



City of San José Police and Fire Department Retirement Plan

Actuarial Valuation Report as of June 30, 2020

Produced by Cheiron

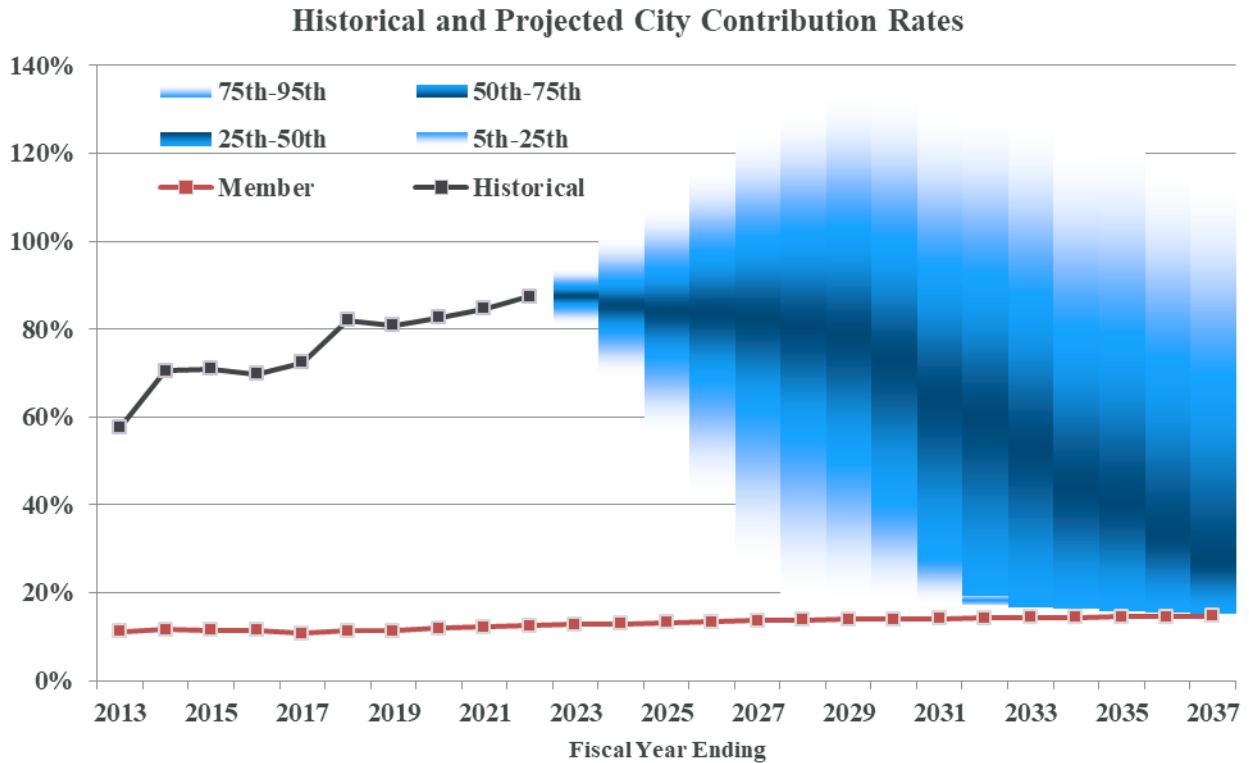
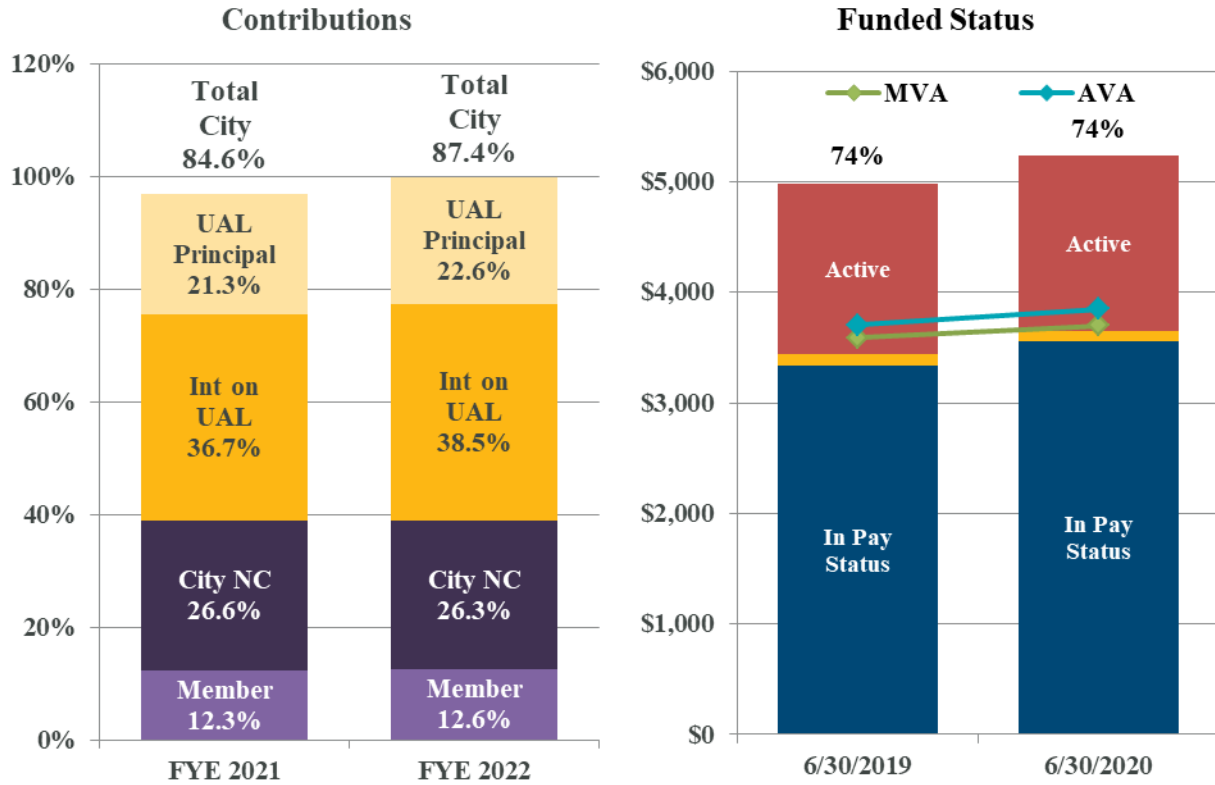
December 2020

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**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION I – BOARD SUMMARY



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Membership

As shown in Table I-1 below, total membership grew 1.9% from 2019 to 2020, and active membership increased 0.5%. Active membership continues its shift from Tier 1 to Tier 2. Tier 1 active membership decreased by 71 members while Tier 2 active membership increased by 79 members. Total expected payroll increased by 2.1% in aggregate, with Tier 1 payroll decreasing 4.1% and Tier 2 payroll increasing 19.3%.

Table I-1

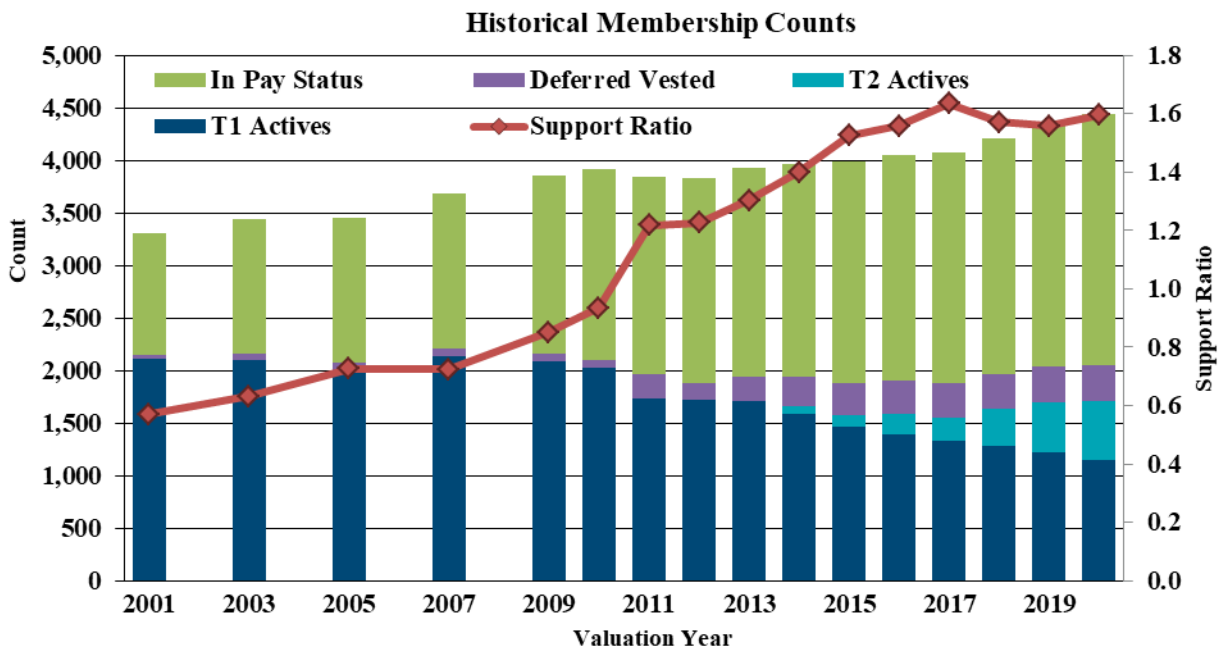
	Total Membership		
	June 30, 2020	June 30, 2019	Change
Active Members			
Tier 1	1,144	1,215	-5.8%
Tier 2	<u>565</u>	<u>486</u>	<u>16.3%</u>
Total Actives	1,709	1,701	0.5%
Terminated Members	346	333	3.9%
Members In Pay Status	<u>2,380</u>	<u>2,318</u>	<u>2.7%</u>
Total	4,435	4,352	1.9%
Active Member Payroll			
Tier 1	\$ 166,112	\$ 173,196	-4.1%
Tier 2	<u>74,686</u>	<u>62,622</u>	<u>19.3%</u>
Total	\$ 240,798	\$ 235,818	2.1%

Dollar amounts in thousands

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As shown in the chart below, the number of active members remained around 2,000 from 2001 through 2010, at which point active membership declined significantly. The decline leveled around 2015 and has since recovered some of the lost active membership. The active membership this year is 1,709, the largest since 2012. At the same time, the number of members in pay status has more than doubled from 1,164 in 2001 to 2,380 in 2020. 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 has increased from approximately 0.6 in 2001 to 1.6 in 2020. An increase in this ratio is to be expected for a maturing plan, but the impact of the recession accelerated the trend significantly. As there are more retirees to be supported by each active member, contributions tend to become more volatile and sensitive to gains and losses.



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Funded Status

This report measures assets and liabilities for funding purposes. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s benefit obligations. Table I-2 below summarizes the Actuarial Liability, assets, and related ratios as of June 30, 2019 and 2020.

Table I-2

Actuarial Liability, Assets and Funded Status			
	June 30, 2020	June 30, 2019	Change
1. Actuarial Liability			
a. Actives	\$ 1,579,888	\$ 1,541,451	2.5%
b. Deferred Vested	94,975	104,916	-9.5%
c. In Pay Status	<u>3,560,472</u>	<u>3,342,060</u>	<u>6.5%</u>
d. Total	\$ 5,235,335	\$ 4,988,427	4.9%
2. Market Value of Assets (MVA)	\$ 3,702,023	\$ 3,588,423	3.2%
3. UAL - MVA Basis (1.d. - 2.)	\$ 1,533,312	\$ 1,400,004	9.5%
4. Funding Ratio - MVA Basis (2. ÷ 1.d.)	70.7%	71.9%	-1.2%
5. Actuarial Value of Assets (AVA)	\$ 3,851,948	\$ 3,706,302	3.9%
6. UAL - AVA Basis (1.d. - 5.)	\$ 1,383,387	\$ 1,282,125	7.9%
7. Funding Ratio - AVA Basis (5. ÷ 1.d.)	73.6%	74.3%	-0.7%
8. Expected Payroll	\$ 240,798	\$ 235,818	2.1%
9. Asset Leverage Ratio (2. ÷ 8.)	15.4	15.2	1.0%
10. Actuarial Liability Leverage Ratio (1.d. ÷ 8.)	21.7	21.2	2.8%

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 4.9% and the Market Value of Assets increased 3.2%. As a result, the Unfunded Actuarial Liability (UAL) measured on the Market Value of Assets increased 9.5% from approximately \$1,400.0 million to \$1,533.3 million, and the funding ratio on an MVA basis decreased from 71.9% to 70.7%.

The asset smoothing method deferred 80% of the investment loss while recognizing 20% of the prior four years’ gains and losses, resulting in a 3.9% increase in the Actuarial Value of Assets. The UAL measured on the Actuarial Value of Assets increased 7.9% from approximately \$1,282.1 million to \$1,383.4 million and the funding ratio decreased from 74.3% to 73.6%. The Market Value of Assets is smaller than the Actuarial Value of Assets, so if the investment return

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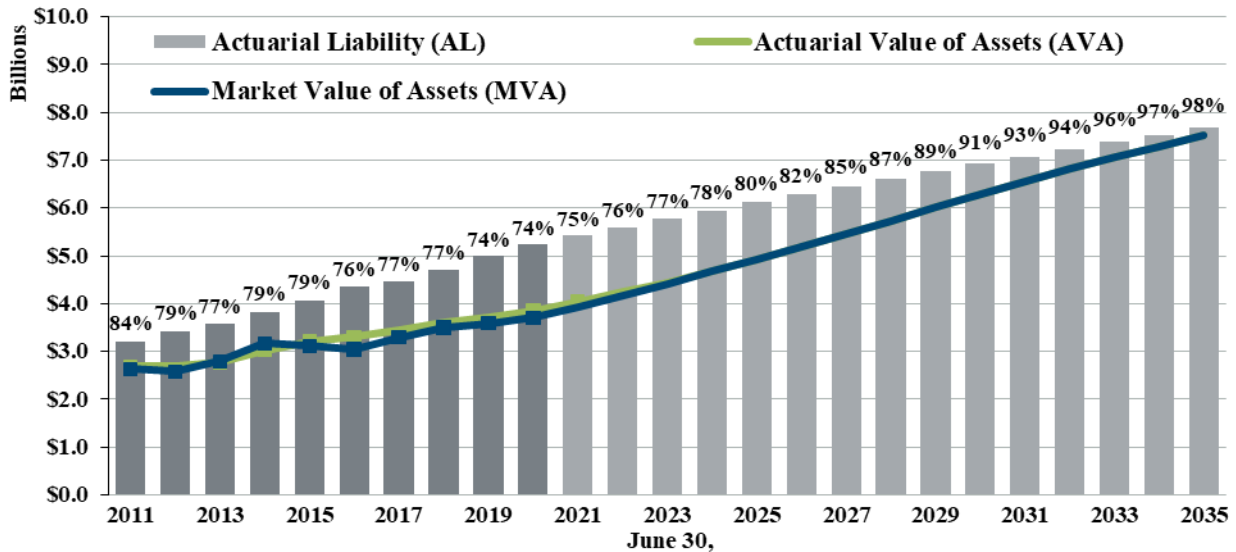
assumption is met in the future, we expect an increase in contribution rates as the deferred asset losses are recognized in the Actuarial Value of Assets.

The asset leverage ratio of 15.4 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 154% of payroll. Interest payments alone on such a loss would be approximately 9.9% of payroll. An additional UAL payment of approximately 14.3% would be required to amortize this asset loss over a 15-year period.

As the Plan becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the leverage ratio would be 21.7. 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) versus the Actuarial Liability, and also shows the progress of the funding ratios (based on the Actuarial Value of Assets) since 2011. The historical Actuarial Liability is shown in dark gray while the projected Actuarial Liability is shown in a lighter gray. From 2011 to 2020, the funding ratio declined from 84% to 74% primarily due to lower than expected investment returns on the Actuarial Value of Assets and assumption changes, including reductions of the discount rate. If all assumptions are met in the future, the funded status is expected to reach 98% by 2035.

Historical and Projected Assets and Actuarial Liability



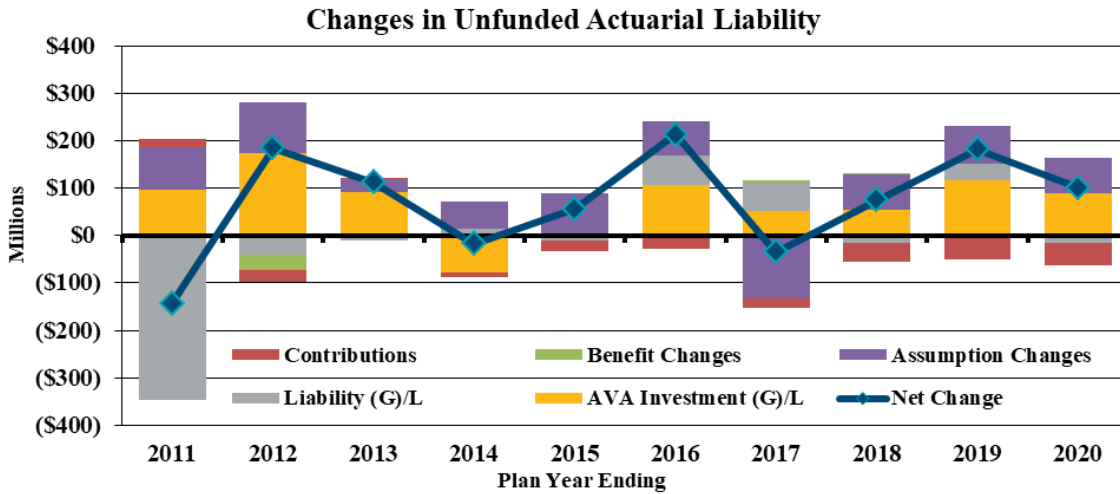
While the funded status is expected to improve, the UAL depends on actual investment returns, changes in assumptions and actuarial gains and losses, so there is potentially a wide range for the projected UAL. More detail on the assets can be found in section IV of this report, and more detail on the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

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Changes in UAL

The chart below and Table I-3 below show the historical changes to the UAL, including investment gains and losses on the Actuarial Value of Assets, liability gains and losses, assumption changes, benefit changes, and contributions compared to normal cost plus interest on the UAL. It is worth noting that 2014 and 2015 are the only years in the last 10 years in which there were investment gains on the Actuarial Value of Assets. Four years in the last 10 years experienced a liability loss. 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 has increased about \$730 million. Investment experience increased the UAL about \$696 million and assumption changes (primarily reducing the discount rate) increased the UAL about \$543 million. Gains on other assumptions reduced the UAL by about \$260 million, and contributions further reduced the UAL by about \$221 million.

Table I-3

Changes in Unfunded Actuarial Liability											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Discount Rate	7.50%	7.25%	7.125%	7.00%	7.00%	6.875%	6.875%	6.75%	6.75%	6.625%	
Source											
AVA (G/L)	\$ 96.5	\$ 172.8	\$ 91.3	\$ (78.5)	\$ (2.8)	\$ 106.8	\$ 50.9	\$ 53.6	\$ 116.2	\$ 89.5	\$ 696.3
Liability (G/L)	(346.1)	(39.4)	(9.9)	14.7	(7.3)	61.3	61.8	(15.1)	35.1	(15.4)	(260.4)
Assumptions	89.1	107.7	28.2	56.3	90.0	72.7	(131.8)	76.4	80.9	73.5	543.0
Benefit Changes	0.0	(32.5)	0.0	0.0	0.0	0.0	4.3	0.2	0.0	0.0	(28.1)
Contributions	17.1	(24.6)	2.2	(9.9)	(23.4)	(27.0)	(19.6)	(39.7)	(49.8)	(46.5)	(221.2)
Total UAL Change	\$ (143.5)	\$ 184.0	\$ 111.9	\$ (17.4)	\$ 56.5	\$ 213.7	\$ (34.4)	\$ 75.4	\$ 182.3	\$ 101.3	\$ 729.6

Dollar amounts in millions

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Table I-4 below shows the breakdown of the changes in UAL during the last year by source. In total, there was an increase in the UAL of approximately \$101 million, mostly attributable to investment losses and changes to assumptions. The primary assumption changes were a reduction in the discount rate from 6.75% to 6.625% and a reduction in ultimate wage inflation from 3.25% to 3.00% while recognizing any already bargained increases. The total change in the UAL is about 1.9 percent of the Actuarial Liability.

Table I-4

Sources of FYE 2020 Change in UAL		
	Amount	% of AL
Unfunded Actuarial Liability, June 30, 2019	\$ 1,383,387	26.4%
Unfunded Actuarial Liability, June 30, 2018	<u>1,282,125</u>	<u>24.5%</u>
Change in Unfunded Actuarial Liability	\$ 101,262	1.9%
<u>Sources of Changes</u>		
Plan Changes	\$ 0	0.0%
Assumption changes	73,524	1.4%
Normal Cost and Interest on UAL less Contributions	(46,449)	-0.9%
Investment experience	89,538	1.7%
Liability experience		
Salary experience	\$ (14,405)	-0.3%
Disability experience	(7,377)	-0.1%
Termination experience	4,229	0.1%
Other experience	<u>2,202</u>	<u>0.0%</u>
Total Liability Experience	<u>\$ (15,351)</u>	<u>-0.3%</u>
Total Changes	\$ 101,262	1.9%

Dollar amounts in thousands

Contribution Amounts and Rates

As shown in the upper left corner of the dashboard, the total City contribution rate reported in the actuarial valuation increased from 84.6% to 87.4%. 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 (normal cost plus interest on the Market Value UAL). 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.

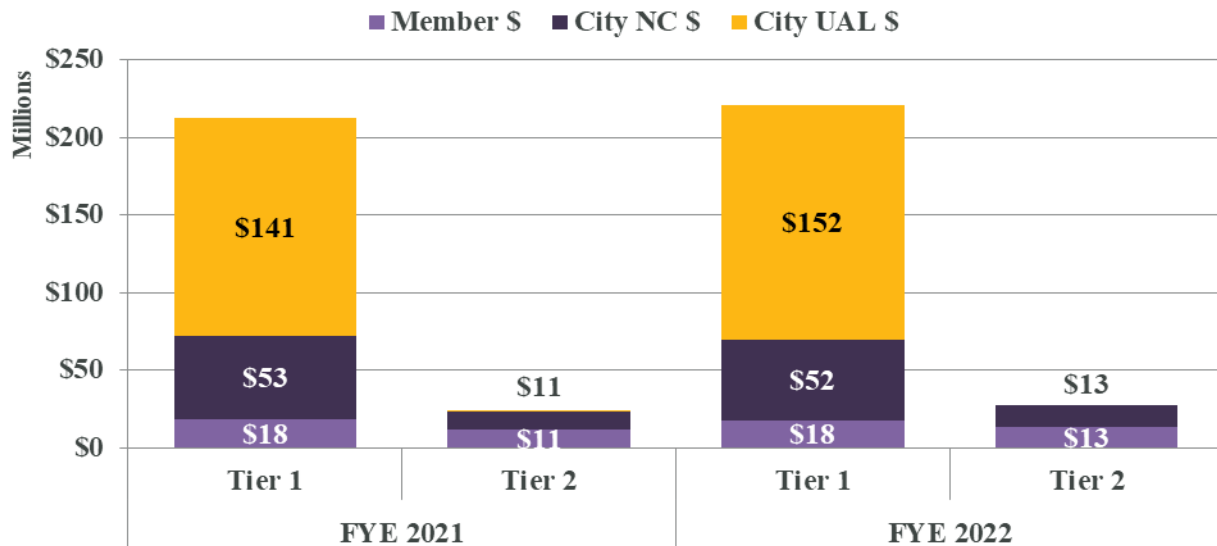
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Table I-5 and the chart below summarize the contribution rates and contribution amounts by Tier for the fiscal years ending in 2021 and 2022. Tier 1 contributions increased from 2021 to 2022, reflecting the investment losses and assumption changes. The increase in Tier 2 contribution rates for FYE 2022 is largely attributable to the assumption changes. The aggregate city rate increased as a result.

Table I-5

Contribution Rates and Amounts (Throughout the Year)			
		FYE 2022	FYE 2021
Member Rates			
Tier 1		11.36%	11.18%
Tier 2		14.66%	14.53%
Aggregate		12.58%	12.26%
City Contributions			
Tier 1 UAL	\$	151,808	\$ 141,198
Tier 1 Normal Cost (Including Admin Expenses)	\$	51,589 33.03%	\$ 53,283 32.40%
Tier 2 Contribution	\$	13,460 14.66%	\$ 11,482 14.53%
Aggregate	\$	216,856 87.43%	\$ 205,963 84.59%

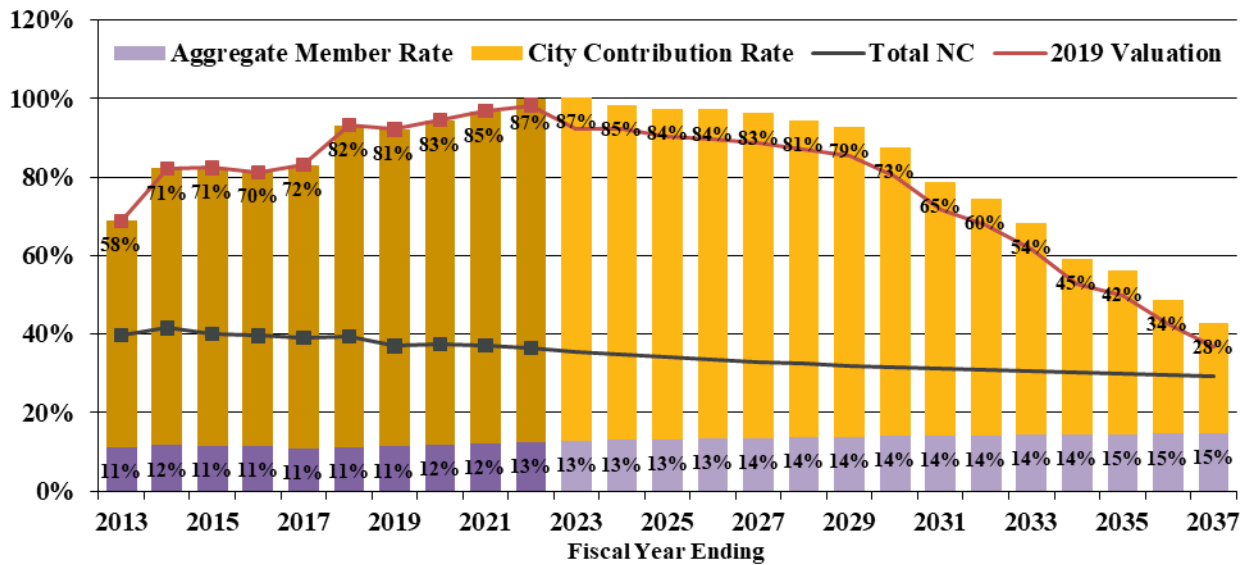


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The chart below shows historical and projected aggregate contribution rates for the Plan compared to those projected in the prior valuation. The purple bars are weighted average member contribution rates for Police and Fire for both Tier 1 and Tier 2. The gold bars are weighted average city contribution rates for Police and Fire for both Tier 1 and Tier 2. The darker shaded bars represent historical amounts and the lighter shades represent projected rates. 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 red line represents the projection from the prior valuation.

Historical and Projected Aggregate Contribution Rates



City contribution rates have increased almost 30% of payroll since FYE 2013 increasing from 57.7% of payroll to 87.4% of payroll for FYE 2022. Future City contribution rates are expected to remain level for FYE 2023 before gradually declining thereafter as portions of the UAL are fully amortized.

As shown in the dashboard, there is a wide range of contribution rates due to the potential volatility of investment returns. As a result, the range of contribution rates from the 5th to the 95th percentile in FYE 2028 (based on a valuation six years from now), is from 19% of payroll to 129% 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 12.7% standard deviation.

Since the last valuation, projected City contribution rates have increased, primarily due to the investment losses and assumption changes. Section VI of this report provides additional detail on the contribution rates and the amortization schedules separately by Tier and for Police and Fire.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

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

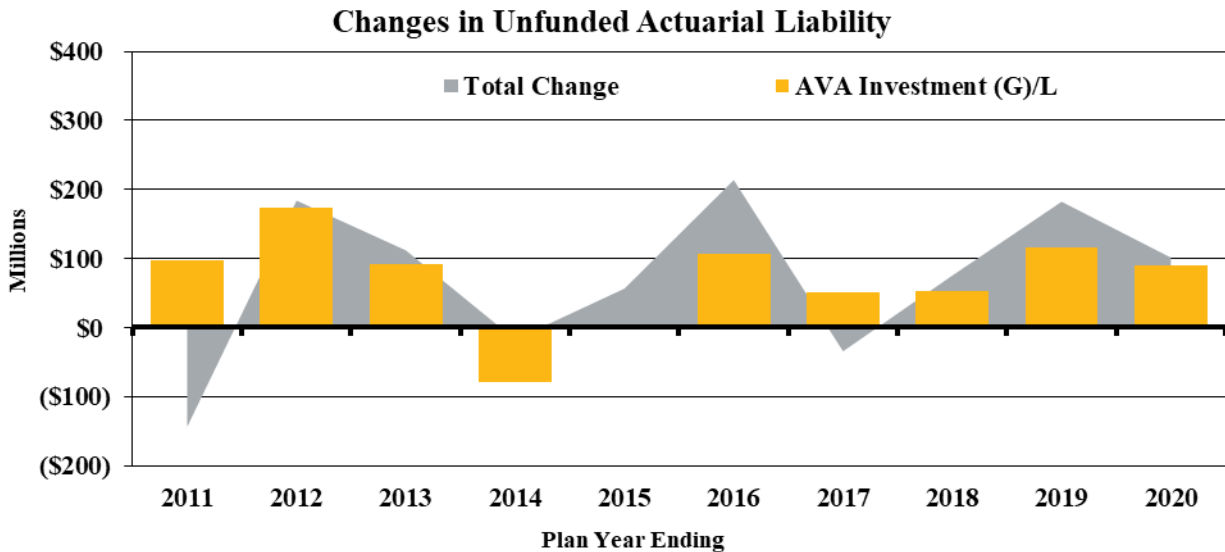
Identification of Risks

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

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

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

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the Plan’s asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsor.



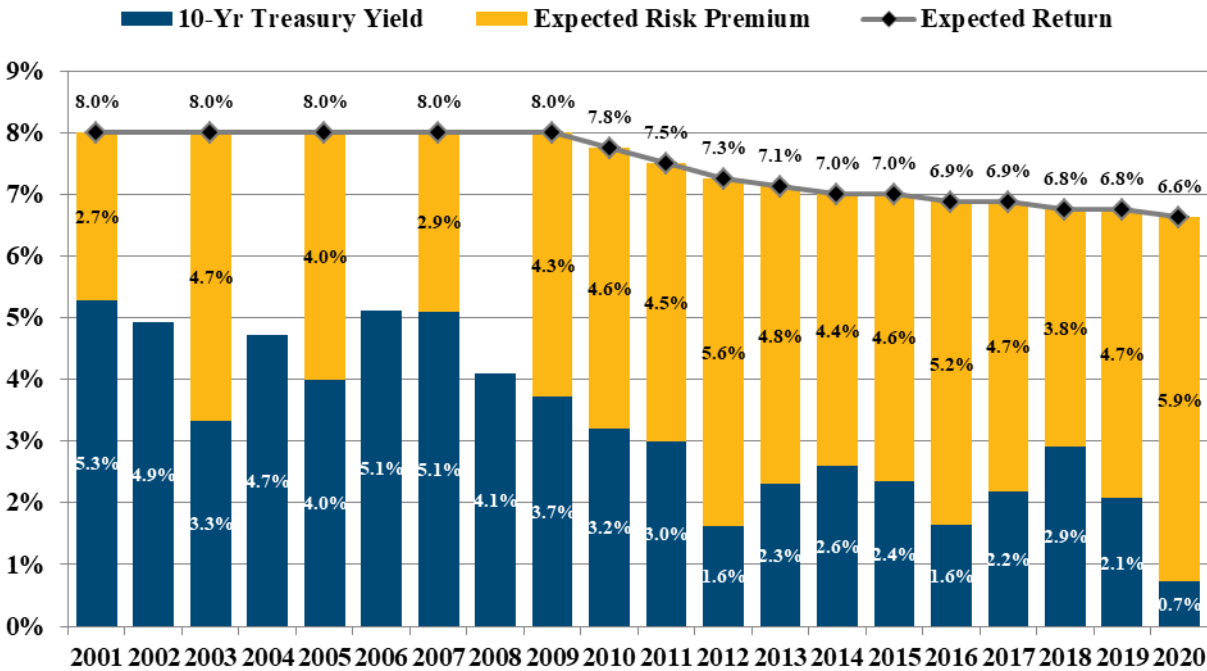
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The chart on the previous page shows the impact of investment gains and losses on the smoothed Actuarial Value of Assets over the last 10 years compared to the Plan’s total change in UAL. Investment losses have been a significant contributor to the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

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

San Jose Police & Fire Expected Risk Premium

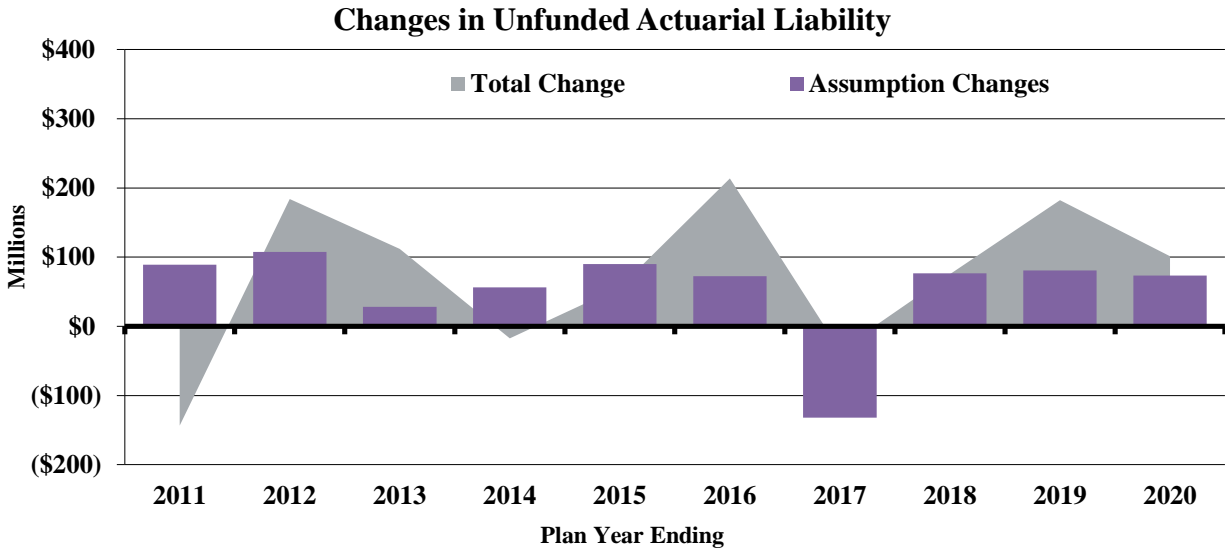


Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed-income investments, but lower expected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

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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 7.75% 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 they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for the plan.

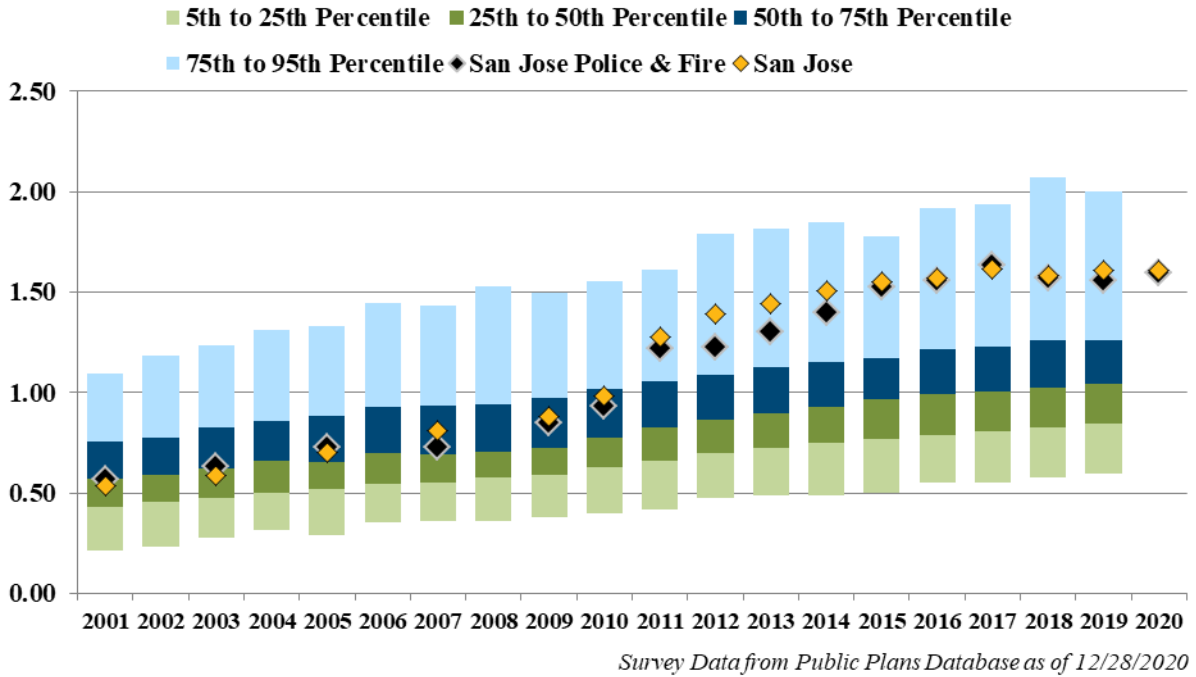
Support Ratio (Inactives per Active)

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

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Support Ratio



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

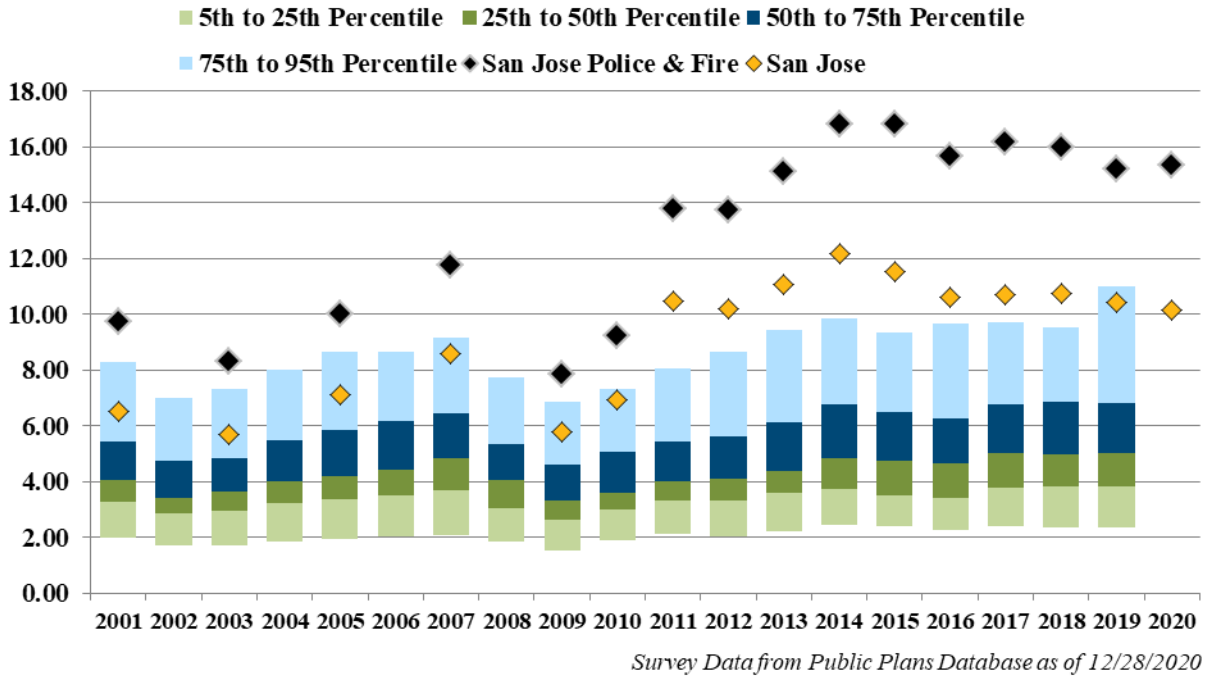
Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. An asset leverage ratio of 5.0, for example, means that if the Plan experiences a 10% loss on assets compared to the expected return, the loss would be equivalent to 50% of payroll. The same investment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

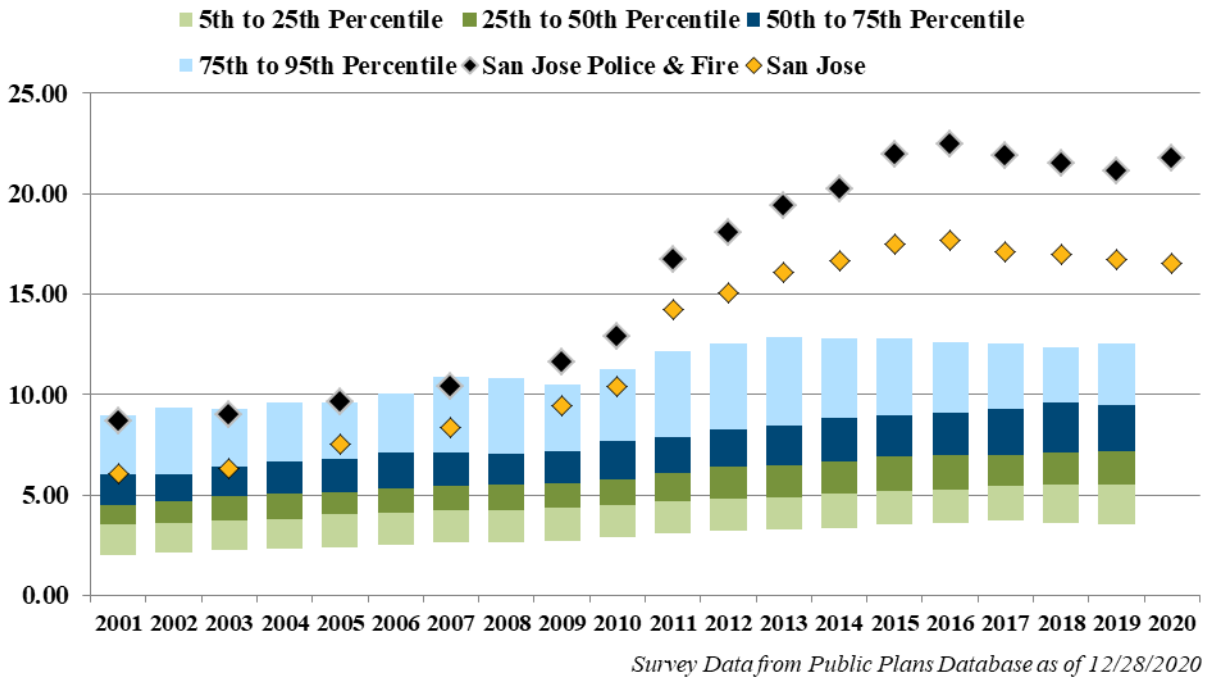
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Asset Leverage Ratio



Liability Leverage Ratio



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The charts on the previous page show the distribution from the 5th to 95th percentile of Market Value of Assets and Actuarial Liability leverage ratios for the plans in the Public Plans Database. The black diamond shows how San José Police and Fire compares, and the gold diamond shows how the combined Federated and Police and Fire plans compare. As we have discussed with the Board for several years and as is shown in the charts on the previous page, 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.

Assessing Costs and Risks

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

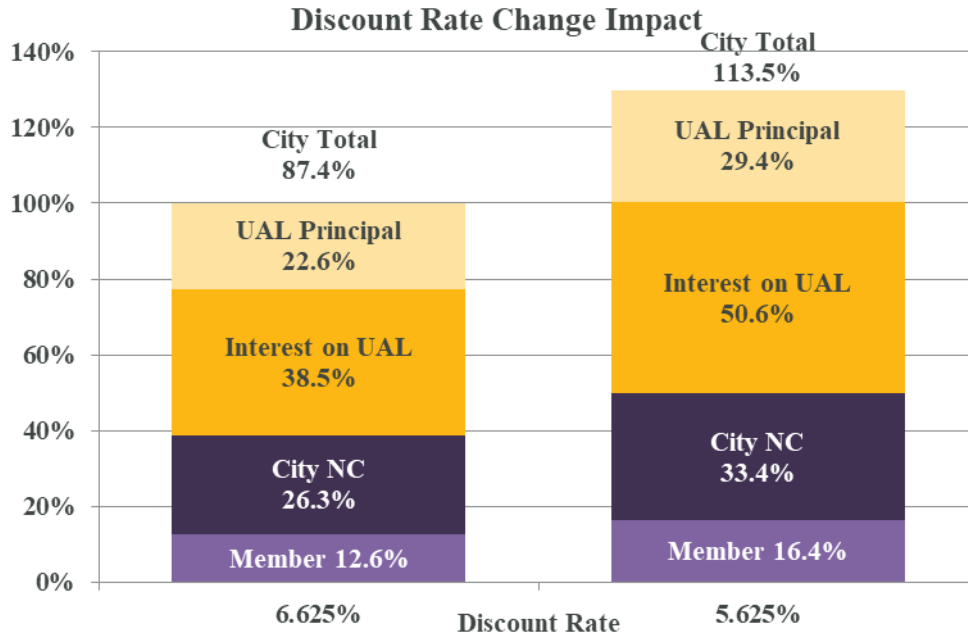
Point in Time Assessments

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

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

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Decreasing the discount rate by 100 basis points would increase the member rates almost 4% of payroll and the City’s normal cost rate by over 7% of payroll. The interest on the UAL would increase by about 12% of payroll. Using the current amortization methods, the City’s total contribution rate would increase by about 26% of payroll to over 113% of pay.

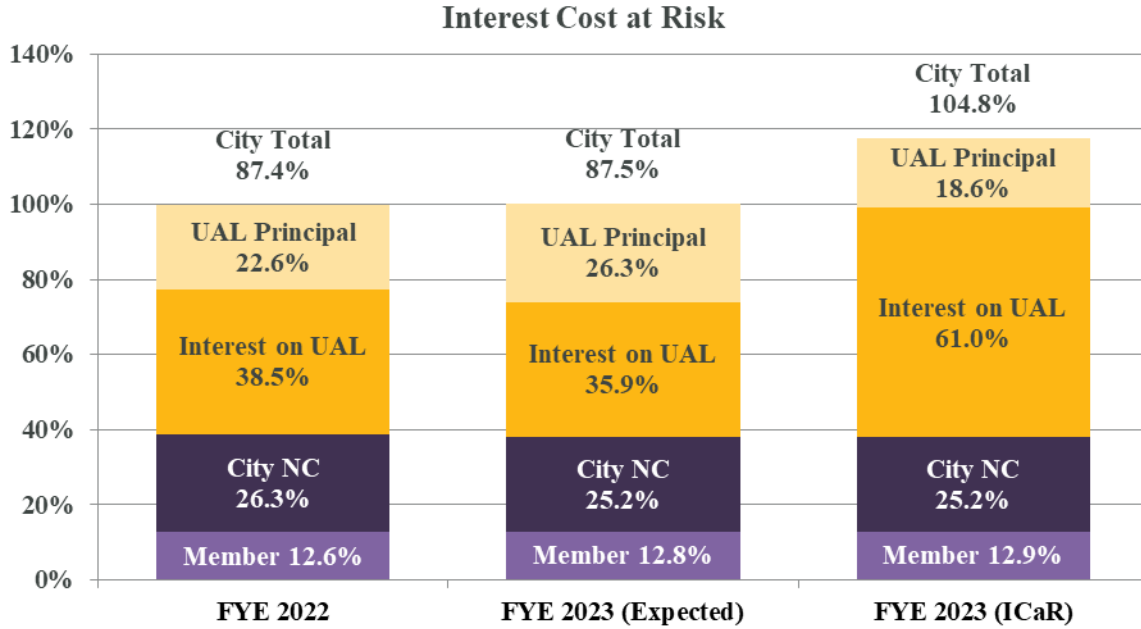
The recent declines in discount rates have been largely driven by declines in interest rates that affect expectations of future investment returns. If the declines in interest rates since the pandemic began persist or if there is a desire or need to reduce investment risk that reduces expected returns,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

Actual investment returns do not affect the normal cost, but they directly affect the interest cost. 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 cost 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 12.7%, making the investment return used to determine ICaR -18.8% (6.625% – 2 x 12.7%).

The chart on the next page shows the contribution rates for FYE 2022, determined in this valuation report in the far left bar graph and the expected FYE 2023 contribution rates based on a 6.625% investment rate of return for FYE 2021, in the middle of the chart. The FYE 2023 bar graph on the right shows the impact of a -18.8% return for FYE 2021. The interest on the UAL would increase by 25% of pay. Using 5-year asset smoothing with a 20% corridor and a 15-year amortization the total contribution rate would increase by 17.3% of pay. The City contribution rate for FYE 2023 in this scenario would be 104.8% of pay and expected to increase in future years.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK



Stochastic Projections

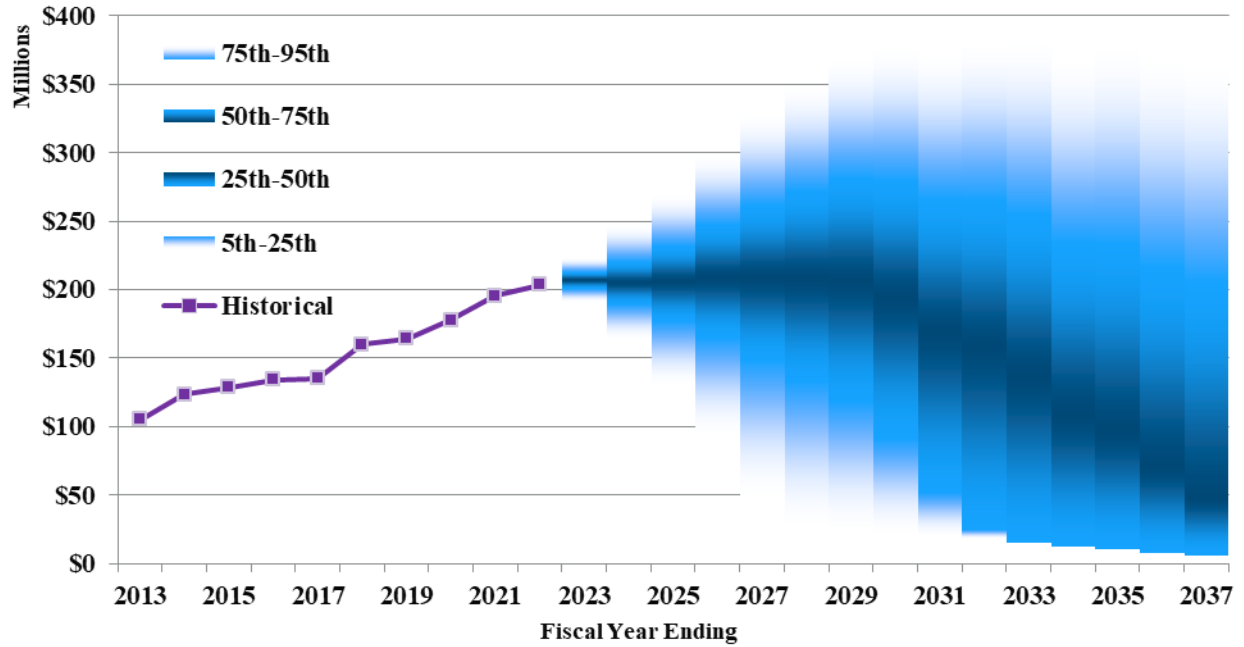
If experience has taught us anything, it is that there is a significant level of uncertainty in projections of the future. The largest source of uncertainty is the projection of investment returns. In order to better understand the potential impact of investment returns on the Plan, we have included some stochastic projections in the dashboard and in this section of the report. The stochastic projections are based on a 6.625% geometric return and a 12.7% 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, 2020 ACTUARIAL VALUATION REPORT

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

Historical and Stochastically Projected Tier 1 City Contribution Amounts



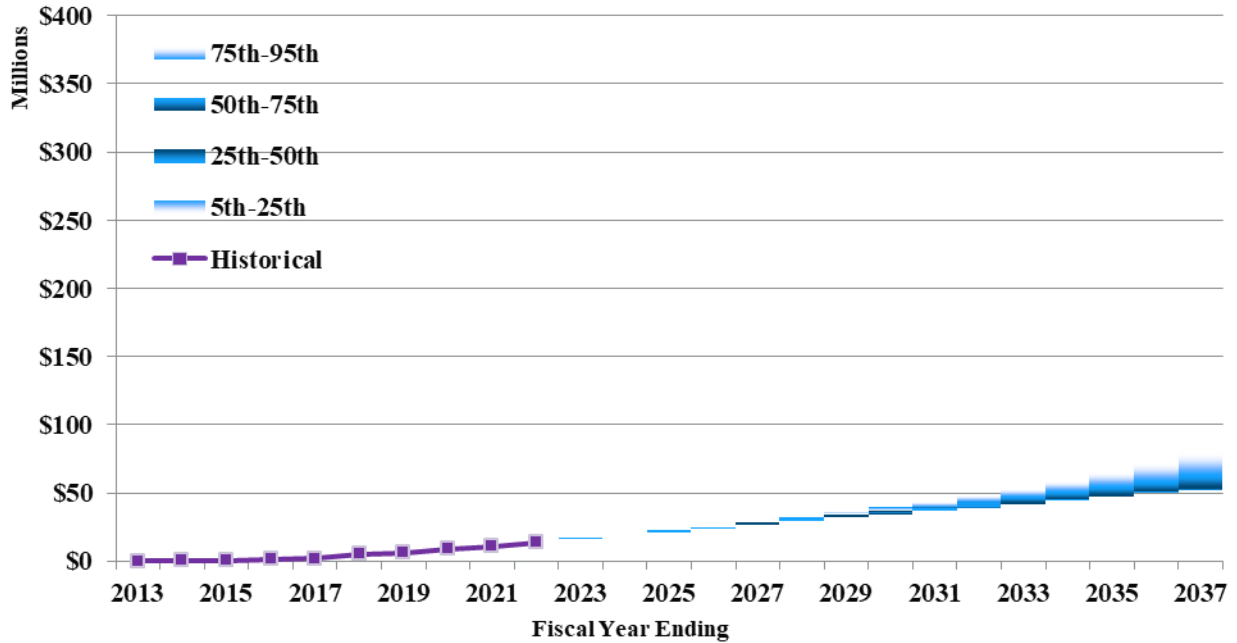
The chart shows a very wide range of potential City contribution amounts depending on actual investment returns. The range between the 5th and 95th percentile for FYE 2028 (based on the 2026 actuarial valuation) is from a contribution of \$27 million to a contribution of \$350 million. This range is 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, 2020 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, 2019 ACTUARIAL VALUATION REPORT**

SECTION III – CERTIFICATION

The purpose of this report is to present the June 30, 2020 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 assumptions used in this report were adopted by the Board of Administration with our input at the December 3, 2020 Board meeting. All other assumptions were adopted at the November 7, 2019 Board meeting based on recommendations from our experience study covering plan experience for the period ending June 30, 2019. 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, 2020 ACTUARIAL VALUATION REPORT**

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

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, 2019 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 2019 Total
	Fiscal Year Ending 2020				Total	
	Tier 1	Tier 2 Fire	Tier 2 Police	Total		
Beginning Market Value	\$ 3,558,486	\$ 7,790	\$ 22,148	\$ 3,588,423	\$ 3,496,190	
Contributions						
Member	19,193	2,157	6,296	27,645	24,811	
City	180,028	2,157	6,296	188,481	176,618	
Total	\$ 199,221	\$ 4,314	\$ 12,591	\$ 216,126	\$ 201,429	
Net Investment Earnings	132,650	373	1,064	134,086	114,180	
Benefit Payments	(230,928)	0	(79)	(231,007)	(218,007)	
Administrative Expenses	(5,560)	(11)	(35)	(5,605)	(5,369)	
Market Value, End of Year	\$ 3,653,869	\$ 12,465	\$ 35,689	\$ 3,702,023	\$ 3,588,423	
Estimated Rate of Return	3.7%	3.7%	3.7%	3.7%	3.2%	

Dollar amounts in thousands

The net investment earnings for the year ended June 30, 2020 represents approximately a 3.7% return on the Market Value of Assets compared to an assumed return of 6.75%. For the year ended June 30, 2019, the net investment return was approximately 3.2% (6.75% was assumed).

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2019 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 in order 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 (6.75% for FYE's 2019 and 2020, 6.875% for FYE's 2017 and 2018, and 7.00% for FYE 2016) 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, 2019 ACTUARIAL VALUATION REPORT**

SECTION IV – ASSETS

Table IV-2

Development of Actuarial Value of Assets					
	Fiscal Year Ending 2020				FYE 2019
	Tier 1	Tier 2 Fire	Tier 2 Police	Total	Total
Market Value of Assets (MVA)	\$ 3,653,869	\$ 12,465	\$ 35,689	\$ 3,702,023	\$ 3,588,423
	FYE 2020				FYE 2019
Actual Earnings	\$ 132,650	\$ 373	\$ 1,064	\$ 134,086	\$ 114,180
Expected Earnings	<u>245,136</u>	<u>669</u>	<u>1,909</u>	<u>247,714</u>	<u>241,113</u>
Investment Gain or (Loss)	(112,486)	(296)	(845)	(113,628)	(126,934)
Deferred (80%)	(89,989)	(237)	(676)	(90,902)	(101,547)
	FYE 2019				FYE 2018
Actual Earnings	\$ 113,422	\$ 197	\$ 560	\$ 114,180	\$ 233,474
Expected Earnings	<u>239,559</u>	<u>404</u>	<u>1,150</u>	<u>241,113</u>	<u>230,741</u>
Investment Gain or (Loss)	(126,137)	(207)	(589)	(126,934)	2,733
Deferred (60%)	(75,682)	(124)	(354)	(76,160)	1,640
	FYE 2018				FYE 2017
Actual Earnings	\$ 232,623	\$ 212	\$ 640	\$ 233,474	\$ 292,733
Expected Earnings	<u>229,924</u>	<u>203</u>	<u>614</u>	<u>230,741</u>	<u>212,514</u>
Investment Gain or (Loss)	2,699	9	26	2,733	80,220
Deferred (40%)	1,080	4	10	1,093	32,088
	FYE 2017				FYE 2016
Actual Earnings	\$ 292,157	\$ 110	\$ 467	\$ 292,733	\$ (29,206)
Expected Earnings	<u>212,107</u>	<u>78</u>	<u>330</u>	<u>212,514</u>	<u>221,094</u>
Investment Gain or (Loss)	80,050	33	137	80,220	(250,300)
Deferred (20%)	16,010	7	27	16,044	(50,060)
Total Deferred Gain or (Loss)	\$ (148,582)	\$ (351)	\$ (992)	\$ (149,925)	\$ (117,879)
Preliminary Actuarial Value of Assets	\$ 3,802,450	\$ 12,817	\$ 36,681	\$ 3,851,948	\$ 3,706,302
Minimum (80% of MVA)	\$ 2,923,095	\$ 9,972	\$ 28,551	\$ 2,961,618	\$ 2,870,738
Maximum (120% of MVA)	\$ 4,384,643	\$ 14,958	\$ 42,826	\$ 4,442,427	\$ 4,306,107
Actuarial Value of Assets	\$ 3,802,450	\$ 12,817	\$ 36,681	\$ 3,851,948	\$ 3,706,302
Ratio of Actuarial to Market	104.1%	102.8%	102.8%	104.0%	103.3%
Estimated Rate of Return	4.4%	5.7%	5.6%	4.4%	3.6%

Dollar amounts in thousands

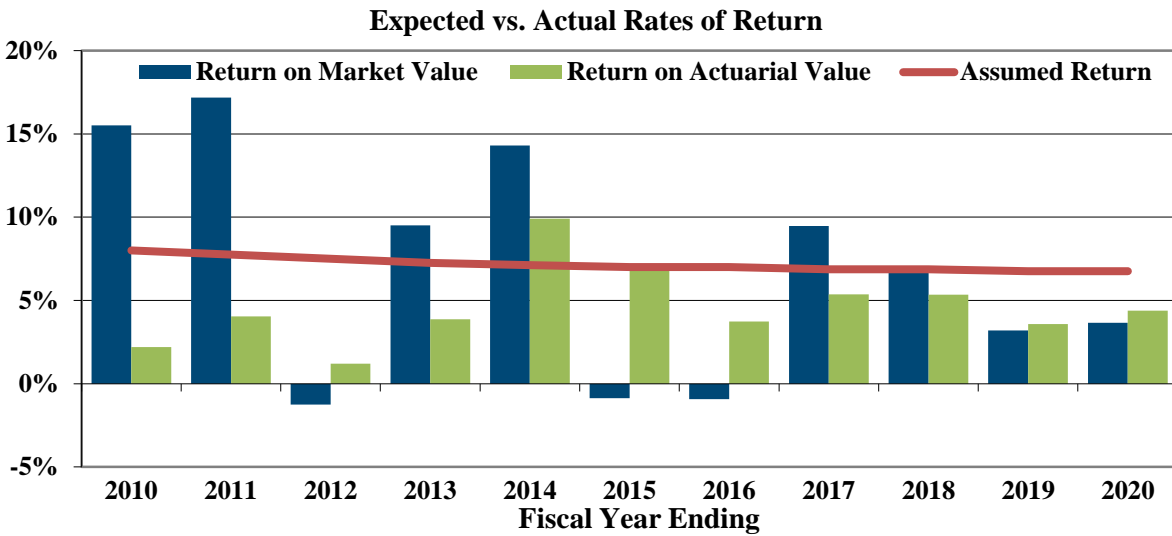
On the basis of the smoothed Actuarial Value of Assets, the return for the year ending June 30, 2020 was approximately 4.4%, which is less than the assumed return of 6.75%. The

CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2019 ACTUARIAL VALUATION REPORT

SECTION IV – ASSETS

estimated rate of return varies by tier, reflecting the different cash flows for each tier and the different levels of assets for each tier in each of the last four years.

The chart below shows the historical rates of return on both the Market and Actuarial Values of Assets compared to the assumed rates of return (the red line). Because of the 5-year smoothing, the return on the actuarial value is less volatile than the return on the market value. While the return on the market value exceeded the assumed return in six of the 11 years, the return on the Actuarial Value of Assets only exceeded the assumed return in two of the 11 years.



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 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, 2020 and June 30, 2019 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		
	6/30/2020	6/30/2019	% Change	6/30/2020	6/30/2019	% Change
Tier 1						
Actives	\$ 886,507	\$ 835,811	6.1%	\$ 1,078,109	\$ 1,134,535	-5.0%
Deferred Vested	6,637	9,069	-26.8%	87,286	95,139	-8.3%
In Pay Status						
Service Retirees	\$ 538,126	\$ 499,249	7.8%	\$ 1,566,635	\$ 1,423,962	10.0%
Beneficiaries	90,486	86,688	4.4%	101,870	92,287	10.4%
Disabled Retirees	<u>641,904</u>	<u>627,487</u>	<u>2.3%</u>	<u>621,451</u>	<u>612,388</u>	<u>1.5%</u>
Total In Pay Status	\$ 1,270,516	\$ 1,213,424	4.7%	\$ 2,289,956	\$ 2,128,637	7.6%
Tier 1 Total	\$ 2,163,660	\$ 2,058,304	5.1%	\$ 3,455,351	\$ 3,358,311	2.9%
Tier 2						
Actives	\$ 87,189	\$ 71,989	21.1%	\$ 183,769	\$ 145,183	26.6%
Deferred Vested	103	47	119.1%	950	661	43.7%
In Pay Status	<u>0</u>	<u>0</u>	<u>N/A</u>	<u>0</u>	<u>0</u>	<u>N/A</u>
Tier 2 Total	\$ 87,292	\$ 72,036	21.2%	\$ 184,719	\$ 145,844	26.7%
Plan Total	\$ 2,250,952	\$ 2,130,340	5.7%	\$ 3,640,070	\$ 3,504,155	3.9%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION V – MEASURES OF LIABILITY

Normal Cost

Under the Entry Age (EA) actuarial cost method, the present value of future benefits for each individual is spread over the individual’s expected working career under the Plan as a level percentage of the individual’s expected pay. The normal cost rate is determined by taking the value of each member’s projected future benefits divided by the value of the 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, 2020 and June 30, 2019 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		
	6/30/2020	6/30/2019	% Change	6/30/2020	6/30/2019	% Change
Tier 1						
Retirement	\$ 18,097	\$ 17,717	2.1%	\$ 16,316	\$ 17,506	-6.8%
Termination	1,289	1,258	2.5%	5,535	5,927	-6.6%
Death	287	279	2.9%	295	314	-5.9%
Disability	10,992	10,678	2.9%	12,153	12,961	-6.2%
Reciprocity	<u>172</u>	<u>182</u>	<u>-5.5%</u>	<u>878</u>	<u>1,014</u>	<u>-13.4%</u>
Tier 1 Total	\$ 30,838	\$ 30,114	2.4%	\$ 35,178	\$ 37,721	-6.7%
Expected Payroll	\$ 71,971	\$ 71,385	0.8%	\$ 88,897	\$ 96,246	-7.6%
Normal Cost Rate	42.85%	42.19%	0.66%	39.57%	39.20%	0.37%
Retirement	29.19%	28.85%	0.34%	27.23%	27.10%	0.13%
COLA	13.66%	13.34%	0.32%	12.34%	12.10%	0.24%
Tier 2						
Retirement	\$ 1,971	\$ 1,608	22.6%	\$ 4,561	\$ 3,813	19.6%
Termination	164	131	25.0%	2,445	2,012	21.5%
Death	59	47	24.8%	148	121	22.1%
Disability	<u>2,231</u>	<u>1,864</u>	<u>19.7%</u>	<u>5,778</u>	<u>4,566</u>	<u>26.5%</u>
Tier 2 Total	\$ 4,424	\$ 3,650	21.2%	\$ 12,931	\$ 10,513	23.0%
Expected Payroll	\$ 14,799	\$ 12,070	22.6%	\$ 46,118	\$ 38,475	19.9%
Normal Cost Rate	29.90%	30.24%	-0.34%	28.04%	27.32%	0.72%
Retirement	23.56%	23.79%	-0.23%	22.05%	21.64%	0.41%
COLA	6.34%	6.45%	-0.11%	5.99%	5.68%	0.31%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 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 EA method if all assumptions are met. It is the difference between the present value of future benefits and the present value of future normal costs. Table V-3 below shows the Actuarial Liability as of June 30, 2020 and June 30, 2019 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		
	6/30/2020	6/30/2019	% Change	6/30/2020	6/30/2019	% Change
Tier 1						
Actives						
Retirement	\$ 487,648	\$ 442,147	10.3%	\$ 712,453	\$ 733,822	-2.9%
Termination	5,291	5,389	-1.8%	5,237	5,692	-8.0%
Death	1,479	1,436	3.0%	1,688	1,820	-7.3%
Disability	<u>168,762</u>	<u>159,348</u>	<u>5.9%</u>	<u>150,981</u>	<u>161,821</u>	<u>-6.7%</u>
Total Actives	\$ 663,180	\$ 608,320	9.0%	\$ 870,359	\$ 903,155	-3.6%
Deferred Vested	6,637	9,069	-26.8%	87,286	95,139	-8.3%
In Pay Status	1,270,516	1,213,424	4.7%	2,289,956	2,128,637	7.6%
Tier 1 Total	\$ 1,940,333	\$ 1,830,813	6.0%	\$ 3,247,601	\$ 3,126,931	3.9%
Retirement	1,111,024	1,054,566	5.4%	1,838,997	1,792,577	2.6%
COLA	829,309	776,247	6.8%	1,408,604	1,334,354	5.6%
Tier 2						
Actives						
Retirement	\$ 6,078	\$ 3,777	60.9%	\$ 16,333	\$ 10,770	51.7%
Termination	75	57	31.6%	4,024	2,818	42.8%
Death	93	61	52.5%	247	168	47.0%
Disability	<u>6,006</u>	<u>3,867</u>	<u>55.3%</u>	<u>13,491</u>	<u>8,457</u>	<u>59.5%</u>
Total Actives	\$ 12,252	\$ 7,762	57.8%	\$ 34,095	\$ 22,213	53.5%
Deferred Vested	\$ 103	\$ 47	N/A	\$ 950	\$ 661	43.7%
Tier 2 Total	\$ 12,355	\$ 7,809	58.2%	\$ 35,045	\$ 22,874	53.2%
Retirement	9,700	6,117	58.6%	27,251	17,854	52.6%
COLA	2,655	1,692	56.9%	7,794	5,020	55.3%
Plan Total	\$ 1,952,688	\$ 1,838,622	6.2%	\$ 3,282,646	\$ 3,149,805	4.2%

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 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, 2020 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, 6/30/2019	\$ 1,281,974	\$ 151	\$ 1,282,125
Interest	86,533	10	86,543
Expected unfunded actuarial liability payment with interest	(129,285)	(28)	(129,313)
Change in assumptions/methods	<u>73,283</u>	<u>241</u>	<u>73,524</u>
Expected unfunded actuarial liability, 6/30/2020	\$ 1,312,505	\$ 374	\$ 1,312,879
Actual unfunded actuarial liability	<u>1,385,485</u>	<u>(2,098)</u>	<u>1,383,387</u>
Experience Gain or (Loss)	\$ 72,980	\$ (2,472)	\$ 70,508
Portion due to investment experience	89,105	433	\$ 89,538
Portion due to other asset experience	(5,144)	1,465	(3,679)
Portion due to salary experience	(13,602)	(803)	(14,405)
Portion due to disability experience	(5,540)	(1,837)	(7,377)
Portion due to termination experience	2,723	1,506	4,229
Portion due to other liability experience	<u>5,438</u>	<u>(3,236)</u>	<u>2,202</u>
Total	\$ 72,980	\$ (2,472)	\$ 70,508

Dollar amounts in thousands

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 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, particularly in 2017 are the primary source of losses. The large other loss in 2016 was primarily attributable to data corrections.

Table V-5

Historical Sources of Liability (Gain) or Loss						
Source	Year Ending June 30th					Total
	2020	2019	2018	2017	2016	
Salary increases	(14,405)	29,392	(8,207)	53,246	21,962	81,987
Retirement	(1,099)	(1,275)	(4,121)	4,080	3,825	1,411
Termination	4,229	3,238	(2,515)	331	(977)	4,305
Mortality	2,648	7,072	(450)	134	5,385	14,789
Disability	(7,377)	(7,130)	(2,628)	(485)	(3,437)	(21,056)
Other	<u>653</u>	<u>3,755</u>	<u>2,796</u>	<u>4,517</u>	<u>34,498</u>	<u>46,220</u>
Total	\$ (15,351)	\$ 35,053	\$ (15,124)	\$ 61,823	\$ 61,256	\$ 127,657

Dollar amounts in thousands

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

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

Table VI-1 below shows the outstanding balance, remaining period, and amortization payments for each component of the Tier 1 member UAL as of June 30, 2020.

Table VI-1

Tier 1 Member UAL Amortization Bases and Payments						
Source	Date	Balance	Remaining Period	Amortization Payment		
				Fire	Police	Total
Rate Increase Delay	12/17/2006	50	1.5	0	36	36
Reclassified Classics	6/30/2016	57	14.0	1	4	6
Reclassified Fed Svc	6/30/2016	24	N/A	0	2	2
<u>Reclassified Rehires</u>	6/30/2016	<u>327</u>	N/A	<u>5</u>	<u>23</u>	<u>28</u>
Total Members		\$ 458		\$ 6	\$ 65	\$ 71
Retirement		242		3	41	44
COLA		216		3	24	27

Dollar amounts in thousands

The components attributable to reclassifying members from Tier 2 to Tier 1 due to rehire or prior Federated service are paid by the individual affected members at fixed special contribution rates of 1.96% and 0.87% respectively. These special contribution rates cease for an individual member when their portion of the UAL has been paid off. The payments for reclassified classic members are paid by all classic members. Table VI-2 below shows the calculation of the classic member special contribution rate for FYE 2022 and FYE 2021.

Table VI-2

	Classic Member Contribution Rate					
	Fiscal Year Ending 2022			Fiscal Year Ending 2021		
	Retirement	COLA	Total	Retirement	COLA	Total
Classic UAL Payment	\$ 3	\$ 3	\$ 6	\$ 3	\$ 3	\$ 6
Expected Classic Payroll			\$ 2,679			\$ 2,377
Classic Member Rate	0.10%	0.12%	0.22%	0.12%	0.14%	0.26%

Dollar amounts in thousands

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

The remaining amortization periods for the components of the City’s Tier 1 UAL amortization established in 2005 were extended from one year remaining to two years remaining. 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, 2020. Each component is amortized over the remaining period shown in the table with payments assumed to increase 2.25% each year. At the bottom of the table, the total is divided into the portion attributable to the basic retirement benefits and the portion attributable to COLA benefits. These amounts are used to set separate contribution rates for the basic retirement benefits and the COLA benefits portions of the Plan.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION VI – CONTRIBUTIONS

Table VI-3

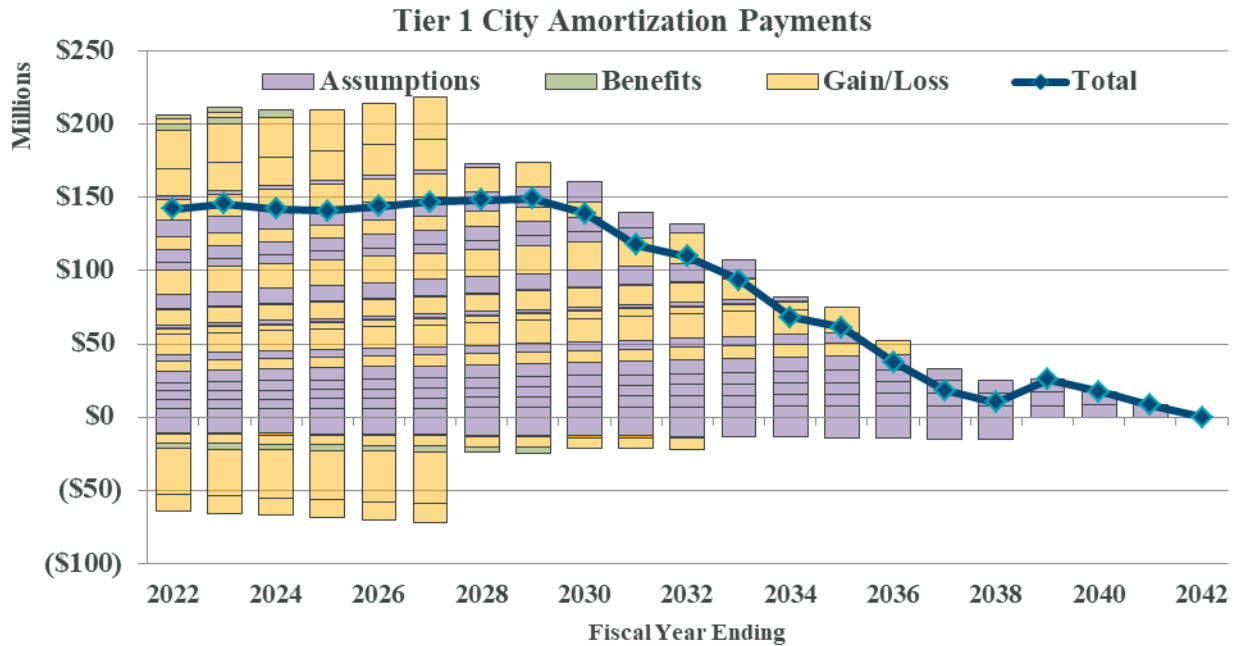
Tier 1 City UAL Amortization Bases and Payments						
Source	Date	Balance	Remaining Period	Amortization Payment		
				Fire	Police	Total
Experience Loss	6/30/2005	\$ 6,480	2.0	\$ 1,621	\$ 1,906	\$ 3,527
Ben Improvement	6/30/2005	5,308	2.0	0	2,889	2,889
Ben Improvement	6/30/2007	12,490	3.0	4,626	0	4,626
Experience Gain	6/30/2007	(59,551)	6.0	(5,388)	(6,333)	(11,721)
Assumption Change	6/30/2007	14,131	7.0	1,118	1,314	2,432
Experience Loss	6/30/2009	136,241	6.0	12,327	14,489	26,816
Assumption Change	6/30/2009	85,349	9.0	5,464	6,422	11,887
Experience Loss	6/30/2010	97,998	6.0	8,867	10,422	19,289
Assumption Change	6/30/2010	68,017	10.0	3,997	4,697	8,694
Experience Gain	6/30/2011	(165,787)	6.0	(15,000)	(17,631)	(32,631)
Assumption Change	6/30/2011	47,275	11.0	2,575	3,026	5,601
Experience Loss	6/30/2012	98,025	8.0	6,922	8,136	15,059
SRBR Elimination	6/30/2012	(23,906)	8.0	(1,688)	(1,984)	(3,673)
Assumption Change	6/30/2012	94,735	12.0	4,822	5,667	10,489
Experience Loss	6/30/2013	63,948	9.0	4,094	4,812	8,906
Assumption Change	6/30/2013	25,561	13.0	1,224	1,439	2,663
Experience Gain	6/30/2014	(53,343)	11.0	(2,905)	(3,415)	(6,320)
Assumption Change	6/30/2014	51,725	14.0	2,344	2,755	5,100
Experience Gain	6/30/2015	(8,836)	11.0	(481)	(566)	(1,047)
Assumption Change	6/30/2015	85,200	15.0	3,672	4,316	7,989
Experience Gain	6/30/2016	142,747	11.0	7,774	9,138	16,912
Assumption Change	6/30/2016	69,824	16.0	2,875	3,379	6,254
Measure F (Rehires)	6/30/2016	2,801	12.0	42	268	310
Experience Loss	6/30/2017	98,851	12.0	5,031	5,914	10,945
Assumption Change	6/30/2017	(127,875)	17.0	(5,048)	(5,933)	(10,981)
Measure F (Classic/Fed)	6/30/2018	90	13.0	1	9	9
Experience Loss	6/30/2018	39,583	13.0	1,896	2,228	4,124
Assumption Change	6/30/2018	74,658	18.0	2,835	3,332	6,168
Experience Loss	6/30/2019	140,017	14.0	6,346	7,458	13,804
Assumption Change	6/30/2019	80,351	19.0	2,944	3,460	6,404
Experience Loss	6/30/2020	72,979	15.0	3,146	3,697	6,843
Assumption Change	6/30/2020	73,283	20.0	2,597	3,053	5,651
<u>2020 UAL Payment</u>		<u>136,661</u>				
Total City		\$ 1,385,027		\$ 68,649	\$ 78,367	\$ 147,016
Retirement		717,792		34,555	38,870	73,425
COLA		667,235		34,094	39,497	73,591

Dollar amounts in thousands

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

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



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

Table VI-4 below shows the outstanding balance, remaining period, and amortization payments for each component of the Tier 2 UAL as of June 30, 2020. Each component is amortized from the valuation date in which it was first recognized with payments assumed to increase 2.25% each year. All components of the Tier 2 UAL are split evenly between the members and the City.

Table VI-4

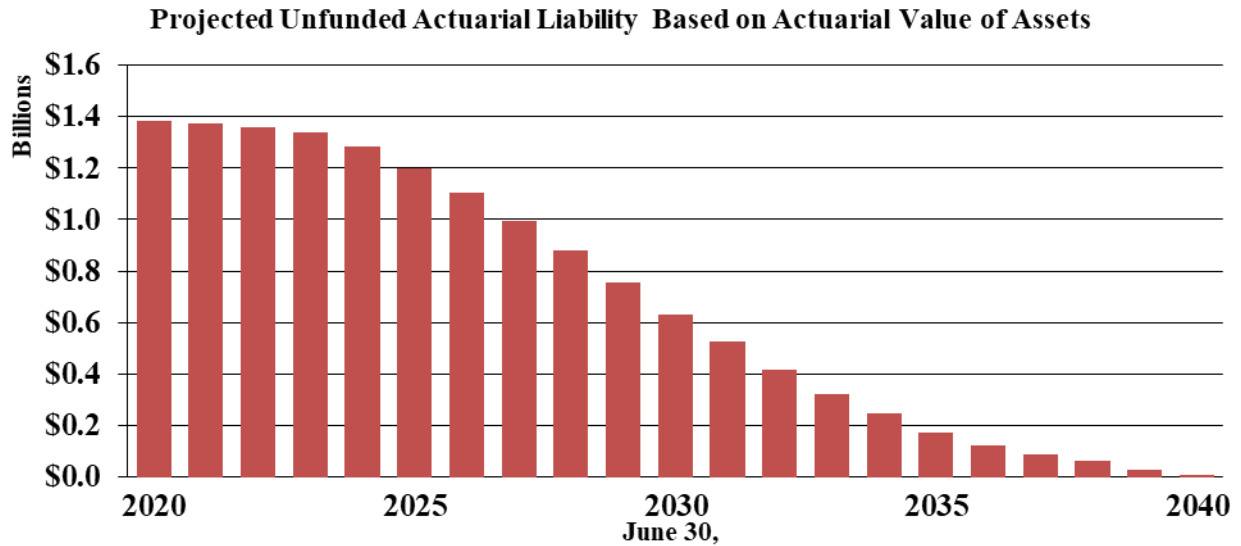
Tier 2 UAL Amortization Bases						
Source	Date	Outstanding Balance		Remaining Period	Amortization Payment	
		Fire	Police		Fire	Police
Members and City						
Experience Gain	6/30/2014	\$ 0	\$ (24)	11.0	\$ 0	\$ (3)
Assumption Change	6/30/2014	0	(4)	14.0	0	(0)
Experience Gain	6/30/2015	40	17	11.0	5	2
Assumption Change	6/30/2015	7	(17)	15.0	1	(2)
Experience Gain	6/30/2016	(54)	(124)	11.0	(6)	(15)
Assumption Change	6/30/2016	18	85	16.0	2	8
Measure F (Rehires)	6/30/2016	198	643	12.0	22	71
Experience Loss	6/30/2017	416	753	12.0	46	83
Assumption Change	6/30/2017	(141)	(479)	17.0	(12)	(41)
Experience Loss	6/30/2018	(477)	(997)	13.0	(50)	(104)
Assumption Change	6/30/2018	140	413	18.0	12	34
Experience Loss	6/30/2019	(77)	15	14.0	(8)	1
Assumption Change	6/30/2019	(207)	(10)	19.0	(17)	(1)
Experience Loss	6/30/2020	(160)	(2,311)	15.0	(15)	(217)
Assumption Change	6/30/2020	(164)	405	20.0	(13)	31
Total Tier 2		\$ (462)	\$ (1,636)		\$ (33)	\$ (151)
Retirement		(540)	(2,256)		(46)	(214)
COLA		78	620		13	63

Dollar amounts in thousands

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

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



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

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

Based on the 2019 Experience Study, the administrative expense assumption was changed to \$1,275 per member for FYE 2020 with annual increases equal to the assumed wage inflation. For FYE 2022, the administrative expense assumption is approximately \$1,356 per member. Table VI-5 below shows the development of the administrative expense rates for FYE 2022.

Table VI-5

Administrative Expense By Group				
	Fire		Police	
	Tier 1	Tier 2	Tier 1	Tier 2
Members	1,459	145	2,306	525
Administrative Expense	\$ 1,978	\$ 197	\$ 3,127	\$ 712
Member Admin Expense Rate	0.29%	0.40%	0.29%	0.53%
Retirement	0.20%	0.32%	0.20%	0.42%
COLA	0.09%	0.08%	0.09%	0.11%
City Admin Expense Rate	2.47%	0.40%	3.42%	0.53%
Retirement	1.68%	0.32%	2.71%	0.42%
COLA	0.79%	0.08%	0.71%	0.11%

Dollar amounts in thousands

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

Table VI-6 below shows the member contribution rates for FYE 2022 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 2022 Member Contribution Rates						
	Fire			Police		
	Retirement	COLA	Total	Retirement	COLA	Total
Tier 1						
Normal Cost	7.91%	3.71%	11.62%	7.21%	3.31%	10.52%
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>0.03%</u>	<u>0.01%</u>	<u>0.04%</u>
Subtotal	8.11%	3.80%	11.91%	7.44%	3.41%	10.85%
Measure F UAL	<u>0.00%</u>	<u>0.01%</u>	<u>0.01%</u>	<u>0.02%</u>	<u>0.02%</u>	<u>0.04%</u>
Total	8.11%	3.81%	11.92%	7.46%	3.43%	10.89%
Tier 2						
Normal Cost	11.78%	3.17%	14.95%	11.03%	2.99%	14.02%
Admin Expense	0.32%	0.08%	0.40%	0.42%	0.11%	0.53%
UAL	<u>-0.10%</u>	<u>0.03%</u>	<u>-0.07%</u>	<u>-0.16%</u>	<u>0.04%</u>	<u>-0.12%</u>
Total	12.00%	3.28%	15.28%	11.29%	3.14%	14.43%

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

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

Table VI-7

Fiscal Year Ending 2022 Estimated City Contributions						
Dollar Contributions Throughout the Year						
	Fire			Police		
	Retirement	COLA	Total	Retirement	COLA	Total
Tier 1 UAL Payment	\$ 35,681	\$ 35,206	\$ 70,887	\$ 40,137	\$ 40,784	\$ 80,921
Tier 1 Normal Cost	\$ 15,277 21.28%	\$ 7,145 9.95%	\$ 22,422 31.23%	\$ 16,894 20.02%	\$ 7,620 9.03%	\$ 24,514 29.05%
Tier 1 Admin Expenses	\$ 1,206 1.68%	\$ 564 0.79%	\$ 1,770 2.47%	\$ 2,286 2.71%	\$ 596 0.71%	\$ 2,882 3.42%
Tier 2 Contribution	\$ 2,944 12.00%	\$ 805 3.28%	\$ 3,749 15.28%	\$ 7,598 11.29%	\$ 2,113 3.14%	\$ 9,711 14.43%
Total Contribution	\$ 55,109 57.21%	\$ 43,719 45.38%	\$ 98,828 102.59%	\$ 66,915 44.11%	\$ 51,113 33.70%	\$ 118,028 77.81%

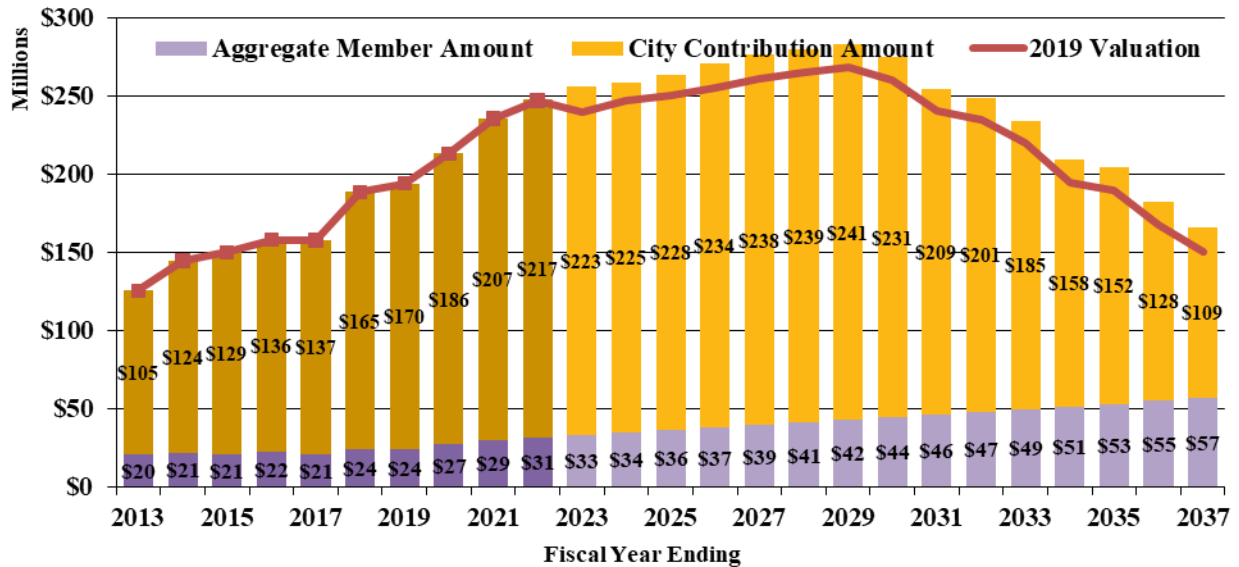
Dollar amounts in thousands

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

The chart below shows historical and projected aggregate contribution amounts for the Plan compared to those projected in the prior valuation. The purple bars are member contribution amounts for Police and Fire for both Tier 1 and Tier 2. The gold bars are city contribution amounts for Police and Fire for both Tier 1 and Tier 2. The darker shaded bars represent historical amounts and the lighter shades represent projected amounts. The projected amounts assume that all assumptions are met. The red 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, 2020 ACTUARIAL VALUATION REPORT**

SECTION VII – ACTUARIAL SECTION OF THE CAFR

The Government Finance Officers Association (GFOA) maintains a checklist of items to be included in the System’s Comprehensive Annual Financial Report (CAFR) 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 CAFR.

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
6/30/2020	\$ 3,851,948	\$ 5,235,335	\$ 1,383,387	73.6%	\$ 240,798	574.5%
6/30/2019	3,706,302	4,988,427	1,282,125	74.3%	235,818	543.7%
6/30/2018	3,596,590	4,696,428	1,099,838	76.6%	218,429	503.5%
6/30/2017	3,439,922	4,464,402	1,024,480	77.1%	203,816	502.6%
6/30/2016	3,303,550	4,355,990	1,052,440	75.8%	194,072	542.3%
6/30/2015	3,212,776	4,058,410	845,634	79.2%	184,733	457.8%
6/30/2014	3,025,101	3,813,825	788,724	79.3%	188,189	419.1%
6/30/2013	2,771,924	3,578,031	806,107	77.5%	184,645	436.6%
6/30/2012	2,703,539	3,397,792	694,253	79.6%	187,959	369.4%
6/30/2011	2,685,721	3,196,007	510,286	84.0%	190,726	267.5%

Dollar amounts in thousands

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

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 Member Contributions	Retirees, Beneficiaries and Other Inactives	Remaining Active Members' Liability		(A)	(B)	(C)	
	(A)	(B)	(C)					
6/30/2020	\$ 315,240	\$ 3,655,447	\$ 1,264,648	\$ 3,851,948	100%	97%	0%	
6/30/2019	308,023	3,446,977	1,233,427	3,706,302	100%	99%	0%	
6/30/2018	304,454	3,227,859	1,164,115	3,596,590	100%	100%	6%	
6/30/2017	299,933	3,050,871	1,113,598	3,439,922	100%	100%	8%	
6/30/2016	294,535	2,999,773	1,061,682	3,303,550	100%	100%	1%	
6/30/2015	285,538	2,819,410	953,462	3,212,776	100%	100%	11%	
6/30/2014	288,227	2,585,611	939,987	3,025,101	100%	100%	16%	
6/30/2013	280,727	2,452,728	844,576	2,771,924	100%	100%	5%	
6/30/2012	276,047	2,310,295	811,450	2,703,539	100%	100%	14%	
6/30/2011	260,172	2,174,044	761,791	2,685,721	100%	100%	33%	

Dollar amounts in thousands

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:					Total Experience
	Investment Income	Combined Liability Experience	Total Financial Experience	Non-Recurring Items		
6/30/2020	\$ (89,538)	\$ 19,032	\$ (70,506)	\$ (73,524)	\$ (144,030)	
6/30/2019	(116,232)	(27,406)	(143,638)	(80,853)	(224,491)	
6/30/2018	(53,615)	13,448	(40,167)	(76,425)	(116,592)	
6/30/2017	(50,882)	(57,971)	(108,853)	127,571	18,718	
6/30/2016	(106,785)	(54,528)	(161,313)	(72,680)	(233,993)	
6/30/2015	2,806	7,291	10,097	(90,004)	(79,907)	
6/30/2014	78,462	(14,678)	63,784	(55,787)	7,997	
6/30/2013	(92,499)	11,115	(81,384)	(28,233)	(109,618)	
6/30/2012	(172,759)	39,432	(133,327)	(75,220)	(208,548)	
6/30/2011	(96,473)	278,051	181,578	12,360	193,938	

Dollar amounts in thousands

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

Data Assumptions and Methods

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

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

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

Table A-1

Active Member Data					
	June 30, 2020			June 30, 2019	
	Fire	Police	Total	Total	% Change
<u>Tier 1</u>					
Count	524	620	1,144	1,215	-5.8%
Average Current Age	46.3	46.0	46.1	45.6	1.1%
Average Eligibility Service	17.3	18.6	18.0	17.4	3.3%
Average Benefit Service	16.6	17.9	17.3	16.8	2.6%
Average Expected Pensionable Earnings	\$ 148,873	\$ 156,427	\$ 152,967	\$ 148,946	2.7%
<u>Tier 2</u>					
Count	138	427	565	486	16.3%
Average Current Age	33.4	30.7	31.4	30.9	1.7%
Average Eligibility Service	3.2	2.6	2.8	2.2	26.9%
Average Benefit Service	3.0	2.6	2.7	2.1	26.9%
Average Expected Pensionable Earnings	\$ 112,461	\$ 117,760	\$ 116,466	\$ 112,858	3.2%
<u>Total</u>					
Count	662	1,047	1,709	1,701.0	0.5%
Average Current Age	43.6	39.8	41.3	41.4	-0.3%
Average Eligibility Service	14.3	12.1	13.0	13.1	-0.8%
Average Benefit Service	13.7	11.7	12.5	12.6	-1.3%
Average Expected Pensionable Earnings	\$ 141,283	\$ 140,658	\$ 140,900	\$ 138,635	1.6%

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
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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
2020	1,709	\$ 240,798,000	\$ 11,742	1.63%
2019	1,701	235,818,000	11,553	5.02%
2018	1,638	218,429,000	11,113	13.84%
2017	1,544	203,816,000	11,000	12.69%
2016	1,577	184,733,000	9,762	2.96%
2015	1,654	188,189,000	9,481	5.18%
2014	1,707	184,645,000	9,014	-1.13%
2013	1,718	187,959,000	9,117	-0.48%
2012	1,735	190,726,000	9,161	-11.51%
2011	2,021	251,058,000	10,352	1.39%

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

Table A-3

Payee Member Data			
	June 30, 2020	June 30, 2019	%Change
Retired			
Count	1,122	1,060	5.8%
Average Age	64.9	64.8	0.1%
Average Annual Benefit	\$ 116,073	\$ 113,456	2.3%
Service Disability			
Count	871	885	-1.6%
Average Age	69.5	68.9	0.9%
Average Annual Benefit	\$ 101,497	\$ 98,085	3.5%
Non-Service Disability			
Count	29	27	7.4%
Average Age	57.8	57	2.2%
Average Annual Benefit	\$ 59,348	\$ 55,966	6.0%
Beneficiaries & SADROs			
Count	358	346	3.5%
Average Age	68.8	68.4	0.5%
Average Annual Benefit	\$ 47,126	\$ 45,442	3.7%
Total			
Count	2,380	2,318	2.7%
Average Age	67.1	66.8	0.4%
Average Annual Benefit	\$ 99,676	\$ 96,766	3.0%

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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 Annual		End of Period Annual		% Increase in Annual Allowances	Average Annual Allowances
	Count	Allowances	Count	Allowances	Count	Allowances	Count	Allowances		
2019-2020	2,318	\$ 211,220	112	\$ 30,019	50	\$ 4,009	2,380	\$ 237,230	12.3%	\$ 99,676
2018-2019	2,250	\$ 211,220	122	\$ 17,005	54	\$ 3,922	2,318	\$ 224,303	6.2%	\$ 96,766
2017-2018	2,192	200,197	120	15,558	62	4,535	2,250	211,220	5.5%	93,876
2016-2017	2,149	190,897	87	11,816	44	2,516	2,192	200,197	4.9%	91,331
2015-2016	2,108	182,185	72	10,843	31	2,131	2,149	190,897	4.8%	88,831
2014-2015	2,032	170,872	115	13,700	39	2,387	2,108	182,185	6.6%	86,426
2013-2014	1,994	162,716	73	10,142	35	1,986	2,032	170,872	5.0%	84,091
2012-2013	1,942	154,381	91	10,259	39	1,924	1,994	162,716	5.4%	81,603
2011-2012	1,885	144,139	88	11,583	31	1,341	1,942	154,381	7.1%	79,496
2010-2011	1,810	131,014	133	15,384	58	2,259	1,885	144,139	10.0%	76,466

Annual Allowances in Thousands

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

Table A-5

Inactive Member Data			
	June 30, 2020	June 30, 2019	%Change
<u>Tier 1</u>			
Terminated Vested / Reciprocal			
Count	210	216	-2.8%
Average Age	45.7	44.8	2.0%
Average Annual Benefit	\$ 25,269	\$ 27,790	-9.1%
Average Contribution Balance with Interest	\$ 128,960	\$ 135,597	-4.9%
Non-Vested Terminated			
Count	31	31	0.0%
Average Age	41.2	39.9	3.3%
Average Annual Benefit	\$ 10,139	\$ 8,804	15.2%
Average Contribution Balance with Interest	\$ 66,282	\$ 49,897	32.8%
Total			
Count	241	247	-2.4%
Average Age	45.1	44.2	2.1%
Average Annual Benefit	\$ 23,433	\$ 25,475	-8.0%
Average Contribution Balance with Interest	\$ 120,898	\$ 124,841	-3.2%
<u>Tier 2</u>			
Terminated Vested / Reciprocal			
Count	9	7	28.6%
Average Age	32.4	31.3	3.7%
Average Annual Benefit	\$ 4,188	\$ 2,458	70.4%
Average Contribution Balance with Interest	\$ 22,679	\$ 13,939	62.7%
Non-Vested Terminated			
Count	96	70	37.1%
Average Age	34.1	34.0	0.3%
Average Annual Benefit	\$ 1,400	\$ 1,002	39.7%
Average Contribution Balance with Interest	\$ 8,690	\$ 5,911	47.0%
Total			
Count	105	77	36.4%
Average Age	34.0	33.8	0.6%
Average Annual Benefit	\$ 1,643	\$ 1,138	44.4%
Average Contribution Balance with Interest	\$ 9,889	\$ 6,641	48.9%
<u>Total</u>			
Count	346	324	6.8%
Average Age	41.8	41.7	0.1%
Average Annual Benefit	\$ 16,871	\$ 19,788	-14.7%
Average Contribution Balance with Interest	\$ 87,210	\$ 96,750	-9.9%

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

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

Table A-6

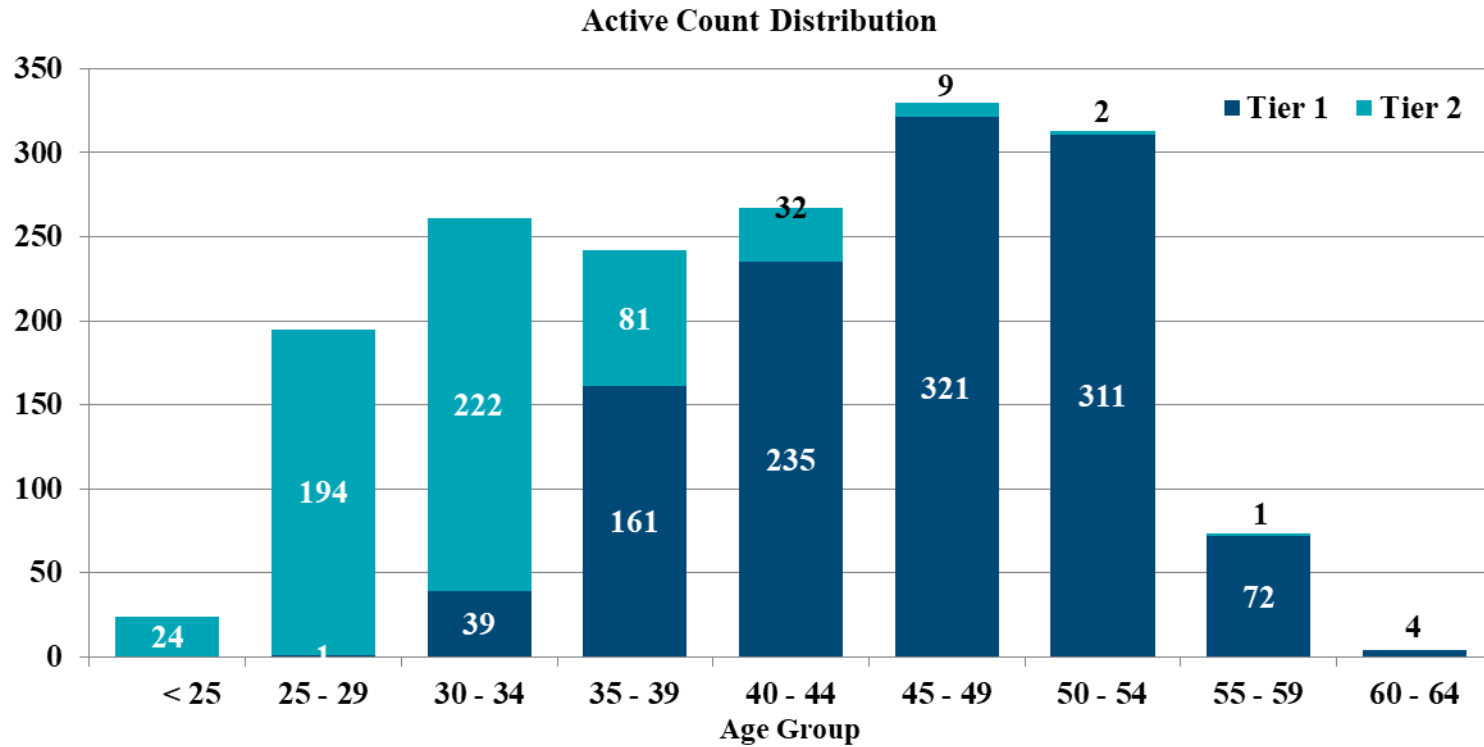
Distribution of Active Members as of June 30, 2020									
Age	Years of Benefit Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 and Up	
Under 25	15	9	0	0	0	0	0	0	24
25 to 29	46	145	4	0	0	0	0	0	195
30 to 34	32	148	78	3	0	0	0	0	261
35 to 39	11	62	74	94	1	0	0	0	242
40 to 44	3	21	52	105	71	15	0	0	267
45 to 49	2	8	12	62	89	148	9	0	330
50 to 54	0	2	4	27	48	178	53	1	313
55 to 59	0	2	1	4	14	33	16	3	73
60 to 64	0	0	0	0	2	0	2	0	4
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	109	397	225	295	225	374	80	4	1,709

Distribution of Average Expected Salary as of June 30, 2020									
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	\$101,011	\$109,387	\$0	\$0	\$0	\$0	\$0	\$0	\$104,152
25 to 29	101,291	113,917	133,733	0	0	0	0	0	111,345
30 to 34	104,690	117,896	139,939	143,138	0	0	0	0	123,154
35 to 39	98,188	120,067	140,530	148,011	182,350	0	0	0	136,442
40 to 44	101,516	117,104	139,072	147,060	157,655	161,418	0	0	146,261
45 to 49	97,726	125,792	143,917	145,332	151,023	161,469	172,487	0	154,031
50 to 54	0	137,457	130,011	146,691	150,097	158,583	174,150	273,590	158,759
55 to 59	0	133,047	130,426	148,744	146,776	154,947	162,362	158,696	153,883
60 to 64	0	0	0	0	138,013	0	170,486	0	154,250
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	\$ 101,878	\$ 116,881	\$ 139,816	\$ 146,949	\$ 152,678	\$ 159,518	\$ 171,514	\$ 187,419	\$ 140,900

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

Chart A-1



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

Table A-7

Benefit Effective	Retirees and Disabled by Attained Age and Benefit Effective Date										Total
	Under 50	50 to 54	55 to 59	60 to 64	Age						
					65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and up	
Pre-2000	0	0	5	8	10	66	155	144	47	23	458
PYE 2000	0	0	0	0	2	17	27	4	0	0	50
PYE 2001	0	0	0	1	1	21	17	3	1	0	44
PYE 2002	0	0	1	3	3	31	11	2	1	0	52
PYE 2003	0	0	2	2	5	25	13	0	0	0	47
PYE 2004	0	1	3	1	15	41	9	1	0	0	71
PYE 2005	0	0	0	1	17	20	7	0	0	0	45
PYE 2006	0	1	2	1	32	31	7	1	0	0	75
PYE 2007	0	0	0	1	16	14	4	0	0	0	35
PYE 2008	0	2	1	9	34	14	2	0	0	0	62
PYE 2009	2	2	0	13	28	15	1	0	0	0	61
PYE 2010	0	0	3	40	67	35	2	1	0	0	148
PYE 2011	1	1	1	76	44	11	0	0	0	0	134
PYE 2012	3	4	17	64	21	2	0	1	0	0	112
PYE 2013	5	3	24	27	7	2	0	0	0	0	68
PYE 2014	6	5	25	12	4	1	0	0	0	0	53
PYE 2015	6	3	25	17	1	0	0	0	0	0	52
PYE 2016	6	7	56	23	3	1	0	0	0	0	96
PYE 2017	5	9	35	4	3	0	0	0	0	0	56
PYE 2018	9	20	31	8	0	0	0	0	0	0	68
PYE 2019	7	28	28	4	1	0	0	0	0	0	68
PYE 2020	4	85	69	7	1	0	1	0	0	0	167
Total	54	171	328	322	315	347	256	157	49	23	2,022
Average Age at Retirement/Disability				52.5							
Average Current Age				66.8							
Average Annual Pension			\$	108,981							

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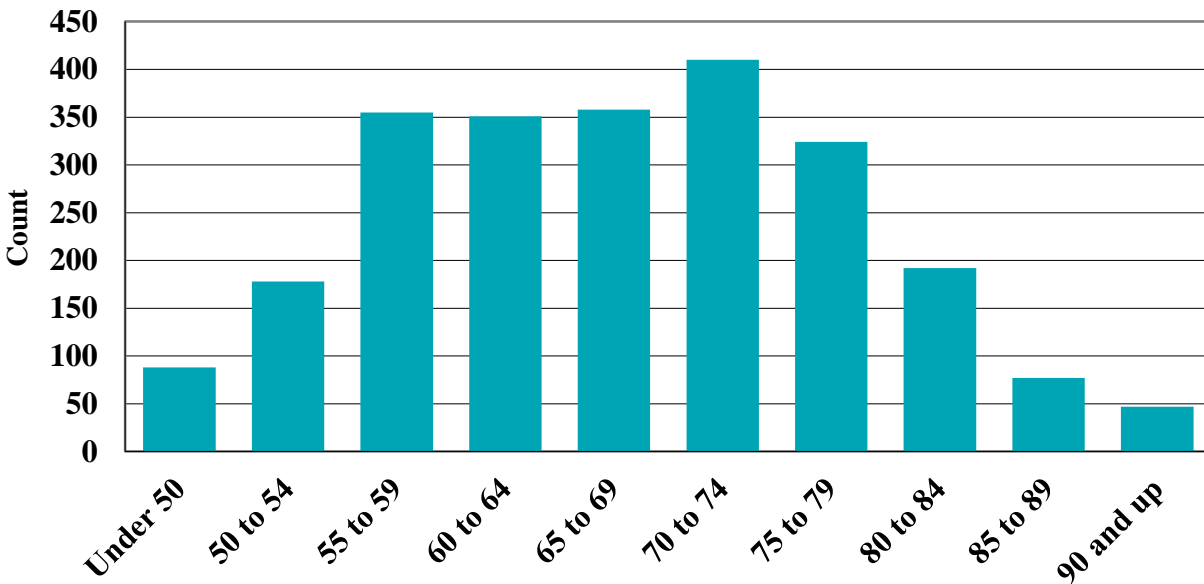
APPENDIX A – MEMBERSHIP INFORMATION

Table A-8

Distribution of Retirees, Disabled Members, and Beneficiaries as of June 30, 2020			
Age	Count	Annual Benefit	
Under 50	88	\$	4,684,086
50 to 54	178		16,589,083
55 to 59	355		36,241,200
60 to 64	351		39,961,460
65 to 69	358		42,692,924
70 to 74	410		44,592,251
75 to 79	324		29,022,193
80 to 84	192		16,151,991
85 to 89	77		4,803,589
90 and up	47		2,490,866
Total	2,380	\$	237,229,643

Chart A-2

Count Distribution

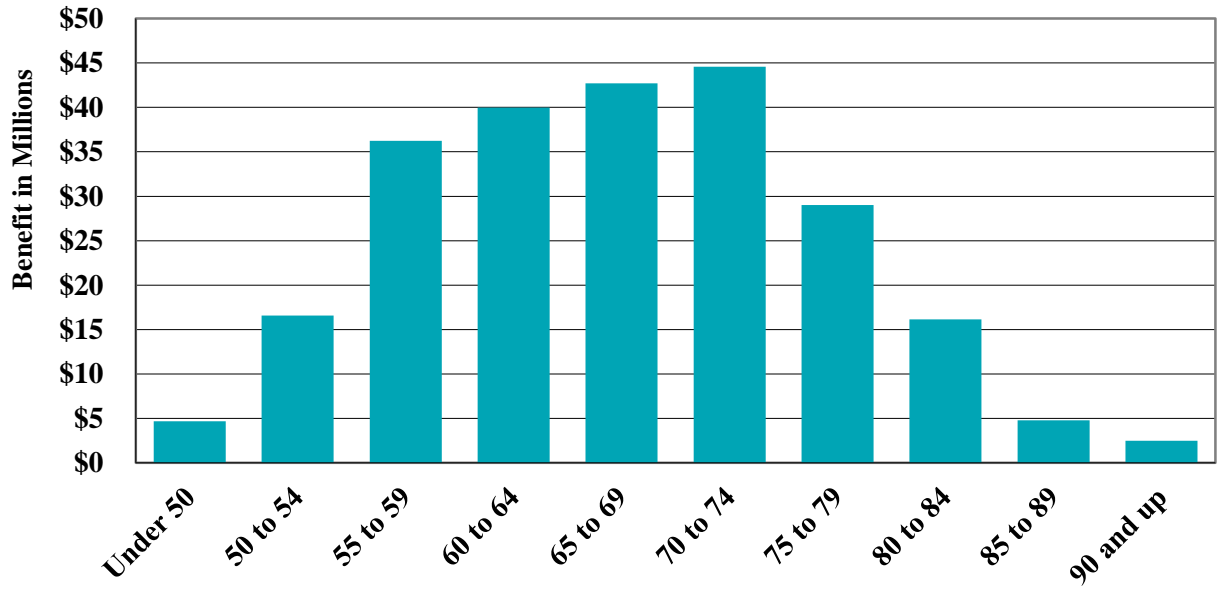


CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
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APPENDIX A – MEMBERSHIP INFORMATION

Chart A-3

Annual Benefit Distribution



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

Table A-9

	Changes in Plan Membership						Total
	TIER 1						
	Actives	Vested Terminations / Reciprocals	Non-Vested Terminations	Retirees	In-Pay Disabilities	Beneficiaries / SADRO	
June 30, 2019	1,215	216	31	1,060	912	346	3,780
New Entrants	4	0	0	0	0	0	4
Rehires	6	(5)	(1)	0	0	0	0
Non-Vested Terminations	(4)	0	1	0	0	0	(3)
Vested Deferrals	(2)	2	0	0	0	0	0
Transfers	(1)	1	0	0	0	0	0
Return of Contributions	0	0	(2)	0	0	0	(2)
Disabilities	(3)	(1)	0	(4)	3	0	(5)
Retirements	(68)	(12)	0	81	0	2	3
Deaths	(1)	0	0	(15)	(19)	19	(16)
Beneficiary Deaths	0	0	0	0	0	(7)	(7)
Benefits Expiring	0	0	0	0	0	(2)	(2)
Adjustments	(2)	9	2	0	4	0	13
June 30, 2020	1,144	210	31	1,122	900	358	3,765
TIER 2							
June 30, 2019	486	7	70	0	0	0	563
New Entrants	108	0	5	0	0	0	113
Rehires	1	0	(1)	0	0	0	0
Non-Vested Terminations	(28)	0	26	0	0	0	(2)
Vested Deferrals	(1)	1	0	0	0	0	0
Transfers	(1)	1	0	0	0	0	0
Return of Contributions	0	0	(1)	0	0	0	(1)
Disabilities	0	0	0	0	0	0	0
Retirements	0	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0
Benefits Expiring	0	0	0	0	0	0	0
Adjustments	0	0	(3)	0	0	0	(3)
June 30, 2020	565	9	96	0	0	0	670
TOTAL							
June 30, 2019	1,701	223	101	1,060	912	346	4,343
New Entrants	109	0	4	0	0	0	113
Rehires	7	(5)	(2)	0	0	0	0
Non-Vested Terminations	(30)	0	30	0	0	0	0
Vested Deferrals	(3)	2	0	0	0	0	(1)
Transfers	(2)	1	0	0	0	0	(1)
Return of Contributions	(2)	0	(6)	0	0	0	(8)
Disabilities	(3)	(1)	0	(4)	8	0	0
Retirements	(68)	(12)	0	80	0	2	2
Deaths	(1)	0	0	(15)	(19)	20	(15)
Beneficiary Deaths	0	0	0	0	0	(7)	(7)
Benefits Expiring	0	0	0	0	0	(3)	(3)
Adjustments	1	11	0	1	(1)	0	12
June 30, 2020	1,709	219	127	1,122	900	358	4,435

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

The economic assumptions used in this report was adopted by the Board of Administration with our input at the December 3, 2020 Board meeting. All other assumptions were adopted at the November 7, 2019 Board meeting based on recommendations from our experience study covering plan experience through June 30, 2019. Please refer to the experience study for the rationale for each of the assumptions.

1. Discount Rate

6.625% net of investment expenses. The long-term expected return on assets based on Meketa’s capital market assumptions for a 10-year and 20-year time horizons are 6.11% and 7.05%, respectively.

2. Price Inflation

2.25% per annum.

3. Wage Inflation

Reflect currently bargained across-the-board increases and 3.00% per annum (0.75% real wage growth) thereafter. For this valuation, Fire members have bargained increases of 4.25% for FYE 2021 and 2022 and 3.00% for FYE 2023. Police members bargaining agreement has expired.

4. Merit Salary Increase Rate

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

Table B-1

Merit Salary Increases	
Years of Service	Merit/ Longevity
0	6.50%
1	6.25
2	5.75
3	5.25
4	4.50
5	3.75
6	2.75
7	1.75
8	1.25
9	1.00
10	0.75
11+	0.50

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

5. Rates of Retirement

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

Table B-2

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

Table B-3

Tier 2 Rates of Retirement by Age and Service				
Age	Police			
	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				
Age	Fire			
	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

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

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

6. Rates of Termination

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

Table B-5

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

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

75% of terminating employees are assumed to subsequently work for a reciprocal employer and receive 3.25% pay increases per year.

7. Rates of Disability

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

8. Rates of Mortality

Mortality rates for actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex-distinct employee and annuitant mortality tables shown below. Future mortality improvements are reflected by applying the SOA MP-2019 projection scale on a generational basis from the base year of 2010 (2009 for beneficiary tables).

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	0.948 times the CalPERS 2009 Healthy Annuitant Mortality Table	1.048 times the CalPERS 2009 Healthy Annuitant Mortality Table
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
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

9. Family Composition

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

Table B-8

Gender	Percentage Married Percentage
Males	85%
Females	85%

10. Administrative Expenses

For FYE 2021, administrative expenses are assumed to equal \$1,316 per member and are assumed to increase at the wage inflation assumption of 3.00% per annum. Historically, the administrative expenses were assumed to reduce the investment return assumption by 10 basis points which resulted in a higher normal cost. To maintain the same historic division of Tier 1 member and City contributions for administrative expenses for this valuation, members were allocated a portion of the administrative expenses equal to 3/11ths of the difference in normal cost that a 10 basis point reduction in the investment return assumption would cause. Tier 2 members pay 50 percent of administrative expenses.

11. Changes Since Last Valuation

New economic assumptions were adopted by the Board at the meeting on December 3, 2020. The discount rate was reduced from 6.75% to 6.625%; the price inflation was reduced from 2.50% to 2.25%; wage inflation was changed to match currently bargained increases and the ultimate wage inflation was reduced from 3.25% to 3.00%; and the amortization payment growth rate was reduced from 2.50% to 2.25%.

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 (6.875% for FYE's 2017 and 2018, 7.00% for FYE's 2015 and 2016, and 7.125% for FYE 2014) 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 2.50% each year. As shown in Section VI, some prior amortization periods were adjusted to smooth the pattern of future contributions.

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

1. Membership Requirement

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

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

Persons eligible for Tier 1 membership include:

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

2. Final Compensation

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

3. Credited Service

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

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

4. Contributions

a. Member:

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

b. Employer:

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

5. Service Retirement

Eligibility

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

Benefit

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

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

6. Service Connected Disability Retirement

Eligibility

No age or service requirement.

Benefit

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

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

7. Non-Service Connected Disability Retirement

Eligibility

Two years of service.

Benefit

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

8. Non-Service-Connected Death

Less than 2 Years of Service:

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

Disabled retirees or members ineligible for service retirement:

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

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

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

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

Service retirees or members eligible for service retirement:

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

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

9. Service-Connected Death

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

10. Termination Benefits

Less than 10 Years of Service:

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

10 or more years of credited service:

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

11. Post-retirement Cost-of-Living Benefit

Benefits are increased every February 1 by 3.0%.

12. Changes Since Last Valuation

None.

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

1. Membership Requirement

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

2. Final Compensation

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

3. Credited Service

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

4. Member Contributions

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

5. Unreduced Service Retirement

Eligibility

Age 57 with five years of service.

Benefit – Member

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

Benefit – Survivor

50% joint and survivor annuity.

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TIER 2

6. Early Service Retirement

Eligibility

Age 50 with five years of service.

Benefit – Member

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

7. Service-Connected Disability Retirement

Eligibility

No age or service requirement.

Benefit – Member

The greater of:

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

8. Non-Service Connected Disability Retirement

Eligibility

Five years of service.

Benefit – Member

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

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TIER 2

9. Death Before Retirement

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

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

If death occurs after retirement eligibility is reached

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

Employees killed in the line of duty

Monthly benefit equal to the greater of:

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

10. Withdrawal Benefits

Less than five years of credited service

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

Five or more years of credited service

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

11. Benefit Forms

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

12. Post-retirement Cost-of-Living Benefit

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

13. Changes Since Last Valuation

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

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

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

APPENDIX D – GLOSSARY OF TERMS

1. Actuarial Liability

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

2. Actuarial Assumptions

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

3. Actuarial Cost Method

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

4. Actuarial Gain (Loss)

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

5. Actuarial Present Value

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

6. Actuarially Determined Contribution

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

7. Amortization Method

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

APPENDIX D – GLOSSARY OF TERMS

8. Asset Valuation Method

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

9. Contribution Allocation Procedure

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

10. Discount Rate

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

11. Funded Status or Funding Ratio

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

12. Normal Cost

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

13. Present Value of Future Benefits

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

14. Unfunded Actuarial Liability (UAL)

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



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