

# **City of San José Police and Fire Department Retirement Plan**

## **Actuarial Valuation Report as of June 30, 2021**

**Produced by Cheiron**

**December 2021**

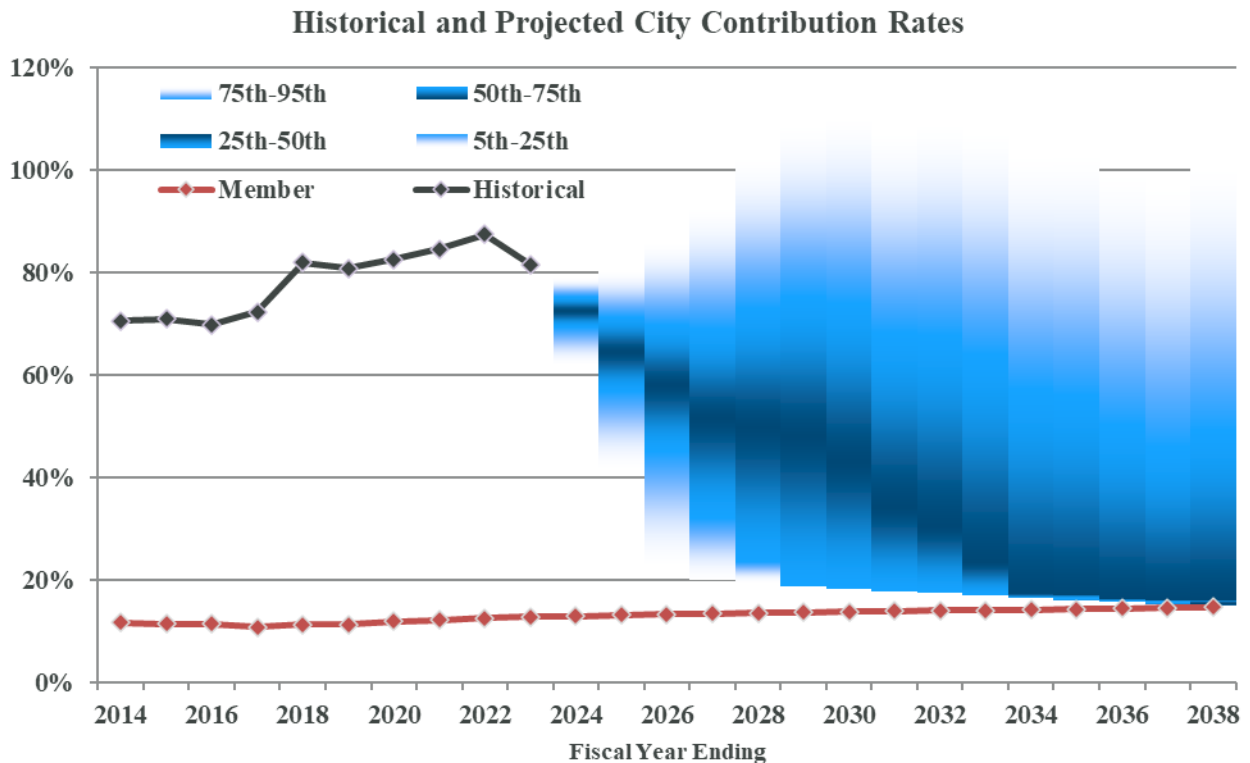
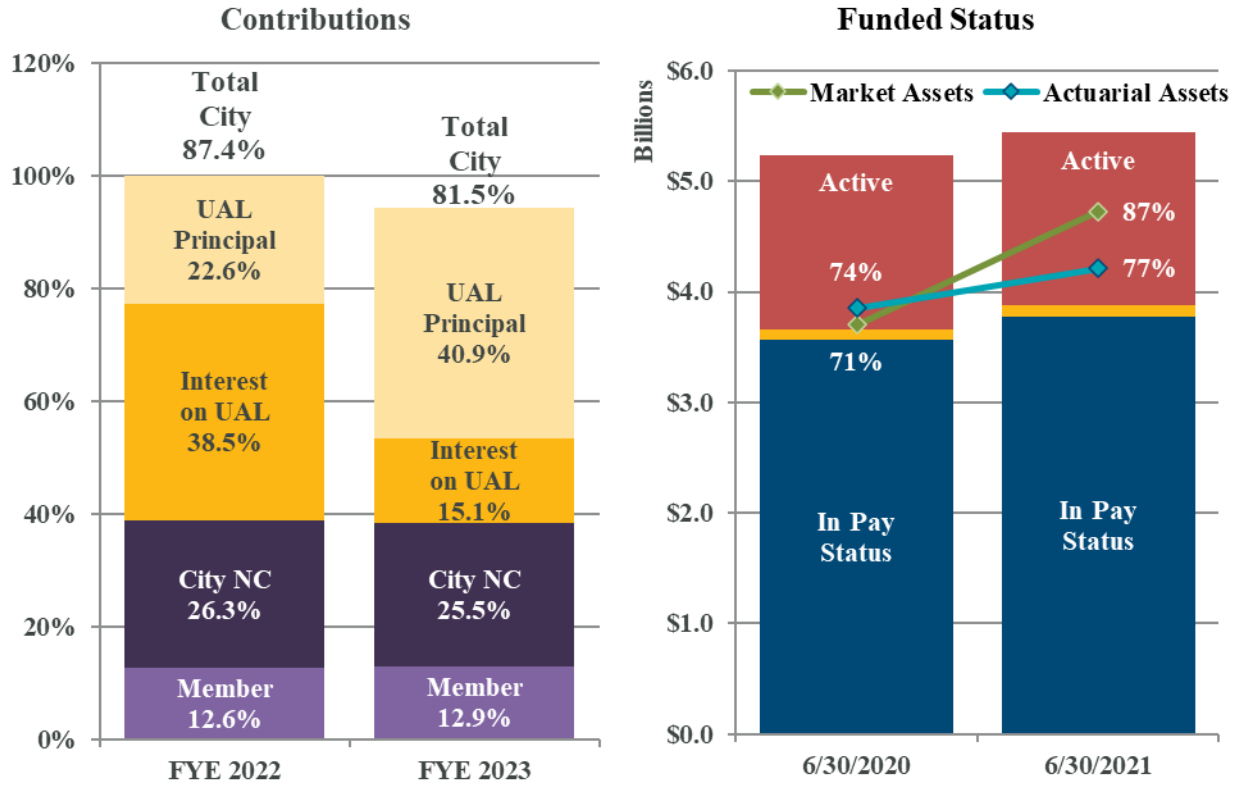
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**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION I – BOARD SUMMARY**

**Dashboard**



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**SECTION I – BOARD SUMMARY**

**Membership**

As shown in Table I-1 below, total membership grew 2.0% from 2020 to 2021, and active membership increased 1.7%. Active membership continues its shift from Tier 1 to Tier 2. Tier 1 active membership decreased by 91 members while Tier 2 active membership increased by 120 members. Total expected payroll increased by 4.9% in aggregate, with Tier 1 payroll decreasing 5.1% and Tier 2 payroll increasing 27.0%.

**Table I-1**

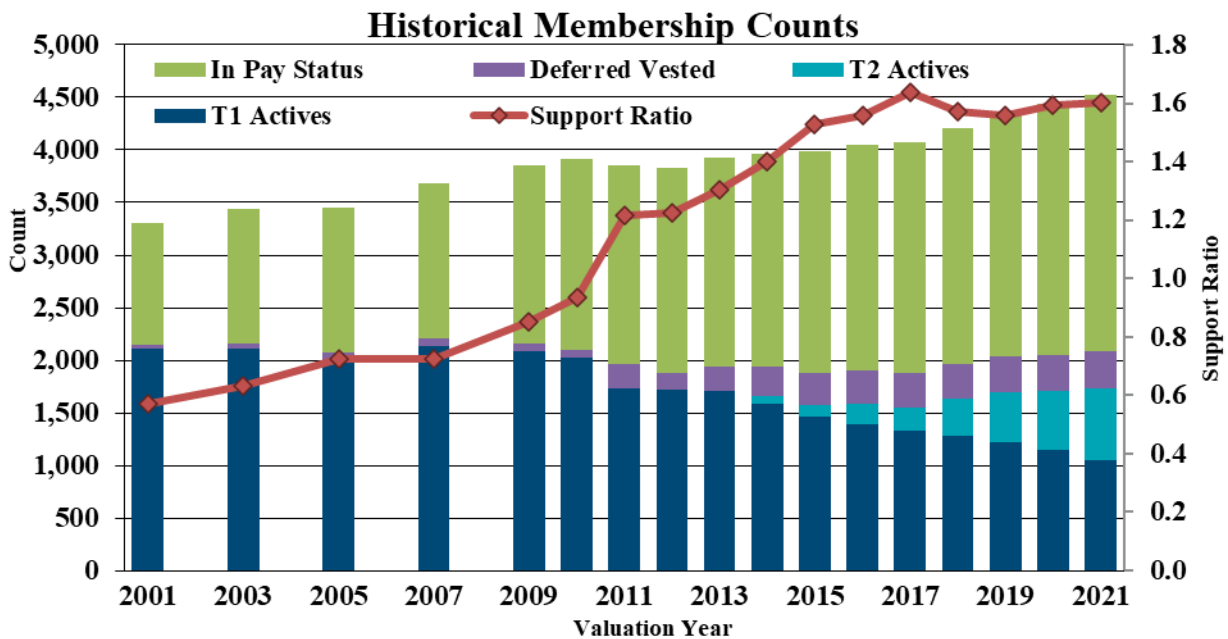
Total Membership			
	June 30, 2021	June 30, 2020	Change
Active Members			
Tier 1	1,053	1,144	-8.0%
Tier 2	<u>685</u>	<u>565</u>	<u>21.2%</u>
Total Actives	1,738	1,709	1.7%
Terminated Members	347	346	0.3%
Members In Pay Status	<u>2,438</u>	<u>2,380</u>	<u>2.4%</u>
Total	4,523	4,435	2.0%
Annual Rate of Pay for Active Members			
Tier 1	\$ 157,674	\$ 166,112	-5.1%
Tier 2	<u>94,884</u>	<u>74,686</u>	<u>27.0%</u>
Total	\$ 252,558	\$ 240,798	4.9%

*Dollar amounts in thousands*

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As shown in the chart below, the number of active members remained around 2,000 from 2001 through 2010, at which point active membership declined significantly. The decline leveled around 2015 and has since recovered some of the lost active membership. The active membership this year is 1,738, the largest since 2010. At the same time, the number of members in pay status has more than doubled from 1,164 in 2001 to 2,438 in 2021. As a result, the number of members in pay status or with deferred benefits that each active member has to support if there are actuarial losses or assumption changes has increased from approximately 0.6 in 2001 to 1.6 in 2021. An increase in this ratio is to be expected for a maturing plan, but the impact of the recession accelerated the trend significantly. As there are more retirees to be supported by each active member, contributions tend to become more volatile and sensitive to changes.



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**Funded Status**

This report measures assets and liabilities for funding purposes. Table I-2 below summarizes the Actuarial Liability, assets, and related ratios as of June 30, 2020 and 2021.

**Table I-2**

<b>Actuarial Liability, Assets and Funded Status</b>			
	June 30, 2021	June 30, 2020	Change
1. Actuarial Liability			
a. Actives	\$ 1,566,100	\$ 1,579,888	-0.9%
b. Deferred Vested	102,469	94,975	7.9%
c. In Pay Status	<u>3,773,091</u>	<u>3,560,472</u>	<u>6.0%</u>
d. Total	\$ 5,441,660	\$ 5,235,335	3.9%
2. Market Value of Assets (MVA)	\$ 4,726,642	\$ 3,702,023	27.7%
3. UAL - MVA Basis (1.d. - 2.)	\$ 715,018	\$ 1,533,312	-53.4%
4. Funding Ratio - MVA Basis (2. ÷ 1.d.)	86.9%	70.7%	16.1%
5. Actuarial Value of Assets (AVA)	\$ 4,210,447	\$ 3,851,948	9.3%
6. UAL - AVA Basis (1.d. - 5.)	\$ 1,231,213	\$ 1,383,387	-11.0%
7. Funding Ratio - AVA Basis (5. ÷ 1.d.)	77.4%	73.6%	3.8%
8. Expected Payroll	\$ 252,558	\$ 240,798	4.9%
9. Asset Leverage Ratio (2. ÷ 8.)	18.7	15.4	21.7%
10. Actuarial Liability Leverage Ratio (1.d. ÷ 8.)	21.5	21.7	-0.9%

*Dollar amounts in thousands*

The Actuarial Liability represents the target amount of assets the plan should have in the trust as of the valuation date based on the actuarial cost method. The Actuarial Liability increased 3.9% and the Market Value of Assets increased 27.7%. As a result, the Unfunded Actuarial Liability (UAL) measured on the Market Value of Assets decreased 53.4% from approximately \$1,533.3 million to \$715.0 million, and the funding ratio on an MVA basis increased from 70.7% to 86.9%.

The asset smoothing method defers 80% of the investment gain while recognizing 20% of the prior four years' gains and losses, resulting in a 9.3% increase in the Actuarial Value of Assets. The UAL measured on the Actuarial Value of Assets decreased 11.0% from approximately \$1,383.4 million to \$1,231.2 million and the funding ratio increased from 73.6% to 77.4%. The Market Value of Assets is larger than the Actuarial Value of Assets, so if the investment return assumption is met in the future, we expect a decrease in contribution rates as the deferred asset gains are recognized in the Actuarial Value of Assets.

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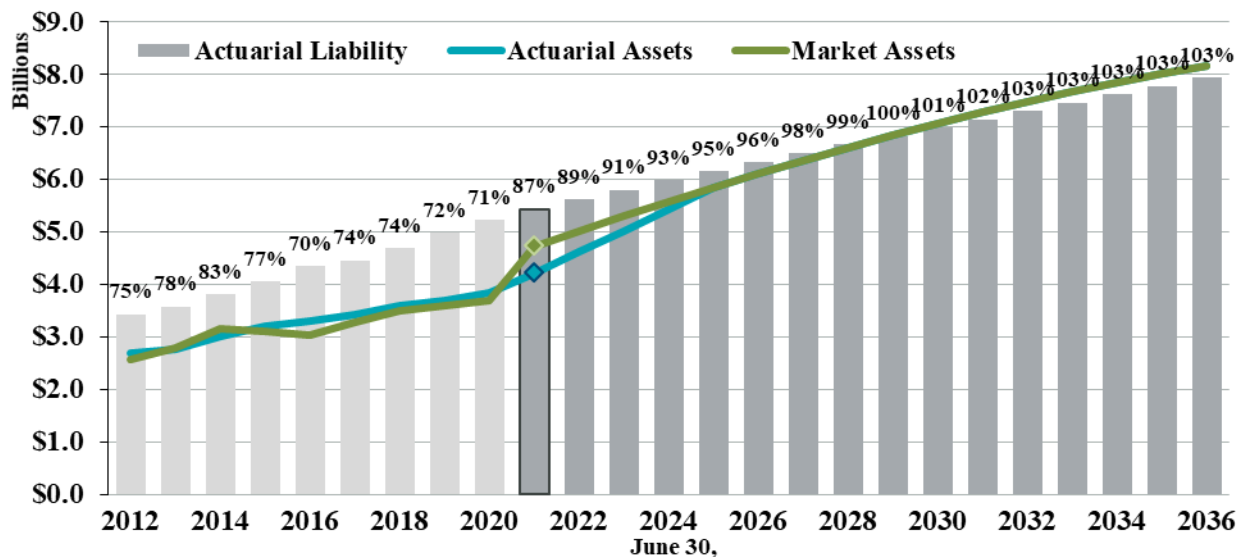
**SECTION I – BOARD SUMMARY**

The asset leverage ratio of 18.7 means that if the Plan experiences a 10% loss on assets compared to the discount rate of 6.625% (-3.375% return), the loss would be equivalent to 187% of payroll. Interest payments alone on such a loss would be approximately 12.0% of payroll.

As the Plan becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the leverage ratio would be 21.5. These leverage ratios are extremely high compared to other public pension plans indicating that this plan is far more sensitive to investment gains and losses and assumption changes than other large public pension plans.

The chart below shows the historical and projected trends for assets (both market and smoothed actuarial value) versus the Actuarial Liability, and also shows the progress of the funding ratios (based on the Market Value of Assets) since 2012. The historical Actuarial Liability is shown in light gray while the projected Actuarial Liability is shown in a darker gray. From 2012 to 2020, the funding ratio declined from 75% to 71% due to lower-than-expected investment returns and assumption changes, including reductions of the discount rate. The exceptional investment returns in 2021 increased the funding ratio from 71% to 87% based on the Market Value of Assets. Based on the Actuarial Value of Assets, the funding ratio increased from 74% to 77%. If all assumptions are met in the future, the funded status is expected to reach 100% by 2029 and 103% by 2036.

**Historical and Projected Assets and Actuarial Liability**



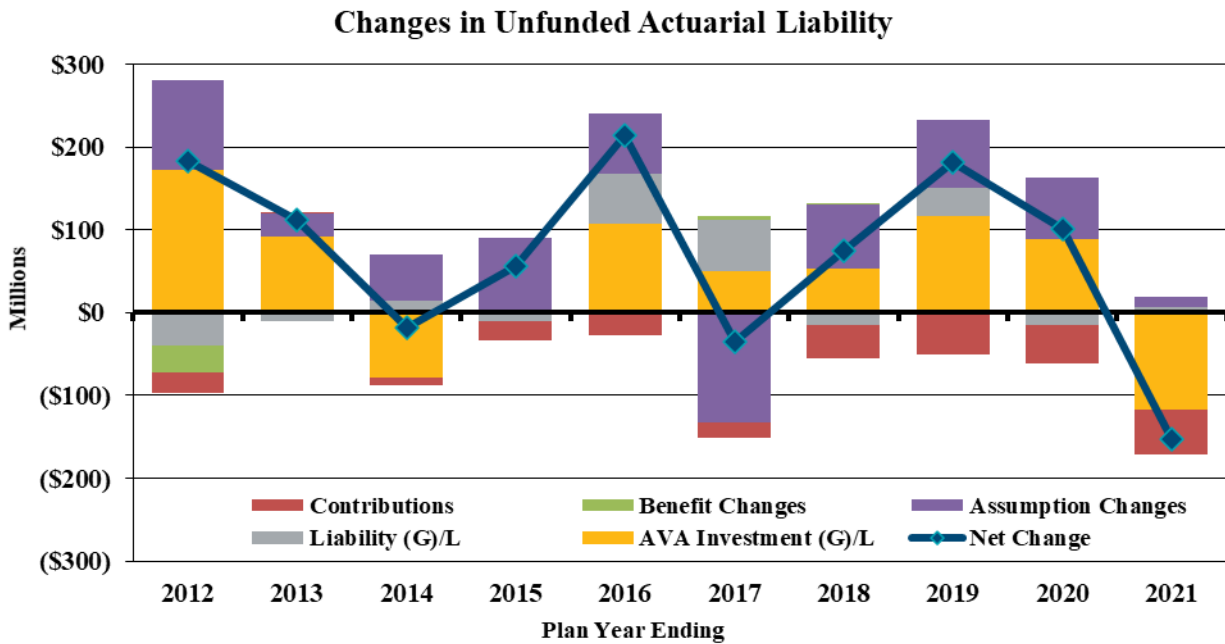
While the funded status is expected to improve, the UAL depends on actual investment returns, changes in assumptions and actuarial gains and losses, so there is potentially a wide range for the projected UAL. More detail on the assets can be found in section IV of this report, and more detail on the measures of liability can be found in section V of this report.

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**Changes in UAL**

The chart below and Table I-3 on the following page show the historical changes to the UAL broken out by the following sources: investment gains and losses on the Actuarial Value of Assets (AVA), liability gains and losses, assumption changes, benefit changes, and contributions compared to normal cost plus interest on the UAL. It is worth noting that 2014, 2015, and 2021 are the only years in the last 10 years in which there were investment gains on the Actuarial Value of Assets. With the exceptional market returns in 2021, we expect investment gains on the AVA over the next few years as the deferred investment gains are recognized. The number of liability gains and losses have been the same over the last 10 years, but there has been a net liability loss primarily due to higher-than-expected salary increases. There have been changes in assumptions in each of the last 10 years and only once did the change reduce the Actuarial Liability.



Over the last 10 years, the UAL increased about \$721 million. Investment experience increased the UAL about \$483 million and assumption changes (primarily reducing the discount rate) increased the UAL about \$466 million. Losses on other assumptions further increased the UAL by about \$93 million. Contributions reduced the UAL by about \$292 million, and benefit changes, primarily the elimination of the SRBR, reduced the UAL by about \$28 million.



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**Table I-3**

<b>Changes in Unfunded Actuarial Liability</b>											
	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Total</b>
<b>Discount Rate</b>	<b>7.25%</b>	<b>7.125%</b>	<b>7.00%</b>	<b>7.00%</b>	<b>6.875%</b>	<b>6.875%</b>	<b>6.75%</b>	<b>6.75%</b>	<b>6.625%</b>	<b>6.625%</b>	
<b>Source</b>											
AVA (G)/L	\$ 172.8	\$ 91.3	\$ (78.5)	\$ (2.8)	\$ 106.8	\$ 50.9	\$ 53.6	\$ 116.2	\$ 89.5	\$ (117.2)	<b>\$ 482.6</b>
Liability (G)/L	(39.4)	(9.9)	14.7	(7.3)	61.3	61.8	(15.1)	35.1	(15.4)	6.7	<b>92.5</b>
Assumptions	107.7	28.2	56.3	90.0	72.7	(131.8)	76.4	80.9	73.5	12.4	<b>466.3</b>
Benefit Changes	(32.5)	0.0	0.0	0.0	0.0	4.3	0.2	0.0	0.0	0.0	<b>(28.1)</b>
Contributions	(24.6)	2.2	(9.9)	(23.4)	(27.0)	(19.6)	(39.7)	(49.8)	(46.5)	(54.1)	<b>(292.4)</b>
<b>Total UAL Change</b>	<b>\$ 184.0</b>	<b>\$ 111.9</b>	<b>\$ (17.4)</b>	<b>\$ 56.5</b>	<b>\$ 213.7</b>	<b>\$ (34.4)</b>	<b>\$ 75.4</b>	<b>\$ 182.3</b>	<b>\$ 101.3</b>	<b>\$ (152.2)</b>	<b>\$ 720.9</b>

*Dollar amounts in millions*

Table I-4 below shows the breakdown of the changes in UAL during the last year by source. In total, there was a decrease in the UAL of approximately \$152 million, mostly attributable to investment gains and contributions greater than normal cost and interest on the UAL. The total change in the UAL is about 2.8 percent of the Actuarial Liability.

**Table I-4**

<b>Sources of FYE 2021 Change in UAL</b>		
	<b>Amount</b>	<b>% of AL</b>
Unfunded Actuarial Liability, June 30, 2021	\$ 1,231,212	22.6%
Unfunded Actuarial Liability, June 30, 2020	<u>1,383,387</u>	<u>25.4%</u>
<b>Change in Unfunded Actuarial Liability</b>	<b>\$ (152,175)</b>	<b>-2.8%</b>
<b><u>Sources of Changes</u></b>		
Plan Changes	\$ 0	0.0%
Assumption changes	12,389	0.2%
Normal Cost and Interest on UAL less Contributions	(54,095)	-1.0%
Investment experience	(117,195)	-2.2%
Liability experience		
Salary experience	\$ 9,202	0.2%
Termination experience	6,401	0.1%
Mortality experience	(5,753)	-0.1%
Other experience	<u>(3,124)</u>	<u>-0.1%</u>
Total Liability Experience	\$ <u>6,726</u>	<u>0.1%</u>
<b>Total Changes</b>	<b>\$ (152,175)</b>	<b>-2.8%</b>

*Dollar amounts in thousands*

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**Contribution Amounts and Rates**

As shown in the upper left corner of the dashboard (page 1), the total City contribution rate decreased from 87.4% to 81.5% of payroll. The light purple bars are the Member contributions, and the dark purple bars are the City’s portion of the normal cost (including administrative expenses), representing the expected cost of benefits attributable to the next year of service. The dark gold bars represent the interest on the UAL based on the Market Value of Assets, and contributions up to this level are referred to as the tread water rate. Contributions equal to the tread water rate are needed to prevent the UAL from growing as a dollar amount if all assumptions are met. The light gold bars represent the contributions above the tread water rate and the amount by which the principal of the UAL is expected to be reduced if all assumptions are met. The exceptional investment returns of 2021 significantly reduced the interest on the UAL based on the Market Value of Assets, increasing the portion of the contribution that goes directly to reducing the UAL principal.

Table I-5 and the chart on the next page summarize the contribution rates and contribution amounts by Tier for the fiscal years ending in 2022 and 2023. Tier 1 City and Tier 2 contributions decreased from 2022 to 2023, reflecting the investment gains. Tier 1 member contributions increased slightly reflecting the higher normal cost rates for Tier 1 members.

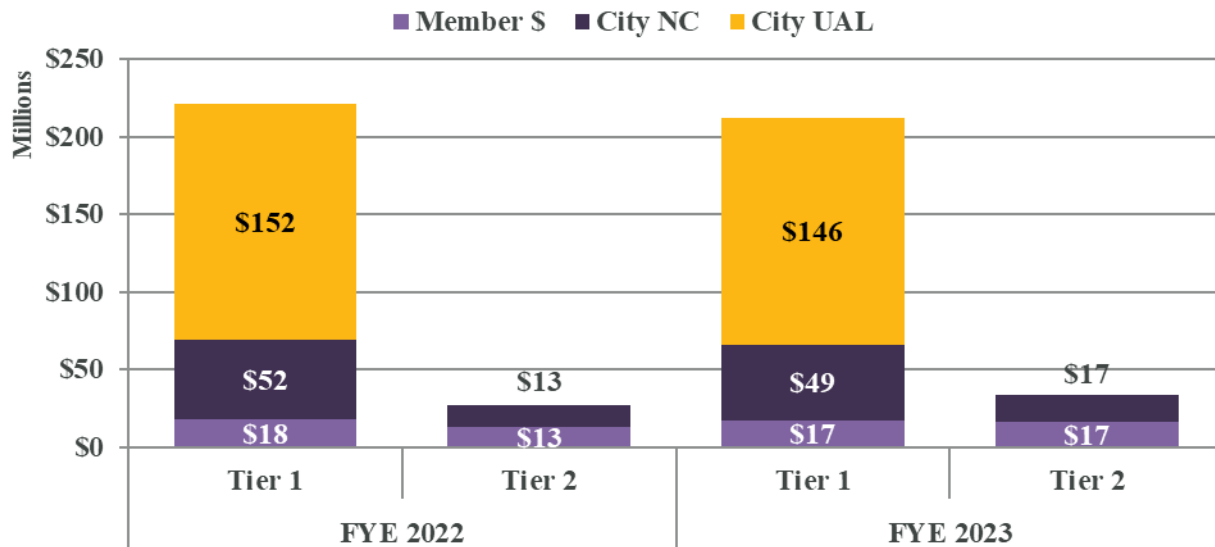
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**SECTION I – BOARD SUMMARY**

**Table I-5**

<b>Contribution Rates and Amounts</b> (Throughout the Year)			
	<b>FYE 2023</b>	<b>FYE 2022</b>	<b>Change</b>
<b>Member Rates</b>			
Tier 1			
Police	11.03%	10.89%	0.14%
Fire	12.12%	11.92%	0.20%
Tier 2			
Police	14.37%	14.43%	-0.06%
Fire	15.18%	15.28%	-0.10%
<b>Aggregate</b>	<b>12.87%</b>	<b>12.58%</b>	<b>0.29%</b>
<b>City Contributions</b>			
Tier 1 UAL	\$ 146,040	\$ 151,808	\$ (5,768)
Tier 1 Normal Cost (Including Admin Expenses)	\$ 49,389 33.76%	\$ 51,589 33.03%	\$ (2,199) 0.73%
Tier 2 Contribution	\$ 16,597 14.58%	\$ 13,460 14.66%	\$ 3,137 -0.08%
<b>Aggregate</b>	<b>\$ 212,026 81.51%</b>	<b>\$ 216,856 87.43%</b>	<b>\$ (4,830) -5.93%</b>

*Dollar amounts in thousands*

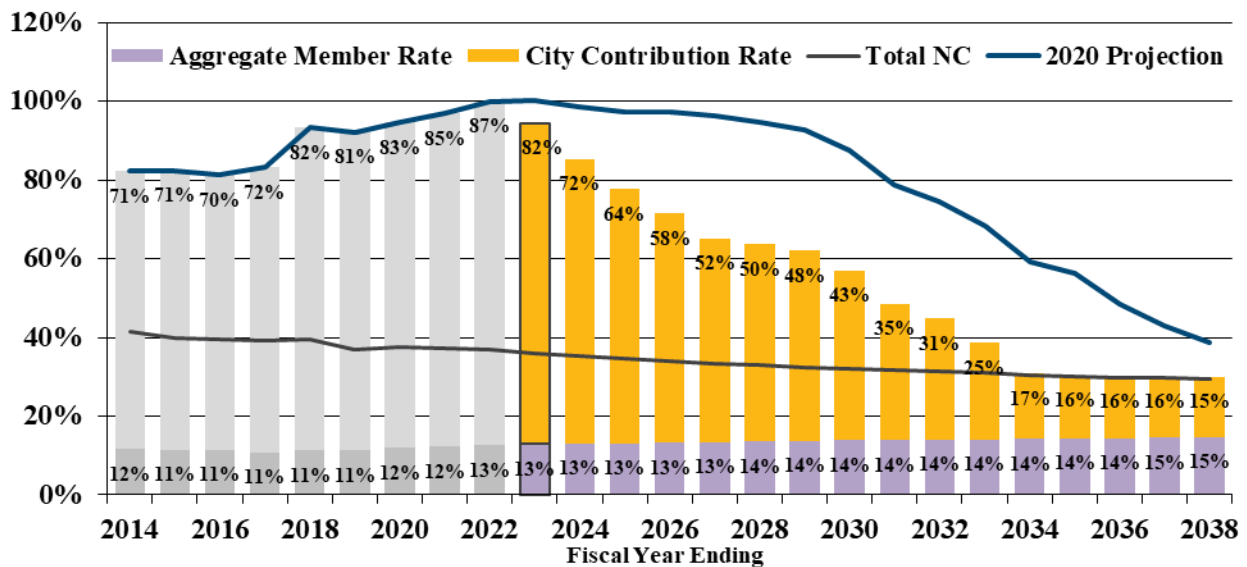


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The chart below shows historical and projected aggregate contribution rates compared to those projected in the prior valuation. The purple bars are weighted average member contribution rates for Police and Fire for both Tier 1 and Tier 2. The gold bars are weighted average City contribution rates for Police and Fire for both Tier 1 and Tier 2. The gray bars represent historical amounts. The projected rates assume that all assumptions are met. The black line shows the weighted average normal cost rate, which is projected to decline as Tier 1 members are replaced by Tier 2 members. All contribution rates above the normal cost rate represent payments toward the UAL. The blue line represents the projection from the prior valuation.

**Historical and Projected Aggregate Contribution Rates**



City contribution rates increased 17% of payroll from FYE 2016 to FYE 2022 but now will decrease almost 6% of payroll, from 87.4% for FYE 2022 to 81.5% for FYE 2023 due primarily to the exceptional investment returns in 2021. Future City contribution rates are expected to decline significantly over the next four years as the 2021 investment gains are recognized in the Actuarial Value of Assets and decline more gradually thereafter as portions of the UAL are fully amortized.

While there is strong downward pressure on City contribution rates, as shown at the bottom of the dashboard (page 2), there is a wide range of potential future contribution rates due to the volatility of investment returns. As a result, the range of contribution rates from the 5<sup>th</sup> to the 95<sup>th</sup> percentile in FYE 2029 (based on a valuation six years from now), is from 19% of payroll to 109% of payroll. Such a wide range is due to the combination of the size of the assets compared to payroll and the standard deviation of the investment portfolio. For these projections, we used a 6.625% expected return and 13.1% standard deviation.

Section VI of this report provides additional detail on the contribution rates and the amortization schedules separately by Tier and for Police and Fire.

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**SECTION II – IDENTIFICATION AND ASSESSMENT OF 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 be significantly different. 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.

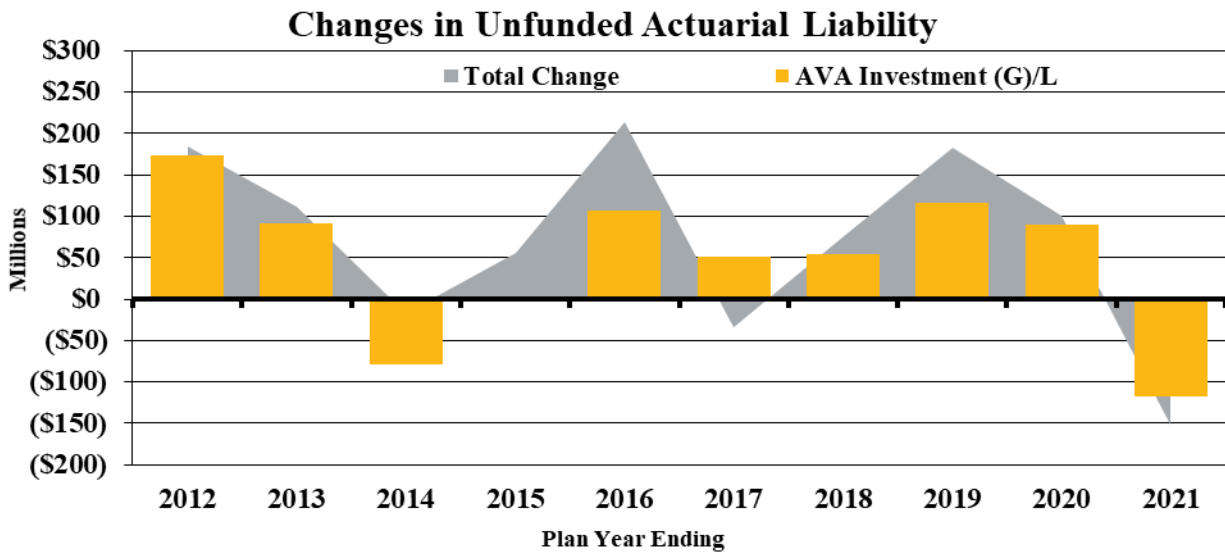
**Identification of Risks**

As we have discussed with the Board, the fundamental risk to the Plan is that the contributions needed to pay the benefits become unaffordable. While there are a number of factors that could lead to contribution amounts becoming unaffordable, we believe the primary risks for this Plan are:

- Investment risk,
- Interest rate risk, and
- Assumption change 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 sponsor.



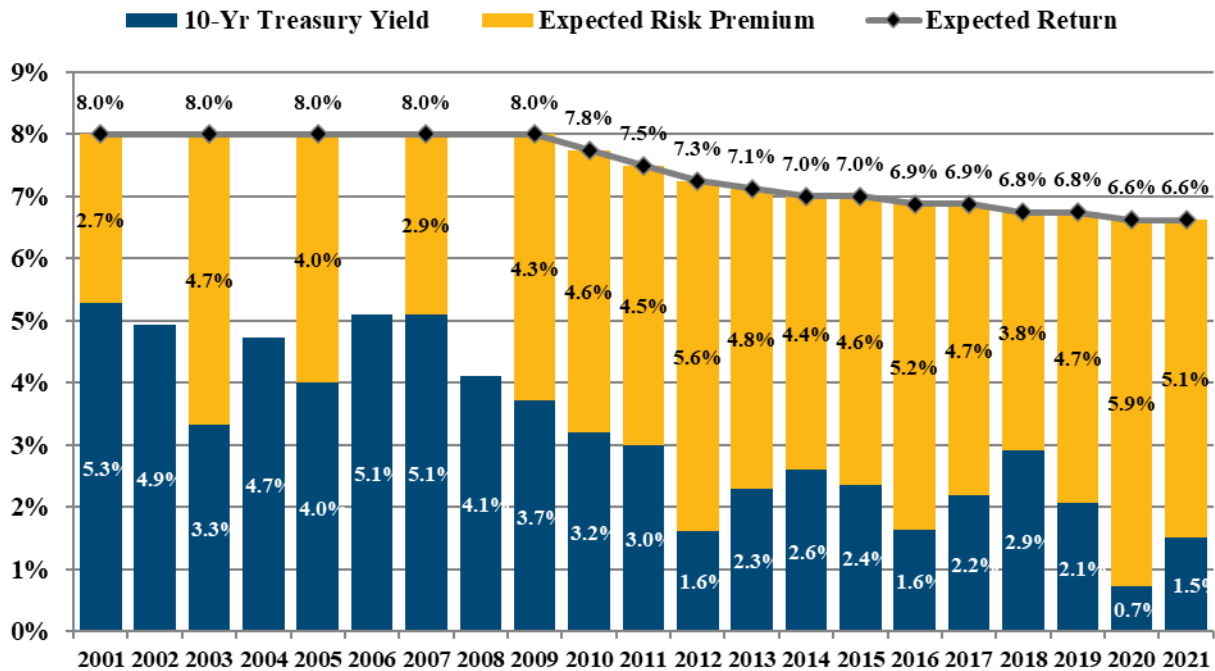
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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**

The chart on the previous page shows the impact of investment gains and losses on the smoothed Actuarial Value of Assets over the last 10 years compared to the Plan’s total change in UAL. Investment losses have been a significant contributor to the growth in the UAL.

*Interest rate risk* is the potential for interest rates to be different than expected. For public plans, short-term fluctuations in interest rates have little or no effect as the plan’s liability is usually measured based on the expected return on assets. Longer-term trends in interest rates; however, can have a powerful effect. The chart below shows the yield on a 10-year Treasury security compared to the plan’s assumed rate of return. The difference is a simple measure of the amount of investment risk taken. As interest rates have declined, plans faced a choice: maintain the same level of risk and reduce the expected rate of return; maintain the same expected rate of return and take on more investment risk; or some combination of the two strategies.

**San Jose P&F Expected Risk Premium**

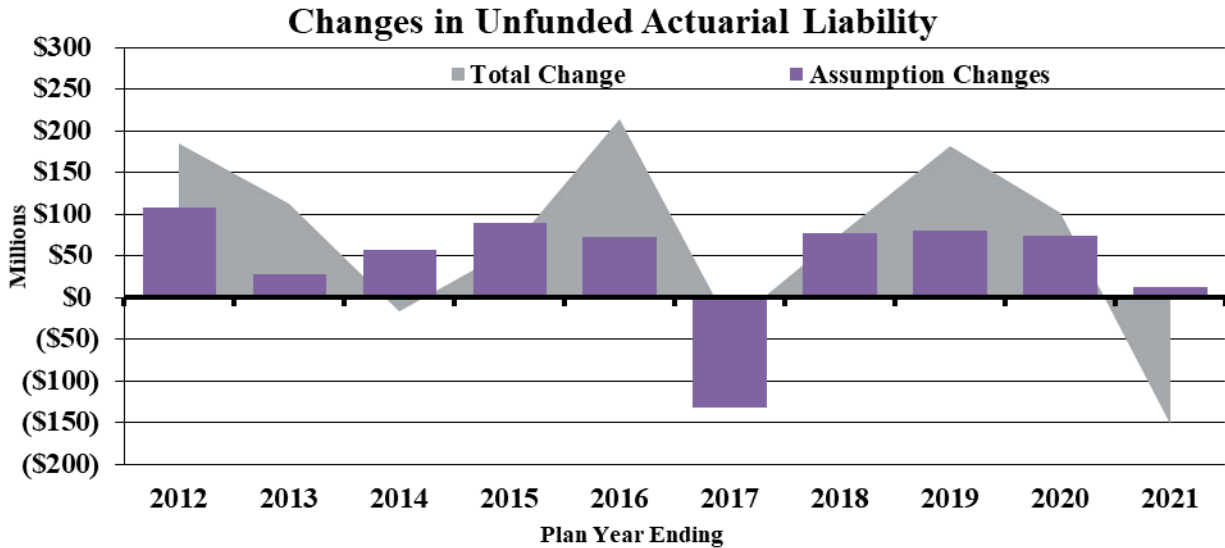


*Assumption change risk* is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed-income investments, but lower 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.

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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**

As shown in the chart below, there have been consistent changes in assumptions increasing the UAL. Most of these changes are due to reducing the discount rate from 7.5% to 6.625% over this period, but it also includes changes to demographic assumptions such as mortality and retirement rates. The reductions in the discount rate largely reflect the impact of declining interest rates on future expected investment returns.



**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 compared to other plans and how the maturity has changed over time.

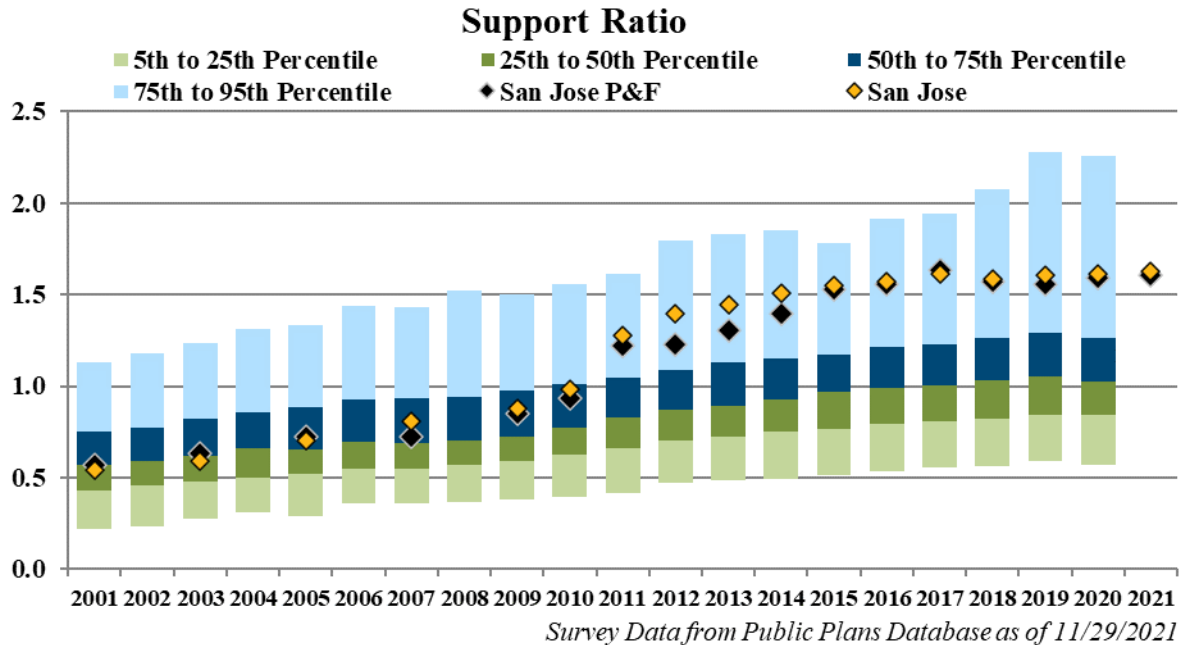
Plan maturity can be measured in a variety of ways, but all of the measures point to one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding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

**Support Ratio (Inactives per Active)**

One simple measure of plan maturity is the ratio of the number of inactive members (those receiving benefits or entitled to a deferred benefit) to the number of active members. The revenue base supporting the plan is usually proportional to the number of active members, so a relatively high number of inactives compared to actives indicate a larger plan relative to its revenue base as well.

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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**



The chart above shows the distribution from the 5<sup>th</sup> to 95<sup>th</sup> percentile of support ratios for the plans in the Public Plans Database. The black diamond shows how San José Police and Fire compares, and the gold diamond shows how the combined Federated and Police and Fire plans compare. Through 2007, the Plan was in the middle of the distribution even as the support ratio increased. However, after the Great Recession, the Plan’s support ratio increased dramatically and is now among the highest compared to the plans in the database.

**Leverage Ratios**

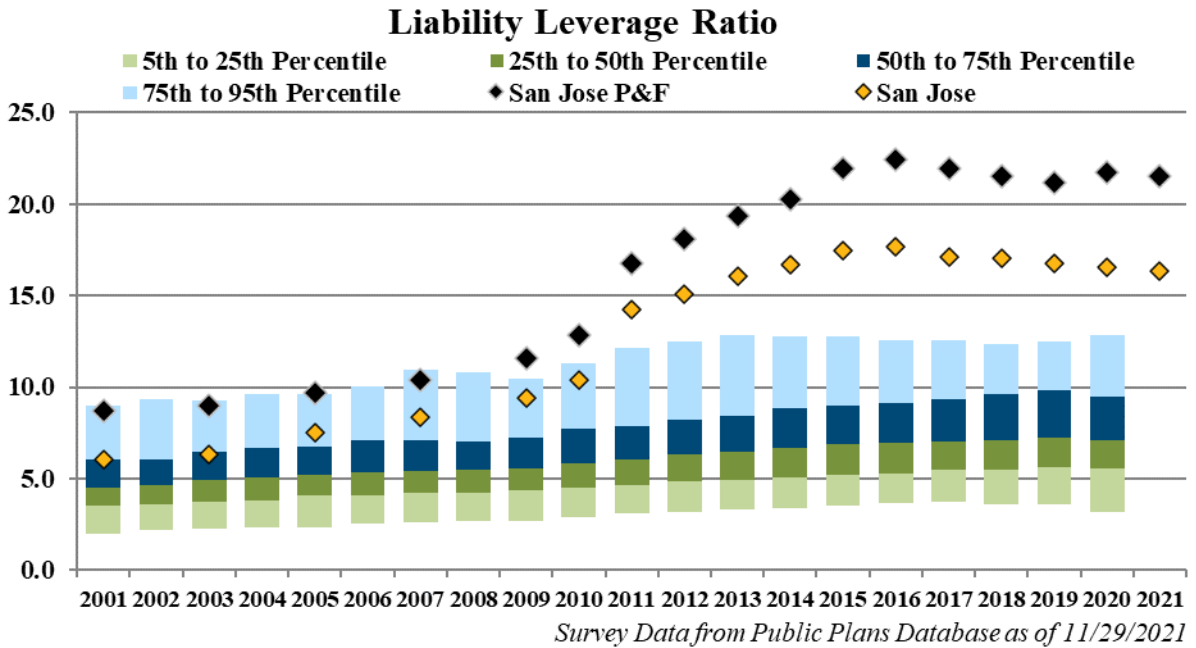
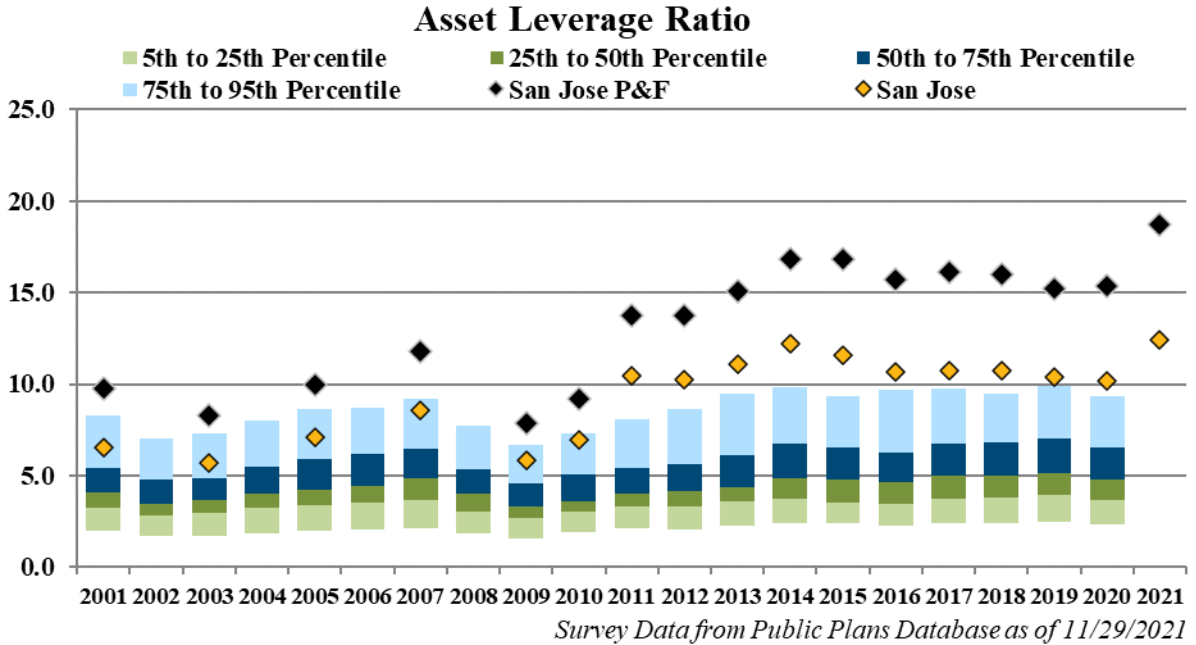
Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. An asset leverage ratio of 5.0, for example, means that if the Plan experiences a 10% loss on assets compared to the expected return, the loss would be equivalent to 50% of payroll. The same investment loss for a plan with an asset leverage ratio of 10.0 would be equivalent to 100% of payroll.

As the Plan becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the leverage ratio would equal the Actuarial Liability (AL) leverage ratio. The AL leverage ratio also indicates how sensitive the Plan is to experience gains and losses or assumption changes. For example, an assumption change that increases the AL by 5% would add a liability equivalent to about 50% of payroll if the AL leverage ratio is 10.0.



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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**



The charts above show the distribution from the 5<sup>th</sup> to 95<sup>th</sup> percentile of the Market Value of Assets and Actuarial Liability leverage ratios for the plans in the Public Plans Database. The black diamond shows how San José Police and Fire compares, and the gold diamond shows how the combined Federated and Police and Fire plans compare. As we have discussed with the Board for several years and as is shown in the charts above, the leverage ratios for the Police and Fire Plan are much higher than most plans. As a Police and Fire plan, it is not unusual to be at

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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**

the high end of the distribution, but even when combined with Federated, the leverage ratios are still very high, indicating that San José is much more sensitive to risk than most plans. In the last year, this sensitivity has worked to San Jose’s advantage as the exceptional investment returns of 2021 have had a more dramatic impact on the City’s contribution rates than for other plans. However, this growth in assets has further heightened the sensitivity to investment returns.

**Assessing Costs and Risks**

The fundamental risk to the Plan is that the contributions needed to fund the benefits become unaffordable. Assessing this risk, however, is complex because there is no bright line of what is unaffordable and the contribution amounts themselves are affected not just by the experience of the Plan, but also by the interaction of that experience and decisions by the Board related to assumptions, asset smoothing methods, and amortization periods.

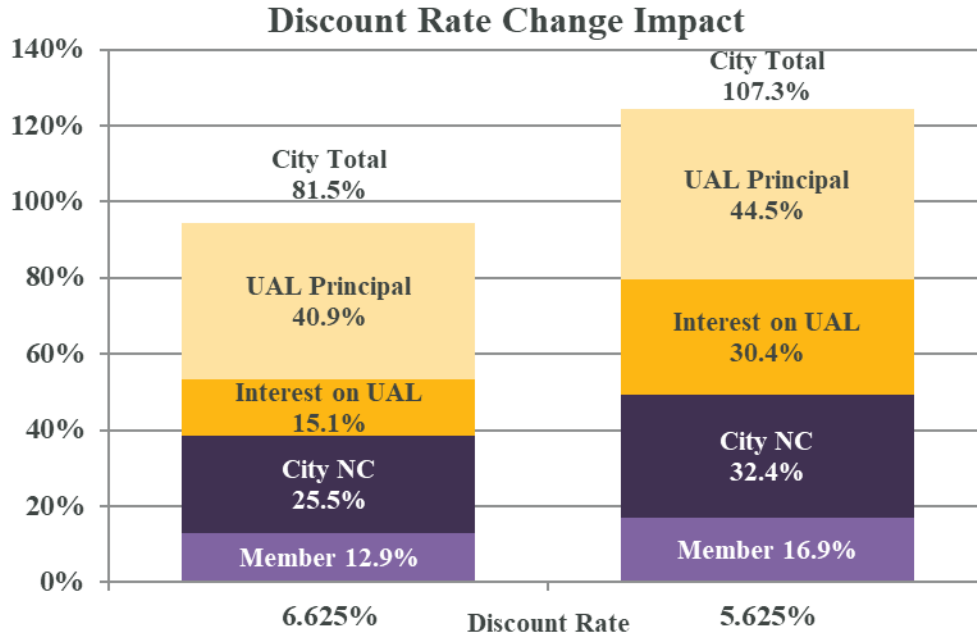
**Point in Time Assessments**

To assess the risks of the Plan independent of the contribution strategy, there are two measures on which to focus: normal cost and interest cost. The normal cost represents the expected cost of the benefits attributable to the next year of service. The interest cost represents the interest on the UAL calculated using the discount rate. Combined, the normal cost plus the interest cost are referred to as the Tread Water Cost. If actual contributions are less than the Tread Water Cost, the UAL would be expected to grow; and, if actual contributions are greater than the Tread Water Cost, the UAL would be expected to shrink.

The stacked bars in the chart on the following page shows the aggregate member and City contribution rates at the current discount rate compared to a discount rate 100 basis points lower. The light purple bars are the member contribution rates, and the dark purple bars are the City’s normal cost rate, representing the expected cost of benefits attributable to the next year of service. The dark gold bars are the interest on the UAL, and the light gold bars are the contributions to reduce the principal of the UAL.

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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**



Decreasing the discount rate by 100 basis points would increase the member rates about 4% of payroll and the City’s normal cost rate by almost 7% of payroll. The interest on the UAL would increase by about 15% of payroll. Using the current amortization methods, the City’s total contribution rate would increase by almost 26% of payroll to about 107% of pay.

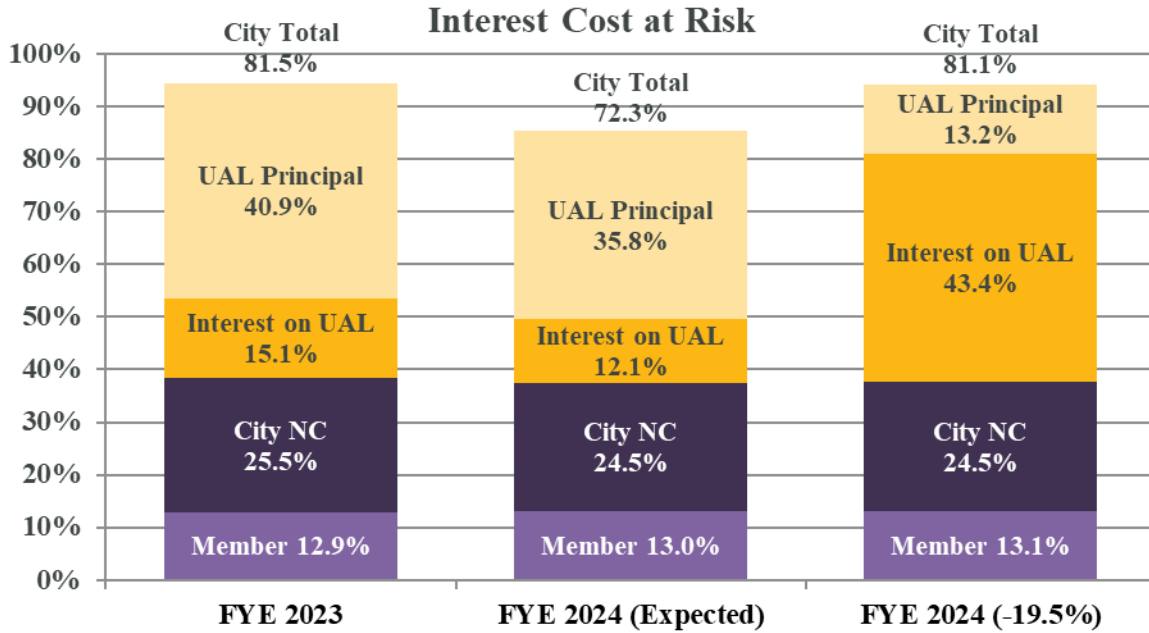
The declines in discount rates over the last decade or more have been largely driven by declines in interest rates that affect expectations of future investment returns. If the declines in interest rates since the pandemic began persist or if there is a desire or need to reduce investment risk that reduces expected returns, the discount rate may need to be reduced further and the normal cost and interest cost will increase.

Actual investment returns do not affect the normal cost, but they directly affect the interest on the UAL. One simple measure of the risk inherent in the investment policy is the Interest Cost at Risk (ICaR), which is the amount that the interest on the UAL would increase if the investment returns for one year were two standard deviations below the expected return. Based on the capital market assumptions of Meketa, the standard deviation for the current portfolio is 13.06%, making the investment return used to determine ICaR -19.5% (6.625% – 2 x 13.06%).

The chart on the next page shows the contribution rates for FYE 2023, determined in this valuation report in the far left bar graph and the expected FYE 2024 contribution rates based on a 6.625% investment rate of return for FYE 2022, in the middle of the chart. The FYE 2024 bar graph on the right shows the impact of a -19.5% return for FYE 2022. The interest on the UAL would increase by 31% of pay. Using 5-year asset smoothing with a 20% corridor and a 15-year amortization the total contribution rate would increase by 8.8% of pay. The City contribution rate for FYE 2024 in this scenario would be 81.1% of pay and expected to increase in future years.

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**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK**



**Stochastic Projections**

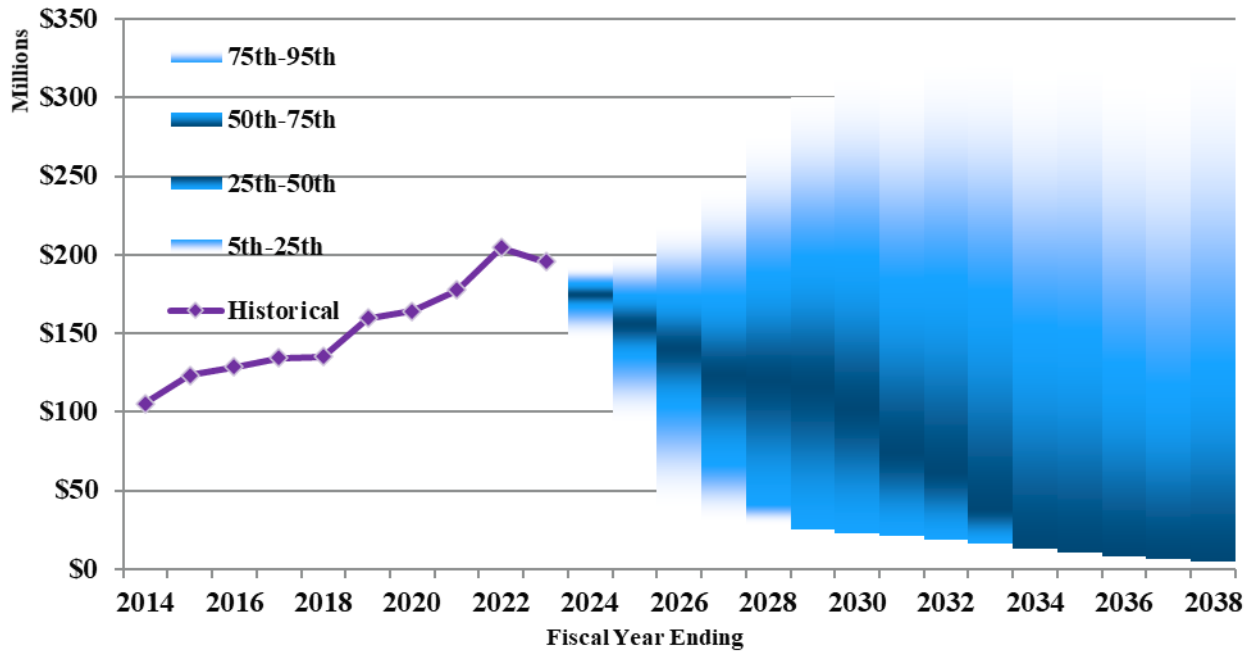
If experience has taught us anything, it is that there is a significant level of uncertainty in projections of the future. The largest source of uncertainty is the projection of investment returns. In order to better understand the potential impact of investment returns on the Plan, we have included some stochastic projections in the dashboard and in this section of the report. The stochastic projections are based on a 6.625% geometric return and a 13.1% standard deviation (based on Meketa’s capital market assumptions). Each projection contains 10,000 trials.

The chart on the next page shows the historical and stochastically projected City contribution amounts for Tier 1. The purple line represents the amounts paid historically or the amounts already determined by an actuarial valuation. The projected amounts are shown as bars that are dark blue at the median of the 10,000 trials and fade to white as the range extends to the 5<sup>th</sup> and 95<sup>th</sup> percentiles of the 10,000 trials. This range is intended to convey the degree of uncertainty in the projections based on future investment returns.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

Historical and Stochastically Projected Tier 1 City Contribution Amounts



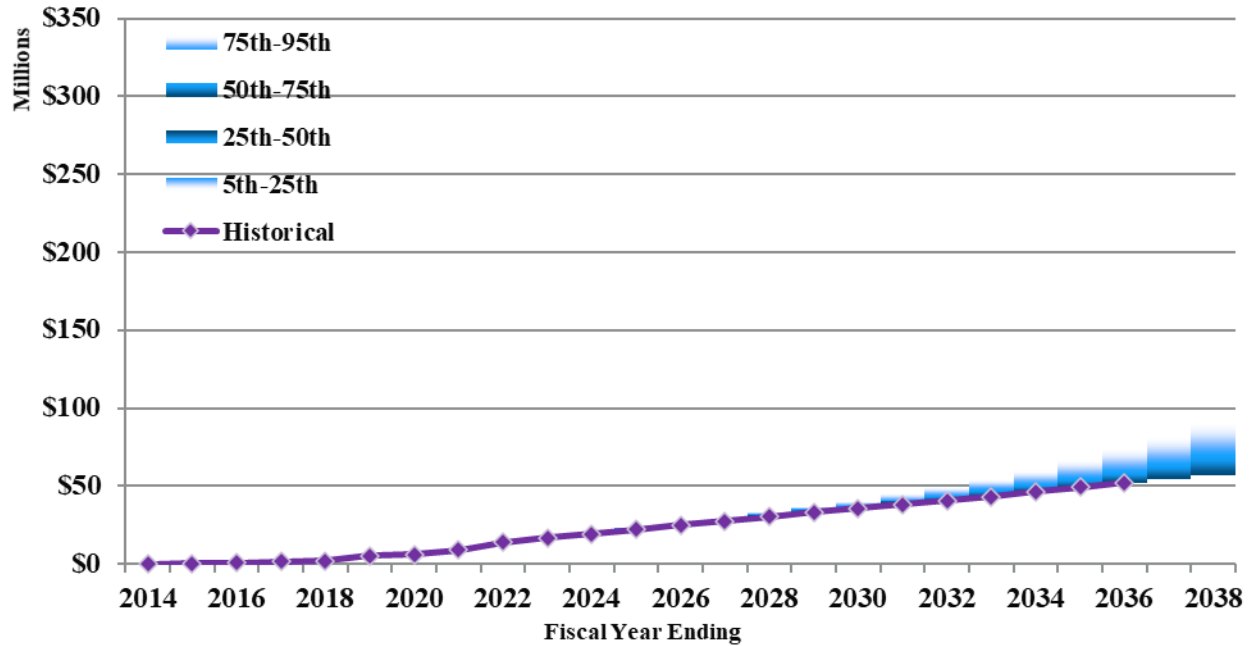
The chart shows a strong downward trend with a very wide range of potential City contribution amounts depending on actual investment returns. The range between the 5<sup>th</sup> and 95<sup>th</sup> percentile for FYE 2029 (based on the 2027 actuarial valuation) is from a contribution of \$25 million to a contribution of \$300 million. This range is largely driven by the standard deviation of the investment portfolio.

The chart on the following page shows the historical and stochastically projected City contribution amounts for Tier 2. The range of contribution amounts is much narrower for Tier 2 than Tier 1. Tier 2 is projected to grow quickly and assets are relatively small right now. As a result, actual investment returns have a limited impact on future contribution amounts while the rate of growth will have a larger impact.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

Historical and Stochastically Projected Tier 2 City Contribution Amounts



**More Detailed Assessment**

A more detailed assessment is always valuable to enhance the understanding of the risks identified above. While more detail would provide some additional value, we don't believe it is necessary to perform an in-depth analysis every year. Consequently, we recommend the Board review the less detailed analysis provided above annually and consider a more detailed analysis periodically and when there is a substantial change in the financial position or maturity of the plan.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION III – CERTIFICATION**

The purpose of this report is to present the June 30, 2021 Actuarial Valuation of the City of San José Police and Fire Department Retirement Plan (“Plan”). This report is for the use of the Plan and the City of San José.

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

The economic and demographic assumptions used in this report were adopted by the Board of Administration with our input at the November 4, 2021 Board meeting based on recommendations from our experience study covering plan experience for the period ending June 30, 2021. We believe these assumptions are reasonable for the purpose of the valuation.

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

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 projections in this valuation report were developed using P-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 System. P-scan uses standard roll-forward techniques that implicitly assume a stable active population. Because P-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

Stochastic projections in this valuation report were developed using R-scan, our proprietary tool for assessing the probability of different outcomes based on a range of potential investment returns. We relied on Cheiron colleagues for the development of the model. The stochastic projections of investment returns assume that each future year’s investment return is independent from all other years and is identically distributed according to a lognormal distribution. The standard deviation used in the stochastic projection of investment returns was provided by the System’s investment consultant.

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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION III – CERTIFICATION**

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.

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



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



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



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION IV – ASSETS**

The Plan uses and discloses two different asset measurements which are presented in this section of the report: Market Value and Actuarial Value of Assets. The Market Value of Assets represents the value of the assets if they were liquidated on the valuation date. The Actuarial Value of Assets is a value that smooths annual investment returns over five years to reduce the impact of short-term investment volatility on contribution rates. The Market Value of Assets is used primarily for reporting and disclosure, and the Actuarial Value of Assets is used primarily to determine contribution rates.

This section shows the changes in the Market Value of Assets and develops the Actuarial Value of Assets.

**Statement of Changes in the Market Value of Assets**

Table IV-1 shows the changes in the Market Value of Assets by tier for the current fiscal year and in total for the prior fiscal year.

**Table IV-1**

	Fiscal Year Ending 2021				FYE 2020
	Tier 1	Tier 2 Fire	Tier 2 Police	Total	Total
Beginning Market Value	\$ 3,653,869	\$ 12,465	\$ 35,689	\$ 3,702,023	\$ 3,588,423
Contributions					
Member	18,557	2,717	7,759	29,033	27,645
City	190,894	2,717	7,759	201,370	188,481
Total	\$ 209,451	\$ 5,434	\$ 15,519	\$ 230,404	\$ 216,126
Net Investment Earnings	1,027,760	4,288	12,241	1,044,290	134,086
Benefit Payments	(244,006)	(23)	(281)	(244,310)	(231,007)
Administrative Expenses	(5,692)	(17)	(55)	(5,764)	(5,605)
Market Value, End of Year	<b>\$ 4,641,382</b>	<b>\$ 22,146</b>	<b>\$ 63,113</b>	<b>\$ 4,726,642</b>	<b>\$ 3,702,023</b>
Estimated Rate of Return	27.6%	28.3%	28.3%	27.6%	3.7%

*Dollar amounts in thousands*

The net investment earnings for the year ended June 30, 2021 represents approximately a 27.6% return on the Market Value of Assets compared to an assumed return of 6.625%. For the year ended June 30, 2020, the net investment return was approximately 3.7% (6.75% was assumed).

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION IV – ASSETS**

**Actuarial Value of Assets**

To determine on-going contribution amounts, most pension funds use an Actuarial Value of Assets that smooths year-to-year market value returns to reduce the volatility of contribution rates.

The Actuarial Value of Assets is calculated by recognizing the deviation of actual investment returns compared to the expected return (6.625% for FYE 2021, 6.75% for FYE's 2019 and 2020, and 6.875% for FYE's 2017 and 2018) over a five-year period. The dollar amount of the expected return on the Market Value of Assets is determined using the actual contributions, benefit payments, and administrative expenses during the year. Any difference between the expected return and the actual net investment earnings is considered a gain or loss. Table IV-2 on the next page shows the calculation of the Actuarial Value of Assets separately for each tier. For each of the last four years, it shows the actual earnings, the expected earnings, the gain or loss, and the portion of the gain or loss that is not recognized in the current Actuarial Value of Assets. These deferred amounts will be recognized in future years.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
JUNE 30, 2021 ACTUARIAL VALUATION REPORT**

**SECTION IV – ASSETS**

**Table IV-2**

<b>Development of Actuarial Value of Assets</b>					
	<b>Fiscal Year Ending 2021</b>				<b>FYE 2020</b>
	<b>Tier 1</b>	<b>Tier 2 Fire</b>	<b>Tier 2 Police</b>	<b>Total</b>	<b>Total</b>
Market Assets (MVA)	\$ 4,641,382	\$ 22,146	\$ 63,113	\$ 4,726,642	\$ 3,702,023
<b>FYE 2021</b>					
Actual Earnings	\$ 1,027,760	\$ 4,288	\$ 12,241	\$ 1,044,290	\$ 134,086
Expected Earnings	<u>247,182</u>	<u>1,002</u>	<u>2,859</u>	<u>251,043</u>	<u>247,714</u>
Investment Gain/(Loss)	780,578	3,287	9,382	793,247	(113,628)
Deferred (80%)	\$ 624,463	\$ 2,629	\$ 7,506	\$ 634,598	(90,902)
<b>FYE 2020</b>					
Actual Earnings	\$ 132,650	\$ 373	\$ 1,064	\$ 134,086	\$ 114,180
Expected Earnings	<u>245,136</u>	<u>669</u>	<u>1,909</u>	<u>247,714</u>	<u>241,113</u>
Investment Gain/(Loss)	(112,486)	(296)	(845)	(113,628)	(126,934)
Deferred (60%)	(67,492)	(178)	(507)	(68,177)	(76,160)
<b>FYE 2019</b>					
Actual Earnings	\$ 113,422	\$ 197	\$ 560	\$ 114,180	\$ 233,474
Expected Earnings	<u>239,559</u>	<u>404</u>	<u>1,150</u>	<u>241,113</u>	<u>230,741</u>
Investment Gain/(Loss)	(126,137)	(207)	(589)	(126,934)	2,733
Deferred (40%)	(50,455)	(83)	(236)	(50,773)	1,093
<b>FYE 2018</b>					
Actual Earnings	\$ 232,623	\$ 212	\$ 640	\$ 233,474	\$ 292,733
Expected Earnings	<u>229,924</u>	<u>203</u>	<u>614</u>	<u>230,741</u>	<u>212,514</u>
Investment Gain/(Loss)	2,699	9	26	2,733	80,220
Deferred (20%)	540	2	5	547	16,044
<b>Total Deferred Gain/(Loss)</b>	<b>\$ 507,056</b>	<b>\$ 2,371</b>	<b>\$ 6,768</b>	<b>\$ 516,194</b>	<b>\$ (149,925)</b>
Preliminary Actuarial Value of Assets	\$ 4,134,326	\$ 19,776	\$ 56,345	\$ 4,210,447	\$ 3,851,948
Minimum (80% of MVA)	\$ 3,713,106	\$ 17,717	\$ 50,490	\$ 3,781,313	\$ 2,961,618
Maximum (120% of MVA)	\$ 5,569,659	\$ 26,576	\$ 75,736	\$ 5,671,970	\$ 4,442,427
<b>Actuarial Value of Assets</b>	<b>\$ 4,134,326</b>	<b>\$ 19,776</b>	<b>\$ 56,345</b>	<b>\$ 4,210,447</b>	<b>\$ 3,851,948</b>
Ratio of Actuarial to Market	89.1%	89.3%	89.3%	89.1%	104.0%
Estimated Rate of Return	9.6%	10.1%	10.1%	9.6%	4.4%

*Dollar amounts in thousands*

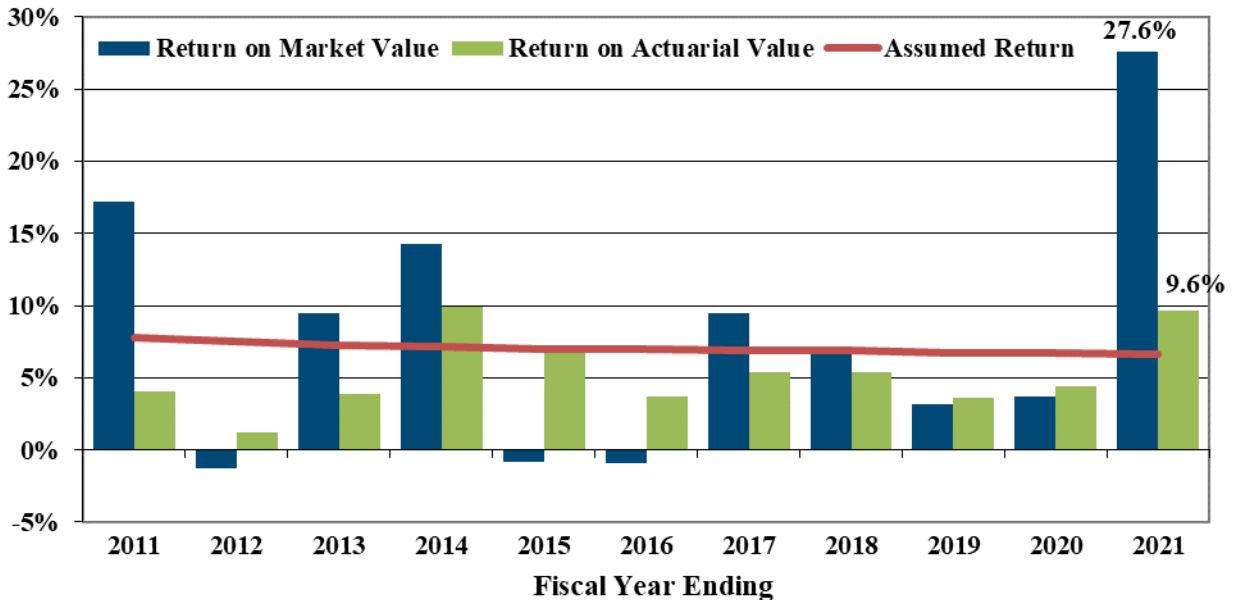
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**SECTION IV – ASSETS**

On the basis of the smoothed Actuarial Value of Assets, the return for the year ending June 30, 2021 was approximately 9.6%, compared to the assumed return of 6.625%. The estimated rate of return varies by tier, reflecting the different cash flows for each tier and the different levels of assets for each tier in each of the last four years.

The chart below shows the historical rates of return on both the Market and Actuarial Values of Assets compared to the assumed rates of return (the red line). Because of the 5-year smoothing, the return on the actuarial value is less volatile than the return on the market value. While the return on the market value exceeded the assumed return in six of the 11 years, the return on the Actuarial Value of Assets only exceeded the assumed return in three of the 11 years. The returns on the Actuarial Value of Assets from 2011 through 2013 include recognition of deferred investment losses from 2009.

**Expected vs. Actual Rates of Return**



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**SECTION V – MEASURES OF LIABILITY**

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

- Present Value of Future Benefits,
- Normal cost
- Actuarial Liability, and
- Analysis of changes in the Unfunded Actuarial Liability during the year.

**Present Value of Future Benefits**

The present value of future benefits represents the amount of money today that is expected to be needed to pay all benefits both earned as of the valuation date and expected to be earned in the future by current plan members under the current plan provisions if all assumptions are met. Table V-1 below shows the present value of future benefits as of June 30, 2021 and June 30, 2020 separately by Tier for Police and Fire. Police Tier 2 members entered the Plan beginning August 4, 2013. Fire Tier 2 members entered the Plan beginning January 2, 2015.

**Table V-1**

<b>Present Value of Future Benefits</b>							
	Fire			Police			
	6/30/2021	6/30/2020	% Change	6/30/2021	6/30/2020	% Change	
<b>Tier 1</b>							
Actives	\$ 876,168	\$ 886,507	-1.2%	\$ 1,027,171	\$ 1,078,109	-4.7%	
Deferred Vested	11,139	6,637	67.8%	90,064	87,286	3.2%	
In Pay Status							
Service Retirees	\$ 596,742	\$ 538,126	10.9%	\$ 1,700,871	\$ 1,566,635	8.6%	
Beneficiaries	93,397	90,486	3.2%	111,408	101,870	9.4%	
Disabled Retirees	<u>634,111</u>	<u>641,904</u>	<u>-1.2%</u>	<u>636,562</u>	<u>621,451</u>	<u>2.4%</u>	
Total	\$ 1,324,250	\$ 1,270,516	4.2%	\$ 2,448,841	\$ 2,289,956	6.9%	
<b>Tier 1 Total</b>	<b>\$ 2,211,557</b>	<b>\$ 2,163,660</b>	<b>2.2%</b>	<b>\$ 3,566,076</b>	<b>\$ 3,455,351</b>	<b>3.2%</b>	
<b>Tier 2</b>							
Actives	\$ 107,263	\$ 87,189	23.0%	\$ 250,296	\$ 183,769	36.2%	
Deferred Vested	95	103	-7.8%	1,171	950	23.3%	
In Pay Status	<u>0</u>	<u>0</u>	<u>N/A</u>	<u>0</u>	<u>0</u>	<u>N/A</u>	
<b>Tier 2 Total</b>	<b>\$ 107,358</b>	<b>\$ 87,292</b>	<b>23.0%</b>	<b>\$ 251,467</b>	<b>\$ 184,719</b>	<b>36.1%</b>	
<b>Plan Total</b>	<b>\$ 2,318,915</b>	<b>\$ 2,250,952</b>	<b>3.0%</b>	<b>\$ 3,817,543</b>	<b>\$ 3,640,070</b>	<b>4.9%</b>	

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION V – MEASURES OF LIABILITY**

**Normal Cost**

Under the Entry Age (EA) actuarial cost method, the present value of future benefits for each individual is spread over the individual’s expected working career under the Plan as a level percentage of the individual’s expected pay. The normal cost rate is determined by taking the value of each member’s projected future benefits divided by the value of each member’s expected future salary, both at entry age into the Plan. The normal cost rate is multiplied by current salary to determine each member’s normal cost. The normal cost of the Plan is the sum of the normal costs for each individual in the Plan. The normal cost represents the amount of money today that is expected to be needed to pay the benefits attributed to the next year of service if all assumptions are met. Table V-2 below shows the EA normal cost and total normal cost rates as of June 30, 2021 and June 30, 2020 separately by Tier for Police and Fire, as well as a breakdown of the normal cost rate between the Retirement and COLA funds.

**Table V-2**

<b>Entry Age Normal Cost By Group</b>								
	Fire			Police				
	6/30/2021	6/30/2020	% Change	6/30/2021	6/30/2020	% Change		
<b>Tier 1</b>								
Retirement	\$ 17,845	\$ 18,097	-1.4%	\$ 15,389	\$ 16,316	-5.7%		
Termination	1,259	1,289	-2.4%	5,182	5,535	-6.4%		
Death	291	287	1.4%	284	295	-3.8%		
Disability	11,009	10,992	0.2%	11,467	12,153	-5.6%		
Reciprocity	<u>168</u>	<u>172</u>	<u>-2.3%</u>	<u>818</u>	<u>878</u>	<u>-6.9%</u>		
<b>Tier 1 Total</b>	<b>\$ 30,572</b>	<b>\$ 30,838</b>	<b>-0.9%</b>	<b>\$ 33,140</b>	<b>\$ 35,178</b>	<b>-5.8%</b>		
<b>Expected Payroll</b>	<b>\$ 70,153</b>	<b>\$ 71,971</b>	<b>-2.5%</b>	<b>\$ 82,543</b>	<b>\$ 88,897</b>	<b>-7.1%</b>		
<b>Normal Cost Rate</b>	<b>43.58%</b>	<b>42.85%</b>	<b>0.73%</b>	<b>40.15%</b>	<b>39.57%</b>	<b>0.58%</b>		
Retirement	29.71%	29.19%	0.52%	27.62%	27.22%	0.40%		
COLA	13.87%	13.66%	0.21%	12.53%	12.35%	0.18%		
<b>Tier 2</b>								
Retirement	\$ 2,414	\$ 1,971	22.5%	\$ 6,166	\$ 4,561	35.2%		
Termination	201	164	22.2%	3,214	2,445	31.5%		
Death	73	59	24.7%	197	148	33.9%		
Disability	<u>2,762</u>	<u>2,231</u>	<u>23.8%</u>	<u>7,664</u>	<u>5,778</u>	<u>32.6%</u>		
<b>Tier 2 Total</b>	<b>\$ 5,450</b>	<b>\$ 4,424</b>	<b>23.2%</b>	<b>\$ 17,242</b>	<b>\$ 12,931</b>	<b>33.3%</b>		
<b>Expected Payroll</b>	<b>\$ 18,123</b>	<b>\$ 14,799</b>	<b>22.5%</b>	<b>\$ 60,661</b>	<b>\$ 46,118</b>	<b>31.5%</b>		
<b>Normal Cost Rate</b>	<b>30.07%</b>	<b>29.90%</b>	<b>0.17%</b>	<b>28.42%</b>	<b>28.04%</b>	<b>0.38%</b>		
Retirement	23.72%	23.56%	0.16%	22.37%	22.06%	0.31%		
COLA	6.35%	6.34%	0.01%	6.05%	5.98%	0.07%		

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION V – MEASURES OF LIABILITY**

**Actuarial Liability**

The Actuarial Liability represents the amount of money today that is expected to be needed to pay for benefits attributed to service prior to the valuation date under the EA method if all assumptions are met. It is the difference between the present value of future benefits and the present value of future normal costs. Table V-3 below shows the Actuarial Liability as of June 30, 2021 and June 30, 2020 separately by Tier for Police and Fire, as well as a breakdown of the Actuarial Liability between the Retirement and COLA funds.

**Table V-3**

<b>Actuarial Liability</b>							
	Fire			Police			
	6/30/2021	6/30/2020	% Change	6/30/2021	6/30/2020	% Change	
<b>Tier 1</b>							
Actives							
Retirement	\$ 492,312	\$ 487,648	1.0%	\$ 684,938	\$ 712,453	-3.9%	
Termination	5,027	5,291	-5.0%	4,374	5,237	-16.5%	
Death	1,480	1,479	0.1%	1,628	1,688	-3.6%	
Disability	<u>166,524</u>	<u>168,762</u>	<u>-1.3%</u>	<u>142,538</u>	<u>150,981</u>	<u>-5.6%</u>	
Total Actives	\$ 665,343	\$ 663,180	0.3%	\$ 833,478	\$ 870,359	-4.2%	
Deferred Vested	11,139	6,637	67.8%	90,064	87,286	3.2%	
In Pay Status	1,324,250	1,270,516	4.2%	2,448,841	2,289,956	6.9%	
<b>Tier 1 Total</b>	<b>\$ 2,000,732</b>	<b>\$ 1,940,333</b>	<b>3.1%</b>	<b>\$ 3,372,383</b>	<b>\$ 3,247,601</b>	<b>3.8%</b>	
Retirement	1,139,796	1,111,024	2.6%	1,894,841	1,838,997	3.0%	
COLA	860,936	829,309	3.8%	1,477,542	1,408,604	4.9%	
<b>Tier 2</b>							
Actives							
Retirement	\$ 9,002	\$ 6,078	48.1%	\$ 23,962	\$ 16,333	46.7%	
Termination	106	75	41.3%	5,387	4,024	33.9%	
Death	135	93	45.2%	349	247	41.3%	
Disability	<u>8,901</u>	<u>6,006</u>	<u>48.2%</u>	<u>19,436</u>	<u>13,491</u>	<u>44.1%</u>	
Total Actives	\$ 18,144	\$ 12,252	48.1%	\$ 49,134	\$ 34,095	44.1%	
Deferred Vested	\$ 95	\$ 103	N/A	\$ 1,171	\$ 950	23.3%	
<b>Tier 2 Total</b>	<b>\$ 18,239</b>	<b>\$ 12,355</b>	<b>47.6%</b>	<b>\$ 50,305</b>	<b>\$ 35,045</b>	<b>43.5%</b>	
Retirement	14,327	9,700	47.7%	39,194	27,251	43.8%	
COLA	3,912	2,655	47.3%	11,111	7,794	42.6%	
<b>Plan Total</b>	<b>\$ 2,018,971</b>	<b>\$ 1,952,688</b>	<b>3.4%</b>	<b>\$ 3,422,688</b>	<b>\$ 3,282,646</b>	<b>4.3%</b>	

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
JUNE 30, 2021 ACTUARIAL VALUATION REPORT**

**SECTION V – MEASURES OF LIABILITY**

Table V-4 below shows the development of the expected Unfunded Actuarial Liability as of June 30, 2021 and the sources experience gains and losses for each tier.

**Table V-4**

<b>Development of Experience Gain or (Loss)</b>			
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>
Unfunded actuarial liability, 6/30/2020	\$ 1,385,485	\$ (2,098)	\$ 1,383,387
Interest	91,788	(139)	91,649
Expected unfunded actuarial liability payment with interest	(145,811)	185	(145,626)
Change in assumptions/methods	12,264	125	12,389
<b>Expected unfunded actuarial liability, 6/30/2021</b>	<b>\$ 1,343,726</b>	<b>\$ (1,927)</b>	<b>\$ 1,341,799</b>
Actual unfunded actuarial liability	1,238,789	(7,577)	1,231,212
<b>Experience Gain or (Loss)</b>	<b>\$ 104,937</b>	<b>\$ 5,650</b>	<b>\$ 110,587</b>
Portion due to investment experience	115,097	2,098	\$ 117,195
Portion due to salary experience	(8,819)	(383)	(9,202)
Portion due to retirement experience	(2,685)	0	(2,685)
Portion due to termination experience	(4,271)	(2,130)	(6,401)
Portion due to mortality experience	5,640	113	5,753
Portion due to disability experience	985	2,368	3,353
Portion due to other asset and liability experience	(1,010)	3,584	2,574
<b>Total</b>	<b>\$ 104,937</b>	<b>\$ 5,650</b>	<b>\$ 110,587</b>

*Dollar amounts in thousands*



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION V – MEASURES OF LIABILITY**

Table V-5 below shows a five-year history of sources of liability gain and loss. Salary increases, particularly in 2017 are the primary source of losses.

**Table V-5**

<b>Historical Sources of Liability (Gain) or Loss</b>						
<b>Source</b>	<b>Year Ending June 30th</b>					<b>Total</b>
	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	
Salary increases	9,202	(14,405)	29,392	(8,207)	53,246	69,227
Retirement	2,685	(1,099)	(1,275)	(4,121)	4,080	270
Termination	6,401	4,229	3,238	(2,515)	331	11,683
Mortality	(5,753)	2,648	7,072	(450)	134	3,651
Disability	(3,353)	(7,377)	(7,130)	(2,628)	(485)	(20,972)
Other	(2,456)	653	3,755	2,796	4,517	9,266
<b>Total</b>	<b>\$ 6,726</b>	<b>\$ (15,351)</b>	<b>\$ 35,053</b>	<b>\$ (15,124)</b>	<b>\$ 61,823</b>	<b>\$ 73,126</b>

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

Under the contribution allocation procedure employed by the Plan, there are three components to the total contribution: the normal cost, assumed administrative expenses, and the Unfunded Actuarial Liability contribution. The normal cost rate was developed in Section V. This section develops the UAL and administrative expense contribution rates and divides the contributions between the members and the City.

Table VI-1 below shows the outstanding balance, remaining period, and amortization payments for each component of the Tier 1 member UAL as of June 30, 2021.

**Table VI-1**

Tier 1 Member UAL Amortization Bases and Payments						
Source	Date	Balance	Remaining Period	Amortization Payment		
				Fire	Police	Total
Rate Increase Delay	12/17/2006	17	1.0	0	19	19
Reclassified Classics	6/30/2016	53	13.0	1	4	5
Reclassified Fed Svc	6/30/2016	21	N/A	0	3	3
Reclassified Rehires	6/30/2016	301	N/A	5	20	25
<b>Total Members</b>		<b>\$ 392</b>		<b>\$ 6</b>	<b>\$ 45</b>	<b>\$ 51</b>
Retirement		202		3	27	30
COLA		190		3	18	21

*Dollar amounts in thousands*

The components attributable to reclassifying members from Tier 2 to Tier 1 due to rehire or prior Federated service are paid by the individual affected members at fixed special contribution rates of 1.96% and 0.87% respectively. These special contribution rates cease for an individual member when their portion of the UAL has been paid off. The payments for reclassified classic members are paid by all classic members. Table VI-2 below shows the calculation of the classic member special contribution rate for FYE 2023 and FYE 2022.

**Table VI-2**

Classic Member Contribution Rate						
	Fiscal Year Ending 2023			Fiscal Year Ending 2022		
	Retirement	COLA	Total	Retirement	COLA	Total
Classic UAL Payment	\$ 3	\$ 3	\$ 6	\$ 3	\$ 3	\$ 6
Expected Classic Payroll			\$ 3,101			\$ 2,679
<b>Classic Member Rate</b>	<b>0.09%</b>	<b>0.09%</b>	<b>0.18%</b>	<b>0.10%</b>	<b>0.12%</b>	<b>0.22%</b>

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

Table VI-3 on the following page shows the outstanding balance, remaining period, and amortization payments for each component of the Tier 1 City UAL as of June 30, 2021. Each component is amortized over the remaining period shown in the table with payments assumed to increase 2.25% each year. At the bottom of the table, the total is divided into the portion attributable to the basic retirement benefits and the portion attributable to COLA benefits. These amounts are used to set separate contribution rates for the basic retirement benefits and the COLA benefits portions of the Plan.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

**Table VI-3**

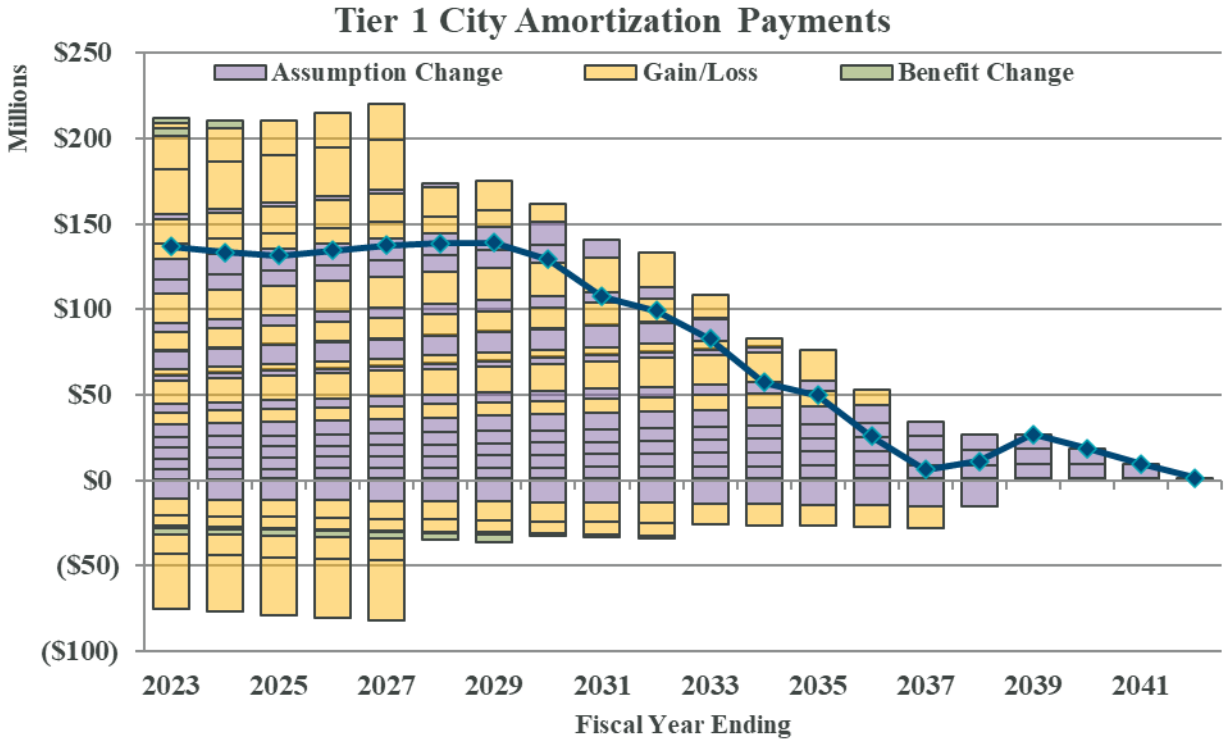
<b>Tier 1 City UAL Amortization Bases and Payments</b>						
<b>Source</b>	<b>Date</b>	<b>Balance</b>	<b>Remaining Period</b>	<b>Amortization Payment</b>		
				<b>Fire</b>	<b>Police</b>	<b>Total</b>
Experience Loss	6/30/2005	\$ 3,382	1.0	\$ 1,695	\$ 1,911	\$ 3,606
Ben Improvement	6/30/2005	2,770	1.0	0	2,954	2,954
Ben Improvement	6/30/2007	8,691	2.0	4,730	0	4,730
Experience Gain	6/30/2007	(51,775)	5.0	(5,634)	(6,351)	(11,985)
Assumption Change	6/30/2007	12,635	6.0	1,169	1,318	2,487
Experience Loss	6/30/2009	118,451	5.0	12,889	14,531	27,419
Assumption Change	6/30/2009	79,117	8.0	5,713	6,441	12,154
Experience Loss	6/30/2010	85,201	5.0	9,271	10,452	19,723
Assumption Change	6/30/2010	63,829	9.0	4,179	4,711	8,890
Experience Gain	6/30/2011	(144,139)	5.0	(15,684)	(17,682)	(33,366)
Assumption Change	6/30/2011	44,806	10.0	2,692	3,035	5,727
Experience Loss	6/30/2012	89,460	7.0	7,238	8,160	15,398
SRBR Elimination	6/30/2012	(21,817)	7.0	(1,765)	(1,990)	(3,755)
Assumption Change	6/30/2012	90,522	11.0	5,041	5,684	10,725
Experience Loss	6/30/2013	59,279	8.0	4,281	4,826	9,107
Assumption Change	6/30/2013	24,591	12.0	1,280	1,443	2,723
Experience Gain	6/30/2014	(50,557)	10.0	(3,038)	(3,425)	(6,462)
Assumption Change	6/30/2014	50,053	13.0	2,451	2,763	5,214
Experience Gain	6/30/2015	(8,374)	10.0	(503)	(567)	(1,070)
Assumption Change	6/30/2015	82,855	14.0	3,840	4,329	8,169
Experience Gain	6/30/2016	135,291	10.0	8,129	9,164	17,293
Assumption Change	6/30/2016	68,196	15.0	3,006	3,389	6,394
Measure F (Rehires)	6/30/2016	2,677	11.0	43	274	317
Experience Loss	6/30/2017	94,455	11.0	5,260	5,930	11,191
Assumption Change	6/30/2017	(125,366)	16.0	(5,278)	(5,950)	(11,228)
Measure F (Classic/Fed)	6/30/2018	87	12.0	1	9	10
Experience Loss	6/30/2018	38,082	12.0	1,982	2,234	4,216
Assumption Change	6/30/2018	73,436	17.0	2,964	3,342	6,306
Experience Loss	6/30/2019	135,489	13.0	6,635	7,480	14,115
Assumption Change	6/30/2019	79,270	18.0	3,078	3,470	6,549
Experience Loss	6/30/2020	70,971	14.0	3,289	3,708	6,997
Assumption Change	6/30/2020	72,488	19.0	2,716	3,062	5,778
Experience Gain	6/30/2021	(104,937)	15.0	(4,625)	(5,214)	(9,840)
Assumption Change	6/30/2021	12,264	20.0	445	501	946
<b>2021 UAL Payment</b>		<b>147,016</b>				
<b>Total City</b>		<b>\$ 1,238,397</b>		<b>\$ 67,490</b>	<b>\$ 73,940</b>	<b>\$ 141,430</b>
Retirement		643,198		33,461	36,103	69,564
COLA		595,199		34,029	37,837	71,866

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

The chart below shows the future payment schedule for the Tier 1 amortization bases in Table VI-3. Assumption changes are shown in purple; experience gain or loss bases are shown in gold; and benefit changes are shown in green. The blue line shows the net scheduled payment for each year.



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

Table VI-4 below shows the outstanding balance, remaining period, and amortization payments for each component of the Tier 2 UAL as of June 30, 2021. Each component is amortized from the valuation date in which it was first recognized with payments assumed to increase 2.25% each year. All components of the Tier 2 UAL are split evenly between the members and the City.

**Table VI-4**

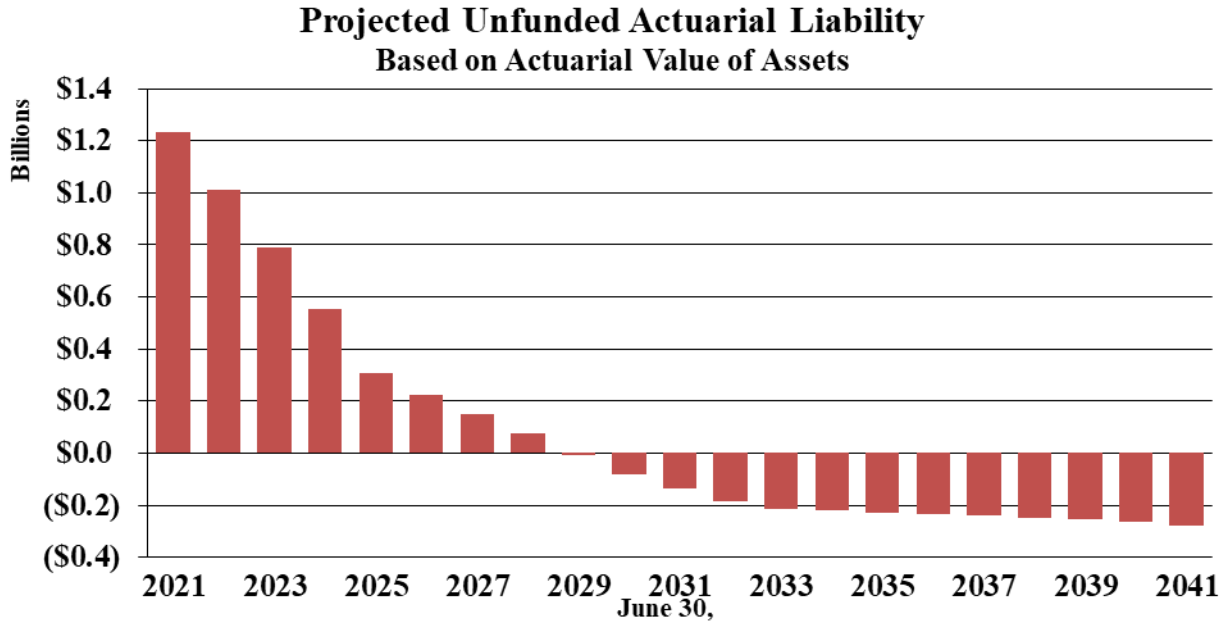
<b>Tier 2 UAL Amortization Bases</b>						
Source	Date	Outstanding Balance		Remaining Period	Amortization Payment	
		Fire	Police		Fire	Police
<b>Members and City</b>						
Experience Gain	6/30/2014	\$ 0	\$ (22)	10.0	\$ 0	\$ (3)
Assumption Change	6/30/2014	0	(4)	13.0	0	(0)
Experience Gain	6/30/2015	38	16	10.0	5	2
Assumption Change	6/30/2015	7	(17)	14.0	1	(2)
Experience Gain	6/30/2016	(51)	(118)	10.0	(7)	(15)
Assumption Change	6/30/2016	17	83	15.0	2	8
Measure F (Rehires)	6/30/2016	189	614	11.0	22	73
Experience Loss	6/30/2017	397	720	11.0	47	85
Assumption Change	6/30/2017	(139)	(470)	16.0	(12)	(42)
Experience Loss	6/30/2018	(459)	(959)	12.0	(51)	(106)
Assumption Change	6/30/2018	138	406	17.0	12	35
Experience Loss	6/30/2019	(74)	15	13.0	(8)	2
Assumption Change	6/30/2019	(205)	(10)	18.0	(17)	(1)
Experience Loss	6/30/2020	(156)	(2,248)	14.0	(15)	(222)
Assumption Change	6/30/2020	(162)	400	19.0	(13)	32
Experience Gain	6/30/2021	(1,094)	(4,556)	15.0	(103)	(427)
Assumption Change	6/30/2021	16	109	20.0	1	8
<b>Total Tier 2</b>		<b>\$ (1,537)</b>	<b>\$ (6,040)</b>		<b>\$ (136)</b>	<b>\$ (573)</b>
Retirement		(1,381)	(5,860)		(128)	(565)
COLA		(156)	(180)		(8)	(8)

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

The chart below shows the projected aggregate balance of the UAL based on the Actuarial Value of Assets for the Plan under the amortization schedules shown above assuming all expected payments are made and all assumptions are met. This projection includes new amortization bases for the unrecognized investment gains and losses that will be recognized over the next four years.



In addition to the UAL payments shown in Table VI-1 (page 32), Tier 1 members pay 3/11ths of the normal cost (excluding reciprocity normal cost) plus their historical share of administrative expenses. Tier 2 members pay half of the normal cost, half of administrative expenses, and half of the UAL payments shown in Table VI-4 on the previous page.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

Based on the 2021 Experience Study, the administrative expense assumption was changed to \$1,334 per member for FYE 2022 with annual increases equal to the assumed wage inflation. For FYE 2023, the administrative expense assumption is approximately \$1,374 per member. Table VI-5 below shows the development of the administrative expense rates for FYE 2023.

**Table VI-5**

<b>Administrative Expense By Group</b>				
	<b>Fire</b>		<b>Police</b>	
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 1</b>	<b>Tier 2</b>
Members	1,439	164	2,289	631
Administrative Expense	\$ 1,977	\$ 225	\$ 3,145	\$ 867
<b>Member Admin Expense Rate</b>	<b>0.29%</b>	<b>0.38%</b>	<b>0.29%</b>	<b>0.51%</b>
Retirement	0.20%	0.30%	0.20%	0.41%
COLA	0.09%	0.08%	0.09%	0.10%
<b>City Admin Expense Rate</b>	<b>2.58%</b>	<b>0.38%</b>	<b>3.77%</b>	<b>0.51%</b>
Retirement	1.76%	0.30%	2.83%	0.41%
COLA	0.82%	0.08%	0.94%	0.10%

*Dollar amounts in thousands*



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

Table VI-6 below shows the member contribution rates for FYE 2023 by Tier split between Police and Fire groups. All Tier 1 members contribute at the rates shown in the subtotal. Certain Tier 1 members also pay a portion of the cost under Measure F either individually or as a part of a designated group as described above. The Measure F UAL rates shown in the table are averaged over the entire Tier 1 payroll. Individuals may pay at a substantially higher rate.

**Table VI-6**

<b>Fiscal Year Ending 2023 Member Contribution Rates</b>						
	<b>Fire</b>			<b>Police</b>		
	<b>Retirement</b>	<b>COLA</b>	<b>Total</b>	<b>Retirement</b>	<b>COLA</b>	<b>Total</b>
<b>Tier 1</b>						
Normal Cost	8.06%	3.76%	11.82%	7.31%	3.37%	10.68%
Admin Expense	0.20%	0.09%	0.29%	0.20%	0.09%	0.29%
Regular UAL	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.02%</u>	<u>0.00%</u>	<u>0.02%</u>
<b>Subtotal</b>	<b>8.26%</b>	<b>3.85%</b>	<b>12.11%</b>	<b>7.53%</b>	<b>3.46%</b>	<b>10.99%</b>
Measure F UAL	<u>0.00%</u>	<u>0.01%</u>	<u>0.01%</u>	<u>0.02%</u>	<u>0.02%</u>	<u>0.04%</u>
<b>Total</b>	<b>8.26%</b>	<b>3.86%</b>	<b>12.12%</b>	<b>7.55%</b>	<b>3.48%</b>	<b>11.03%</b>
<b>Tier 2</b>						
Normal Cost	11.86%	3.18%	15.04%	11.19%	3.02%	14.21%
Admin Expense	0.30%	0.08%	0.38%	0.41%	0.10%	0.51%
UAL	<u>-0.22%</u>	<u>-0.02%</u>	<u>-0.24%</u>	<u>-0.35%</u>	<u>0.00%</u>	<u>-0.35%</u>
<b>Total</b>	<b>11.94%</b>	<b>3.24%</b>	<b>15.18%</b>	<b>11.25%</b>	<b>3.12%</b>	<b>14.37%</b>

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

Table VI-7 below shows the estimated dollar amounts of the City’s contributions assuming contributions are made throughout the fiscal year.

**Table VI-7**

<b>Fiscal Year Ending 2023 Estimated City Contributions</b>						
<b>Contribution Amounts Throughout the Year</b>						
	<b>Fire</b>			<b>Police</b>		
	<b>Retirement</b>	<b>COLA</b>	<b>Total</b>	<b>Retirement</b>	<b>COLA</b>	<b>Total</b>
Tier 1 UAL Payment	\$ 34,551	\$ 35,138	\$ 69,689	\$ 37,280	\$ 39,070	\$ 76,350
Tier 1 Normal Cost	\$ 14,894 21.66%	\$ 6,949 10.10%	\$ 21,842 31.76%	\$ 15,741 20.30%	\$ 7,108 9.17%	\$ 22,849 29.47%
Tier 1 Admin Expenses	\$ 1,212 1.76%	\$ 566 0.82%	\$ 1,778 2.58%	\$ 2,191 2.83%	\$ 729 0.94%	\$ 2,920 3.77%
Tier 2 Contribution	\$ 3,540 11.94%	\$ 961 3.24%	\$ 4,501 15.18%	\$ 9,470 11.25%	\$ 2,626 3.12%	\$ 12,096 14.37%
<b>Total Contribution</b>	<b>\$ 54,197 55.07%</b>	<b>\$ 43,613 44.31%</b>	<b>\$ 97,810 99.38%</b>	<b>\$ 64,682 40.00%</b>	<b>\$49,534 30.63%</b>	<b>\$114,216 70.63%</b>

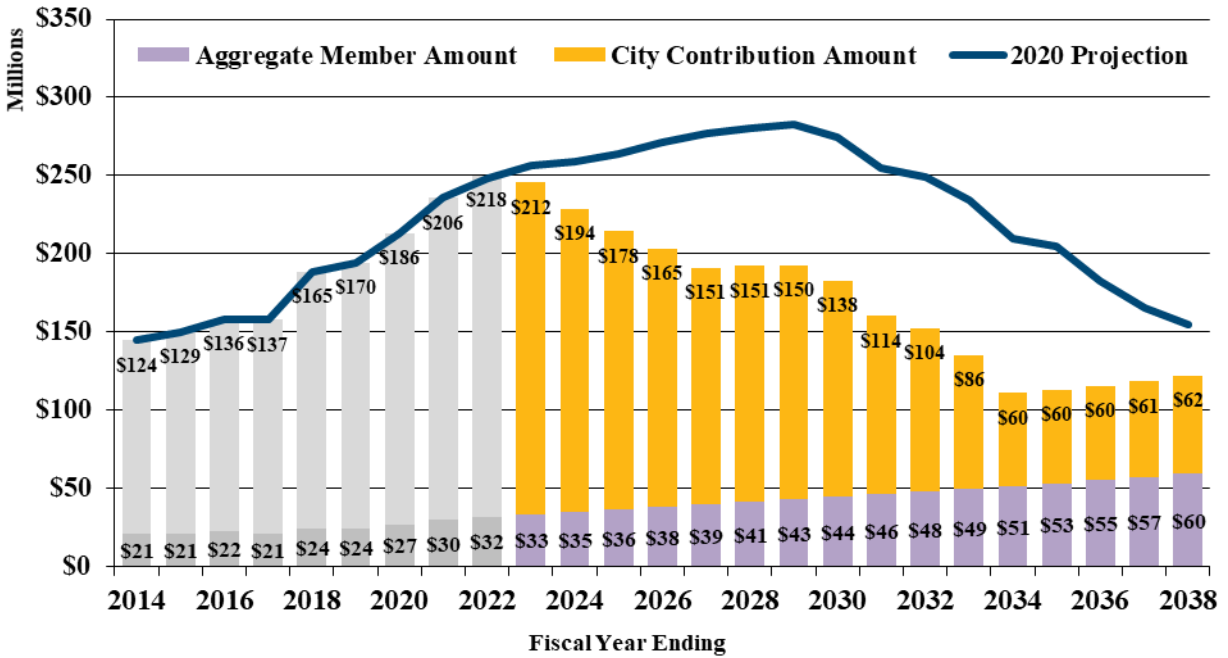
*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VI – CONTRIBUTIONS**

The chart below shows historical and projected aggregate contribution amounts for the Plan compared to those projected in the prior valuation. The purple bars are member contribution amounts for Police and Fire for both Tier 1 and Tier 2. The gold bars are city contribution amounts for Police and Fire for both Tier 1 and Tier 2. The gray bars represent historical amounts. The projected amounts assume that all assumptions are met. The blue line represents the projection from the prior valuation.

**Historical and Projected Aggregate Contribution Amounts**



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VII – ACTUARIAL SECTION OF THE ACFR**

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

**Table VII-1**

<b>Schedule of Funding Progress</b>						
<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Liability (AL)</b>	<b>Unfunded Actuarial Liability</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>Unfunded AL as a % of Covered Payroll</b>
6/30/2021	\$ 4,210,447	\$ 5,441,660	\$ 1,231,213	77.4%	\$ 252,558	487.5%
6/30/2020	3,851,948	5,235,335	1,383,387	73.6%	240,798	574.5%
6/30/2019	3,706,302	4,988,427	1,282,125	74.3%	235,818	543.7%
6/30/2018	3,596,590	4,696,428	1,099,838	76.6%	218,429	503.5%
6/30/2017	3,439,922	4,464,402	1,024,480	77.1%	203,816	502.6%
6/30/2016	3,303,550	4,355,990	1,052,440	75.8%	194,072	542.3%
6/30/2015	3,212,776	4,058,410	845,634	79.2%	184,733	457.8%
6/30/2014	3,025,101	3,813,825	788,724	79.3%	188,189	419.1%
6/30/2013	2,771,924	3,578,031	806,107	77.5%	184,645	436.6%
6/30/2012	2,703,539	3,397,792	694,253	79.6%	187,959	369.4%

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
JUNE 30, 2021 ACTUARIAL VALUATION REPORT**

**SECTION VII – ACTUARIAL SECTION OF THE ACFR**

**Table VII-2**

<b>Schedule of Funded Liabilities by Type</b>							
<b>Actuarial Valuation Date</b>	<b>Actuarial Liability For</b>			<b>Reported Assets</b>	<b>Portion of Actuarial Liability Covered by Reported Assets</b>		
	<b>Active Member Contributions (A)</b>	<b>Retirees, Beneficiaries and Other Inactives (B)</b>	<b>Remaining Active Members' Liability (C)</b>				
6/30/2021	\$ 315,820	\$ 3,875,560	\$ 1,250,280	\$ 4,210,447	100%	100%	2%
6/30/2020	315,240	3,655,447	1,264,648	3,851,948	100%	97%	0%
6/30/2019	308,023	3,446,977	1,233,427	3,706,302	100%	99%	0%
6/30/2018	304,454	3,227,859	1,164,115	3,596,590	100%	100%	6%
6/30/2017	299,933	3,050,871	1,113,598	3,439,922	100%	100%	8%
6/30/2016	294,535	2,999,773	1,061,682	3,303,550	100%	100%	1%
6/30/2015	285,538	2,819,410	953,462	3,212,776	100%	100%	11%
6/30/2014	288,227	2,585,611	939,987	3,025,101	100%	100%	16%
6/30/2013	280,727	2,452,728	844,576	2,771,924	100%	100%	5%
6/30/2012	276,047	2,310,295	811,450	2,703,539	100%	100%	14%

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION VII – ACTUARIAL SECTION OF THE ACFR**

In the exhibit below, non-recurring items include changes in assumptions and changes in plan provisions.

**Table VII-3**

<b>Analysis of Financial Experience</b>						
<b>Actuarial Valuation Date</b>	<b>Gain or (Loss) for Year(s) Ending on Valuation Date Due To:</b>					
	<b>Investment Income</b>	<b>Combined Liability Experience</b>	<b>Total Financial Experience</b>	<b>Non-Recurring Items</b>	<b>Total Experience</b>	
6/30/2021	\$ 117,195	\$ (6,608)	\$ 110,587	\$ (12,389)	\$ 98,198	
6/30/2020	(89,538)	19,032	(70,506)	(73,524)	(144,030)	
6/30/2019	(116,232)	(27,406)	(143,638)	(80,853)	(224,491)	
6/30/2018	(53,615)	13,448	(40,167)	(76,425)	(116,592)	
6/30/2017	(50,882)	(57,971)	(108,853)	127,571	18,718	
6/30/2016	(106,785)	(54,528)	(161,313)	(72,680)	(233,993)	
6/30/2015	2,806	7,291	10,097	(90,004)	(79,907)	
6/30/2014	78,462	(14,678)	63,784	(55,787)	7,997	
6/30/2013	(92,499)	11,115	(81,384)	(28,233)	(109,618)	
6/30/2012	(172,759)	39,432	(133,327)	(75,220)	(208,548)	

*Dollar amounts in thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Data Assumptions and Methods**

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

- Records on the “Active” data file are considered to be Active if they do not have a reason for termination.
- Records on any of the data files are considered to be Inactive if they have a reason for termination of deferred vested or leave of absence/inactive.
- Records on the “Retiree” and “Beneficiary/QDRO” files are considered in pay status if they do not have a date of death, are not inactive, and have not withdrawn from the plan.
- Salary for the year commencing on the valuation date is defined as the greater of:
  - Annualized “compensation rate 2,” increased with one year of wage inflation and one half year of merit increase; and,
  - “Pensionable compensation” for the year ending on the valuation date, increased with one year of wage inflation and one year of merit increase.
- The annual benefit for deferred vested members is set to be the accrued benefit provided. If an accrued benefit is not provided, then an annual benefit is estimated at the later of their current age and assumed retirement age, using the benefit service provided and annualized “compensation rate 2.”
- We assume any member found in last year’s “Retiree” file and not in this year’s file is deceased without a beneficiary and should be removed from the valuation data.
- We assume all deceased members with payments continuing to a beneficiary have already been accounted for in the “Retiree” file.
- If a spouse continuance amount is not provided on a Tier 1 retiree or disabled member’s record, it is assumed to equal the member’s benefit, multiplied by 37.5%, and divided by the member’s benefit multiplier at retirement.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-1**

<b>Active Member Data</b>					
	June 30, 2021			June 30, 2020	
	Fire	Police	Total	Total	% Change
<b><u>Tier 1</u></b>					
Count	499	554	1,053	1,144	-8.0%
Average Current Age	46.9	46.4	46.6	46.2	1.1%
Average Eligibility Service	17.8	18.9	18.4	18.0	2.3%
Average Benefit Service	17.1	18.2	17.6	17.3	2.1%
Average Expected Pensionable Earnings	\$ 153,470	\$ 164,265	\$ 159,149	\$ 152,967	4.0%
<b><u>Tier 2</u></b>					
Count	158	527	685	565	21.2%
Average Current Age	34.2	31.0	31.7	31.4	1.0%
Average Eligibility Service	3.7	3.0	3.1	2.8	13.3%
Average Benefit Service	3.6	2.9	3.1	2.7	13.6%
Average Expected Pensionable Earnings	\$ 120,098	\$ 125,234	\$ 124,049	\$ 116,466	6.5%
<b><u>Total</u></b>					
Count	657	1,081	1,738	1,709.0	1.7%
Average Current Age	43.8	38.9	40.8	41.3	-1.3%
Average Eligibility Service	14.4	11.2	12.4	13.0	-4.5%
Average Benefit Service	13.8	10.7	11.9	12.5	-4.5%
Average Expected Pensionable Earnings	\$ 145,444	\$ 145,237	\$ 145,315	\$ 140,900	3.1%



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-2**

<b>Schedule of Active Member Data</b>				
<b>Valuation Year</b>	<b>Active Count</b>	<b>Annual Payroll</b>	<b>Monthly Average Pay</b>	<b>Percent Change in Average Pay</b>
2021	1,738	\$ 252,558,000	\$ 12,110	3.13%
2020	1,709	240,798,000	11,742	5.66%
2019	1,638	218,429,000	11,113	1.02%
2018	1,544	203,816,000	11,000	12.69%
2017	1,577	184,733,000	9,762	2.96%
2016	1,654	188,189,000	9,481	5.18%
2015	1,707	184,645,000	9,014	-1.13%
2014	1,718	187,959,000	9,117	-0.48%
2013	1,735	190,726,000	9,161	-11.51%
2012	2,021	251,058,000	10,352	1.39%

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-3**

<b>Payee Member Data</b>				
	<b>June 30, 2021</b>	<b>June 30, 2020</b>	<b>%Change</b>	
<b>Retired</b>				
Count	1,193	1,122	6.3%	
Average Age	65.0	64.9	0.1%	
Average Annual Benefit	\$ 119,245	\$ 116,073	2.7%	
<b>Service Disability</b>				
Count	851	871	-2.3%	
Average Age	69.9	69.5	0.5%	
Average Annual Benefit	\$ 104,976	\$ 101,497	3.4%	
<b>Non-Service Disability</b>				
Count	33	29	13.8%	
Average Age	56.4	58	-2.5%	
Average Annual Benefit	\$ 59,307	\$ 59,348	-0.1%	
<b>Beneficiaries &amp; SADROs</b>				
Count	361	358	0.8%	
Average Age	69.9	68.8	1.7%	
Average Annual Benefit	\$ 49,215	\$ 47,126	4.4%	
<b>Total</b>				
Count	2,438	2,380	2.4%	
Average Age	67.3	67.1	0.3%	
Average Annual Benefit	\$ 103,084	\$ 99,676	3.4%	

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-4**

<b>Schedule of Retirees and Beneficiaries Added to and Removed from Rolls</b>										
<b>Period</b>	<b>Beginning Annual</b>		<b>Added to Rolls Annual</b>		<b>Removed from Annual</b>		<b>End of Period Annual</b>		<b>% Increase in Annual Allowances</b>	<b>Average Annual Allowances</b>
	<b>Count</b>	<b>Allowances</b>	<b>Count</b>	<b>Allowances</b>	<b>Count</b>	<b>Allowances</b>	<b>Count</b>	<b>Allowances</b>		
2020-2021	2,380	\$ 237,230	121	\$ 18,787	63	\$ 4,699	2,438	\$ 251,318	5.9%	\$ 103,084
2019-2020	2,318	224,303	112	16,936	50	4,009	2,380	237,230	5.8%	99,676
2018-2019	2,250	211,220	122	17,005	54	3,922	2,318	224,303	6.2%	96,766
2017-2018	2,192	200,197	120	15,558	62	4,535	2,250	211,220	5.5%	93,876
2016-2017	2,149	190,897	87	11,816	44	2,516	2,192	200,197	4.9%	91,331
2015-2016	2,108	182,185	72	10,843	31	2,131	2,149	190,897	4.8%	88,831
2014-2015	2,032	170,872	115	13,700	39	2,387	2,108	182,185	6.6%	86,426
2013-2014	1,994	162,716	73	10,142	35	1,986	2,032	170,872	5.0%	84,091
2012-2013	1,942	154,381	91	10,259	39	1,924	1,994	162,716	5.4%	81,603
2011-2012	1,885	144,139	88	11,583	31	1,341	1,942	154,381	7.1%	79,496

*Annual Allowances in Thousands*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-5**

<b>Inactive Member Data</b>			
	<b>June 30, 2021</b>	<b>June 30, 2020</b>	<b>%Change</b>
<b><u>Tier 1</u></b>			
<b>Terminated Vested / Reciprocal</b>			
Count	209	210	-0.5%
Average Age	46.7	45.7	2.2%
Average Annual Benefit	\$ 26,264	\$ 25,269	3.9%
Average Contribution Balance with Interest	\$ 131,357	\$ 128,960	1.9%
<b>Non-Vested Terminated</b>			
Count	28	31	-9.7%
Average Age	41.9	41.2	1.7%
Average Annual Benefit	\$ 10,236	\$ 10,139	1.0%
Average Contribution Balance with Interest	\$ 58,734	\$ 66,282	-11.4%
<b>Total</b>			
Count	237	241	-1.7%
Average Age	46.1	45.1	2.2%
Average Annual Benefit	\$ 24,491	\$ 23,433	4.5%
Average Contribution Balance with Interest	\$ 122,778	\$ 120,898	1.6%
<b><u>Tier 2</u></b>			
<b>Terminated Vested / Reciprocal</b>			
Count	9	9	0.0%
Average Age	33.4	32.4	3.1%
Average Annual Benefit	\$ 4,189	\$ 4,188	0.0%
Average Contribution Balance with Interest	\$ 23,141	\$ 22,679	2.0%
<b>Non-Vested Terminated</b>			
Count	101	96	5.2%
Average Age	34.7	34.1	1.8%
Average Annual Benefit	\$ 1,483	\$ 1,400	6.0%
Average Contribution Balance with Interest	\$ 10,244	\$ 8,690	17.9%
<b>Total</b>			
Count	110	105	4.8%
Average Age	34.6	34.0	1.9%
Average Annual Benefit	\$ 1,729	\$ 1,643	5.2%
Average Contribution Balance with Interest	\$ 11,299	\$ 9,889	14.3%
<b><u>Total</u></b>			
Count	347	346	0.3%
Average Age	42.5	41.8	1.8%
Average Annual Benefit	\$ 17,744	\$ 16,871	5.2%
Average Contribution Balance with Interest	\$ 87,438	\$ 87,210	0.3%

*For inactive members, benefit is calculated using the assumptions and methods outlined in Appendix A if not provided in the data*

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-6**

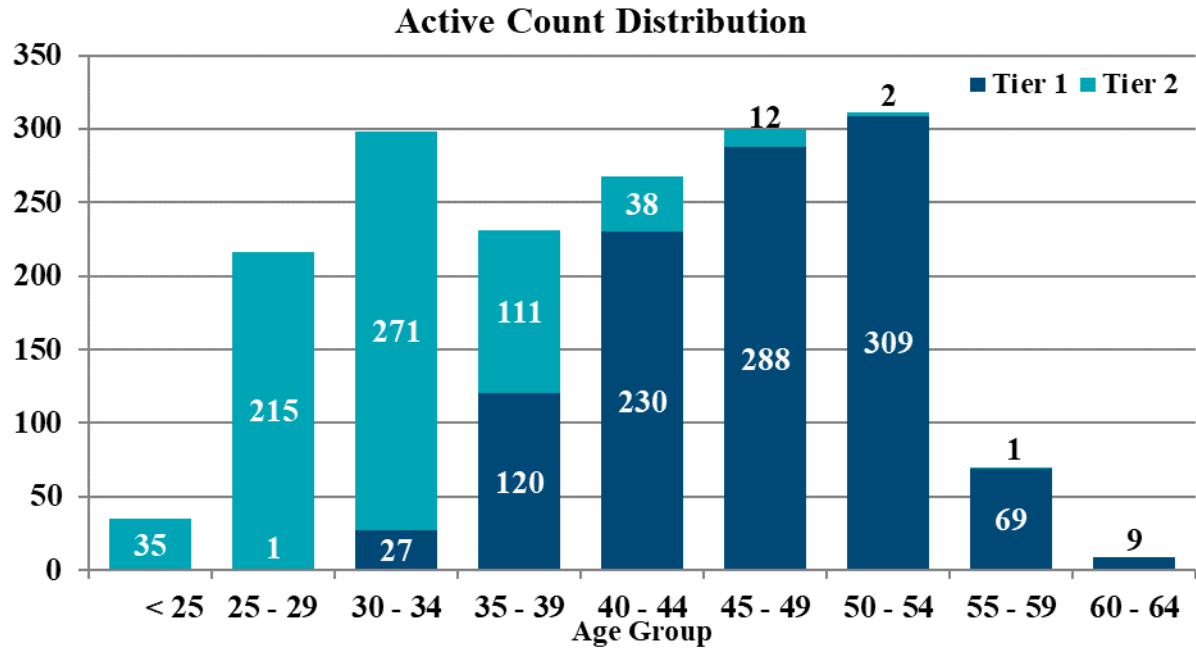
<b>Distribution of Active Members as of June 30, 2021</b>									
<b>Age</b>	<b>Years of Benefit Service</b>								<b>Total</b>
	<b>Under 1</b>	<b>1 to 4</b>	<b>5 to 9</b>	<b>10 to 14</b>	<b>15 to 19</b>	<b>20 to 24</b>	<b>25 to 29</b>	<b>30 and Up</b>	
<b>Under 25</b>	27	8	0	0	0	0	0	0	35
<b>25 to 29</b>	60	150	6	0	0	0	0	0	216
<b>30 to 34</b>	35	163	99	1	0	0	0	0	298
<b>35 to 39</b>	14	60	89	63	5	0	0	0	231
<b>40 to 44</b>	0	25	60	119	50	14	0	0	268
<b>45 to 49</b>	1	9	16	54	79	123	18	0	300
<b>50 to 54</b>	1	1	7	28	51	151	69	3	311
<b>55 to 59</b>	0	1	2	3	11	32	19	2	70
<b>60 to 64</b>	0	0	0	0	2	3	4	0	9
<b>65 to 69</b>	0	0	0	0	0	0	0	0	0
<b>70 and up</b>	0	0	0	0	0	0	0	0	0
<b>Total Count</b>	138	417	279	268	198	323	110	5	1,738

<b>Distribution of Average Expected Salary as of June 30, 2021</b>									
<b>Age</b>	<b>Years of Benefit Service</b>								<b>Total</b>
	<b>Under 1</b>	<b>1 to 4</b>	<b>5 to 9</b>	<b>10 to 14</b>	<b>15 to 19</b>	<b>20 to 24</b>	<b>25 to 29</b>	<b>30 and Up</b>	
<b>Under 25</b>	\$108,576	\$115,505	\$0	\$0	\$0	\$0	\$0	\$0	\$110,160
<b>25 to 29</b>	107,526	121,606	140,702	0	0	0	0	0	118,225
<b>30 to 34</b>	106,063	124,289	144,072	148,435	0	0	0	0	128,801
<b>35 to 39</b>	105,443	124,238	145,759	156,714	160,391	0	0	0	141,030
<b>40 to 44</b>	0	127,409	142,431	151,876	165,929	161,400	0	0	150,598
<b>45 to 49</b>	108,576	130,896	146,537	151,731	158,888	165,239	194,252	0	160,659
<b>50 to 54</b>	250,131	157,002	137,746	152,571	156,000	164,800	173,371	201,348	164,150
<b>55 to 59</b>	0	152,854	130,500	148,495	157,779	160,346	161,541	164,718	158,924
<b>60 to 64</b>	0	0	0	0	164,718	156,360	168,216	0	163,487
<b>65 to 69</b>	0	0	0	0	0	0	0	0	0
<b>70 and up</b>	0	0	0	0	0	0	0	0	0
<b>Avg. Salary</b>	\$ 108,190	\$ 123,624	\$ 144,070	\$ 153,006	\$ 159,957	\$ 164,300	\$ 174,557	\$ 186,696	\$ 145,315

CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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APPENDIX A – MEMBERSHIP INFORMATION

Chart A-1



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
JUNE 30, 2021 ACTUARIAL VALUATION REPORT**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-7**

<b>Retirees and Disabled by Attained Age and Benefit Effective Date</b>											
<b>Benefit Effective</b>	<b>Age</b>										<b>Total</b>
	<b>Under 50</b>	<b>50 to 54</b>	<b>55 to 59</b>	<b>60 to 64</b>	<b>65 to 69</b>	<b>70 to 74</b>	<b>75 to 79</b>	<b>80 to 84</b>	<b>85 to 89</b>	<b>90 and up</b>	
<b>Pre-2001</b>	0	0	3	7	14	56	172	149	56	23	480
<b>PYE2001</b>	0	0	0	1	0	19	18	5	1	0	44
<b>PYE2002</b>	0	0	1	2	3	22	18	2	1	0	49
<b>PYE2003</b>	0	0	1	2	3	20	21	0	0	0	47
<b>PYE2004</b>	0	1	1	3	9	34	20	2	0	0	70
<b>PYE2005</b>	0	0	0	1	12	24	7	0	0	0	44
<b>PYE2006</b>	0	0	2	1	23	35	9	3	0	0	73
<b>PYE2007</b>	0	0	0	0	12	16	7	0	0	0	35
<b>PYE2008</b>	0	0	3	2	32	19	6	0	0	0	62
<b>PYE2009</b>	0	4	0	8	27	18	3	0	0	0	60
<b>PYE2010</b>	0	0	3	28	72	39	4	1	0	0	147
<b>PYE2011</b>	1	0	2	58	57	12	1	0	0	0	131
<b>PYE2012</b>	3	2	4	64	35	2	0	0	0	0	110
<b>PYE2013</b>	5	1	14	36	9	3	0	0	0	0	68
<b>PYE2014</b>	5	5	22	15	3	3	0	0	0	0	53
<b>PYE2015</b>	4	5	23	18	2	0	0	0	0	0	52
<b>PYE2016</b>	6	7	49	28	5	1	0	0	0	0	96
<b>PYE2017</b>	3	5	36	9	3	0	0	0	0	0	56
<b>PYE2018</b>	7	7	40	14	0	0	0	0	0	0	68
<b>PYE2019</b>	4	26	29	7	2	0	0	0	0	0	68
<b>PYE2020</b>	1	33	43	5	0	0	1	0	0	0	83
<b>PYE2021</b>	9	87	73	10	2	0	0	0	0	0	181
<b>Total</b>	48	183	349	319	325	323	287	162	58	23	2,077
<b>Average Age at Retirement/Disability</b>				52.4							
<b>Average Current Age</b>				66.9							
<b>Average Annual Pension</b>	\$		112,447								

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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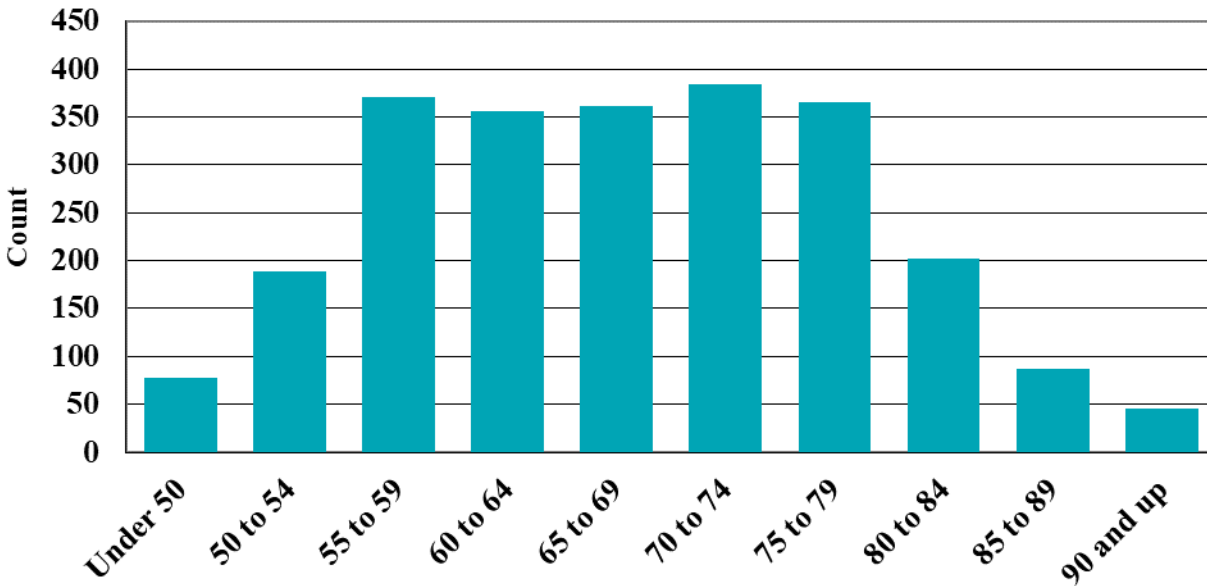
**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-8**

<b>Distribution of Retirees, Disabled Members, and Beneficiaries as of June 30, 2020</b>			
<b>Age</b>	<b>Count</b>	<b>Annual Benefit</b>	
Under 50	78	\$	4,173,861
50 to 54	189		18,608,926
55 to 59	370		38,371,312
60 to 64	356		40,497,894
65 to 69	361		44,224,094
70 to 74	384		44,699,557
75 to 79	365		34,481,982
80 to 84	202		17,663,955
85 to 89	87		5,916,762
90 and up	<u>46</u>		<u>2,679,887</u>
<b>Total</b>	<b>2,438</b>	\$	<b>251,318,228</b>

**Chart A-2**

**Count Distribution of Members Receiving Benefits**

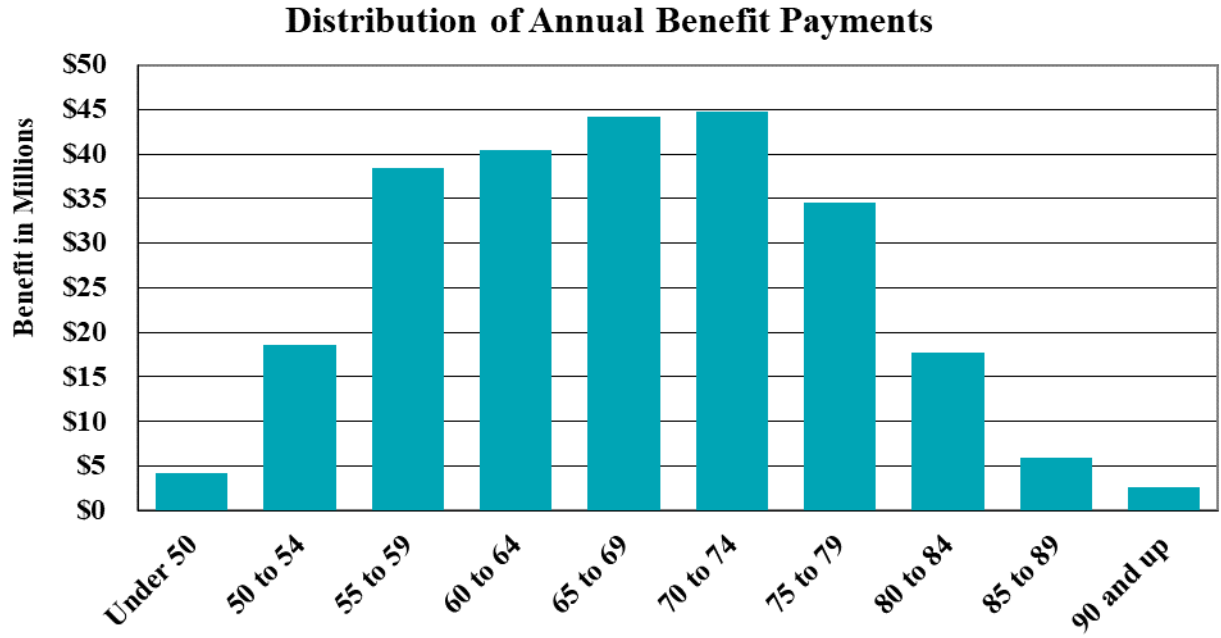




CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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APPENDIX A – MEMBERSHIP INFORMATION

Chart A-3



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
JUNE 30, 2021 ACTUARIAL VALUATION REPORT**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Table A-9**

<b>Changes in Plan Membership</b>							
<b>TIER 1</b>							
	<b>Actives</b>	<b>Vested Terminations / Reciprocal</b>	<b>Non-Vested Terminations</b>	<b>Retirees</b>	<b>In-Pay Disabilities</b>	<b>Beneficiaries / SADRO</b>	<b>Total</b>
<b>June 30, 2020</b>	<b>1,144</b>	<b>210</b>	<b>31</b>	<b>1,122</b>	<b>900</b>	<b>358</b>	<b>3,765</b>
New Entrants	1	0	0	0	0	0	1
Rehires	4	(4)	(1)	0	0	0	(1)
Non-Vested Terms	(1)	0	0	0	0	0	(1)
Vested Deferrals	(2)	2	0	0	0	0	0
Refunds	(1)	(1)	(1)	0	0	0	(3)
Disabilities	(12)	(2)	0	(12)	13	0	(13)
Retirements	(80)	(5)	0	85	0	0	0
Deaths	0	0	0	(1)	(30)	22	(9)
Beneficiary Deaths	0	0	0	0	0	(15)	(15)
Benefits Expiring	0	0	0	0	0	(4)	(4)
Adjustments	0	9	(1)	(1)	1	0	8
<b>June 30, 2021</b>	<b>1,053</b>	<b>209</b>	<b>28</b>	<b>1,193</b>	<b>884</b>	<b>361</b>	<b>3,728</b>
<b>TIER 2</b>							
<b>June 30, 2020</b>	<b>565</b>	<b>9</b>	<b>96</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>670</b>
New Entrants	131	0	8	0	0	0	139
Rehires	8	0	(8)	0	0	0	0
Non-Vested Terms	(19)	0	13	0	0	0	(6)
Vested Deferrals	0	0	0	0	0	0	0
Refunds	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0
Retirements	0	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0
Benefits Expiring	0	0	0	0	0	0	0
Adjustments	0	0	(8)	0	0	0	(8)
<b>June 30, 2021</b>	<b>685</b>	<b>9</b>	<b>101</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>795</b>
<b>TOTAL</b>							
<b>June 30, 2020</b>	<b>1,709</b>	<b>219</b>	<b>127</b>	<b>1,122</b>	<b>900</b>	<b>358</b>	<b>4,435</b>
New Entrants	93	0	4	0	0	0	97
Rehires	51	(3)	(9)	0	0	0	39
Non-Vested Terms	(14)	0	13	0	0	0	(1)
Vested Deferrals	(2)	1	0	0	0	0	(1)
Refunds	(6)	(1)	(9)	0	0	0	(16)
Disabilities	(12)	(1)	0	(1)	14	0	0
Retirements	(80)	(9)	0	85	0	0	(4)
Deaths	0	0	0	(12)	(30)	22	(20)
Beneficiary Deaths	0	0	0	0	0	(13)	(13)
Benefits Expiring	0	0	0	0	0	(6)	(6)
Adjustments	(1)	12	3	(1)	0	0	13
<b>June 30, 2021</b>	<b>1,738</b>	<b>218</b>	<b>129</b>	<b>1,193</b>	<b>884</b>	<b>361</b>	<b>4,523</b>

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions**

The economic and demographic assumptions used in this report were adopted by the Board of Administration at the November 4, 2021 Board meeting based on our input and recommendations from our experience study covering plan experience through June 30, 2021. Please refer to the experience study report and presentations for the rationale for each of the assumptions.

**1. Discount Rate**

6.625% net of investment expenses. The long-term expected return on assets based on Meketa’s capital market assumptions for a 10-year and 20-year time horizons are 5.89% and 6.75%, respectively.

**2. Price Inflation**

2.25% per annum.

**3. Wage Inflation**

Reflect currently bargained across-the-board increases and 3.00% per annum (0.75% real wage growth) thereafter. For this valuation, Fire members have bargained increases of 4.25% for FYE 2022 and 3.00% for FYE 2023. Police members bargained increases of 3.85% for FYE 2022.

**4. Merit Salary Increase Rate**

The following merit component is added to wage inflation, based on an individual member’s years of service:

**Table B-1**

<b>Merit Salary Increases</b>	
<b>Years of Service</b>	<b>Merit/ Longevity</b>
0	6.50%
1	6.50
2	6.25
3	5.75
4	5.25
5	4.25
6	2.50
7	1.50
8	1.00
9	0.80
10+	0.60

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**5. Rates of Retirement**

Rates of retirement are based on age and service according to the following Tables B-2, B-3, and B-4. Tier 1 rates only apply when the member is eligible for unreduced benefits.

**Table B-2**

<b>Tier 1 Rates of Retirement by Age and Service</b>				
<b>Age</b>	<b>Police</b>		<b>Fire</b>	
	<b>&lt;30 Years</b>	<b>30+ Years</b>	<b>&lt;30 Years</b>	<b>30+ Years</b>
50	55.0%	100.0%	35.0%	100.0%
51	45.0	100.0	35.0	100.0
52	40.0	100.0	35.0	100.0
53	30.0	100.0	35.0	100.0
54	30.0	100.0	35.0	100.0
55	30.0	100.0	30.0	100.0
56	30.0	100.0	25.0	100.0
57	30.0	100.0	20.0	100.0
58 – 61	50.0	100.0	27.5	100.0
62+	100.0	100.0	100.0	100.0

**Table B-3**

<b>Tier 2 Rates of Retirement by Age and Service</b>				
<b>Age</b>	<b>Police</b>			
	<b>5 – 19 Years</b>	<b>20 – 24 Years</b>	<b>25 – 29 Years</b>	<b>30+ Years</b>
50 – 56	2.0%	2.0%	2.0%	5.0%
57 – 59	7.5	10.0	20.0	100.0
60 – 61	10.0	20.0	35.0	100.0
62 – 64	25.0	50.0	75.0	100.0
65+	100.0	100.0	100.0	100.0

**Table B-4**

<b>Tier 2 Rates of Retirement by Age and Service</b>				
<b>Age</b>	<b>Fire</b>			
	<b>5 – 19 Years</b>	<b>20 – 24 Years</b>	<b>25 – 29 Years</b>	<b>30+ Years</b>
50 – 56	1.0%	1.0%	1.0%	2.5%
57 – 59	5.0	7.5	15.0	100.0
60 – 61	7.5	15.0	25.0	100.0
62 – 64	20.0	35.0	50.0	100.0
65+	100.0	100.0	100.0	100.0

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

Tier 1 vested terminated members are assumed to retire at age 50 if they have 25 or more years of service or at age 55 if they have less than 25 years of service. Tier 2 vested terminated members are assumed to retire at age 57.

**6. Rates of Termination**

Rates of termination are shown in Table B-5 below.

**Table B-5**

Service	Rates of Termination	
	Police	Fire
0	13.75%	8.50%
1	11.75	4.00
2	10.00	2.75
3	8.50	1.75
4	7.50	1.25
5	6.75	1.00
6	6.00	0.90
7	5.50	0.80
8	5.00	0.70
9	4.75	0.60
10	4.50	0.50
11	4.25	0.50
12	3.75	0.50
13	3.25	0.50
14	2.75	0.50
15	2.25	0.50
16	1.75	0.50
17	1.50	0.50
18	1.25	0.50
19+	1.00	0.50

\* Termination rates do not apply once retirement rates apply.

Tier 1 members who terminate with less than 10 years of service and Tier 2 members who terminate with less than 5 years of service are assumed to receive a refund of contributions. For terminating employees who are not assumed to receive a refund, 75% are assumed to subsequently work for a reciprocal employer and receive 3.00% pay increases per year.

**7. Rates of Disability**

For Police, disability rates are equal to the CalPERS police industrial and non-industrial rates for public agencies multiplied by 90% for ages under 50 and 140% for ages 50 and older. For Fire, disability rates are equal to the CalPERS fire industrial and non-industrial

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

rates for public agencies multiplied by 90% for ages under 50 and 180% for ages 50 and older. Sample disability rates of active participants are provided in Table B-6.

**Table B-6**

<b>Rates of Disability at Selected Ages</b>		
<b>Age</b>	<b>Police</b>	<b>Fire</b>
25	0.16%	0.03%
30	0.45	0.08
35	0.74	0.15
40	1.03	0.28
45	1.32	0.50
50	2.70	5.08
55	6.88	7.54
60	8.71	10.77
65	10.47	14.84

100% of disabilities are assumed to be duty related.

**8. Rates of Mortality**

Mortality rates for actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex-distinct employee and annuitant mortality tables shown on the next page. Future mortality improvements are reflected by applying the SOA MP-2021 projection scale on a generational basis from the base year of 2010.

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**Table B-7**

Category	Base Mortality Tables	
	Male	Female
<b>Healthy Retirees</b>	1.002 times the 2010 Public Safety Above Median Income Mortality Table (Pub(s)-2010(A)) for Healthy Retirees	1.002 times the 2010 Public Safety Above Median Income Mortality Table (Pub(s)-2010(A)) for Healthy Retirees
<b>Disabled Retiree</b>	0.915 times the Public Safety Mortality Table (PubS-2010) for Disabled Retirees	0.915 times the Public Safety Mortality Table (PubS-2010) for Disabled Retirees
<b>Beneficiaries</b>	1.032 times the 2010 General Member Mortality Table (PubG-2010) for Healthy Retirees	1.032 times the 2010 General Member Mortality Table (PubG-2010) for Healthy Retirees
<b>Healthy Non-Annuitant</b>	0.979 times the 2010 Public Safety Above Median Income Mortality Table (Pub(s)-2010(A)) for Healthy Employees	0.979 times the 2010 Public Safety Above Median Income Mortality Table (Pub(s)-2010(A)) for Healthy Employees

It is assumed that 50% of active deaths are service related.

**9. Family Composition**

Percentage married is shown in the following Table B-8. Women are assumed to be three years younger than men.

**Table B-8**

Percentage Married	
Gender	Percentage
Males	85%
Females	85%

**10. Administrative Expenses**

For FYE 2022, administrative expenses are assumed to equal \$1,334 per member and are assumed to increase at the wage inflation assumption of 3.00% per annum. Historically, the administrative expenses were assumed to reduce the investment return assumption by 10 basis points which resulted in a higher normal cost. To maintain the same historic division of Tier 1 member and City contributions for administrative expenses for this valuation, members were allocated a portion of the administrative expenses equal to 3/11ths of the difference in normal cost that a 10 basis point reduction in the investment

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return assumption would cause. Tier 2 members pay 50 percent of administrative expenses.

**11. Changes Since Last Valuation**

The merit salary scale, the beneficiary base mortality table, the mortality projection scale, and the assumed administrative expenses were updated for this valuation. Please refer to our experience study report for an explanation of the rationale for these changes.



**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**B. Contribution Allocation Procedure**

The contribution allocation procedure primarily consists of an actuarial cost method, an asset smoothing method, and an amortization method as described below. All components of the contribution allocation procedure were established prior to the June 30, 2011 actuarial valuation except as specifically noted below.

**1. Actuarial Cost Method**

The Entry Age actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of hire and assumed retirement. The Actuarial Liability is the difference between the present value of future benefits and the present value of future normal cost. The Unfunded Actuarial Liability is the difference between the Actuarial Liability and the Actuarial Value of Assets.

**2. Asset Valuation Method**

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

The Actuarial Value 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 and benefit payments during the year. Any difference between this amount and the actual net investment earnings is considered a gain or loss.

Finally, the Actuarial Value of Assets is restricted to a corridor between 80 percent and 120 percent of the Market Value of Assets.

**3. Amortization Method**

Actuarial gains and losses and plan changes are amortized over a 15-year period (16 years for gains and losses prior to June 30, 2016) beginning with the valuation date in which they first arise. Changes in methods and assumptions are amortized over a 20-year period (16 years for changes prior to June 30, 2011) beginning with the valuation date on which they are effective. Amortization payments are assumed to increase 2.25% each year. Some prior amortization periods have been adjusted in prior years to smooth the pattern of future contributions.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**APPENDIX C – SUMMARY OF PLAN PROVISIONS  
TIER 1**

**1. Membership Requirement**

Participation in the plan is immediate upon the first day of employment with the City of San José as a police officer or fire fighter except for the following:

- Independent contractors,
- Person in City service principally for training or educational purposes,
- Auxiliary or voluntary police officers or fire fighters,
- Part-time or non-salaried employees, and
- Employees receiving credit in any other retirement or pension system.

Persons eligible for Tier 1 membership include:

- Any police officer hired prior to August 4, 2013 or any firefighter hired prior to January 2, 2015.
- Any person who was a member of this plan as an employee of the police department prior to August 4, 2013, and terminated employment with the city, and returned to employment with the city in a position covered by this plan on or after August 4, 2013.
- Any person who was a member of this plan as an employee of the fire department prior to January 2, 2015, and terminated employment with the city, and returned to employment with the city in a position covered by this plan on or after January 2, 2015.
- Any person accepting employment in the police department or fire department of the city on or after January 1, 2013, who is otherwise eligible for this plan and who was an active member in another California public retirement system with which this plan has reciprocity under Part 16, and who has a break in service of less than six months from that covered employment and employment with the city.

**2. Final Compensation**

The highest twelve consecutive months of compensation in covered employment. However, in determining Final Compensation, no compensation in the last 12 months of employment that exceeds 108% of compensation during the 12 months immediately preceding the last 12 month shall be considered. Compensation excludes overtime pay and expense allowances.

**3. Credited Service**

Years of service in covered employment plus service purchased for military leave of absence, Federated service, and unpaid leaves of absence.

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

**4. Contributions**

a. Member:

The amount needed to fund 3/11ths of normal cost calculated under the Entry Age actuarial cost method plus the amortization payment on the February 4, 1996 benefit improvement. For Police members, there is an additional amortization payment for member contributions not made for the last 6 months of 2006.

b. Employer:

The Employer contributes the remaining amounts necessary to fund the Plan in accordance with the Board's funding policy.

**5. Service Retirement**

**Eligibility**

Age 55 with 20 years of service, age 50 with 25 years of service, age 70 with no service requirement, or any age with 30 years of service. Reduced benefits are also available at age 50 with 20 years of service.

**Benefit**

Police: 2.5% of Final Compensation for each year of credited service up to 20 years plus 4.0% of Final Compensation for each year of credited service in excess of 20, subject to a maximum of 90% of Final Compensation.

Fire: For members with less than 20 years of service, 2.5% of Final Compensation for each year of credited service. For members with 20 or more years of service, 3.0% of Final Compensation for each year of service, subject to a maximum of 90% of Final compensation.

**6. Service Connected Disability Retirement**

**Eligibility**

No age or service requirement.

**Benefit**

Police: 50% of Final Compensation plus 4.0% of Final Compensation for each year of credited service in excess of 20, subject to a maximum of 90% of Final Compensation.

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

Fire: For members with less than 20 years of service, 50% of Final Compensation. For members with 20 or more years of service, 3.0% of Final Compensation for each year of service, subject to a maximum of 90% of Final Compensation.

**7. Non-Service Connected Disability Retirement**

**Eligibility**

Two years of service.

**Benefit**

For members with less than 20 years of service, 32% of Final Compensation plus 1% of Final Compensation for each year of service in excess of two. For members with 20 or more years of service, the benefit amount equals the amount that would be calculated under the service retirement formula.

**8. Non-Service-Connected Death**

*Less than 2 Years of Service:*

Lump sum benefit equal to the greater of accumulated employee contributions with interest or \$1,000.

*Disabled retirees or members ineligible for service retirement:*

Spouse receives 24% of Final Compensation plus 0.75% of Final Compensation for each year of service in excess of two, subject to a maximum of 37.5% of Final Compensation. If a member has eligible dependent children, an additional benefit is payable as follows:

- 1 Child: 25% of Final Compensation
- 2 Children: 37.5% of Final Compensation
- 3+ Children: 50% of Final Compensation

The total benefit payable to a family is limited to 75% of Final Compensation.

If a member does not have a spouse or eligible dependent children, a lump sum benefit equal to the greater of accumulated employee contributions with interest or \$1,000.

*Service retirees or members eligible for service retirement:*

Spouse receives the greater of 37.5% of Final Compensation or 50% of the member's service retirement benefit, subject to a maximum of 42.5% of Final Compensation for Police and 45% of Final Compensation for Fire. Eligible dependent children will receive the same benefit as defined under the non-service-connected death for disabled retirees or

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

members ineligible for service retirement. The total benefit payable to a family is limited to 75% of Final Compensation.

**9. Service-Connected Death**

Spouse receives the greater of 37.5% of Final Compensation or 50% of the member's service retirement benefit, subject to a maximum of 42.5% of Final Compensation for Police and 45% of Final Compensation for Fire. If a member has eligible dependent children, an additional benefit of 25% of Final Compensation is payable for each eligible dependent child. The total benefit payable to a family is limited to 75% of Final Compensation.

**10. Termination Benefits**

*Less than 10 Years of Service:*

Lump sum benefit equal to the accumulated employee contributions with interest at 2% per annum.

*10 or more years of credited service:*

The amount of the service retirement benefit, payable at the later of age 55 or 20 years from date of membership.

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

Benefits are increased every February 1 by 3.0%.

**12. Changes Since Last Valuation**

None.

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

**1. Membership Requirement**

Any police officer who is hired by the City on or after August 4, 2013, or any fire fighter who is hired by the City on or after January 2, 2015, and who does not meet the eligibility requirements for Tier 1.

**2. Final Compensation**

The highest average monthly compensation of the member during any thirty-six consecutive months of covered employment. Compensation excludes overtime pay and expense allowances.

**3. Credited Service**

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

**4. Member Contributions**

50% of total Tier 2 contributions to the pension plan, including, but not limited to administrative expenses, normal cost, and Unfunded Actuarial Liability. Increases in members' Unfunded Actuarial Liability contribution are limited to one-third of one percent of compensation each year. Contributions cannot be less than 50% of normal cost.

**5. Unreduced Service Retirement**

**Eligibility**

Age 57 with five years of service.

**Benefit – Member**

2.4% of Final Compensation for each year of credited service up to 20 years, plus 3.0% of Final Compensation for each year of credited service between 20 years and 25 years, plus 3.4% of Final Compensation for each year of credited service in excess of 25 years, subject to a maximum of 80% of Final Compensation.

**Benefit – Survivor**

50% joint and survivor annuity.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS  
TIER 2

**6. Early Service Retirement**

**Eligibility**

Age 50 with five years of service.

**Benefit – Member**

Reduced 7% per year for each year between age 57 and the member's age at retirement.

**7. Service-Connected Disability Retirement**

**Eligibility**

No age or service requirement.

**Benefit – Member**

The greater of:

- Monthly benefit equivalent to 50% of Final Compensation,
- The service retirement benefit, if eligible for service retirement,
- A service retirement benefit actuarially reduced from age 50, if not eligible for service retirement.

**8. Non-Service Connected Disability Retirement**

**Eligibility**

Five years of service.

**Benefit – Member**

1.8% of Final Compensation for each year of credited service if less than age 50, or the service pension benefit if older than age 50.

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

**9. Death Before Retirement**

**If death occurs before retirement eligibility is reached and after two years of service**

Monthly benefit equal to 24% of Final Compensation plus 0.75% of Final Compensation for each year of service in excess of two, up to a maximum of 37.5% of Final Compensation

**If death occurs after retirement eligibility is reached**

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

**Employees killed in the line of duty**

Monthly benefit equal to the greater of:

- 37.5% of Final Compensation or
- 50% of what the employee would have received if retired at the time of death.

**10. Withdrawal Benefits**

**Less than five years of credited service**

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

**Five or more years of credited service**

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

**11. Benefit Forms**

Retiree may choose an optional settlement at retirement that reduces their allowance to provide a higher survivorship allowance to their spouse/domestic partner.

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

Benefits are increased every April 1 by the change in the December CPI-U for San José-San Francisco-Oakland, subject to a cap of 2.0%. The first COLA after retirement shall be prorated based on the number of months retired.

**13. Changes Since Last Valuation**

There have been no changes in plan provisions since the last valuation.



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

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

## APPENDIX D – GLOSSARY OF TERMS

### 1. Actuarial Liability

The Actuarial Liability is the difference between the present value of future benefits and the present value of total future normal costs. This is also referred to by some actuaries as the “accrued liability” or “actuarial accrued liability.” The Actuarial Liability represents the amount of assets a plan should have as of a valuation date according to the actuarial cost method.

### 2. Actuarial Assumptions

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

### 3. Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the present value of future benefits between future normal cost and Actuarial Liability.

### 4. Actuarial Gain (Loss)

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

### 5. Actuarial Present Value

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

### 6. Actuarially Determined Contribution

The payment to the Plan as determined by the actuary using a contribution allocation procedure. It may or may not be the actual amount contributed to the Plan.

### 7. Amortization Method

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

**APPENDIX D – GLOSSARY OF TERMS**

**8. Asset Valuation Method**

The method used to develop the Actuarial Value of Assets from the Market Value of Assets typically by smoothing investment returns above or below the assumed rate of return over a period of time.

**9. Contribution Allocation Procedure**

A procedure typically using an actuarial cost method, an asset valuation method, and an amortization method to develop the Actuarially Determined Contribution.

**10. Discount Rate**

The rate of interest used to discount future benefit payments to determine the actuarial present value. For purposes of determining an Actuarially Determined Contribution, the discount rate is typically based on the long-term expected return on assets.

**11. Funded Status or Funding Ratio**

Either the Market or Actuarial Value of Assets divided by the Actuarial Liability. For purposes of this report, the funded status represents the proportion of the actual assets as of the valuation date compared to the assets expected by the actuarial cost method. These measures are for contribution budgeting purposes and are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s benefit obligations.

**12. Normal Cost**

The portion of the present value of future benefits allocated to the current year by the actuarial cost method.

**13. Present Value of Future Benefits**

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

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

The Unfunded Actuarial Liability is the difference between Actuarial Liability and either the Market or the Actuarial Value of Assets. This value is sometimes referred to as “unfunded actuarial accrued liability.” It represents the difference between the actual assets and the amount of assets expected by the actuarial cost method as of the valuation date.



*Classic Values, Innovative Advice*