



**San Joaquin County
Employees' Retirement Association**

Actuarial Review and Analysis as of January 1, 2011

July 19, 2011

EFI ACTUARIES | EFI ASSET/LIABILITY MANAGEMENT SERVICES, INC.

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Summary of Results

This Actuarial Review and Analysis (Report) of the San Joaquin County Employees' Retirement Association (SJCERA, the Plan) has produced a very slight increase in the recommended employer contribution rate. A summary of the current status of the Plan is as follows:

	January 1, 2010	January 1, 2011
Plan Membership		
Active	5,915	5,473
Inactive	1,401	1,428
Receiving Benefits	4,252	4,489
Total	11,568	11,390
Average Pay	\$66,159	\$68,153
Assets (\$ millions)		
Market Value (MVA), excluding special reserves	\$1,624.2	\$1,868.1
Valuation Assets (AVA)	\$1,949.0	\$2,120.4
Actuarial Calculations (\$ millions)		
Actuarial Accrued Liability	\$2,769.6	\$2,917.7
Funding Ratio (AVA/AAL)	70.4%	72.7%
Funding Ratio (MVA/AAL)	58.6%	64.0%
Employer Contribution Rate	31.92%	32.04%
Plan Year Actuarial Employer Cost	\$123.0	\$117.7

The benefit provisions and actuarial assumptions of the Plan remained unchanged from the prior valuation. Continuing contribution rate increases are expected in future years as the significant investment losses experienced during 2008 are fully recognized in the actuarial value of assets used to compute the employer contribution.

Three factors affected cost and largely offset each other, resulting in the virtually unchanged employer contribution:

- Overall, salaries for continuing active Plan members were lower than expected, which produced lower Plan liabilities than anticipated, resulting in an actuarial gain and a cost decrease.
- Because salaries were lower than expected, the payroll over which the unfunded actuarial accrued liability is amortized is below that projected, causing the amortization payment to increase as a percentage of payroll.

- Under the Interest Crediting Policy adopted by the Board, the Contingency Reserve was reduced from 3% of assets to 1.5%, making more assets available to offset liabilities and decreasing the Plan contribution rate.

There are a number of factors that can be expected to affect costs in the future:

- The liabilities and contribution rates determined in this Valuation are based on a set of actuarial assumptions. Despite the care and effort expended in determining the most accurate possible set of assumptions, the future experience of the Plan will certainly differ from what we assume. As a result, actuarial gains or losses will occur annually, and the employer contribution rate will fluctuate.
- There are investment losses that are deferred by the actuarial smoothing method and not included in the actuarial value of assets used to determine the employer contribution rate. The ratio of the actuarial value of Plan assets to the market value is 113.5%, indicating that 13.5% of the actuarial value of Plan assets consists of unrecognized investment losses. As a result, cost increases are expected as these deferred losses are recognized.
- Based on the assumptions and cost method, Plan assets are currently below the target level of assets determined by the cost method; consequently, there is an unfunded actuarial accrued liability. As a result, the employer contribution consists of two components: The normal cost and the amortization of the unfunded actuarial accrued liability.

The employer normal cost of 17.8% of payroll (a weighted average of 15.7% for General employees and 28.0% for Safety employees) represents the cost of the additional benefits earned each year by active Plan members. The balance of the employer contribution rate represents the amortization of the unfunded liability, which is a payment designed to bring the Plan's assets up to the target level set by the actuarial cost method.

As the unfunded liability is amortized, it will eventually decline in value and the amortization payment will decline; this will result in a long-term downward trend in employer contributions.

Purpose of the Report

This Report presents the results of an actuarial review and analysis of the San Joaquin County Employees' Retirement Association as of January 1, 2011. The purposes of this Report are:

- To review the experience of the Plan over the past year and to discuss reasons for changes in Plan cost;
- To compute the annual employer contribution - expressed as a percentage of payroll to be contributed beginning January 1, 2012 - required to fund the Plan in accordance with actuarial principles;
- To discuss and project any emerging trends in Plan costs; and

- To present those items required for disclosure under Statement No. 25 of the Governmental Accounting Standards Board (GASB).

Change in Plan Cost from Prior Review

The table below summarizes the impact of actuarial experience and changes in benefits on Plan cost.

	Employer Cost	Employer Contribution Rate (% Payroll)
January 1, 2010	\$123,029,394	31.92%
Change in Cost Due to:		
Demographic Experience	(1,635,032)	(0.01%)
Salary Experience	(2,442,160)	(0.40%)
New Entrants to the Plan	1,236,181	0.03%
Decrease in Payroll for Amortization of Unfunded Actuarial Accrued Liabilities	0	1.18%
Impact of 12-month delay in contribution rates	818,616	0.22%
Investment Experience	122,703	0.03%
Reduction in Contingency Reserve	(2,549,096)	(0.69%)
Impact of Rolling 20-Year Amortization	(894,862)	(0.24%)
Total Cost as of January 1, 2011	\$117,685,744	32.04%

An analysis of the cost changes from the prior valuation reveals the following:

- Demographic experience was neutral.

The demographic experience of the Plan – rates of retirement, death, disability, and termination – was very slightly better than what was predicted by the actuarial assumptions in aggregate, causing a small decrease in cost.

- Pay increases were below expectations.

Increases in pay among active members during 2010 were below those anticipated by the actuarial assumptions. As a result, actuarial liabilities increased more slowly than expected, resulting in an actuarial gain, decreasing the employer contribution rate by 0.40% of payroll.

- New members entered the Plan.

From January 1, 2010 to January 1, 2011, there were 71 new hires (or rehires) entering the Plan to replace departing members. Recent new hires have a similar Plan normal cost as a percentage of payroll when compared to current members, but they increase the payroll on which contributions

are based. Due to the new hires, the employer contribution rate increased by 0.03% of payroll, and the addition of these new members increased member payroll by \$6 million, increasing the Plan cost in dollar terms by about \$1.2 million.

- Payroll used to amortize unfunded liabilities was lower than expected.

Payroll decreased by \$18.1 million from January 1, 2010 to January 1, 2011. As a result, unfunded actuarial accrued liabilities were amortized over a narrower payroll base, and the employer contribution rate increased by 1.18% of pay.

Overall, the demographic experience was closely in line with expectations, while salaries were lower than anticipated, for a net increase in cost of 0.80% of pay.

- The one year contribution rate delay caused a small cost increase.

We have calculated the impact of the one year delay in the contribution rate (i.e. the use of the January 1, 2009 valuation contribution rate for the computation of the 2010 annual contribution). Given that the contribution rate as a percentage of payroll as of January 1, 2010 was about 3% of pay higher than the previous year's rate, there was a loss, causing costs to increase by 0.22% of pay.

This type of loss will occur in any year in which the contribution rate has increased. Conversely, a decrease in the contribution rate will result in a gain in the following year.

- Investment experience and reserve changes produced an actuarial gain.

The assets of the Plan returned close to 12.4% on a market basis, and 6.4% on an actuarial basis. After reflecting the effect of changes in the Special Reserves, a small actuarial loss was produced, increasing cost by 0.03% of payroll.

Because the return on the actuarial value of assets was less than the valuation rate, sufficient assets were not available to fully credit the reserves. Therefore, under the Interest Crediting Policy adopted by the Board, the remaining interest credits were drawn from the Contingency Reserve, reducing its level from 3% of assets to about 1.5%, which added about \$30 million to valuation assets. This reserve release reduced Plan cost by 0.69% of pay.

- Amortization under the Plan's Funding Policy caused a decrease in costs.

In 2009, the funding policies were revised as follows:

1. Half of the actuarial loss experienced in 2008 was deemed to be an Extraordinary Actuarial Loss. Thus 50% of the loss will be separately amortized, as a level percentage of pay, over a closed 30 year period. Currently, 28 years remain in this closed period.
2. The remaining Unfunded Actuarial Accrued Liability (UAAL) will be amortized, as a level percentage of pay, over a 20 year period, which will remain an open period amortization until

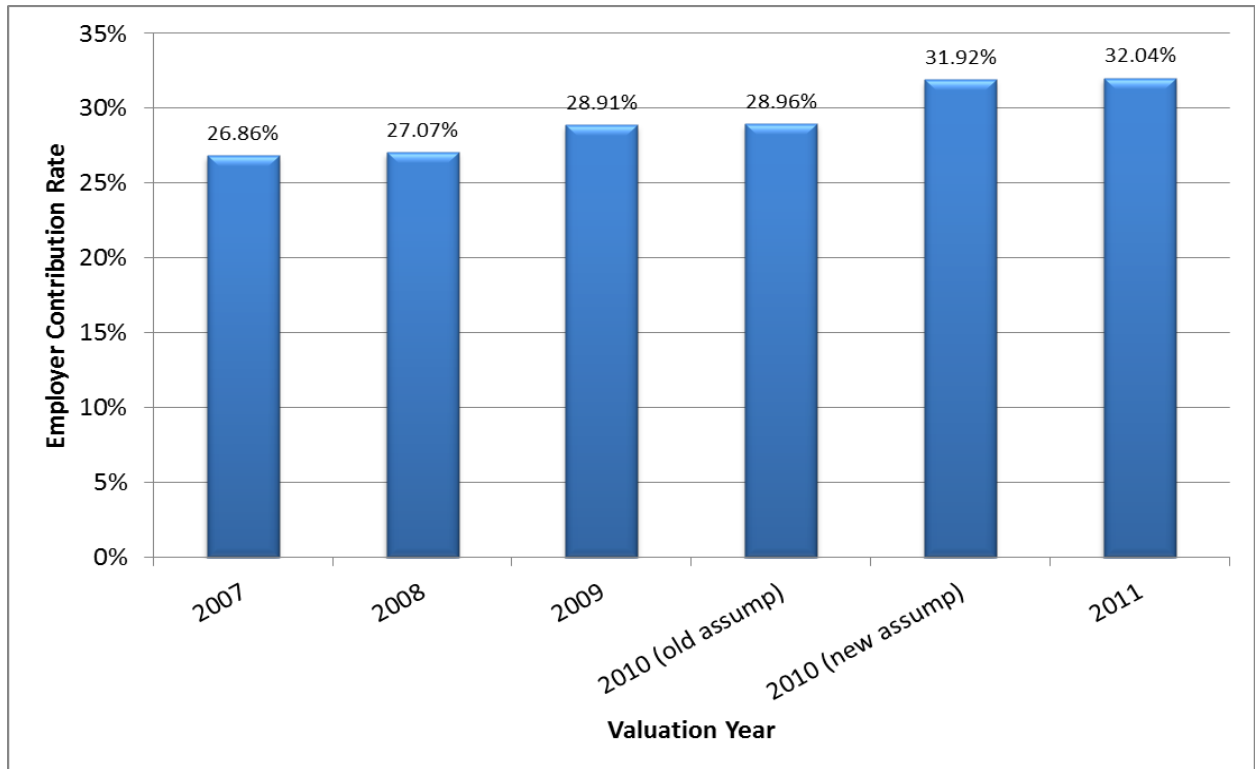
January 1, 2014, when it will be decreased by one year in each valuation report until a 12 year amortization period is reached.

The above was reflected in the 2009 valuation for the first time, and continues to be followed for this valuation. The impact of using a rolling 20 year amortization, as opposed to a closed period which would entail 19 years remaining as of January 1, 2011, was a decrease in Plan costs of about 0.24% of pay.

Graphs 1 and 2 below show the history of Plan costs and funding status since 2007. The ratios shown in Graph 2 are based on the actuarial value of Plan assets divided by the actuarial accrued liability (blue bars), as well as the market value of assets divided by the same liability (red bars).

We see in Graph 2 that the funding ratios have been near 90% until recently. The 2008 investment losses have had a significant impact on funding ratios, and will continue to be felt for a number of years.

Graph 1: History of the Employer Contribution Rate as a Percentage of Member Payroll



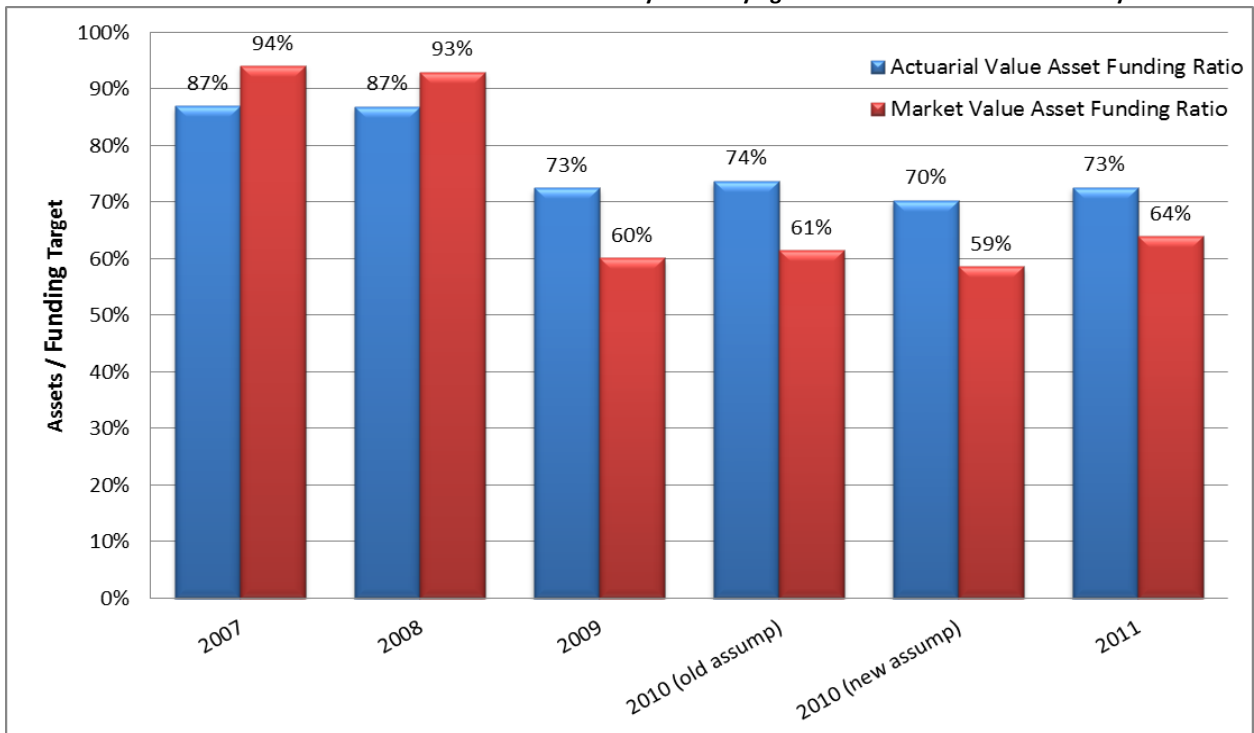
Future Trends

The contribution rate computed in this Report is calculated at a point in time: It is based on a snapshot of Plan assets and actuarial liabilities taken as of January 1, 2011. It is instructive to project actuarial liabilities and costs into the future, to try to discern forces that may cause changes in Plan cost. Accordingly, in this section of the Report we will project Plan benefits, costs, and funding ratios for the next 45 years.

In our projections we will assume that the Plan's actuarial assumptions are exactly realized. Of course, this won't happen, but such projections can give us important information on long-term trends that are obscured by the yearly variation in Plan costs caused by investment experience. We will also assume that active Plan membership remains constant: The number of new entrants each year is assumed to equal the number of active members who retire, become disabled, terminate, or die.

Graph 2: History of Plan Funding Ratio

The ratio shown is the value of Plan assets divided by the entry age normal actuarial accrued liability.



Graph 3 below shows a projection of the employer cost as a percentage of payroll for the next 45 years. Both the normal cost and the amortization of any unfunded actuarial accrued liability are included. Graph 4 is a projection of the Plan's funded ratio over the next 45 years, based on the actuarially smoothed asset value.

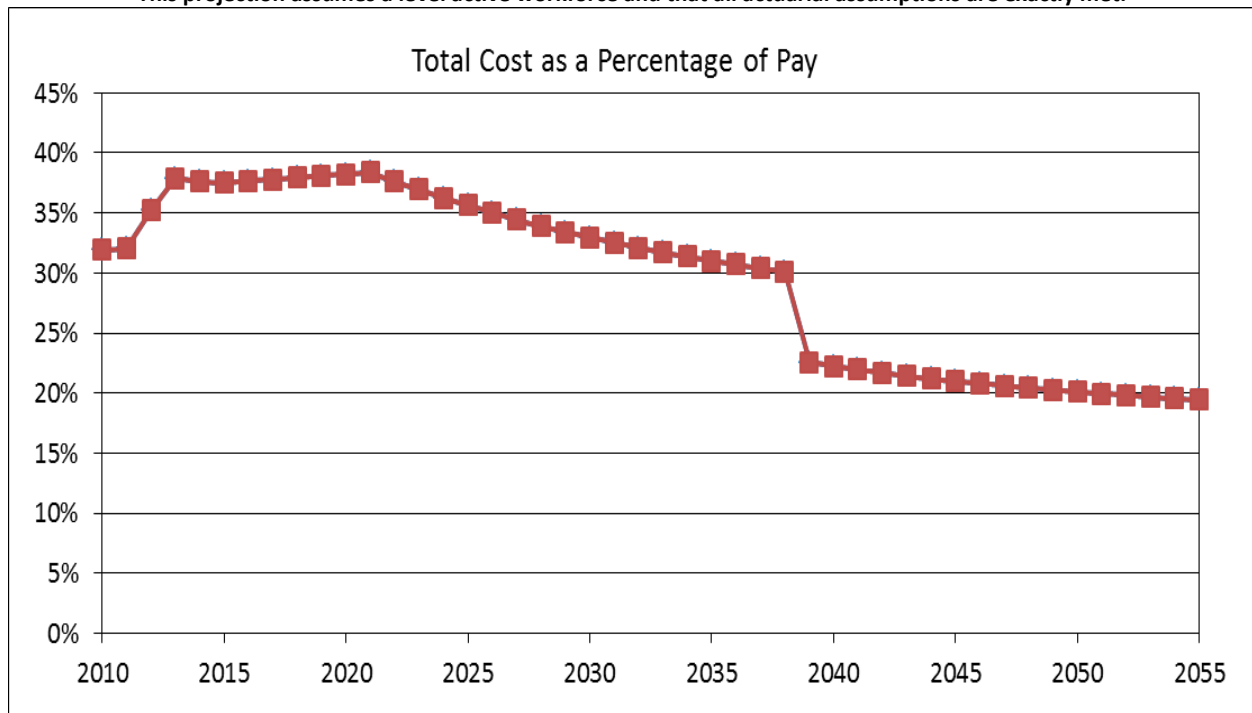
Graph 3 shows that Plan costs are projected to increase over the next five years to nearly 40% of pay as 2008 market losses continue to be recognized and as the amortization period decreases after 2014. After 2020 or so, costs begin to decrease gradually, but remaining above 30% of pay for the next two decades. The Plan is currently underfunded, with assets below the target asset level set by the actuarial

funding method. As the unfunded actuarial accrued liability is paid off through amortization (including amortization of Extraordinary Actuarial Losses), the Plan cost is expected to decrease to the level of the employer normal cost for new entrants, about 18% of pay.

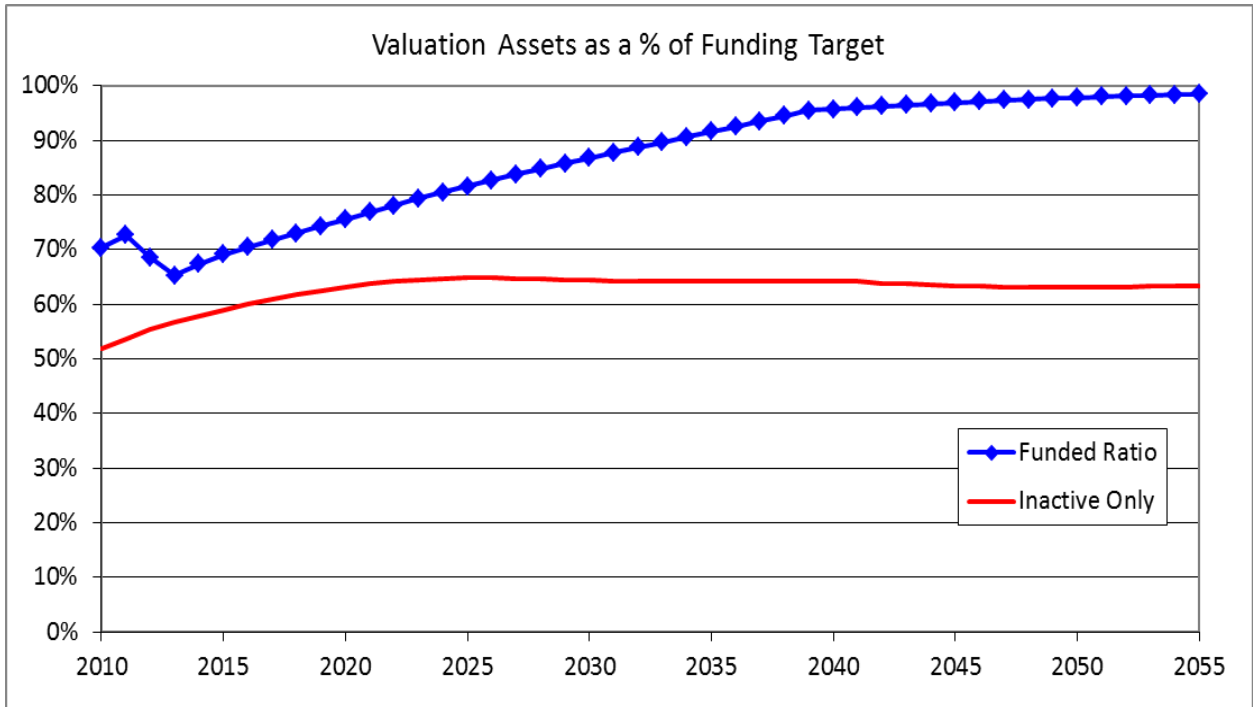
In Graph 4 we see that the funded level is projected to increase over time, but will decrease somewhat during the next two years during which 2008 market losses are being recognized. Over the long term, the Plan should gradually approach full funding.

The red line shown in Graph 4 represents the portion of the total actuarial liability that is based on benefits for inactive participants only. As this Inactive Funded Ratio increases over time (it is expected to reach 60% over the next fifteen years), the risk of the Plan funding ratio dropping below this level also increases. When the Plan's funded ratio is lower than the Inactive Funded Ratio, it indicates that no Plan assets have been set aside to fund future benefits for current active participants. This in turn indicates that the generational equity that actuarial funding is designed to accomplish is not being achieved.

Graph 3: Projection of Employer Cost as a Percentage of Member Payroll
This projection assumes a level active workforce and that all actuarial assumptions are exactly met.

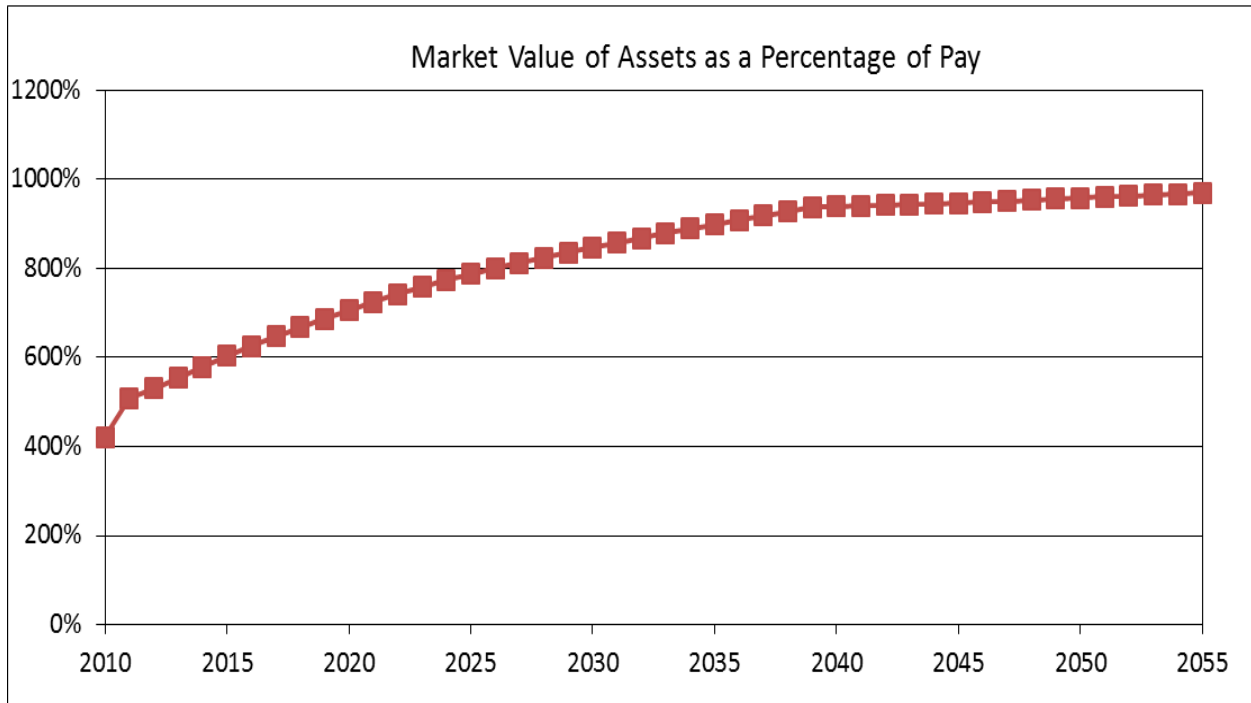


Graph 4: Projection of Funded Ratio Based on Actuarial Accrued Liability
This projection assumes a level active workforce and that all actuarial assumptions are exactly met.



Graph 5 below shows the ratio of the market value of Plan assets to member payroll. This is an important indicator of the sensitivity of Plan cost to investment returns. To appreciate the impact of the assets to payroll ratio 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 plan cost is nil, because the assets are so small.

Graph 5: Projection of Market Value of Assets as a Percentage of Payroll
This projection assumes a level active workforce and that all actuarial assumptions are exactly met.



On the other hand, consider the situation for SJCERA. Suppose the Plan's assets lose 10% of their value in a year. Since they were assumed to earn 7.75%, there is an actuarial loss of 17.75% of Plan assets. Based on the current ratio of assets to payroll (about 500%), that means the loss in assets is almost 90% of active payroll. There is only one source of funding to make up for this loss: The employers. Consequently, barring future offsetting investment gains, the employer has to make up the asset loss in future contributions, and that loss is nearly 90% of payroll.

Furthermore, in the future, the sensitivity of Plan cost to market fluctuations will increase. Fifty years from now, as the Plan matures and assets recover from the 2008 losses, the ratio of the market value of Plan assets to member payroll will be about 1000%. Therefore, the 10% loss discussed above will translate to a loss of about 180% of payroll, which must be made up through employer contributions. This analysis demonstrates that the role of investment management in determining the level and stability of employer costs will only increase in the future. The Board has adopted a dynamic asset allocation method (known as STABLE funding) as part of its funding policy to address this issue.

To summarize, the 2008 investment losses will continue to be felt for a number of years in the form of increasing costs and decreasing funded ratios. Once these losses are fully recognized in the valuation results, there will be a period of level employer contributions of around 40% of pay, followed by decreasing costs as the unfunded liability is amortized. This scenario is based on the actuarial assumptions currently in place, and it will certainly not unfold as we have outlined it above. Investment gains and losses will occur to make employer costs and funded ratios vary, and the sensitivity of the employer contribution to gains and losses will increase as the Plan matures. However, the baseline scenario outlined in these paragraphs shows the trends that underlie future costs and funding.

Actuarial Certification

EFI Actuaries, under contract with the San Joaquin County Employees' Retirement Association (SJCERA), performed an actuarial valuation of Plan benefits as of January 1, 2011. In this study, we relied on participant and financial data supplied by SJCERA staff, and conducted an examination of such data for reasonableness and consistency.

Actuarial funding is based on the Entry Age Normal Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize the unfunded actuarial accrued liability (UAAL). As of the valuation date, the amortization period is 28 years for half of the 2008 investment loss and 20 years for the remaining UAAL. The funding objective of the Plan is to establish contribution rates that will adequately fund member benefits. For actuarial valuation purposes, Plan assets are valued at Actuarial Value with adjustments for certain Special Reserves. Under this method, the assets used to determine employer contribution rates take into account market value by spreading all investment gains and losses (returns above or below expected returns) over a period of five years; the Actuarial Value so determined is constrained to remain within 20% of Market Value.

We selected the actuarial assumptions shown in the schedules to be appropriate for use under the Plan. We performed an analysis of the Plan's noneconomic experience for the years 2007 through 2009 to establish the validity of these assumptions. The assumptions used in the most recent valuation produce results that, individually and in aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years 2010 through 2012.

Our firm has prepared the following schedules for the actuarial report: All demographic rate tables, salary increase rates, and Actuarial Value of Assets and Reserves. Additionally, we have prepared the following schedules based on historical information and our calculations as of January 1, 2011: Solvency Test, Schedule of Funding Progress, and Schedule of Contributions. We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for funding purposes meet the parameters of the Governmental Accounting Standards Board Statement No. 25. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Respectfully Submitted,



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Section 1:

Summary of Plan Provisions, Member Statistics, and Actuarial Assumptions

1.1: Brief Outline of Plan Provisions

Changes in Plan Provisions

There have been no changes in Plan provisions since the prior valuation.

Definitions

Compensation

Compensation means the cash remuneration for services paid by the employer. It includes base pay and certain differential, incentive, and special pay allowances defined by the Board of Retirement. Overtime is excluded, with the exception of overtime paid under the Fair Labor Standards Act that is regular and recurring.

Credited Service

In general, Credited Service is earned for the period during which Member Contributions are paid.

Temporary service for which the Member was not credited, or service for which the Member withdrew his or her Member Contributions, may be purchased by paying or repaying the Member Contributions with interest. Credit for up to twelve months of a medical leave of absence and all military leaves of absence may also be purchased.

Public Service (see below) is part of Credited Service for the computation of benefits only, not for eligibility for benefits or for vesting.

Final Compensation

Final Compensation means the highest average Compensation earned during any twelve consecutive months of the Member's employment.

General Member

Any Member who is not a Safety Member is a General Member.

Public Service

The Member may elect to purchase Public Service for time spent while employed in another recognized public agency. The public agency must have a reciprocal agreement with the Plan or be one of several specified municipalities, counties, special districts, or State and Federal agencies. Public Service cannot be purchased if it is used for eligibility for another pension.

The cost to purchase Public Service is twice the Member Contributions and interest applicable for the period of time purchased.

Public Service is used to compute benefits, but does not count toward eligibility for benefits or vesting.

Safety Member

Any sworn Member engaged in law enforcement, probation, or fire suppression is a Safety Member.

Membership

Eligibility

All full-time, permanent employees of San Joaquin County and other participating special districts become Members on their date of appointment. Membership is mandatory; only elected officials may choose not to participate.

Member Contributions

Each Member contributes a percentage of Compensation to the Plan through payroll deduction. The percentage contributed depends on the Member's age upon joining the Plan. Representative rates are shown in Table 1 below (full rate table in appendix).

Members covered by Social Security have their contributions reduced by one-third on the first \$161.54 of biweekly Compensation. General Members who joined the Plan prior to March 7, 1973 and who have earned 30 years of Credited Service do not contribute; Safety Members do not contribute after earning 30 years of Credited Service.

Table 1: Member Contribution Rates

Entry Age	General Member Rate		Safety Member Rate	
	1 st \$350/month	Over \$350	1 st \$350/month	Over \$350
20	1.70%	2.55%	2.81%	4.22%
25	1.93%	2.90%	2.99%	4.48%
30	2.12%	3.17%	3.17%	4.76%
35	2.31%	3.47%	3.38%	5.07%
40	2.53%	3.79%	3.62%	5.43%
45	2.78%	4.17%	3.87%	5.80%
50	3.05%	4.57%	3.81%	5.72%

Interest is credited semiannually to each Member's accumulated contributions. The crediting rate is set by the Board; the current semi-annual rate is 3.80%, for an effective annual rate of 7.75%.

Service Retirement

Eligibility

General Members are eligible to retire at age 50 if they have earned five years of Credited Service and have passed the tenth anniversary of their membership in the Plan. Alternatively, General Members are eligible to retire at any age after having earned 30 years of Credited Service, or upon reaching age 70 with no service requirement.

Safety Members are eligible to retire at age 50 if they have earned five years of Credited Service and have passed the tenth anniversary of their membership in the Plan. Alternatively, Safety Members are eligible to retire at any age after having earned 20 years of Credited Service.

Benefit Amount

The Service Retirement Benefit payable to General Members is equal to the percentage in Table 2 below multiplied by the Member's Final Compensation.

The Service Retirement Benefit payable to Safety Members is equal to the percentage in Table 3 below multiplied by the Member's Final Compensation.

The percentage of Final Compensation may not exceed 100%.

Members covered by Social Security will have their benefits reduced by the monthly dollar amounts shown in Table 4, multiplied by the years of Credited Service during which they were covered by Social Security.

Table 2: General Members (CERL Section 31676.14)

Service	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
10					14.75	15.67	16.67	17.41	18.41	19.48	20.61	21.82	22.68	23.54	24.40	25.26	26.11	26.11	26.11	26.11
11					16.23	17.23	18.33	19.15	20.25	21.42	22.67	24.00	24.95	25.89	26.84	27.78	28.72	28.72	28.72	28.72
12					17.70	18.80	20.00	20.89	22.10	23.37	24.73	26.19	27.22	28.25	29.28	30.31	31.34	31.34	31.34	31.34
13					19.18	20.36	21.67	22.64	23.94	25.32	26.79	28.37	29.48	30.60	31.72	32.83	33.95	33.95	33.95	33.95
14					20.65	21.93	23.33	24.38	25.78	27.27	28.85	30.55	31.75	32.95	34.16	35.36	36.56	36.56	36.56	36.56
15					22.13	23.50	25.00	26.12	27.62	29.22	30.91	32.73	34.02	35.31	36.60	37.88	39.17	39.17	39.17	39.17
16					23.60	25.06	26.67	27.86	29.46	31.16	32.97	34.92	36.29	37.66	39.04	40.41	41.78	41.78	41.78	41.78
17					25.08	26.63	28.33	29.60	31.30	33.11	35.03	37.10	38.56	40.01	41.47	42.93	44.39	44.39	44.39	44.39
18					26.55	28.20	30.00	31.34	33.14	35.06	37.09	39.28	40.82	42.37	43.91	45.46	47.00	47.00	47.00	47.00
19					28.03	29.76	31.67	33.08	34.98	37.01	39.16	41.46	43.09	44.72	46.35	47.98	49.61	49.61	49.61	49.61
20					29.50	31.33	33.33	34.82	36.83	38.95	41.22	43.64	45.36	47.08	48.79	50.51	52.23	52.23	52.23	52.23
21					30.98	32.90	35.00	36.57	38.67	40.90	43.28	45.83	47.63	49.43	51.23	53.04	54.84	54.84	54.84	54.84
22					32.45	34.46	36.67	38.31	40.51	42.85	45.34	48.01	49.90	51.78	53.67	55.56	57.45	57.45	57.45	57.45
23					33.93	36.03	38.33	40.05	42.35	44.80	47.40	50.19	52.16	54.14	56.11	58.09	60.06	60.06	60.06	60.06
24					35.40	37.60	40.00	41.79	44.19	46.74	49.46	52.37	54.43	56.49	58.55	60.61	62.67	62.67	62.67	62.67
25					36.88	39.16	41.67	43.53	46.03	48.69	51.52	54.56	56.70	58.85	60.99	63.14	65.28	65.28	65.28	65.28
26					38.35	40.73	43.33	45.27	47.87	50.64	53.58	56.74	58.97	61.20	63.43	65.66	67.89	67.89	67.89	67.89
27					39.83	42.30	45.00	47.01	49.72	52.59	55.64	58.92	61.24	63.55	65.87	68.19	70.51	70.51	70.51	70.51
28					41.30	43.86	46.67	48.75	51.56	54.54	57.70	61.10	63.50	65.91	68.31	70.71	73.12	73.12	73.12	73.12
29					42.78	45.43	48.33	50.49	53.40	56.48	59.76	63.28	65.77	68.26	70.75	73.24	75.73	75.73	75.73	75.73
30	35.28	37.27	39.41	41.73	44.25	47.00	50.00	52.24	55.24	58.43	61.82	65.47	68.04	70.61	73.19	75.77	78.34	78.34	78.34	78.34
31		38.51	40.72	43.12	45.73	48.56	51.67	53.98	57.08	60.38	63.88	67.65	70.31	72.97	75.63	78.29	80.95	80.95	80.95	80.95
32			42.04	44.51	47.20	50.13	53.33	55.72	58.92	62.33	65.95	69.83	72.58	75.32	78.07	80.82	83.56	83.56	83.56	83.56
33				45.90	48.68	51.69	55.00	57.46	60.76	64.27	68.01	72.01	74.84	77.68	80.51	83.34	86.17	86.17	86.17	86.17
34					50.15	53.26	56.67	59.20	62.60	66.22	70.07	74.19	77.11	80.03	82.95	85.87	88.78	88.78	88.78	88.78
35						54.83	58.33	60.94	64.45	68.17	72.13	76.38	79.38	82.38	85.39	88.39	91.40	91.40	91.40	91.40
36							60.00	62.68	66.29	70.12	74.19	78.56	81.65	84.74	87.83	90.92	94.01	94.01	94.01	94.01
37								64.42	68.13	72.06	76.25	80.74	83.92	87.09	90.27	93.44	96.62	96.62	96.62	96.62
38									69.97	74.01	78.31	82.92	86.18	89.44	92.71	95.97	99.23	99.23	99.23	99.23
39										75.96	80.37	85.11	88.45	91.80	95.15	98.49	100.0	100.0	100.0	100.0
40											82.43	87.29	90.72	94.15	97.59	100.0				
41												89.47	92.99	96.51	100.0					
42													95.26	98.86						
43														100.0						

Table 3: Safety Members (CERL Section 31664.1)

Service	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
10										30.00	30.00	30.00	30.00	30.00	30.00
11										33.00	33.00	33.00	33.00	33.00	33.00
12										36.00	36.00	36.00	36.00	36.00	36.00
13										39.00	39.00	39.00	39.00	39.00	39.00
14										42.00	42.00	42.00	42.00	42.00	42.00
15										45.00	45.00	45.00	45.00	45.00	45.00
16										48.00	48.00	48.00	48.00	48.00	48.00
17										51.00	51.00	51.00	51.00	51.00	51.00
18										54.00	54.00	54.00	54.00	54.00	54.00
19										57.00	57.00	57.00	57.00	57.00	57.00
20	37.55	39.75	42.02	44.38	46.83	49.36	52.07	54.51	57.13	60.00	60.00	60.00	60.00	60.00	60.00
21		41.74	44.13	46.60	49.17	51.82	54.67	57.24	59.99	63.00	63.00	63.00	63.00	63.00	63.00
22			46.23	48.82	51.51	54.29	57.27	59.96	62.85	66.00	66.00	66.00	66.00	66.00	66.00
23				51.04	53.85	56.76	59.88	62.69	65.70	69.00	69.00	69.00	69.00	69.00	69.00
24					56.20	59.23	62.48	65.41	68.56	72.00	72.00	72.00	72.00	72.00	72.00
25						61.70	65.09	68.14	71.42	75.00	75.00	75.00	75.00	75.00	75.00
26							67.69	70.86	74.27	78.00	78.00	78.00	78.00	78.00	78.00
27								73.59	77.13	81.00	81.00	81.00	81.00	81.00	81.00
28									79.98	84.00	84.00	84.00	84.00	84.00	84.00
29										87.00	87.00	87.00	87.00	87.00	87.00
30										90.00	90.00	90.00	90.00	90.00	90.00
31										93.00	93.00	93.00	93.00	93.00	93.00
32										96.00	96.00	96.00	96.00	96.00	96.00
33										99.00	99.00	99.00	99.00	99.00	99.00
34										100.00	100.00	100.00	100.00	100.00	100.00
35											100.00	100.00	100.00	100.00	100.00
36												100.00	100.00	100.00	100.00
37													100.00	100.00	100.00
38														100.00	100.00
39															100.00

Table 4: Social Security Adjustment

Age at Retirement	General Member Reduction	Safety Member Reduction
46	\$1.372	\$2.879
47	\$1.449	\$3.037
48	\$1.533	\$3.180
49	\$1.623	\$3.333
50	\$1.721	\$3.500
51	\$1.828	\$3.500
52	\$1.944	\$3.500
53	\$2.031	\$3.500
54	\$2.148	\$3.500
55	\$2.272	\$3.500
56	\$2.404	\$3.500
57	\$2.546	\$3.500
58	\$2.646	\$3.500
59	\$2.746	\$3.500
60	\$2.846	\$3.500
61	\$2.946	\$3.500
62	\$3.046	\$3.500
63	\$3.046	\$3.500
64	\$3.046	\$3.500
65	\$3.046	\$3.500

Form of Benefit

The Service Retirement Benefit will be paid monthly beginning at retirement and for the life of the Member. If the member selects the unmodified benefit form, in the event of the Member's death 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of \$5,000 will be payable upon the death of a retired member (paid from a special dedicated reserve account).

Service-Connected Disability

Eligibility

Members are eligible for Service-Connected Disability Retirement benefits at any age if they are permanently disabled as a result of injuries or illness sustained in the line of duty.

Benefit Amount

The Service-Connected Disability Retirement Benefit payable to Members is equal to the greater of 50% of their Final Compensation or – if the Member is eligible at disability for a Service Retirement Benefit – the Service Retirement Benefit accrued on the date of disability.

Members who return to work at a different position with lower pay may receive a Supplemental Disability Allowance that, when added to their new pay, may bring the Member's total income up to the current pay for his or her position at the time of disability. The Supplemental Disability Allowance may not exceed the Service-Connected Disability Retirement benefit.

Form of Benefit

The Service-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement and for the life of the Member; in the event of the Member's death, 100% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of \$5,000 will be payable upon the death of a retired member.

Nonservice-Connected Disability

Eligibility

Members are eligible to for Nonservice-Connected Disability Retirement benefits if they are permanently disabled at any age after earning five years of Credited Service or after becoming eligible for a deferred vested benefit.

Benefit Amount

The Nonservice-Connected Disability Retirement Benefit payable to General Members is equal to the greatest of:

- 1.5% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.5% of Final Compensation at disability multiplied by years of Credited Service projected to age 65, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Safety Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 55, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

Members who return to work at a different position with lower pay may receive a Supplemental Disability Allowance that, when added to their new pay, may bring the Member's total income up to the current pay for his or her position at the time of disability. The Supplemental Disability Allowance may not exceed the Nonservice-Connected Disability Retirement benefit.

Form of Benefit

The Nonservice-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement, and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of \$5,000 will be payable upon the death of a retired member.

Service-Connected Death

Eligibility

A Member's survivors are eligible to receive Service-Connected Death benefits if the Member's death resulted from injury or illness sustained in connection with the Member's duties.

Benefit Amount

The Service-Connected Death benefit payable to a surviving spouse or minor children will be 50% of the Member's Final Compensation.

In the event the Member's death was caused by external violence or physical force, an additional benefit of 25% of the above basic benefit will be paid for the first minor child, 15% for the second, and 10% for the third.

Furthermore, for Safety Members only, there will be an additional lump sum benefit of 12 months of pay at the time of death.

Form of Benefit

The Service-Connected Death Benefit will be paid monthly beginning at the Member's death and for the life of the surviving spouse or to the age of majority of dependent minor children if there is no spouse.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

Nonservice-Connected Death

Eligibility

A Member's survivors are eligible to receive Nonservice-Connected Death benefits if the Member's death arose from causes unrelated to the Member's duties.

Benefit Amount

In the event the Member had earned fewer than five years of Credited Service and has no or insufficient reciprocity service from another system, the Nonservice-Connected Death benefit will be a refund of the Member's accumulated contributions with interest plus a payment of one month of Final Compensation for each year of Credited Service, not to exceed six months.

In the event the Member had earned five or more years of Credited Service, the Nonservice-Connected Death benefit payable to a surviving spouse or minor children will be 60% of the amount the Member would have received as a Nonservice-Connected Disability Retirement Benefit on the date of death.

Form of Benefit

For Members who had earned fewer than five years of Credited Service at death, the benefit will be paid as a lump sum.

For Members with five or more years of Credited Service, the Nonservice-Connected Death Benefit will be paid monthly beginning at the Member's death and for the life of the surviving spouse or to the age of majority of dependent minor children if there is no spouse.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

Withdrawal Benefit

Eligibility

A Member is eligible for a Withdrawal Benefit upon termination of employment.

Benefit Amount

The Withdrawal Benefit is a refund of the Member's accumulated Contributions with interest. Upon receipt of the Withdrawal Benefit the Member forfeits all Credited Service.

Form of Benefit

The Withdrawal Benefit is paid in a lump sum upon election by the Member.

Deferred Vested Benefit

Eligibility

A Member is eligible for a Deferred Vested Benefit upon termination of employment after earning five years of Credited Service, including reciprocity service from another system. The Member must leave his or her Member Contributions with interest on deposit with the Plan.

Benefit Amount

The Deferred Vested Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service and Final Compensation on the date of termination.

Tables 2 and 3 are extended for service under ten years using benefit multipliers of one-sixtieth per year of Credited Service at age 52 (General) or 3% per year of Credited Service at age 50 (Safety), with adjustments for earlier or later retirement under Sections 31676.14 and 31664.1, respectively, of the County Employees Retirement Law of 1937.

Form of Benefit

The Deferred Vested Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the

Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of \$5,000 will be payable upon the death of a retired member.

Reciprocal Benefit

Eligibility

A Member is eligible for a Reciprocal Benefit upon termination of employment and entry, within a specified period of time, into another retirement system recognized as a reciprocal system by the Plan. In addition, the Member must leave his or her Member Contributions with interest on deposit with the Plan.

Benefit Amount

The Reciprocal Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service on the date of termination and Final Compensation on the date of retirement; Final Compensation is based on the highest of the Compensation earned under this Plan or the reciprocal plan.

Form of Benefit

The Reciprocal Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits are adjusted to reflect changes in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than 3%. In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit may be payable upon the death of a retired Member by the last system under which the Member's service was covered.

1.2: Summary of Participant Data as of January 1, 2011

	General	Safety	Total
Active Participants			
Number	4,643	830	5,473
Average Age	47.57	40.43	46.49
Average Service	11.91	11.29	11.81
Average Pay	\$66,376	\$78,093	\$68,153
Service Retired			
Number	2,799	469	3,268
Average Age	69.64	64.37	68.88
Average Annual Base Benefit	\$20,133	\$42,215	\$23,302
Average Annual Total Benefit	\$25,401	\$53,010	\$29,363
Beneficiaries			
Number	515	135	650
Average Age	72.97	65.83	71.49
Average Annual Base Benefit	\$8,901	\$17,395	\$10,665
Average Annual Total Benefit	\$15,126	\$28,699	\$17,945
Duty Disabled			
Number	214	175	389
Average Age	61.48	58.69	60.23
Average Annual Base Benefit	\$16,547	\$31,217	\$23,146
Average Annual Total Benefit	\$21,937	\$41,718	\$30,836
Non-Duty Disabled			
Number	169	13	182
Average Age	63.47	61.64	63.34
Average Annual Base Benefit	\$10,265	\$16,672	\$10,722
Average Annual Total Benefit	\$13,904	\$24,470	\$14,659
Total Receiving Benefits			
Number	3,697	792	4,489
Average Age	69.35	63.32	68.28
Average Annual Base Benefit	\$17,909	\$35,135	\$20,948
Average Annual Total Benefit	\$23,243	\$45,902	\$27,241
Deferred Vested			
Number	407	44	451
Average Age	48.57	43.02	48.03
Average Service	8.46	6.98	8.32

	General	Safety	Total
Transfers and DROs			
Number	363	92	455
Average Age	49.49	42.67	48.11
Average Service	6.14	5.05	5.92
Funds on Account			
Number	484	38	522
Average Age	42.71	36.86	42.28
Average Service	1.71	1.60	1.70
Total Inactive			
Number	1,254	174	1,428
Average Age	46.57	41.49	45.95
Average Service	5.18	4.79	5.13

Changes in Plan Membership: General

	Actives	Transfers/ DROS	Non-Vested Terminations	Vested Terminations	Non-Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
January 1, 2010	4,990	366	458	416	164	209	2,654	495	9,752
New Entrants	54	-	-	-	-	-	-	-	54
Rehires	14	-	(6)	(6)	-	-	-	-	2
Duty Disabilities	(4)	-	-	(1)	-	5	-	-	0
Non-Duty Disabilities	(6)	-	-	(2)	8	-	-	-	0
Retirements	(167)	(18)	-	(29)		-	209	5	0
Retirements from Safety with General Service	-	-	-	2	-	1	12	-	15
Vested Terminations	(35)	-	-	35	-	-	-	-	0
Died, With Beneficiaries' Benefit Payable	(4)	-	-	-	(2)	-	(27)	33	0
Died, Without Beneficiary, and Other Terminations	(70)	-	67	(1)	(2)	(3)	(48)	(23)	(80)
Transfers	4	13	(1)	-	-	-	-	-	16
Redeposits – AB 2766	-	-	-	1	-	-	-	-	1
Withdrawals Paid	(91)	-	(33)	(9)	-	-	-	-	(133)
Beneficiary Deaths	-	-	-	-	-	-	-	(2)	(2)
Domestic Relations Orders	-	2		-	-	-	-	5	7
Data Corrections	(42)	-	(1)	1	1	2	(1)	2	(38)
January 1, 2011	4,643	363	484	407	169	214	2,799	515	9,594

Changes in Plan Membership: Safety

	Actives	Transfers/ DROS	Non-Vested Terminations	Vested Terminations	Non- Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
January 1, 2010	925	89	27	45	12	172	420	126	1,816
New Entrants	2	-	-	-	-	-	-	-	2
Rehires	1	-	(1)	-	-	-	-	-	0
Duty Disabilities	(4)	-	-	-	-	4	-	-	0
Non-Duty Disabilities	(1)	-	-	-	1	-	-	-	0
Retirements	(49)	(3)	-	(3)	-	-	53	2	0
Retirements from Safety with General Service	-	-	-	-	-	-	2	-	2
Vested Terminations	(1)	-	-	1	-	-	-	-	0
Died, With Beneficiaries' Benefit Payable		-	-	-	-	(1)	(4)	5	0
Died, Without Beneficiary, and Other Terminations	(13)	-	13	-	-	(1)	(1)	-	(2)
Transfers	(21)	5		-	-	-	-	-	(16)
Redeposits – AB 2766	-	-	-	1	-	-	-	-	1
Withdrawals Paid	(9)	(1)	(1)	-	-	-	-	-	(11)
Beneficiary Deaths	-	-	-	-	-	-	-	(2)	(2)
Domestic Relations Orders	-	2	-	-	-	-	-	4	6
Data Corrections	-	-	-	-		1	(1)	-	0
January 1, 2011	830	92	38	44	13	175	469	135	1,796

Changes in Plan Membership: All Groups

	Actives	Transfers/ DROS	Non-Vested Terminations	Vested Terminations	Non- Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
January 1, 2010	5,915	455	485	461	176	381	3,074	621	11,568
New Entrants	56	0	0	0	0	0	0	0	56
Rehires	15	0	(7)	(6)	0	0	0	0	2
Duty Disabilities	(8)	0	0	(1)	0	9	0	0	0
Non-Duty Disabilities	(7)	0	0	(2)	9	0	0	0	0
Retirements	(216)	(21)	0	(32)	0	0	262	7	0
Dual Service Retirements	0	0	0	2	0	1	14	0	17
Vested Terminations	(36)	0	0	36	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(4)	0	0	0	(2)	(1)	(31)	38	0
Died, Without Beneficiary, and Other Terminations	(83)	0	80	(1)	(2)	(4)	(49)	(23)	(82)
Transfers	(17)	18	(1)	0	0	0	0	0	0
Redeposits – AB 2766	0	0	0	2	0	0	0	0	2
Withdrawals Paid	(100)	(1)	(34)	(9)	0	0	0	0	(144)
Beneficiary Deaths	0	0	0	0	0	0	0	(4)	(4)
Domestic Relations Orders	0	4	0	0	0	0	0	9	13
Data Corrections	(42)	0	(1)	1	1	3	(2)	2	(38)
January 1, 2011	5,473	455	522	451	182	389	3,268	650	11,390

1.3: Summary of Actuarial Assumptions

Changes in Actuarial Assumptions

The assumptions shown below are based on an experience study conducted as of January 1, 2011. Changes in assumptions since the prior valuation are noted below.

Valuation Date	All assets and actuarial liabilities are computed as of January 1, 2011.
Rate of Return	The annual rate of return on all Plan assets is assumed to be 7.75%, net of investment and administrative expenses.
Cost of Living	The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.25% per year.
Post Retirement COLA	Benefits are assumed to increase after retirement at the rate of 2.7% per year.
Increases in Pay	Assumed pay increases for active Members consist of increases due to base salary adjustments plus service-based increases due to longevity and promotion, as shown below:

	<u>Service</u>		
	<5	5-29	30+
Base Increase			
	3.50%	3.50%	3.50%
Longevity & Promotion			
General	3.86%	0.96%	0.96%
Safety	4.83%	1.93%	1.93%
Total (Compound)			
General	7.49%	4.50%	3.50%
Safety	8.50%	5.50%	5.50%

Mortality

Rates of mortality for active and retired Members and their beneficiaries are specified by the Retired Pensioners (RP) 2000 tables published by the Society of Actuaries (projected from 2000 to 2010 using Scale AA), with a one year age setback for female members

All deaths among active General members are assumed to be non-duty.

Duty Related Mortality

Duty related deaths are assumed for Safety Members according to a 1981 Table. Representative rates are as follows:

Age	Rate
30	0.03%
35	0.04%
40	0.05%
45	0.06%
50	0.07%
55	0.08%
60	0.00%

Disabled Member Mortality

Rates of mortality for disabled Members are specified by the Retired Pensioners (RP) 2000 tables published by the Society of Actuaries (projected from 2000 to 2010 using Scale AA), with a five year age set-forward for male Members and a six year age set-forward for female Members.

Service Retirement

Retirement is assumed to occur among General Members and Safety Members in accordance with the tables below:

General

Service:	5 - 9	10 - 29		30 +	
Age	Both	Male	Female	Male	Female
50	0.0%	2.0%	2.0%	5.0%	7.0%
51	0.0%	2.0%	2.0%	5.0%	7.0%
52	0.0%	2.0%	2.0%	5.0%	7.0%
53	0.0%	3.0%	2.0%	5.0%	7.0%
54	1.0%	3.0%	3.0%	5.0%	7.0%
55	1.0%	5.0%	4.0%	15.0%	15.0%
56	1.0%	5.0%	7.0%	15.0%	15.0%
57	1.0%	5.0%	7.0%	15.0%	15.0%
58	1.0%	7.5%	7.0%	20.0%	20.0%
59	1.0%	7.5%	10.0%	25.0%	25.0%
60	1.0%	7.5%	10.0%	25.0%	25.0%
61	1.0%	7.5%	15.0%	35.0%	35.0%
62	1.0%	40.0%	25.0%	40.0%	35.0%
63	1.0%	25.0%	25.0%	35.0%	35.0%
64	1.0%	25.0%	25.0%	35.0%	35.0%
65	5.0%	50.0%	50.0%	50.0%	50.0%
66	5.0%	50.0%	50.0%	50.0%	50.0%
67	5.0%	40.0%	40.0%	40.0%	40.0%
68	5.0%	30.0%	30.0%	30.0%	30.0%
69	5.0%	30.0%	30.0%	30.0%	30.0%
70+	100.0%	100.0%	100.0%	100.0%	100.0%

Safety

Age	10-19 Years Service	20+ Years Service
45-49	0.0%	1.0%
50	10.0%	10.0%
51-52	5.0%	5.0%
53-60	5.0%	20.0%
61	25.0%	25.0%
62-64	25.0%	50.0%
65+	100.0%	100.0%

Service-Connected Disability

Separate rates of duty disability are assumed among male and female General Members; rates for both sexes are combined for Safety Members. Below are sample rates:

Age	General Male	General Female	Safety
22	0.066%	0.032%	0.072%
27	0.066%	0.043%	0.125%
32	0.066%	0.073%	0.235%
37	0.066%	0.104%	0.432%
42	0.380%	0.134%	0.809%
47	0.380%	0.175%	1.421%
52	0.226%	0.227%	2.447%
57	0.226%	0.291%	3.762%
62	0.226%	0.356%	0.000%

Non Service-Connected Disability

Separate rates of ordinary disability are assumed among male and female General and Safety Members. All rates are applied after five Years of Service. Sample rates are shown below.

Age	General Male	General Female	Safety Male	Safety Female
22	0.051%	0.076%	0.000%	0.000%
27	0.068%	0.095%	0.005%	0.009%
32	0.086%	0.115%	0.007%	0.014%
37	0.108%	0.145%	0.014%	0.027%
42	0.138%	0.197%	0.041%	0.081%
47	0.178%	0.281%	0.117%	0.234%
52	0.225%	0.381%	0.239%	0.477%
57	0.286%	0.482%	0.378%	0.756%
62	0.362%	0.583%	0.000%	0.000%

Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits.

The rates shown in the sample table below are not applied to Members eligible for service retirement, or to Safety members age 60 or older

Service	General	Safety
0	12.0%	8.0%
1	7.0%	7.0%
2	4.0%	5.0%
3	4.0%	2.0%
4	4.0%	2.0%
5-9	1.5%	1.0%
10-19	0.5%	0.0%
20+	0.0%	0.0%

Pay for Benefits

No allowance has been made for special increases in Compensation prior to termination or retirement. In particular, no special terminal payouts or pay increases are assumed to increase Final Compensation at retirement; however expected pensionable pay in excess of base pay is included in the determination of valuation pay for each member.

Family Composition

50% of female members and 70% of males are assumed to be married. Male spouses are assumed to be three years older than their wives.

80% of male members and 50% of female members who die during active service are assumed to have a spouse or minor child eligible for a monthly survivor's benefit.

Employment Status

No future transfers among member groups are assumed.

Deferral Age

Terminated vested members are assumed to commence benefits at age 56 for General and age 55 for Safety.

Vested Termination with Deferred Benefit

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan, and thus are entitled to a deferred benefit. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Service	General	Safety
0-4	0.75%	0.75%
5-9	3.00%	2.50%
10-19	3.00%	1.00%
20-29	1.50%	0.00%
30+	0.00%	0.00%

No terminations are assumed for participants who are eligible for retirement, or among Safety members age 50 or older. For all members who terminate with less than five years of service, 100% are assumed to go to work with a reciprocal employer. For General members who terminate with at least five years of service, 25% are assumed to go to work with a reciprocal employer. This rate is 50% for Safety members.

Participant Data

Data on active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media. As is usual in studies of this type, Member data was neither verified nor audited.

1.4: Glossary of Actuarial Terms

Actuarial Accrued Liability

A plan's actuarial accrued liability is the level of assets estimated by the system actuary to be needed as of the valuation date to

- Finance all previously earned benefits for actively employed members of the plan (and their beneficiaries, if applicable) for when they eventually retire, die or terminate with deferred vested benefits, and
- Finance all currently payable benefits of current pensioners and their beneficiaries (if applicable).

It is important to note that the Actuarial Accrued Liability is not a debt; instead, it is an asset target set by the actuarial cost method to produce an orderly accumulation of assets to pay for the plan's obligations.

Actuarial Assumptions

The actuarial assumptions are the actuary's anticipated rates of future termination, death, disability and retirement for each member of the plan as well as the actuary's anticipated rate of investment return on underlying assets. To the extent that these assumptions are not in exact accord with actual events (which they never are), actuarial gains and losses will materialize.

Actuarial Value of Assets

The actuarial value of assets, used for funding purposes, is computed using an asset smoothing technique in which investment gains and losses are not fully recognized in the year they occur, but are spread out. Use of an actuarial value of assets (rather than market value) helps avoid large fluctuations in recognized value of the underlying assets and, in turn, avoids large fluctuations in required contribution rates.

Actuarial Present Value of Benefits

The actuarial present value of benefits is the Actuarial Accrued Liability plus actuarial present value of future Normal Costs. The actuarial present value of benefits is also the actuarial present value of all future benefits expected to be paid to the Plan's current members, whether accrued on the valuation data or after.

Actuarial Funding Policy

The plan's actuarial funding policy is the scheduled program of accumulating assets to fund the plan's obligations, typically, but not necessarily, as a level percentage of payroll. The funding policy includes:

- The Normal Cost, and
- Amortization of the Unfunded or Overfunded Actuarial Accrued Liability (whichever is applicable).

Closed Amortization Period

An amortization period which decreases each year, typically one year at a time. For example, a closed 30 year amortization has 29 years remaining in year 2, 28 remaining in year 3, etc.

Extraordinary Actuarial Gain (Loss)

An Experience Gain (Loss) determined by the Board to be of such magnitude and rarity to warrant creation of a special amortization policy.

Investment Gains and Losses

When the investment return on assets exceeds the assumed rate of return (the actuarial assumption as to investment return), this difference is identified as an investment gain. Correspondingly, when the returns are less than expected, this difference is identified as an investment loss. These investment gains and losses are either recognized immediately to produce the market value of assets or are spread out to produce the Actuarial Value of Assets.

Normal Cost

The Normal Cost is calculated as the amount necessary to fund each Member's benefits from that Member's Plan entry date to the end of his or her projected working life.

Open (or Rolling) Amortization Period

An amortization period which remains at the same number of years, without decreasing.

Unfunded Actuarial Accrued Liabilities

When the actuarial value of assets is below the Actuarial Accrued Liability, there is an Unfunded Actuarial Accrued Liability which must be paid off or amortized on a schedule. When the actuarial value of assets is in excess of the Actuarial Accrued Liability, this can lead to a reduction in future contributions on an amortization schedule.

Section 2:

Asset Information

2.1: Balance Sheet as of December 31, 2010

	<u>Market Value</u>
<u>Assets</u>	
Cash and Cash Equivalents	\$ 70,976,256
Cash collateral-security lending	<u>\$ 114,163,721</u>
Total Cash and Cash Equivalents	<u>\$ 185,139,977</u>
Receivables:	
Investment Income Receivables	\$ 3,789,280
Contributions Receivable	\$ 4,821,974
Securities sold, not received	\$ 26,222,538
SWAP Payments receivable	\$ -
Other investment income receivable	\$ 499
Miscellaneous receivables	<u>\$ 7,898</u>
Total Receivables	<u>\$ 34,842,189</u>
Investments, at market value:	
Short-Term Investments	\$ -
Bonds	\$ 344,740,479
Stocks	\$ 728,247,662
Real Estate	\$ 318,911,373
Alternative Investments	<u>\$ 466,738,055</u>
Total Investments	<u>\$ 1,858,637,569</u>
Other Assets:	
Prepaid Expenses	\$ 75,004
Equipment and fixtures, Net	<u>\$ 635,415</u>
Total Assets	\$ 2,079,330,154
<u>Liabilities</u>	
Securities Lending-Cash Collateral	\$ 114,163,721
Securities Purchased, Not Paid	\$ 17,006,281
Accrued Expenses and Other Payables	\$ 1,288,710
Security Lending Interest and Other Expense	<u>\$ 11,929</u>
Total Liabilities	\$ 132,470,641
Net assets held in trust for pension and postemployment healthcare benefits	\$ 1,946,859,513

2.2: Computation of Actuarial Value of Assets

	(a)	(b)	(c)	(d)	(e) = (d) - (c)	(f)	(g) = (e) x (f)
YEAR	Contributions	Benefits	Expected Return	Actual Return	Additional Earnings	Not Recognized	Unrecognized Earnings
2007	100,961,450	95,922,296	159,890,660	143,799,297	(16,091,364)	20%	(3,218,273)
2008	111,297,006	109,001,147	178,311,579	(670,218,219)	(848,529,798)	40%	(339,411,919)
2009	115,020,830	117,115,895	152,687,874	178,491,823	25,803,949	60%	15,482,369
2010	121,911,631	126,364,628	134,414,380	214,747,485	80,333,105	80%	<u>64,266,484</u>
(1) Total Unrecognized Dollars							(262,881,339)
(2) Market Value of Assets as of December 31, 2010							1,946,859,513
(3) Preliminary Actuarial Value of Assets as of December 31, 2010							
[(2) - (1)]							2,209,740,852
(4) Corridor Limits							
a. 80% of Net Market Value							1,557,487,610
b. 120% of Net Market Value							2,336,231,416
(5) Actuarial Value of Assets after Corridor							2,209,740,852
(6) Ratio of Actuarial Value to Market Value							113.5%
[(5) ÷ (2)]							
(7) Market Stabilization Designation							(262,881,339)
[(2) - (5)]							
(8) Special (Non Valuation) Reserves:							
\$5,000 Death Benefits							7,283,613
Health Insurance Reserve							16,858,295
Supplemental COL Reserve							0
Purchasing Power COL Reserve							7,661,197
Class Action Settlement – Pre 4/1/1982							235,272
Class Action Settlement – Post 4/1/1982							18,108,660
Contingency							28,579,335
Undistributed Earnings Reserve- Restricted							0
Undistributed Earnings Reserve- Unrestricted							0
Total Special Reserves							<u>78,726,372</u>
(9) Pension Reserves at Actuarial Value (Valuation Assets)							
[(5) - (8)*(6)]							\$ 2,120,384,183

2.3: Income Statement (Total Fund)

January 1, 2010 through December 31, 2010

	Market Value	Expected Actuarial Value	Actuarial Value
Additions			
Contributions			
Employer's Contribution	\$104,451,673	\$104,451,673	\$104,451,673
Members' Contributions	\$13,098,043	\$13,098,043	\$13,098,043
Employer Contribution to Healthcare Benefits	<u>\$4,361,915</u>	<u>\$4,361,915</u>	<u>\$4,361,915</u>
Total Contributions	<u>121,911,631</u>	<u>\$121,911,631</u>	<u>\$121,911,631</u>
Net Investment Income			
Net Appreciation/(Depreciation) in Fair Value of Investments	\$201,719,384	N/A	N/A
Interest	\$22,480,882	N/A	N/A
Dividends	\$5,986,855	N/A	N/A
Real Estate Income, net	\$1,459,900	N/A	N/A
Investment Expenses	\$(13,536,459)	N/A	N/A
Miscellaneous Investment Income	<u>\$4,254</u>	<u>N/A</u>	<u>N/A</u>
Net Investment Income,			
Before Securities Lending Income	<u>218,114,816</u>	<u>\$161,331,213</u>	<u>\$133,683,150</u>
Securities Lending Income			
Earnings	\$396,571	\$396,571	\$396,571
Rebates	\$(39,814)	\$(39,814)	\$(39,814)
Fees	<u>\$(88,950)</u>	<u>\$(88,950)</u>	<u>\$(88,950)</u>
Net Securities Lending Income	<u>\$267,807</u>	<u>\$267,807</u>	<u>\$267,807</u>
Net Investment Income	<u>\$218,382,623</u>	<u>\$161,599,020</u>	<u>\$133,950,957</u>
Miscellaneous Income	<u>\$46,407</u>	<u>\$46,407</u>	<u>\$46,407</u>
Total Additions	<u>\$340,340,661</u>	<u>\$283,557,058</u>	<u>\$255,908,995</u>
Deductions			
Benefit payments	\$124,602,690	\$124,602,690	\$124,602,690
Death Benefits	\$511,293	\$511,293	\$511,293
Refunds of Members' Contributions	<u>\$1,250,645</u>	<u>\$1,250,645</u>	<u>\$1,250,645</u>
Total Benefit Payments	<u>\$126,364,628</u>	<u>\$126,364,628</u>	<u>\$126,364,628</u>

Administrative & Other Expenses			
General Administrative Expenses	\$3,195,005	\$3,195,005	\$3,195,005
Actuary Fees	\$218,290	\$218,290	\$218,290
Fund Legal Fees	<u>\$268,250</u>	<u>\$268,250</u>	<u>\$268,250</u>
Total Administrative & Other Expenses	<u>\$3,681,545</u>	<u>\$3,681,545</u>	<u>\$3,681,545</u>
Transfer Between Plans			
Total Deductions	<u>\$130,046,173</u>	<u>\$130,046,173</u>	<u>\$130,046,173</u>
Net increase (Decrease)	<u>\$210,294,488</u>	<u>\$153,510,885</u>	<u>\$125,862,822</u>
Net Assets Held in Trust for Pension and Post-Employment Healthcare Benefits:			
Beginning of Year	\$1,736,565,025	\$2,083,878,030	\$2,083,878,030
End of Year	\$1,946,859,513	\$2,237,388,915	\$2,209,740,852
Approximate Return	12.60%	7.77%	6.43%

2.4: Historical Returns

Year Ended December 31	Annualized Rate of Return (Market Value)	Annualized Rate of Return (Actuarial Value)	Increase in CPI*
1994	0.2%	8.2%	2.7%
1995	25.3%	21.7%	2.5%
1996	13.5%	12.2%	3.3%
1997	17.3%	3.9%	1.7%
1998	9.9%	13.3%	1.6%
1999	13.7%	15.1%	2.7%
2000	3.2%	11.5%	3.4%
2001	-0.1%	8.8%	1.6%
2002	-5.5%	4.7%	2.4%
2003	25.5%	6.8%	1.9%
2004	11.8%	6.6%	3.3%
2005	6.9%	7.2%	3.4%
2006	12.7%	9.6%	2.5%
2007	6.9%	11.2%	4.1%
2008	-29.9%	-14.2%	-0.5%
2009	11.4%	11.6%	2.5%
2010	12.4%	6.4%	1.5%
Compounded 15 Year Average	6.5%	8.1%	2.4%
Compounded 10 Year Average	4.1%	5.6%	2.3%
Compounded 5 Year Average	1.1%	4.4%	2.0%

* Based on All Urban Consumers - U.S. City Average, December indices.

2.5: Post-1982 Settlement Reserve

Valuation Date January 1	Number of Recipients	Benefits Payable	Reserve	Estimated Years of Payments
2008	1,896	3,683,939	25,872,222	13
2009	1,856	3,602,904	22,015,055	10
2010	1,800	3,484,762	20,090,654	9
2011	1,738	3,370,636	18,108,660 ¹	6

¹ As of January 1, 2011 the total projected liability associated with paying the Post-82 Settlement allowances for the lifetime of the members and beneficiaries is estimated to be \$34,329,952

Section 3:

Actuarial Computations

3.1: Computation of Annual Contribution Rate as of January 1, 2010

		Prior Assumptions	New Assumptions
(1)	Active Fully Projected Actuarial Liability		
	Retirement	1,738,908,400	1,764,983,753
	Disability	201,545,369	214,462,692
	Death	26,786,804	31,988,422
	Termination	<u>20,345,406</u>	<u>48,383,433</u>
	Total Active	1,987,585,979	2,059,818,300
(2)	Inactive Actuarial Liability		
	Retired and Beneficiaries	1,029,518,278	1,079,768,096
	Disability	177,400,472	186,057,823
	Death	100,930,050	107,430,847
	Deferred Vested/Reciprocal	<u>48,474,132</u>	<u>61,356,240</u>
	Total Inactive	1,356,322,932	1,434,613,006
(3)	Total Fully Projected Actuarial Liability [(1) + (2)]	3,343,908,911	3,494,431,306
(4)	Present Value Future Employee Contributions	108,033,158	115,877,836
(5)	Present Value Future Employer Normal Cost	594,555,905	608,941,926
(6)	Mid-Year Employer Normal Cost	66,856,940	69,506,005
(7)	Projected Payroll	385,591,366	385,441,510
(8)	Employer Normal Cost (% Pay) [(6) ÷ (7)]	17.34%	18.03%
(9)	Actuarial Accrued Liability [(3) – (4) – (5)]	2,641,319,848	2,769,611,544
(10)	Valuation Assets	1,949,011,498	1,949,011,498
(11)	Total Unfunded Actuarial Accrued Liability [(9) – (10)]	692,308,350	820,600,046
(12)	Extraordinary Actuarial Loss	432,649,378	432,649,378
(13)	Amortization of Extraordinary UAAL	25,695,121	25,282,008
(14)	Remaining UAAL [(11) – (12)]	259,658,972	387,950,668
(15)	Amortization of Remaining UAAL	19,130,192	28,241,381
(16)	Total Amortization of Unfunded Actuarial Liability [(13) + (15)]	44,825,313	53,523,389
(17)	Amortization of Unfunded Actuarial Liability (% Pay) [(16) ÷ (7)]	11.63%	13.89%
(18)	Total Employer Cost [(6) + (16)]	111,682,253	123,029,394
(19)	Total Employer Cost (% Pay) [(18) ÷ (7)]	28.96%	31.92%

3.2: Computation of Annual Contribution Rate as of January 1, 2011

(1)	Active Fully Projected Actuarial Liability	
	Retirement	1,747,264,432
	Disability	204,334,581
	Death	31,170,894
	Termination	<u>45,605,853</u>
	Total Active	2,028,375,760
(2)	Inactive Actuarial Liability	
	Retired and Beneficiaries	1,185,157,155
	Disability	192,686,433
	Death	117,821,487
	Deferred Vested/Reciprocal	<u>65,454,568</u>
	Total Inactive	1,561,119,643
(3)	Total Fully Projected Actuarial Liability [(1) + (2)]	3,589,495,403
(4)	Present Value Future Employee Contributions	107,719,578
(5)	Present Value Future Employer Normal Cost	564,087,866
(6)	Mid-Year Employer Normal Cost	65,470,683
(7)	Projected Payroll	367,344,479
(8)	Employer Normal Cost (% Pay) [(6) ÷ (7)]	17.82%
(9)	Actuarial Accrued Liability [(3) – (4) – (5)]	2,917,687,959
(10)	Valuation Assets	2,120,384,183
(11)	Total Unfunded Actuarial Accrued Liability [(9) – (10)]	797,303,776
(12)	Extraordinary UAAL Outstanding	439,480,988
(13)	Amortization of Extraordinary UAAL	26,166,878
(14)	Remaining UAAL [(11) – (12)]	357,822,788
(15)	Amortization of Remaining UAAL	26,048,183
(16)	Total Amortization of Unfunded Actuarial Liability [(13) + (15)]	52,215,061
(17)	Amortization of Unfunded Actuarial Liability (% Pay) [(16) ÷ (7)]	14.21%
(18)	Projected Total Employer Cost [(6) + (16)]	117,685,744
(19)	Total Employer Cost (% Pay) [(18) ÷ (7)]	32.04%

3.4: Computation of Funding Ratios as of January 1, 2011

		Accumulated Benefit Obligation (Unit Credit Accrued Liability)	Projected Benefit Obligation (Projected Unit Credit Accrued Liability)	Entry Age Normal Accrued Liability
(1)	Active Actuarial Accrued Liability	971,875,779	1,261,077,976	1,356,568,316
(2)	Inactive Actuarial Liability			
	Retired and Beneficiaries	1,185,157,155	1,185,157,155	1,185,157,155
	Disability	192,686,433	192,686,433	192,686,433
	Death	117,821,487	117,821,487	117,821,487
	Vested Term and Reciprocal	65,454,568	65,454,568	65,454,568
	Total Inactive	1,561,119,643	1,561,119,643	1,561,119,643
(3)	Total Actuarial Accrued Liability [(1) + (2)]	2,532,995,422	2,822,197,619	2,917,687,959
(4)	Valuation Assets	2,120,384,183	2,120,384,183	2,120,384,183
(5)	Funding Ratio [(4) ÷ (3)]	83.7%	75.1%	72.7%

3.5: Actuarial Balance Sheet

	Assets	
1.	Actuarial value of assets	\$2,209,740,852
2.	Present value of future contributions by members	107,719,578
3.	Present value of future employer contributions for normal cost	564,087,866
4.	Present value of other future employer contributions (UAAL)	797,303,776
5.	Total actuarial assets	\$3,678,852,072
	Actuarial Liabilities	
6.	Present value of retirement allowances payable to retired/disabled members and their survivors	\$1,495,665,075
7.	Present value of service retirement allowances payable to presently active members and their survivors	1,747,264,432
8.	Present value of allowances payable to current and future vested terminated and their survivors	105,000,116
9.	Present value of disability retirement allowances payable to presently active members and their survivors	204,334,581
10.	Present value of death benefits payable on behalf of presently active members	31,170,894
11.	Present value of members' contributions to be returned upon withdrawal	6,060,305
12.	Special Reserves	78,726,372
13.	Adjustment to Special Reserves (asset smoothing)	10,630,297
14.	Total Actuarial Liabilities	\$3,678,852,072

3.6: Actuarial Gain and Loss

1.	Unfunded actuarial accrued liability as of December 31, 2009		820,600,046
2.	Change due to contributions:		
	(a) Normal Cost	79,989,964	
	(b) Interest on (a)	6,199,222	
	(c) Interest on (1)	63,596,504	
	(d) Total contributions	(117,549,716)	
	(e) Interest on (d)	(4,555,051)	
	(f) Net change [(a) + (b) + (c) + (d) + (e)]		27,680,923
3.	Expected unfunded actuarial accrued liability as of December 31, 2010 [(1) + (2)]		848,280,969
4.	Change due to experience:		
	(a) Actuarial (gain)/loss from liabilities	(29,624,770)	
	(b) Actuarial (gain)/loss from assets	12,501,388	
	(c) Net change [(a) + (b)]		(17,123,382)
5.	Unfunded actuarial accrued liability before changes [(3) + (4)]		831,157,587
6.	Change in actuarial assumptions		-
7.	Change in plan provisions		-
8.	Change in actuarial methods		(33,853,811) ²
9.	Unfunded actuarial accrued liability as of December 31, 2010 [(5) + (6) + (7) + (8)]		797,303,776

² Reflects reduction in non-valuation Contingency Reserve.

Section 4:

Disclosure Information

4.1: Schedules of Funding Status and Employer Contributions Required Under GASB Statement No. 25

The Governmental Accounting Standards Board (GASB) Statements No. 25 and 27 relate to the disclosure of actuarial pension liabilities on a public employer's financial statements. For accounting periods beginning after June 15, 1996, information required under these statements must be prepared for a public employer who seeks compliance with generally accepted accounting principles (GAAP) on behalf of its public employee retirement system.

GASB Statement No. 25 requires preparation of schedules of funding status and employer contributions, as well as the disclosure of plan provisions, actuarial assumptions, and other information. The required schedules are shown below. In each case, we have relied upon information from our files and contained in the reports of other actuaries employed by the employer in completing the schedules. While we have no reason to believe the information in our files or in other actuaries' reports is inaccurate, we strongly recommend that employer personnel verify the schedules below before they are included in Plan or employer financial statements.

Schedule of Funding Status (Dollar Amounts in Thousands)						
Actuarial Valuation Date	Valuation Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Liability as a Percent of Payroll
1/1/2001	1,182,914	1,091,830	(91,084)	108.3%	215,363	(42.3%)
1/1/2002	1,357,409	1,266,747	90,662	107.2%	243,327	(37.3%)
1/1/2003	1,448,905	1,418,209	(30,696)	102.2%	259,812	(11.8%)
1/1/2004	1,531,288	1,621,060	89,772	94.5%	286,429	31.3%
1/1/2005	1,614,979	1,769,507	154,528	91.3%	296,473	52.1%
1/1/2006	1,727,033	1,935,818	208,785	89.2%	309,692	67.4%
1/1/2007	1,869,717	2,149,938	280,221	87.0%	340,828	82.2%
1/1/2008	2,029,949	2,334,521	304,572	87.0%	367,361	82.9%
1/1/2009	1,821,357	2,510,925	689,568	72.5%	377,559	182.6%
1/1/2010	1,949,011	2,769,612	820,600	70.4%	385,442	212.9%
1/1/2011	2,120,384	2,917,688	797,304	72.7%	367,344	217.0%

Schedule of Employer Contributions (Dollar Amounts in Thousands)			
Year Ending	Annual Required Contribution ³	Actual Contribution	Percentage Contributed
12/31/2000	17,798	17,798	100%
12/31/2001	22,642	22,642	100%
12/31/2002	25,016	25,016	100%
12/31/2003	34,784	34,784	100%
12/31/2004	42,688	42,688	100%
12/31/2005	62,509	62,509	100%
12/31/2006	73,612	73,612	100%
12/31/2007	85,869	85,869	100%
12/31/2008	94,163	94,163	100%
12/31/2009	97,806	97,806	100%
12/31/2010	104,452	104,452	100%

The table below summarizes certain information about this actuarial report.

Valuation date	January 1, 2011
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll with separate amortization periods for Extraordinary Actuarial Gains or Losses
Remaining amortization period	28 Years for 2008 Extraordinary loss, 20 years for remaining UAAL. (24 year Single Equivalent Period)
Asset valuation method	Actuarial value: Excess earnings smoothed over five years, 80%/120% corridor around market value
Actuarial assumptions:	
Investment rate of return*	7.75%
Projected salary increases*	3.50%, plus service-based rates
*Includes inflation at	3.25%
Cost of living adjustments	2.70% per year assumed

³ Since it was reported to the actuary that the County's practice is to contribute the percent-of-pay employer contribution rate shown in the actuarial valuation report, the annual required contributions shown in the Schedule of Employer Contributions are the actual contributions made by the County in the Plan Year

Appendix I:

General and Safety Contribution Rates, Solvency Test, Member Contribution Rates

Contribution Rates for General and Safety

Separate rates for General and Safety members are shown below.

	<u>As of 1/1/2010</u>			<u>As of 1/1/2011</u>		
	<i>General</i>	<i>Safety</i>	<i>Total</i>	<i>General</i>	<i>Safety</i>	<i>Total</i>
Employer Normal Cost						
Basic	11.09%	19.46%	12.62%	11.00%	19.24%	12.45%
COL	4.70%	8.79%	5.52%	4.69%	8.77%	5.37%
Total	15.79%	28.24%	18.15%	15.69%	28.01%	17.82%
UAAL Amortization Cost						
Basic	9.41%	16.65%	10.73%	9.78%	17.31%	11.11%
COL	2.59%	5.03%	3.04%	2.67%	5.17%	3.11%
Total	12.00%	21.68%	13.77%	12.45%	22.48%	14.22%
Total Cost						
Basic	20.50%	36.11%	23.36%	20.78%	36.55%	23.56%
COL	7.29%	13.81%	8.56%	7.35%	13.93%	8.48%
Total	27.79%	49.92%	31.92%	28.13%	50.49%	32.04%

* Some net percentages may appear to be off by one basis point. This is due to rounding.

Solvency Test

As part of the information required for financial reporting, a solvency test and history of such is shown in the table below. Historical information (prior to 1/1/2007) was taken from the actuarial valuation report as of December 31, 2005.

Valuation Date	<u>Actuarial Accrued Liability</u>			Total Actuarial Accrued Liability	Valuation Assets	<u>Portion of Accrued Liabilities Covered by Assets</u>		
	Active Member Contributions	Retirees and Beneficiaries	Active Members ⁴			Active Member Contributions	Retirees and Beneficiaries	Active Members
1/1/2000	116,054,000	445,458,000	461,031,000	1,022,543,000	1,105,506,000	100%	100%	100%
1/1/2001	123,941,000	486,532,000	481,357,000	1,091,830,000	1,182,914,000	100%	100%	100%
1/1/2002	132,004,000	541,321,000	593,423,000	1,266,748,000	1,357,409,000	100%	100%	100%
1/1/2003	137,209,000	643,984,000	637,016,000	1,418,209,000	1,448,905,000	100%	100%	100%
1/1/2004	129,606,000	726,382,000	739,749,000	1,595,737,000	1,531,288,000	100%	100%	91%
1/1/2005	140,800,000	805,878,000	822,829,000	1,769,507,000	1,614,979,000	100%	100%	81%
1/1/2006	147,953,000	904,208,000	883,657,000	1,935,818,000	1,727,033,000	100%	100%	76%
1/1/2007	159,100,000	1,023,296,000	967,542,000	2,149,938,000	1,869,717,000	100%	100%	71%
1/1/2008	166,804,000	1,119,690,000	1,048,027,000	2,334,521,000	2,029,949,000	100%	100%	71%
1/1/2009	176,235,961	1,231,647,623	1,103,041,755	2,510,925,339	1,821,357,079	100%	100%	37%
1/1/2010	187,986,706	1,373,256,766	1,208,368,072	2,769,611,544	1,949,011,498	100%	100%	32%
1/1/2011	193,612,757	1,495,665,075	1,228,410,127	2,917,687,959	2,120,384,183	100%	100%	35%

⁴ Includes terminated vested members

Table 1: Member Contribution Rates

Entry Age	General Member Rate		Safety Member Rate	
	1 st \$350/month	Over \$350	1 st \$350/month	Over \$350
16	1.53%	2.29%	2.68%	4.02%
17	1.57%	2.35%	2.71%	4.07%
18	1.61%	2.42%	2.74%	4.12%
19	1.66%	2.48%	2.78%	4.17%
20	1.70%	2.55%	2.81%	4.22%
21	1.75%	2.62%	2.85%	4.27%
22	1.80%	2.70%	2.88%	4.32%
23	1.85%	2.77%	2.92%	4.37%
24	1.90%	2.85%	2.95%	4.43%
25	1.93%	2.90%	2.99%	4.48%
26	1.97%	2.95%	3.02%	4.53%
27	2.00%	3.01%	3.06%	4.59%
28	2.04%	3.06%	3.10%	4.65%
29	2.08%	3.12%	3.13%	4.70%
30	2.12%	3.17%	3.17%	4.76%
31	2.15%	3.23%	3.21%	4.82%
32	2.19%	3.29%	3.25%	4.88%
33	2.23%	3.35%	3.29%	4.94%
34	2.27%	3.41%	3.34%	5.00%
35	2.31%	3.47%	3.38%	5.07%
36	2.35%	3.53%	3.42%	5.13%
37	2.40%	3.59%	3.47%	5.20%
38	2.44%	3.66%	3.52%	5.27%
39	2.48%	3.73%	3.56%	5.35%
40	2.53%	3.79%	3.62%	5.43%
41	2.58%	3.86%	3.67%	5.51%
42	2.62%	3.94%	3.73%	5.60%
43	2.67%	4.01%	3.80%	5.70%
44	2.73%	4.09%	3.88%	5.82%
45	2.78%	4.17%	3.87%	5.80%
46	2.84%	4.26%	3.85%	5.78%
47	2.90%	4.35%	3.84%	5.76%
48	2.97%	4.45%	3.83%	5.74%
49	3.04%	4.57%	3.81%	5.72%
50	3.05%	4.57%	3.81%	5.72%
51	3.05%	4.58%	3.81%	5.72%
52	3.05%	4.58%	3.81%	5.72%
53	3.06%	4.59%	3.81%	5.72%
54	3.06%	4.59%	3.81%	5.72%

Appendix II:

Detailed Data Summaries, and Demographic Assumption Summary

Active Member Data

Valuation at Year End	Plan Type	Member Count	Annual Payroll	Average Annual Salary	Average Salary Increase
2006	General	5,234	288,178,806	55,059	18.22%
	Safety	820	56,293,820	68,651	15.52%
	Total	6,054	344,472,626	56,900	17.68%
2007	General	5,353	308,773,122	57,682	4.76%
	Safety	871	62,988,014	72,317	5.34%
	Total	6,224	371,761,136	59,730	4.97%
2008	General	5,180	315,202,954	60,850	5.49%
	Safety	900	67,127,759	74,586	3.14%
	Total	6,080	382,330,713	62,883	5.28%
2009	General	4,990	320,526,792	64,234	5.56%
	Safety	925	70,801,157	76,542	2.62%
	Total	5,915	391,327,949	66,159	5.21%
2010	General	4,643	308,183,424	66,376	3.33%
	Safety	830	64,817,396	78,093	2.03%
	Total	5,473	373,000,820	68,153	3.01%

Payroll figures represent active member's annualized pay rates on December 31. Prior to 2006, payroll was not annualized, which explains the large apparent increases in average salary from 2005 to 2006.

Schedule of Retirees and Beneficiaries Valuation Data

Valuation at Year End	Plan Type	Member Retirements	Beneficiary Continuance	Members and Beneficiaries Removed	Total Retirees on Payroll	Annual Retirement Payroll	Average Annual Allowance	Average Allowance Percentage Increase
2006	General	190	41	102	3,107	58,634,478	18,872	3.96%
	Safety	31	8	11	632	25,003,422	39,562	2.14%
	Total	221	49	113	3,739	83,637,900	22,369	3.45%
2007	General	199	31	99	3,238	65,213,731	20,140	6.72%
	Safety	38	6	8	668	27,396,329	41,012	3.67%
	Total	237	37	107	3,906	92,610,060	23,710	5.99%
2008	General	203	30	83	3,388	71,488,335	21,100	4.77%
	Safety	50	10	18	710	30,575,540	43,064	5.00%
	Total	253	40	101	4,098	102,063,875	24,906	5.04%
2009	General	207	31	104	3,522	78,988,070	22,427	6.29%
	Safety	24	7	11	730	32,575,964	44,625	3.62%
	Total	231	38	115	4,252	111,564,034	26,238	5.35%
2010	General	242	35	102	3,697	85,931,078	23,243	3.64%
	Safety	65	5	8	792	36,354,738	45,902	2.86%
	Total	307	40	110	4,489	122,285,816	27,241	3.82%

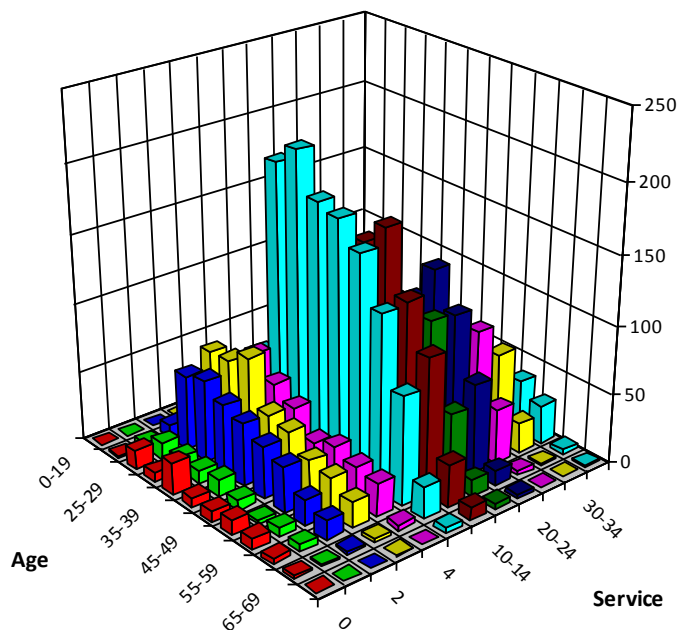
Payroll figures represent year end monthly retirement benefits annualized and exclude Post-Employment Healthcare benefit and benefits under the Class Action Settlement.

Schedule of Average Monthly Benefit Payments

Valuation at Year End	Plan Type		<u>Number of Years Since Retirement</u>						
			0-4	5-9	10-14	15-19	20-24	25-29	30 and Over
2006	General	Average Benefits	\$1,933	\$1,519	\$1,560	\$1,376	\$1,246	\$874	\$755
		Count	1,036	721	505	375	226	161	83
	Safety	Average Benefits	\$3,788	\$3,443	\$2,867	\$2,914	\$3,000	\$2,178	\$1,461
		Count	219	191	88	52	36	24	22
	Total	Average Benefits	\$2,256	\$1,922	\$1,754	\$1,564	\$1,487	\$1,043	\$903
		Count	1,255	912	593	427	262	185	105
2007	General	Average Benefits	\$2,063	\$1,675	\$1,615	\$1,389	\$1,403	\$974	\$803
		Count	1,055	786	535	365	243	152	102
	Safety	Average Benefits	\$3,698	\$3,848	\$3,068	\$2,766	\$3,110	\$2,333	\$1,522
		Count	198	231	91	58	39	29	22
	Total	Average Benefits	\$2,321	\$2,168	\$1,826	\$1,578	\$1,639	\$1,191	\$930
		Count	1,253	1,017	626	423	282	181	124
2008	General	Average Benefits	\$2,133	\$1,835	\$1,557	\$1,586	\$1,474	\$1,004	\$830
		Count	1,068	839	555	414	265	135	112
	Safety	Average Benefits	\$4,056	\$3,940	\$3,109	\$3,055	\$2,904	\$2,481	\$1,673
		Count	217	234	104	65	38	33	19
	Total	Average Benefits	\$2,458	\$2,294	\$1,802	\$1,785	\$1,653	\$1,294	\$ 952
		Count	1,285	1,073	659	479	303	168	131

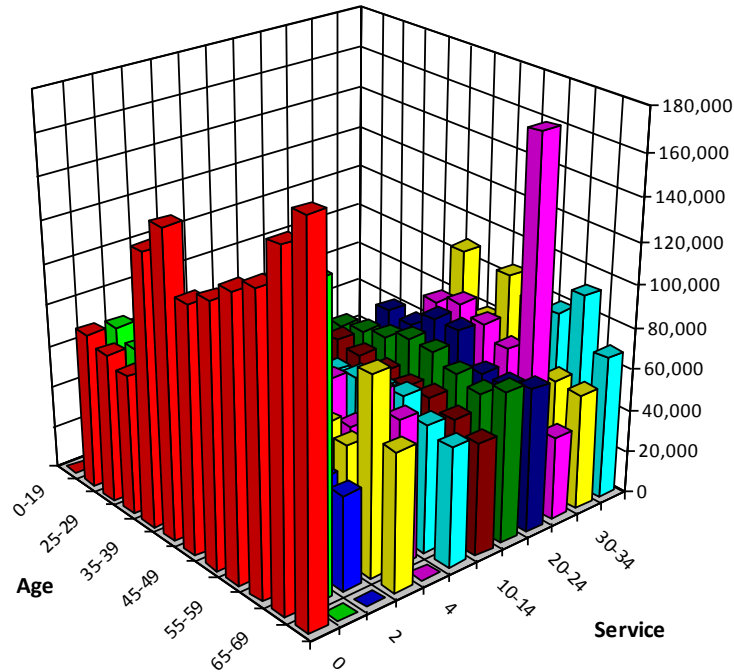
Valuation at Year End	Plan Type		<u>Number of Years Since Retirement</u>						
			0-4	5-9	10-14	15-19	20-24	25-29	30 and Over
2009	General	Average Benefits	\$2,278	\$1,923	\$1,632	\$1,683	\$1,524	\$1,250	\$1,073
		Count	1,108	850	598	433	271	143	119
	Safety	Average Benefits	\$4,022	\$4,178	\$3,453	\$2,811	\$3,220	\$2,997	\$2,553
		Count	204	233	131	73	36	27	26
	Total	Average Benefits	\$2,549	\$2,408	\$1,959	\$1,846	\$1,723	\$1,527	\$1,339
		Count	1,312	1,083	729	506	307	170	145
2010	General	Average Benefits	\$2,269	\$2,093	\$1,696	\$1,806	\$1,549	\$1,379	\$1,015
		Count	1,149	912	640	428	285	157	126
	Safety	Average Benefits	\$4,033	\$4,353	\$3,570	\$2,931	\$3,567	\$2,848	\$2,646
		Count	235	241	150	74	34	28	30
	Total	Average Benefits	\$2,569	\$2,565	\$2,052	\$1,972	\$1,764	\$1,602	\$1,329
		Count	1,384	1,153	790	502	319	185	156

**Active General Members
by Age and Service
as of January 1, 2011**



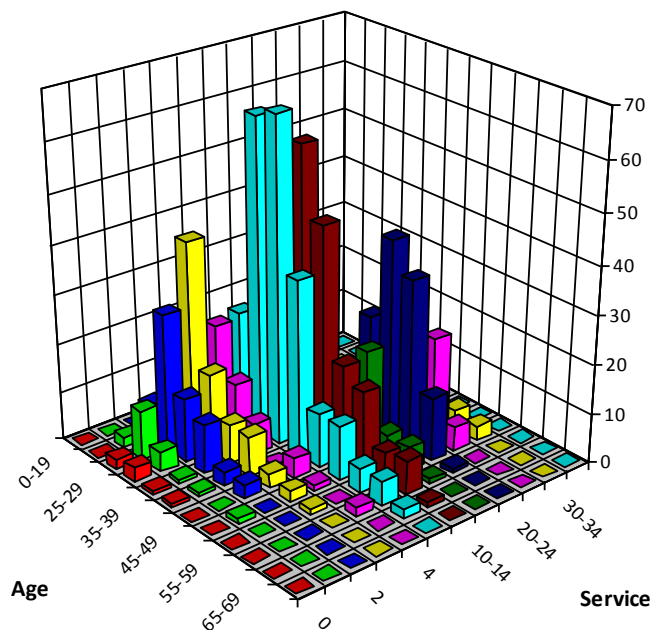
Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	1	3	9	7	1	0	0	0	0	0	0	0	21
25-29	14	12	55	66	34	52	0	0	0	0	0	0	233
30-34	7	11	60	68	66	197	43	0	0	0	0	0	452
35-39	23	10	51	78	52	212	125	20	2	0	0	0	573
40-44	7	13	46	45	43	183	138	53	29	0	0	0	557
45-49	8	7	39	42	26	179	157	111	104	23	3	0	699
50-54	11	3	33	30	32	162	173	95	132	72	37	0	780
55-59	8	7	19	27	27	128	130	110	107	89	65	38	755
60-64	4	5	14	19	24	79	99	51	65	40	22	28	450
65-69	2	1	2	2	4	23	31	12	11	3	1	4	96
70+	1	0	0	1	0	4	10	5	3	1	1	1	27
Total	86	72	328	385	309	1219	906	457	453	228	129	71	4,643

**Active General Members
Annual Payroll by Age and Service
as of January 1, 2011**



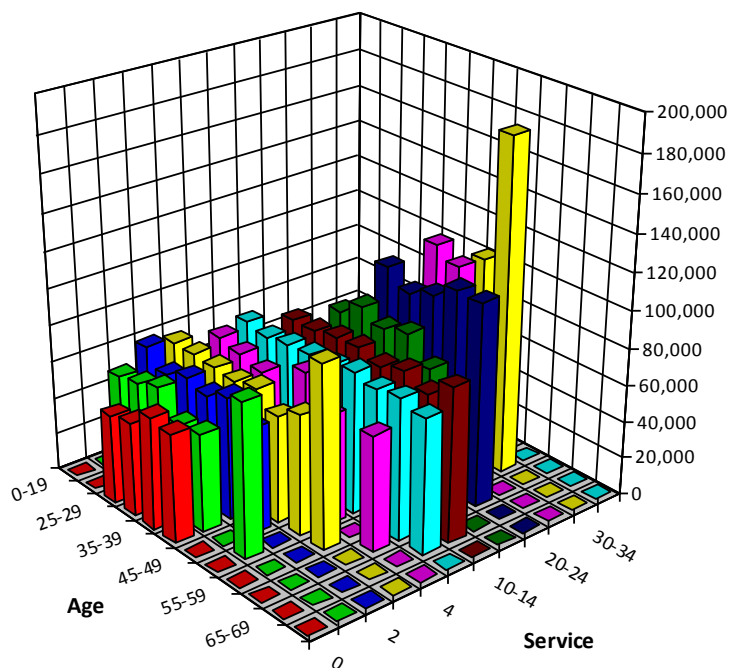
Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Average
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	74,734	73,576	40,208	38,942	41,034	0	0	0	0	0	0	0	46,236
25-29	70,661	68,696	46,985	49,369	51,379	52,540	0	0	0	0	0	0	52,082
30-34	66,694	70,488	50,476	57,720	56,399	66,222	56,956	0	0	0	0	0	60,648
35-39	129,000	70,211	53,830	58,424	68,428	66,508	60,417	63,190	48,300	0	0	0	65,518
40-44	144,818	49,847	62,371	53,665	63,550	65,665	66,888	65,988	71,486	0	0	0	65,523
45-49	116,629	59,590	53,075	61,897	63,681	62,283	64,751	69,030	70,262	76,642	97,008	0	65,827
50-54	123,320	79,855	53,249	60,819	68,791	65,054	62,962	73,615	78,453	81,089	69,752	0	69,973
55-59	132,870	81,496	50,118	59,323	53,092	65,645	61,393	73,066	78,460	76,979	95,330	67,832	71,606
60-64	139,415	70,146	45,484	55,748	75,245	68,311	62,250	68,495	63,512	70,825	88,797	78,321	67,935
65-69	162,116	143,460	44,753	94,482	68,448	61,113	58,480	65,062	63,469	173,820	56,267	91,999	69,407
70+	178,847	0	0	65,813	0	57,307	53,683	71,927	68,271	40,014	55,094	68,024	64,381
Average	115,405	67,943	52,118	56,540	62,043	64,820	62,675	70,214	73,420	78,275	86,304	73,333	66,376

**Active Safety Members
by Age and Service
as of January 1, 2011**



Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	2	7	5	0	0	0	0	0	0	0	0	14
25-29	2	10	28	41	22	23	0	0	0	0	0	0	126
30-34	3	4	13	16	12	64	19	0	0	0	0	0	131
35-39	1	1	10	8	6	66	59	6	0	0	0	0	157
40-44	1	1	3	8	0	36	45	14	23	1	0	0	132
45-49	0	0	3	3	4	11	19	20	41	14	2	0	117
50-54	0	1	0	2	1	11	16	5	35	21	4	0	96
55-59	0	0	0	1	0	5	6	5	13	5	3	0	38
60-64	0	0	0	0	2	5	7	1	1	0	0	0	16
65-69	0	0	0	0	0	2	1	0	0	0	0	0	3
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	19	64	84	47	223	172	51	113	41	9	0	830

**Active Safety Members
 Annual Payroll by Age and Service
 as of January 1, 2011**



Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Average
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	57,253	68,154	65,277	0	0	0	0	0	0	0	0	65,569
25-29	47,601	59,491	59,289	65,105	69,309	72,635	0	0	0	0	0	0	65,198
30-34	50,972	64,332	64,117	64,321	66,391	70,186	74,578	0	0	0	0	0	68,538
35-39	60,466	51,073	60,932	63,215	62,862	72,416	74,872	80,179	0	0	0	0	71,858
40-44	59,034	52,998	66,671	65,856	0	73,322	77,348	88,979	105,441	84,948	0	0	81,174
45-49	0	0	56,781	57,652	75,447	74,135	78,319	82,971	97,024	118,221	83,086	0	88,951
50-54	0	83,886	0	65,164	59,007	77,113	74,439	86,577	101,919	112,018	111,039	0	94,886
55-59	0	0	0	98,962	0	74,284	78,423	74,046	110,373	96,696	180,974	0	99,274
60-64	0	0	0	0	62,625	76,157	72,778	67,363	109,795	0	0	0	74,540
65-69	0	0	0	0	0	72,516	82,995	0	0	0	0	0	76,009
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	52,517	60,774	61,724	64,996	67,760	72,388	75,914	83,464	101,902	111,607	128,139	0	78,093

Service Retired Benefits

Current Age	General		Safety		Total	
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	0	\$0	0	\$0	0	\$0
25-29	0	\$0	0	\$0	0	\$0
30-34	0	\$0	0	\$0	0	\$0
35-39	0	\$0	0	\$0	0	\$0
40-44	0	\$0	1	\$52,809	1	\$52,809
45-49	0	\$0	5	\$48,116	5	\$48,116
50-54	108	\$13,469	51	\$46,942	159	\$24,206
55-59	281	\$22,926	83	\$59,734	364	\$31,319
60-64	633	\$30,702	131	\$63,370	764	\$36,303
65-69	582	\$28,934	99	\$47,356	681	\$31,612
70-74	433	\$24,554	45	\$35,115	478	\$25,548
75-79	310	\$23,090	34	\$46,549	344	\$25,408
80-84	210	\$22,154	12	\$56,454	222	\$24,008
85-89	166	\$18,314	8	\$48,290	174	\$19,693
90-94	69	\$19,457	0	\$0	69	\$19,457
95+	7	\$14,453	0	\$0	7	\$14,453
All Ages	2,799	\$25,401	469	\$53,010	3,268	\$29,363

Duty Disabled Benefits

Current Age	General		Safety		Total	
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	0	\$0	0	\$0	0	\$0
25-29	0	\$0	1	\$25,358	1	\$25,358
30-34	0	\$0	1	\$25,263	1	\$25,263
35-39	3	\$7,783	6	\$30,332	9	\$22,815
40-44	4	\$5,553	8	\$34,441	12	\$24,812
45-49	11	\$21,405	23	\$31,527	34	\$28,252
50-54	30	\$15,224	27	\$36,784	57	\$25,437
55-59	45	\$19,374	30	\$46,625	75	\$30,275
60-64	53	\$24,079	32	\$49,307	85	\$33,577
65-69	34	\$27,532	24	\$43,615	58	\$34,187
70-74	16	\$26,858	9	\$42,897	25	\$32,632
75-79	10	\$24,834	5	\$47,982	15	\$32,550
80-84	5	\$25,388	6	\$53,196	11	\$40,556
85-89	2	\$27,921	3	\$35,252	5	\$32,320
90-94	0	\$0	0	\$0	0	\$0
95+	1	\$11,803	0	\$0	1	\$11,803
All Ages	214	\$21,937	175	\$41,718	389	\$30,836

Non-Duty Disabled Benefits

Current Age	General		Safety		Total	
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	0	\$0	0	\$0	0	\$0
25-20	0	\$0	0	\$0	0	\$0
30-34	0	\$0	0	\$0	0	\$0
35-39	1	\$13,031	0	\$0	1	\$13,031
40-44	3	\$13,585	0	\$0	3	\$13,585
45-49	8	\$14,671	1	\$39,413	9	\$17,420
50-54	27	\$15,422	3	\$22,260	30	\$16,105
55-59	28	\$14,614	2	\$17,385	30	\$14,799
60-64	39	\$12,519	2	\$18,589	41	\$12,815
65-69	26	\$13,090	2	\$44,172	28	\$15,310
70-74	17	\$16,165	2	\$16,996	19	\$16,253
75-79	6	\$11,020	1	\$17,630	7	\$11,964
80-84	5	\$10,693	0	\$0	5	\$10,693
85-89	4	\$13,378	0	\$0	4	\$13,378
90-94	5	\$15,326	0	\$0	5	\$15,326
95+	0	\$0	0	\$0	0	\$0
All Ages	169	\$13,904	13	\$24,470	182	\$14,659

Surviving Beneficiary Benefits (all benefit types)

Current Age	General		Safety		Total	
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	9	\$6,118	1	\$20,010	10	\$7,507
25-29	1	\$7,915	0	\$0	1	\$7,915
30-34	0	\$0	0	\$0	0	\$0
35-39	4	\$9,958	0	\$0	4	\$9,958
40-44	3	\$12,781	5	\$21,853	8	\$18,451
45-49	7	\$6,325	10	\$14,183	17	\$10,947
50-54	18	\$19,611	16	\$19,022	34	\$19,334
55-59	45	\$11,697	17	\$38,456	62	\$19,034
60-64	58	\$15,519	16	\$28,942	74	\$18,421
65-69	54	\$19,559	21	\$33,744	75	\$23,531
70-74	57	\$13,721	9	\$29,361	66	\$15,853
75-79	67	\$15,906	15	\$28,137	82	\$18,143
80-84	77	\$15,340	16	\$32,649	93	\$18,318
85-89	60	\$17,636	4	\$28,447	64	\$18,311
90-94	45	\$12,292	4	\$30,800	49	\$13,803
95+	10	\$12,876	1	\$27,719	11	\$14,225
All Ages	515	\$15,126	135	\$28,699	650	\$17,945

ASSUMED PROBABILITIES OF SEPARATION FROM ACTIVE MEMBERSHIP:

Age	Non-Duty Death	Ordinary Disability	Service Retirement ¹	Duty Death	Duty Disability
General Members – Male					
20	0.0003	0.000	0.000	0.000	0.001
25	0.0003	0.001	0.000	0.000	0.001
30	0.0004	0.001	0.000	0.000	0.001
35	0.0007	0.001	0.000	0.000	0.001
40	0.0010	0.001	0.000	0.000	0.004
45	0.0013	0.002	0.000	0.000	0.004
50	0.0018	0.002	0.020	0.000	0.002
55	0.0030	0.003	0.050	0.000	0.002
60	0.0057	0.003	0.075	0.000	0.002
65	0.0111	0.004	0.500	0.000	0.002
General Members – Female					
20	0.0002	0.001	0.000	0.000	0.000
25	0.0002	0.001	0.000	0.000	0.000
30	0.0002	0.001	0.000	0.000	0.001
35	0.0004	0.001	0.000	0.000	0.001
40	0.0006	0.002	0.000	0.000	0.001
45	0.0009	0.002	0.000	0.000	0.002
50	0.0013	0.003	0.020	0.000	0.002
55	0.0022	0.004	0.040	0.000	0.003
60	0.0042	0.005	0.100	0.000	0.003
65	0.0082	0.006	0.500	0.000	0.004

¹ Lower rates assumed for members with less than 10 years of service, and
 higher rates assumed for members with at least 30 years of service.

The probabilities for each cause of separation represent the likelihood that a given member will separate at a particular age for the indicated reason. As an example, if the probability of separation of a male general member at age 20 is 0.036, that indicates that 3.6% of active general members are expected to separate from service during the year.

ASSUMED PROBABILITIES OF SEPARATION FROM ACTIVE MEMBERSHIP:

Age	Non-Duty Death	Ordinary Disability	Service Retirement ¹	Duty Death	Duty Disability
Safety Members – Male					
20	0.0003	0.000	0.000	20	0.0003
25	0.0003	0.000	0.000	25	0.0003
30	0.0004	0.000	0.000	30	0.0004
35	0.0007	0.000	0.000	35	0.0007
40	0.0010	0.000	0.000	40	0.0010
45	0.0013	0.001	0.010	45	0.0013
50	0.0018	0.002	0.100	50	0.0018
55	0.0030	0.003	0.200	55	0.0030
Safety Members – Female					
20	0.0002	0.000	0.000	20	0.0002
25	0.0002	0.000	0.000	25	0.0002
30	0.0002	0.000	0.000	30	0.0002
35	0.0004	0.000	0.000	35	0.0004
40	0.0006	0.000	0.000	40	0.0006
45	0.0009	0.002	0.010	45	0.0009
50	0.0013	0.004	0.100	50	0.0013
55	0.0023	0.006	0.200	55	0.0023

SALARY INCREASE, TERMINATION, and WITHDRAWAL ASSUMPTIONS:

YEARS OF SERVICE	SALARY INCREASE: GENERAL	SALARY INCREASE: SAFETY	WITHDRAWAL: GENERAL	WITHDRAWAL: SAFETY	TERMINATION: GENERAL	TERMINATION: SAFETY
0	0.0749	0.0850	0.120	0.080	0.008	0.008
1	0.0749	0.0850	0.070	0.070	0.008	0.008
2	0.0749	0.0850	0.040	0.050	0.008	0.008
3	0.0749	0.0850	0.040	0.020	0.008	0.008
4	0.0749	0.0850	0.040	0.020	0.008	0.008
5	0.0450	0.0550	0.015	0.010	0.030	0.025
6	0.0450	0.0550	0.015	0.010	0.030	0.025
7	0.0450	0.0550	0.015	0.010	0.030	0.025
8	0.0450	0.0550	0.015	0.010	0.030	0.025
9	0.0450	0.0550	0.015	0.010	0.030	0.025
10	0.0450	0.0550	0.008	0.000	0.030	0.010
11	0.0450	0.0550	0.008	0.000	0.030	0.010
12	0.0450	0.0550	0.008	0.000	0.030	0.010
13	0.0450	0.0550	0.008	0.000	0.030	0.010
14	0.0450	0.0550	0.008	0.000	0.030	0.010
15	0.0450	0.0550	0.008	0.000	0.030	0.010
16	0.0450	0.0550	0.008	0.000	0.030	0.010
17	0.0450	0.0550	0.008	0.000	0.030	0.010
18	0.0450	0.0550	0.008	0.000	0.030	0.010
19	0.0450	0.0550	0.008	0.000	0.030	0.010
20	0.0450	0.0550	0.000	0.000	0.015	0.000
21	0.0450	0.0550	0.000	0.000	0.015	0.000
22	0.0450	0.0550	0.000	0.000	0.015	0.000
23	0.0450	0.0550	0.000	0.000	0.015	0.000
24	0.0450	0.0550	0.000	0.000	0.015	0.000
25	0.0450	0.0550	0.000	0.000	0.015	0.000
26	0.0450	0.0550	0.000	0.000	0.015	0.000
27	0.0450	0.0550	0.000	0.000	0.015	0.000
28	0.0450	0.0550	0.000	0.000	0.015	0.000
29	0.0450	0.0550	0.000	0.000	0.015	0.000
30+	0.0350	0.0550	0.000	0.000	0.000	0.000