San Joaquin County Employees' Retirement Association

Actuarial Valuation Report as of January 1, 2022

Produced by Cheiron

August 2022

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August 31, 2022

Retirement Board of San Joaquin
County Employees' Retirement Association
6 South El Dorado Street, Suite 400
Stockton, CA 95202

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the San Joaquin County Employees' Retirement Association (SJCERA, the System, the Fund, the Plan) as of January 1, 2022. This report contains information on the System's assets and liabilities and discloses employer and employee contribution levels. It also contains schedules for inclusion in the Actuarial Section of the Annual Financial Report. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of SJCERA. This report is for the use of the Retirement Board of SJCERA and its auditors in preparing financial reports in accordance with applicable law and accounting requirements.

Cheiron's report was prepared solely for the Retirement Board of SJCERA for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, FCA, MAAA, EA
Consulting Actuary

Anne D. Harper, FSA, MAAA, EA
Principal Consulting Actuary

SECTION I – EXECUTIVE SUMMARY

Cheiron has performed the actuarial valuation of the San Joaquin County Employees' Retirement Association as of January 1, 2022. The valuation is organized as follows:

- In Section I, the **Executive Summary,** we describe the purpose of an actuarial valuation, summarize the key results found in this valuation and disclose important trends.

- The **Main Body** of the report presents details on the System's
  - Section II – Identification and Assessment of Risks
  - Section III – Assets
  - Section IV – Liabilities
  - Section V – Contributions
  - Section VI – Additional Financial Report Schedules

- In the **Appendices,** we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), a 401(h) repayment schedule (Appendix D), a glossary of key actuarial terms (Appendix E), a summary of General and Safety Employer contribution rates (Appendix F), and tables containing member contribution rates (Appendix G).

Future results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this valuation.

Deterministic and stochastic projections in this valuation report were developed using R-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan. R-scan uses standard roll-forward techniques that implicitly assume a stable active population. Because R-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

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

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the System,
- Past and expected trends in the financial progress of the System,
- Employer and employee contribution rates for Plan Year 2023, and
- An assessment and disclosure of key risks.

The information required under GASB standards Nos. 67 and 68 is included in a separate report, with the report for the Plan's Fiscal Year Ending December 31, 2021 provided to SJCERA in May 2022.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the System.

A. Valuation Basis

This valuation determines the employer contributions for the Plan Year 2023. The System's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method,
- Amortization of the Unfunded Actuarial Liability (UAL), and
- A portion of the Fund's expected administrative expenses.

The UAL that existed as of 2014 is being amortized over a closed period as a level percentage of payroll, with 11 years remaining as of the current valuation, with the exception of a fixed amount associated with the extraordinary investment loss from 2008, which is amortized as a separate layer with 17 years remaining as of the current valuation. All new unexpected changes in the UAL emerging after 2014 are amortized over 15-year periods, with new amortization layers added each year. The single equivalent amortization period for the aggregate stream of UAL payments is 12 years. Tables V-4 and V-5 show a detailed summary of each amortization layer for General and Safety, respectively.

An Actuarial Experience Study was performed since the last valuation, covering experience from January 1, 2019 through December 31, 2021, leading to changes in demographic assumptions and a lowering of the discount rate from 7.00% to 6.75%. The updated assumptions are located in Appendix B. Details of all assumption changes can be found in the Actuarial Experience Study Report for the period covering January 1, 2019 to December 31, 2021.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes in plan provisions since the prior valuation reflected in the valuation. Subsequent to the January 1, 2021 valuation date, the Board approved the creation of Tier 2B for new members hired after January 1, 2022, but the creation of this Tier does not have any impact on the current valuation results.

B. Key Findings of this Valuation

The key results of the January 1, 2022 actuarial valuation are as follows:

- The actuarially determined employer contribution rate decreased from 50.51% to 49.33%.
- The System's funded ratio, the ratio of assets over Actuarial Liability, increased from 67.0% last year to 72.4% as of January 1, 2022 on an Actuarial Value of Assets (AVA) basis. It increased from 68.1% to 78.0% on a Market Value of Assets (MVA) basis.
- The Unfunded Actuarial Liability (UAL) is the excess of the System's Actuarial Liability over the Actuarial Value of Assets. The System experienced a decrease in the UAL from $ 1,720,244,780 to $ 1,471,522,356 as of January 1, 2022.
- During the year ending December 31, 2021, the return on Plan assets was 15.96% on a market value basis, as compared to the 7.00% assumption. This resulted in a market value gain on investments of $321,267,256. The Actuarial Value of Assets recognizes 20% of the difference between the expected Actuarial Value of Assets and the Market Value of Assets. This method of smoothing the asset gains and losses returned 8.00% on the smoothed value of assets, an actuarial asset gain of $33,976,903 for the year.
- The Actuarial Value of Assets is currently 93% of the market value. Since actuarial assets are below market assets, there are unrecognized investment gains (approximately $303 million) that will be reflected in the smoothed value in future years.
- Contributions to the System (excluding the additional voluntary contributions described below) were less than the actuarial cost for the year, due to the 12-month-delay in the implementation of the contribution rates and lower than expected payroll. This shortfall increased the UAL by $14,649,284.
- The System experienced a gain on the Actuarial Liability of $30,568,656 primarily due to more terminations and more deaths than expected, as well as decreases in benefits for some retirees due to the Alameda decision. The updated assumptions from the experience study further decreased the Actuarial Liability by $58,741,183.
- During 2021, the County, the Mosquito and Vector Control District (MVCD), the Superior Court of California, and the County of San Joaquin made additional voluntary contributions (above the actuarially determined amount) of $73,526,045. The total market value of the additional contributions, including prior year amounts and accumulated with interest at the Plan's actual rate of return, was $184,202,449 as of December 31, 2021. These assets are included in the calculation of the UAL and funded ratio, but under the funding policy requested by the contributors and approved by the Board, these assets are excluded in the calculation of the employer contribution rates.

SECTION I – EXECUTIVE SUMMARY

Table I-1 below summarizes all the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year.

TABLE I-1
Summary of Principal Plan Results

	January 1, 2021	January 1, 2022	% Change
Participant Counts			
Active Participants	6,350	6,329	-0.33%
Participants Receiving a Benefit	6,361	6,542	2.85%
Terminated Vested Participants	1,223	1,114	-8.91%
Terminated Non-Vested Participants	942	1,385	47.03%
Total	**14,876**	**15,370**	**3.32%**
Annual Pay of Active Members	$ 489,490,258	$ 502,156,998	2.59%
Calendar Year Projected Pay	$ 496,778,356	$ 502,156,998	1.08%
Assets and Liabilities			
Actuarial Liability (AL)	$ 5,207,669,301	$ 5,323,788,814	2.23%
Actuarial Value of Assets (AVA)[1]	3,487,424,521	3,852,266,458	10.46%
Unfunded Actuarial Liability (UAL)	$ 1,720,244,780	$ 1,471,522,356	-14.46%
Funded Ratio (AVA)	67.0%	72.4%	5.4%
Funded Ratio (MVA)[2]	68.1%	78.0%	9.9%
Inactive Funded Ratio	67.4%	68.2%	0.8%
Contributions as a Percentage of Payroll			
Normal Cost Rate	14.58%	14.18%	-0.40%
Unfunded Actuarial Liability Rate[3]	35.07%	34.29%	-0.78%
Administrative Expense	0.86%	0.86%	0.00%
Total Contribution Rate	50.51%	49.33%	-1.18%

1 Includes additional County, MVCD, and Superior Court Contribution Reserves.

2 The Market Value of Assets includes additional County, MVCD, and Superior Court Contribution Reserves.

3 Based on Actuarial Value of Assets that does not include additional County, MVCD, and Superior Court Contribution Reserves.

The Inactive Funded Ratio shown in Table I-1 represents the percentage of the Actuarial Liability attributable to members who are not active employees. A funded ratio of 68.2% or more, for example, would result in a level of assets anticipated to be sufficient to fund the liabilities of the System's inactive members for their expected lifetimes: those currently retired, disabled, terminated with vested benefits, and their beneficiaries.

SECTION I – EXECUTIVE SUMMARY

Changes in Cost

Table I-2 below summarizes the impact of actuarial experience on Plan cost, for the Plan as a whole and for the General and Safety classes.

TABLE I-2
Summary of Changes in Plan Cost from Prior Review

	General Employer Cost	General Employer Contribution Rate (% Payroll)	Safety Employer Cost	Safety Employer Contribution Rate (% Payroll)	Total Employer Cost	Employer Contribution Rate (% Payroll)
January 1, 2021	**$ 180,438,580**	**43.90%**	**$ 65,256,065**	**86.75%**	**$ 245,694,645**	**50.51%**
Change in Cost Due to:						
Expected Change	8,489,232	0.78%	3,202,281	1.66%	11,691,513	0.92%
Asset Experience	(1,933,774)	(0.45%)	(1,084,387)	(1.38%)	(3,018,161)	(0.59%)
Contribution (Gain)/Loss	1,029,570	0.24%	333,802	0.42%	1,363,372	0.27%
Demographic Experience	(1,054,463)	(0.29%)	(900,037)	(1.24%)	(1,982,187)	(0.41%)
Salary Experience	(1,123,308)	(0.08%)	60,862	(0.16%)	(1,062,446)	(0.09%)
Payroll Amortization	0	0.18%	0	(0.37%)	0	0.14%
PEPRA Transition	(1,104,232)	(0.28%)	(404,870)	(0.54%)	(1,509,102)	(0.32%)
Assumption Changes	(8,767,241)	(1.69%)	907,139	2.16%	(7,832,414)	(1.10%)
Total Cost as of January 1, 2022	**$ 175,974,365**	**42.31%**	**$ 67,370,855**	**87.30%**	**$ 243,345,220**	**49.33%**

SECTION I – EXECUTIVE SUMMARY

An analysis of the contribution rate changes from the prior valuation reveals the following:

- Contributions were expected to increase, both in dollars and as a percentage of payroll.

  Prior to accounting for the asset and liability gains this year and the changes in assumptions, contributions had been expected to increase as a result of payroll growth, both from increases in the Normal Cost and since the UAL is amortized as a level percentage of payroll. The contribution rates (and resulting dollar amounts) were also expected to grow this year as a result of the three-year phase-in of the UAL payment for the change in assumptions (specifically, the reduction in the discount rate from 7.25% to 7.00%) enacted by the Board in 2020.

- Asset experience produced an investment gain on a market basis and on a smoothed basis.

  The assets of the Plan returned 15.96% on a market basis, higher than the assumed rate of 7.00%, resulting in a gain for 2021. Under the actuarial asset smoothing policy, 20% of this gain is recognized in the current year, in addition to 20% of the gains and losses from each of the prior three years. The overall return on the smoothed assets was 8.00%; higher than the assumed return of 7.00%, so the overall contribution rate decreased by 0.59% of payroll. The contribution rate decreased more for Safety members (by 1.38% of payroll) than for General members (0.45% of payroll) as a result of the asset gain; this is due to the fact that the Safety members have a higher ratio of assets to payroll than the General members.

- Contributions less than the actuarial cost (excluding additional contributions made by the employers) increased the employer contribution rate by 0.27% of pay, largely due to the 12-month delay in implementation of the contribution rates and a shortfall in actual versus projected payroll.

- The demographic experience of the Plan – rates of retirement, death, disability, and termination – was close to that predicted by the actuarial assumptions in aggregate, reducing the overall employer rate by 0.41% of pay.

  There were more deaths than expected among those in pay status among General retirees and their surviving spouses, decreases in benefits for some retirees due to the Alameda decision which decreased their liabilities, and increases in some Safety members' contribution rates due to cost-sharing arrangements. The net impact of these and other demographic changes was a reduction of 0.29% of payroll for the General members and a reduction of 1.24% of payroll for Safety.

- Overall pay increases for returning General and Safety members were below expectations.

SECTION I – EXECUTIVE SUMMARY

Salaries for continuing active members increased less than expected, decreasing the employer contribution rate for General members by 0.08% of payroll, Safety members by 0.16% of payroll, and 0.09% of overall payroll.

- The unfunded liability is being amortized over a smaller-than-expected payroll base for the General members and a higher-than-expected payroll base for Safety members.

  The payroll used to amortize the unfunded liability for General members was lower than expected due to lower than expected payroll growth (2.40%, versus the 3.00% assumption), which increased the General employer contribution rate by an additional 0.18% of pay, since the UAL payments are spread out over a lower payroll base than expected. The higher-than-expected Safety projected payroll (reflecting a 3.61% increase) resulted in a decrease in the contribution rate of about 0.37% of pay.

  The aggregate impact from the change in total projected payroll was an increase in the contribution rate of 0.14% of pay. Note that the change in the payroll base used to amortize the unfunded liability does not change the dollar amount of the contribution – only the contribution rate calculated as a percentage of payroll.

- New members entered the Plan as PEPRA members, with 880 newly hired or rehired members entered the Plan to replace departing members during 2021.

  New Tier 2 hires have a smaller Plan normal cost as a percentage of payroll when compared to the legacy (Tier 1) members. Due to the shift in both populations towards more Tier 2 members, the employer contribution rate decreased by 0.28% of payroll for General members, 0.54% of payroll for Safety members, and the overall contribution rate dropped by 0.32% of payroll.

  In addition, different bargaining groups continue to negotiate modifications to the cost sharing arrangements for their Legacy members. The valuation results reflect the arrangements in place as of the valuation date that apply to the 2023 Plan Year. Changes to the cost sharing arrangements occurring after the valuation date will affect the aggregate employer costs in future valuations.

- New assumptions from the experience study increased cost for Safety and decreased cost for General.

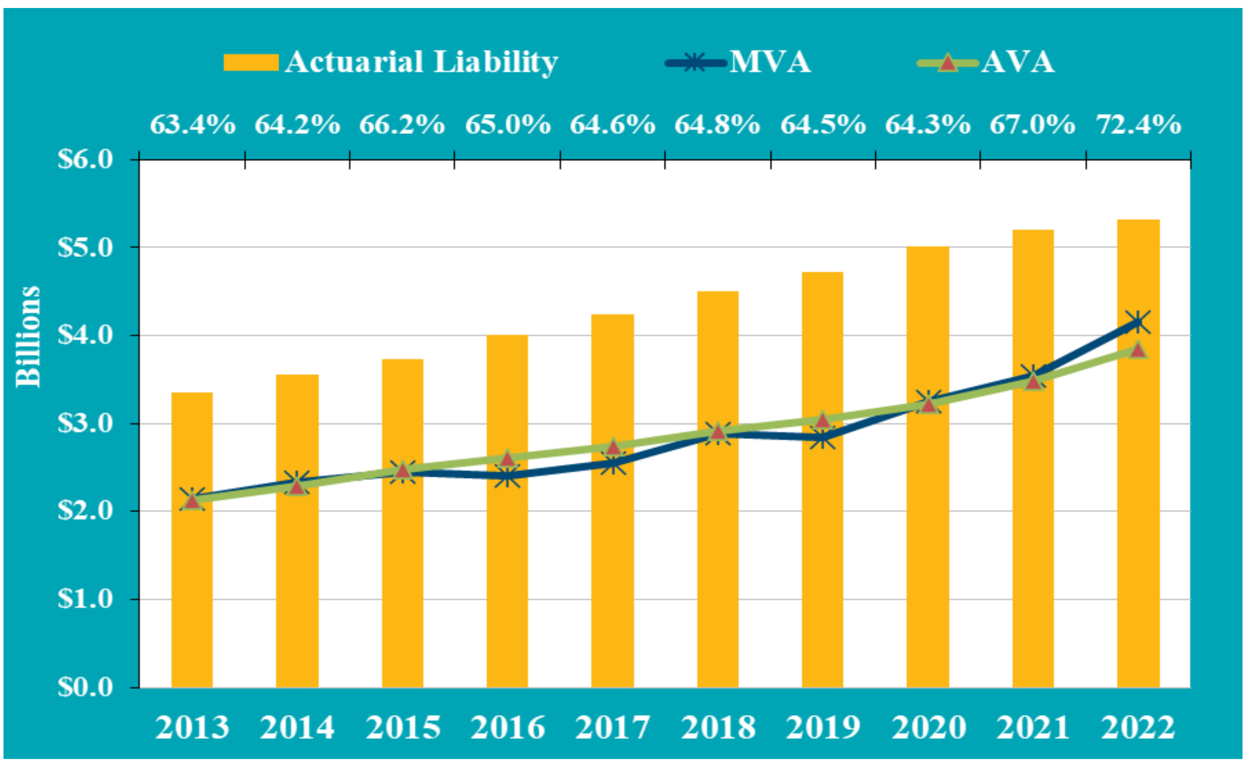
  The assumption changes, including lowering the assumed rate of return from 7.00% to 6.75%, decreased the employer contribution rate by 1.10% overall and by $7.8 million. There was a decrease in the employer rate of 1.69% of pay for General members and an increase of 2.16% of pay for Safety members. The primary drivers of the overall cost decrease were changes to the mortality and salary timing assumptions. More details on the impact of the individual assumption changes can be found in the Actuarial Experience Study report dated August 2022.

C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

The chart on this page compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentage shown at the top of each bar is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio).

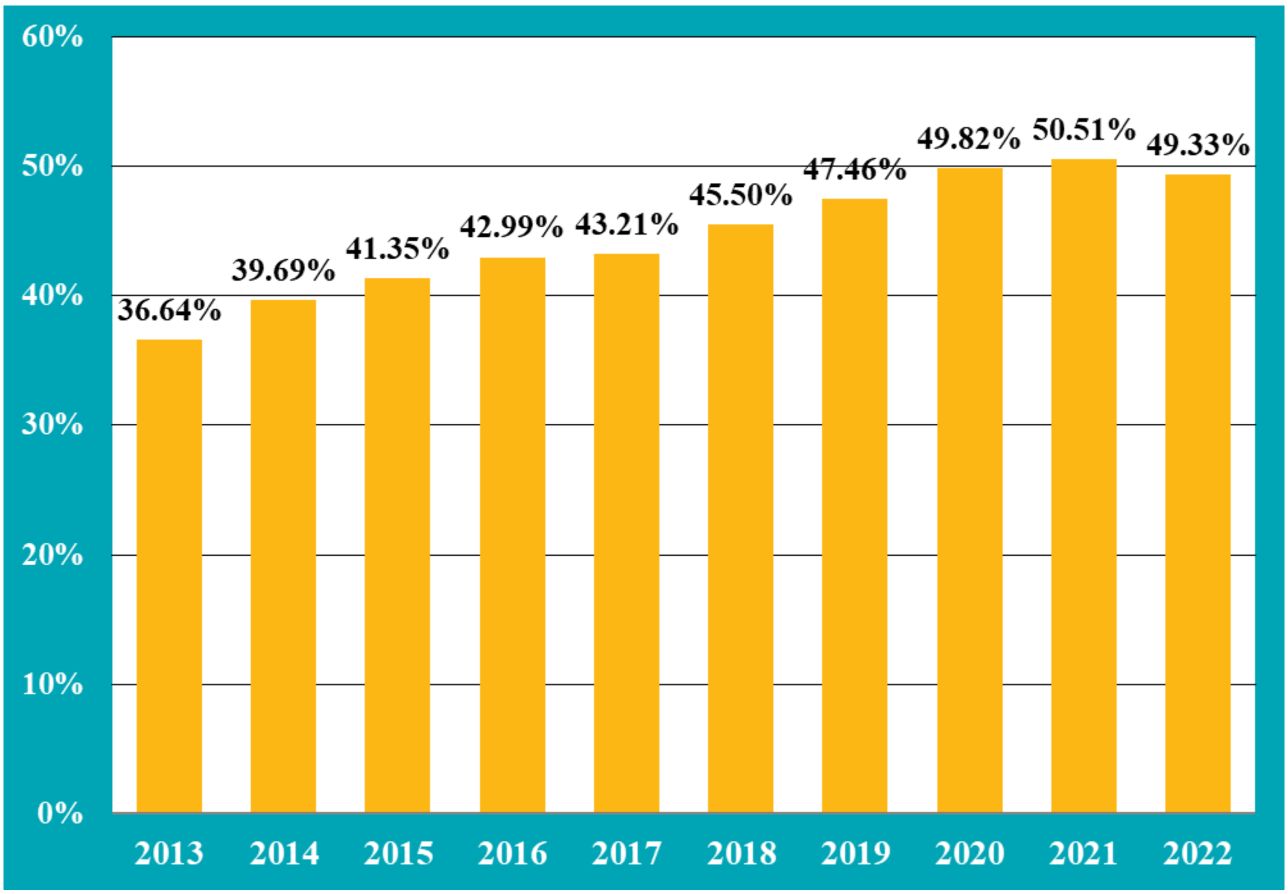


The funded ratio has increased from 63.4% in 2013 to 72.4% in 2022. In the last two years the funded ratio has increased by 8% to 72.4%, even with a decrease to 6.75% in the expected return assumption in 2022. The increase is primarily due to better than assumed actuarial returns on investments as well as additional contributions above the actuarially determined amounts made by some employers. However, there was a lack of funding progress between 2016 and 2020 due to assumption changes (lower assumed rates of return and improved mortality) and investment returns being lower than expected during this time.

SECTION I – EXECUTIVE SUMMARY

Employer Contribution Rates

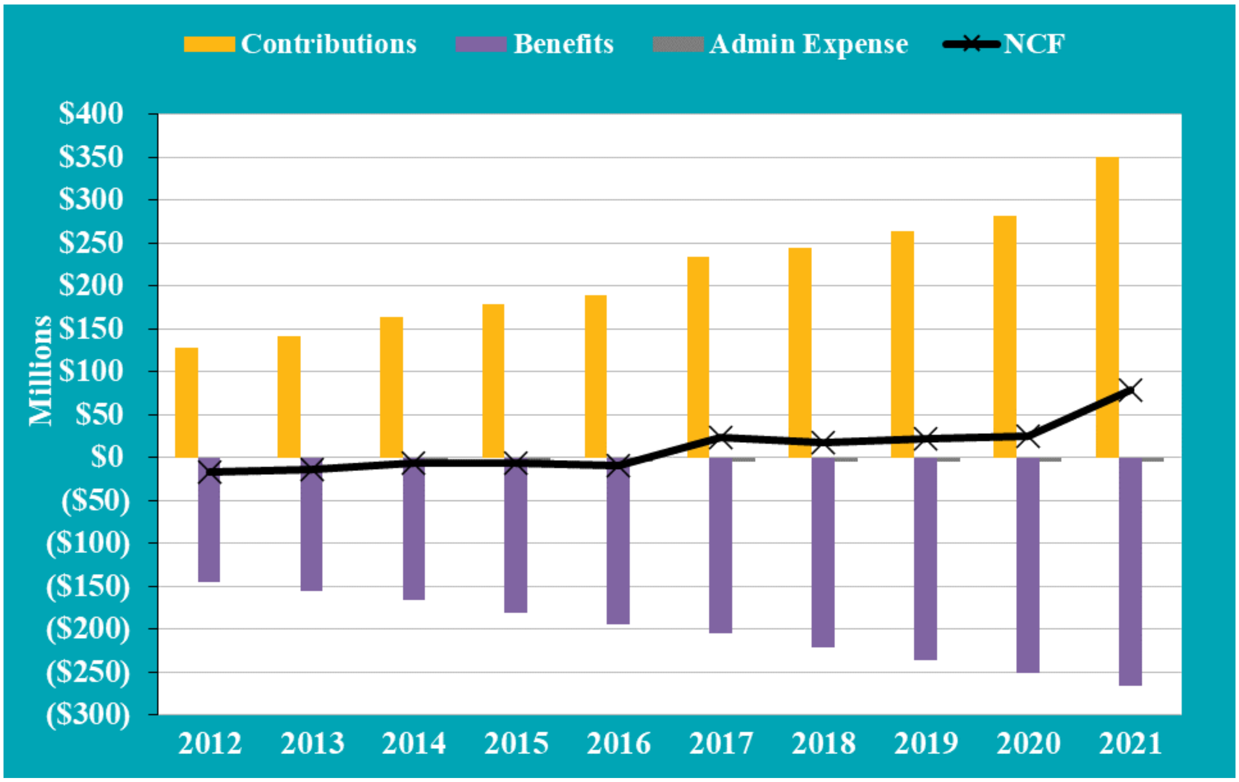
The chart on this page shows the employer contribution rate for each of the last 10 valuation cycles. The same factors that contributed to the decline and subsequent lack of progress in funded status – i.e., lower returns and assumptions that are more conservative – have resulted in increases in contribution rates. Rates have also increased due to growth in payroll lagging behind the actuarial assumptions, which spreads the UAL dollar payment over a smaller payroll base. However, the new demographic assumptions and strong asset returns in 2021 have led to a decrease in the contribution rate in the current valuation.



SECTION I – EXECUTIVE SUMMARY

Cash Flows

The chart below shows the Plan's net cash flow (NCF) (contributions less benefit payments and administrative expenses). This is an important measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.



The NCF – shown as the black line in the chart – was slightly negative for the first five years shown in this period but has been positive the past five years due to the increase in the contribution rates and the additional contributions being made by the County and other employers. The additional contributions made during 2021 were over $73 million while the previous four years the contributions were about $20 - $22 million per year.

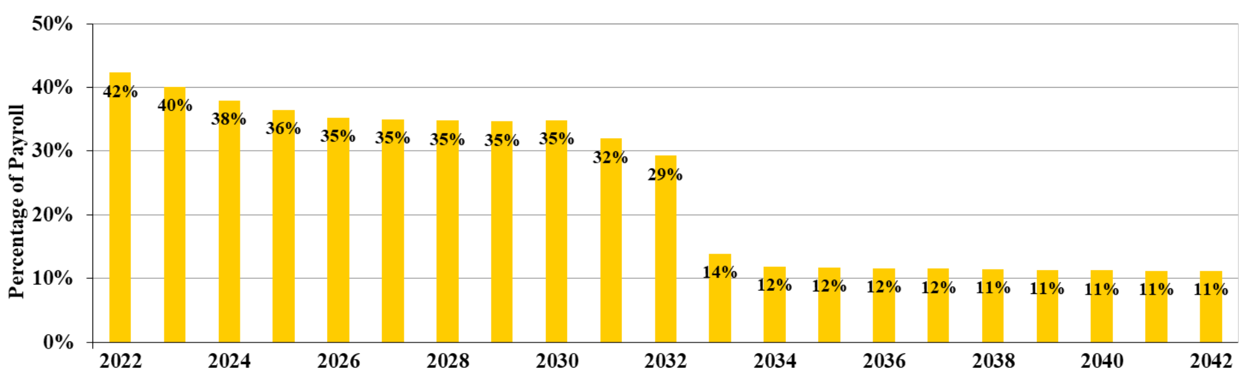
The implications of a plan with negative net cash flow are that the impact of market fluctuations can be more severe: as assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods. If there were a shift to future negative net cash flow, it could magnify the losses during a market decline, hindering the Plan in its ability to absorb market fluctuations.

D. Future Expected Financial Trends

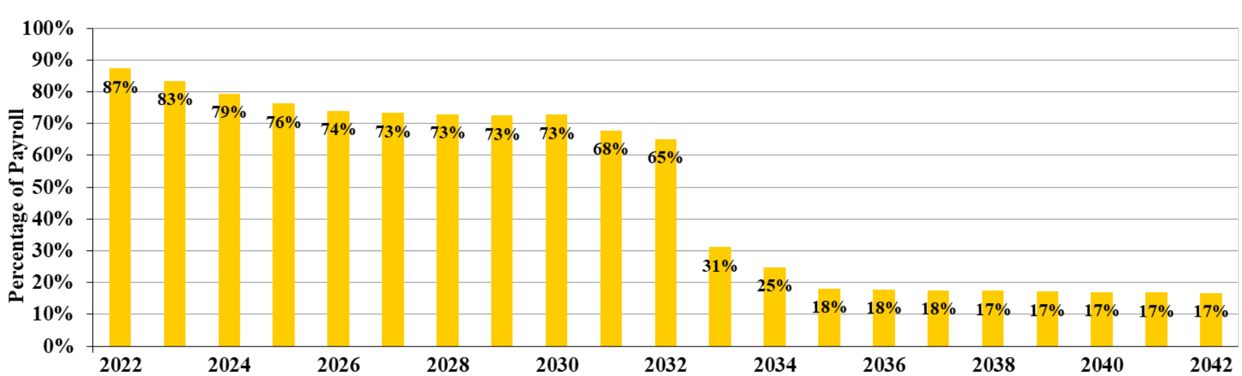
The analysis of projected financial trends is perhaps the most important component of this valuation. In this section, we present our assessment of the implications of the January 1, 2022 valuation results in terms of cost and benefit security (assets over liabilities). All the projections in this section are based on the interest rate assumption of 6.75%. We have assumed a level active workforce population and future payroll growth of 3.00% per year.

The following graphs show the expected employer contribution rates for General and Safety members, and for the Plan in aggregate, based on actually achieving the 6.75% assumption each year for the next 20 years, and if the employers contribute at the actuarially determined rates.

Projection of General Employer Contributions, 6.75% return each year

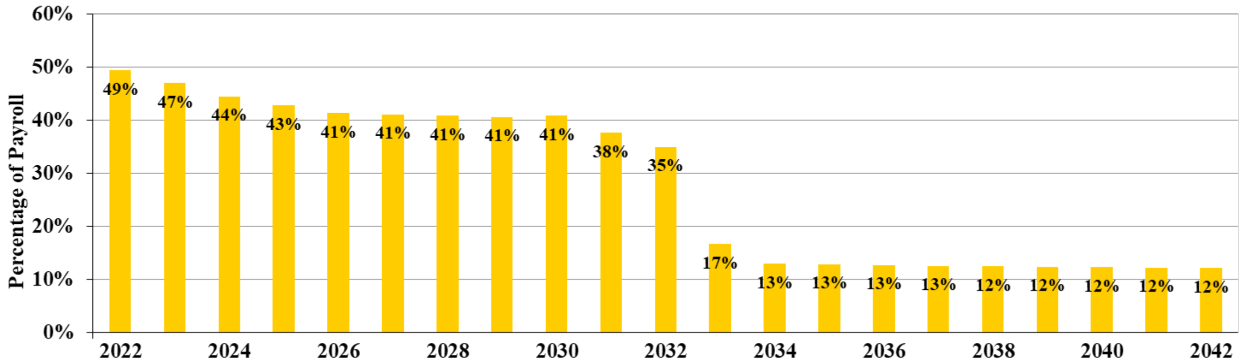


Projection of Safety Employer Contributions, 6.75% return each year



SECTION I – EXECUTIVE SUMMARY

Projection of Total Employer Contributions, 6.75% return each year



The projections show that General, Safety and Total County contributions are expected to decrease next year, as asset gains continue to be recognized in the smoothed Actuarial Value of Assets. The dollar contribution will be approximately $186 million for General and $67 million for Safety in 2022 then decline gradually as a percentage of payroll until 2033, when the 2014 UAL is paid off. The decline in contribution rates from 2023-2032 is attributable to the recognition of net deferred asset gains, Tier 2 new hires that are expected to replace existing Tier 1 membership, as well as the expiration of other UAL amortization layers.

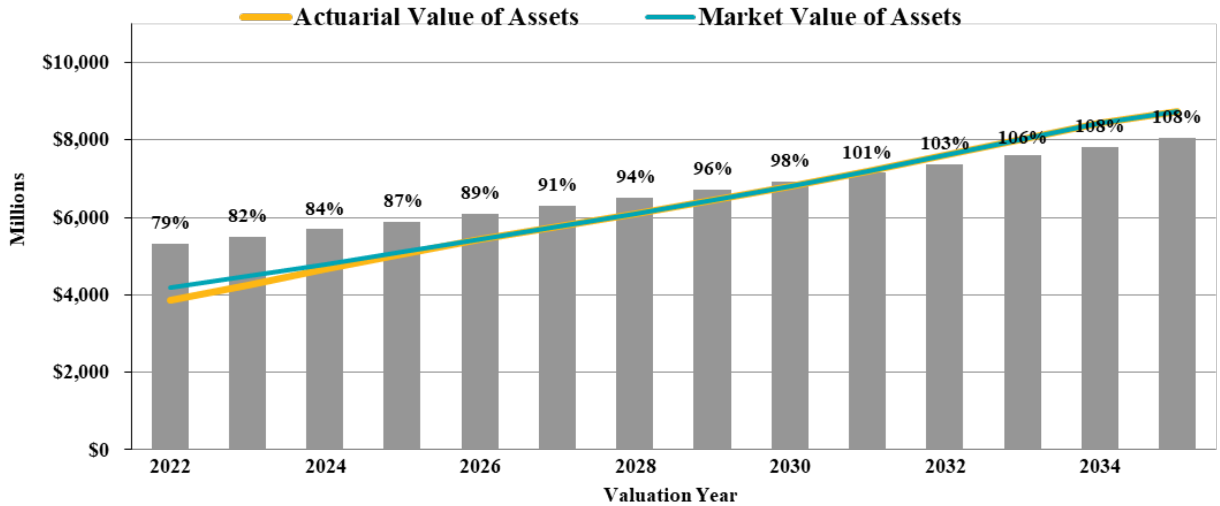
Note that the contribution projections do not forecast any actuarial gains or losses (except for net deferred gains on the Market Value of Assets). The graphs also do not include the impact of the additional contributions currently being made by the County, the Mosquito and Vector Control District, and the Superior Court; those additional contributions would eventually be expected to be available to reduce the employer contributions in future years.

SECTION I – EXECUTIVE SUMMARY

Asset and Liability Projections:

The graph below shows the projection of SJCERA's assets and liabilities assuming that assets will earn the 6.75% assumption each year during the projection period and the employers contribute at the actuarially determined rates.

Projection of Assets and Liabilities, 6.75% return each year



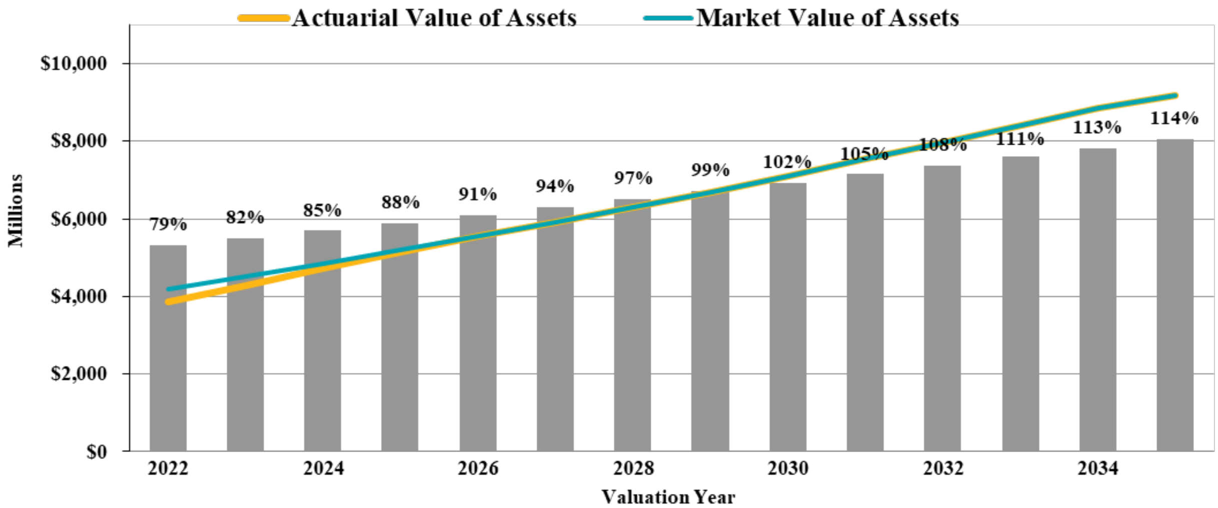
The graph shows that the projected funded status on a market value basis increases over the next 20 years to 108%, assuming the actuarial rate of return assumption is achieved. However, as noted above, it is the actual return on System assets that will determine the future funding status and contribution rates to the Fund.

We note that the funded ratio is expected to gradually climb above 100%; this is because under the PEPRA legislation, the employer contribution is not allowed to fall below the level of the Normal Cost unless the Plan reaches at least 120% funded (and other conditions are met).

The assets in the graph above also include the additional contributions that the County (2017-2021), the Mosquito and Vector Control District (2018-2021), and Superior Court (2019-2021) made to the fund. No further additional contributions are assumed. However, the additional contribution reserves continue to grow at the 6.75% assumed rate of return and are not used in the calculation of the actuarially determined contribution rates, which additionally increases the projected funded status above 100%.

The graph on the next page shows the same information as the previous graph and assumes that additional contributions of 5% of SJCERA payroll are made until the System's funded ratio reaches 100%. Although the Mosquito and Vector Control District and the Superior Courts have been making additional contributions at different rates, and other employers are not currently making additional contributions, we note that the County has been making additional contributions of approximately 5% per year and makes up the vast majority of overall payroll and these additional contributions are for illustrative purposes only. No change in the contribution rate is assumed due to the additional contributions; these assets continue to be excluded from the actuarial cost calculation, as noted earlier.

Projection of Assets and Liabilities, 6.75% return each year, Ongoing County Additional 5% Contributions



As can be seen in the projection above, with the additional expected 5% of pay contributions from the Plan would be expected to return to full funding in 2030, one year earlier than expected in the projections without the additional future contributions.

SECTION II – DISCLOSURES RELATED TO RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may vary significantly. This section of the report is intended to identify the primary risks to the Plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

A fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. While we believe it is unlikely that the Plan by itself would become unaffordable, the contributions needed to support the Plan may differ significantly from expectations. While there are a number of factors that could lead to contribution amounts deviating from expectations, we believe the primary risks are:

- Investment risk,
- Assumption change risk, and
- Contribution and payroll risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the unfunded actuarial liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the Plan's asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsors or other contribution base.

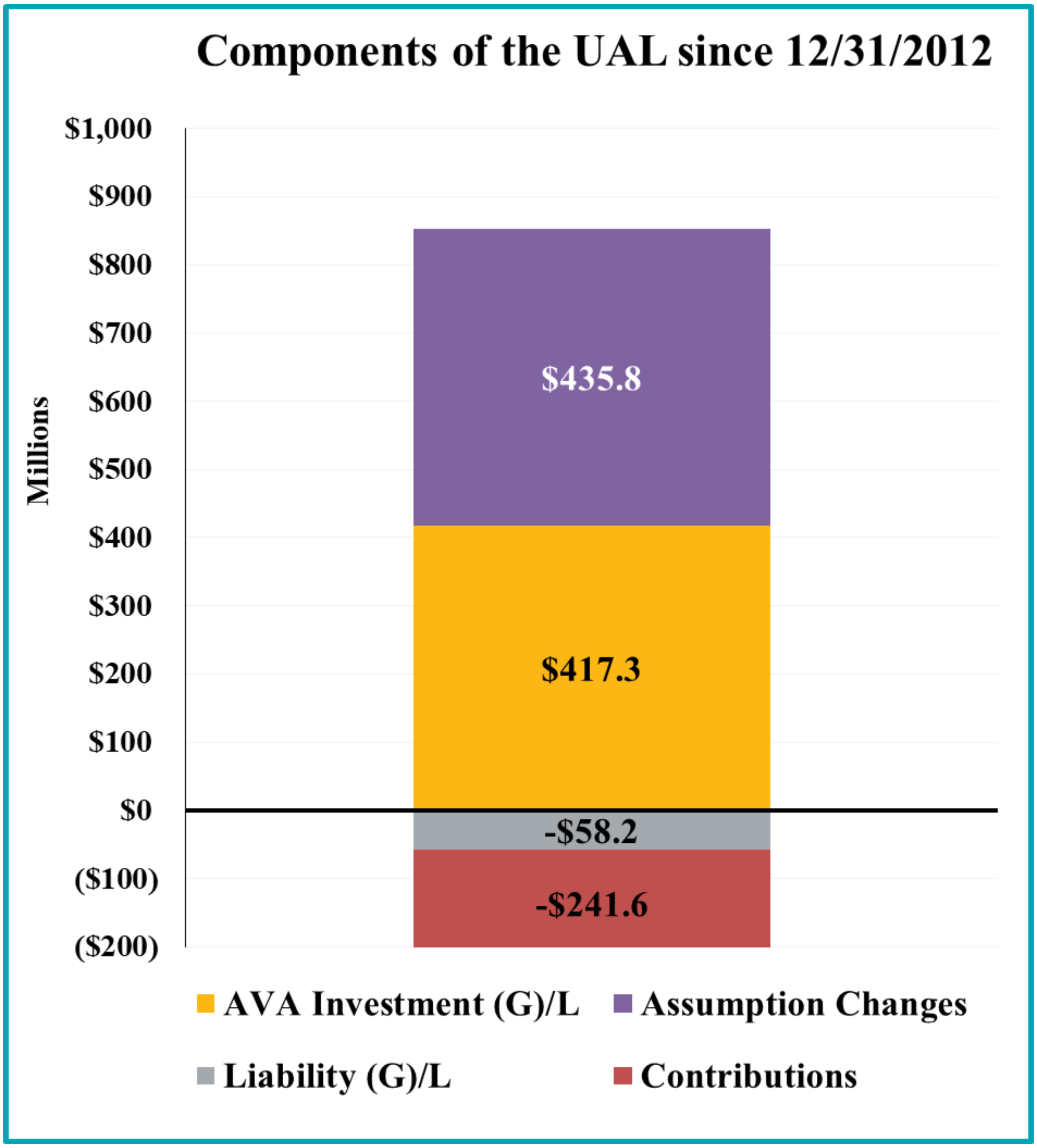
Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed income investments, but lower expected future returns necessitating either a change in investment policy, a reduction in discount rate, or some combination of the two. Assumption change risk is an extension of the other risks identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment when the current assumption is no longer reasonable.

Contribution risk is the potential for actual future contributions to deviate from expected future contributions. There are different sources of contribution risk such as the sponsor choosing to not make contributions in accordance with the funding policy or if the contribution requirement becomes such a financial strain on the sponsor as a result of material changes in the contribution base (e.g., covered employees, covered payroll) that affect the amount of contributions the Plan can collect.

SECTION II – DISCLOSURES RELATED TO RISK

The chart below shows the components contributing to the Unfunded Actuarial Liability (UAL) from January 1, 2012 through December 31, 2021. Over the last 10 years, the UAL has increased by approximately $553.1 million. The investment losses (gold bar) of $417.3 million on the Actuarial Value of Assets (AVA) and assumptions changes (purple bar) resulting in a total UAL increase of $435.8 million are the primary sources in the UAL growth. The net liability gains (gray bar) of $58.2 million and contributions in excess of the "tread water" level (red bar) of $241.6 million have decreased the UAL since December 31, 2012.

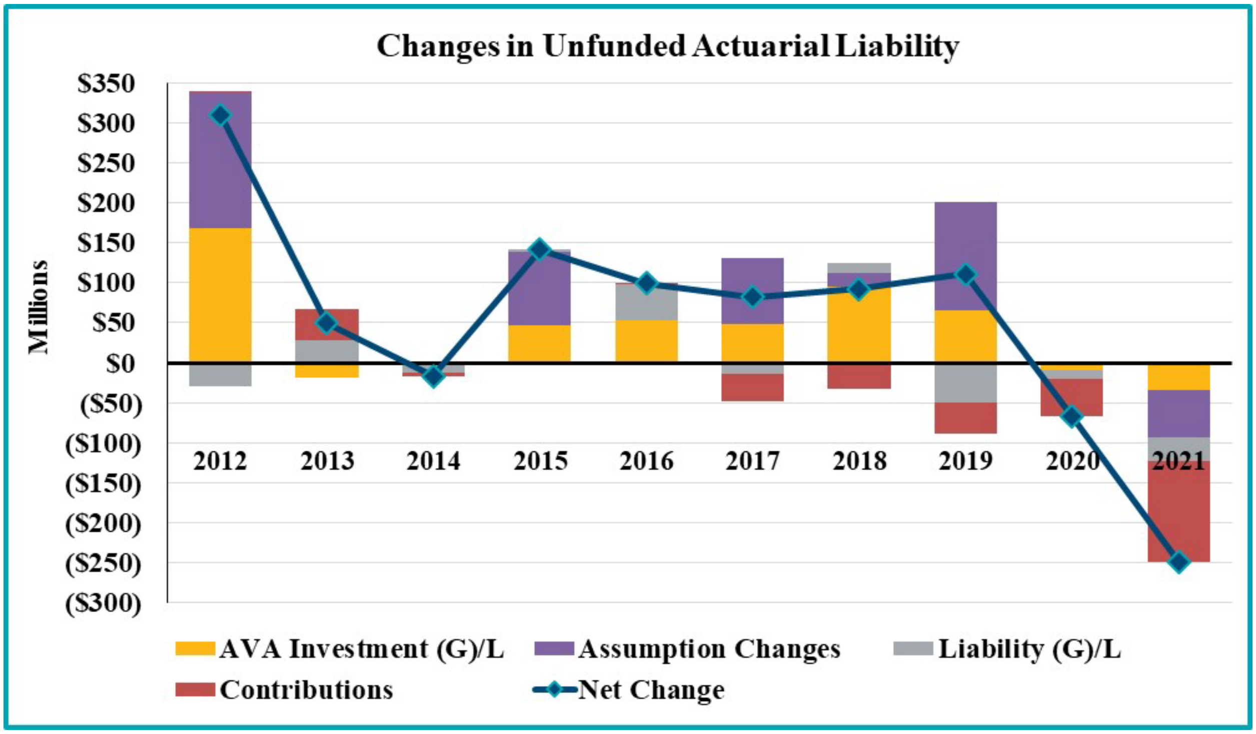
Chart II-1



SECTION II – DISCLOSURES RELATED TO RISK

Chart II-2 below details the annual sources of the UAL change (colored bars) for the plan years ending December 31. The net UAL change for each year is represented by the blue diamonds.

Chart II-2



On a market value basis, the average annual geometric return over the 10-year period is 7.6%. This has resulted in investment losses on the AVA most years, increasing the UAL, except for the 2013, 2020, and 2021 plan years.

Over the same time period, the assumed rate of return decreased from 7.75% to 6.75%. It is important to note that these changes simply reflect a downward revision to the estimate of future investment earnings and ultimately costs will be determined by actual investment earnings. Based on Meketa's current 10-year capital market assumptions (including their inflation assumption of 2.60%) and the Plan's asset allocation, the expected average annual return is 6.01%, compared to the Plan's updated assumption of 6.75% in 2022. Future expectations of investment returns may continue to decline necessitating further reductions in the discount rate.

The impact of all assumption changes is represented by the purple bars and also includes decreases in mortality rates projected in the future which had a significant impact on the measurement of the UAL. The assumption changes effective with the January 1, 2019 valuation were only demographic changes with no change to the expected rate of return of 7.25%. The January 1, 2020 valuation decreased the expected rate of return to 7.00%. The January 1, 2022 valuation decreases the discount rate assumption to 6.75% while also adopting new demographic assumptions that lowered the UAL.

SECTION II – DISCLOSURES RELATED TO RISK

Each year the UAL is expected to increase for benefits earned in the current year (the normal cost), administrative expenses, and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected to increase. The amortization policy (as well as the contribution-timing lag) can impact whether or not the contributions exceed the tread water level. For example, the Board changed the amortization policy in 2009 to amortize 50% of the extraordinary asset loss over a 30-year period and the remaining UAL over a 20-year period. Initially, the relatively long amortization period resulted in contributions being below the tread water level.

However, the single equivalent amortization period for the last several years has been much lower (around 14-16 years, and down to 12 years in this valuation), with the UAL payment going towards principal as well as interest on the UAL. In addition, the County and at least two other employers have made discretionary contributions above the actuarially determined contribution rate, in the County's case equal to 5% of their pensionable payroll, or approximately $20 million per year since the 2017 plan year and an even larger $72 million this year. These contributions went directly toward paying down the principal on the UAL as seen below in Table II-1, which numerically summarizes the changes in the UAL for each year by source over the last 10 years.

Table II-1

Unfunded Actuarial Liability (UAL) Change by Source

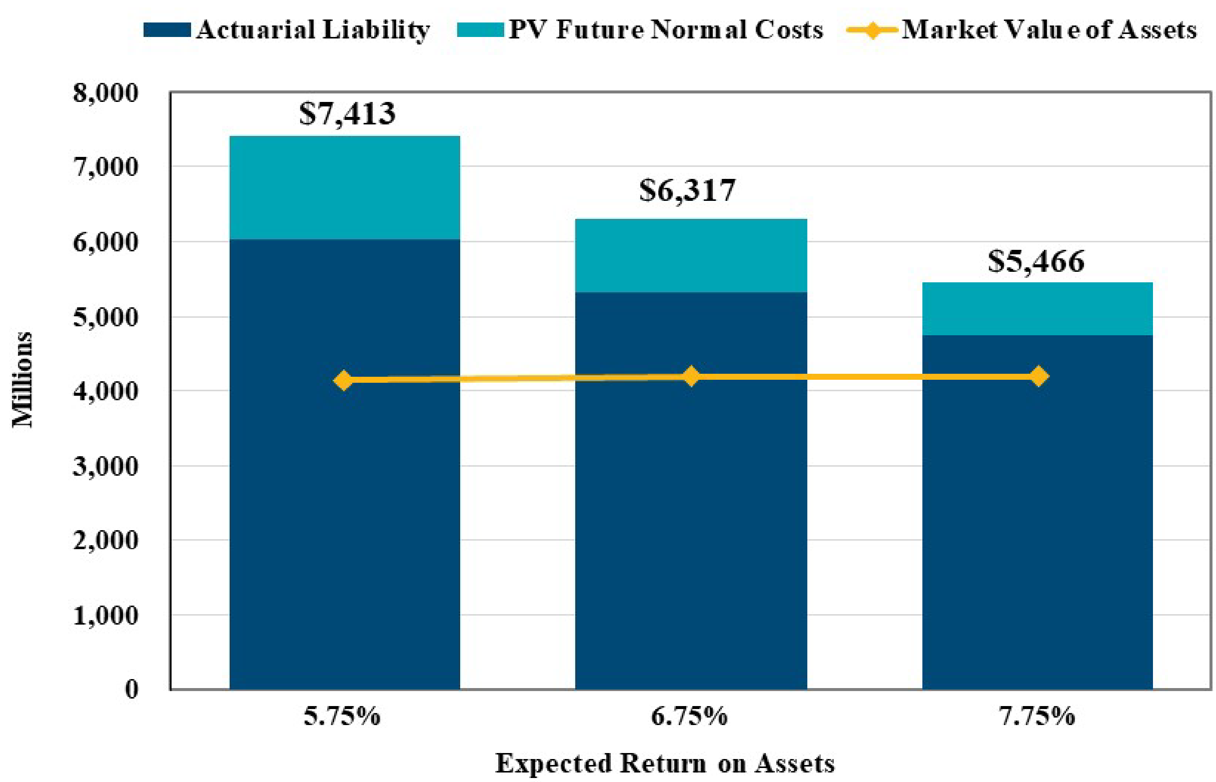
December 31,	Investment Experience	Liability Experience	Assumption Changes	Contributions	Total UAL Change
2012	$168,334,000	($29,597,000)	$169,755,000	$833,000	$309,325,000
2013	(18,030,000)	28,061,000	0	39,067,000	49,098,000
2014	653,000	(11,929,000)	0	(5,073,000)	(16,349,000)
2015	46,200,000	3,691,000	91,855,000	(172,000)	141,574,000
2016	53,461,000	45,033,000	0	831,000	99,325,000
2017	48,426,000	(14,693,000)	81,855,000	(33,016,000)	82,572,000
2018	95,800,000	12,745,000	16,017,000	(31,986,000)	92,576,000
2019	65,252,000	(49,917,000)	135,011,000	(39,203,000)	111,143,000
2020	(8,800,000)	(11,061,000)	0	(47,428,000)	(67,289,000)
2021	(33,977,000)	(30,569,000)	(58,741,000)	(125,436,000)	(248,723,000)
Total	**$417,319,000**	**($58,236,000)**	**$435,752,000**	**($241,583,000)**	**$553,252,000**

Assessing Costs and Risks

Sensitivity to Investment Returns

The chart below compares assets to the present value of all projected future benefits discounted at the current expected rate of return and at discount rates 100 basis points above and below the expected rate of return. The present value of future benefits is shown as a bar with the portion attributable to past service in dark blue (Actuarial Liability) and the portion attributable to future service in teal (present value of future normal costs). The Market Value of Assets is shown by the gold line.

Present Value of Future Benefits versus Assets



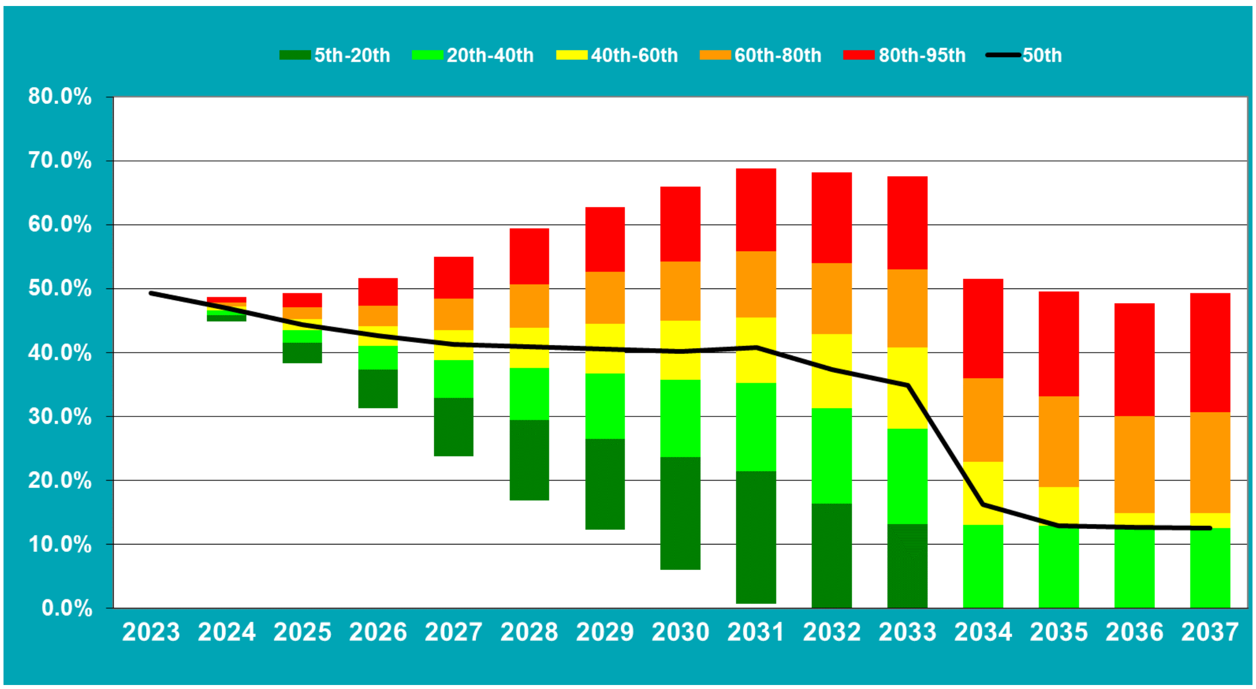
If investments return 6.75% annually, the Plan will need approximately $6.3 billion in assets today to pay all projected benefits compared to current assets of $4.2 billion. If investment returns are only 5.75%, the Plan would need approximately $7.4 billion in assets today, and if investment returns are 7.75%, the Plan would need approximately $5.5 billion in assets today.

SECTION II – DISCLOSURES RELATED TO RISK

Sensitivity to Investment Returns - Stochastic Projections

Stochastic projections serve to show the range of probable outcomes of various measurements. The graphs below and on the following page show the projected range of the employer contribution rate and of the funded ratio on an Actuarial Value of Assets basis. The range in both scenarios is driven by the volatility of investment returns (assumed to be based on a 10.5% standard deviation of annual returns, as indicated in Meketa's current capital market assumptions). The stochastic projections of investment returns are based on an assumption that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. This assumption may result in an unrealistically wide range of compound investment returns over longer periods.

Stochastic Projection of Employer Contributions as a Percentage of Payroll

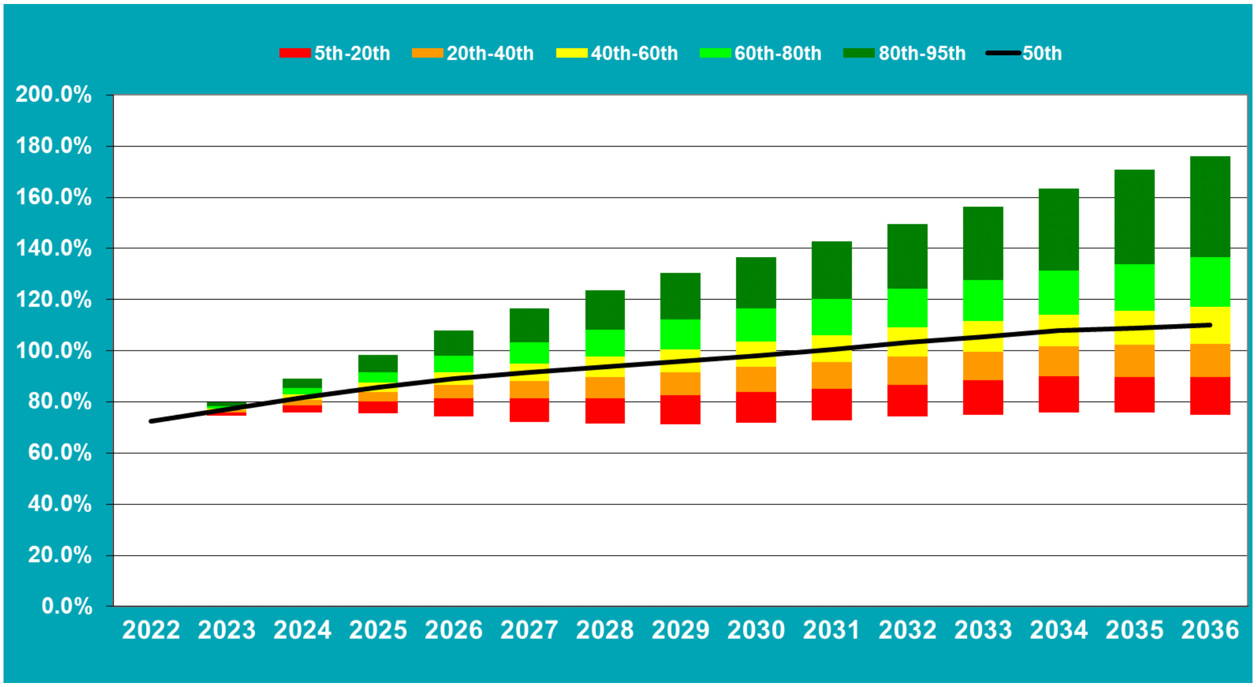


The stochastic projection of employer contributions as a percentage of payroll shows the probable range of future contribution rates. The baseline contribution rate (black line), which is based on the median of the simulations using an average return of 6.75%, aligns closely with the projections discussed in subsection D. of the Executive Summary of this report. In the most pessimistic scenario shown, the 95th percentile, the projected employer contribution rate approaches 70% of pay in 2031. Conversely, the most optimistic scenario shown, the 5th percentile, the projected employer contribution rate declines to 0% in 2031.

We note that these projections allow the employers' contribution to drop below their share of the normal cost only if the Plan becomes extremely overfunded (i.e. a funded ratio above 100%), as required by the PEPRA legislation. The projections above do not include the additional contribution reserve or any future contributions above the actuarially determined contributions.

SECTION II – DISCLOSURES RELATED TO RISK

Stochastic Projection of Funded Ratio on an Actuarial Value of Assets Basis



The graph above shows the projection of the funded ratio based on the actuarial value of assets. The projections do not assume future additional contributions from the County or other employers. While the baseline-funded ratio (black line) is projected to be approximately 110% at the end of the 15-year period shown here, there is a wide range of potential outcomes. Good investment returns have the likelihood of bringing the funded ratio well over 100%. Due to the current funding policy of the Plan, even in scenarios with unfavorable investment returns, the Plan is projected to remain over 70% funded on an Actuarial Value of Assets basis in all but the most unfavorable of scenarios, as long as the actuarially determined contributions continue to be made.

Contribution Risk

The Safety contribution rate is very large at just over 87% of payroll and as a result, future salary increases, and the hiring of new members are potentially at risk. When member payroll growth stagnates or even declines, the dollar level of contributions made to the Plan also stagnate or decline since contributions are based on payroll levels.

There is also a risk of the contribution rate increasing even higher when payroll decreases since the Plan's funding policy amortizes the UAL as a level percentage of payroll. This means that the UAL payments increase at the assumed payroll growth rate of 3.00%, so that the payment is expected to remain constant as a percentage of payroll. If payroll growth is less than the expected 3.00% or there is a decline in payroll, the UAL payments are spread over a smaller payroll base and the contribution rate as a percentage of payroll increases, making the Plan less affordable for the Safety and potentially other plan sponsors.

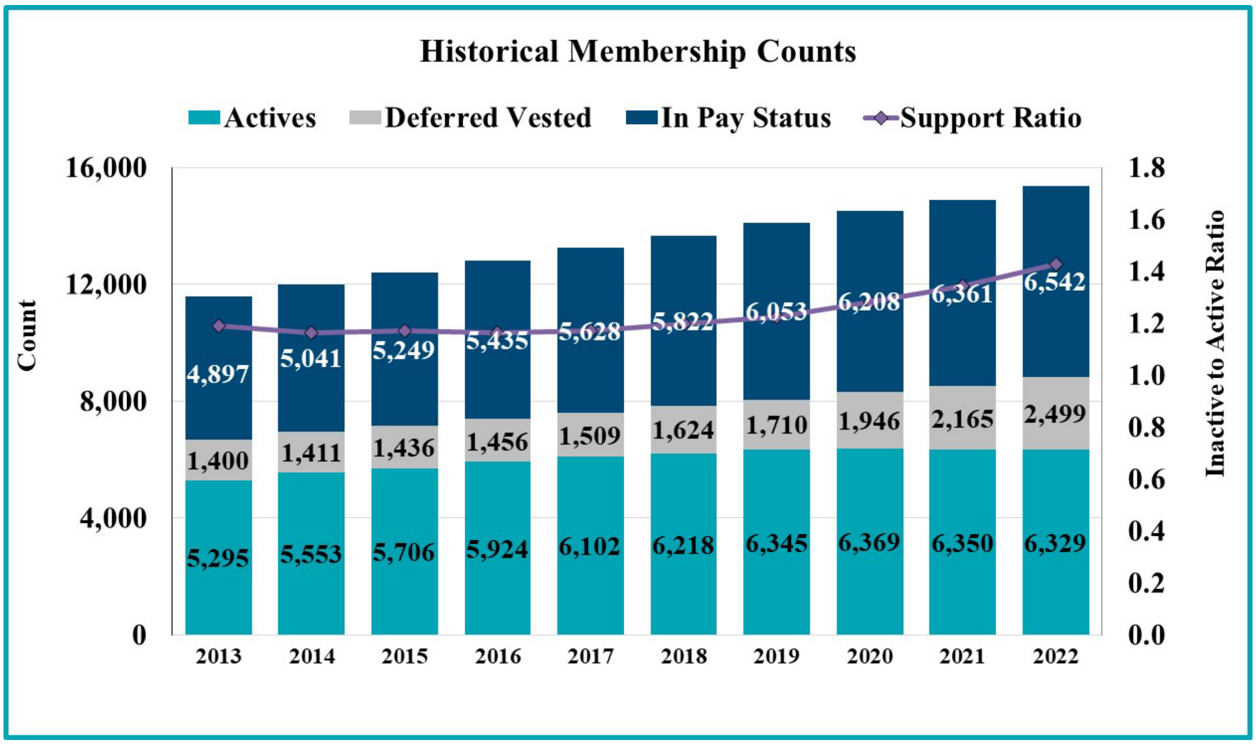
Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the Plan and how the maturity has changed over time.

Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for the Plan.

Inactives per Active (Support Ratio)

One simple measure of plan maturity is the ratio of the number of inactive members (those receiving benefits or inactives – those entitled to a deferred benefit) to the number of active members. The Support Ratio is expected to increase gradually as a plan matures. The Support Ratio slightly declined from 2014 to 2017 since the active population increased an average of about 3.6% per year. The last five years, the active population increased at a slower pace than the inactive population, resulting in an uptick in the Support Ratio.

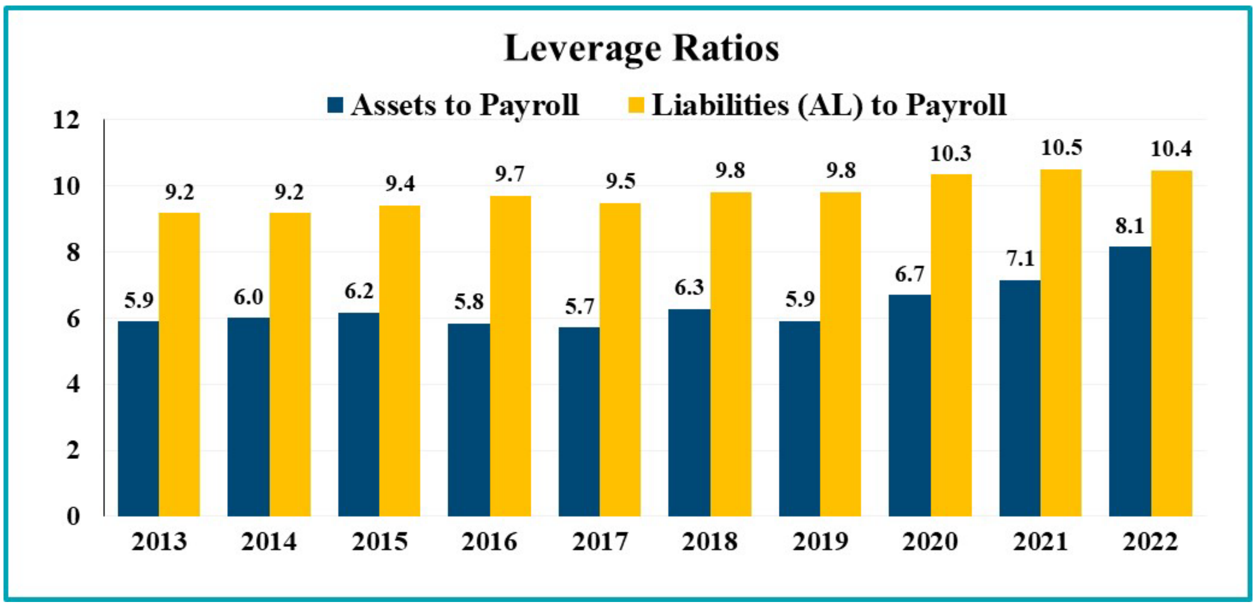


SECTION II – DISCLOSURES RELATED TO RISK

Leverage Ratios

Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. The asset leverage ratio is simply the market value of assets to active member payroll and indicates the sensitivity of the Plan to investment returns. The liability leverage ratio is the plan's actuarial liability to active member payroll and indicates the sensitivity of the Plan to assumption changes or demographic experience.

The chart below shows the historical leverage ratios of the Plan. Both leverage ratios have increased since 2013, but the asset to payroll ratio had remained relatively stable around 6.0 - assets are six times member payroll – from 2013 to 2019. From 2020 to 2022, the ratio increased from 6.7 to 8.1 times member payroll, due to the favorable asset returns and additional contributions. The liability to payroll ratio has increased in most years, driven by the continued maturation of the Plan and assumption changes.

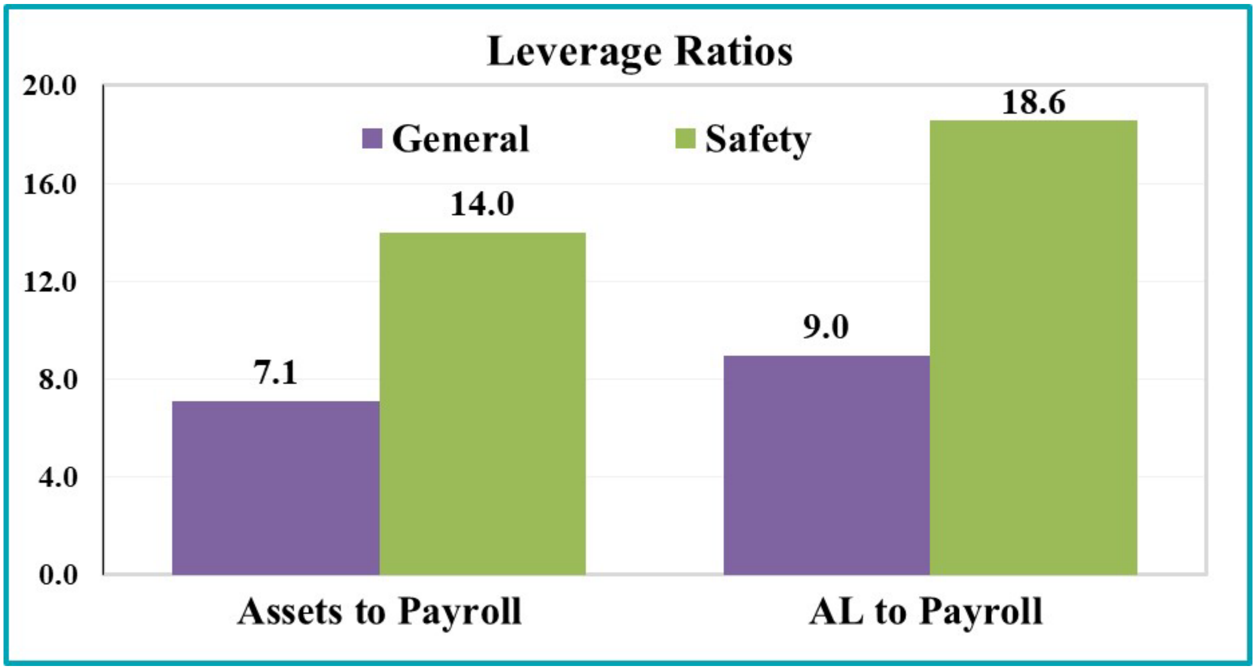


To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the plan cost is nil, because the asset level is so small.

As the Plan becomes better funded, the asset leverage ratio will increase, and if it were 100% funded, the asset leverage ratio would be over 10 times payroll, or the liability leverage ratio.

We note that the ratio of both assets and liabilities to payroll, and therefore the sensitivity to investment returns, is higher for the Safety members compared to the General members, because of the higher benefit amounts and the earlier average retirement ages for Safety.

SECTION II – DISCLOSURES RELATED TO RISK



The General asset leverage ratio of 7.1 means that if the Plan's assets lose 10% of their value, which is a 16.75% actuarial loss compared to the expected return of 6.75%, the loss would be equivalent to 119% of payroll (16.75% times 7.1). Based on the current amortization policy and economic assumptions, the General contribution rate would ultimately increase by almost 13% of payroll, after deferred asset losses are fully recognized. The same investment loss for the Safety group with an asset ratio of 14.0 would be equivalent to 235% of payroll, or an approximate contribution rate increase of almost 25%. Therefore, the contribution rates for the Safety members will generally be much more volatile than those of the General members.

More Detailed Assessment

While a more detailed assessment is always valuable to enhance the understanding of the risks identified above, we believe the scenarios illustrated above cover the primary risks facing the Plan at this time. We would be happy to provide the Board with a more in-depth analysis at their request.

SECTION III – ASSETS

Pension Plan assets play a key role in the financial operation of the System and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on System assets including:

- **Disclosure** of System assets as of December 31, 2020 and December 31, 2021,
- Statement of the **changes** in market values during the year,
- Development of the **Actuarial Value of Assets**,
- An assessment of **investment performance**, and
- Determination of **reserve balances** as of January 1, 2022.

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets, and the Actuarial Value of Assets. The market value represents the fair value of assets that provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the Actuarial Value of Assets, which reflect smoothing of annual investment returns.

Table III-1 on the next page discloses and compares the market values as of December 31, 2020 and December 31, 2021.

SECTION III – ASSETS

TABLE III-1
Statement of Assets at Market Value
December 31,

Assets:		**2020**		**2021**
Cash and Cash Equivalents	$	146,456,177	$	323,434,089
Cash Collateral-Securities Lending		83,589,197		84,977,773
Total Cash and Cash Equivalents		230,045,374		408,411,862
Receivables:				
Investment Income Receivables		3,400,405		3,563,318
Contributions Receivable		10,074,285		11,131,624
Securities Sold, Not Received - Domestic		1,065,084		46,579,831
Other Investment Income Receivable		0		0
Miscellaneous Receivables		40,873		45,565
Total Receivables		14,580,647		61,320,338
Investments, at Market Value:				
Stable Fixed Income		322,514,912		330,858,456
Credit		479,100,892		498,464,537
Global Public Equity		1,258,623,730		1,542,821,008
Private Appreciation		456,340,240		571,896,533
Risk Parity		409,233,403		449,916,750
Crisis Risk Offset		463,660,827		499,732,946
Total Investments		3,389,474,004		3,893,690,230
Other Assets:				
Prepaid Expenses		140,655		99,975
Equipment and Fixtures, Net		136,246		154,044
Other Assets		276,901		254,019
Total Assets		3,634,376,926		4,363,676,449
Liabilities:				
Securities Lending-Cash Collateral		83,589,197		78,775,961
Securities Purchased, Not Paid		2,986,539		84,977,773
Accrued Expenses and Other Payables		1,076,401		1,127,029
Security Lending Interest and Other Expense		12,540		7,682
Total Liabilities		87,664,677		164,888,445
Market Value of Assets	**$**	**3,546,712,249**	**$**	**4,198,788,004**

Changes in Market Value

The components of asset change are:

- Contributions (employer and employee)
- Benefit payments
- Expenses (investment and administrative)
- Investment income (realized and unrealized)

Table III-2 below shows the components of change in the Market Value of Assets during 2020 and 2021.

TABLE III-2
Changes in Market Values

Additions	**2020**	**2021**
Contributions		
Employer's Contribution	240,700,988	306,662,635
Members' Contributions	40,568,995	43,455,640
Total Contributions	281,269,983	350,118,275
Net Investment Income		
Net Appreciation/(Depreciation) in		
Fair Value of Investments	256,770,057	554,256,496
Interest	20,997,097	22,966,328
Dividends	5,563,699	10,179,197
Real Estate Income, net	11,223,598	9,333,819
Investment Expenses	(18,016,050)	(25,722,039)
Miscellaneous Investment Income	2,390	39
Net Investment Income,		
Before Securities Lending Income	276,540,791	571,013,840
Securities Lending Income		
Earnings	581,476	388,378
Rebates	(165,250)	519
Fees	(103,839)	(97,171)
Net Securities Lending Income	312,387	291,726
Net Investment Income	276,853,178	571,305,566
Miscellaneous Income	143,352	986,382
Total Additions	558,266,513	922,410,223

SECTION III – ASSETS

TABLE III-2
Changes in Market Values (Continued)

Deductions	**2020**	**2021**
Benefit payments	247,254,985	261,371,770
Death Benefits	808,150	608,396
Refunds of Members' Contributions	3,488,542	3,985,433
Total Benefit Payments	251,551,677	265,965,599
Administrative & Other Expenses		
General Administrative Expenses	3,936,825	3,828,700
Actuary Fees	123,800	206,203
Fund Legal Fees	475,830	604,536
Total Administrative & Other Expenses	4,536,455	4,639,439
Transfer Between Plans	(172,041)	(270,570)
Total Deductions	255,916,091	270,334,468
Net increase (Decrease)	302,350,422	652,075,755
Net Assets Held in Trust for Pension Benefits:		
Beginning of Year	3,244,361,827	3,546,712,249
End of Year	3,546,712,249	4,198,788,004
Approximate Return	8.50%	15.96%

SECTION III – ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce contribution volatility, which could develop due to short-term fluctuations in the Market Value of Assets. For this System, the Actuarial Value of Assets is calculated by recognizing the deviation of actual investment returns compared to the expected return over a five-year period.

The dollar amount of the expected return on the Market Value of Assets is determined using the actual contributions, administrative expense, and benefit payments during the year. Any difference between this amount and the actual investment earnings is considered a gain or loss. However, in no event will the Actuarial Value of Assets be less than 80% or more than 120% of market value on the valuation date. The following table shows the development of the actuarial asset value.

TABLE III-3
Development of Actuarial Value of Assets
as of January 1, 2022

	(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f) – (e)	(h)	(i) = (g) x (h)
Year	Contributions	Benefits	Administrative Expense	Healthcare Fund Transfer	Expected Return	Actual Return	Additional Earnings	Not Recognized	Unrecognized Earnings
2018	244,135,523	221,443,667	4,865,082	324,269	209,406,849	(56,397,598)	(265,804,447)	20%	(53,160,889)
2019	263,627,444	236,350,072	4,931,163	299,014	206,793,106	380,674,528	173,881,422	40%	69,552,569
2020	281,269,983	251,551,677	4,536,455	172,041	227,983,829	276,996,530	49,012,701	60%	29,407,621
2021	350,118,275	265,965,599	4,639,439	270,570	251,024,692	572,291,948	321,267,256	80%	257,013,805

1. Total Unrecognized Dollars	302,813,106
2. Market Value of Assets as of December 31, 2021	4,198,788,004
3. Preliminary Actuarial Value of Assets as of December 31, 2021: [(2) - (1)]	3,895,974,898
4. Corridor Limits	
a. 80% of Net Market Value	3,359,030,403
b. 120% of Net Market Value	5,038,545,605
5. Actuarial Value of Assets after Corridor	3,895,974,898
6. Ratio of Actuarial Value to Market Value [(5) ÷ (2)]	92.79%
7. Market Stabilization Designation [(2) – (5)]	302,813,106
8. Special (Non Valuation) Reserves:	
Class Action Settlement – Post 4/1/1982	75,271
Contingency	43,633,169
Total Special Reserves	43,708,440
9. Actuarial Value of Assets for the Funding Ratio: [(5) - (8)]	**$3,852,266,458**
10. Additional Contribution Reserves	$184,202,449
11. Actuarial Value of Assets Used for Calculating the Employer Contribution Rates: [(9) - (10)]	**$3,668,064,009**

Investment Performance

The following table calculates the investment related gain/loss for the plan year on both a market value and an actuarial value basis. The market value gain/loss is a useful measure for comparing the actual asset performance to the previous valuation assumption.

The employer contributions include the additional contributions of $73,526,045 made by the County, the MVCD, and the Superior Court in the gain/loss development for the market value of assets but are excluded in the analysis for the valuation assets.

TABLE III-4
Asset Gain/(Loss)

	Market Value	Valuation Assets
January 1, 2021 value	**$ 3,546,712,249**	**$ 3,390,284,482**
Employer Contributions	306,662,635	233,136,591
Employee Contributions	43,455,640	43,455,640
Healthcare Transfer	270,570	270,570
Benefit Payments	(265,965,599)	(265,965,599)
Administrative Expenses	(4,639,439)	(4,639,439)
Expected Investment Earnings (7.00%)	251,024,692	237,544,861
Expected Value December 31, 2021	**$ 3,877,520,748**	**$ 3,634,087,106**
Investment Gain / (Loss)	321,267,256	33,976,903
January 1, 2022 value	**$ 4,198,788,004**	**$ 3,668,064,009**
Return	15.96%	8.00%

Note that the return on market value shown above is not the dollar-weighted return on assets required for purposes of GASB Statements 67 and 68.

SECTION III – ASSETS

The following table shows the historical annual asset returns on a market value and actuarial value basis, as well in the increase in the Consumer Price Index (CPI) since 1999.

TABLE III-5
Historical Asset Returns

Year Ended December 31	Return on Market Value	Return on Actuarial Value	Increase in CPI[1]
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	(30.1%)	(14.3%)	(0.5%)
2009	11.4%	7.4%	2.5%
2010	12.4%	6.4%	1.5%
2011	1.3%	(1.8%)	3.0%
2012	11.7%	(0.2%)	1.7%
2013	9.2%	8.5%	1.5%
2014	4.7%	7.5%	0.8%
2015	(1.9%)	5.6%	0.7%
2016	6.3%	5.3%	2.1%
2017	11.7%	5.6%	2.1%
2018	(2.0%)	3.9%	1.9%
2019	13.3%	5.1%	2.3%
2020	8.5%	7.3%	1.4%
2021	16.0%	8.0%	7.0%
Compounded 15- Year Average	4.6%	4.2%	2.1%
Compounded 10- Year Average	7.6%	5.6%	2.1%
Compounded 5- Year Average	9.3%	6.0%	2.9%

[1] Based on All Urban Consumers - U.S. City Average, December Indices.

Reserve Balances

The following table shows historical balances of the Post-1982 Settlement Reserve.

TABLE III-6
Post-1982 Settlement Reserve

Valuation Date January 1	Number Eligible	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	6
2012	1,679	3,243,068	14,556,866	5
2013	1,709	3,244,009	11,063,855	4
2014	1,662	3,197,416	8,765,004	3
2015	1,617	3,046,233	6,338,007	2
2016	1,560	2,939,133	3,644,507	1
2017	1,501	2,821,575	915,393	<1
2018	1,441	2,705,007	485,100	<1
2019	1,376	2,594,058	62,951	<1
2020	1,313	2,479,710	65,877	<1
2021	1,255	2,372,539	70,425	<1
2022	1,196	2,260,212	75,271	<1

As of January 1, 2022, the total projected liability associated with paying the Post-82 Settlement allowances for the remaining lifetime of the eligible members and beneficiaries is approximately $15.8 million. Payments from the Post-82 Settlement reserve have been suspended, with the last benefits payable in August of 2018.

SECTION IV – LIABILITIES

In this section, we present detailed information on System liabilities including:

- **Disclosure** of System liabilities at January 1, 2021 and January 1, 2022
- Statement of **changes** in these liabilities during the year

Disclosure

Several types of liabilities are calculated and presented in this report. We note that the liabilities described below are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in the case of a plan termination or other similar action.

- **Present Value of Future Benefits:** Used for measuring all future System obligations, represents the amount of money needed today to fully fund all benefits of the System both earned as of the valuation date and those to be earned in the future by current plan participants, under the current System provisions.
- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the Present Value of Future Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. The method used for this System is called the **Entry Age Normal** (EAN) funding method.
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table IV-1 discloses each of these liabilities for the current and prior valuations and shows the allocation of the valuation assets between SJCERA's valuation subgroups, General and Safety. With respect to each disclosure, a subtraction of the appropriate value of Plan assets yields, for each respective type, a **net surplus,** or an **Unfunded Actuarial Liability**.

SECTION IV – LIABILITIES

Table IV-1
Allocation of Assets by Subgroup and Liabilities/Net (Surplus)/Unfunded

		January 1, 2021 Total	January 1, 2022 Total	(a) General	(b) Safety	(c) Unallocated
1.	Member Reserves	$ 432,960,501	$ 451,026,190	$ 363,070,654	$ 87,955,536	$ 0
2.	Employer Advance Reserves w/o Add'l Contribs	1,735,539,236	1,988,767,415	1,424,495,911	564,271,504	0
3.	Retired Member Reserves	1,214,247,124	1,175,560,436	862,803,735	308,581,731	4,174,970
4.	Total Valuation Reserves (1 + 2 + 3)	$ 3,382,746,862	$ 3,615,354,042	$ 2,650,370,300	$ 960,808,771	$ 4,174,970
5.	Additional Contribs to Employer Advance Reserve	97,140,039	184,202,449	155,815,442	28,387,007	0
6.	AVA Gain/Loss, less Stabilization Reserve	7,537,621	52,709,968	0	0	52,709,968
7.	Total Reserves (4 + 5 + 6)	$ 3,487,424,521	$ 3,852,266,458	$ 2,806,185,743	$ 989,195,778	$ 56,884,938
8.	Proportion Reserves of Line 4, by Plan			73.39%	26.61%	
9.	Valuation Assets for Funding Ratio (7 + [8 * 7c])	$ 3,487,424,521	$ 3,852,266,458	$ 2,847,935,583	$ 1,004,330,875	
10.	Valuation Assets for Developing Contribution Rate (4 + [8 * 7c])	$ 3,390,284,482	$ 3,668,064,010	$ 2,692,120,141	$ 975,943,869	
	Present Value of Future Benefits					
	Actives	$ 2,660,484,116	$ 2,685,521,686	$ 2,020,526,387	$ 664,995,299	
	Terminated Vested	179,201,791	194,818,997	161,568,270	33,250,727	
	Retirees	2,814,228,539	2,898,737,248	2,144,067,749	754,669,499	
	Disabled	313,863,478	318,801,464	131,786,671	187,014,793	
	Beneficiaries	200,215,069	219,273,306	136,981,257	82,292,049	
11.	**Present Value of Future Benefits (PVB)**	**$ 6,167,992,993**	**$ 6,317,152,701**	**$ 4,594,930,334**	**$ 1,722,222,367**	
12.	Present Value of Future Normal Costs (PVFNC)	960,323,692	993,363,887	740,782,299	252,581,588	
13.	**Actuarial Liability (11 - 12)**	**$ 5,207,669,301**	**$ 5,323,788,814**	**$ 3,854,148,035**	**$ 1,469,640,779**	
14.	**Funded Ratio (9 / 13)**	**67.0%**	**72.4%**	**73.9%**	**68.3%**	
15.	**Net (Surplus)/Unfunded (13 - 10)**	**$ 1,817,384,819**	**$ 1,655,724,804**	**$ 1,162,027,894**	**$ 493,696,910**	

SECTION IV – LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and due to changes in System assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

TABLE IV-2
Changes in Actuarial Liability

Actuarial Liability at January 1, 2021	$	5,207,669,301
Actuarial Liability at January 1, 2022	$	5,323,788,814
Liability Increase (Decrease)		116,119,513
Change due to:		
Accrual of Benefits	$	108,420,052
Actual Benefit Payments		(265,965,599)
Interest		362,974,899
Assumption Changes		(58,741,183)
Actuarial Liability (Gain) / Loss		(30,568,656)

SECTION IV – LIABILITIES

TABLE IV-3
Development of Actuarial (Gain) / Loss

	General	Safety	Total
1. Unfunded Actuarial Liability at Start of Year (not less than zero)	$ 1,309,482,987	$ 507,901,832	$ 1,817,384,819
2. Middle of year unfunded actuarial liability payment	(126,051,048)	(48,193,047)	(174,244,095)
3. Interest to end of year on 1. and 2.	87,326,639	33,894,900	121,221,539
4. Change in Actuarial Liability due to assumption change	(75,251,608)	16,510,425	(58,741,183)
5. Expected UAL at the end of year (1+2+3+4)	1,195,506,970	510,114,110	1,705,621,080
6. Actual Unfunded Liability at end of year[1]	1,162,027,894	493,696,910	1,655,724,804
7. Net (Gain)/Loss: (6 - 5)	(33,479,076)	(16,417,200)	(49,896,276)
8. Actuarial Liability (Gain) / Loss	$ (22,208,230)	$ (8,360,426)	$ (30,568,656)
9. Actuarial Asset (Gain) / Loss	$ (21,769,434)	$ (12,207,470)	$ (33,976,903)
10. Contribution (Gain) / Loss	$ 10,498,588	$ 4,150,696	$ 14,649,284

[1] Assets exclude the additional County, MVCD, and Superior Court Contribution Reserves.

SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. The actuarial process utilizes funding techniques with a goal of producing a pattern of contributions that are both stable and predictable.

For this System, the actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the **Entry Age Normal (EAN)** cost method. There are three primary components to the total contribution: the **normal cost rate** (employee and employer), the **Unfunded Actuarial Liability rate** (UAL rate), and the **administrative expense** contribution.

The normal cost rate is determined in the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into the System, of each member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary producing a normal cost rate that should remain relatively constant over a member's career. The total normal cost is adjusted with interest to the middle of the year, to reflect the fact that the normal cost contributions are paid throughout the year as member payroll payments are made. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The member contribution rates used in this valuation reflect the broad cost sharing arrangements in place as of the valuation date that apply to the 2023 Plan Year (i.e. whether the bargaining unit is making the full COLA cost-sharing member contribution and/or the additional 14%/33% Basic member rate). However, the valuation does not include additional fixed rate contributions payable by some bargaining units (of 3%, 4% or 5% of payroll). Those additional contributions are applied outside of the valuation, and reductions to the employer rates to reflect those additional contributions are provided directly to the individual bargaining groups.

The Unfunded Actuarial Liability is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. At the July 24, 2015 board meeting, the SJCERA Board of Retirement chose to make a change to their funding policy, opting to amortize any unexpected changes in the UAL over a period of 15 years as a level percentage of payroll, with new amortization layers each year. The result was a set of three amortization bases as of January 1, 2015: the 2008 loss being amortized over 24 years, the remaining UAL as of December 31, 2014 being amortized over 18 years, and new additions to the UAL on and after January 1, 2015 amortized over 15 years. At the February 14, 2020 board meeting, the SJCERA Board of Retirement chose to phase-in the impact of the January 1, 2020 economic assumption changes to the UAL over a period of three years, followed by 12 years of payments as a level percentage of payroll. The single equivalent amortization period for all streams of UAL payments is 12 years as of January 1, 2022. The amortization period for each Unfunded Actuarial Liability layer will decrease each year. The assumption changes in this valuation will be amortized over 15 years.

The total administrative expenses are assumed to be $5,173,647 in 2022, increasing with the CPI assumption each valuation. The administrative expenses are split between employees and employers based on their share of the overall contributions.

SECTION V – CONTRIBUTIONS

The tables on the following pages present the employer contributions for the System for this valuation.

TABLE V-1
Development of Employer Contribution Amount

	January 1, 2022	% of pay
1. Normal Cost at Middle of Year	$66,828,095	14.18%
2. Amortization of Unfunded Liability		
a. Actuarial Liability	$ 5,323,788,814	
b. Actuarial Value of Assets[1]	$3,668,064,009	
c. Unfunded Liability (a) – (b)	$ 1,655,724,805	
d. Amortization of Unfunded Liability	$172,188,459	34.29%
3. Administrative Expenses *(Employer allocation only)*	4,328,666	0.86%
4. Actuarially Determined Contribution (1) + (2d) + (3)	$ 243,345,220	49.33%

[1] Assets exclude additional County, MVCD, and Superior Court Contribution Reserves.

SECTION V – CONTRIBUTIONS

TABLE V-2
Employer Contribution Rate

	January 1, 2021	January 1, 2022
Contributions as a Percentage of Payroll[1]		
Gross Entry Age Normal Cost Rate	23.53%	23.64%
Employee Contribution Rate	8.95%	9.46%
Employer Entry Age Normal Cost Rate	14.58%	14.18%
Employer Normal Cost Rate	14.58%	14.18%
Administrative Expense	0.86%	0.86%
Amortization Payment	35.07%	34.29%
Employer Contribution Rate	50.51%	49.33%
Actuarially Determined Contribution (Employer)	$ 245,694,645	$ 243,345,220

[1] Normal cost and employee contribution rates do not include administrative expenses.

SECTION V – CONTRIBUTIONS

TABLE V-3
Employer Contribution Rate

	General Tier 1 January 1, 2022	General Tier 2 January 1, 2022	Safety Tier 1 January 1, 2022	Safety Tier 2 January 1, 2022
Contributions as a Percentage of Payroll[1]				
Gross Entry Age Normal Cost Rate	22.91%	20.22%	37.88%	31.20%
Employee Contribution Rate	7.10%	10.11%	11.80%	15.60%
Employer Entry Age Normal Cost Rate	15.81%	10.11%	26.08%	15.60%
Employer Normal Cost Rate	15.81%	10.11%	26.08%	15.60%
Administrative Expense	0.86%	0.86%	0.86%	0.86%
Amortization Payment	28.73%	28.73%	64.52%	64.52%
Employer Contribution Rate	45.40%	39.70%	91.46%	80.98%
Actuarially Determined Contribution (Employer)	$ 85,579,726	$ 90,394,638	$ 42,728,597	$ 24,642,258

[1] Normal cost and employee contribution rates do not include administrative expenses.

SECTION V – CONTRIBUTIONS

TABLE V-4
Development of General Amortization Payment
For Fiscal Year 2022

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2022 Outstanding Balance	Remaining Amortization Years	Amortization Amount
Charges/(Credits)						
1. 2008 Extraordinary Actuarial Loss	1/1/2009	$ 298,074,372	30	$ 324,452,396	17	$ 25,851,581
2. Remaining 1/1/2014 UAL	1/1/2014	584,940,566	19	499,856,741	11	55,784,915
3. 1/1/2015 Gain	1/1/2015	(11,658,862)	15	(8,756,680)	8	(1,277,420)
4. 1/1/2016 Loss	1/1/2016	34,636,894	15	27,812,822	9	3,668,254
5. 1/1/2016 Assumption Changes	1/1/2016	75,853,467	15	60,909,010	9	8,033,336
6. 1/1/2017 Loss	1/1/2017	94,894,097	15	80,546,320	10	9,723,645
7. 1/1/2018 Loss	1/1/2018	23,943,774	15	21,271,256	11	2,373,911
8. 1/1/2018 Assumption Changes	1/1/2018	59,045,648	15	52,455,187	11	5,854,094
9. 1/1/2019 Loss	1/1/2019	95,504,066	15	88,127,757	12	9,167,058
10. 1/1/2019 Assumption Changes	1/1/2019	17,462,987	15	16,114,224	12	1,676,203
11. 1/1/2020 Loss	1/1/2020	8,429,406	15	8,024,279	13	783,339
12. 1/1/2020 Assumption Changes	1/1/2020	96,315,094	15	100,182,010	13	9,779,882 [1]
13. 1/1/2021 Gain	1/1/2021	(242,042)	15	(236,744)	14	(21,816)
14. 1/1/2022 Gain	1/1/2022	(33,479,076)	15	(33,479,076)	15	(2,926,911)
15. 1/1/2022 Assumption Changes	1/1/2022	(75,251,608)	15	(75,251,608)	15	(6,578,879)
				$ 1,162,027,894	12 [2]	$ 121,891,192

[1] This payment reflects the third year of a three-year phase-in of the recognition of the increase in UAL due to the new economic assumptions.

[2] The single equivalent amortization period - i.e. the length of time required to amortize the overall UAL as a level percentage of payroll based on the total current amortization payment is approximately 12 years.

SECTION V – CONTRIBUTIONS

TABLE V-5
Development of Safety Amortization Payment
For Fiscal Year 2022

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2022 Outstanding Balance	Remaining Amortization Years	Amortization Amount
Charges/(Credits)						
1. 2008 Extraordinary Actuarial Loss	1/1/2009	$ 126,189,527	30	$ 130,658,990	17	$ 10,410,592
2. Remaining 1/1/2014 UAL	1/1/2014	235,559,190	19	201,295,406	11	22,464,931
3. 1/1/2015 Gain	1/1/2015	(4,780,021)	15	(3,590,155)	8	(523,730)
4. 1/1/2016 Loss	1/1/2016	17,788,933	15	14,284,204	9	1,883,955
5. 1/1/2016 Assumption Changes	1/1/2016	16,001,780	15	12,849,150	9	1,694,684
6. 1/1/2017 Loss	1/1/2017	14,516,825	15	12,321,914	10	1,487,516
7. 1/1/2018 Loss	1/1/2018	13,716,051	15	12,185,115	11	1,359,881
8. 1/1/2018 Assumption Changes	1/1/2018	22,809,013	15	20,263,154	11	2,261,405
9. 1/1/2019 Loss	1/1/2019	26,232,387	15	24,206,314	12	2,517,943
10. 1/1/2019 Assumption Changes	1/1/2019	(1,446,461)	15	(1,334,743)	12	(138,840)
11. 1/1/2020 Loss	1/1/2020	30,198,055	15	28,746,703	13	2,806,286
12. 1/1/2020 Assumption Changes	1/1/2020	38,696,213	15	40,249,812	13	3,929,232 [1]
13. 1/1/2021 Loss	1/1/2021	1,500,664	15	1,467,820	14	135,262
14. 1/1/2022 Gain	1/1/2022	(16,417,200)	15	(16,417,200)	15	(1,435,275)
15. 1/1/2022 Assumption Changes	1/1/2022	16,510,425	15	16,510,425	15	1,443,425
				$ 493,696,910	12 [2]	$ 50,297,267

[1] This payment reflects the third year of a three-year phase-in of the recognition of the increase in UAL due to the new economic assumptions.

[2] The single equivalent amortization period - i.e. the length of time required to amortize the overall UAL as a level percentage of payroll based on the total current amortization payment is approximately 12 years.

SECTION VI – ADDITIONAL ANNUAL FINANCIAL REPORT SCHEDULES

This section of the report provides a schedule for the Actuarial Section of the annual financial report for SJCERA that is not provided in the GASB 67 and 68 reports.

We have prepared the following schedule:

Schedule of Funded Liabilities by Type

The schedule of funded liabilities by type (formerly known as the solvency test) shows the portion of Actuarial Liabilities for active member contributions, inactive members, and the employer financed portion of the active members that are covered by the Actuarial Value of Assets.

The Actuarial Liability is determined assuming that the System is ongoing, and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities for 2013 through 2015 were discounted at an assumed interest rate of 7.50%, whereas liabilities for 2016 and 2017 were discounted at the assumed rate of 7.40%, and the liabilities for 2018 and 2019 were discounted at the assumed rate of 7.25%. The liabilities for 2020 and 2021 were discounted at the assumed rate of 7.00%. The liabilities for 2022 are discounted at the assumed rate of 6.75%.

Table VI-1
Schedule of Funded Liabilities by Type

	Aggregate Actuarial Liabilities for				Portion of Actuarial Liabilities Covered by Reported Assets		
Valuation Date January 1,	Active Member Contributions (1)	Retirees & Beneficiaries (2)	Active Members[1] (3)	Actuarial Value of Assets	(1)	(2)	(3)
2022	$ 457,136,377	$ 3,436,812,018	$ 1,429,840,419	$ 3,852,266,458	100%	99%	0%
2021	426,570,416	3,328,307,086	1,452,791,799	3,487,424,521	100%	92%	0%
2020	396,549,386	3,162,982,551	1,454,100,529	3,226,099,142	100%	89%	0%
2019	368,549,547	2,899,425,320	1,437,296,083	3,044,897,691	100%	92%	0%
2018	344,503,811	2,706,791,152	1,445,680,634	2,913,161,286	100%	95%	0%
2017	318,020,652	2,513,640,349	1,403,432,945	2,733,851,661	100%	96%	0%
2016	297,179,041	2,347,908,211	1,361,302,798	2,604,472,784	100%	98%	0%
2015	276,818,405	2,117,009,658	1,337,806,309	2,471,291,047	100%	100%	6%
2014	258,198,240	1,956,930,619	1,346,730,197	2,285,165,972	100%	100%	5%
2013	209,987,230	1,810,775,897	1,332,531,085	2,125,700,227	100%	100%	8%
2012	202,924,928	1,627,338,404	1,218,058,024	2,130,052,649	100%	100%	25%
2011	193,612,757	1,495,665,075	1,228,410,127	2,120,384,183	100%	100%	35%
2010	187,986,706	1,373,256,766	1,208,368,072	1,949,011,498	100%	100%	32%
2009	176,235,961	1,231,647,623	1,103,041,755	1,821,357,079	100%	100%	37%
2008	166,804,000	1,119,690,000	1,048,027,000	2,029,949,000	100%	100%	71%
2007	159,100,000	1,023,296,000	967,542,000	1,869,717,000	100%	100%	71%
2006	147,953,000	904,208,000	883,657,000	1,727,033,000	100%	100%	76%

[1] Includes terminated vested members.

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by the San Joaquin County staff as of January 1, 2022.

Summary of Participant Data as of January 1, 2022	General	Safety	Total
Tier 1 Active Participants			
Number	2,211	456	2,667
Average Age	51.81	45.28	50.69
Average Benefit Service	18.01	17.00	17.84
Average Vesting Service	18.24	17.18	18.06
Average Pay	$87,000	$103,865	$89,884
Tier 2 Active Participants			
Number	3,281	381	3,662
Average Age	41.12	33.27	40.30
Average Benefit Service	3.67	4.09	3.72
Average Vesting Service	3.73	4.11	3.77
Average Pay	$70,661	$80,307	$71,665
All Active Participants			
Number	5,492	837	6,329
Average Age	45.42	39.81	44.68
Average Benefit Service	9.45	11.12	9.67
Average Vesting Service	9.57	11.23	9.79
Average Pay	$77,239	$93,142	$79,342

APPENDIX A – MEMBERSHIP INFORMATION

Summary of Participant Data as of January 1, 2022	General	Safety	Total
Service Retired			
Number	4,289	695	4,984
Average Age	71.26	66.33	70.57
Average Annual Base Benefit	$13,117	$27,650	$15,144
Average Annual Total Benefit	$38,962	$72,264	$43,605
Beneficiaries			
Number	695	229	924
Average Age	73.33	70.81	72.70
Average Annual Base Benefit	$5,550	$10,574	$6,795
Average Annual Total Benefit	$21,625	$39,896	$26,154
Duty Disabled			
Number	264	212	476
Average Age	65.82	62.70	64.43
Average Annual Base Benefit	$11,768	$27,554	$18,798
Average Annual Total Benefit	$27,464	$57,793	$40,972
Non-Duty Disabled			
Number	147	11	158
Average Age	66.10	67.45	66.19
Average Annual Base Benefit	$8,805	$14,295	$9,187
Average Annual Total Benefit	$18,603	$35,170	$19,756
Total Receiving Benefits			
Number	5,395	1,147	6,542
Average Age	71.12	66.56	70.32
Average Annual Base Benefit	$11,959	$24,095	$14,087
Average Annual Total Benefit	$35,611	$62,771	$40,373

APPENDIX A – MEMBERSHIP INFORMATION

Summary of Participant Data as of January 1, 2022	General	Safety	Total
Deferred Vested			
Number	600	54	654
Average Age	48.29	43.26	47.88
Average Service	9.10	9.58	9.14
Transfers and DROs			
Number	364	96	460
Average Age	50.12	45.84	49.22
Average Service	5.21	4.63	5.09
Funds on Account			
Number	1314	71	1385
Average Age	43.45	37.15	43.13
Average Service	1.32	1.59	1.33
Total Inactive			
Number	2,278	221	2,499
Average Age	45.79	42.42	45.49
Average Service	3.99	4.86	4.07

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: General

	Actives	Transfers/ DROS	Non-Vested Terminations	Vested Terminations	Non-Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
January 1, 2021	**5,518**	**608**	**895**	**450**	**152**	**263**	**4,171**	**664**	**12,721**
New Entrants	792	0	0	0	0	0	0	0	792
Rehires	27	(8)	(10)	(6)	0	0	(3)	0	0
Duty Disabilities	(2)	0	0	(1)	0	4	0	0	1
Non-Duty Disabilities	(1)	(1)	0	0	2	0	0	0	0
Retirements	(193)	(22)	0	(16)	0	0	230	1	0
Vested Terminations	(125)	0	0	125	0	0	0	0	0
Retirements from Safety with General Service	0	0	0	1	0	1	9	0	11
Died, With Beneficiaries' Benefit Payable	(3)	0	0	(1)	(2)	0	(39)	45	0
Died, Without Beneficiary, and Other Terminations	(342)	(1)	339	0	(5)	(4)	(79)	0	(92)
Transfers	(17)	3	0	0	0	0	0	0	(14)
Redeposits – AB 2766	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(162)	(39)	(32)	(4)	0	0	0	0	(237)
Beneficiary Deaths	0	0	0	0	0	0	0	(27)	(27)
Domestic Relations Orders	0	0	0	0	0	0	0	6	6
Data Corrections	0	(176)	122	52	0	0	0	6	4
January 1, 2022	**5,492**	**364**	**1,314**	**600**	**147**	**264**	**4,289**	**695**	**13,165**

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: Safety

	Actives	Transfers/ DROS	Non-Vested Terminations	Vested Terminations	Non-Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
January 1, 2021	**832**	**122**	**47**	**43**	**12**	**213**	**674**	**212**	**2,155**
New Entrants	60	0	0	0	0	0	0	0	60
Rehires	1	0	0	(1)	0	0	(1)	0	(1)
Duty Disabilities	0	0	0	0	0	0	0	0	0
Non-Duty Disabilities	(1)	0	0	(1)	0	2	0	0	0
Retirements	(36)	(8)	0	(1)	0	0	44	1	0
Vested Terminations	(9)	0	0	9	0	0	0	0	0
Retirements from Safety with General Service	0	0	0	0	0	1	1	0	2
Died, With Beneficiaries' Benefit Payable	0	(1)	0	(1)	0	(4)	(14)	20	0
Died, Without Beneficiary, and Other Terminations	(16)	0	15	0	(1)	(1)	(8)	0	(11)
Transfers	14	0	0	0	0	0	0	0	14
Redeposits – AB 2766	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(8)	(2)	(2)	0	0	0	0	0	(12)
Beneficiary Deaths	0	0	0	0	0	0	0	(7)	(7)
Domestic Relations Orders	0	0	0	0	0	0	0	2	2
Data Corrections	0	(15)	11	6	0	1	(1)	1	3
January 1, 2022	**837**	**96**	**71**	**54**	**11**	**212**	**695**	**229**	**2,205**

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: All Groups

	Actives	Transfers/ DROS	Non-Vested Terminations	Vested Terminations	Non-Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
January 1, 2021	**6,350**	**730**	**942**	**493**	**164**	**476**	**4,845**	**876**	**14,876**
New Entrants	852	0	0	0	0	0	0	0	852
Rehires	28	(8)	(10)	(7)	0	0	(4)	0	(1)
Duty Disabilities	(2)	0	0	(1)	0	4	0	0	1
Non-Duty Disabilities	(2)	(1)	0	(1)	2	2	0	0	0
Retirements	(229)	(30)	0	(17)	0	0	274	2	0
Vested Terminations	(134)	0	0	134	0	0	0	0	0
Retirements from Safety with General Service	0	0	0	1	0	2	10	0	13
Died, With Beneficiaries' Benefit Payable	(3)	(1)	0	(2)	(2)	(4)	(53)	65	0
Died, Without Beneficiary, and Other Terminations	(358)	(1)	354	0	(6)	(5)	(87)	0	(103)
Transfers	(3)	3	0	0	0	0	0	0	0
Redeposits – AB 2766	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(170)	(41)	(34)	(4)	0	0	0	0	(249)
Beneficiary Deaths	0	0	0	0	0	0	0	(34)	(34)
Domestic Relations Orders	0	0	0	0	0	0	0	8	8
Data Corrections	0	(191)	133	58	0	1	(1)	7	7
January 1, 2022	**6,329**	**460**	**1,385**	**654**	**158**	**476**	**4,984**	**924**	**15,370**

APPENDIX A – MEMBERSHIP INFORMATION

Active Member Data by Plan

Valuation at Year End	Plan Type	Member Count	Annual Payroll	Average Annual Salary	Average Salary Increase
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%**
2011	General	4,441	$298,308,687	$67,172	1.20%
	Safety	813	$64,041,814	$78,772	0.87%
	Total	**5,254**	**$362,350,501**	**$68,967**	**1.19%**
2012	General	4,492	$301,505,122	$67,120	-0.08%
	Safety	803	$64,386,900	$80,183	1.79%
	Total	**5,295**	**$365,892,023**	**$69,101**	**0.19%**
2013	General	4,748	$316,885,044	$66,741	-0.57%
	Safety	805	$65,640,055	$81,540	1.69%
	Total	**5,553**	**$382,525,098**	**$68,886**	**-0.31%**
2014	General	4,879	$322,836,680	$66,169	-0.86%
	Safety	827	$68,491,483	$82,819	1.57%
	Total	**5,706**	**$391,328,162**	**$68,582**	**-0.44%**
2015	General	5,131	$340,731,847	$66,407	0.36%
	Safety	793	$66,456,278	$83,804	1.19%
	Total	**5,924**	**$407,188,125**	**$68,735**	**0.22%**
2016	General	5,291	$373,202,798	$70,535	6.22%
	Safety	811	$67,593,920	$83,346	-0.55%
	Total	**6,102**	**$440,796,718**	**$72,238**	**5.10%**
2017	General	5,370	$381,151,442	$70,978	0.63%
	Safety	848	$70,776,611	$83,463	0.14%
	Total	**6,218**	**$451,928,053**	**$72,681**	**0.61%**
2018	General	5,485	$401,820,940	$73,258	3.86%
	Safety	860	$72,680,957	$84,513	1.40%
	Total	**6,345**	**$474,501,897**	**$74,784**	**3.52%**
2019	General	5,526	$404,710,743	$73,238	-0.03%
	Safety	843	$73,747,564	$87,482	3.51%
	Total	**6,369**	**$478,458,307**	**$75,123**	**0.45%**
2020	General	5,518	$414,244,475	$75,071	2.50%
	Safety	832	$75,245,783	$90,440	3.38%
	Total	**6,350**	**$489,490,258**	**$77,085**	**2.61%**
2021	General	5,492	$424,197,359	$77,239	2.89%
	Safety	837	$77,959,639	$93,142	2.99%
	Total	**6,329**	**$502,156,998**	**$79,342**	**2.93%**

Payroll figures represent active member's annualized pay rates on December 31.

APPENDIX A – MEMBERSHIP INFORMATION

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 Increase
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%**
2011	General	240	42	108	3,871	92,938,361	24,009	3.30%
	Safety	32	4	14	814	38,098,866	46,805	1.97%
	Total	**272**	**46**	**122**	**4,685**	**131,037,227**	**27,970**	**2.68%**
2012	General	278	27	135	4,041	102,025,575	25,248	5.16%
	Safety	52	12	20	856	42,008,598	49,075	4.85%
	Total	**330**	**39**	**155**	**4,897**	**144,034,172**	**29,413**	**5.16%**
2013	General	213	52	134	4,172	109,869,721	26,335	4.31%
	Safety	22	11	20	869	43,548,028	50,113	2.11%
	Total	**235**	**63**	**154**	**5,041**	**153,411,632**	**30,433**	**3.47%**
2014	General	247	51	112	4,358	120,722,240	27,701	5.19%
	Safety	29	14	21	891	45,889,472	51,503	2.77%
	Total	**276**	**65**	**133**	**5,249**	**166,611,711**	**31,742**	**4.30%**
2015	General	227	45	136	4,494	129,928,957	28,912	4.37%
	Safety	54	15	19	941	50,813,875	54,000	4.85%
	Total	**281**	**60**	**155**	**5,435**	**180,742,832**	**33,255**	**4.77%**
2016	General	251	40	128	4,657	139,511,334	29,957	3.62%
	Safety	40	12	22	971	54,508,607	56,137	3.96%
	Total	**291**	**52**	**150**	**5,628**	**194,019,941**	**34,474**	**3.66%**
2017	General	249	49	149	4,806	149,183,295	31,041	3.62%
	Safety	46	12	13	1,016	57,837,517	56,927	1.41%
	Total	**295**	**61**	**162**	**5,822**	**207,020,812**	**35,558**	**3.15%**
2018	General	290	47	133	5,010	161,602,326	32,256	3.91%
	Safety	39	8	20	1,043	61,364,472	58,835	3.35%
	Total	**329**	**55**	**153**	**6,053**	**222,966,797**	**36,836**	**3.59%**
2019	General	237	57	179	5,125	171,791,597	33,520	3.92%
	Safety	49	13	22	1,083	65,822,764	60,778	3.30%
	Total	**286**	**70**	**201**	**6,208**	**237,614,311**	**38,276**	**3.91%**
2020	General	237	47	159	5,250	182,786,202	34,816	3.87%
	Safety	37	10	19	1,111	69,214,609	62,299	2.50%
	Total	**274**	**57**	**178**	**6,361**	**252,000,811**	**39,617**	**3.50%**
2021	General	246	58	159	5,395	192,121,249	35,611	2.28%
	Safety	48	24	36	1,147	71,998,606	62,771	0.76%
	Total	**294**	**82**	**195**	**6,542**	**264,119,855**	**40,373**	**1.91%**

Payroll figures represent year end monthly retirement benefits annualized and exclude Post-Employment Healthcare benefits.

APPENDIX A – MEMBERSHIP INFORMATION

Retirees and Beneficiaries Added to and Removed from Retiree Payroll

Fiscal Year	Beginning of Year	Added During Year	Allowances Added (in 000s)[1]	Removed During Year	Allowances Removed	End of Year	Annual Retirement Payroll (in 000s)	Average Allowance Percentage Increase	Average Annual Allowance
2010	4,252	353	12,918	116	2,196	4,489	122,286	3.82%	27,241
2011	4,489	318	11,544	122	2,793	4,685	131,037	2.67%	27,969
2012	4,685	361	16,400	149	3,403	4,897	144,034	5.16%	29,413
2013	4,897	297	12,908	153	3,530	5,041	153,412	3.47%	30,433
2014	5,041	340	16,230	132	3,030	5,249	166,612	4.30%	31,742
2015	5,249	341	17,776	155	3,651	5,435	180,737	4.77%	33,255
2016	5,435	343	17,151	150	3,868	5,628	194,020	3.66%	34,474
2017	5,628	355	17,288	161	4,287	5,822	207,021	3.15%	35,558
2018	5,822	382	19,839	151	3,893	6,053	222,967	3.59%	36,836
2019	6,053	355	20,574	200	5,927	6,208	237,614	3.91%	38,276
2020	6,208	333	19,967	180	5,580	6,361	252,001	3.50%	39,617
2021	6,361	376	19,519	195	7,400	6,542	264,120	1.91%	40,373

[1] Includes COLA amounts not included in previous year's Annual Allowance totals.

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Average Monthly Benefit Payments

	Number of Years of Service Credit						
Retirement Effective Date	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
1/2/11 to 1/1/12							
Retirees							
General Members							
Average Benefits	$470	$1,205	$1,464	$2,615	$3,302	$3,968	$4,670
Average Final Compensation	$5,518	$5,903	$4,928	$6,463	$6,110	$5,541	$5,570
Count	12	26	56	27	41	16	39
Safety Members							
Average Benefits	$922	$1,112	$2,551	$3,970	$7,499	$7,790	$10,586
Average Final Compensation	$9,746	$4,483	$5,290	$7,767	$10,430	$9,162	$10,797
Count	2	6	3	3	4	5	3
Survivors/DROs							
General Members							
Average Benefits	$622	$890	$773	$1,367	$1,838	$2,039	$3,281
Average Final Compensation	$9,807	$4,816	$3,578	$4,371	$4,108	$3,364	$5,366
Count	5	9	11	10	5	5	5
Safety Members							
Average Benefits	$825	$859	$1,591	$3,334	$0	$0	$3,829
Average Final Compensation	$9,779	$4,960	$2,795	$9,010	$0	$0	$5,257
Count	1	1	2	1	0	0	1
1/2/12 to 1/1/13							
Retirees							
General Members							
Average Benefits	$517	$1,077	$1,481	$2,129	$2,729	$4,198	$6,317
Average Final Compensation	$7,532	$5,925	$5,233	$4,900	$5,338	$6,449	$7,295
Count	19	31	56	36	42	30	44
Safety Members							
Average Benefits	$429	$2,194	$3,026	$4,186	$5,302	$9,183	$13,206
Average Final Compensation	$6,793	$5,812	$6,636	$8,124	$7,306	$13,360	$13,606
Count	4	5	7	3	14	11	5
Survivors/DROs							
General Members							
Average Benefits	$331	$1,189	$1,017	$1,525	$1,274	$3,105	$2,783
Average Final Compensation	$4,482	$3,558	$2,664	$2,604	$3,639	$4,794	$3,940
Count	4	4	8	3	1	2	4
Safety Members							
Average Benefits	$0	$1,039	$2,423	$3,450	$3,573	$3,206	$4,887
Average Final Compensation	$0	$6,972	$7,561	$1,358	$1,776	$3,836	$6,169
Count	0	2	2	2	1	3	2

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Average Monthly Benefit Payments

	Number of Years of Service Credit						
Retirement Effective Date	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
1/2/13 to 1/1/14							
Retirees							
General Members							
Average Benefits	$433	$1,410	$1,589	$2,556	$3,149	$4,241	$5,837
Average Final Compensation	$7,695	$7,279	$5,787	$6,125	$6,132	$6,467	$6,718
Count	10	25	40	35	35	26	29
Safety Members							
Average Benefits	$1,165	$1,435	$2,621	$3,501	$4,260	$11,134	$9,279
Average Final Compensation	$9,478	$7,434	$6,316	$7,044	$5,599	$13,945	$9,670
Count	3	2	7	4	1	2	2
Survivors/DROs							
General Members							
Average Benefits	$687	$1,000	$883	$1,182	$2,063	$1,572	$2,985
Average Final Compensation	$3,804	$4,531	$3,953	$3,163	$3,722	$1,821	$3,681
Count	6	9	15	7	5	2	5
Safety Members							
Average Benefits	$650	$3,101	$1,385	$2,012	$1,918	$3,745	$4,936
Average Final Compensation	$4,955	$10,868	$2,506	$3,966	$2,525	$6,184	$5,381
Count	3	1	2	1	2	1	1
1/2/14 to 1/1/15							
Retirees							
General Members							
Average Benefits	$618	$1,120	$1,601	$2,635	$4,409	$4,672	$6,283
Average Final Compensation	$9,300	$6,612	$5,529	$6,454	$8,122	$6,944	$7,635
Count	9	25	49	46	23	45	41
Safety Members							
Average Benefits	$380	$1,190	$3,433	$4,546	$3,993	$7,412	$11,302
Average Final Compensation	$8,910	$6,591	$7,642	$8,863	$6,031	$9,013	$11,761
Count	1	1	3	5	4	6	1
Survivors/DROs							
General Members							
Average Benefits	$475	$654	$1,087	$814	$2,160	$1,680	$2,941
Average Final Compensation	$5,928	$4,152	$2,879	$2,457	$4,998	$3,887	$8,068
Count	11	6	11	6	5	3	5
Safety Members							
Average Benefits	$2,030	$2,464	$2,890	$3,326	$2,002	$3,569	$3,499
Average Final Compensation	$9,251	$8,581	$5,515	$4,817	$4,850	$5,955	$2,018
Count	2	3	4	1	1	1	2

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Average Monthly Benefit Payments

	Number of Years of Service Credit						
Retirement Effective Date	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
1/2/15 to 1/1/16							
Retirees							
General Members							
Average Benefits	$330	$988	$1,661	$2,449	$3,277	$4,342	$5,770
Average Final Compensation	$5,778	$5,953	$5,826	$5,723	$5,918	$6,501	$6,781
Count	12	27	36	43	26	29	37
Safety Members							
Average Benefits	$585	$1,352	$2,452	$3,959	$5,597	$8,061	$10,770
Average Final Compensation	$7,403	$5,334	$6,269	$6,943	$8,120	$9,621	$11,481
Count	2	2	4	3	10	21	6
Survivors/DROs							
General Members							
Average Benefits	$376	$987	$999	$1,612	$3,184	$2,709	$5,276
Average Final Compensation	$3,328	$5,939	$3,359	$4,532	$8,017	$5,312	$5,850
Count	4	10	9	4	4	3	5
Safety Members							
Average Benefits	$530	$2,019	$2,184	$1,970	$2,902	$4,784	$5,026
Average Final Compensation	$6,052	$11,395	$9,909	$3,887	$4,783	$6,788	$5,405
Count	2	1	2	1	2	4	3
1/2/16 to 1/1/17							
Retirees							
General Members							
Average Benefits	$310	$1,100	$1,823	$2,487	$3,779	$3,911	$5,931
Average Final Compensation	$6,616	$5,885	$6,368	$5,950	$6,805	$5,756	$7,132
Count	21	24	54	48	24	31	42
Safety Members							
Average Benefits	$3,817	$1,759	$2,546	$6,290	$5,510	$9,513	$12,671
Average Final Compensation	$7,634	$5,985	$6,353	$11,452	$8,566	$11,959	$13,175
Count	1	6	6	3	7	12	4
Survivors/DROs							
General Members							
Average Benefits	$313	$858	$1,065	$1,596	$3,214	$1,720	$2,769
Average Final Compensation	$5,726	$4,674	$4,527	$4,648	$6,051	$3,809	$3,313
Count	5	7	11	6	2	5	1
Safety Members							
Average Benefits	$495	$2,235	$1,253	$1,661	$4,086	$5,943	$4,712
Average Final Compensation	$7,339	$9,642	$3,842	$2,755	$5,646	$8,003	$4,803
Count	2	4	1	1	1	1	2

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Average Monthly Benefit Payments

	Number of Years of Service Credit						
Retirement Effective Date	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
1/2/17 to 1/1/18							
Retirees							
General Members							
Average Benefits	$377	$1,188	$2,070	$2,390	$3,665	$4,847	$6,187
Average Final Compensation	$9,793	$6,524	$6,533	$5,839	$6,699	$7,055	$7,391
Count	23	35	42	48	20	34	33
Safety Members							
Average Benefits	$787	$1,223	$2,212	$3,441	$5,973	$7,370	$9,169
Average Final Compensation	$9,858	$5,688	$5,842	$6,681	$9,020	$9,264	$9,050
Count	5	4	6	9	6	8	1
Survivors/DROs							
General Members							
Average Benefits	$701	$992	$1,442	$1,078	$1,941	$1,746	$4,828
Average Final Compensation	$5,325	$4,183	$4,550	$3,587	$5,038	$2,502	$5,368
Count	11	10	8	7	3	4	4
Safety Members							
Average Benefits	$667	$2,413	$1,292	$0	$0	$3,363	$5,834
Average Final Compensation	$5,605	$6,310	$3,454	$0	$0	$4,597	$3,354
Count	2	3	2	0	0	1	3
1/2/18 to 1/1/19							
Retirees							
General Members							
Average Benefits	$596	$1,166	$1,759	$2,671	$3,522	$5,202	$6,036
Average Final Compensation	$9,601	$6,704	$5,920	$6,603	$6,555	$7,633	$6,975
Count	21	45	47	55	25	33	39
Safety Members							
Average Benefits	$2,721	$2,622	$2,166	$3,313	$3,997	$7,453	$10,935
Average Final Compensation	$5,485	$8,987	$6,168	$6,135	$6,442	$9,615	$11,725
Count	1	3	5	5	8	7	4
Survivors/DROs							
General Members							
Average Benefits	$224	$659	$1,201	$1,204	$2,150	$2,590	$2,759
Average Final Compensation	$4,220	$3,482	$5,324	$4,292	$3,513	$3,538	$4,382
Count	3	5	10	10	1	5	9
Safety Members							
Average Benefits	$0	$1,724	$3,203	$0	$1,201	$0	$6,213
Average Final Compensation	$0	$6,376	$4,065	$0	$3,140	$0	$4,768
Count	0	3	1	0	1	0	3

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Average Monthly Benefit Payments

	Number of Years of Service Credit						
Retirement Effective Date	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
1/2/19 to 1/1/20							
Retirees							
General Members							
Average Benefits	$345	$1,131	$1,780	$3,030	$3,669	$4,796	$7,232
Average Final Compensation	$8,121	$7,276	$6,189	$6,988	$7,070	$7,062	$8,554
Count	20	35	40	36	29	30	37
Safety Members							
Average Benefits	$596	$2,060	$3,057	$3,965	$4,173	$9,630	$17,094
Average Final Compensation	$9,587	$6,917	$6,658	$7,484	$7,087	$11,287	$17,300
Count	6	5	5	6	11	10	5
Survivors/DROs							
General Members							
Average Benefits	$235	$927	$994	$1,599	$2,453	$2,930	$4,532
Average Final Compensation	$6,898	$5,691	$3,777	$5,652	$4,288	$4,213	$5,778
Count	6	8	12	7	8	6	10
Safety Members							
Average Benefits	$712	$1,280	$1,831	$0	$3,258	$4,435	$6,246
Average Final Compensation	$7,533	$7,809	$5,374	$0	$4,504	$4,987	$6,460
Count	2	2	3	0	3	2	1
1/2/20 to 1/1/21							
Retirees							
General Members							
Average Benefits	$344	$1,373	$1,926	$3,086	$3,108	$4,527	$6,734
Average Final Compensation	$7,961	$9,038	$6,637	$6,948	$5,859	$6,790	$8,250
Count	21	32	36	35	33	26	50
Safety Members							
Average Benefits	$430	$1,750	$2,749	$3,265	$4,763	$7,209	$13,386
Average Final Compensation	$9,072	$6,259	$6,672	$6,689	$7,515	$9,083	$13,811
Count	3	2	4	4	12	11	3
Survivors/DROs							
General Members							
Average Benefits	$505	$735	$990	$1,096	$1,547	$1,904	$3,690
Average Final Compensation	$5,989	$6,865	$3,653	$3,254	$3,428	$3,781	$4,974
Count	4	4	8	5	5	6	8
Safety Members							
Average Benefits	$1,246	$0	$1,622	$4,494	$0	$5,142	$6,753
Average Final Compensation	$6,483	$0	$2,296	$9,747	$0	$5,684	$7,710
Count	2	0	2	2	0	1	2

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Average Monthly Benefit Payments

	Number of Years of Service Credit						
Retirement Effective Date	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
1/2/21 to 1/1/22							
Retirees							
General Members							
Average Benefits	$215	$1,150	$2,109	$2,548	$3,599	$4,735	$5,977
Average Final Compensation	$8,113	$6,452	$7,236	$6,571	$6,677	$7,645	$7,427
Count	21	30	37	38	43	28	45
Safety Members							
Average Benefits	$857	$2,288	$2,916	$3,799	$5,049	$6,749	$7,937
Average Final Compensation	$9,706	$11,850	$7,852	$6,954	$7,814	$9,398	$8,663
Count	5	6	2	9	20	4	1
Survivors/DROs							
General Members							
Average Benefits	$995	$505	$1,203	$1,561	$1,902	$3,872	$2,573
Average Final Compensation	$3,852	$3,789	$5,463	$4,495	$3,647	$6,175	$4,831
Count	7	8	6	9	6	9	6
Safety Members							
Average Benefits	$1,312	$1,366	$2,295	$3,103	$0	$5,702	$6,523
Average Final Compensation	$9,117	$5,396	$4,830	$4,585	$0	$7,451	$6,523
Count	3	1	3	3	0	3	8

APPENDIX A – MEMBERSHIP INFORMATION

DISTRIBUTION OF GENERAL ACTIVE MEMBERS
BY AGE AND SERVICE AS OF JANUARY 1, 2022

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	32	29	0	0	0	0	0	0	0	0	61
25 to 29	112	239	25	0	0	0	0	0	0	0	376
30 to 34	74	352	197	5	0	0	0	0	0	0	628
35 to 39	68	287	269	70	25	1	0	0	0	0	720
40 to 44	46	232	267	105	137	44	0	0	0	0	831
45 to 49	30	183	215	101	135	136	15	1	0	0	816
50 to 54	31	137	168	76	139	138	51	25	1	0	766
55 to 59	10	115	125	65	83	108	47	62	13	0	628
60 to 64	8	75	89	54	75	87	45	41	11	2	487
65 to 69	3	16	37	15	15	32	11	5	3	1	138
70 & up	0	4	10	6	5	7	2	1	3	3	41
Total	414	1,669	1,402	497	614	553	171	135	31	6	5,492

Average Age = 45.42 Average Service = 9.45

PAYROLL DISTRIBUTION OF GENERAL ACTIVE PARTICIPANTS
BY AGE AND SERVICE AS OF JANUARY 1, 2022

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	52,949	51,536	0	0	0	0	0	0	0	0	52,277
25 to 29	58,544	62,949	72,040	0	0	0	0	0	0	0	62,241
30 to 34	64,094	67,628	78,798	70,129	0	0	0	0	0	0	70,735
35 to 39	67,257	73,049	76,648	75,526	79,486	46,747	0	0	0	0	74,275
40 to 44	60,894	72,841	79,571	87,511	81,795	78,430	0	0	0	0	77,968
45 to 49	60,586	75,763	73,453	94,996	91,742	80,341	89,620	61,688	0	0	80,621
50 to 54	51,744	76,706	73,999	99,637	91,468	87,441	84,282	78,521	44,955	0	82,512
55 to 59	50,517	76,605	77,676	89,509	80,406	79,940	81,915	95,205	72,475	0	80,963
60 to 64	62,118	77,391	83,504	82,888	84,791	73,545	78,576	91,403	70,223	104,872	80,559
65 to 69	70,384	94,967	69,961	111,464	95,412	71,212	97,023	100,271	59,494	75,613	83,506
70 & up	0	104,539	120,846	121,179	82,584	77,065	55,831	53,551	134,549	149,528	105,451
Total	60,396	71,380	77,283	89,912	86,595	80,183	83,085	90,591	75,539	122,323	77,239

Average Salary = $77,239

APPENDIX A – MEMBERSHIP INFORMATION

DISTRIBUTION OF SAFETY ACTIVE MEMBERS
BY AGE AND SERVICE AS OF JANUARY 1, 2022

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	3	29	0	0	0	0	0	0	0	0	32
25 to 29	2	80	18	0	0	0	0	0	0	0	100
30 to 34	5	58	60	5	0	0	0	0	0	0	128
35 to 39	2	21	61	50	27	1	0	0	0	0	162
40 to 44	1	14	24	31	53	26	0	0	0	0	149
45 to 49	0	4	11	16	36	53	8	0	0	0	128
50 to 54	3	7	3	10	19	31	10	3	0	0	86
55 to 59	0	4	7	4	5	9	4	3	0	0	36
60 to 64	0	1	1	2	1	4	2	2	0	0	13
65 to 69	0	0	1	1	1	0	0	0	0	0	3
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	16	218	186	119	142	124	24	8	0	0	837

Average Age = 39.81 Average Service = 11.12

PAYROLL DISTRIBUTION OF SAFETY ACTIVE PARTICIPANTS
BY AGE AND SERVICE AS OF JANUARY 1, 2022

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	49,820	70,525	0	0	0	0	0	0	0	0	68,584
25 to 29	61,875	71,741	91,336	0	0	0	0	0	0	0	75,071
30 to 34	47,737	74,277	87,579	104,210	0	0	0	0	0	0	80,645
35 to 39	90,393	77,443	89,711	107,722	105,485	101,531	0	0	0	0	96,390
40 to 44	64,970	77,913	92,440	103,401	92,693	122,325	0	0	0	0	98,476
45 to 49	0	123,226	91,345	101,403	97,338	115,384	109,207	0	0	0	106,354
50 to 54	98,009	106,035	97,523	79,554	96,672	100,313	99,972	112,234	0	0	97,759
55 to 59	0	102,786	119,841	76,425	114,213	118,939	105,437	136,610	0	0	111,912
60 to 64	0	112,319	119,011	102,196	99,676	78,993	76,543	133,967	0	0	97,876
65 to 69	0	0	119,011	121,307	85,117	0	0	0	0	0	108,479
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	65,730	76,001	91,204	102,201	97,589	112,044	102,009	126,809	0	0	93,142

Average Salary = $93,142

APPENDIX A – MEMBERSHIP INFORMATION

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	3	$34,449	3	$34,449
45-49	0	$0	13	$35,166	13	$35,166
50-54	83	$17,832	55	$64,308	138	$36,355
55-59	256	$28,169	102	$70,676	358	$40,280
60-64	585	$36,991	139	$80,026	724	$45,253
65-69	981	$44,198	123	$75,560	1,104	$47,692
70-74	969	$43,845	120	$79,381	1,089	$47,760
75-79	717	$40,011	85	$71,554	802	$43,354
80-84	355	$34,031	35	$50,704	390	$35,528
85-89	210	$30,510	12	$33,794	222	$30,687
90-94	100	$29,426	7	$84,746	107	$33,045
95+	33	$24,645	1	$118,260	34	$27,398
All Ages	4,289	$38,962	695	$72,264	4,984	$43,605

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
25-29	0	$0	0	$0	0	$0
30-34	0	$0	0	$0	0	$0
35-39	1	$18,567	0	$0	1	$18,567
40-44	2	$7,347	0	$0	2	$7,347
45-49	7	$19,352	0	$0	7	$19,352
50-54	10	$17,968	2	$15,969	12	$17,634
55-59	19	$20,987	0	$0	19	$20,987
60-64	23	$20,213	2	$50,519	25	$22,637
65-69	25	$20,539	2	$27,672	27	$21,067
70-74	30	$16,480	2	$28,648	32	$17,240
75-79	17	$16,495	2	$59,243	19	$20,995
80-84	8	$17,955	1	$22,773	9	$18,491
85-89	3	$23,972	0	$0	3	$23,972
90-94	1	$10,096	0	$0	1	$10,096
95+	1	$8,608	0	$0	1	$8,608
All Ages	147	$18,603	11	$35,170	158	$19,756

APPENDIX A – MEMBERSHIP INFORMATION

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	0	$0	0	$0
30-34	0	$0	0	$0	0	$0
35-39	3	$158	4	$41,955	7	$24,042
40-44	6	$24,887	6	$38,761	12	$31,824
45-49	11	$8,691	16	$37,788	27	$25,934
50-54	20	$20,348	21	$43,599	41	$32,257
55-59	19	$21,429	35	$50,260	54	$40,116
60-64	40	$25,370	37	$67,154	77	$45,448
65-69	60	$32,824	31	$68,143	91	$44,856
70-74	65	$31,451	33	$67,322	98	$43,530
75-79	25	$28,868	20	$55,183	45	$40,564
80-84	10	$29,626	6	$73,392	16	$46,038
85-89	5	$28,910	2	$40,039	7	$32,090
90-94	0	$0	1	$129,628	1	$129,628
95+	0	$0	0	$0	0	$0
All Ages	264	$27,464	212	$57,793	476	$40,972

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	5	$21,867	2	$15,917	7	$20,167
25-29	3	$15,832	0	$0	3	$15,832
30-34	4	$16,879	0	$0	4	$16,879
35-39	1	$10,536	0	$0	1	$10,536
40-44	2	$10,962	0	$0	2	$10,962
45-49	6	$10,132	3	$42,880	9	$21,048
50-54	21	$14,951	11	$45,907	32	$25,592
55-59	36	$14,970	25	$22,449	61	$18,035
60-64	62	$18,544	27	$30,948	89	$22,307
65-69	99	$18,279	29	$45,372	128	$24,417
70-74	118	$24,954	44	$39,094	162	$28,794
75-79	126	$24,259	30	$47,206	156	$28,672
80-84	89	$20,346	32	$46,685	121	$27,312
85-89	70	$22,420	16	$43,138	86	$26,275
90-94	35	$23,672	6	$50,610	41	$27,615
95+	18	$38,323	4	$33,525	22	$37,451
All Ages	695	$21,625	229	$39,896	924	$26,154

APPENDIX A – MEMBERSHIP INFORMATION

Assumed Probabilities of Separation from Active Membership

Age	Non-Duty Death	Ordinary Disability	Service Retirement[1]	Duty Death	Duty Disability
General Members – Male					
20	0.0004	0.000	0.000	0.000	0.001
25	0.0004	0.000	0.000	0.000	0.001
30	0.0005	0.000	0.000	0.000	0.001
35	0.0007	0.000	0.000	0.000	0.001
40	0.0009	0.001	0.000	0.000	0.004
45	0.0010	0.001	0.000	0.000	0.004
50	0.0013	0.001	0.030	0.000	0.003
55	0.0019	0.001	0.065	0.000	0.004
60	0.0029	0.001	0.090	0.000	0.004
65	0.0041	0.001	0.250	0.000	0.005
General Members – Female					
20	0.0001	0.000	0.000	0.000	0.000
25	0.0001	0.000	0.000	0.000	0.000
30	0.0002	0.000	0.000	0.000	0.000
35	0.0003	0.000	0.000	0.000	0.000
40	0.0004	0.001	0.000	0.000	0.000
45	0.0005	0.002	0.000	0.000	0.001
50	0.0008	0.002	0.035	0.000	0.001
55	0.0012	0.002	0.035	0.000	0.001
60	0.0018	0.001	0.125	0.000	0.000
65	0.0025	0.002	0.300	0.000	0.001

[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. Rates of Duty and Non-Duty Death are for active members who reach the given age during 2022.

APPENDIX A – MEMBERSHIP INFORMATION

Assumed Probabilities of Separation from Active Membership

Age	Non-Duty Death	Ordinary Disability	Service Retirement[1]	Duty Death	Duty Disability
Safety Members – Male					
20	0.0004	0.000	0.050	0.0004	0.000
25	0.0004	0.000	0.050	0.0004	0.001
30	0.0005	0.000	0.050	0.0005	0.001
35	0.0006	0.000	0.050	0.0006	0.002
40	0.0007	0.000	0.050	0.0007	0.004
45	0.0008	0.000	0.050	0.0008	0.008
50	0.0010	0.001	0.175	0.0010	0.014
55	0.0015	0.001	0.175	0.0015	0.014
Safety Members – Female					
20	0.0002	0.000	0.050	0.0002	0.000
25	0.0002	0.000	0.050	0.0002	0.001
30	0.0003	0.000	0.050	0.0003	0.001
35	0.0004	0.000	0.050	0.0004	0.002
40	0.0005	0.000	0.050	0.0005	0.004
45	0.0006	0.000	0.050	0.0006	0.009
50	0.0008	0.001	0.175	0.0008	0.014
55	0.0012	0.001	0.175	0.0012	0.014

[1] Lower rates assumed for members with less than 20 years of service.

APPENDIX A – MEMBERSHIP INFORMATION

Salary Increase, Termination and Withdrawal Assumptions

Years of Service	Salary Increase: General	Salary Increase: Safety	Withdrawal: General	Withdrawal: Safety	Termination: General[1]	Termination: Safety[2]
0	0.1124	0.1330	0.100	0.060	0.100	0.060
1	0.1021	0.1330	0.065	0.035	0.065	0.035
2	0.0712	0.0815	0.050	0.025	0.050	0.025
3	0.0712	0.0815	0.039	0.025	0.039	0.025
4	0.0506	0.0815	0.039	0.025	0.039	0.025
5	0.0506	0.0532	0.019	0.010	0.058	0.040
6	0.0506	0.0429	0.019	0.006	0.058	0.024
7	0.0506	0.0429	0.011	0.004	0.034	0.016
8	0.0429	0.0429	0.011	0.004	0.034	0.016
9	0.0429	0.0429	0.009	0.004	0.028	0.016
10	0.0403	0.0429	0.009	0.004	0.028	0.016
11	0.0403	0.0429	0.007	0.004	0.021	0.016
12	0.0403	0.0429	0.007	0.004	0.021	0.016
13	0.0403	0.0429	0.006	0.004	0.019	0.016
14	0.0403	0.0429	0.006	0.004	0.019	0.016
15	0.0352	0.0429	0.003	0.002	0.023	0.011
16	0.0352	0.0429	0.003	0.002	0.023	0.011
17	0.0352	0.0429	0.003	0.002	0.023	0.011
18	0.0352	0.0429	0.003	0.002	0.023	0.011
19	0.0352	0.0429	0.003	0.002	0.023	0.011
20	0.0352	0.0429	0.001	0.000	0.009	0.000
21	0.0352	0.0429	0.001	0.000	0.009	0.000
22	0.0352	0.0429	0.001	0.000	0.009	0.000
23	0.0352	0.0429	0.001	0.000	0.009	0.000
24	0.0352	0.0429	0.001	0.000	0.009	0.000
25	0.0352	0.0429	0.001	0.000	0.009	0.000
26	0.0352	0.0429	0.001	0.000	0.009	0.000
27	0.0352	0.0429	0.001	0.000	0.009	0.000
28	0.0352	0.0429	0.001	0.000	0.009	0.000
29	0.0352	0.0429	0.001	0.000	0.009	0.000
30+	0.0352	0.0429	0.000	0.000	0.000	0.000

[1] 75% of vested terminated General Members with less than five years of service, 25% of those with five to 14 years of service, and 40% of those with more than 15 years of service, are assumed to be reciprocal.

[2] 67% of vested terminated Safety Members with less than five years of service, and 50% of those with more than five years of service, are assumed to be reciprocal.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of January 1, 2022 are:

Actuarial Methods

1. Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method (CERL 31453.5). Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit (until maximum retirement age). For members who transferred from outside of SJCERA, entry age (for the actuarial cost calculation only) is based on entry into the system. The normal cost for the Plan is based on the sum of the individual normal costs for each member (Individual Entry Age Method).

The UAL (or Surplus Funding) is amortized as a percentage of the projected salaries of present and future members of SJCERA. Effective with the January 1, 2015 valuation, the UAL as of January 1, 2014 is amortized over a closed 19-year period (11 years remaining as of January 1, 2022), except for the additional UAL attributable to the extraordinary loss from 2008, which is being amortized over a separate closed period (17 years as of January 1, 2022).

Any subsequent unexpected change in the Unfunded Actuarial Liability after January 1, 2014 is amortized over 15 years. The UAL payment for the 2020 assumption change is being phased in over a three-year period.

2. Valuation of Assets

The assets are valued using a five-year smoothed method based on the difference between the expected market value and the actual market value of the assets as of the valuation date. The expected market value is the prior year's market value increased with the net increase in the cash flow of funds, all increased with interest during the past fiscal year at the expected investment return rate assumption.

An asset corridor limit is applied such that the smoothed Market Value of Assets stays within 20% of the Market Value of Assets.

The additional employer contribution reserve and special non-valuation reserves are not included in the valuation assets for the January 1, 2022 valuation. It is at each of the employers', who are making additional contributions, discretion as to when these reserves will be included in the valuation assets that determine contributions.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

The recommended assumptions were reviewed with the Board at their July 7, 2022 meeting. The demographic assumptions are based on an experience study covering the period from January 1, 2019 through December 31, 2021.

1. **Rate of Return**

   Assets are assumed to earn 6.75% net of investment expenses.

2. **Administrative Expenses**

   Administrative expenses are assumed to be $5,173,647 for the next year, to be split between employees and employers based on their share of the overall contributions. Expenses are expected to grow with the cost-of-living (by 2.75% per year.)

3. **Cost-of-Living**

   The cost-of-living as measured by the Consumer Price Index (CPI) will increase at the rate of 2.75% per year. This assumption is also used to project increases in the PEPRA wage cap.

4. **Post Retirement COLA**

   Benefits are assumed to increase after retirement at the rate of 2.6% per year.

5. **Increases in Pay**

   Assumed pay increases for active Members consist of increases due to base salary adjustments plus service-based increase due to longevity and promotion, as shown below:

Pay Increases											
	Years of Service										
	0	1	2	3	4	5	6	7	8-9	10-14	15+
Base Increase	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Longevity & Promotion											
General	8.00%	7.00%	4.00%	4.00%	2.00%	2.00%	2.00%	2.00%	1.25%	1.00%	0.50%
Safety	10.00%	10.00%	5.00%	5.00%	5.00%	2.25%	1.25%	1.25%	1.25%	1.25%	1.25%
Total (Compound)											
General	11.24%	10.21%	7.12%	7.12%	5.06%	5.06%	5.06%	5.06%	4.29%	4.03%	3.52%
Safety	13.30%	13.30%	8.15%	8.15%	8.15%	5.32%	4.29%	4.29%	4.29%	4.29%	4.29%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

6. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table. Male members are assumed to be three years older than their spouses, and female members are assumed to be two years younger than their spouses. It is assumed that 90% of participants with eligible beneficiaries who do not have a service-related disability elect the 60% Joint and Survivor allowance.

Percentage Married	
Gender	Percentage
Males	75%
Females	55%

7. Rates of Termination

Sample rates of termination are shown in the following table. Termination rates do not apply once a member is eligible for retirement.

Rates of Termination*		
Years of Service	General	Safety
0	20.00%	12.00%
1	13.00%	7.00%
2	10.00%	5.00%
3	7.75%	5.00%
4	7.75%	5.00%
5	7.75%	5.00%
6	7.75%	3.00%
7	4.50%	2.00%
8	4.50%	2.00%
9	3.75%	2.00%
10	3.75%	2.00%
11-12	2.75%	2.00%
13	2.50%	2.00%
14-19	2.50%	1.25%
20-29	1.00%	0.00%
30+	0.00%	0.00%

*Termination rates do not apply once a member is eligible for retirement.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

8. Withdrawal

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

50% of all General Member terminations with less than five years of service, 25% of those with five to 14 years of service, and 10% of those with 15 or more years of service, are assumed to take a refund of contributions.

50% of all Safety Member terminations with less than five years of service, 20% of those with five to 14 years of service, and 15% of those with 15 or more years of service, are assumed to take a refund of contributions.

9. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment and leave their member contributions on deposit with the Plan.

50% of all General Member terminations with less than five years of service, 75% of those with five to 14 years of service, and 90% of those with 15 or more years of service, are assumed to leave their contributions on deposit.

50% of all Safety Member terminations with less than five years of service, 80% of those with five to 14 years of service, and 85% of those with 15 or more years of service, are assumed to leave their contributions on deposit.

Vested terminated General Members are assumed to begin receiving benefits at age 58; vested terminated Safety Members are assumed to begin receiving benefits at age 50, unless they have outgoing reciprocity, in which case they are assumed to begin receiving benefits at age 53.

75% of vested terminated General Members with less than five years of service, 25% of those with five to 14 years of service, and 40% of those with 15 or more years of service, are assumed to be reciprocal.

67% of vested terminated Safety Members with less than five years of service, and 50% of those with five or more years of service, are assumed to be reciprocal.

Final average pay for General Members who terminate with reciprocity is assumed to increase by 3.52% per year until their assumed retirement date. Final average pay for Safety Members who terminate with reciprocity is assumed to increase by 4.29% per year until their assumed retirement date

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

10. Rates of Service-Connected Disability

Sample service-connected disability rates of active participants are provided in the table below.

Rates of Svc Disability				
Age	General Male	General Female	Safety Male	Safety Female
22	0.094%	0.006%	0.048%	0.048%
27	0.107%	0.006%	0.086%	0.089%
32	0.122%	0.010%	0.161%	0.166%
37	0.139%	0.018%	0.296%	0.305%
42	0.414%	0.037%	0.565%	0.592%
47	0.446%	0.067%	1.023%	1.101%
52	0.361%	0.072%	1.425%	1.425%
57	0.410%	0.045%	1.425%	1.425%
62	0.470%	0.050%	1.425%	1.425%

11. Rates of Nonservice-Connected Disability

Sample nonservice-connected disability rates of active participants are provided in the table below.

Rates of Non-Svc Disability				
Age	General Male	General Female	Safety Male	Safety Female
22	0.023%	0.017%	0.003%	0.003%
27	0.027%	0.019%	0.005%	0.005%
32	0.030%	0.031%	0.008%	0.009%
37	0.035%	0.055%	0.016%	0.016%
42	0.104%	0.112%	0.030%	0.031%
47	0.112%	0.200%	0.054%	0.058%
52	0.090%	0.217%	0.075%	0.075%
57	0.102%	0.136%	0.075%	0.075%
62	0.118%	0.150%	0.075%	0.075%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

12. Rates of Mortality for Healthy Lives

Mortality rates for General active members are based on the sex distinct 2021 CalPERS Pre-Retirement Non-Industrial Mortality Table, with generational mortality improvements projected from 2017 using 80% of Projection Scale MP-2020.

Mortality rates for Safety active members are based on the sum of the rates from the 2021 CalPERS Industrial and Non-Industrial Mortality tables, with generational mortality improvements projected from 2017 using 80% of Projection Scale MP-2020. 10% of Safety member active deaths are assumed to occur in the line of duty.

Mortality rates for healthy General annuitants are based on the sex distinct 2021 CalPERS Healthy Annuitant Mortality Table, with generational mortality improvements projected from 2017 using 80% of Projection Scale MP-2020, and a partial credibility adjustment of 1.05 for males and no adjustment for females.

Mortality rates for Safety annuitants are based on the sex distinct 2021 CalPERS Healthy Annuitant Mortality Table, with generational mortality improvements projected from 2017 using 80% of Projection Scale MP-2020, and a partial credibility adjustment of 1.05 for males and no adjustment for females.

13. Rates of Mortality for Disabled Retirees

Mortality rates for General disabled annuitants are based on status. Rates for General disabled annuitants with a service-related disability are based on the sex distinct 2021 CalPERS Industrially Disabled Annuitant Mortality Table, with generational mortality improvements projected from 2017 using 80% of Projection Scale MP-2020. Rates for General disabled annuitants with a non-service-related disability are based on the sex distinct 2021 CalPERS Non-Industrially Disabled Annuitant Mortality Table, with generational mortality improvements projected from 2017 using 80% of Projection Scale MP-2020.

Mortality rates for Safety disabled annuitants are based on the sex distinct 2021 CalPERS Industrially Disabled Mortality Table, with generational mortality improvements projected from 2017 using Projection 80% of Scale MP-2020.

14. Mortality Improvement

The mortality assumptions employ a fully generational mortality improvement projection from the base year of the CalPERS mortality tables (2017) using 80% of Scale MP-2020.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

15. Adjustment for Service Purchases

SJCERA provides Cheiron with the amount of service that active employees are eligible to purchase. We include this service when calculating the employees' benefit eligibility. Half of eligible service purchases, which have not been purchased by the members, are included in the employees' Credited Service, as employees will pay approximately half of the normal cost for these benefits when purchasing this service.

16. Assumptions for Employee Contribution Rates

Mortality rates are the base mortality tables described above, projected using 80% of Scale MP-2020 from 2017 to 2044 for General Members and to 2045 for Safety Members. The projection periods are based on the duration of active liabilities for the respective groups, and the period during which the associated contribution rates will be in use. The employee contribution rates are also blended using a male/female weighting of 29%/71% for General Members and 75%/25% for Safety members.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

17. Rates of Retirement

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

Rates of Retirement								
	General Male Years of Service			General Female Years of Service			Safety Years of Service	
Age	5-9	10-29	30+	5-9	10-29	30+	5-19	20+
45	0.00%	0.00%	5.00%	0.00%	0.00%	4.50%	0.00%	5.00%
46	0.00%	0.00%	5.00%	0.00%	0.00%	4.50%	0.00%	5.00%
47	0.00%	0.00%	5.00%	0.00%	0.00%	4.50%	0.00%	5.00%
48	0.00%	0.00%	5.00%	0.00%	0.00%	4.50%	0.00%	5.00%
49	0.00%	0.00%	5.00%	0.00%	0.00%	4.50%	0.00%	5.00%
50	1.00%	3.00%	5.00%	1.00%	3.50%	4.50%	7.50%	17.50%
51	1.00%	3.00%	5.00%	1.00%	3.50%	4.50%	5.00%	17.50%
52	1.00%	3.00%	5.00%	1.00%	3.50%	4.50%	5.00%	17.50%
53	1.00%	3.00%	5.00%	1.00%	3.50%	4.50%	5.00%	17.50%
54	1.00%	3.00%	10.00%	5.75%	3.50%	4.50%	5.00%	17.50%
55	2.50%	6.50%	10.00%	2.50%	3.50%	4.50%	5.00%	17.50%
56	2.50%	4.00%	10.00%	1.50%	7.00%	15.00%	15.00%	17.50%
57	2.50%	4.00%	10.00%	1.50%	7.00%	15.00%	15.00%	20.00%
58	2.50%	4.00%	10.00%	1.50%	7.00%	15.00%	15.00%	20.00%
59	2.50%	9.00%	27.50%	2.00%	7.00%	15.00%	10.00%	30.00%
60	5.00%	9.00%	27.50%	6.25%	12.50%	25.00%	10.00%	30.00%
61	5.00%	15.00%	27.50%	6.25%	12.50%	30.00%	10.00%	30.00%
62	5.00%	30.00%	40.00%	18.50%	25.00%	35.00%	20.00%	30.00%
63	5.00%	25.00%	40.00%	5.00%	25.00%	35.00%	20.00%	30.00%
64	5.00%	25.00%	40.00%	9.00%	25.00%	35.00%	20.00%	50.00%
65	15.00%	25.00%	40.00%	12.50%	30.00%	35.00%	100.00%	100.00%
66	15.00%	35.00%	50.00%	25.00%	30.00%	30.00%	100.00%	100.00%
67	15.00%	30.00%	40.00%	25.00%	30.00%	30.00%	100.00%	100.00%
68	15.00%	30.00%	30.00%	25.00%	30.00%	30.00%	100.00%	100.00%
69	15.00%	40.00%	30.00%	25.00%	30.00%	30.00%	100.00%	100.00%
70	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	100.00%	100.00%
71	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	100.00%	100.00%
72	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	100.00%	100.00%
73	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	100.00%	100.00%
74	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	100.00%	100.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

18. Changes in Assumptions

Details of all assumption changes can be found in the Actuarial Experience Study Report for the period covering January 1, 2019 to December 31, 2021.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

A. 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. For members joining the Plan on and after January 1, 2013 (Tier 2 Members), only pensionable compensation up to the PEPRA compensation limit ($134,974 for 2022) will count for computing Plan benefits and employee contributions and employer contributions for those participating in Social Security. For those not participating in Social Security, the compensation cap is 120% of the PEPRA compensation limit ($161,969 for 2022) In addition, it is possible that some sources of compensation, such as any payments deemed to be terminal or special pays, may be excluded from benefit and contribution computations for Tier 2 Members.
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 12 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:	For Tier 1 Members, Final Compensation means the highest average Compensation earned during any 12 consecutive months of the Member's employment. For Tier 2 Members, highest average Compensation will be based on the highest 36 consecutive months, rather than 12 months.
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 or 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.

B. 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 and members who are age 60 or older at the time of employment in a position requiring membership in SJCERA may choose not to participate.

A Tier 2 Member is any Member joining the Plan for the first time on or after January 1, 2013. Employees who transfer from and are eligible for reciprocity with another public employer will not be Tier 2 Members if their service in the reciprocal system was under a previous tier. Employees who were Members of SJCERA prior to January 1, 2013 and experienced a break in service of more than six months and then were reemployed by a *different* SJCERA-participating employer on or after January 1, 2013 will be considered Tier 2 Members for all subsequent service.

Member Contributions: Each Member contributes a percentage of Compensation to the Plan through payroll deduction. For Tier 1 members, the percentage contributed depends on the Member's age upon joining the Plan. Representative rates are shown in Table 1 on the next page.

Tier 1 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.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Table 1: Tier 1 Member Contribution Rates (Basic Rates)

	General Member Rate		Safety Member Rate	
Entry Age	1st $350/month	Over $350	1st $350/month	Over $350
20	2.09%	3.14%	3.14%	4.71%
25	2.30%	3.45%	3.36%	5.04%
30	2.53%	3.79%	3.61%	5.41%
35	2.78%	4.17%	3.88%	5.82%
40	3.07%	4.60%	4.22%	6.33%
45	3.35%	5.02%	4.59%	6.89%
50	3.61%	5.41%	4.36%	6.54%

Rates include the employee share of the administrative expenses.

Some Tier 1 members also contribute half of the normal cost associated with the post-retirement COLA benefits, also based on entry age. Many bargaining groups have also agreed to have their Tier 1 members pay additional basic rate contributions (14% of the current basic rates for General members, 33% for Safety). The complete rate tables for all groups are in the Appendix G.

Tier 2 Members contribute half of the normal cost of the Plan. Contributions for these Members are based on the Normal Cost associated with their benefits; General and Safety members pay different rates.

Tier 2 Members pay a single contribution rate, not a rate based on entry age. All Tier 2 Members continue contributing after earning 30 years of service. These rates are updated annually, to reflect changes in the Tier 2 demographics, as well as any changes in assumptions (such as the discount rate change).

Table 2: Tier 2 Member Contribution Rates

General Member Rate	Safety Member Rate
10.35%	15.84%

Rates include the employee share of the administrative expenses.

Interest is credited semiannually to each Member's accumulated contributions, based on the previous year's expected rate of return on assets. The crediting rate for 2022 is 3.4408%, for an effective annual rate of 7.00%.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

C. Service Retirement

Eligibility: Tier 1 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.

Tier 1 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.

Tier 2 General Members are eligible to retire upon attaining age 52 and completing five or more years of service. Tier 2 Safety Members are eligible to retire upon attaining age 50 and completing five or more years of service. Tier 2 Members are eligible to retire, regardless of service, after attaining age 70.

Benefit Amount: The Service Retirement Benefit payable to Tier 1 General Members is equal to the percentage in Table 3 on the next page multiplied by the Member's Final Compensation. The Service Retirement Benefit payable to Tier 1 Safety Members is equal to the percentage in the upcoming Table 4 multiplied by the Member's Final Compensation. The percentage of Final Compensation may not exceed 100%. For those Tier 1 members integrated with Social Security, Retirement Benefits based on the first $350 of monthly Final Average Compensation are reduced by one-third.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Table 3: Tier 1 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	100	100	100
40											82.43	87.29	90.72	94.15	97.59	100				
41												89.47	92.99	96.51	100					
42													95.26	98.86						
43														100						

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Table 4: Tier 1 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	46.6	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	65.7	69.00	69.00	69.00	69.00	69.00	69.00
24					56.2	59.23	62.48	65.41	68.56	72.00	72.00	72.00	72.00	72.00	72.00
25						61.7	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

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Table 5: Tier I 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

For Tier 2 General Members, the benefit multiplier is 1% at age 52, increasing by 0.1% for each year of age to 2.5% at 67. For Tier 2 Safety Members, the benefit multiplier is 2% at age 50, increasing by 0.1% for each year of age to 2.7% at age 57. In between exact ages, the multiplier increases by 0.025% for each quarter year increase in age.

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.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

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 adjustments may not exceed 3%, but changes in CPI in excess of 3% are "banked" and used for future adjustments when changes in CPI are 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.

D. 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 adjustments may not exceed 3%, but changes in CPI in excess of 3% are "banked" and used for future adjustments when changes in CPI are 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.

E. Nonservice-Connected Disability

Eligibility: Members are eligible 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

APPENDIX C – SUMMARY OF PLAN PROVISIONS

	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 adjustments may not exceed 3%, but changes in CPI in excess of 3% are "banked" and used for future adjustments when changes in CPI are 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.

F. 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.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

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

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

G. 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 adjustments may not exceed 3%, but changes in CPI in excess of 3% are "banked" and used for future adjustments when changes in CPI are less than 3%.

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

APPENDIX C – SUMMARY OF PLAN PROVISIONS

H. 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.

I. 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.

For Tier 1 Members, Tables 2 and 3 are extended for service under 10 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 adjustments may not exceed 3%, but changes in CPI in excess of 3% are "banked" and used for future adjustments when changes in CPI are less than 3%.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

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.

J. 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 adjustments may not exceed 3%, but changes in CPI in excess of 3% are "banked" and used for future adjustments when changes in CPI are less than 3%.

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.

Subsequent to the January 1, 2021 valuation, the Board approved the creation of Tier 2B for new members hired after January 1, 2022, but the implementation of this Tier does not have any impact on the current valuation results. The only difference for this Tier is in the definition of pensionable compensation, which only includes base pay. There have been no changes in plan provisions since the prior valuation.

APPENDIX D – 401(H) REPAYMENT SCHEDULE

As of January 1, 2014, a separate amortization layer was established for the repayment of funds originally transferred to a retiree health reserve. This schedule was prepared in compliance with an approved Voluntary Correction Program that SJCERA submitted to the IRS. The original balance of the amortization layer ($48.0 million) is being amortized using the same methodology and assumptions as the UAL – as a level percentage of payroll over a 19-year period – after an initial payment of $19.8 million.

Date	Outstanding Balance	Years Remaining	End of Year Payment
1/1/2017	$27,547,546	16	$2,460,275
1/1/2018	$27,125,789	15	$2,512,141
1/1/2019	$26,580,267	14	$2,591,274
1/1/2020	$25,916,063	13	$2,653,902
1/1/2021	$25,076,285	12	$2,733,519
1/1/2022	$24,098,107	11	$2,778,677
1/1/2023	$22,946,052	10	$2,862,037
1/1/2024	$21,632,873	9	$2,947,899
1/1/2025	$20,145,193	8	$3,036,335
1/1/2026	$18,468,658	7	$3,127,426
1/1/2027	$16,587,867	6	$3,221,248
1/1/2028	$14,486,300	5	$3,317,886
1/1/2029	$12,146,239	4	$3,417,422
1/1/2030	$9,548,688	3	$3,519,945
1/1/2031	$6,673,279	2	$3,625,543
1/1/2032	$3,498,182	1	$3,734,310
1/1/2033	$0	0	$0

APPENDIX E – GLOSSARY

1. **Actuarial Assumptions**

   Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. **Actuarial Cost Method**

   A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an Actuarial Liability.

3. **Actuarial Gain (Loss)**

   The difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. **Actuarial Liability**

   The portion of the actuarial present value of projected benefits that will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

5. **Actuarial Present Value (Present Value)**

   The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. **Actuarial Valuation**

   The determination, as of a specified date, of the normal cost, Actuarial Liability, Actuarial Value of Assets, and related actuarial present values for a pension plan.

7. **Actuarial Value of Assets**

   The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. **Actuarially Equivalent**

   Of equal actuarial present value, determined as of a given date, with each value based on the same set of actuarial assumptions.

APPENDIX E – GLOSSARY

9. Amortization Payment

The portion of the pension plan contribution that is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities. The funded ratio shown in this report is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in the case of a plan termination or other similar action. However, it is an appropriate measure for assessing the need for or the amount of future contributions.

12. Inactive Funded Ratio

The ratio of the Inactive Actuarial Liabilities to the total Actuarial Liabilities. The inactive funded ratio is a measure that shows the minimum funded status needed to pay benefits for all inactive members.

13. Normal Cost

That portion of the actuarial present value of pension plan benefits and expenses, which is allocated to a valuation year by the actuarial cost method.

14. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

15. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.

APPENDIX F – GENERAL AND SAFETY EMPLOYER CONTRIBUTION RATES

Tier 1: Contribution Rates for General and Safety (no COLA Cost-Sharing)

Separate rates for General and Safety members are shown below. These rates are applicable for employment groups that have not implemented equal sharing of the contributions required for post-retirement cost-of-living adjustments (COLA) in accordance with Government Code Section 31873.

As of January 1, 2021	General	Safety	Total	As of January 1, 2022	General	Safety	Total
Employer Normal Cost				**Employer Normal Cost**			
Basic	13.82%	22.23%	15.46%	Basic	13.39%	22.36%	15.18%
COL	6.00%	10.54%	6.89%	COL	5.79%	10.77%	6.78%
Total	19.82%	32.77%	22.35%	Total	19.18%	33.13%	21.96%
UAL Amortization Cost				**UAL Amortization Cost**			
Basic	20.94%	45.40%	25.65%	Basic	19.11%	45.32%	24.29%
COL	9.66%	18.33%	11.33%	COL	10.24%	19.82%	12.13%
Total	30.60%	63.73%	36.98%	Total	29.35%	65.14%	36.42%
Total Cost				**Total Cost**			
Basic	34.76%	67.63%	41.11%	Basic	32.50%	67.68%	39.47%
COL	15.66%	28.87%	18.22%	COL	16.03%	30.59%	18.91%
Total	50.42%	96.50%	59.33%	Total	48.53%	98.27%	58.38%

Rates include the employer share of the administrative expenses.

APPENDIX F – GENERAL AND SAFETY EMPLOYER CONTRIBUTION RATES

Tier 1: Contribution Rates for General and Safety (Employer Cost with additional 14% / 33% Normal Rates by members without COLA Cost-sharing)

Separate rates for General and Safety members contributing an additional 14% / 33% of Normal Rates are shown below.

As of January 1, 2021				As of January 1, 2022			
	General	Safety	Total		General	Safety	Total
Employer Normal Cost				**Employer Normal Cost**			
Basic	13.26%	20.61%	14.70%	Basic	12.81%	20.66%	14.37%
COL	6.00%	10.54%	6.88%	COL	5.79%	10.77%	6.79%
Total	19.26%	31.15%	21.58%	Total	18.60%	31.43%	21.16%
UAL Amortization Cost				**UAL Amortization Cost**			
Basic	20.94%	45.40%	25.65%	Basic	19.11%	45.32%	24.29%
COL	9.66%	18.33%	11.33%	COL	10.24%	19.82%	12.13%
Total	30.60%	63.73%	36.98%	Total	29.35%	65.14%	36.42%
Total Cost				**Total Cost**			
Basic	34.20%	66.01%	40.35%	Basic	31.92%	65.98%	38.66%
COL	15.66%	28.87%	18.21%	COL	16.03%	30.59%	18.92%
Total	49.86%	94.88%	58.56%	Total	47.95%	96.57%	57.58%

Rates include the employer share of the administrative expenses.

APPENDIX F – GENERAL AND SAFETY EMPLOYER CONTRIBUTION RATES

Tier 1: Contribution Rates for General and Safety (with COLA Cost-sharing)

Separate rates for General and Safety members contributing Normal Rates plus COLA Cost-sharing are shown below.

As of January 1, 2021	General	Safety	Total	As of January 1, 2022	General	Safety	Total
Employer Normal Cost				**Employer Normal Cost**			
Basic	13.82%	22.23%	15.46%	Basic	13.39%	22.36%	15.18%
COL	3.11%	5.46%	3.57%	COL	2.93%	5.48%	3.44%
Total	16.93%	27.69%	19.03%	Total	16.32%	27.84%	18.62%
UAL Amortization Cost				**UAL Amortization Cost**			
Basic	20.94%	45.40%	25.65%	Basic	19.11%	45.32%	24.29%
COL	9.66%	18.33%	11.33%	COL	10.24%	19.82%	12.13%
Total	30.60%	63.73%	36.98%	Total	29.35%	65.14%	36.42%
Total Cost				**Total Cost**			
Basic	34.76%	67.63%	41.11%	Basic	32.50%	67.68%	39.47%
COL	12.77%	23.79%	14.90%	COL	13.17%	25.30%	15.57%
Total	47.53%	91.42%	56.01%	Total	45.67%	92.98%	55.04%

Rates include the employer share of the administrative expenses.

APPENDIX F – GENERAL AND SAFETY EMPLOYER CONTRIBUTION RATES

Tier 1: Contribution Rates for General and Safety (Employer Cost with additional 14% / 33% Normal Rates by members and COLA Cost-sharing)

Separate rates for General and Safety members contributing an additional 14% / 33% of Normal Rates and COLA Cost-sharing are shown below.

As of January 1, 2021				As of January 1, 2022			
	General	Safety	Total		General	Safety	Total
Employer Normal Cost				**Employer Normal Cost**			
Basic	13.26%	20.61%	14.70%	Basic	12.81%	20.66%	14.37%
COL	3.11%	5.46%	3.56%	COL	2.93%	5.48%	3.44%
Total	16.37%	26.07%	18.26%	Total	15.74%	26.14%	17.81%
UAL Amortization Cost				**UAL Amortization Cost**			
Basic	20.94%	45.40%	25.65%	Basic	19.11%	45.32%	24.29%
COL	9.66%	18.33%	11.33%	COL	10.24%	19.82%	12.13%
Total	30.60%	63.73%	36.98%	Total	29.35%	65.14%	36.42%
Total Cost				**Total Cost**			
Basic	34.20%	66.01%	40.35%	Basic	31.92%	65.98%	38.66%
COL	12.77%	23.79%	14.89%	COL	13.17%	25.30%	15.57%
Total	46.97%	89.80%	55.24%	Total	45.09%	91.28%	54.23%

Rates include the employer share of the administrative expenses.

APPENDIX F – GENERAL AND SAFETY EMPLOYER CONTRIBUTION RATES

Tier 2: Contribution Rates for General and Safety (PEPRA Members)

Separate rates for General and Safety members are shown below. These rates are applicable for employment groups that are subject to Government Code Section 7522.30.

As of January 1, 2021				As of January 1, 2022			
	General	Safety	Total		General	Safety	Total
Employer Normal Cost				**Employer Normal Cost**			
Basic	7.53%	10.98%	7.92%	Basic	7.85%	11.26%	8.26%
COL	2.46%	4.44%	2.69%	COL	2.50%	4.58%	2.76%
Total	9.99%	15.42%	10.61%	Total	10.35%	15.84%	11.02%
UAL Amortization Cost				**UAL Amortization Cost**			
Basic	20.94%	45.40%	23.66%	Basic	19.11%	45.32%	22.17%
COL	9.66%	18.33%	10.62%	COL	10.24%	19.82%	11.35%
Total	30.60%	63.73%	34.28%	Total	29.35%	65.14%	33.52%
Total Cost				**Total Cost**			
Basic	28.47%	56.38%	31.58%	Basic	26.96%	56.58%	30.43%
COL	12.12%	22.77%	13.31%	COL	12.74%	24.40%	14.11%
Total	40.59%	79.15%	44.89%	Total	39.70%	80.98%	44.54%

Rates include the employer share of the administrative expenses.

APPENDIX F – GENERAL AND SAFETY EMPLOYER CONTRIBUTION RATES

Total Normal Cost Rates for General and Safety

As of January 1, 2021				As of January 1, 2022			
	General	Safety	Total		General	Safety	Total
Total Normal Cost				**Total Normal Cost**			
Tier 1	23.77%	37.71%	26.49%	Tier 1	23.29%	38.34%	26.29%
Tier 2	19.98%	30.84%	21.22%	Tier 2	20.70%	31.68%	22.04%

The Total Normal Costs shown include the employee and employer share of the assumed administrative expenses.

APPENDIX G – MEMBER CONTRIBUTION RATES

General Member Contribution Rates
Basic Half Rate (Government Code Section 31621.3)

	Basic Rate		COLA Cost-Sharing Rate[1]	
Entry Age	1st $350/month	Over $350	1st $350/month	Over $350
16	2.09%	3.14%	1.39%	2.09%
17	2.09%	3.14%	1.39%	2.09%
18	2.09%	3.14%	1.39%	2.09%
19	2.09%	3.14%	1.39%	2.09%
20	2.09%	3.14%	1.39%	2.09%
21	2.13%	3.20%	1.43%	2.15%
22	2.17%	3.26%	1.47%	2.21%
23	2.21%	3.32%	1.51%	2.27%
24	2.25%	3.38%	1.56%	2.34%
25	2.30%	3.45%	1.59%	2.39%
26	2.34%	3.51%	1.63%	2.45%
27	2.39%	3.58%	1.67%	2.50%
28	2.43%	3.65%	1.70%	2.55%
29	2.48%	3.72%	1.73%	2.60%
30	2.53%	3.79%	1.77%	2.65%
31	2.57%	3.86%	1.79%	2.69%
32	2.63%	3.94%	1.83%	2.74%
33	2.67%	4.01%	1.86%	2.79%
34	2.73%	4.09%	1.90%	2.85%
35	2.78%	4.17%	1.94%	2.91%
36	2.84%	4.26%	1.99%	2.98%
37	2.89%	4.34%	2.04%	3.06%
38	2.95%	4.43%	2.09%	3.14%
39	3.02%	4.53%	2.15%	3.23%
40	3.07%	4.60%	2.21%	3.32%
41	3.12%	4.68%	2.27%	3.40%
42	3.17%	4.76%	2.31%	3.47%
43	3.23%	4.84%	2.37%	3.55%
44	3.29%	4.93%	2.43%	3.64%
45	3.35%	5.02%	2.49%	3.73%
46	3.41%	5.11%	2.55%	3.82%
47	3.45%	5.17%	2.57%	3.85%
48	3.49%	5.24%	2.58%	3.87%
49	3.55%	5.32%	2.59%	3.89%
50	3.61%	5.41%	2.59%	3.89%
51	3.62%	5.43%	2.60%	3.90%
52	3.64%	5.46%	2.59%	3.89%
53	3.59%	5.38%	2.57%	3.85%
54+	3.52%	5.28%	2.51%	3.77%

[1] Some members and employers share equally the contributions required for post-retirement cost-of-living adjustments (COLA) in accordance with Government Code Section 31873. For other members, the employers pay all of the contributions required for post-retirement COLA.

Rates include the employee share of the administrative expenses.

APPENDIX G – MEMBER CONTRIBUTION RATES

General Member Contribution Rates

Basic Half Rate (Government Code Section 31621.3) + 14%, not greater than 1/2 Normal Cost

	Basic Rate		COLA Cost-Sharing Rate[1]	
Entry Age	1st $350/month	Over $350	1st $350/month	Over $350
16	2.39%	3.58%	1.39%	2.09%
17	2.39%	3.58%	1.39%	2.09%
18	2.39%	3.58%	1.39%	2.09%
19	2.39%	3.58%	1.39%	2.09%
20	2.39%	3.58%	1.39%	2.09%
21	2.43%	3.65%	1.43%	2.15%
22	2.48%	3.72%	1.47%	2.21%
23	2.52%	3.78%	1.52%	2.28%
24	2.57%	3.85%	1.56%	2.34%
25	2.62%	3.93%	1.60%	2.40%
26	2.67%	4.00%	1.64%	2.46%
27	2.72%	4.08%	1.67%	2.51%
28	2.77%	4.16%	1.70%	2.55%
29	2.83%	4.24%	1.74%	2.61%
30	2.88%	4.32%	1.77%	2.65%
31	2.93%	4.40%	1.80%	2.70%
32	2.99%	4.49%	1.83%	2.74%
33	3.05%	4.57%	1.86%	2.79%
34	3.11%	4.66%	1.90%	2.85%
35	3.17%	4.75%	1.94%	2.91%
36	3.24%	4.86%	1.99%	2.99%
37	3.30%	4.95%	2.04%	3.06%
38	3.37%	5.05%	2.09%	3.14%
39	3.44%	5.16%	2.15%	3.23%
40	3.49%	5.24%	2.21%	3.32%
41	3.56%	5.34%	2.27%	3.40%
42	3.62%	5.43%	2.31%	3.47%
43	3.68%	5.52%	2.37%	3.56%
44	3.75%	5.62%	2.43%	3.64%
45	3.81%	5.72%	2.49%	3.74%
46	3.89%	5.83%	2.55%	3.83%
47	3.93%	5.89%	2.57%	3.85%
48	3.98%	5.97%	2.58%	3.87%
49	4.04%	6.06%	2.59%	3.89%
50	4.11%	6.17%	2.59%	3.89%
51	4.13%	6.19%	2.60%	3.90%
52	4.15%	6.22%	2.60%	3.90%
53	4.09%	6.13%	2.57%	3.85%
54+	4.01%	6.02%	2.52%	3.78%

[1] Some members and employers share equally the contributions required for post-retirement cost-of-living adjustments (COLA) in accordance with Government Code Section 31873. For other members, the employers pay all of the contributions required for post-retirement COLA.

Rates include the employee share of the administrative expenses.

APPENDIX G – MEMBER CONTRIBUTION RATES

Safety Member Contribution Rates
Basic Half Rate (Government Code Section 31639.5)

	Basic Rate		COLA Cost-Sharing Rate[1]	
Entry Age	1st $350/month	Over $350	1st $350/month	Over $350
16	3.14%	4.71%	3.25%	4.88%
17	3.14%	4.71%	3.25%	4.88%
18	3.14%	4.71%	3.25%	4.88%
19	3.14%	4.71%	3.25%	4.88%
20	3.14%	4.71%	3.25%	4.88%
21	3.18%	4.77%	3.35%	5.03%
22	3.23%	4.84%	3.40%	5.10%
23	3.27%	4.91%	3.45%	5.18%
24	3.31%	4.97%	3.50%	5.25%
25	3.36%	5.04%	3.55%	5.32%
26	3.41%	5.11%	3.59%	5.39%
27	3.46%	5.19%	3.64%	5.46%
28	3.51%	5.26%	3.68%	5.52%
29	3.55%	5.33%	3.72%	5.58%
30	3.61%	5.41%	3.76%	5.64%
31	3.66%	5.49%	3.77%	5.65%
32	3.71%	5.57%	3.78%	5.67%
33	3.77%	5.65%	3.79%	5.69%
34	3.82%	5.73%	3.81%	5.71%
35	3.88%	5.82%	3.83%	5.74%
36	3.94%	5.91%	3.86%	5.79%
37	4.01%	6.01%	3.94%	5.91%
38	4.07%	6.11%	4.01%	6.01%
39	4.15%	6.22%	4.09%	6.13%
40	4.22%	6.33%	4.13%	6.19%
41	4.31%	6.46%	4.18%	6.27%
42	4.40%	6.60%	4.23%	6.35%
43	4.51%	6.77%	4.31%	6.46%
44	4.60%	6.90%	4.38%	6.57%
45	4.59%	6.89%	4.44%	6.66%
46	4.59%	6.89%	4.47%	6.70%
47	4.62%	6.93%	4.49%	6.74%
48	4.49%	6.73%	4.53%	6.79%
49+	4.36%	6.54%	4.55%	6.82%

[1] Some members and employers share equally the contributions required for post-retirement cost-of-living adjustments (COLA) in accordance with Government Code Section 31873. For other members, the employers pay all of the contributions required for post-retirement COLA.

Rates include the employee share of the administrative expenses.

APPENDIX G – MEMBER CONTRIBUTION RATES

Safety Member Contribution Rates

Basic Half Rate (Government Code Section 31639.5) + 33%, not greater than 1/2 Normal Cost

	Basic Rate		COLA Cost-Sharing Rate[1]	
Entry Age	1st $350/month	Over $350	1st $350/month	Over $350
16	4.17%	6.26%	3.25%	4.88%
17	4.17%	6.26%	3.25%	4.88%
18	4.17%	6.26%	3.25%	4.88%
19	4.17%	6.26%	3.25%	4.88%
20	4.17%	6.26%	3.25%	4.88%
21	4.23%	6.34%	3.35%	5.03%
22	4.29%	6.44%	3.40%	5.10%
23	4.35%	6.53%	3.45%	5.18%
24	4.41%	6.61%	3.51%	5.26%
25	4.47%	6.70%	3.55%	5.32%
26	4.53%	6.80%	3.59%	5.39%
27	4.60%	6.90%	3.64%	5.46%
28	4.67%	7.00%	3.68%	5.52%
29	4.73%	7.09%	3.72%	5.58%
30	4.80%	7.20%	3.76%	5.64%
31	4.87%	7.30%	3.77%	5.65%
32	4.94%	7.41%	3.78%	5.67%
33	5.01%	7.51%	3.79%	5.69%
34	5.08%	7.62%	3.81%	5.71%
35	5.16%	7.74%	3.83%	5.75%
36	5.24%	7.86%	3.87%	5.80%
37	5.33%	7.99%	3.94%	5.91%
38	5.42%	8.13%	4.01%	6.01%
39	5.51%	8.27%	4.09%	6.13%
40	5.61%	8.42%	4.13%	6.20%
41	5.73%	8.59%	4.19%	6.28%
42	5.85%	8.78%	4.24%	6.36%
43	6.00%	9.00%	4.31%	6.47%
44	6.12%	9.18%	4.38%	6.57%
45	6.11%	9.16%	4.44%	6.66%
46	6.11%	9.16%	4.47%	6.70%
47	6.15%	9.22%	4.50%	6.75%
48	5.97%	8.95%	4.53%	6.79%
49+	5.80%	8.70%	4.55%	6.83%

[1] Some members and employers share equally the contributions required for post-retirement cost-of-living adjustments (COLA) in accordance with Government Code Section 31873. For other members, the employers pay all of the contributions required for post-retirement COLA.

Rates include the employee share of the administrative expenses.

CHEIRON

Classic Values, Innovative Advice