



City of San José Police and Fire Department Retirement Plan

Actuarial Valuation Report as of June 30, 2022

Produced by Cheiron

November 2022

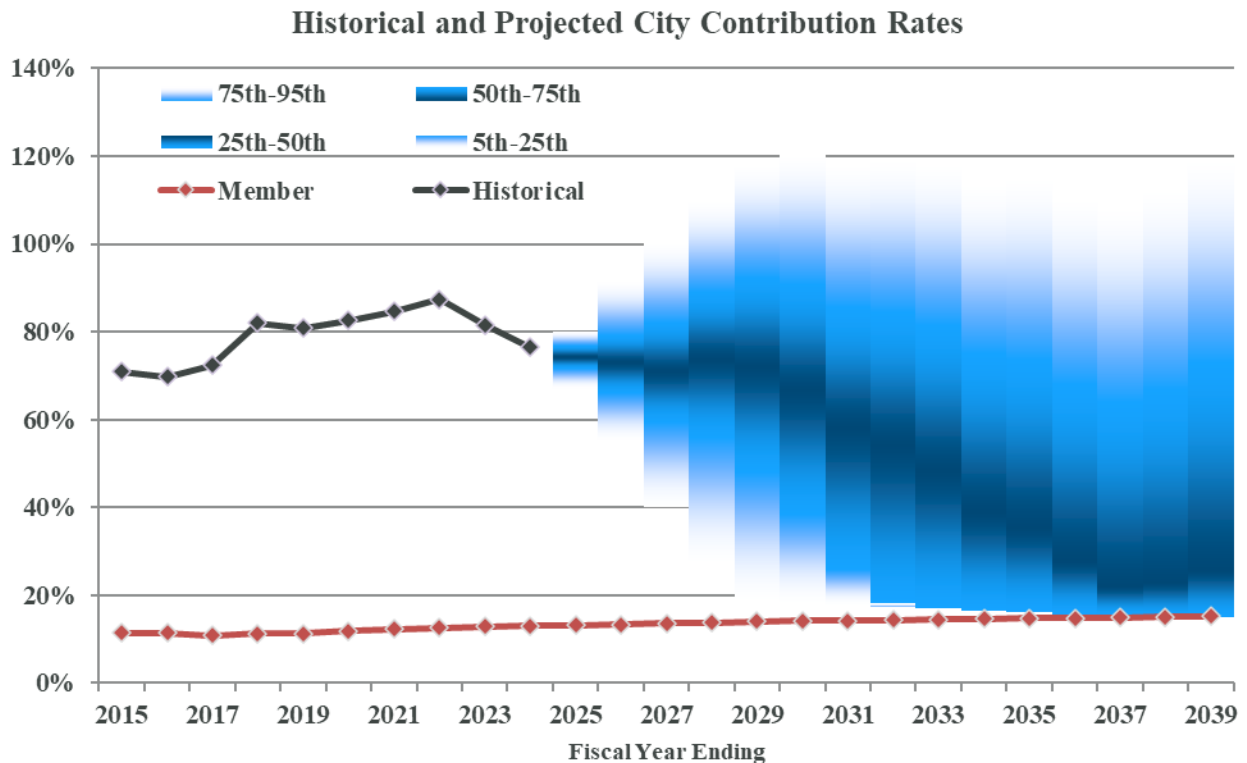
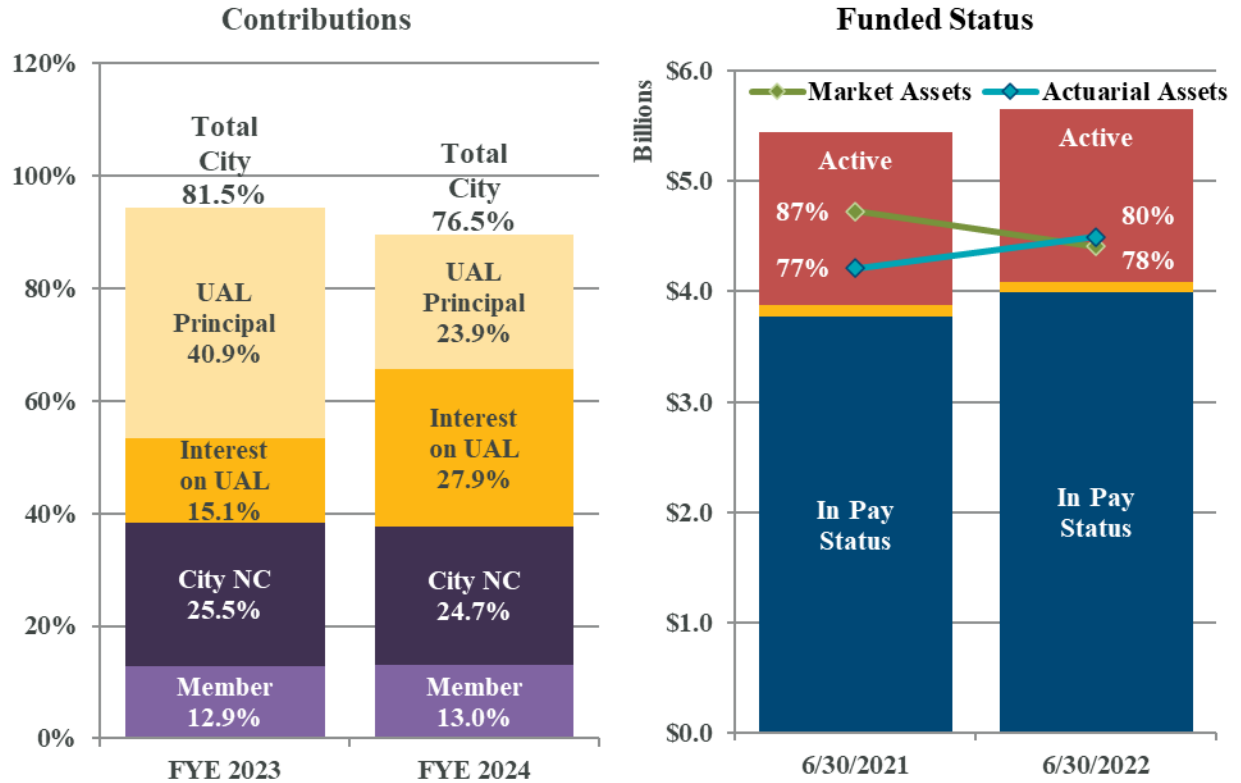
TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Section I Board Summary	1
Section II Identification and Assessment of Risk.....	12
Section III Certification	22
Section IV Assets	24
Section V Measures of Liability	28
Section VI Contributions.....	33
Section VII Actuarial Section of the ACFR.....	43
 <u>Appendices</u>	
Appendix A Membership Information	46
Appendix B Actuarial Assumptions and Methods	58
Appendix C Summary of Plan Provisions.....	65
Appendix D Glossary of Terms.....	74

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

Dashboard



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

Membership

As shown in Table I-1 below, total membership grew 2.0% from 2021 to 2022, and active membership increased 0.5%. Active membership continues its shift from Tier 1 to Tier 2. Tier 1 active membership decreased by 87 members while Tier 2 active membership increased by 95 members. Total expected payroll increased by 4.3% in aggregate, with Tier 1 payroll decreasing 4.6% and Tier 2 payroll increasing 19.1%.

Table I-1

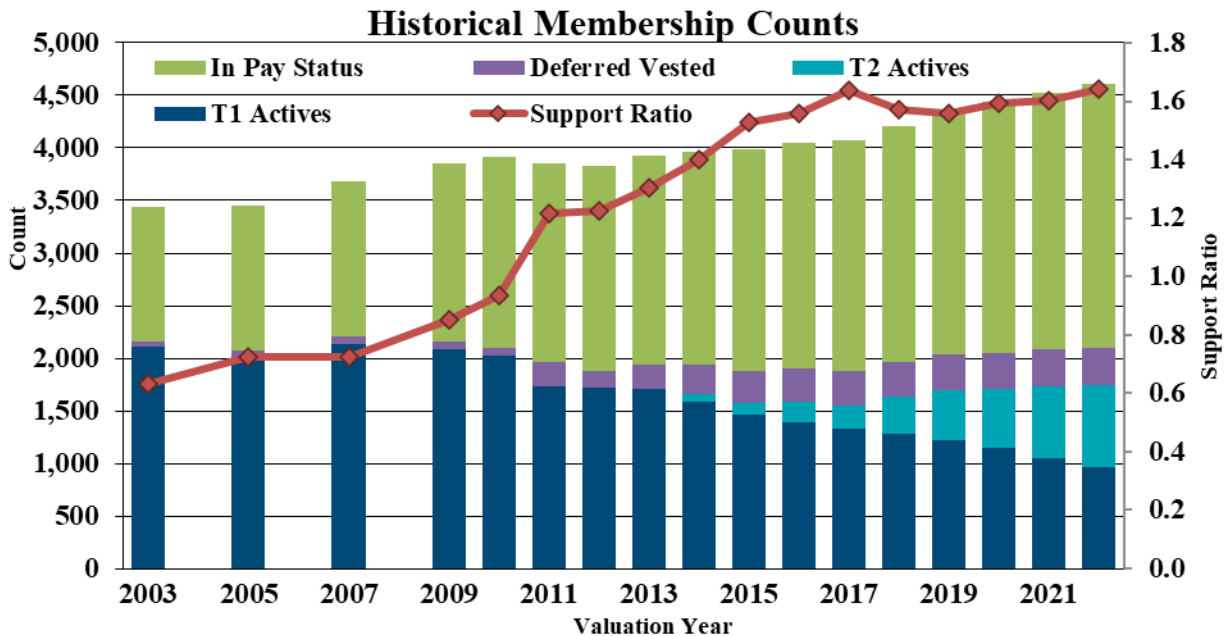
Total Membership			
	June 30, 2021	June 30, 2022	Change
Active Members			
Tier 1	1,053	966	-8.3%
Tier 2	<u>685</u>	<u>780</u>	<u>13.9%</u>
Total Actives	1,738	1,746	0.5%
Terminated Members	347	348	0.3%
Members In Pay Status	<u>2,438</u>	<u>2,518</u>	<u>3.3%</u>
Total	4,523	4,612	2.0%
Annual Rate of Pay for Active Members			
Tier 1	\$ 157,674	\$ 150,358	-4.6%
Tier 2	<u>94,884</u>	<u>113,037</u>	<u>19.1%</u>
Total	\$ 252,558	\$ 263,395	4.3%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

As shown in the chart below, the number of active members remained around 2,000 from 2003 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 1,746, the largest since 2010. At the same time, the number of members in pay status has nearly doubled from 1,272 in 2003 to 2,518 in 2022. 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 2003 to 1.6 in 2022. An increase in this ratio is to be expected for a maturing plan, but the impact of the recession in 2008-2009 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.



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

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, 2021 and 2022.

Table I-2

Actuarial Liability, Assets and Funded Status			
	June 30, 2021	June 30, 2022	Change
1. Actuarial Liability			
a. Actives	\$ 1,566,100	\$ 1,564,781	-0.1%
b. Deferred Vested	102,469	98,177	-4.2%
c. In Pay Status	<u>3,773,091</u>	<u>3,987,523</u>	<u>5.7%</u>
d. Total	\$ 5,441,660	\$ 5,650,481	3.8%
2. Market Value of Assets (MVA)	\$ 4,726,642	\$ 4,409,869	-6.7%
3. UAL - MVA Basis (1.d. - 2.)	\$ 715,018	\$ 1,240,612	73.5%
4. Funding Ratio - MVA Basis (2. ÷ 1.d.)	86.9%	78.0%	-8.8%
5. Actuarial Value of Assets (AVA)	\$ 4,210,447	\$ 4,495,687	6.8%
6. UAL - AVA Basis (1.d. - 5.)	\$ 1,231,213	\$ 1,154,794	-6.2%
7. Funding Ratio - AVA Basis (5. ÷ 1.d.)	77.4%	79.6%	2.2%
8. Expected Payroll	\$ 252,558	\$ 263,395	4.3%
9. Asset Leverage Ratio (2. ÷ 8.)	18.7	16.7	-10.5%
10. Actuarial Liability Leverage Ratio (1.d. ÷ 8.)	21.5	21.5	-0.4%

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 3.8% and the Market Value of Assets decreased 6.7%. As a result, the Unfunded Actuarial Liability (UAL) measured on the Market Value of Assets increased 73.5% from approximately \$715.0 million to \$1,240.6 million, and the funding ratio on an MVA basis decreased from 86.9% to 78.0%.

The asset smoothing method defers 80% of the investment loss on the Market Value of Assets while recognizing 20% of the prior four years' gains and losses, resulting in a 6.8% increase in the Actuarial Value of Assets. The UAL measured on the Actuarial Value of Assets decreased 6.2% from approximately \$1,231.2 million to \$1,154.8 million and the funding ratio increased from 77.4% to 79.6%. The Market Value of Assets is smaller than the Actuarial Value of Assets, so deferred net asset losses will be recognized in the Actuarial Value of Assets over the next four years.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

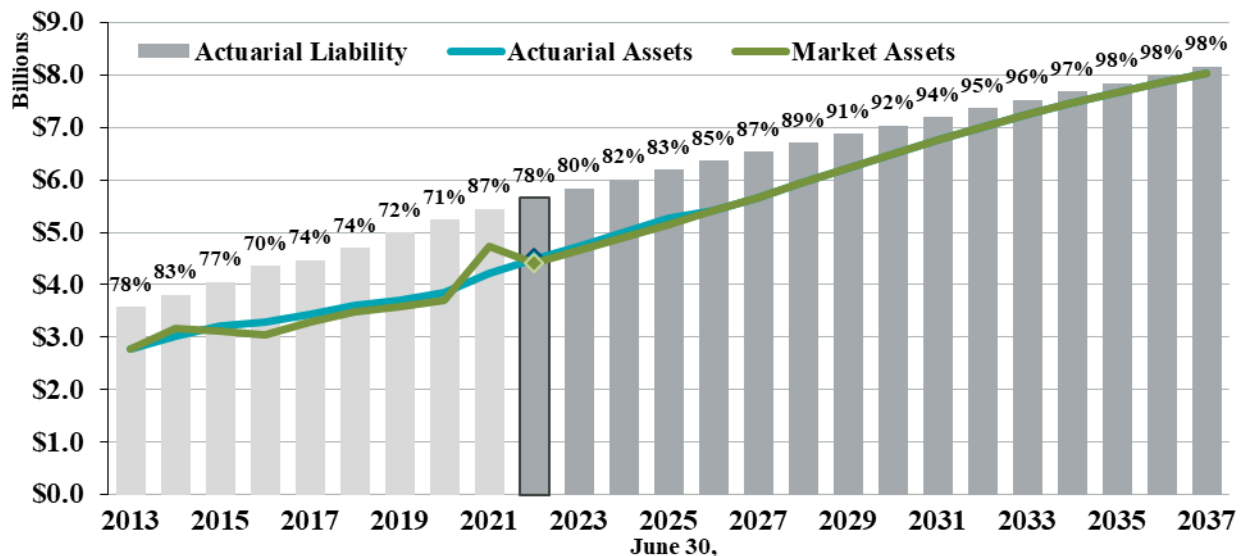
SECTION I – BOARD SUMMARY

The asset leverage ratio of 16.7 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 167% of payroll. Interest payments alone on such a loss would be approximately 11.1% 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 2013. The historical Actuarial Liability is shown in light gray while the projected Actuarial Liability is shown in a darker gray. From 2013 to 2020, the funding ratio declined from 78% 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. However, the investment losses in 2022 reduced the funded ratio back to 78%, the same funded ratio as in 2013. Based on the Actuarial Value of Assets, the funding ratio increased from 77% to 80% as another 20% of the significant asset gains from FYE 2021 are recognized. If all assumptions are met in the future, the funded status is expected to reach 100% by 2040.

Historical and Projected Assets and Actuarial Liability



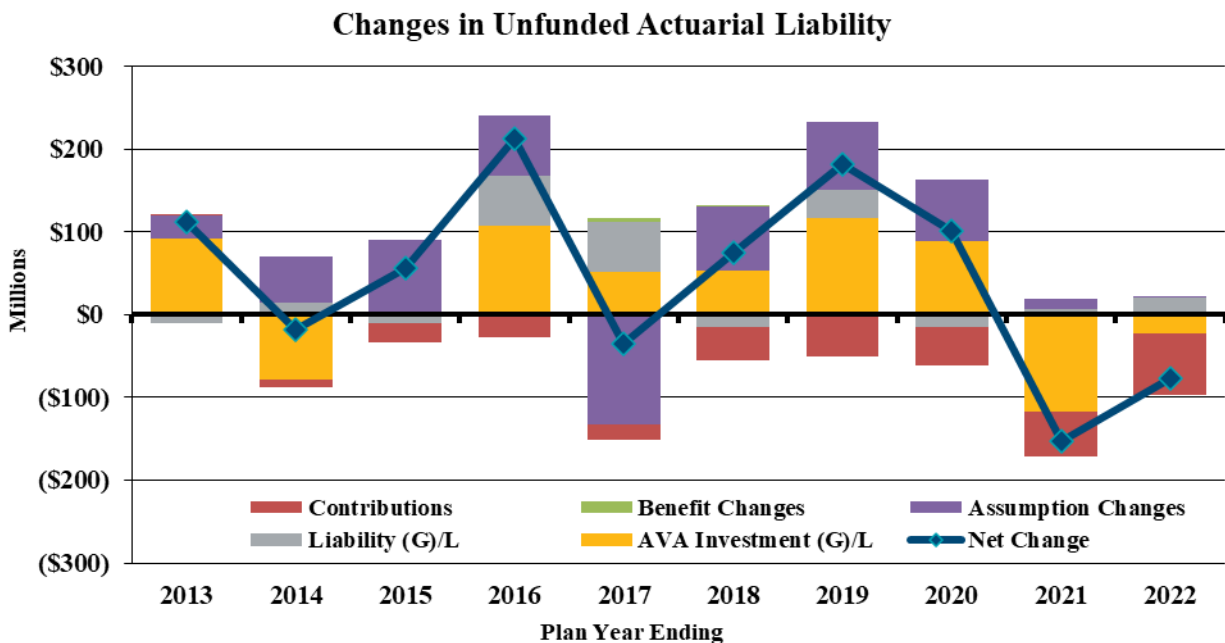
While the funded status is expected to improve, the UAL depends on actual investment returns, changes in assumptions and actuarial gains and losses, so there is potentially a wide range for the projected UAL. More detail on the assets can be found in section IV of this report, and more detail on the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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

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. The exceptional investment returns in 2021 set an expectation for investment gains on the AVA over the following four years as those deferred investment gains are recognized. The investment losses of 2022 significantly reduced the size of those expected gains. 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 \$461 million. Actuarial investment experience increased the UAL about \$287 million and assumption changes (primarily reducing the discount rate) increased the UAL about \$359 million. Losses on other assumptions further increased the UAL by about \$152 million, and benefit changes increased the UAL by about \$4 million. Contributions, the only consistent source of UAL reduction, reduced the UAL by about \$342 million.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

Table I-3

Changes in Unfunded Actuarial Liability											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Discount Rate	7.125%	7.00%	7.00%	6.875%	6.875%	6.75%	6.75%	6.625%	6.625%	6.625%	
Source											
AVA (G)/L	\$ 91.3	\$ (78.5)	\$ (2.8)	\$ 106.8	\$ 50.9	\$ 53.6	\$ 116.2	\$ 89.5	\$ (117.2)	\$ (22.5)	\$ 287.3
Liability (G)/L	(9.9)	14.7	(7.3)	61.3	61.8	(15.1)	35.1	(15.4)	6.7	20.3	152.1
Assumptions	28.2	56.3	90.0	72.7	(131.8)	76.4	80.9	73.5	12.4	0.1	358.6
Benefit Changes	0.0	0.0	0.0	0.0	4.3	0.2	0.0	0.0	0.0	0.0	4.5
Contributions	2.2	(9.9)	(23.0)	(27.4)	(19.6)	(39.7)	(49.8)	(46.5)	(54.1)	(74.2)	(342.0)
Total UAL Change	\$ 111.9	\$ (17.4)	\$ 56.9	\$ 213.3	\$ (34.4)	\$ 75.4	\$ 182.3	\$ 101.3	\$ (152.2)	\$ (76.4)	\$ 460.5

Dollar amounts in millions

Table I-4 below shows the breakdown of the changes in UAL during the last year by source. In total, the UAL decreased approximately \$76 million due to actuarial investment gains and contributions greater than normal cost and interest on the UAL offset by liability losses. The increase to assumed inflation increased the UAL very slightly due to projected increases in statutory limits. The total change in the UAL is about 1.4 percent of the Actuarial Liability.

Table I-4

Sources of FYE 2022 Change in UAL		
	Amount	% of AL
Unfunded Actuarial Liability, June 30, 2022	\$ 1,154,794	20.4%
Unfunded Actuarial Liability, June 30, 2021	1,231,212	21.8%
Change in Unfunded Actuarial Liability	\$ (76,418)	-1.4%
Sources of Changes		
Plan Changes	\$ 0	0.0%
Assumption changes	58	0.0%
Normal Cost and Interest on UAL less Contributions	(74,190)	-1.3%
Investment experience	(22,550)	-0.4%
Liability experience		
Salary experience	\$ 24,411	0.4%
Retirement experience	4,524	0.1%
Disability experience	(7,701)	-0.1%
Other experience	(970)	0.0%
Total Liability Experience	\$ 20,264	0.4%
Total Changes	\$ (76,418)	-1.4%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

Contribution Amounts and Rates

As shown in the upper left corner of the dashboard (page 1) and in Table I-5 below, the total City contribution rate decreased from 81.5% to 76.5% 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 unfavorable investment returns for FYE 2022 increased the interest on the UAL based on the Market Value of Assets, decreasing 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 2023 and 2024. Tier 1 City contributions decreased from 2023 to 2024, while Tier 2 City contributions increased on a dollar basis due to the increase in active membership and payroll but decreased on a percent of pay basis.

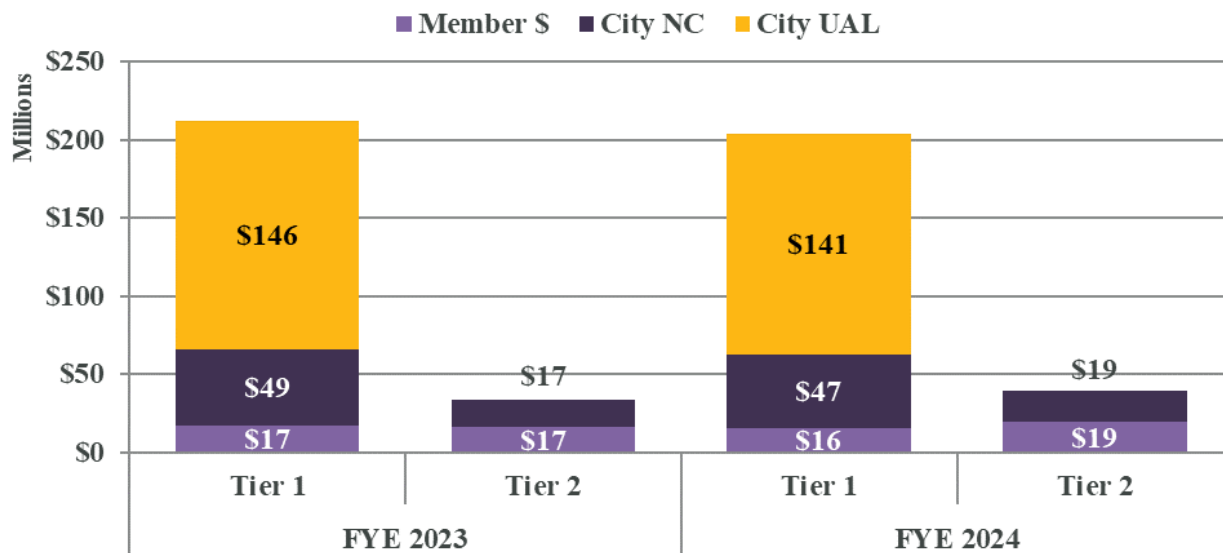
**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

Table I-5

Contribution Rates and Amounts (Throughout the Year)			
	FYE 2023	FYE 2024	Change
Member Rates			
Tier 1			
Police	11.03%	11.09%	0.06%
Fire	12.12%	12.00%	-0.12%
Tier 2			
Police	14.37%	14.35%	-0.02%
Fire	15.18%	15.11%	-0.07%
Aggregate	12.87%	13.01%	0.14%
City Contributions			
Tier 1 UAL	\$ 146,040	\$ 141,191	\$ (4,849)
Tier 1 Normal Cost	\$ 49,389	\$ 47,048	\$ (2,341)
(Including Admin Expenses)	33.76%	34.03%	0.27%
Tier 2 Contribution	\$ 16,597	\$ 19,359	\$ 2,762
	14.58%	14.55%	-0.03%
Aggregate	\$ 212,026	\$ 207,598	\$ (4,428)
	81.51%	76.52%	-4.99%

Dollar amounts in thousands

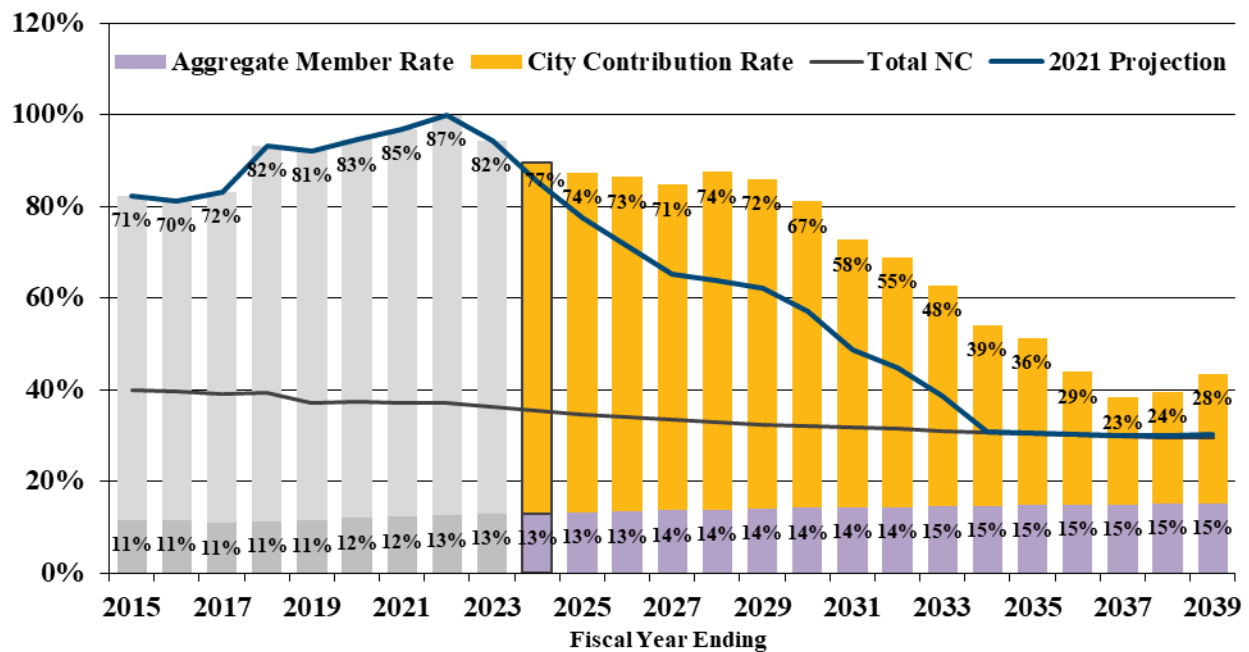


**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

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 have now decreased almost 10% of payroll, from 87.4% for FYE 2022 to 76.5% for FYE 2024 due primarily to the exceptional investment returns in 2021. Future City contribution rates are expected to decline a little more as the 2021 investment gains offset by the 2022 investment losses are recognized in the Actuarial Value of Assets, remain relatively level for a few years, and decline substantially thereafter as layers of the UAL are fully amortized.

While there will be downward pressure on City contribution rates in about five years, there is a wide range of potential future contribution rates due to the volatility of investment returns, as shown at the bottom of the dashboard (page 2). As a result, the range of contribution rates from the 5th to the 95th percentile in FYE 2030 (based on a valuation six years from now), is from 18% of payroll to 120% 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 13.3% standard deviation.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY

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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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.

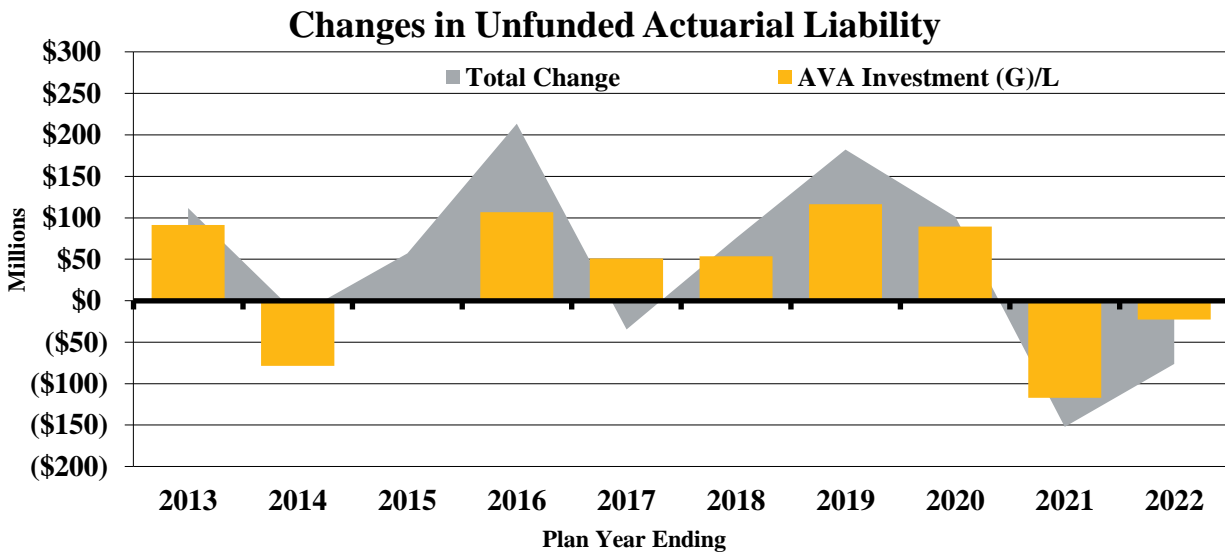
Identification of Risks

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.

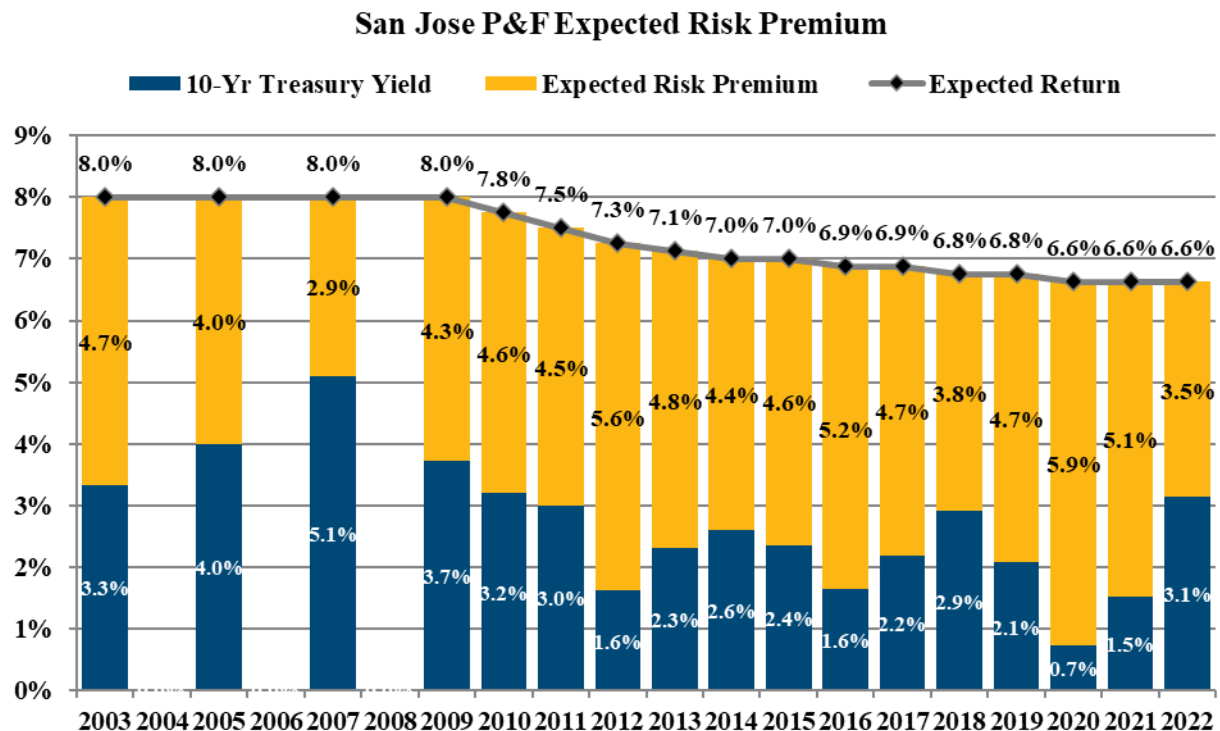


**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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. If the recent rise in interest rates persists, it may ease some of the pressure on plans to reduce discount rates and require less risk to achieve expected returns.

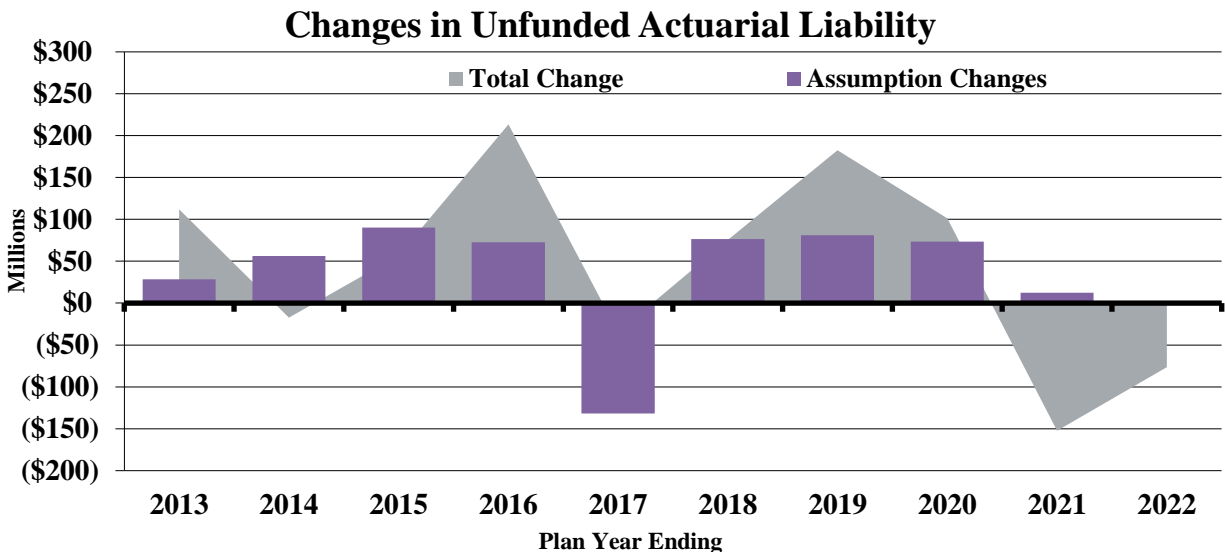


Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed-income investments, but lower expected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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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 7.125% 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.

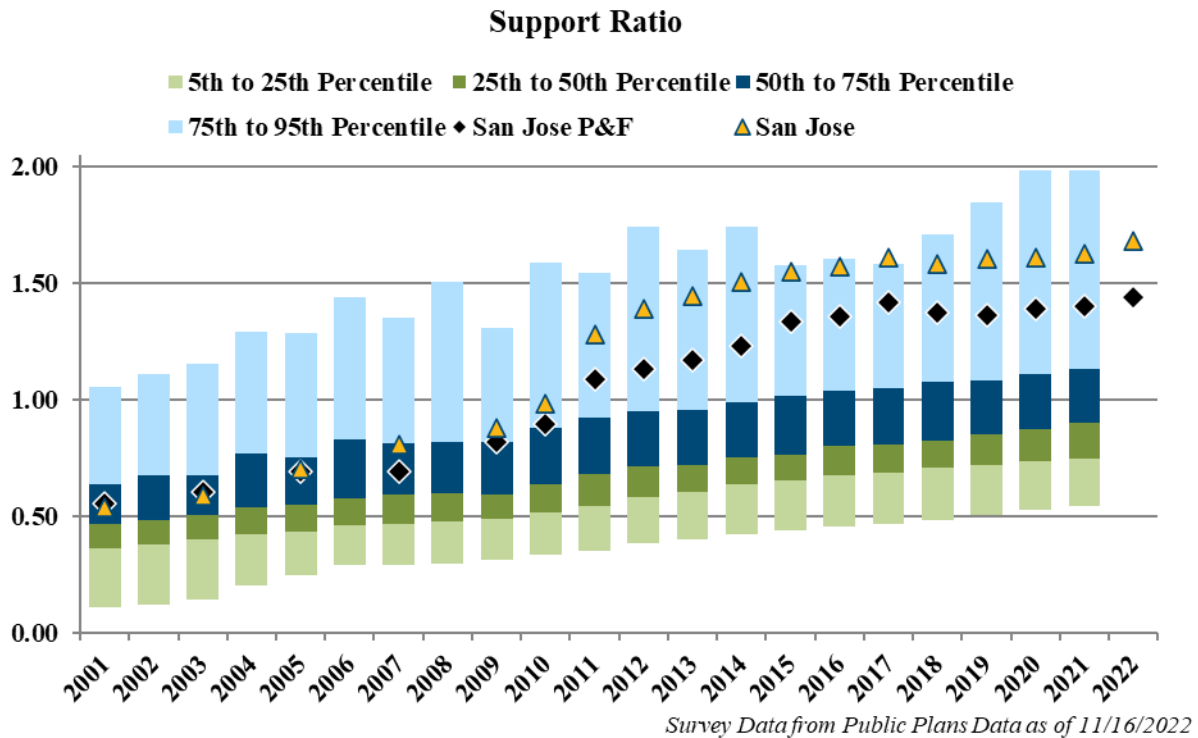
Plan maturity can be measured in a variety of ways, but all of the measures point to one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK



The chart above shows the distribution from the 5th to 95th 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

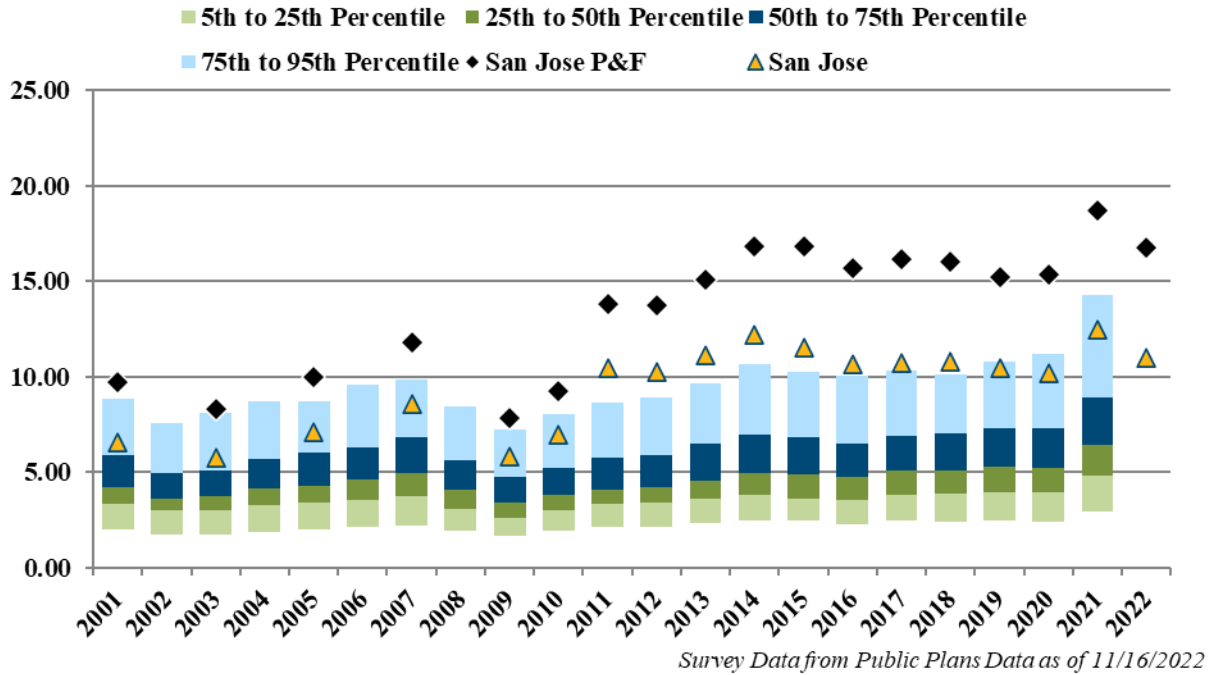
Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. An asset leverage ratio of 5.0, for example, means that if the Plan experiences a 10% loss on assets compared to the expected return, the loss would be equivalent to 50% of payroll. The same investment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

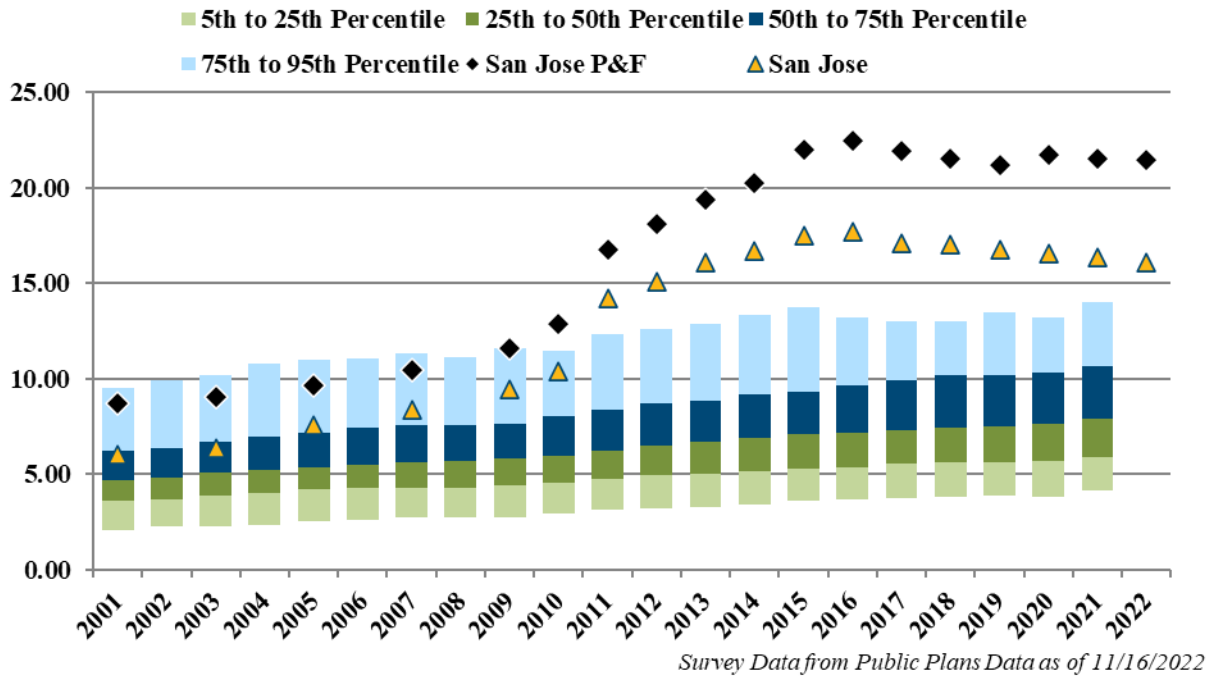
**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

Asset Leverage Ratio



Liability Leverage Ratio



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

The charts above show the distribution from the 5th to 95th 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 triangle 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 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. This sensitivity can work to San Jose's advantage or disadvantage depending on whether risks ultimately have a positive or negative impact.

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.

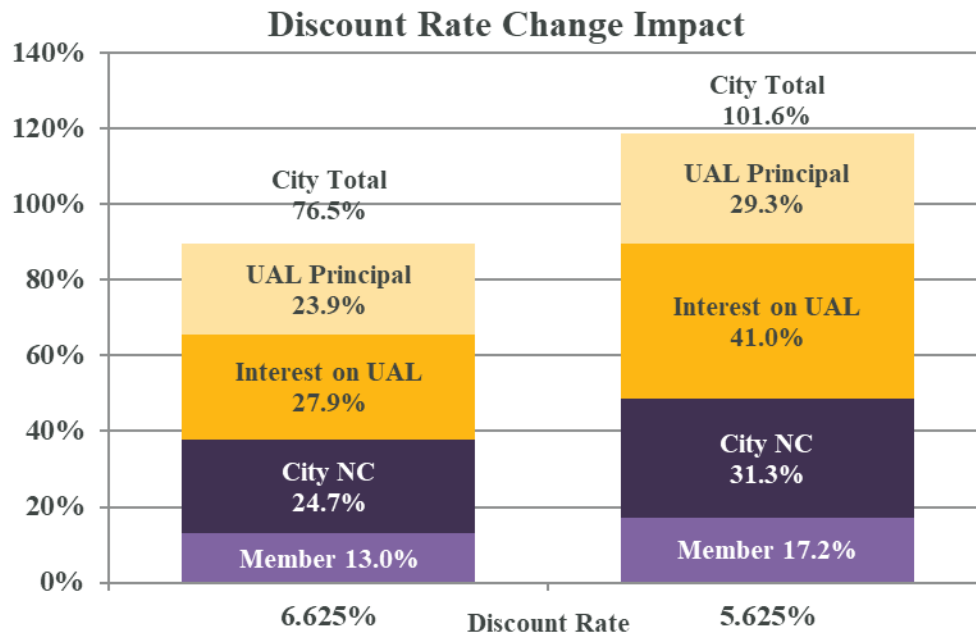
Point in Time Assessments

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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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 13% of payroll. Using the current amortization methods, the City’s total contribution rate would increase by about 25% of payroll to about 102% 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 recent increases in interest rates persist, the pressure to continue to reduce the discount rate may ease. But if the increases in interest rates trigger a recession, discount rates may need to be reduced further and the normal cost and interest cost will increase.

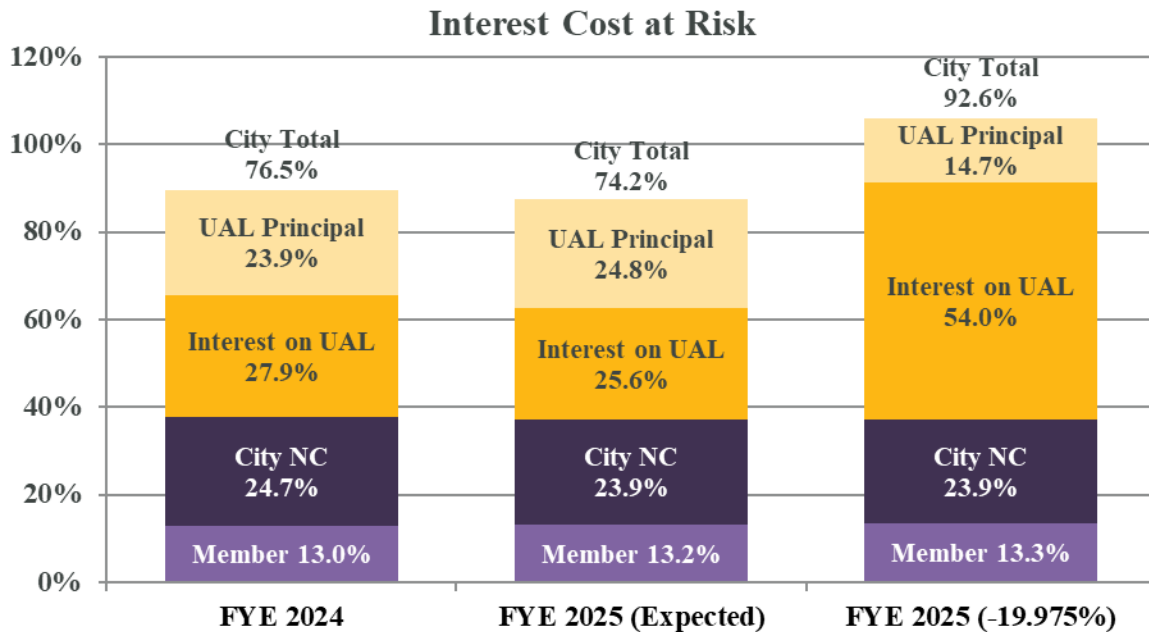
Actual investment returns do not affect the normal cost, but they directly affect the UAL, and the interest on the UAL. One simple measure of the risk inherent in the investment policy is the Interest Cost at Risk (ICaR), which is the amount that the interest on the UAL would increase if the investment 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 13.3%, making the investment return used to determine ICaR -19.975% (6.625% – 2 x 13.3%).

The chart on the next page shows the contribution rates for FYE 2024, determined in this valuation report in the far-left bar graph and the expected FYE 2025 contribution rates based on a 6.625% investment rate of return for FYE 2023, in the middle of the chart. The FYE 2025 bar graph on the right shows the impact of a -19.975% return for FYE 2023. The interest on the UAL would increase by 28% of pay. Using 5-year asset smoothing with a 20% corridor and a 15-year amortization the total contribution rate would increase by 18.4% of pay. The City contribution

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

rate for FYE 2025 in this scenario would be 81.1% of pay and expected to increase in future years.



Stochastic Projections

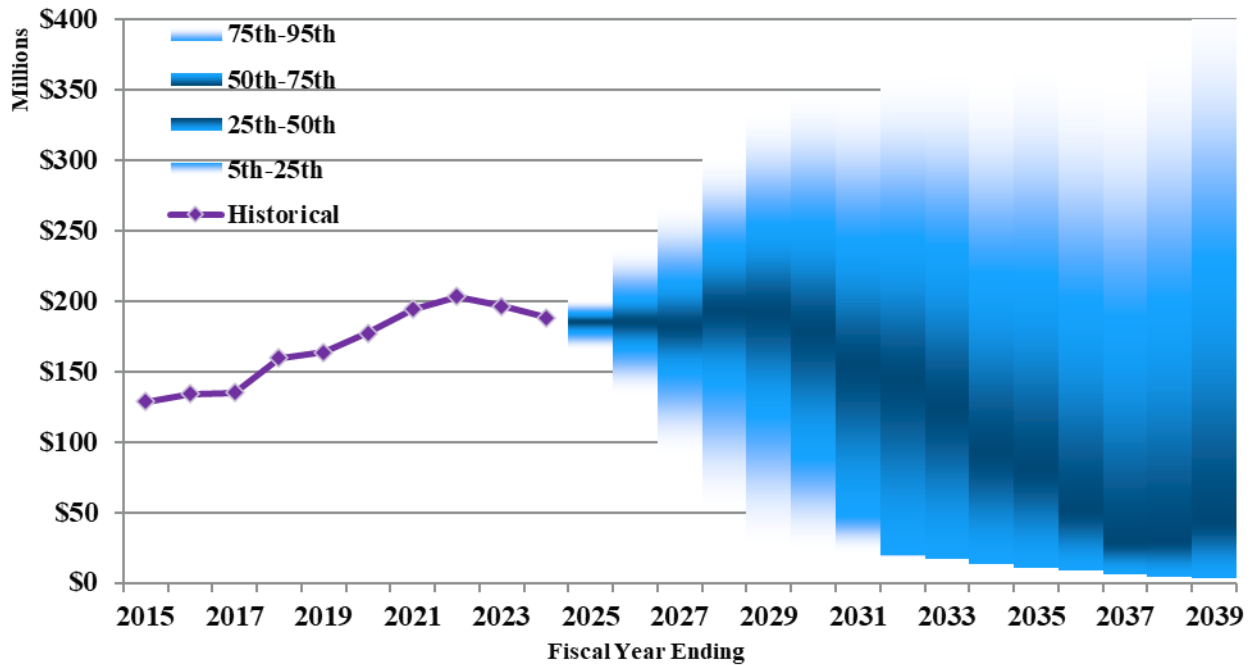
If experience has taught us anything, it is that there is a significant level of uncertainty in projections of the future. The largest source of uncertainty is the projection of investment returns. In order to better understand the potential impact of investment returns on the Plan, we have included 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 13.3% 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 5th and 95th percentiles of the 10,000 trials. This range is intended to convey the degree of uncertainty in the projections based on future investment returns.

CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

Historical and Stochastically Projected Tier 1 City Contribution Amounts



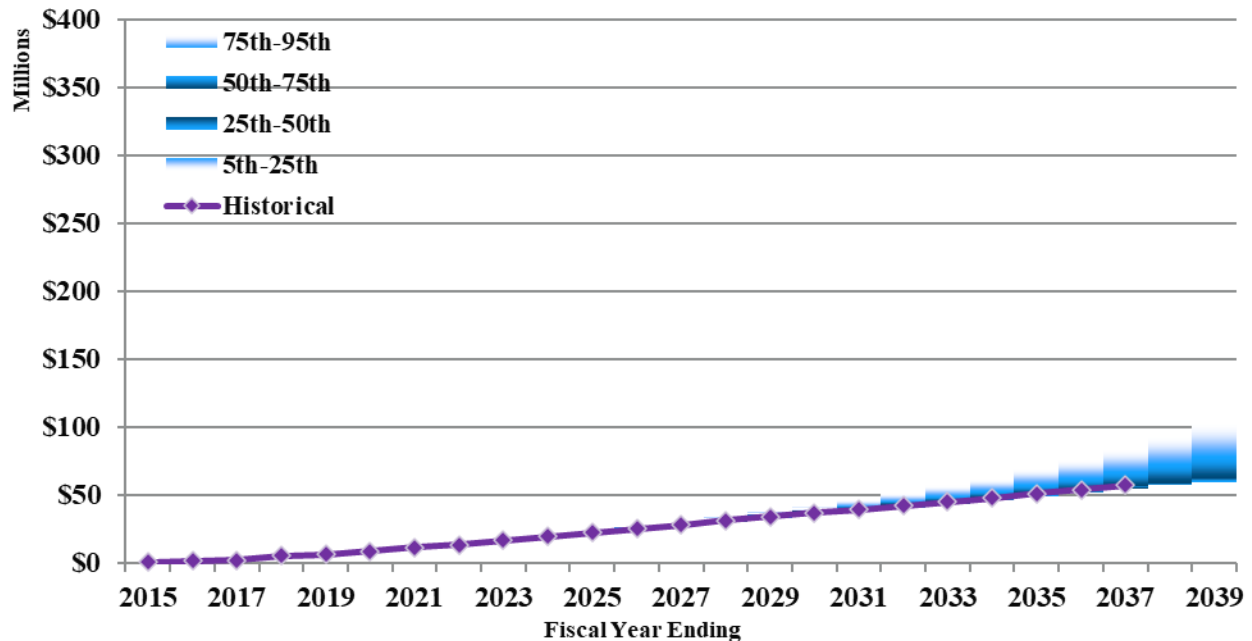
The chart shows a level to slightly increasing trend for the next five years followed by a strong downward trend. However, there is a very wide range of potential City contribution amounts depending on actual investment returns. The range between the 5th and 95th percentile for FYE 2030 (based on the 2028 actuarial valuation) is from a contribution of \$24 million to a contribution of \$348 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.

CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT

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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION III – CERTIFICATION

The purpose of this report is to present the June 30, 2022 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.

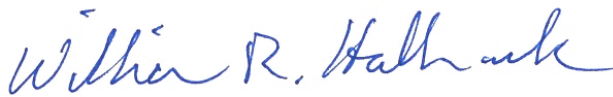
Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

Change in Market Value of Assets					
	FYE 2021	Fiscal Year Ending 2022			
	Total	Tier 1	Tier 2 Fire	Tier 2 Police	Total
Beginning Market Value	\$ 3,702,023	\$ 4,641,382	\$ 22,146	\$ 63,113	\$ 4,726,642
Contributions					
Member	29,033	18,516	3,213	9,930	31,660
City	201,370	198,903	3,213	9,930	212,046
Total	\$ 230,404	\$ 217,419	\$ 6,426	\$ 19,861	\$ 243,706
Net Investment Earnings	1,044,290	(288,417)	(1,583)	(4,550)	(294,550)
Benefit Payments	(244,310)	(259,562)	0	(315)	(259,877)
Administrative Expenses	(5,764)	(5,948)	(27)	(77)	(6,051)
Market Value, End of Year	\$ 4,726,642	\$ 4,304,874	\$ 26,963	\$ 78,033	\$ 4,409,869
Estimated Rate of Return	27.6%	-6.1%	-6.2%	-6.2%	-6.1%

Dollar amounts in thousands

The net investment earnings for the year ended June 30, 2022, represents approximately a -6.1% return on the Market Value of Assets compared to an assumed return of 6.625%. For the year ended June 30, 2021, the net investment return was approximately 27.6% (6.625% was assumed).

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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 and 2022, 6.75% for FYE's 2019 and 2020, and 6.875% for FYE 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, 2022 ACTUARIAL VALUATION REPORT**

SECTION IV – ASSETS

Table IV-2

Development of Actuarial Value of Assets				
	June 30, 2022			
	Tier 1	Tier 2 Fire	Tier 2 Police	Total
Market Assets (MVA)	\$ 4,304,874	\$ 26,963	\$ 78,033	\$ 4,409,869
FYE 2022				
Actual Earnings	(288,417)	(1,583)	(4,550)	(294,550)
Expected Earnings	312,618	1,676	4,816	319,110
Investment Gain/(Loss)	(601,036)	(3,259)	(9,365)	(613,660)
Deferred (80%)	(480,829)	(2,607)	(7,492)	(490,928)
FYE 2021				
Actual Earnings	\$ 1,027,760	\$ 4,288	\$ 12,241	\$ 1,044,290
Expected Earnings	247,182	1,002	2,859	251,043
Investment Gain/(Loss)	780,578	3,287	9,382	793,247
Deferred (60%)	\$ 468,347	\$ 1,972	\$ 5,629	\$ 475,948
FYE 2020				
Actual Earnings	\$ 132,650	\$ 373	\$ 1,064	\$ 134,086
Expected Earnings	245,136	669	1,909	247,714
Investment Gain/(Loss)	(112,486)	(296)	(845)	(113,628)
Deferred (40%)	(44,994)	(118)	(338)	(45,451)
FYE 2019				
Actual Earnings	\$ 113,422	\$ 197	\$ 560	\$ 114,180
Expected Earnings	239,559	404	1,150	241,113
Investment Gain/(Loss)	(126,137)	(207)	(589)	(126,934)
Deferred (20%)	(25,227)	(41)	(118)	(25,387)
Total Deferred Gain/(Loss)	\$ (82,703)	\$ (795)	\$ (2,319)	\$ (85,818)
Preliminary Actuarial Value of Assets	\$ 4,387,577	\$ 27,758	\$ 80,352	\$ 4,495,687
Minimum (80% of MVA)	\$ 3,443,899	\$ 21,570	\$ 62,426	\$ 3,527,896
Maximum (120% of MVA)	\$ 5,165,849	\$ 32,355	\$ 93,639	\$ 5,291,843
Actuarial Value of Assets	\$ 4,387,577	\$ 27,758	\$ 80,352	\$ 4,495,687
Ratio of Actuarial to Market	101.9%	102.9%	103.0%	101.9%
Estimated Rate of Return	7.2%	6.9%	6.9%	7.2%

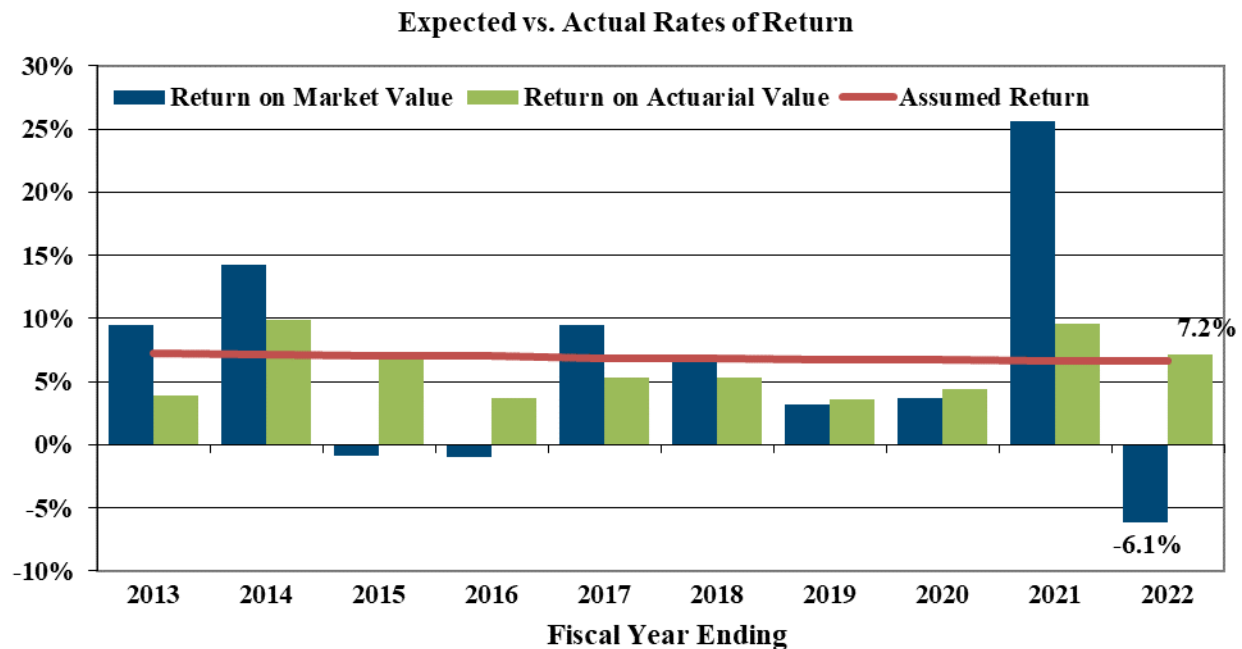
Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION IV – ASSETS

On the basis of the smoothed Actuarial Value of Assets, the return for the year ending June 30, 2022, was approximately 7.2%, 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 5 of the 10 years, the return on the Actuarial Value of Assets only exceeded the assumed return in 4 of the 10 years. The returns on the Actuarial Value of Assets from 2012 and 2013 include recognition of deferred investment losses from 2009.



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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, 2022, 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

Present Value of Future Benefits							
	Fire			Police			
	6/30/2021	6/30/2022	% Change	6/30/2021	6/30/2022	% Change	
Tier 1							
Actives	\$ 876,168	\$ 846,969	-3.3%	\$ 1,027,171	\$ 996,699	-3.0%	
Deferred Vested	11,139	13,247	18.9%	90,064	82,739	-8.1%	
In Pay Status							
Service Retirees	\$ 596,742	\$ 683,113	14.5%	\$ 1,700,871	\$ 1,809,999	6.4%	
Beneficiaries	93,397	102,162	9.4%	111,408	125,878	13.0%	
Disabled Retirees	<u>634,111</u>	<u>621,357</u>	-2.0%	<u>636,562</u>	<u>645,013</u>	1.3%	
Total	\$ 1,324,250	\$ 1,406,632	6.2%	\$ 2,448,841	\$ 2,580,890	5.4%	
Tier 1 Total	\$ 2,211,557	\$ 2,266,848	2.5%	\$ 3,566,076	\$ 3,660,328	2.6%	
Tier 2							
Actives	\$ 107,263	\$ 137,871	28.5%	\$ 250,296	\$ 307,829	23.0%	
Deferred Vested	95	302	217.9%	1,171	1,888	61.2%	
In Pay Status	<u>0</u>	<u>0</u>	N/A	<u>0</u>	<u>0</u>	N/A	
Tier 2 Total	\$ 107,358	\$ 138,173	28.7%	\$ 251,467	\$ 309,717	23.2%	
Plan Total	\$ 2,318,915	\$ 2,405,021	3.7%	\$ 3,817,543	\$ 3,970,045	4.0%	

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION V – MEASURES OF LIABILITY

Normal Cost

Under the Entry Age 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, 2022, 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

Entry Age Normal Cost By Group								
	Fire				Police			
	6/30/2021	6/30/2022	% Change	6/30/2021	6/30/2022	% Change		
Tier 1								
Retirement	\$ 17,845	\$ 16,924	-5.2%	\$ 15,389	\$ 14,619	-5.0%		
Termination	1,259	1,207	-4.1%	5,182	4,909	-5.3%		
Death	291	281	-3.4%	284	272	-4.2%		
Disability	11,009	10,583	-3.9%	11,467	11,023	-3.9%		
Reciprocity	<u>168</u>	<u>162</u>	<u>-3.9%</u>	<u>818</u>	<u>770</u>	<u>-5.8%</u>		
Tier 1 Total	\$ 30,572	\$ 29,157	-4.6%	\$ 33,140	\$ 31,594	-4.7%		
Expected Payroll	\$ 70,153	\$ 67,570	-3.7%	\$ 82,543	\$ 78,042	-5.5%		
Normal Cost Rate	43.58%	43.15%	-0.43%	40.15%	40.48%	0.33%		
Retirement	29.71%	29.41%	-0.30%	27.62%	27.84%	0.22%		
COLA	13.87%	13.74%	-0.13%	12.53%	12.64%	0.11%		
Tier 2								
Retirement	\$ 2,414	\$ 3,073	27.3%	\$ 6,166	\$ 7,352	19.2%		
Termination	201	258	28.5%	3,214	3,813	18.6%		
Death	73	93	27.3%	197	235	19.0%		
Disability	<u>2,762</u>	<u>3,540</u>	<u>28.2%</u>	<u>7,664</u>	<u>9,250</u>	<u>20.7%</u>		
Tier 2 Total	\$ 5,450	\$ 6,964	27.8%	\$ 17,242	\$ 20,650	19.8%		
Expected Payroll	\$ 18,123	\$ 23,299	28.6%	\$ 60,661	\$ 72,200	19.0%		
Normal Cost Rate	30.07%	29.89%	-0.18%	28.42%	28.60%	0.18%		
Retirement	23.72%	23.57%	-0.15%	22.37%	22.50%	0.13%		
COLA	6.35%	6.32%	-0.03%	6.05%	6.10%	0.05%		

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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 Entry Age 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, 2022, 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

Actuarial Liability							
	Fire			Police			
	6/30/2021	6/30/2022	% Change	6/30/2021	6/30/2022	% Change	
Tier 1							
Actives							
Retirement	\$ 492,312	\$ 483,613	-1.8%	\$ 684,938	\$ 674,014	-1.6%	
Termination	5,027	4,964	-1.3%	4,374	3,612	-17.4%	
Death	1,480	1,468	-0.8%	1,628	1,578	-3.1%	
Disability	<u>166,524</u>	<u>163,477</u>	<u>-1.8%</u>	<u>142,538</u>	<u>137,003</u>	<u>-3.9%</u>	
Total Actives	\$ 665,343	\$ 653,522	-1.8%	\$ 833,478	\$ 816,207	-2.1%	
Deferred Vested	11,139	13,247	18.9%	90,064	82,739	-8.1%	
In Pay Status	1,324,250	1,406,632	6.2%	2,448,841	2,580,890	5.4%	
Tier 1 Total	\$ 2,000,732	\$ 2,073,401	3.6%	\$ 3,372,383	\$ 3,479,836	3.2%	
Retirement	1,139,796	1,177,661	3.3%	1,894,841	1,939,103	2.3%	
COLA	860,936	895,740	4.0%	1,477,542	1,540,733	4.3%	
Tier 2							
Actives							
Retirement	\$ 9,002	\$ 12,618	40.2%	\$ 23,962	\$ 34,448	43.8%	
Termination	106	117	10.4%	5,387	6,997	29.9%	
Death	135	178	31.9%	349	470	34.7%	
Disability	<u>8,901</u>	<u>12,662</u>	<u>42.3%</u>	<u>19,436</u>	<u>27,564</u>	<u>41.8%</u>	
Total Actives	\$ 18,144	\$ 25,575	41.0%	\$ 49,134	\$ 69,479	41.4%	
Deferred Vested	\$ 95	\$ 302	N/A	\$ 1,171	\$ 1,888	61.2%	
Tier 2 Total	\$ 18,239	\$ 25,877	41.9%	\$ 50,305	\$ 71,367	41.9%	
Retirement	14,327	20,264	41.4%	39,194	54,621	39.4%	
COLA	3,912	5,613	43.5%	11,111	16,746	50.7%	
Plan Total	\$ 2,018,971	\$ 2,099,278	4.0%	\$ 3,422,688	\$ 3,551,203	3.8%	

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 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, 2022 and the sources experience gains and losses for each tier.

Table V-4

Development of Experience Gain or (Loss)			
	Tier 1	Tier 2	Total
Unfunded actuarial liability, 6/30/2021	\$ 1,238,789	\$ (7,577)	\$ 1,231,212
Interest	82,070	(502)	81,568
Expected unfunded actuarial liability payment with interest	(156,906)	709	(156,197)
Change in assumptions/methods	58	0	58
Expected unfunded actuarial liability, 6/30/2022	\$ 1,164,011	\$ (7,370)	\$ 1,156,641
Actual unfunded actuarial liability	1,165,659	(10,865)	1,154,794
Experience Gain or (Loss)	\$ (1,648)	\$ 3,495	\$ 1,847
Portion due to investment experience	22,316	234	\$ 22,550
Portion due to salary experience	(23,630)	(781)	(24,411)
Portion due to retirement experience	(4,523)	0	(4,523)
Portion due to termination experience	(364)	(1,905)	(2,269)
Portion due to mortality experience	1,894	149	2,043
Portion due to disability experience	4,602	3,099	7,701
Portion due to other asset and liability experience	(1,943)	2,699	756
Total	\$ (1,648)	\$ 3,495	\$ 1,847

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION V – MEASURES OF LIABILITY

Table V-5 below shows a five-year history of sources of liability gain and loss. Salary increases have been the primary source of losses, and disability rates have been the primary source of gains.

Table V-5

Historical Sources of Liability Gain or (Loss)						
Source	Year Ending June 30th					Total
	2018	2019	2020	2021	2022	
Salary increases	8,207	(29,392)	14,405	(9,202)	(24,411)	(40,392)
Retirement	4,121	1,275	1,099	(2,685)	(4,524)	(714)
Termination	2,515	(3,238)	(4,229)	(6,401)	(2,269)	(13,621)
Mortality	450	(7,072)	(2,648)	5,753	2,043	(1,474)
Disability	2,628	7,130	7,377	3,353	7,701	28,188
Other	(2,796)	(3,755)	(653)	2,456	1,195	(3,554)
Total	\$ 15,124	\$ (35,053)	\$ 15,351	\$ (6,726)	\$ (20,264)	\$ (31,567)

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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, 2022.

Table VI-1

Tier 1 Member UAL Amortization Bases and Payments						
Source	Date	Balance	Remaining Period	Amortization Payment		
				Fire	Police	Total
Reclassified Classics	6/30/2016	48	12.0	1	4	5
Reclassified Fed Svc	6/30/2016	18	N/A	0	3	3
Reclassified Rehires	6/30/2016	201	N/A	4	18	22
Total Members		\$ 268		\$ 6	\$ 24	\$ 30
Retirement		134		3	12	15
COLA		134		3	12	15

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 individually 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 2024.

Table VI-2

Classic Member Contribution Rate							
	Fiscal Year Ending 2023			Fiscal Year Ending 2024			
	Retirement	COLA	Total	Retirement	COLA	Total	
Classic UAL Payment	\$ 2.6	\$ 3.0	\$ 5.7	\$ 2.6	\$ 2.9	\$ 5.5	
Expected Classic Payroll			\$ 3,101			\$ 3,570	
Classic Member Rate	0.09%	0.09%	0.18%	0.07%	0.08%	0.15%	

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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, 2022. Each component is amortized over the remaining period shown in the table with payments assumed to increase 2.50% 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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION VI – CONTRIBUTIONS

Table VI-3

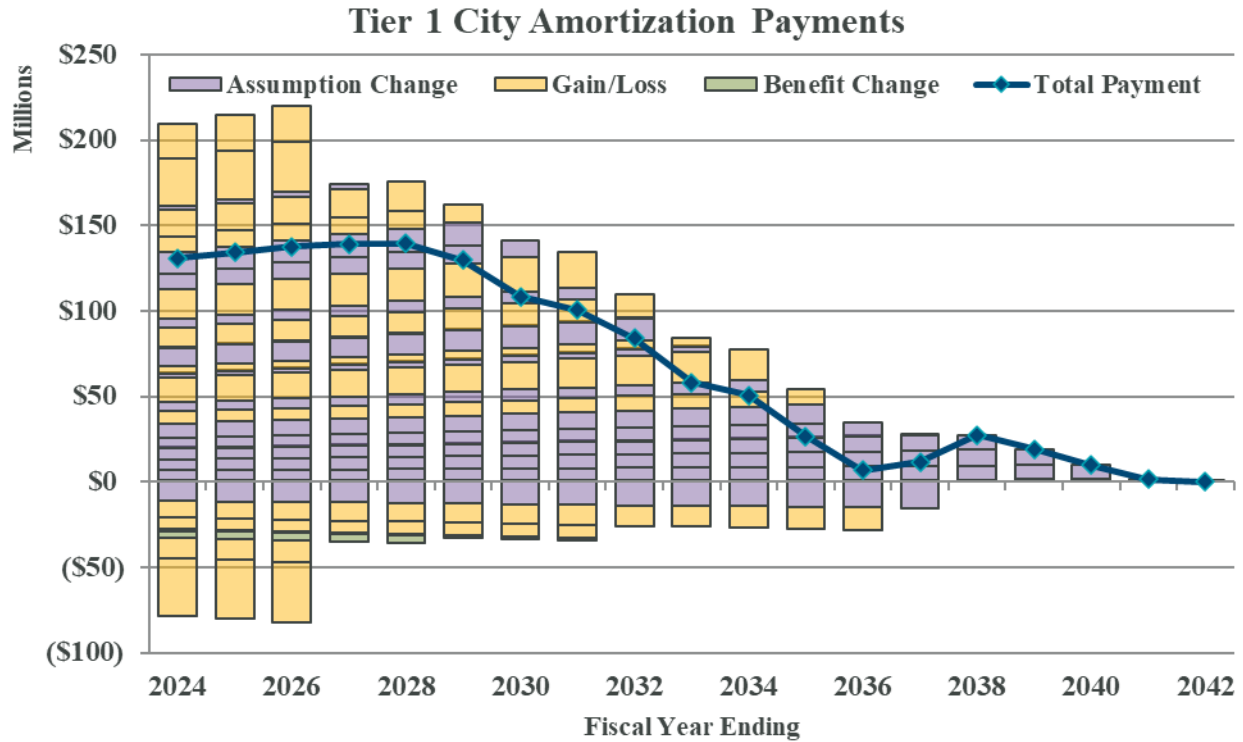
Tier 1 City UAL Amortization Bases and Payments						
Source	Date	Balance	Remaining Period	Amortization Payment		
				Fire	Police	Total
Ben Improvement	6/30/2007	4,536	1.0	4,837	0	4,837
Experience Gain	6/30/2007	(43,220)	4.0	(5,764)	(6,447)	(12,211)
Assumption Change	6/30/2007	10,985	5.0	1,195	1,336	2,531
Experience Loss	6/30/2009	98,879	4.0	13,187	14,750	27,937
Assumption Change	6/30/2009	72,204	7.0	5,826	6,516	12,342
Experience Loss	6/30/2010	71,123	4.0	9,485	10,610	20,095
Assumption Change	6/30/2010	59,168	8.0	4,256	4,761	9,017
Experience Gain	6/30/2011	(120,322)	4.0	(16,047)	(17,949)	(33,996)
Assumption Change	6/30/2011	42,047	9.0	2,739	3,064	5,803
Experience Loss	6/30/2012	79,989	6.0	7,389	8,264	15,653
SRBR Elimination	6/30/2012	(19,508)	6.0	(1,802)	(2,015)	(3,817)
Assumption Change	6/30/2012	85,794	10.0	5,124	5,731	10,855
Experience Loss	6/30/2013	54,099	7.0	4,365	4,882	9,247
Assumption Change	6/30/2013	23,498	11.0	1,299	1,453	2,753
Experience Gain	6/30/2014	(47,444)	9.0	(3,091)	(3,457)	(6,548)
Assumption Change	6/30/2014	48,154	12.0	2,486	2,781	5,267
Experience Gain	6/30/2015	(7,859)	9.0	(512)	(573)	(1,085)
Assumption Change	6/30/2015	80,176	13.0	3,891	4,352	8,242
Experience Gain	6/30/2016	126,962	9.0	8,271	9,251	17,522
Assumption Change	6/30/2016	66,320	14.0	3,043	3,403	6,446
Measure F (Rehires)	6/30/2016	2,537	10.0	43	277	321
Experience Loss	6/30/2017	89,522	10.0	5,347	5,980	11,327
Assumption Change	6/30/2017	(122,443)	15.0	(5,337)	(5,970)	(11,307)
Measure F (Classic/Fed)	6/30/2018	83	11.0	1	9	10
Experience Loss	6/30/2018	36,388	11.0	2,012	2,251	4,263
Assumption Change	6/30/2018	71,995	16.0	2,995	3,350	6,344
Experience Loss	6/30/2019	130,350	12.0	6,729	7,527	14,256
Assumption Change	6/30/2019	77,973	17.0	3,107	3,475	6,582
Experience Loss	6/30/2020	68,675	13.0	3,333	3,727	7,060
Assumption Change	6/30/2020	71,512	18.0	2,739	3,063	5,802
Experience Gain	6/30/2021	(102,050)	14.0	(4,682)	(5,237)	(9,918)
Assumption Change	6/30/2021	12,131	19.0	448	501	949
Experience Loss	6/30/2022	1,648	15.0	72	80	152
Assumption Change	6/30/2022	58	20.0	2	2	4
2022 UAL Payment		141,430				
Total City		\$ 1,165,392		\$ 66,985	\$ 69,750	\$ 136,734
Retirement		607,606		37,337	37,959	75,295
COLA		557,786		29,648	31,791	61,439

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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, 2022. Each component is amortized from the valuation date in which it was first recognized with payments assumed to increase 2.50% each year. All components of the Tier 2 UAL are split evenly between the members and the City.

Table VI-4

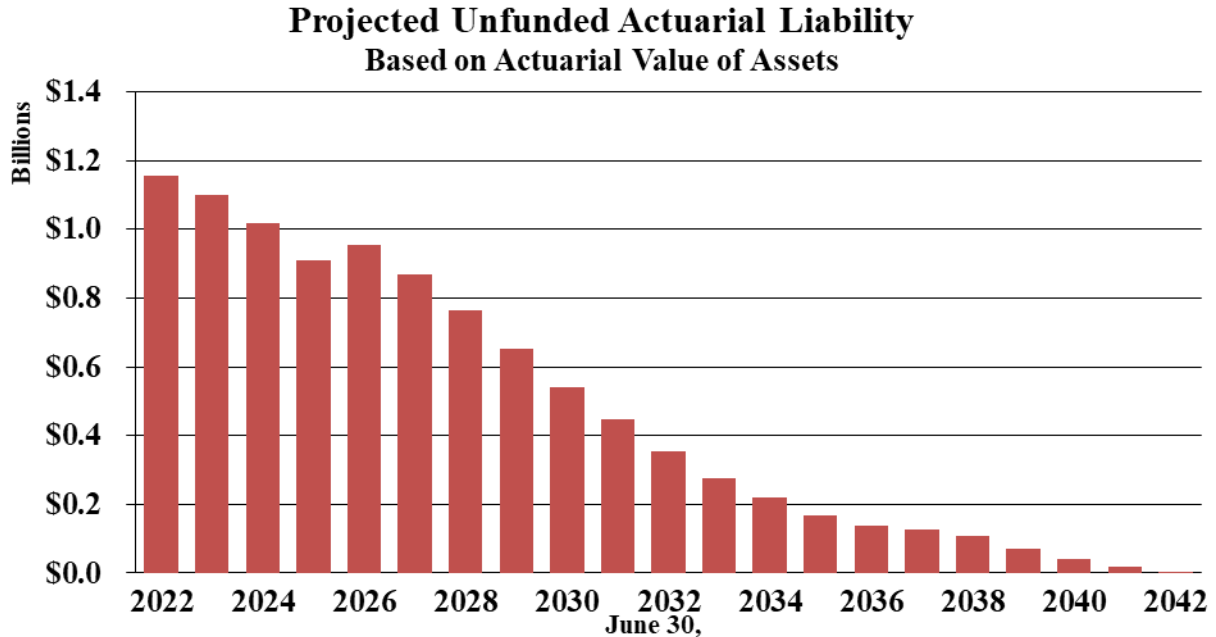
Tier 2 UAL Amortization Bases						
Source	Date	Outstanding Balance		Remaining Period	Amortization Payment	
		Fire	Police		Fire	Police
Members and City						
Experience Gain	6/30/2014	\$ 0	\$ (21)	9.0	\$ 0	\$ (3)
Assumption Change	6/30/2014	0	(4)	12.0	0	(0)
Experience Gain	6/30/2015	36	15	9.0	5	2
Assumption Change	6/30/2015	7	(16)	13.0	1	(2)
Experience Gain	6/30/2016	(48)	(110)	9.0	(7)	(15)
Assumption Change	6/30/2016	17	81	14.0	2	8
Measure F (Rehires)	6/30/2016	180	582	10.0	23	74
Experience Loss	6/30/2017	376	682	10.0	48	86
Assumption Change	6/30/2017	(135)	(459)	15.0	(13)	(42)
Experience Loss	6/30/2018	(439)	(917)	11.0	(51)	(107)
Assumption Change	6/30/2018	135	398	16.0	12	35
Experience Loss	6/30/2019	(71)	14	12.0	(8)	2
Assumption Change	6/30/2019	(201)	(10)	17.0	(17)	(1)
Experience Loss	6/30/2020	(151)	(2,175)	13.0	(16)	(224)
Assumption Change	6/30/2020	(160)	395	18.0	(13)	32
Experience Gain	6/30/2021	(1,064)	(4,430)	14.0	(103)	(431)
Assumption Change	6/30/2021	16	108	19.0	1	8
Experience Loss	6/30/2022	(377)	(3,118)	15.0	(35)	(288)
Assumption Change	6/30/2022	0	0	20.0	0	0
Total Tier 2		\$ (1,880)	\$ (8,985)		\$ (171)	\$ (866)
Retirement		(1,726)	(9,282)		(164)	(903)
COLA		(154)	297		(7)	37

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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 the 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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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 2024, the administrative expense assumption is approximately \$1,415 per member. Table VI-5 below shows the development of the administrative expense rates for FYE 2024.

Table VI-5

Administrative Expense By Group				
	Fire		Police	
	Tier 1	Tier 2	Tier 1	Tier 2
Members	1,423	203	2,278	708
Administrative Expense	\$ 2,014	\$ 287	\$ 3,223	\$ 1,002
Member Admin Expense Rate	0.29%	0.41%	0.29%	0.51%
Retirement	0.20%	0.32%	0.20%	0.40%
COLA	0.09%	0.09%	0.09%	0.11%
City Admin Expense Rate	2.80%	0.41%	4.13%	0.51%
Retirement	1.90%	0.32%	3.09%	0.40%
COLA	0.90%	0.09%	1.04%	0.11%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION VI – CONTRIBUTIONS

Table VI-6 below shows the member contribution rates for FYE 2024 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

Fiscal Year Ending 2024 Member Contribution Rates						
	Fire			Police		
	Retirement	COLA	Total	Retirement	COLA	Total
Tier 1						
Normal Cost	7.97%	3.73%	11.70%	7.37%	3.40%	10.77%
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>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Subtotal	8.17%	3.82%	11.99%	7.57%	3.49%	11.06%
Measure F UAL	<u>0.00%</u>	<u>0.01%</u>	<u>0.01%</u>	<u>0.02%</u>	<u>0.01%</u>	<u>0.03%</u>
Total	8.17%	3.83%	12.00%	7.59%	3.50%	11.09%
Tier 2						
Normal Cost	11.79%	3.16%	14.95%	11.25%	3.05%	14.30%
Admin Expense	0.32%	0.09%	0.41%	0.40%	0.11%	0.51%
UAL	<u>-0.24%</u>	<u>-0.01%</u>	<u>-0.25%</u>	<u>-0.40%</u>	<u>-0.06%</u>	<u>-0.46%</u>
Total	11.87%	3.24%	15.11%	11.25%	3.10%	14.35%

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

Fiscal Year Ending 2024 Estimated City Contributions							
Contribution Amounts Throughout the Year							
	Fire			Police			
	Retirement	COLA	Total	Retirement	COLA	Total	
Tier 1 UAL Payment	\$ 38,553	\$ 30,614	\$ 69,168	\$ 39,196	\$ 32,827	\$ 72,023	
Tier 1 Normal Cost	\$ 13,992 21.44%	\$ 6,532 10.01%	\$ 20,524 31.45%	\$ 14,938 20.46%	\$ 6,750 9.25%	\$ 21,688 29.71%	
Tier 1 Admin Expenses	\$ 1,243 1.90%	\$ 581 0.90%	\$ 1,824 2.80%	\$ 2,256 3.09%	\$ 756 1.04%	\$ 3,012 4.13%	
Tier 2 Contribution	\$ 4,205 11.87%	\$ 1,148 3.24%	\$ 5,353 15.11%	\$ 10,981 11.25%	\$ 3,026 3.10%	\$ 14,007 14.35%	
Total Contribution	\$ 57,993 57.60%	\$ 38,876 38.61%	\$ 96,869 96.20%	\$ 67,370 39.49%	\$43,359 25.41%	\$110,730 64.90%	

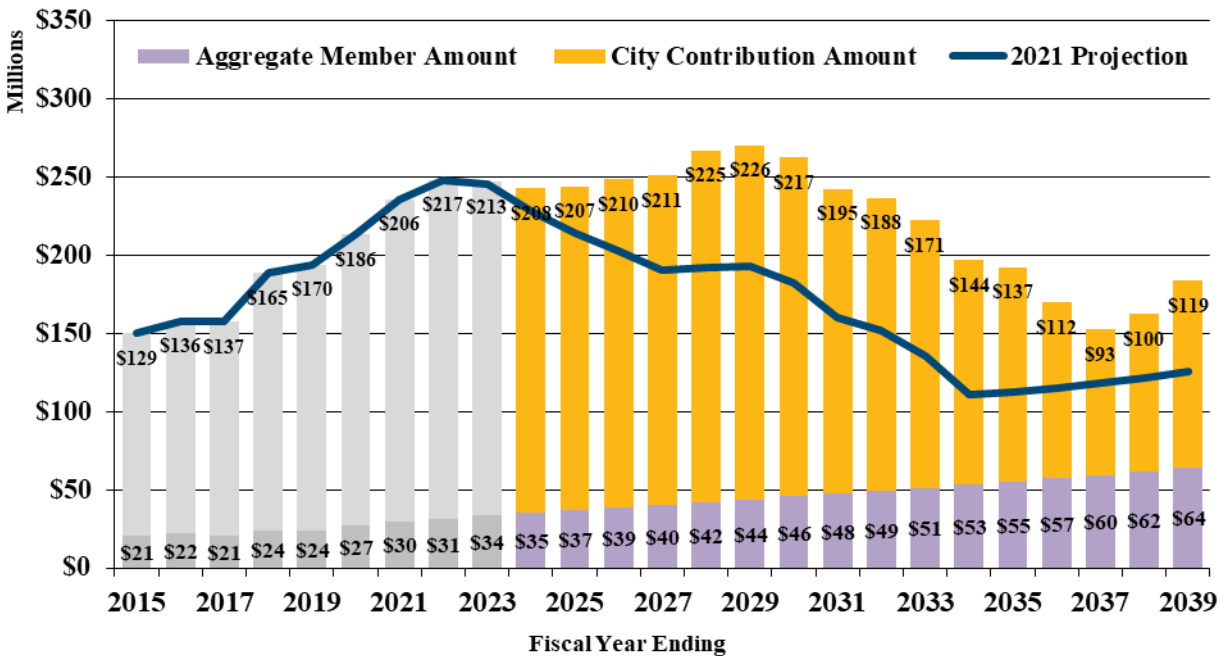
Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

Schedule of Funding Progress						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded Actuarial Liability	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
6/30/2022	\$ 4,495,687	\$ 5,650,481	\$ 1,154,794	79.6%	\$ 263,395	438%
6/30/2021	4,210,447	5,441,660	1,231,213	77.4%	252,558	487%
6/30/2020	3,851,948	5,235,335	1,383,387	73.6%	240,798	575%
6/30/2019	3,706,302	4,988,427	1,282,125	74.3%	235,818	544%
6/30/2018	3,596,590	4,696,428	1,099,838	76.6%	218,429	504%
6/30/2017	3,439,922	4,464,402	1,024,480	77.1%	203,816	503%
6/30/2016	3,303,550	4,355,990	1,052,440	75.8%	194,072	542%
6/30/2015	3,212,776	4,058,410	845,634	79.2%	184,733	458%
6/30/2014	3,025,101	3,813,825	788,724	79.3%	188,189	419%
6/30/2013	2,771,924	3,578,031	806,107	77.5%	184,645	437%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

SECTION VII – ACTUARIAL SECTION OF THE ACFR

Table VII-2

Schedule of Funded Liabilities by Type									
Actuarial Valuation Date	Actuarial Liability For				Reported Assets	Portion of Actuarial Liability Covered by Reported Assets			
	Active	Retirees,	Remaining						
	Member	Beneficiaries	Active						
	Contributions	and Other	Members'						
	(A)	Inactives	Liability			(A)	(B)	(C)	
6/30/2022	\$ 316,682	\$ 4,085,699	\$ 1,248,100	\$ 4,495,687	100%	100%	7%		
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%		

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

Analysis of Financial Experience					
Actuarial Valuation Date	Gain or (Loss) for Year(s) Ending on Valuation Date Due To:				
	Investment Income	Combined Liability Experience	Total Financial Experience	Non-Recurring Items	Total Experience
6/30/2022	\$ 22,550	\$ (20,703)	\$ 1,847	\$ (58)	\$ 1,789
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)

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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.
- All active employees are assumed to accrue a full year of service in all future years.
- 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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-1

Active Member Data					
	June 30, 2021	June 30, 2022			
	Total	Fire	Police	Total	% Change
<u>Tier 1</u>					
Count	1,053	458	508	966	-8.3%
Averages					
Current Age	46.6	47.4	46.9	47.1	1.0%
Eligibility Service	18.4	18.2	19.3	18.8	2.0%
Benefit Service	17.6	17.4	18.5	18.0	1.8%
Expected Pensionable Earnings	\$ 159,149	\$ 160,150	\$ 171,886	\$ 166,322	4.5%
<u>Tier 2</u>					
Count	685	195	585	780	13.9%
Averages					
Current Age	31.7	34.4	31.7	32.3	2.0%
Eligibility Service	3.1	4.0	3.5	3.6	15.1%
Benefit Service	3.1	3.8	3.4	3.5	14.4%
Expected Pensionable Earnings	\$ 124,049	\$ 125,176	\$ 133,878	\$ 131,703	6.2%
<u>Total</u>					
Count	1,738.0	653	1,093	1,746	0.5%
Averages					
Current Age	40.8	43.5	38.7	40.5	-0.6%
Eligibility Service	12.4	13.9	10.8	12.0	-3.1%
Benefit Service	11.9	13.3	10.4	11.5	-3.4%
Expected Pensionable Earnings	\$ 145,315	\$ 149,706	\$ 151,543	\$ 150,856	3.8%

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-2

Schedule of Active Member Data					
Valuation Year	Active Count	Annual Payroll	Monthly Average Pay	Percent Change in Average Pay	
2022	1,746	\$ 263,395,000	\$ 12,571	3.81%	
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%	

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-3

Payee Member Data					
	June 30, 2021		June 30, 2022		%Change
Retired					
Count		1,193		1,261	5.7%
Average Age		65.0		65.0	0.0%
Average Annual Benefit	\$	119,245	\$	122,482	2.7%
Service Disability					
Count		851		838	-1.5%
Average Age		69.9		70.2	0.5%
Average Annual Benefit	\$	104,976	\$	108,184	3.1%
Non-Service Disability					
Count		33		28	-15.2%
Average Age		56		58.9	4.4%
Average Annual Benefit	\$	59,307	\$	55,503	-6.4%
Beneficiaries & SADROs					
Count		361		391	8.3%
Average Age		69.9		70.0	0.2%
Average Annual Benefit	\$	49,215	\$	51,080	3.8%
Total					
Count		2,438		2,518	3.3%
Average Age		67.3		67.4	0.2%
Average Annual Benefit	\$	103,084	\$	105,892	2.7%

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-4

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls										
Period	Beginning Annual		Added to Rolls Annual		Removed from Rolls Annual		End of Period Annual		% Increase in Annual Allowances	Average Annual Allowances
	Count	Allowances	Count	Allowances	Count	Allowances	Count	Allowances		
2021-2022	2,438	\$ 251,318	146	\$ 21,212	66	\$ 5,895	2,518	\$ 266,635	6.1%	\$ 105,892
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

Annual Allowances in Thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-5

Inactive Member Data				
	June 30, 2021	June 30, 2022	%Change	
<u>Tier 1</u>				
Terminated Vested / Reciprocal				
Count	209	190	-9.1%	
Average Age	46.7	47.1	0.9%	
Average Annual Benefit	\$ 26,264	\$ 26,628	1.4%	
Average Contribution Balance with Interest	\$ 131,357	\$ 133,263	1.5%	
Non-Vested Terminated				
Count	28	27	-3.6%	
Average Age	41.9	42.1	0.5%	
Average Annual Benefit	\$ 10,236	\$ 10,412	1.7%	
Average Contribution Balance with Interest	\$ 58,734	\$ 59,769	1.8%	
Total				
Count	237	217	-8.4%	
Average Age	46.1	46.5	0.8%	
Average Annual Benefit	\$ 24,491	\$ 24,610	0.5%	
Average Contribution Balance with Interest	\$ 122,778	\$ 124,119	1.1%	
<u>Tier 2</u>				
Terminated Vested / Reciprocal				
Count	9	16	77.8%	
Average Age	33.4	34.5	3.2%	
Average Annual Benefit	\$ 4,189	\$ 10,084	140.7%	
Average Contribution Balance with Interest	\$ 23,141	\$ 54,699	136.4%	
Non-Vested Terminated				
Count	101	115	13.9%	
Average Age	34.7	34.1	-1.7%	
Average Annual Benefit	\$ 1,483	\$ 1,790	20.7%	
Average Contribution Balance with Interest	\$ 10,244	\$ 11,759	14.8%	
Total				
Count	110	131	19.1%	
Average Age	34.6	34.2	-1.3%	
Average Annual Benefit	\$ 1,729	\$ 2,835	64.0%	
Average Contribution Balance with Interest	\$ 11,299	\$ 17,003	50.5%	
<u>Total</u>				
Count	347	348	0.3%	
Average Age	42.5	41.9	-1.5%	
Average Annual Benefit	\$ 17,744	\$ 16,571	-6.6%	
Average Contribution Balance with Interest	\$ 87,438	\$ 83,797	-4.2%	

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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-6

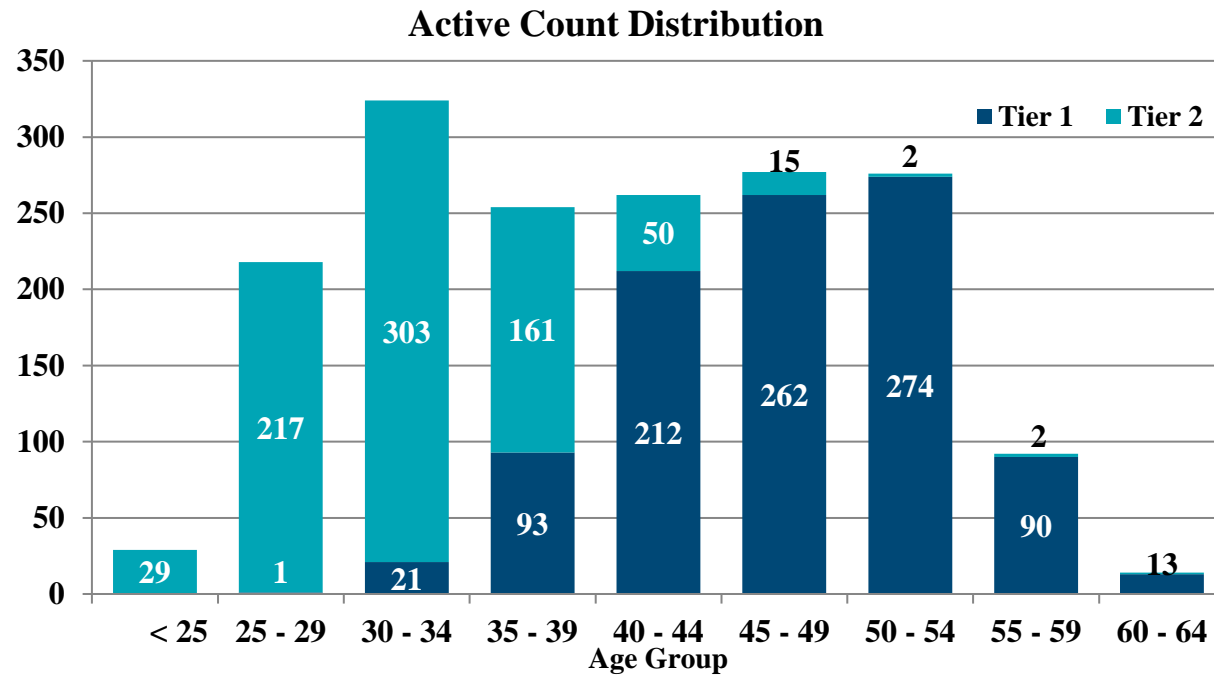
Distribution of Active Members as of June 30, 2022									
Age	Years of Benefit Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 and Up	
Under 25	19	10	0	0	0	0	0	0	29
25 to 29	50	157	11	0	0	0	0	0	218
30 to 34	42	186	94	2	0	0	0	0	324
35 to 39	16	94	91	32	21	0	0	0	254
40 to 44	5	26	54	83	85	9	0	0	262
45 to 49	1	12	11	40	92	108	13	0	277
50 to 54	1	2	5	18	39	141	70	0	276
55 to 59	0	3	2	1	15	45	22	4	92
60 to 64	0	0	2	0	4	2	6	0	14
65 to 69	0	0	0	0	0	0	0	0	0
70 and up	0	0	0	0	0	0	0	0	0
Total Count	134	490	270	176	256	305	111	4	1,746

Distribution of Average Expected Salary as of June 30, 2022									
Age	Years of Benefit Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 and Up	
Under 25	\$112,346	\$120,622	\$0	\$0	\$0	\$0	\$0	\$0	\$115,200
25 to 29	111,037	128,339	147,274	0	0	0	0	0	125,326
30 to 34	111,315	131,547	152,223	150,958	0	0	0	0	135,043
35 to 39	109,015	132,388	153,178	160,559	171,736	0	0	0	145,166
40 to 44	102,530	135,578	148,237	157,867	168,864	173,824	0	0	156,730
45 to 49	104,561	136,156	153,382	157,566	164,700	174,467	187,916	0	166,664
50 to 54	112,746	182,204	159,142	155,356	164,339	169,703	183,335	0	171,160
55 to 59	0	135,643	142,265	138,185	162,792	164,544	176,435	195,906	166,752
60 to 64	0	0	137,916	0	165,932	163,177	171,687	0	164,003
65 to 69	0	0	0	0	0	0	0	0	0
70 and up	0	0	0	0	0	0	0	0	0
Avg. Salary	\$ 110,715	\$ 131,016	\$ 151,542	\$ 157,841	\$ 166,512	\$ 170,708	\$ 181,874	\$ 195,906	\$ 150,856

CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT

APPENDIX A – MEMBERSHIP INFORMATION

Chart A-1



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-7

Retirees and Disabled by Attained Age and Benefit Effective Date											
Benefit Effective	Age										Total
	Under 50	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and up	
Pre-2004	0	1	5	13	24	105	244	166	67	27	652
PYE 2004	0	0	0	0	5	29	8	2	0	0	44
PYE 2005	0	0	1	2	17	35	15	2	1	0	73
PYE 2006	0	0	0	0	12	9	11	1	0	0	33
PYE 2007	0	0	3	2	26	25	6	0	0	0	62
PYE 2008	0	4	0	0	31	20	4	0	0	0	59
PYE 2009	0	0	2	19	72	43	8	2	0	0	146
PYE 2010	1	0	1	40	68	18	1	0	0	0	129
PYE 2011	3	1	4	56	41	5	0	0	0	0	110
PYE 2012	2	4	5	36	18	2	1	0	0	0	68
PYE 2013	5	4	13	19	9	3	0	0	0	0	53
PYE 2014	4	5	14	26	3	0	0	0	0	0	52
PYE 2015	6	5	37	38	7	2	0	0	0	0	95
PYE 2016	3	5	35	10	3	0	0	0	0	0	56
PYE 2017	6	6	35	18	2	0	0	0	0	0	67
PYE 2018	3	7	42	14	1	1	0	0	0	0	68
PYE 2019	1	22	47	10	1	0	1	0	0	0	82
PYE 2020	1	27	45	7	2	1	0	0	0	0	83
PYE 2021	8	46	38	7	0	0	0	0	0	0	99
PYE 2022	3	54	37	2	0	0	0	0	0	0	96
Total	46	191	364	319	342	298	299	173	68	27	2,127
Average Age at Retirement/Disability 52.4											
Average Current Age 67.0											
Average Annual Pension \$ 115,967											

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

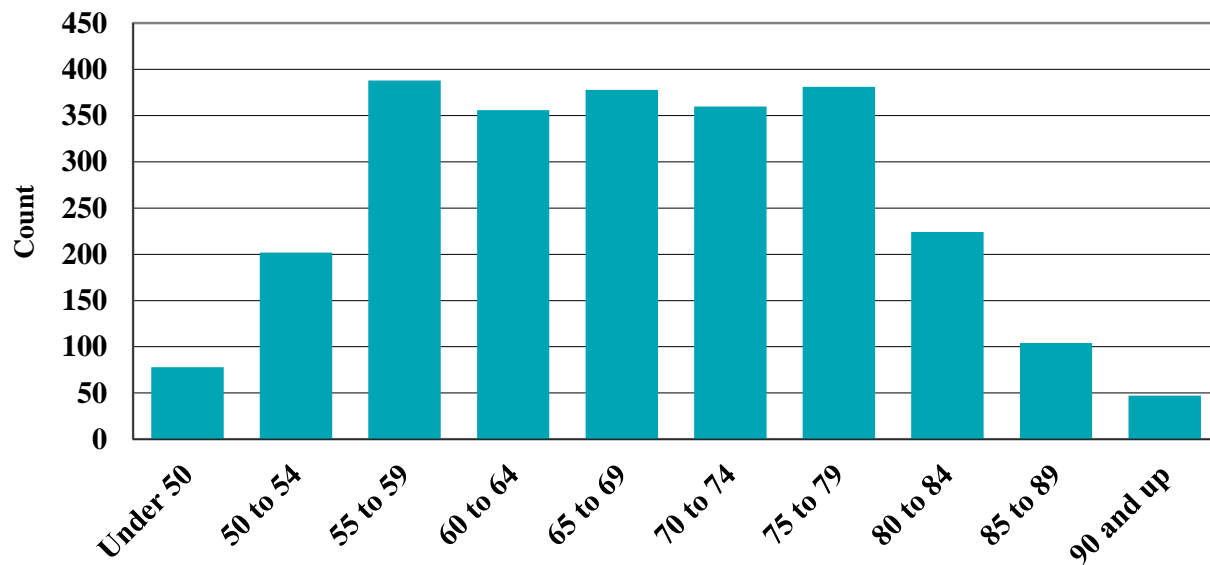
APPENDIX A – MEMBERSHIP INFORMATION

Table A-8

Distribution of Retirees, Disabled Members, and Beneficiaries as of June 30, 2020			
Age	Count	Annual Benefit	
Under 50	78	\$	4,235,536
50 to 54	202		20,821,485
55 to 59	388		40,380,412
60 to 64	356		40,568,103
65 to 69	378		47,600,036
70 to 74	360		43,626,048
75 to 79	381		38,559,786
80 to 84	224		20,019,586
85 to 89	104		7,728,907
90 and up	47		3,094,983
Total	2,518	\$	266,634,881

Chart A-2

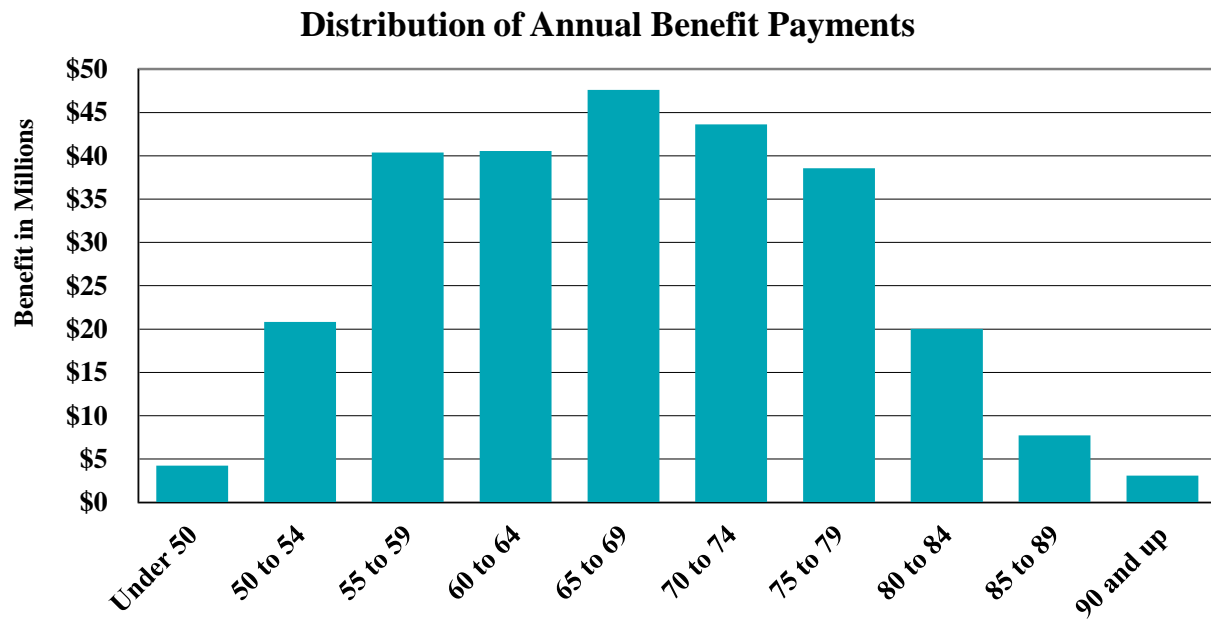
Count Distribution of Members Receiving Benefits



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Chart A-3



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-9

Changes in Plan Membership							
TIER 1	Active	Vested Terminated/ Reciprocal	Non-Vested Terminated	Retired	In-Pay Disabled	Beneficiary / SADRO	Total
June 30, 2021	1,053	209	28	1,193	884	361	3,728
New Entrants	4	0	0	0	0	0	4
Rehires	5	(3)	(2)	0	0	0	0
Non-Vested Terms	(1)	0	1	0	0	0	0
Vested Deferrals	(8)	8	0	0	0	0	0
Refunds	(1)	(6)	0	0	0	0	(7)
Disabilities	(7)	(1)	0	(5)	13	0	0
Retirements	(78)	(12)	0	90	0	0	0
SADROs	0	(3)	0	0	0	3	0
Deaths	(1)	0	0	(17)	(31)	39	(10)
Beneficiary Deaths	0	0	0	0	0	(11)	(11)
Benefits Expiring	0	0	0	0	0	(1)	(1)
Adjustments	0	(2)	0	0	0	0	(2)
June 30, 2022	966	190	27	1,261	866	391	3,701
TIER 2							
June 30, 2021	685	9	101	0	0	0	795
New Entrants	120	0	9	0	0	0	129
Rehires	9	0	(9)	0	0	0	0
Non-Vested Terms	(21)	0	21	0	0	0	0
Vested Deferrals	(7)	7	0	0	0	0	0
Refunds	(5)	0	(7)	0	0	0	(12)
Disabilities	0	0	0	0	0	0	0
Retirements	0	0	0	0	0	0	0
Deaths	(1)	0	0	0	0	0	(1)
Beneficiary Deaths	0	0	0	0	0	0	0
Benefits Expiring	0	0	0	0	0	0	0
Adjustments	0	0	0	0	0	0	0
June 30, 2022	780	16	115	0	0	0	911
TOTAL							
June 30, 2021	1,738	218	129	1,193	884	361	4,523
New Entrants	124	0	9	0	0	0	133
Rehires	14	(3)	(11)	0	0	0	0
Non-Vested Terms	(22)	0	22	0	0	0	0
Vested Deferrals	(15)	15	0	0	0	0	0
Refunds	(6)	(6)	(7)	0	0	0	(19)
Disabilities	(7)	(1)	0	(5)	13	0	0
Retirements	(78)	(12)	0	90	0	0	0
SADROs	0	(3)	0	0	0	3	0
Deaths	(2)	0	0	(17)	(31)	39	(11)
Beneficiary Deaths	0	0	0	0	0	(11)	(11)
Benefits Expiring	0	0	0	0	0	(1)	(1)
Adjustments	0	(2)	0	0	0	0	(2)
June 30, 2022	1,746	206	142	1,261	866	391	4,612

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

The economic assumptions used in this report were adopted by the Board of Administration at the November 3, 2022 Board meeting, and the demographic assumptions were adopted 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 both Board meetings 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 10-year and 20-year time horizons are 5.9% and 6.9%, respectively.

2. Price Inflation

2.50% per annum.

3. Amortization Payment Growth

2.50% per annum.

4. Wage Inflation

Reflect currently bargained across-the-board increases and 3.00% per annum (0.50% real wage growth) thereafter. For this valuation, Fire members have bargained increases of 3.00% for FYE 2023. The bargaining agreement for Police members has expired.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

5. 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

Merit Salary Increases	
Years of Service	Merit/ Longevity
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

6. 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

Tier 1 Rates of Retirement by Age and Service				
Age	Police		Fire	
	<30 Years	30+ Years	<30 Years	30+ Years
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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-3

Tier 2 Rates of Retirement by Age and Service Police				
Age	5 – 19 Years	20 – 24 Years	25 – 29 Years	30+ Years
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

Tier 2 Rates of Retirement by Age and Service Fire				
Age	5 – 19 Years	20 – 24 Years	25 – 29 Years	30+ Years
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

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 60.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

7. 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.

8. 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 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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-6

Rates of Disability at Selected Ages		
Age	Police	Fire
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.

9. 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.

Table B-7

Category	Base Mortality Tables	
	Male	Female
Healthy Retirees	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
Disabled Retiree	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
Beneficiaries	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
Healthy Non-Annuitant	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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

10. 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

Gender	Percentage Married	
	Percentage	
Males	85%	
Females	85%	

11. Administrative Expenses

Based on the 2021 Experience Study, the administrative expense assumption was set to \$1,334 per member for FYE 2022 with annual increases equal to the assumed wage inflation of 3.00%. For FYE 2024, administrative expenses are assumed to equal \$1,415 per member.

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

12. Changes Since Last Valuation

The assumed price inflation and amortization payment growth rate assumptions were increased from 2.25% to 2.50%.

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 2.5% 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
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

**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 firefighter except for the following:

- Independent contractors,
- Person in City service principally for training or educational purposes,
- Auxiliary or voluntary police officers or firefighters,
- 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 months 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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

4. Contributions

a. Member:

The amount needed to fund 3/11ths of normal cost (excluding normal cost for reciprocal benefits) calculated under the Entry Age actuarial cost method.

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.

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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

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.

Active members ineligible for service retirement and disabled retirees on a non-service-connected disability:

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.

Active members eligible for service retirement, service retirees, and disabled retirees on a service-connected disability:

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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

**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.

If a member does not have an eligible surviving spouse or surviving domestic partner or eligible surviving children, the member's estate receives a lump sum death benefit of \$1,000.

Deferred vested members eligible for service retirement:

Spouse receives 1.875% of Final Compensation for each year of service, subject to a maximum of 37.5% of Final Compensation. Eligible dependent children receive the same benefit as defined under the non-service-connected death for active members ineligible for service retirement. 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 is paid to the member's estate equal to the greater of accumulated employee contributions with interest or \$1,000.

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.

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 is paid to the member's estate.

10. Termination Benefits

Less than 10 Years of Service:

Lump sum benefit equal to the accumulated employee contributions with interest at 2% per annum. For members not covered by the VEBA, the lump sum also includes an amount equal to the employee contributions made to the 401(h) account accumulated 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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

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

11. Post-retirement Cost-of-Living Benefit

Benefits are increased every February 1 by 3.0%.

12. Changes Since Last Valuation

None.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

**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 firefighter 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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

**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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

**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 spouse would have received if the employee was 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 February 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.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2022 ACTUARIAL VALUATION REPORT**

**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