, date of termination, and last pay. Based on the data provided, service credit, highest average salary, and deferred retirement age were estimated. The estimates were used to compute the retirement benefit, upon which the liabilities are based. For those members without sufficient data or service, accumulated member contribution balances, with interest, were used as the actuarial accrued liability.

**18. Supplemental COLA**

There is currently no explicit assumption to value the Supplemental COLA. Charter Section A8.526-3 was amended by Proposition C stating that beginning on July 1, 2012 no Supplemental COLA is payable unless the System is fully funded based on the market value of assets for the previous year. Based on our projections, no Supplemental COLA is expected to be paid in the near future, although better than expected investment performance or actuarial gains could result in a Supplemental COLA sooner than otherwise expected.

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

**19. Other**

The contribution requirements and benefit values of a plan are calculated by applying actuarial assumptions to the benefit provisions and member information, using the actuarial funding methods described in the following section.

Actual experience of SFERS will not coincide exactly with assumed experiences, regardless of the choice of the assumptions, the skill of the actuary or the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed contribution rate. From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends, but not random year-to-year fluctuations.

**20. Changes Since Last Valuation**

None.



**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**B. Actuarial Methods**

**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 termination of employment. The normal costs calculated relate only to current member payroll. The actuarial liability is the difference between the present value of future benefits and the present value of future normal cost.

**2. Asset Valuation Method**

For the purposes of determining the Employer's contribution to SFERS, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of the fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process. Assets are assumed to be used exclusively for the provision of retirement benefits and expenses.

The actuarial value is calculated by recognizing 20% of each of the past five years of actual investment returns compared to the expected return (7.58% for the year ending 2013, 7.66% for the year ending 2012, 7.75% for the years ending 2008-2011 and 8.0% for prior years) on the actuarial asset value. The expected return on actuarial value of assets is determined using SFERS actual cash flows and the assumed return. The balance of the actual investment experience is recognized in a similar fashion in future years.

This asset smoothing method started with the market value as of July 1, 2004.

**3. Amortization Method**

The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets. The Charter specifies the period over which different components of the unfunded actuarial liability must be amortized.

The unfunded actuarial accrued liability due to net actuarial gains and losses and assumption changes are amortized as a level percentage of payroll over a rolling 15-year period beginning with the valuation date. Changes in the actuarial liability due to Charter amendments and Board-approved changes in the credited interest rate on member contribution accounts are amortized as a level percentage of payroll over a 20-year period beginning with the year the amendment is first reflected in the valuation.

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**4. Changes Since Last Valuation**

The normal cost rate calculation was revised to reflect that contributions are made throughout the year.

APPENDIX C  
SUMMARY OF PLAN PROVISIONS  
OLD POLICE AND FIRE

**I. Old Police and Fire Members – Charter Sections 8.559 and 8.595 (Police) and 8.585 and 8.596 (Fire)**

**1. Membership Requirement**

*Charter Sections 8.559 and 8.585*

Police Officers and Firefighters who became members before November 2, 1976 and retired on or before December 31, 2002 without electing membership in another Section.

*Charter Sections 8.595 and 8.596*

Active members on November 5, 2002 in Section 8.559 (Police) or Section 8.585 (Fire) who elected to switch to Section 8.595 (Police) or Section 8.596 (Fire) by December 31, 2002.

**2. Final Compensation**

Monthly salary earnable at the final rank held at termination date, or monthly salary at next lower rank if final rank held for less than one year.

**3. Credited Service**

One year of service credit is given for each fiscal year with 10 or more full months worked. A partial year (fraction with the numerator equal to months including partial months, and the denominator equal to 10) is given for each fiscal year with less than 10 full months worked.

**4. Member Contributions**

a. Member:

7.0% of salary, excluding overtime and most premium pay. These contributions are credited with interest annually as determined by the Board.

*Charter 8.585, 8.595, and 8.596*

Depending on the employer contribution rate, the member contribution rate can increase or decrease by up to 6% of pay.

b. Employer:

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System. Any decrease in the member contribution rate is paid by the City.

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SUMMARY OF PLAN PROVISIONS  
OLD POLICE AND FIRE

5. Service Retirement

**Eligibility**

Age 50 with 25 years of credited service.

**Benefit - Member**

***Charter Sections 8.559 and 8.585***

55% of Final Compensation plus an additional 4% of Final Compensation for each year of credited service in excess of 25 years, subject to a maximum of 75% of Final Compensation.

***Charter Sections 8.595 and 8.596***

A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-1 below) for each year of credited service, subject to a maximum of 90% of Final Compensation.

<b>Table C-1</b>	
<b>City and County of San Francisco Employees' Retirement System</b>	
<b>Sections 8.595 (Police) and 8.596 (Fire) – Service Retirement Factors</b>	
<b>Retirement Age</b>	<b>Retirement Factors</b>
50	2.40%
51	2.52%
52	2.64%
53	2.76%
54	2.88%
55 or above	3.00%

**Benefit - Survivor**

75% of the service retirement benefit paid to a qualified survivor.

APPENDIX C  
SUMMARY OF PLAN PROVISIONS  
OLD POLICE AND FIRE

**6. Non-Industrial Disability**

**Eligibility**

10 years of credited service.

**Benefit - Member**

*At least 10 but less than 25 years of credited service:*

1.5% of Final Compensation for each year of credited service between 10 and 25 years, subject to a minimum of 33.3% and a maximum of 75% of Final Compensation for Charter Sections 8.559 and 8.585 or 90% of Final Compensation for Charter Sections 8.595 and 8.596.

*At least 25 years of credited service:*

Service retirement benefit determined at date of disability.

**Benefit - Survivor**

75% of the disability retirement benefit paid to a qualified survivor.

**7. Industrial Disability**

**Eligibility**

No age or service requirement.

**Benefit - Member**

*If Not Eligible for Service Retirement:*

Final Compensation times a percentage of disability, subject to a minimum of 50% and a maximum of 90%, as determined by the Workers' Compensation Appeals Board. Once the member becomes eligible for service retirement, assuming that member earned service and salary increases during the period of disability, the benefit is recalculated using the service and salary rate for the current rank held. The recalculated benefit is based on a minimum of 55% of Final Compensation.

*If Eligible for Service Retirement:*

Service retirement benefit determined at date of disability, but not less than 55% of Final Compensation.

APPENDIX C  
SUMMARY OF PLAN PROVISIONS  
OLD POLICE AND FIRE

**Benefit - Survivor**

*If Not Eligible for Service Retirement:*

100% of the disability retirement benefit paid to a qualified survivor. Once the member would have become eligible for service retirement, assuming that member earned service and salary increases from the date of disability to the eligible service retirement date, the benefit is recalculated at 100% of the service retirement benefit, using the service and salary at the eligible service retirement date, not less than 55% of Final Compensation.

*If Eligible for Service Retirement:*

100% of the disability retirement benefit paid to a qualified survivor, not less than 55% of Final Compensation.

**8. Death while an Active Employee**

*If Death is due to a Non-Work-Related Cause:*

- a. Less than 10 Years of Credited Service, or No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months salary to a designated beneficiary.
- b. At least 10 but less than 25 years of Credited Service – Monthly continuation allowance to a qualified survivor equal to the non-industrial disability benefit the member would have been entitled to on the date of death, subject to a minimum of 33.3% of compensation at the time of death.
- c. At Least 25 Years of Credited Service but Less than Age 50 – Monthly continuation allowance to a qualified survivor equal to 75% of the monthly service retirement benefit the member would have received had the member been age 50 and retired on the date of death.
- d. Eligible for Service Retirement – Monthly continuation allowance to a qualified survivor equal to 75% of the monthly service retirement benefit the member would have received had the member been retired on the date of death.

*If Death is due to a Work-Related Cause:*

- a. No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months salary to a designated beneficiary. If the death is of a violent nature, an additional lump sum equivalent benefit equal to 12 months salary is payable.

APPENDIX C  
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OLD POLICE AND FIRE

- b. Qualified Survivor and Not Eligible for Service Retirement – Monthly continuation allowance to a qualified survivor equal to the salary at the date of death. Once the member would have become eligible for service retirement, assuming that member earned service and salary increases from the date of death to the eligible service retirement date, the benefit is recalculated at 100% of the service retirement benefit, using the service and salary at the eligible service retirement date, such allowance shall not be less than 55% of Final Compensation.
- c. Qualified Survivor and Eligible for Service Retirement – Monthly continuation allowance to a qualified survivor equal to 100% of the monthly service retirement benefit the member would have received had the member been retired on the date of death, but such allowance shall not be less than 55% of Final Compensation.

**9. Withdrawal Benefits**

*Less than five years of credited service:*

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

*Five or more years of credited service:*

The member may choose one of the following:

- a. Lump sum benefit equal to the accumulated employee contributions with interest.
- b. **Charter Sections 8.559 and 8.585:** Retirement benefit first payable at age 50 equal to 55% of Final Compensation at termination, multiplied by a service fraction, the numerator being the credited service of the member at termination, and a denominator of 25.

**Charter Sections 8.595 and 8.596:** A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-1 below) for each year of credited service, subject to a maximum of 90% of Final Compensation.

Cost-of-living adjustments are prorated if the member's accrued service is less than 25 years. COLA will be multiplied by a fraction where the denominator is 25 and the numerator is equal to service at date of termination.

**10. Additional Post-retirement Death Benefit**

A death benefit payable as a lump sum equal to \$100 for each full year of credited service, subject to a maximum of \$3,000, will be paid to a qualified survivor upon the member's death.

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**11. Post-retirement Cost-of-Living Benefit**

*Basic*

Monthly benefits are adjusted by 50% of the actual dollar increase or decrease (50% of the percentage increase or decrease for members under Proposition H) in the salary rank or position the member's Final Compensation used to calculate the monthly benefit was based on. A member's monthly benefit will never decrease below its original amount.

*Supplemental*

Effective July 1 of each fiscal year, if the Retirement System was fully funded based on the market value of assets for the previous year and there are sufficient "excess" investment earnings on the Retirement fund for the previous fiscal year-end, the adjustment could be increased to 3.5% of that member's current monthly benefit less the amount of the Basic COLA above. If "excess" earnings are insufficient to fund a 3.5% increase, then to the extent of "excess" earnings, benefits are increased in increments of 0.5% up to a maximum of 3.5%.

**12. Changes in this Valuation**

None.



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**II. New Police and Fire Members – Charter Sections (Police) 8.586, 8.597, 8.602 and 8.605; (Fire) 8.588, 8.598, 8.601 and 8.604; (Sheriff’s Department) 8.608; (Miscellaneous Safety) 8.610**

**1. Membership Requirement**

***Charter Sections 8.586 and 8.588***

Police Officers and Firefighters who became members on or after November 2, 1976.

***Charter Sections 8.597 and 8.598***

Active members on January 1, 2003 in Section 8.586 (Police) or Section 8.588 (Fire) who had elected to switch to Section 8.597 (Police) or Section 8.598 (Fire) by December 31, 2002; or new members becoming active on or after January 1, 2003 in Section 8.597 (Police) or Section 8.598 (Fire).

***Charter Sections 8.601 and 8.602***

Persons who become members of the fire or police department on or after July 1, 2010.

***Charter Sections 8.604 and 8.605***

Persons who become members of the fire or police department on or after January 7, 2012.

***Charter Section 8.608***

Sheriff, undersheriffs and all deputized personnel of the sheriff’s department hired on or after January 7, 2012.

***Charter Section 8.610***

Miscellaneous Safety member hired on or after January 7, 2012.

**2. Final Compensation**

***Charter Sections 8.586, 8.588, 8.597, and 8.598***

Average monthly total compensation earnable during any 12 months of credited service which average compensation is the highest.

***Charter Sections 8.601 and 8.602***

Average monthly total compensation earnable during the higher of any two consecutive fiscal years of earnings or the twenty-four months of earnings immediately prior to retirement.

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***Charter Sections 8.604, 8.605, 8.608 and 8.610***

Average monthly total compensation earnable during the higher of any three consecutive fiscal years of earnings or the thirty-six months of earnings immediately prior to retirement. Compensation for any fiscal year shall not include remuneration that exceeds 75% of the IRC 401(a)(17) compensation limit.

*(Pre 1998 – 3 year average of monthly compensation)*

**3. Credited Service**

One year of service credit is given for each fiscal year with 10 or more full months worked. A partial year (fraction with the numerator equal to months including partial months, and the denominator equal to 10) is given for each fiscal year with less than 10 full months worked.

**4. Member Contributions**

a. Member:

***Charter Sections 8.586, 8.588, 8.597 and 8.598***

7.5% of salary, excluding overtime and most premium pay. These contributions are credited with interest annually as determined by the Board.

Depending on the employer contribution rate, the member contribution rate can increase or decrease by up to 6% of pay.

***Charter Sections 8.601, 8.602, 8.604, 8.605, 8.608 and 8.610***

9.0% of salary, excluding overtime and most premium pay. These contributions are credited with interest annually as determined by the Board.

Depending on the employer contribution rate, the member contribution rate can increase or decrease by up to 4% of pay if the base pay rate is less than \$48 per hour or up to 5% of pay if the base pay rate is at or greater than \$48 per hour.

b. Employer:

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System. Any decrease in the member contribution rate is paid by the City.

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5. Service Retirement

**Eligibility**

Age 50 with 5 years of credited service. (*Pre 1998 – 50 with 25 years of credited service*)

**Benefit – Member**

***Charter Sections 8.586 and 8.588***

The monthly service retirement benefit is the greater of i) and ii) below, subject to a maximum of 75% of Final Compensation (*Pre 1998 – 70%*)

- i) 2% of Final Compensation for each of the first 25 years of service plus an additional 3% of Average Compensation for each year of credited service in excess of 25 years; (*Pre 1998 – benefit is calculated under i) only*);
- ii) A specified percent of Final Compensation based on the member’s age at retirement (factors shown in Table C-2 below) for each year of credited service.

<b>Table C-2</b>	
<b>City and County of San Francisco Employees’ Retirement System</b>	
<b>Sections 8.586 (Police) and 8.588 (Fire) – Service Retirement Factors</b>	
<b>Retirement Age</b>	<b>Retirement Factors</b>
50	2.00%
51	2.14%
52	2.28%
53	2.42%
54	2.56%
55 or above	2.70%

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***Charter Sections 8.597, 8.598, 8.601, and 8.602***

A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-3 below) for each year of credited service, subject to a maximum of 90% of Final Compensation.

<b>Table C-3</b>	
<b>City and County of San Francisco Employees' Retirement System</b>	
<b>Sections 8.597 and 8.601 (Police), 8.598 and 8.602 (Fire)</b>	
<b>Service Retirement Factors</b>	
<b>Retirement Age</b>	<b>Retirement Factors</b>
50	2.40%
51	2.52%
52	2.64%
53	2.76%
54	2.88%
55 or above	3.00%

***Charter Sections 8.604, 8.605 and 8.608***

A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-4 below) for each year of credited service, subject to a maximum of 90% of Final Compensation.

<b>Table C-4</b>	
<b>City and County of San Francisco Employees' Retirement System</b>	
<b>Sections 8.605 (Police), 8.604 (Fire) and 8.608 (Sheriff's Department) –</b>	
<b>Service Retirement Factors</b>	
<b>Retirement Age</b>	<b>Retirement Factors</b>
50	2.20%
51	2.30%
52	2.40%
53	2.50%
54	2.60%
55	2.70%
56	2.80%
57	2.90%
58 and above	3.00%

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**Charter Sections 8.610**

A specified percent of Final Compensation based on the member’s age at retirement (factors shown in Table C-6 below) for each year of credited service, subject to a maximum of 90% of Final Compensation.

<b>Table C-5</b>	
<b>City and County of San Francisco Employees’ Retirement System Section 8.610 (Miscellaneous Safety) – Service Retirement Factors</b>	
<b>Retirement Age</b>	<b>Retirement Factors</b>
50	1.800%
51	1.912%
52	2.020%
53	2.132%
54	2.244%
55	2.356%
56	2.468%
57	2.590%
58 or above	2.700%

**Benefit - Survivor**

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

**6. Non-Industrial Disability**

**Eligibility**

10 years of credited service.

**Benefit – Member**

1.5% of Average Compensation for each year of credited service, subject to a minimum of 33.3% of Final Compensation, subject to a maximum of 75% of Final Compensation for Charter Sections 8.586 and 8.588 or 90% of Final Compensation for all other Charter Sections.

**Benefit - Survivor**

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

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**7. Industrial Disability**

**Eligibility**

No age or service requirement.

**Benefit – Member**

*Less than age 50 with 25 Years of Service:*

Final Compensation times a percentage of disability, subject to a minimum of 50% and a maximum of 90%, as determined by the Workers' Compensation Appeals Board. If the member is age 50 with 5 years of service, the disability benefit is the service retirement allowance, but not less than 50% of Final Compensation. Once the member becomes eligible for qualified service retirement, assuming that member earned service and salary increases during the period of disability, the benefit is recalculated using the service and salary rate for the rank held at retirement. The recalculated benefit is based on a minimum of 50% of Final Compensation (not to exceed 90% of Final Compensation for Charter Sections 8.597, 8.598, 8.601, 8.602, 8.608, and 8.610).

*Age 50 with 25 Years of Service:*

The service retirement allowance, but not less than 50% of Final Compensation.

**Benefit - Survivor**

75% of the disability retirement benefit paid to a qualified survivor.

**8. Death while an Active Employee**

*If Death is Due to a Non-Work-Related Cause:*

- a. Less than 10 Years of Credited Service, or No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months salary to a designated beneficiary.
- b. At least 10 but less than 25 years of Credited Service – Monthly continuation allowance to a qualified survivor equal to the non-industrial disability benefit the member would have been entitled to on the date of death, subject to a minimum of 33.3% of Average Compensation at the time of death.
- c. At Least 25 Years of Credited Service but Less than Age 50 – Monthly continuation allowance to a qualified survivor equal to 50% of the monthly service retirement benefit the member would have received had the member been age 50 and retired on the date of death.

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- d. Age 50 with 25 Years of Credited Service – Monthly continuation allowance to a qualified survivor equal to 50% of the monthly service retirement benefit the member would have received had the member been retired on the date of death.

*If Death is Due to a Work-Related Cause:*

- a. No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months salary to a designated beneficiary. For Charter Sections 8.586 and 8.588, if the death is of a violent nature, an additional lump sum equivalent benefit equal to 12 months salary is payable.
- b. Qualified Survivor and Less than Age 50 with 25 Years of Service – Monthly continuation allowance to a qualified survivor equal to 100% (*Pre 1998 – 75%*) of Final Compensation at the date of death. Once the member would have completed 25 years of service and attained age 50, assuming that member earned service and salary increases from the date of death to the eligible service retirement date, the benefit is recalculated at 100% of the service retirement benefit, using the service and salary at the eligible service retirement date. Such allowance shall not be less than 50% of Final Compensation (For Chapter Sections 8.597, 8.598, 8.601, 8.602, 8.608 and 8.610 not to exceed 90% of Final Compensation).
- c. Qualified Survivor and Age 50 with 25 Years of Service – Monthly continuation allowance to a qualified survivor equal to 100% (*Pre 1998 – 75%*) of the monthly service retirement benefit the member would have received had the member been retired on the date of death, not less than 50% of Final Compensation.

**9. Withdrawal Benefits**

*Less than five years of credited service:*

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

*Five or more years of credited service:*

The member may choose one of the following:

- a. Lump sum benefit equal to the accumulated refund all of employee contributions with interest.
- b. **Charter Sections 8.586 and 8.588:** Retirement benefit first payable at age 50 equal to 2% of Final Compensation at termination for each year of credited service of the member at the date of termination.

**Charter Sections 8.597, 8.598, 8.601, 8.602, 8.604 8.605, 8.608, and 8.610:** A specified percent of Final Compensation at termination based on the member's age at retirement (factors shown in Table C-3, C-4 and C-5 above) for each year of credited service, subject to a maximum of 90% of Final Compensation, payable at age 50.

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**10. Additional Post-retirement Death Benefit**

A death benefit payable as a lump sum equal to \$100 for each full year of credited service, subject to a maximum of \$3,000, will be paid to a qualified survivor upon the member's death.

**11. Post-retirement Cost-of-Living Benefit**

*Basic*

Monthly benefits are increased or decreased each July 1 by a maximum of 2% per year of the initial monthly benefit. A member's monthly benefit will never decrease below its original amount. Effective July 1, 2009, monthly benefits are increased or decreased by a maximum of 2% of the prior year's monthly benefit.

*Supplemental*

Effective July 1 of each fiscal year, if the Retirement System was fully funded based on the market value of assets for the previous year and there are sufficient "excess" investment earnings on the Retirement fund for the previous fiscal year-end, the adjustment could be increased to 3.5% of that member's current monthly benefit less the amount of the Basic COLA above. If "excess" earnings are insufficient to fund a 3.5% increase, then to the extent of "excess" earnings, benefits are increased in increments of .5% up to a maximum of 3.5%.

**12. Changes in this Valuation**

None.



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SUMMARY OF PLAN PROVISIONS  
DROP PROVISIONS**

**III. Deferred Retirement Option Program (DROP) – Charter Section 8.900**

**Effective Date – July 1, 2008 through June 30, 2011**

Section 8.900 – effective July 1, 2008 through June 30, 2011. DROP sunsets on June 30, 2011. The Board of Supervisors voted not to renew DROP.

**1. Membership Requirement**

Active, full duty sworn officers occupying one of the eligible ranks; Police Officer, Sergeant, Inspector, Lieutenant, or Captain.

**2. Eligibility**

Age 50 with 25 years of credited service as a sworn member, including any service as a member of the San Francisco Airport Police. To participate, the member must agree to terminate employment through retirement at the end of their participation in DROP. No member shall be eligible for a promotion during their participation in DROP.

**3. Length of DROP period**

Once a member enters DROP, participation continues until either termination of employment or the maximum DROP participation period has been reached.

<b>Rank</b>	<b>Maximum Period</b>	<b>DROP</b>
Police Officer	36 months	
Sergeant/Inspector	24 months	
Lieutenant/Captain	12 months	

**4. DROP Benefit**

***DROP Account Balance***

The service pension, which is calculated based on age, compensation and length of service as of their date of entry into the Program, is credited monthly into a DROP Account including any Basic or Supplemental Cost of Living Adjustments. The DROP Account is also credited on a monthly basis with interest at an annual effective rate of 4% throughout the member's DROP period.

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**SUMMARY OF PLAN PROVISIONS**  
**DROP PROVISIONS**

***Retirement Benefit***

At the end of the DROP period, a lump sum distribution of the DROP Account Balance will be made and monthly retirement benefits will commence based on the initial DROP benefit calculated based on age, compensation and service at the date of entry into DROP including any cost of living adjustments to which the member would otherwise be entitled.

**5. Employee Contributions while in DROP**

The member still makes employee contributions into the retirement system which are deemed contributions to the general assets of SFERS, and shall not be part of the member's DROP Account.

**6. Effect of Disability on DROP participation**

***Duty Related Disability***

The Member will receive an industrial disability benefit as though the participant was never enrolled in DROP. Service, compensation, and age at the time of disability will be used to calculate the disability benefit. The DROP Account will be waived.

***Non-Duty Related Disability***

Member will terminate participation in DROP and is paid the balance in their DROP Account. They will begin receiving a monthly payment equal to the service retirement benefit determined as of the DROP entry date including any cost of living adjustments to which the member would otherwise be entitled.

**7. Effect of Member Death on DROP participation**

***Duty Related Death***

The member's qualified surviving spouse, domestic partner or other qualified dependent will receive a death allowance as though the participant was never enrolled in DROP. Service, compensation, and age at the time of death will be used to calculate the benefit. The DROP Account will be waived. The qualified spouse, domestic partner or qualified dependent may elect to receive a non-work related death benefit specific below instead.

***Non-Duty Related Death***

Participation in DROP is terminated and the balance in the Member's DROP Account is paid to the Member's beneficiary. In addition, any qualified survivor will begin receiving a post-retirement continuation allowance determined on the basis of beneficiary elections made by the member at the time of entry into DROP including any cost of living adjustments to which the Member would otherwise be entitled.

**8. Changes in this Valuation – None.**

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**  
**MISCELLANEOUS**

**IV. Miscellaneous Members – Charter Sections 8.509, 8.587, 8.600 and 8.603**

**1. Membership Requirement**

***Charter Section 8.509***

Employees and Officers, other than Police Officers or Firefighters, who became members before November 2, 1976 and continued as a member without interruption.

***Charter Section 8.587***

Active Employees and Officers, other than Police Officers or Firefighters, who were members under Section A8.584, and members under A8.587 whose accumulated contributions were in the retirement fund on November 7, 2000 and were not retired. After November 7, 2000, all full time employees, certified Civil Service employees, or temporary employees who work more than 1,040 hours in any 12-month period; excluding all Police Officers and Firefighters.

***Charter Section 8.600***

Employees and Officers, other than Police Officers or Firefighters, who become employed on or after July 1, 2010.

***Charter Section 8.603***

Employees and Officers, other than Police Officers or Firefighters, who become employed on or after January 7, 2012.

**2. Average Final Compensation**

***Charter Sections 8.509 and 8.587***

Average monthly compensation earned during any year of credited service which average compensation is the highest.

***Charter Section 8.600***

Average monthly compensation earned during the higher of any two consecutive fiscal years of earnings or the twenty-four months of earnings immediately prior to retirement.

***Charter Section 8.603***

Average monthly compensation earned during the higher of any three consecutive fiscal years of earnings or the thirty-six consecutive months of earnings immediately prior to retirement. Compensation for any fiscal year shall not include remuneration that exceeds 85% of the IRC 401(a)(17) compensation limit.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**  
**MISCELLANEOUS**

**3. Credited Service**

One year of service credit is given for each fiscal year with 10 or more full months worked. A partial year (fraction with the numerator equal to months including partial months, and the denominator equal to 10) is given for each fiscal year with less than 10 full months worked. (Exception: for Charter 8.509 members, in the year of retirement, the denominator in the fraction is equal to 12).

**4. Member Contributions**

a. Member:

*Charter 8.509*  
8.0% of salary.

*Charter 8.587, 8.600 and 8.603*  
7.5% of salary, excluding overtime and most premium pay.

Depending on the employer contribution rate and the base rate of pay of the member, the member contribution rate can increase or decrease by up to maximum percentage of pay shown in the following table:

<b>Hourly Rate of Pay</b>	<b>Maximum Increase / Decrease in Contribution Rate</b>
< \$24	0%
\$24 - \$48	4%
>= \$48	5%

These contributions are credited with interest annually as determined by the Board.

If the member elects Social Security, the contributions to the System may be reduced by the amount contributed to Social Security (excluding the Medicare portion). Retirement benefits are actuarially reduced by the shortage, which is the difference between contributions paid at the 8%/7.5% rate and contributions actually paid, plus plan interest.

b. Employer:

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System. Any decrease in the member contribution rate is paid by the City.

**APPENDIX C  
 SUMMARY OF PLAN PROVISIONS  
 MISCELLANEOUS**

**5. Service Retirement**

**Eligibility**

***Charter Section 8.509, 8.587 and 8.600***

Age 50 with 20 years of credited service, or age 60 with 10 years of credited service.

***Charter Section 8.603***

Age 53 with 20 years of credited service, age 60 with 10 years of credited service, or age 65

**Benefit - Member**

***Charter Section 8.509, 8.587 and 8.600***

The monthly service retirement benefit is the greater of i) and ii) below, subject to a maximum of 75% of Average Final Compensation.

- i) A specified percent of Average Final Compensation based on the member's age at retirement (factors shown in Table C-6 below) for each year of credited service, effective January 11, 2009.

<b>Table C-6</b>			
<b>City and County of San Francisco Employees' Retirement System</b>			
<b>Section 8.509, 8.587 and 8.600 Member Service Retirement Factors</b>			
<b>Retirement Age</b>	<b>Retirement Factors</b>	<b>Retirement Age</b>	<b>Retirement Factors</b>
50	1.0%	57	1.7%
51	1.1%	58	1.8%
52	1.2%	59	1.9%
53	1.3%	60	2.1%
54	1.4%	61	2.2%
55	1.5%	62 or above	2.3%
56	1.6%		

- ii) The actuarial equivalent of twice the member's accumulated contributions with interest.

**APPENDIX C  
 SUMMARY OF PLAN PROVISIONS  
 MISCELLANEOUS**

***Charter Section 8.603***

The monthly service retirement benefit is a specified percent of Average Final Compensation based on the member's age at retirement subject to a maximum of 75% of Average Final Compensation (factors shown in Table C-7 below).

<b>Retirement Age</b>	<b>Retirement Factors</b>	<b>Retirement Age</b>	<b>Retirement Factors</b>
53	1.000%	60	1.756%
54	1.108%	61	1.864%
55	1.216%	62	1.972%
56	1.324%	63	2.080%
57	1.432%	64	2.188%
58	1.540%	65 or above	2.300%
59	1.648%		

**Benefit - Survivor**

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

**6. Disability**

**Eligibility**

10 years of credited service.

**Benefit - Member**

1.8% of Average Final Compensation for each year of credited service, maximum of 75% of Average Final Compensation. If the benefit is less than 40% of Average Final Compensation, additional credited service had the member worked to age 60 can be added to the current credited service, in order to adjust the benefit to 40% of Average Final Compensation.

**Benefit - Survivor**

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

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**SUMMARY OF PLAN PROVISIONS**  
**MISCELLANEOUS**

**7. Death while an Active Employee**

*If Not Eligible for Service Retirement:*

Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months salary to a designated beneficiary. If the death is of a violent nature and job-related, an additional lump sum equivalent benefit equal to 12 months salary is payable.

*If Eligible for Service Retirement:*

A qualified spouse may elect i) or ii) below:

- i) Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months salary to a designated beneficiary.
- ii) A benefit equal to 50% of the service retirement benefit the member would have received had the member retired for service on the date of death.

**8. Withdrawal Benefits**

*Charter 8.509 members with less than ten years of credited service or less than \$1,000 in accumulated contributions and Charter 8.587, 8.600 and 8.603 members with less than five years of credited service:*

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

*Charter 8.509 members with ten or more years of credited service or accumulated contributions exceeding \$1,000 and Charter 8.587 and 8.600 members with five or more years of credited service:*

The member may choose one of the following:

- i) Lump sum benefit equal to the accumulated refund all of employee contributions with interest.
- ii) A deferred retirement benefit payable on or after age 50 equal to the actuarial equivalent of twice the member's accumulated contributions with interest as of the retirement date.

*Charter 8.603 members with five or more years of credited service:*

The member may choose one of the following:

- i) Lump sum benefit equal to the accumulated refund all of employee contributions with interest.
- ii) A deferred retirement benefit payable on or after age 53 equal to the actuarial equivalent of 150% of the member's accumulated contributions with interest as of the retirement date.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**  
**MISCELLANEOUS**

**9. Additional Post-retirement Death Benefit**

A death benefit payable as a lump sum equal to \$100 for each full year of credited service, subject to a maximum of \$3,000, will be paid to a qualified survivor upon the member's death.

**10. Post-retirement Cost-of-Living Benefit**

*Basic*

Monthly benefits are adjusted each July 1 by the accumulated change in the Consumer Price Index to the nearest 1%, with a maximum increase or decrease of 2% per year of the prior year's monthly benefit. A member's monthly benefit will never decrease below its original amount.

*Supplemental*

Effective July 1 of each fiscal year, if the Retirement System was fully funded based on the market value of assets for the previous year and there are sufficient "excess" investment earnings on the Retirement fund for the previous fiscal year-end, the adjustment could be increased to 3.5% of that member's current monthly benefit less the amount of the Basic COLA above. If "excess" earnings are insufficient to fund a 3.5% increase, then to the extent of "excess" earnings, benefits are increased in increments of .5% up to a maximum of 3.5%.

**11. Changes in this Valuation**

None.



**APPENDIX C  
SUMMARY OF PLAN PROVISIONS  
FLOATING EMPLOYEE CONTRIBUTION RATES**

**V. Floating Employee Contribution Rates**

The table below shows the adjustment to the employee contribution rate based on the calculated net employer contribution rate. There are three different adjustment schedules which apply to different groups of employees.

Net Employer Contribution Rate	Adjustment to Employee Contribution Rate		
	Group 1	Group 2	Group 3
0.00% - 0.00%	-4.00%	-5.00%	-6.00%
0.01% - 1.00%	-4.00%	-4.50%	-5.00%
1.01% - 2.50%	-3.75%	-4.25%	-4.75%
2.51% - 4.00%	-3.50%	-4.00%	-4.50%
4.01% - 5.50%	-2.50%	-3.00%	-3.50%
5.51% - 7.00%	-2.00%	-2.50%	-3.00%
7.01% - 8.50%	-1.50%	-2.00%	-2.00%
8.51% - 10.00%	-1.00%	-1.50%	-1.50%
10.01% - 11.00%	-0.50%	-0.50%	-0.50%
11.01% - 12.00%	0.00%	0.00%	0.00%
12.01% - 13.00%	0.50%	0.50%	0.50%
13.01% - 15.00%	1.00%	1.50%	1.50%
15.01% - 17.50%	1.50%	2.00%	2.00%
17.51% - 20.00%	2.00%	2.50%	3.00%
20.01% - 22.50%	2.50%	3.00%	3.50%
22.51% - 25.00%	3.50%	4.00%	4.50%
25.01% - 27.50%	3.50%	4.00%	4.50%
27.51% - 30.00%	3.75%	4.25%	4.75%
30.01% - 32.50%	3.75%	4.25%	4.75%
32.51% - 35.00%	4.00%	4.50%	5.00%
35.01% +	4.00%	5.00%	6.00%

**Group 1:** Miscellaneous members earning between \$24 per hour and \$48 per hour, and Police or Fire members hired after June 30, 2010 earning less than \$48 per hour.

**Group 2:** Miscellaneous members earning \$48 per hour or more, and Police or Fire members hired after June 30, 2010 earning \$48 per hour or more.

**Group 3:** Police and Fire members hired before July 1, 2010.

There is no adjustment for Miscellaneous members earning less than \$24 per hour. The hourly rates shown above are adjusted each year for consumer price inflation.

**Note:** The summary of major plan provisions is designed to outline principal plan benefits. If the SFERS staff 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 all future system 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”.

**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 (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**3. Accrued Service**

Service credited under the System which was rendered before the date of the actuarial valuation.

**4. Actuarial Equivalent**

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

**5. Actuarial Cost Method**

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of a retirement system benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the “actuarial funding method”.

**6. Actuarial Gain (Loss)**

The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

**7. 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 predetermined rates of interest, and by probabilities of payment.

**APPENDIX D  
GLOSSARY OF TERMS**

**8. Amortization**

Paying off an interest-discounted amount with periodic payments of interest and principal—as opposed to paying off with a lump sum payment.

**9. Annual Required Contribution (ARC) under GASB 25**

The Governmental Accounting Standards Board (GASB) Statement No. 25 defines the Plan Sponsor's "Annual Required Contribution" (ARC) that must be disclosed annually. The SFERS Employer computed contribution rate for FY 2011 meets the parameters of GASB 25.

**10. Normal Cost**

The actuarial present value of retirement system benefits allocated to the current year by the actuarial funding method.

**11. Set back/Set forward**

Set back is a period of years that a standard published table (i.e. mortality) is referenced backwards in age. For instance, if the set back period is 2 years and the participant's age is currently 40, then the table value for age 38 is used from the standard published table. It is the opposite for set forward. A system would use set backs or set forwards to compensate for mortality experience in their work force.

**12. Unfunded Actuarial Liability (UAL)**

The unfunded actuarial liability represents the difference between actuarial liability and valuation assets. This value is sometimes referred to as "unfunded actuarial accrued liability".

Most retirement systems have unfunded actuarial liabilities. They typically arise each time new benefits are added and each time experience losses are realized.

The existence of unfunded actuarial accrued liability is not in itself an indicator of poor funding. Also, unfunded actuarial liabilities do not represent a debt that is payable today. What is important is the ability of the plan sponsor to amortize the unfunded actuarial liability and the trend in its amount (after due allowance for devaluation of the dollar).