

City of San José Federated City Employees' Retirement System

Actuarial Valuation Report as of June 30, 2020

Produced by Cheiron

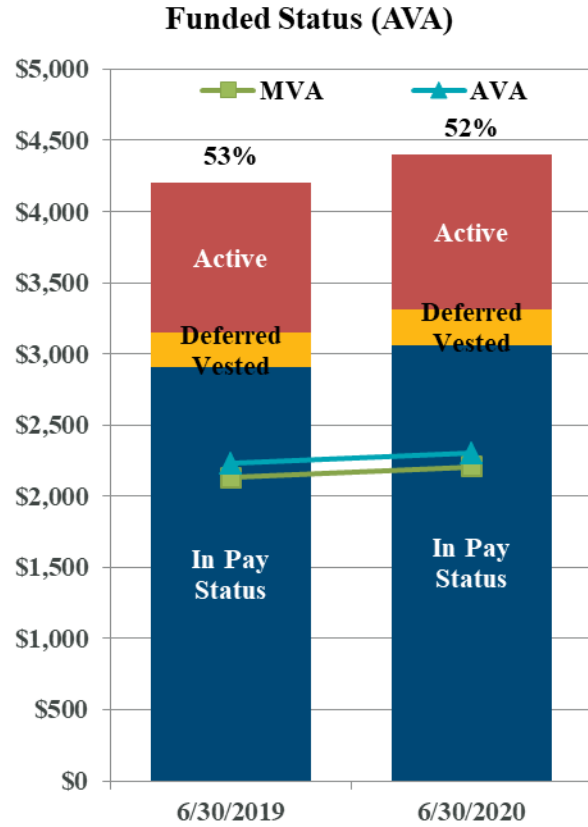
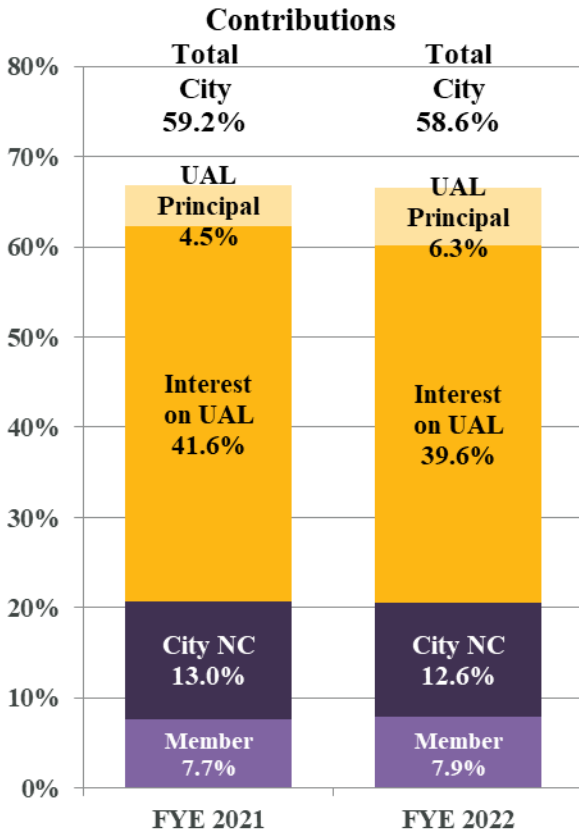
December 2020

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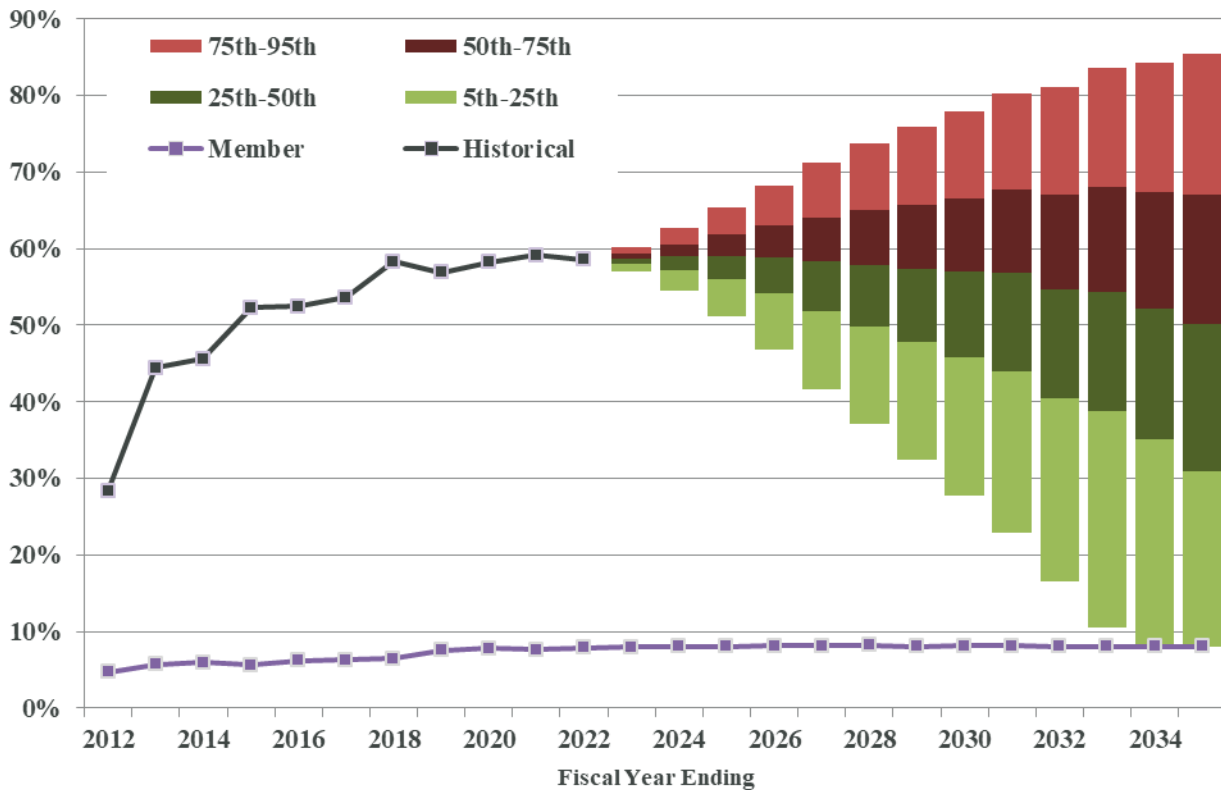
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SECTION I – BOARD SUMMARY



Historical and Projected City Contribution Rates



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Membership

Underlying the changes in the actuarial valuation from one year to the next are changes in the membership of the System. These changes affect the liability of the System as well as contributions to the System. As shown in Table I-1 below, total membership grew 3.0% from 2019 to 2020. Total active membership increased 3.5% with Tier 1 active membership declining by 8.5% while Tier 2 active membership increased by 13.7%. Total payroll increased by 9.0% which is significantly greater than the assumed increase rate of 3.00%. Tier 2 now accounts for approximately 59% of active members and 54% of payroll.

Table I-1

Total Membership			
	June 30, 2020	June 30, 2019	% Change
Active Members			
Tier 1	1,527	1,669	-8.5%
Tier 2	<u>2,215</u>	<u>1,948</u>	<u>13.7%</u>
Total Actives	3,742	3,617	3.5%
Terminated Vested Members	1,614	1,535	5.1%
Members In Pay Status	<u>4,441</u>	<u>4,359</u>	<u>1.9%</u>
Total Membership	9,797	9,511	3.0%
Active Member Payroll			
Tier 1	\$ 157,241	\$ 162,086	-3.0%
Tier 2	<u>184,311</u>	<u>151,224</u>	<u>21.9%</u>
Total	\$ 341,552	\$ 313,310	9.0%

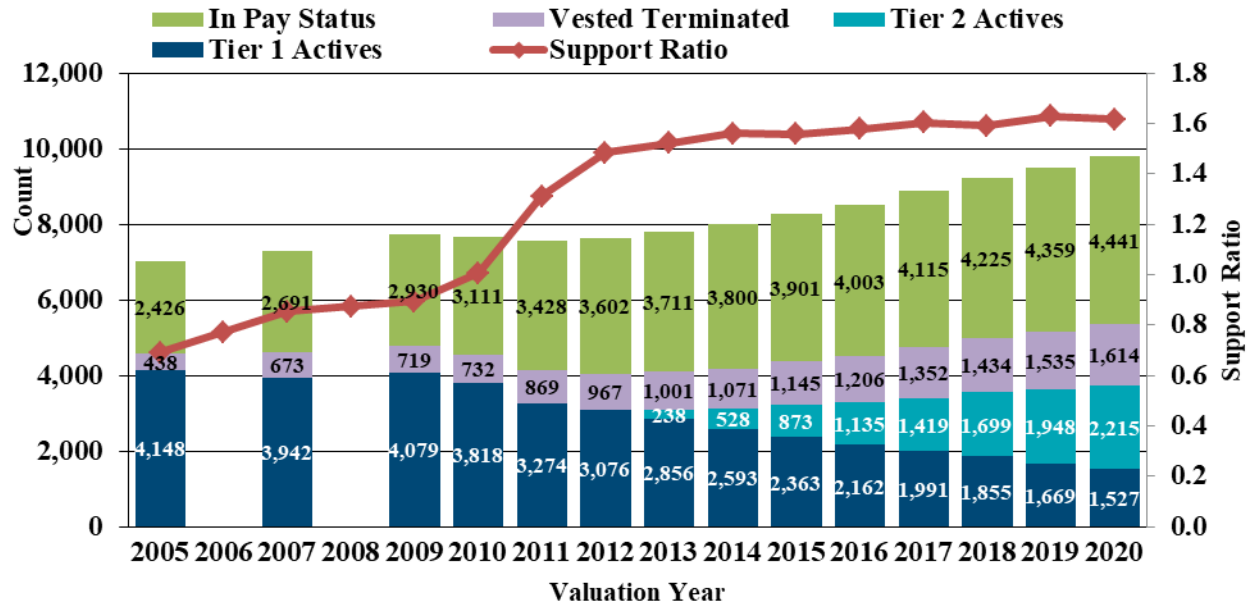
Dollar amounts in thousands

As shown in the chart on the following page, the number of active members declined about 25% from 4,079 in 2009 to 3,076 in 2012. Since then, there has been a gradual increase in the number of active members to 3,742 in 2020. At the same time, the number of members in pay status has increased about 52% from 2,930 in 2009 to 4,441 in 2020. As a result, the support ratio (the ratio of the number of vested terminated and members in pay status to the number of active members) increased from 0.89 in 2009 to 1.49 in 2012 due to the recession and has increased steadily since then to 1.62 in 2020. As there are fewer actives to support each retiree, contributions tend to become more volatile and sensitive to gains and losses. This type of progression is to be expected for a maturing plan over a long period of time, but the impact of the Great Recession accelerated the trend significantly from 2009 to 2012. Following the recession, the ratio appears to have stabilized, but there is no indication yet of a return to a lower ratio.

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Historical Membership Counts



Assets and Liabilities

This report measures assets and liabilities for funding purposes only. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the System’s benefit obligations, and there is a separate report for financial reporting. Table I-2 on the next page summarizes the Actuarial Liability, assets, and related ratios for the System as of June 30, 2020 compared to June 30, 2019.

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Table I-2

Summary of Funded Status and Related Ratios			
	June 30, 2020	June 30, 2019	% Change
Actuarial Liability			
Actives	\$ 1,093,014	\$ 1,050,036	4.1%
Deferred Vested	248,215	244,741	1.4%
In Pay Status	<u>3,059,854</u>	<u>2,905,931</u>	<u>5.3%</u>
Total	\$ 4,401,083	\$ 4,200,708	4.8%
Market Value of Assets (MVA)	\$ 2,208,016	\$ 2,132,152	3.6%
Unfunded Actuarial Liability - MVA Basis	\$ 2,193,067	\$ 2,068,556	6.0%
Funding Ratio - MVA Basis	50.2%	50.8%	-1.2%
Actuarial Value of Assets (AVA)	\$ 2,301,469	\$ 2,228,802	3.3%
Unfunded Actuarial Liability - AVA Basis	\$ 2,099,614	\$ 1,971,906	6.5%
Funding Ratio - AVA Basis	52.3%	53.1%	-1.4%
FYE 2021 Expected Payroll	\$ 341,552	\$ 313,310	9.0%
Asset Leverage Ratio	6.5	6.8	-5.0%
Actuarial Liability Leverage Ratio	12.9	13.4	-3.9%

Dollar amounts in thousands

The Actuarial Liability represents the target amount of assets the plan should have in the trust as of the valuation date based on the actuarial cost method. The Actuarial Liability grew 4.8% while the Market Value of Assets increased 3.6%. Given the greater size of the Actuarial Liability, the Unfunded Actuarial Liability (UAL) measured on the Market Value of Assets increased 6.0% from approximately \$2,069 million to \$2,193 million. The funding ratio on an MVA basis decreased slightly from 50.8% to 50.2%.

The asset smoothing method deferred 80% of the investment loss while recognizing 20% of the prior four years' gains and losses, resulting in a 3.3% increase in the Actuarial Value of Assets. The UAL measured on the Actuarial Value of Assets increased 6.5% from approximately \$1,972 million to \$2,100 million and the funding ratio decreased from 53.1% to 52.3%. The Market Value of Assets is less than the actuarial value, so if assumptions are 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 (Market Value of Assets divided by payroll) of 6.5 means that if the System experiences a 10% loss on assets compared to the discount rate of 6.625%, the loss would be equivalent to 65% of payroll. Interest payments on such a loss would be approximately

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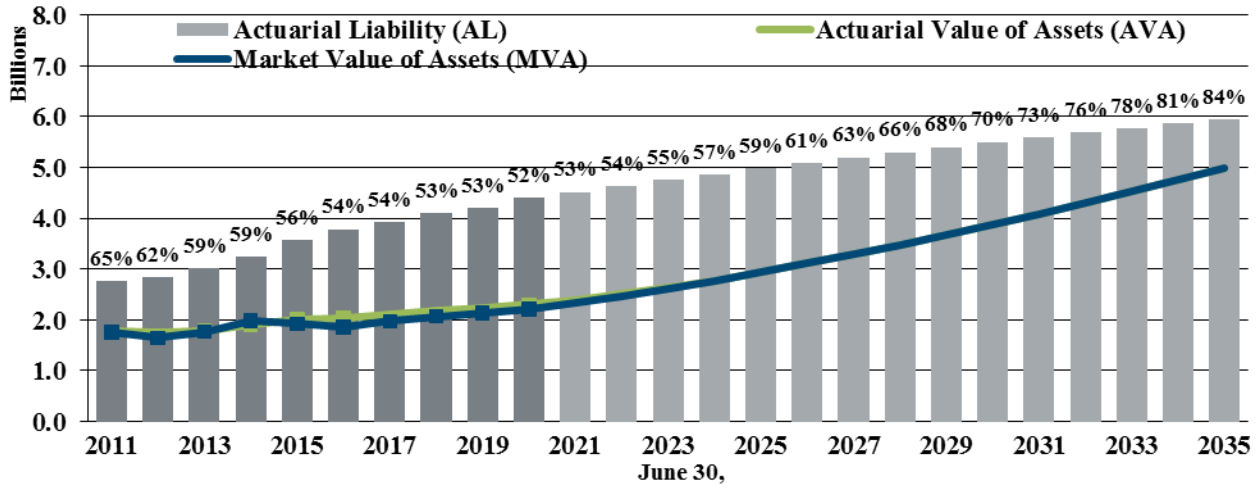
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4.3% of payroll. Because payroll grew more than assets during the year, the asset leverage ratio declined.

As the System becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the leverage ratio would be 12.9 (Actuarial Liability divided by payroll). Higher asset leverage ratios indicate that a system is more sensitive to investment gains and losses. That is, the same level of investment gain or loss will have a greater impact on contribution rates for a system with a higher ratio than for a system with a lower ratio.

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 funded 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 primarily because the System experienced lower than expected investment returns on the Actuarial Value of Assets and changed assumptions, including reducing its assumption of future investment returns. If all assumptions are met in the future including an expected return of 6.625% each year, the funded status is expected to reach about 84% by 2035.

Historical and Projected Assets and Actuarial Liability



While the funded status is expected to improve, the UAL is dependent 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.

Changes in UAL

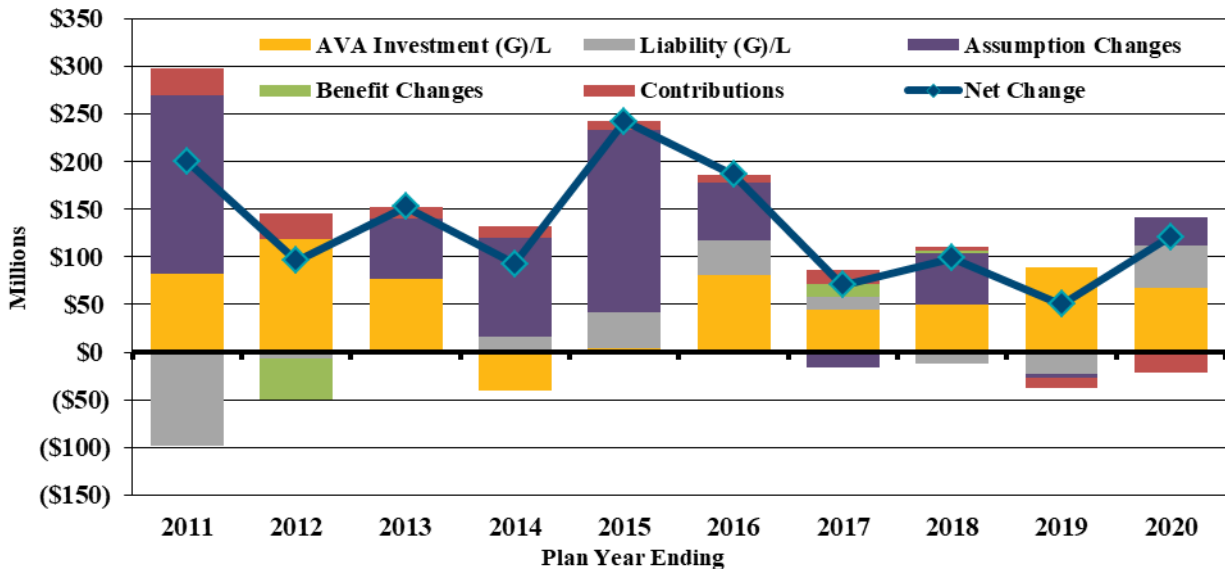
The chart below and Table I-3 on the following page summarize the changes in the Unfunded Actuarial Liability over the last 10 years. Five categories of changes are shown: investment gains

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or losses on the Actuarial Value of Assets, liability gains or losses, assumption changes, benefit changes, and contributions.

Changes in Unfunded Actuarial Liability



Investment losses have contributed significantly to the growth in the UAL with 2014 as the only year in the last 10 in which there was an investment gain on the Actuarial Value of Assets. In sum, investment losses have increased the UAL by about \$574.8 million over the last 10 years.

There have been significant assumption changes as shown by the purple bars in the chart on the dashboard, including reductions in the discount rate in steps from 7.5% in 2011 to the current rate of 6.625% that have increased the measure of the UAL by a sum total of \$679.2 million over the last 10 years.

Actual contributions were consistently less than the normal cost plus interest on the UAL until 2019, resulting in an annual increase in the amount of the UAL as shown by the red bars on the dashboard. In sum, this has added \$86.0 million to the UAL over the last 10 years. This pattern is a result of the prior policy of a 30-year rolling amortization that has been phased out. Contribution rates in the future are expected to continue to exceed normal cost plus interest on the UAL and gradually pay down the UAL.

The gains and losses on the Actuarial Liability have varied over the last 10 years. In sum, the gains and losses on the Actuarial Liability have added roughly \$6.1 million to the UAL over the last 10 years. The only benefit changes in the last 10 years that affected the UAL were the elimination of the SRBR in 2012 and the changes under Measure F in 2017 and 2018.

In aggregate, the UAL has increased in every year of the 10-year period for a total increase of approximately \$1.3 billion as shown in Table I-3.

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Table I-3

Changes in Unfunded Actuarial Liability											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Discount Rate	7.50%	7.50%	7.25%	7.00%	7.00%	6.875%	6.875%	6.75%	6.75%	6.625%	
Source											
AVA (G)/L	\$ 82.2	\$ 119.3	\$ 76.5	\$ (39.7)	\$ 3.6	\$ 81.5	\$ 44.6	\$ 49.9	\$ 88.8	\$ 68.0	\$ 574.8
Liability (G)/L	(98.0)	(6.5)	(0.1)	16.9	38.2	33.0	13.7	(11.5)	(23.2)	43.6	6.1
Assumptions	187.5	0.0	63.7	103.4	191.5	60.2	(15.6)	54.4	(2.9)	37.0	679.2
Benefit Changes	0.0	(43.1)	0.0	0.0	0.0	0.0	13.8	1.9	0.0	0.0	(27.4)
Contributions	28.9	26.8	12.4	12.2	8.8	11.8	14.0	4.0	(12.1)	(20.8)	86.0
Total Change	\$ 200.6	\$ 96.5	\$ 152.5	\$ 92.8	\$ 242.1	\$ 186.6	\$ 70.5	\$ 98.8	\$ 50.6	\$ 127.7	\$ 1,318.7

Dollar amounts in millions

Table I-4 on the next page breaks out the sources of the changes in UAL for the fiscal year ending June 30, 2020. The UAL increased about \$128 million since the prior year. About \$68 million was due to investment losses on the Actuarial Value of Assets. The Board adopted economic assumption changes for this valuation, including a reduction in the discount rate from 6.75% to 6.625%. These assumption changes increased the UAL by approximately \$37 million. There were liability losses of about \$44 million, which includes a \$26 loss due to salaries being higher than expected. Finally, contributions greater than normal cost plus interest on the UAL subtracted about \$21 million from the UAL during the year.

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Table I-4

Sources of FYE 2020 Change in UAL		
	Amount	% of AL
Unfunded Actuarial Liability, June 30, 2020	\$ 2,099,613	106.5%
Unfunded Actuarial Liability, June 30, 2019	<u>1,971,906</u>	<u>100.0%</u>
Change in Unfunded Actuarial Liability	\$ 127,707	6.5%
<u>Sources of Changes</u>		
Plan Changes	\$ 0	0.0%
Assumption Changes	36,981	1.9%
Normal Cost and Interest on UAL less Contributions	(20,816)	-1.1%
Investment (gain) or loss on Actuarial Value of Assets	67,979	3.4%
Liability (gain) or loss		
Salary experience	\$ 25,889	1.3%
Retirement experience	7,873	0.4%
Termination experience	7,077	0.4%
Other experience	<u>2,724</u>	<u>0.1%</u>
Total Liability (gain) or loss	<u>\$ 43,563</u>	<u>2.2%</u>
Total Changes	\$ 127,707	6.5%

Dollar amounts in thousands

Contribution Amounts and Rates

As shown in the upper left corner of the dashboard (page 1), the total City contribution rate reported in the actuarial valuation decreased from 59.2% to 58.6%, while the average member contribution increased from 7.7% to 7.9% as active membership continues to shift from Tier 1 to Tier 2. The purple bars represent the normal cost (including administrative expenses), the benefits attributable to the next year of service, with the light purple paid by members¹ and the dark purple paid by the City. The light and dark gold bars represent the City contributions that pay for the UAL. The dark gold bars represent the interest on the Market Value UAL for the fiscal year, and the light gold bars represent the portion of the payment that actually reduces the UAL. The UAL principal payment increases from 4.5% of pay to 6.3% of pay. As a result, the UAL is expected to be reduced slightly if all assumptions are met.

Table I-5 and the chart on the following page summarize the member and City contribution rates and amounts for the fiscal years ending in 2021 and 2022. The Tier 1 UAL payment increased \$12.2 million from 2021 to 2022, reflecting the expected increase in UAL payments, the

¹ A small portion of the member contributions also pays a portion of the UAL.

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investment and liability losses, and the changes in assumptions. The Tier 1 normal cost rate increased primarily due to the discount rate change, but the Tier 1 normal cost dollar amount decreased due to the decline in Tier 1 active members. The Tier 2 contribution amount increased primarily due to the growing Tier 2 population and the discount rate change. In aggregate, The City's contribution amount increased about \$15.1 million while its contribution rate decreased 0.60% of payroll.

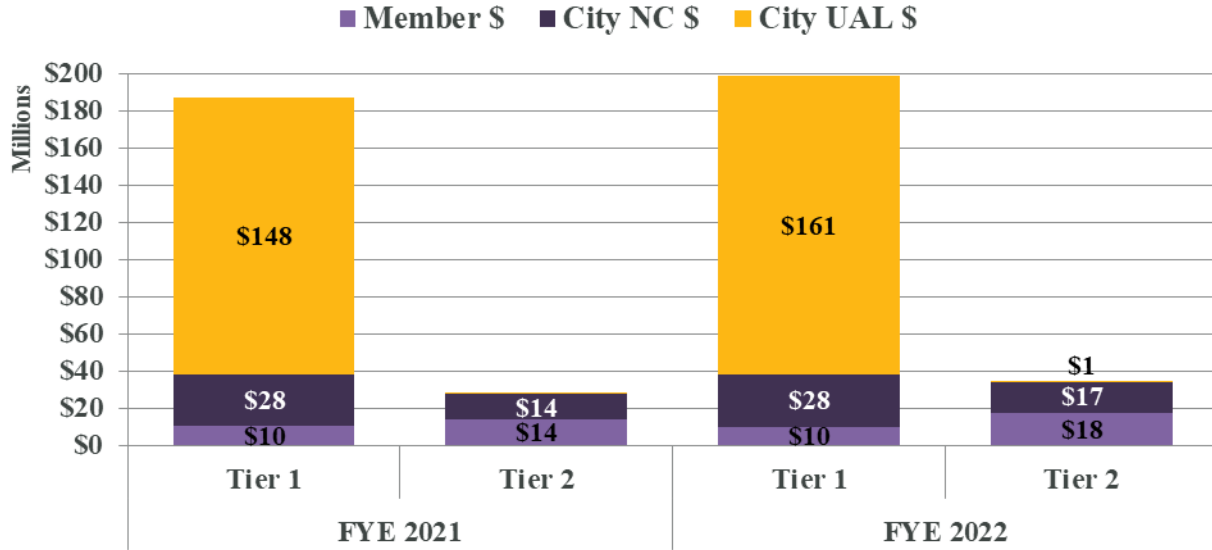
Table I-5

Contribution Rates and Amounts Throughout the Year				
	FYE 2021	FYE 2022	Change	
<u>Member Rates (Excluding Reclassification Payments)</u>				
Tier 1	7.22%	7.39%	0.17%	
Tier 2	7.92%	8.17%	0.25%	
<u>City Contributions</u>				
Tier 1 UAL Payment	\$ 148,460	\$ 160,694	\$ 12,234	
Tier 1 Normal Cost (Including Administrative Expenses)	\$ 28,160 19.82%	\$ 27,792 20.25%	\$ (368) 0.43%	
Tier 2 Contribution	\$ 14,306 7.92%	\$ 17,529 8.17%	\$ 3,223 0.25%	
Aggregate Contribution	\$ 190,926 59.16%	\$ 206,015 58.56%	\$ 15,089 -0.60%	

Dollar amounts in thousands

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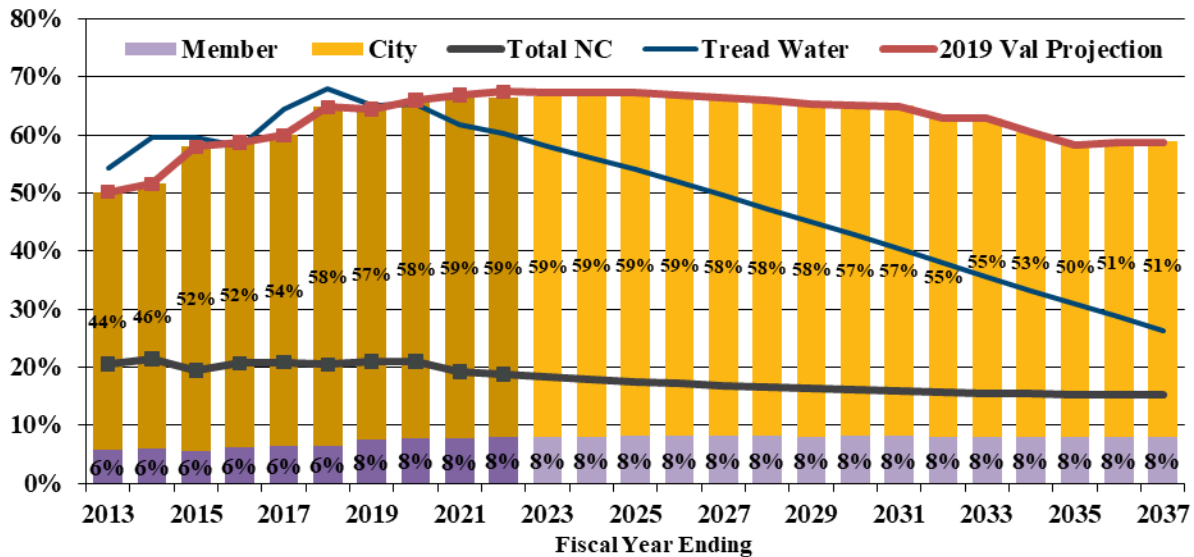
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By far, the most significant portion of the City’s contribution is the Tier 1 UAL payment which is substantially attributable to members who no longer work for the City.

The chart below shows the historical and projected aggregate member contribution rates (purple bars) and City contribution rates (gold bars) compared to the projection of member plus City contributions from the prior valuation, indicated by the red line. These contribution rates assume that all assumptions are met. The black line shows the historical and projected total normal cost rate. The blue line represents the historical and projected tread water rate. Historical rates and rates calculated through the fiscal year ending June 30, 2022 are shown in a darker shade than the projected future contribution rates.

Historical and Projected Aggregate Contribution Rates

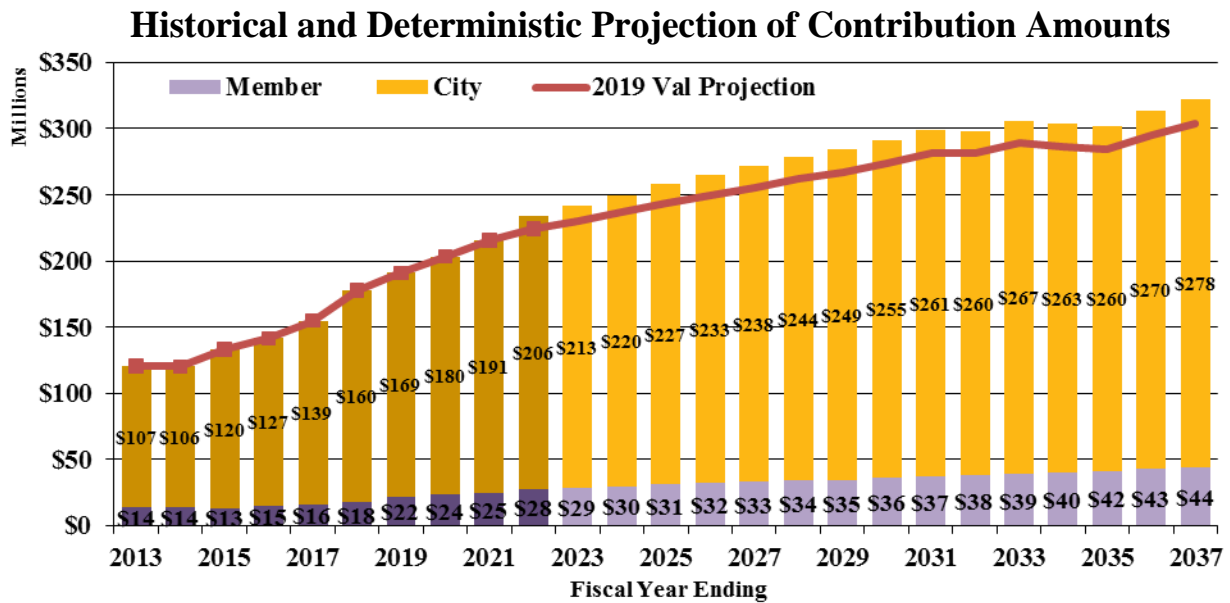


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The aggregate City contribution rate has increased dramatically since FYE 2013 primarily due to investment losses, assumption changes, and reductions in payroll that increased the UAL rate. In aggregate, the discount rate over this period has been reduced from 7.50% to 6.625%. Future aggregate City contribution rates are expected to increase slightly in the next few years due to the recognition of recent investment losses, and then gradually decrease over time after that. The gradual decrease in the total rate is driven by the projected gradual decrease in total normal cost rate as Tier 2 becomes a greater proportion of the active membership and the gradual decrease in UAL rate as payroll is expected to grow slightly faster than amortization payments (3.00% vs. 2.75%). After the projection period shown, contribution rates are expected to drop more rapidly as some amortization bases are fully paid off.

The following chart shows historical and projected member (purple bars) and City (gold bars) contribution amounts (assuming contributions throughout the year) compared to the projected amounts shown in the prior valuation. If all actuarial assumptions are exactly met, City contributions are expected to increase at a rate slower than payroll growth from \$206 million in FYE 2022 to a peak of approximately \$278 million in FYE 2037, before declining after the projection period shown as portions of the UAL are paid off.



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

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SECTION II – ASSESSMENT AND DISCLOSURE 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 System 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 System are:

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

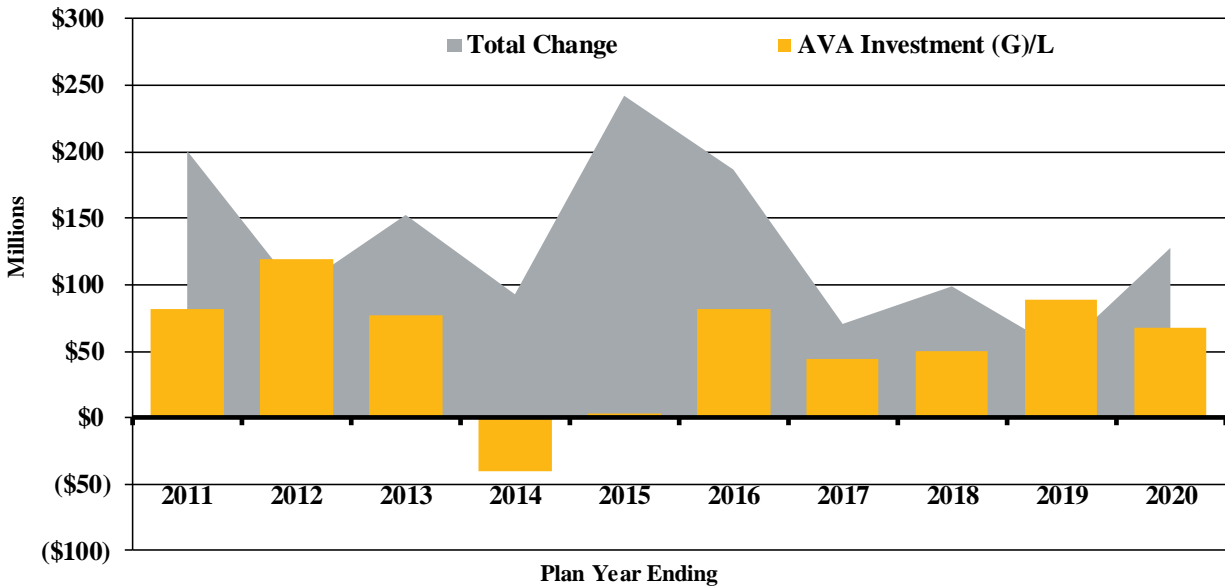
Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability (UAL) 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 System's asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the City.

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Changes in Unfunded Actuarial Liability



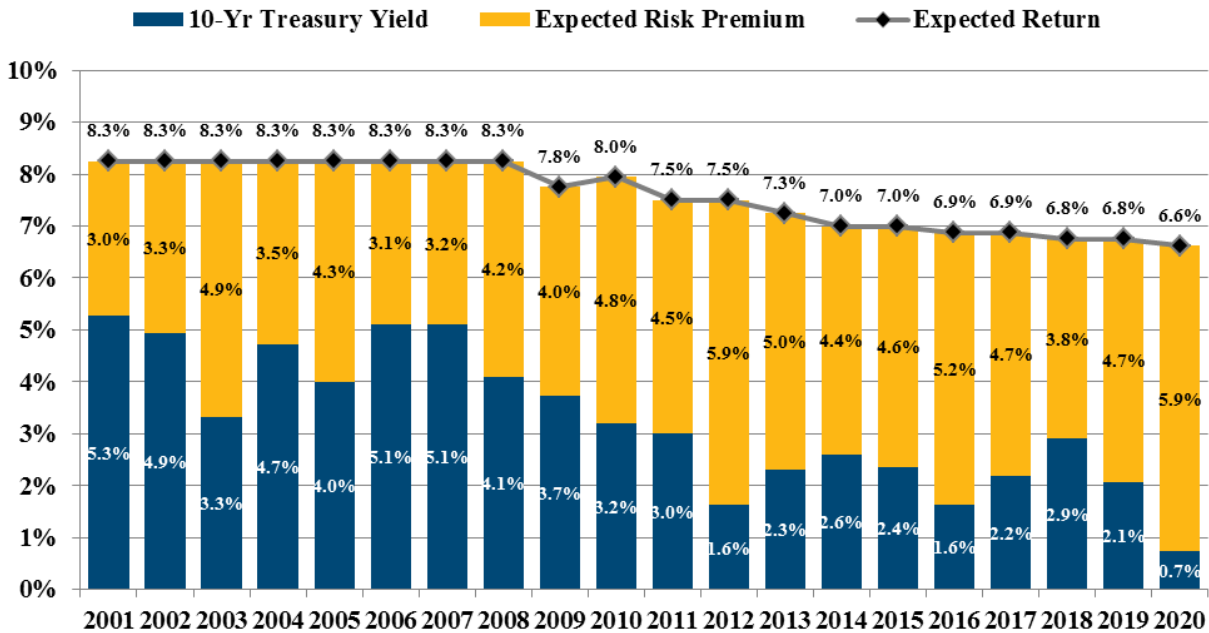
The chart above shows the impact of investment gains and losses on the smoothed Actuarial Value of Assets over the last 10 years compared to the System’s total change in UAL. Investment losses have been a significant contributor to the growth in the UAL.

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 to the extent they affect future expected investment earnings. The chart on the following page shows the yield on a 10-year Treasury security compared to the System’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. This year there has been another significant decline in the yield on the 10-year Treasury. If yields persist at this lower level, plans may need to reduce their expected returns even further.

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San Jose Federated Expected Risk Premium

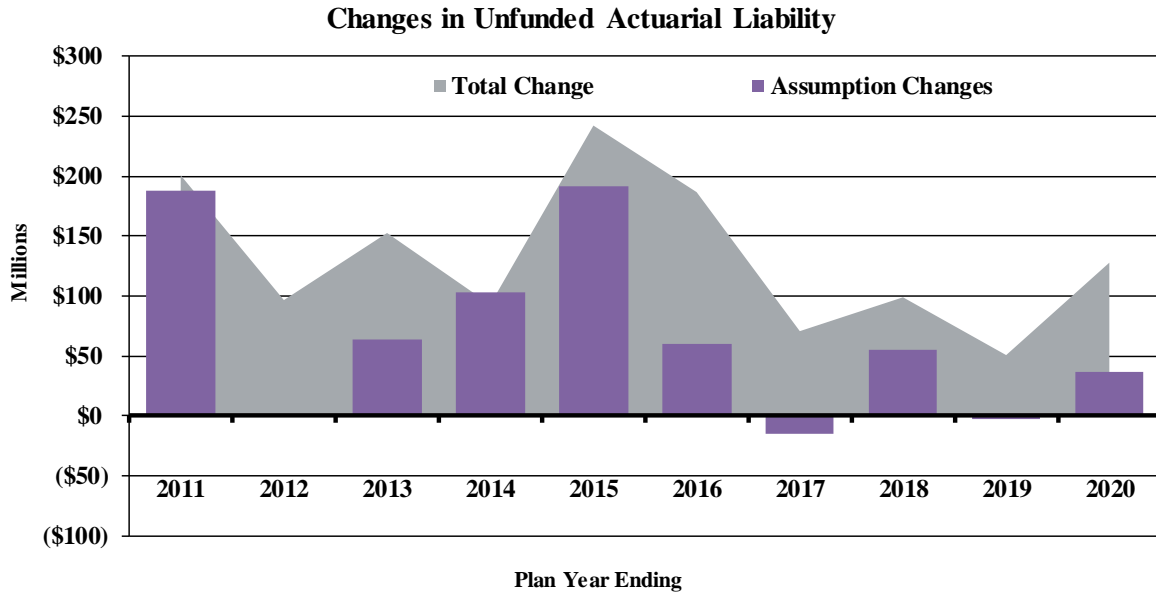


Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed income investments, but lower expected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

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

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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 following measures have been selected as the most important in understanding the primary risks identified for the plan.

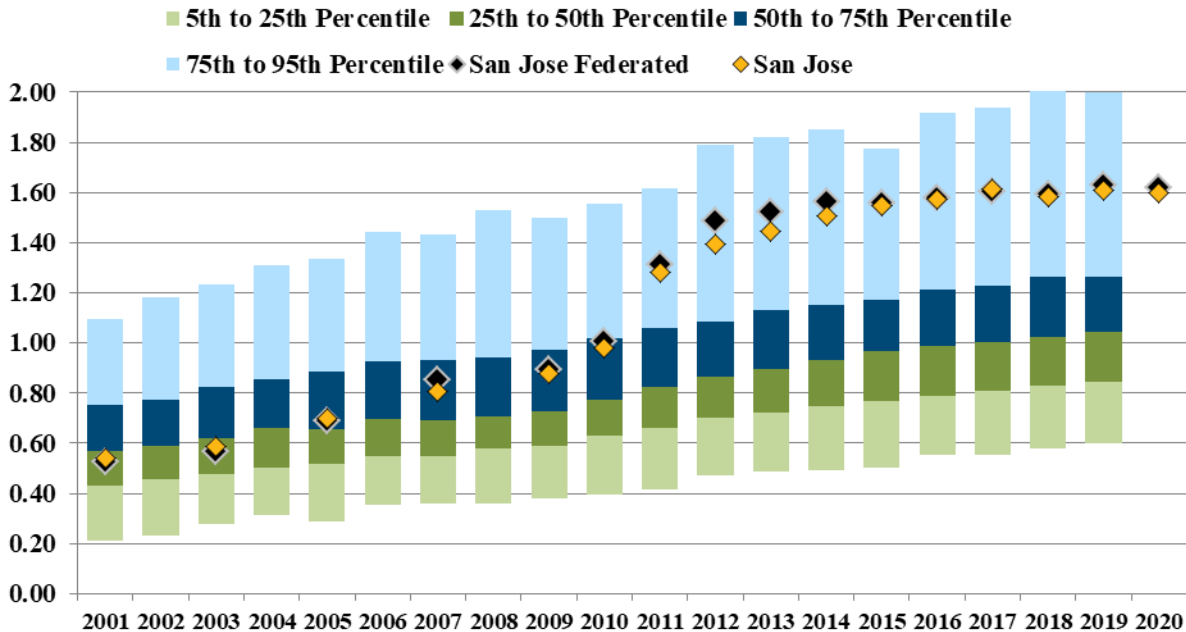
Support Ratio (Inactives per Active)

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

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

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 Federated compares, and the gold diamond shows how the combined Federated and Police and Fire plans compare. Through 2009, the System 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

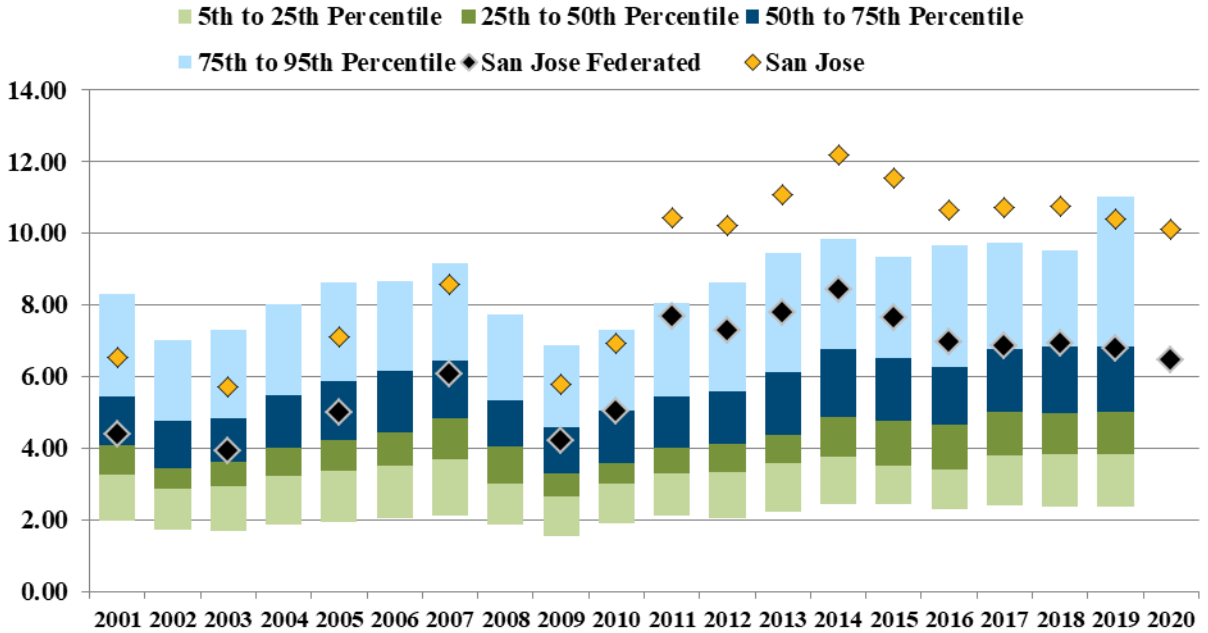
Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. An asset leverage ratio of 5.0, for example, means that if the System experiences a 10% loss on assets compared to the expected return, the loss would be equivalent to 50% of payroll. The same investment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

As the System 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 System 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.

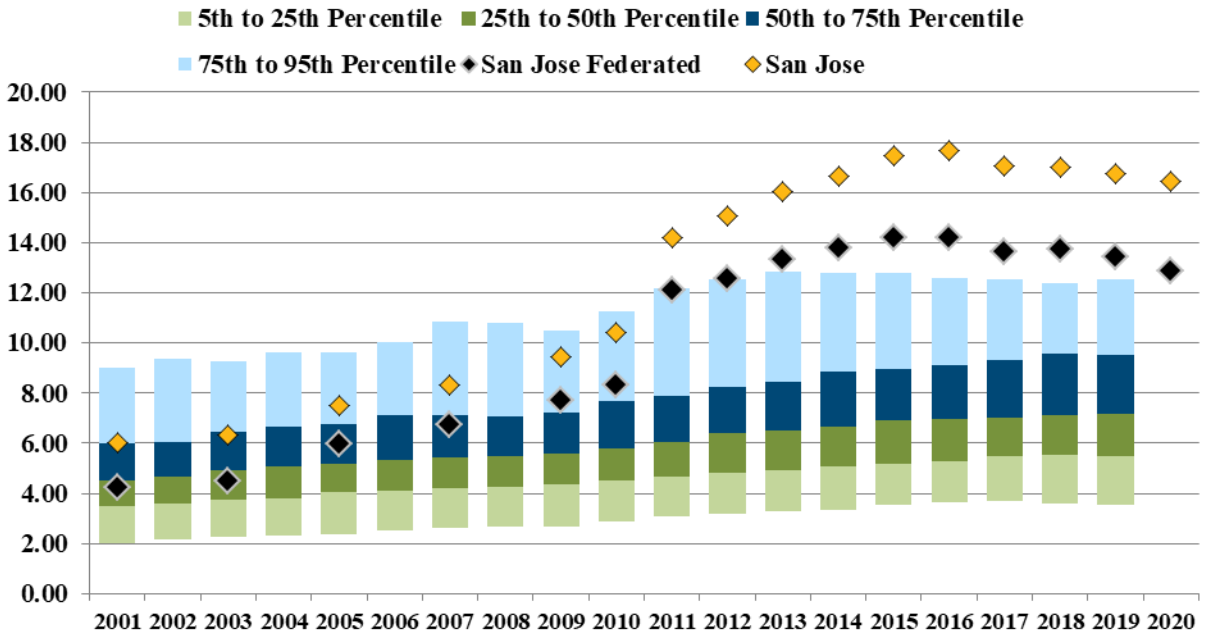
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Asset Leverage Ratio



Liability Leverage Ratio



The charts above show the distribution from the 5th to 95th percentile of asset and Actuarial Liability leverage ratios for the plans in the Public Plans Database. The black diamond shows

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

how San José Federated compares, and the gold diamond shows how the combined Federated and Police and Fire plans compare. As we have discussed with the Board for several years and as is shown in the charts above, the leverage ratios for the Federated System are higher than most plans and are significantly higher when combined with Police and Fire, indicating that San José is much more sensitive to risk than most plan sponsors.

Assessing Costs and Risks

The fundamental risk to the System 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 System, but also by the interaction of that experience and decisions by the Board related to assumptions, asset smoothing methods, and amortization periods.

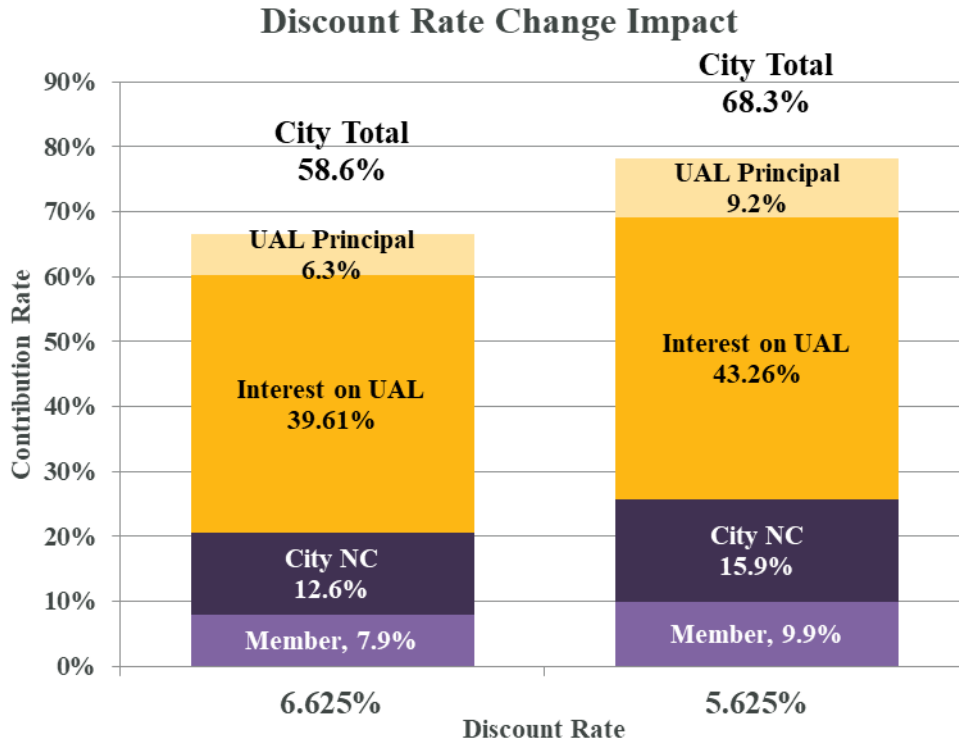
Point in Time Assessments

To assess the risks of the System 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 following chart show the Member and City contributions at the current discount rate compared to a discount rate 100 basis points lower.

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK



Decreasing the discount rate by 100 basis points would increase the normal cost by over 5% of payroll and the interest on the UAL almost 4% of payroll. Using the current amortization methods, the City contribution rate would increase by almost 10% of payroll to over 68% of pay.

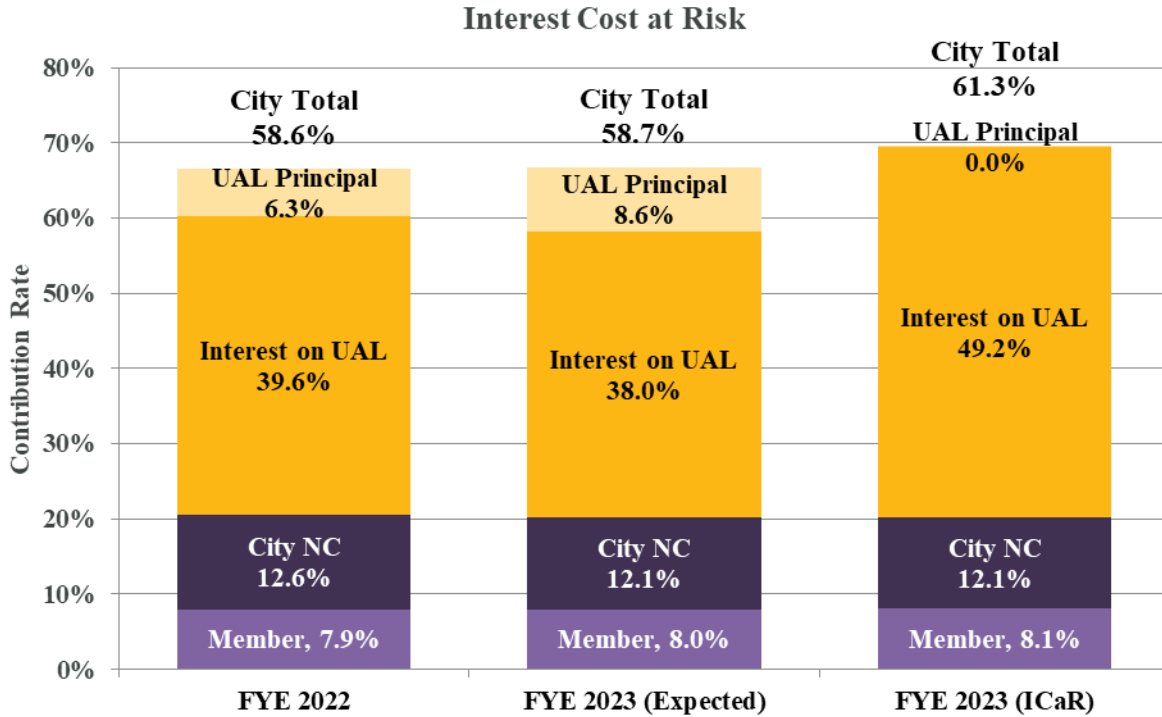
The recent declines in discount rates have been largely driven by declines in interest rates that affect expectations of future investment returns. If there are further declines in interest rates or if there is a desire or need to reduce investment risk that reduces expected returns, the discount rate 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 over a 10-year horizon, the standard deviation for the current portfolio is 13.6%, making the investment return used to determine ICaR -20.575% (6.625% – 2 x 13.6%).

The following chart shows the contribution rates for the 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 -20.575% return for FYE 2021. The City contribution rate for FYE 2023 in this scenario would be 61.3% of pay and expected to increase in future years as the investment loss is recognized over the 5-year smoothing period.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK



Stochastic Projections

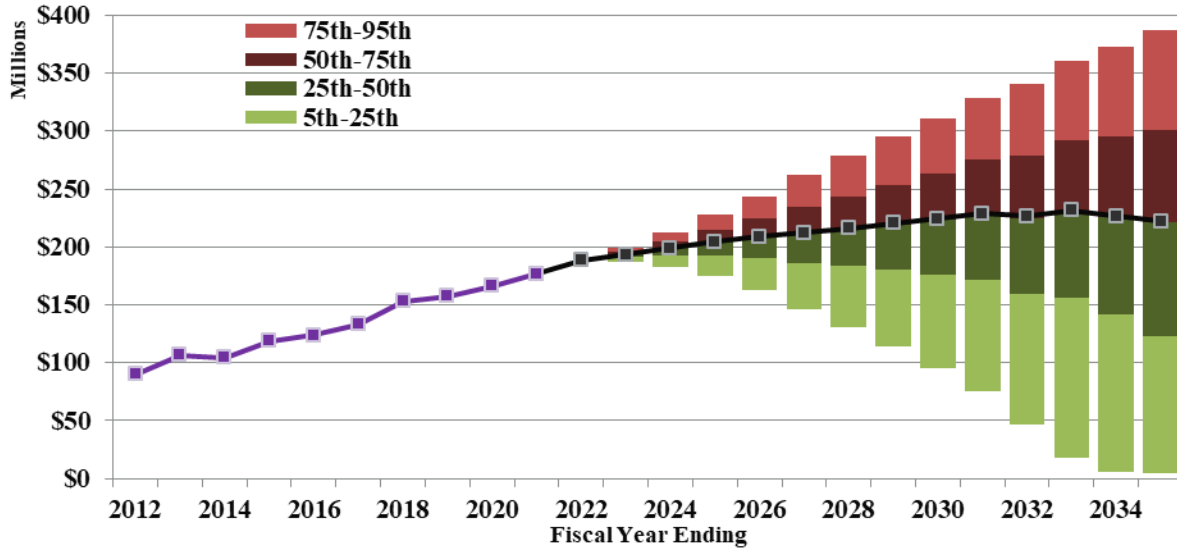
If experience has taught us anything, it is that there is a significant level of uncertainty in projections of the future. The largest source of uncertainty is the projection of investment returns. In order to better understand the potential impact of investment returns on the System, we have included some stochastic projections in the dashboard and in this section of the report. The stochastic projections assume a geometric return of 6.625% and a standard deviation of 13.6% (based on Meketa’s capital market assumptions for the System’s investment portfolio). Each projection contains 10,000 trials that are 15 years in length.

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, and the black line shows the projected contribution amount for each year if all assumptions are met. The colored ranges represent different percentiles of the 10,000 trials. This range is intended to convey the degree of uncertainty in the projections based on future investment returns.

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Historical and Stochastically Projected Tier 1 City Contribution Amounts



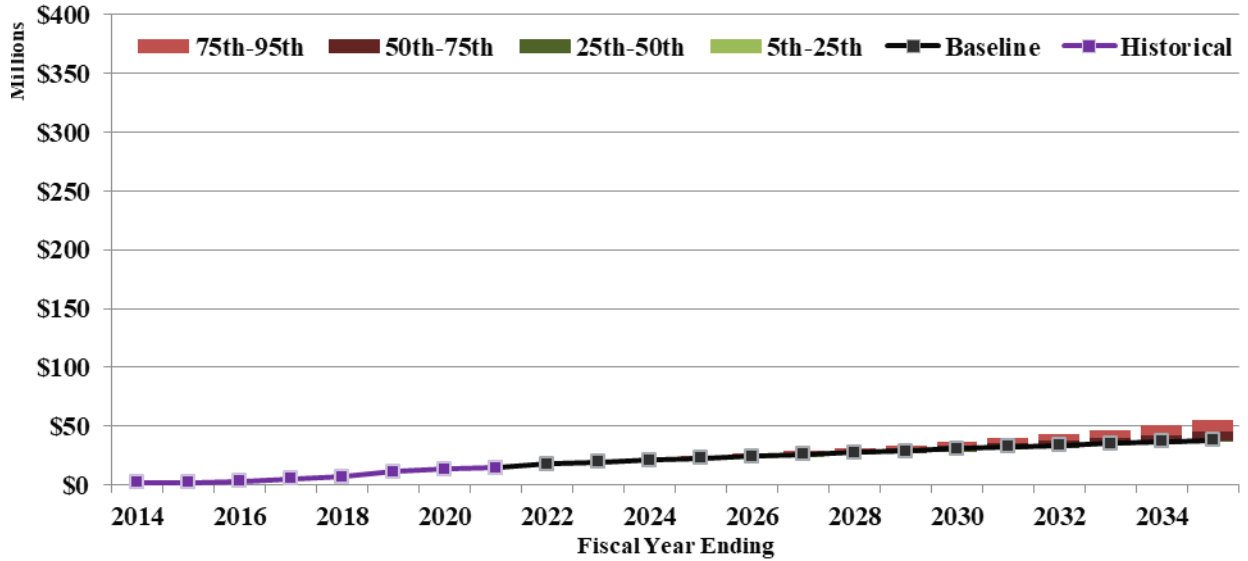
The chart shows a wide range of potential Tier 1 City contribution amounts depending on actual investment returns. For example, the range between the 5th and 95th percentile for FYE 2028 (based on the 2026 actuarial valuation) is from a contribution of \$130 million to a contribution of \$278 million. This range is largely driven by the standard deviation of the investment portfolio.

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

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SECTION II – ASSESSMENT AND DISCLOSURE 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.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 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 Federated City Employees' Retirement System ("System"). This report is for the use of the System 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 price inflation, wage inflation, amortization payment growth rate, and discount rate were adopted by the Board of Administration with our input at the November 19, 2020 Board meeting. All other assumptions were adopted at the November 21, 2019 Board meeting based on recommendations from our Experience Study covering plan experience during the period from July 1, 2015 through June 30, 2019. Please refer to the full experience study report for details, including the rationale for each assumption. We believe these assumptions are reasonable for the purpose of the valuation.

The liability measures and 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 System'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

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION III – CERTIFICATION

demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

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 City of San José Federated City Employees' Retirement System for the purposes described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.



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



Steven M. Hastings, FSA, EA, FCA, MAAA
Consulting Actuary



Jacqueline R. King, FSA, EA, MAAA
Associate Actuary

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION IV – ASSETS

The System uses two different asset measurements: the Market Value and Actuarial Value of Assets. The market value represents the value of the assets if they were liquidated on the valuation date. The actuarial value smooths annual investment returns over five years to reduce the impact of short-term investment volatility on employer 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 Change in Market Value of Assets

Table IV-1 shows the changes in the Market Value of Assets for the current and prior fiscal years for each tier.

Table IV-1

	Change in Market Value of Assets					
	Fiscal Year Ending 2020			Fiscal Year Ending 2019		
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total
Beginning Market Value	\$ 2,062,866	\$ 69,286	\$ 2,132,152	\$ 2,023,908	\$ 45,424	\$ 2,069,332
Contributions						
Member	11,300	13,781	25,081	11,274	11,332	22,606
City	<u>167,545</u>	<u>13,781</u>	<u>181,326</u>	<u>161,673</u>	<u>11,332</u>	<u>173,005</u>
Total	\$ 178,845	\$ 27,562	\$ 206,407	\$ 172,947	\$ 22,664	\$ 195,611
Net Investment Earnings	87,374	3,536	90,910	74,757	2,099	76,856
Benefit Payments	(215,997)	(731)	(216,728)	(204,261)	(804)	(205,065)
Administrative Expenses	(4,568)	(157)	(4,725)	(4,485)	(97)	(4,582)
Market Value, End of Year	\$ 2,108,520	\$ 99,496	\$ 2,208,016	\$ 2,062,866	\$ 69,286	\$ 2,132,152
Estimated Rate of Return	4.1%	4.3%	4.1%	3.6%	3.7%	3.6%

Dollar amounts in thousands

The net investment earnings for the year ended June 30, 2020 represent approximately a 4.1% return on the Market Value of Assets compared to an assumed return of 6.75%. This return produced an investment loss of \$58.3 million for the year ending June 30, 2020. For the year ended June 30, 2019, the net investment return was approximately 3.6% (6.75% was assumed), which produced an investment loss of \$67.9 million.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION IV – ASSETS

Actuarial Value of Assets

To determine on-going contributions, most pension systems utilize an Actuarial Value of Assets that smooths year-to-year market value returns in order to reduce the volatility of contributions.

The Actuarial Value of Assets is calculated by recognizing the deviation of actual investment returns compared to the expected return (6.75% for FYE 2020 and FYE 2019, and 6.875% for FYE 2018 and 2017) over a five-year period. The dollar amount of the expected return on the Market Value of Assets is determined using actual contributions, benefit payments, and administrative expenses during the year. Any difference between this amount and the actual net investment earnings is considered a gain or loss. Table IV-2 shows the calculation of the Actuarial Value of Assets separately for Tier 1 and Tier 2. 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.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION IV – ASSETS

Table IV-2

	Development of Actuarial Value of Assets					
	Tier 1			Tier 2		
	Basic	COLA	Total	Basic	COLA	Total
Market Value of Assets	\$ 1,343,657	\$ 764,863	\$ 2,108,520	\$ 85,617	\$ 13,879	\$ 99,496
<u>FYE 2020</u>						
Actual Earnings	\$ 56,333	\$ 31,041	\$ 87,374	\$ 3,047	\$ 488	\$ 3,535
Expected Earnings	92,047	51,558	143,605	4,794	768	5,562
Investment Gain or (Loss)	(35,714)	(20,517)	(56,231)	(1,747)	(280)	(2,027)
Deferred (80%)	(28,570)	(16,415)	(44,985)	(1,398)	(224)	(1,622)
<u>FYE 2019</u>						
Actual Earnings	\$ 49,326	\$ 25,431	\$ 74,757	\$ 1,822	\$ 276	\$ 2,098
Expected Earnings	92,402	48,569	140,971	3,290	499	3,789
Investment Gain or (Loss)	(43,076)	(23,138)	(66,214)	(1,468)	(223)	(1,691)
Deferred (60%)	\$ (25,845)	\$ (13,883)	\$ (39,728)	\$ (881)	\$ (133)	\$ (1,014)
<u>FYE 2018</u>						
Actual Earnings	\$ 77,863	\$ 37,560	\$ 115,423	\$ 1,828	\$ 242	\$ 2,070
Expected Earnings	92,262	45,453	137,715	2,091	275	2,366
Investment Gain or (Loss)	(14,399)	(7,893)	(22,292)	(263)	(33)	(296)
Deferred (40%)	\$ (5,759)	\$ (3,158)	\$ (8,917)	\$ (105)	\$ (14)	\$ (119)
<u>FYE 2017</u>						
Actual Earnings	\$ 99,441	\$ 44,886	\$ 144,327	\$ 1,513	\$ 171	\$ 1,684
Expected Earnings	88,844	41,053	129,897	1,307	148	1,455
Investment Gain or (Loss)	10,597	3,833	14,430	206	23	229
Deferred (20%)	\$ 2,118	\$ 767	\$ 2,885	\$ 42	\$ 4	\$ 46
Total Deferred Gain or (Loss)	\$ (58,056)	\$ (32,689)	\$ (90,745)	\$ (2,342)	\$ (367)	\$ (2,709)
Actuarial Value of Assets	\$ 1,401,713	\$ 797,552	\$ 2,199,265	\$ 87,959	\$ 14,246	\$ 102,205
Ratio of Actuarial to Market	104.3%	104.3%	104.3%	102.7%	102.6%	102.7%
Estimated Rate of Return	3.6%	4.0%	3.7%	5.4%	5.6%	5.4%

Dollar amounts in thousands

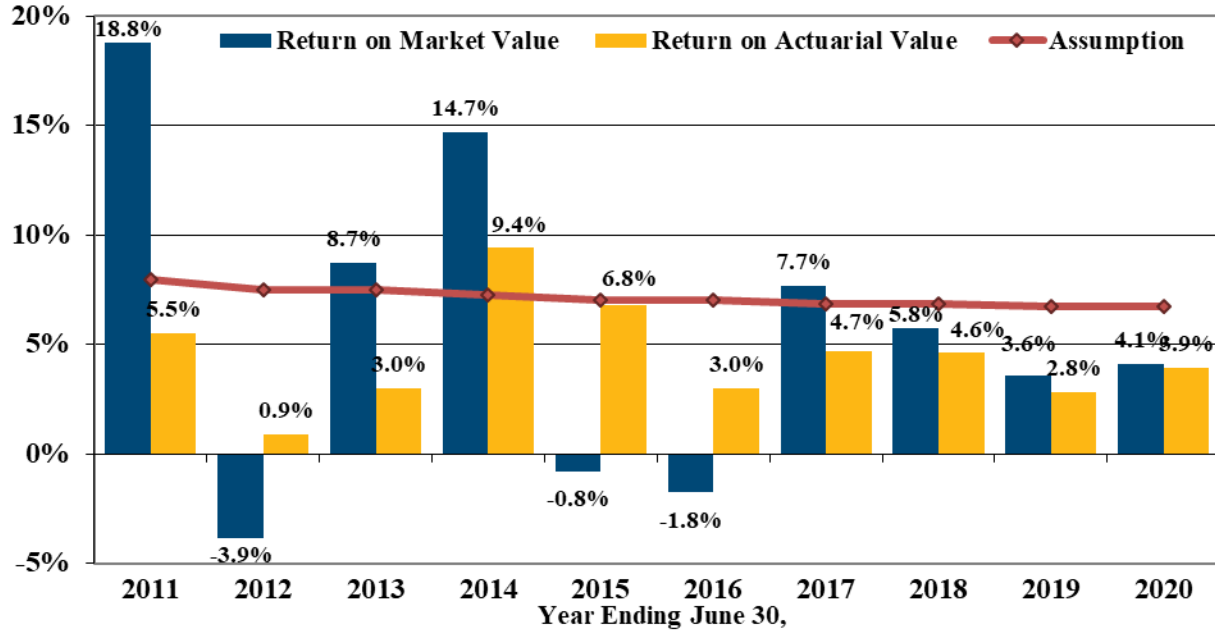
On an Actuarial Value of Assets basis, the aggregate return for the year ending June 30, 2020 was 3.7% for Tier 1 and 5.4% for Tier 2, both less than the assumed return of 6.75%. The Tier 1 return was less than the return on the Market Value of Assets, but the Tier 2 return was higher than the return on the Market Value of Assets. This return on the Actuarial Value of Assets produced an investment loss of \$68.0 million for the year ending June 30, 2020.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION IV – ASSETS

As shown in the following chart, over the last 10 years the investment return on the Market Value of Assets has varied significantly from a high of 18.8% in 2011 to a low of -3.9% in 2012. The geometric average return was 3.8% and 5.5% over the last five and 10 years, respectively. The return on the Actuarial Value of Assets is more stable than on the market value with a geometric average of 3.8% and 4.4% over the last five and 10 years, respectively.

Historical Rates of Return



**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION V – MEASURES OF LIABILITY

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

- Present value of future benefits,
- Normal cost,
- Actuarial Liability, and
- An analysis of changes in the Unfunded Actuarial Liability during the year.

Present Value of Future Benefits: The present value of future benefits represents the expected amount of money needed today if all assumptions are met to pay for 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. Table V-1 below shows the present value of future benefits as of June 30, 2020 and June 30, 2019 separately by Tier.

Table V-1

Present Value of Future Benefits					
	<u>June 30, 2020</u>			<u>June 30, 2019</u>	
	Basic	COLA	Total	Total	% Change
Tier 1					
Actives	\$ 861,357	\$ 353,005	\$ 1,214,362	\$ 1,211,117	0.3%
Deferred Vested In Pay Status	167,261	71,527	238,788	237,780	0.4%
Retirees	\$ 1,579,822	\$ 1,211,464	\$ 2,791,286	\$ 2,649,731	5.3%
Beneficiaries	85,917	93,708	179,625	168,523	6.6%
Disabled	43,961	43,533	87,494	86,876	0.7%
Total In Pay Status	\$ 1,709,700	\$ 1,348,705	\$ 3,058,405	\$ 2,905,130	5.3%
Total Tier 1	\$ 2,738,318	\$ 1,773,237	\$ 4,511,555	\$ 4,354,027	3.6%
Tier 2					
Actives	\$ 290,180	\$ 52,152	\$ 342,332	\$ 259,837	31.7%
Deferred Vested In Pay Status	8,494	933	9,427	6,961	35.4%
Retirees	\$ 1,229	\$ 220	\$ 1,449	\$ 802	80.7%
Disabled	0	0	0	0	
Total In Pay Status	\$ 1,229	\$ 220	\$ 1,449	\$ 802	80.7%
Total Tier 2	\$ 299,903	\$ 53,305	\$ 353,208	\$ 267,600	32.0%
Total System	\$ 3,038,221	\$ 1,826,542	\$ 4,864,763	\$ 4,621,627	5.3%

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION V – MEASURES OF LIABILITY

Normal Cost

Under the Entry Age (EA) actuarial cost method, the present value of future benefits for each individual is spread over the individual's expected working career under the System as a level percentage of the individual's expected pay. The normal cost rate is determined as the value, as of entry age into the System, of each member's projected future benefits divided by the value, also at entry age, of the each member's expected future salary. The normal cost rate is multiplied by current salary to determine each member's normal cost. The normal cost of the System is the sum of the normal costs for each individual. The normal cost represents the expected amount of money needed to fund the benefits attributed to the next year of service under the Entry Age actuarial cost method. Table V-2 below shows the Total normal cost rates as of June 30, 2020 and June 30, 2019 separately by Tier. The increase in normal cost rate for each Tier is primarily attributable to the assumption changes for this valuation.

Table V-2

	Normal Cost					% Change
	June 30, 2020			June 30, 2019		
	Basic	COLA	Total	Total		
Tier 1						
Retirement	\$ 16,708	\$ 6,909	\$ 23,617	\$ 23,833	-0.9%	
Termination	6,895	2,275	9,170	9,427	-2.7%	
Death	472	200	672	698	-3.7%	
Disability	1,073	478	1,551	1,592	-2.6%	
Reciprocity	549	239	788	805	-2.1%	
Total Tier 1	\$ 25,697	\$ 10,101	\$ 35,798	\$ 36,355	-1.5%	
Expected Payroll	\$ 143,411	\$ 143,411	\$ 143,411	\$ 148,356	-3.3%	
Tier 1 NC Rate	17.92%	7.04%	24.96%	24.50%	1.9%	
Tier 2						
Retirement	\$ 14,510	\$ 2,643	\$ 17,153	\$ 13,763	24.6%	
Termination	5,186	673	5,859	4,826	21.4%	
Death	648	105	753	625	20.5%	
Disability	1,054	187	1,241	1,002	23.9%	
Total Tier 2	\$ 21,398	\$ 3,608	\$ 25,006	\$ 20,216	23.7%	
Expected Payroll	\$ 168,259	\$ 168,259	\$ 168,259	\$ 137,855	22.1%	
Tier 2 NC Rate	12.72%	2.14%	14.86%	14.66%	1.4%	

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION V – MEASURES OF LIABILITY

Actuarial Liability

The Actuarial Liability represents the expected amount of money needed today if all assumptions are met to pay for benefits attributed to service prior to the valuation date under the Entry Age actuarial cost method. As such, it is the amount of assets targeted by the actuarial cost method for the System to hold as of the valuation date. It is not the amount necessary to settle the obligation. Table V-3 below shows the Actuarial Liability as of June 30, 2020 and June 30, 2019 separately by Tier.

Table V-3

Actuarial Liability					
	June 30, 2020			June 30, 2019	% Change
	Basic	COLA	Total	Total	
Tier 1					
Actives					
Retirement	\$ 649,596	\$ 263,051	\$ 912,647	\$ 904,610	0.9%
Termination	34,561	19,532	54,093	52,841	2.4%
Death	6,750	2,536	9,286	9,369	-0.9%
Disability	<u>9,998</u>	<u>3,965</u>	<u>13,963</u>	<u>13,748</u>	<u>1.6%</u>
Total Actives	\$ 700,905	\$ 289,084	\$ 989,989	\$ 980,568	1.0%
Deferred Vested	\$ 167,261	\$ 71,527	\$ 238,788	\$ 237,780	0.4%
In Pay Status	<u>1,709,700</u>	<u>1,348,705</u>	<u>3,058,405</u>	<u>2,905,130</u>	<u>5.3%</u>
Total Tier 1	\$ 2,577,866	\$ 1,709,316	\$ 4,287,182	\$ 4,123,478	4.0%
Tier 2					
Actives					
Retirement	\$ 69,975	\$ 12,728	\$ 82,703	\$ 55,454	49.1%
Termination	10,685	2,972	13,657	9,324	46.5%
Death	2,772	480	3,252	2,322	40.1%
Disability	<u>2,876</u>	<u>537</u>	<u>3,413</u>	<u>2,367</u>	<u>44.2%</u>
Total Actives	\$ 86,308	\$ 16,717	\$ 103,025	\$ 69,467	48.3%
Deferred Vested	8,494	933	9,427	6,961	35.4%
In Pay Status	<u>1,229</u>	<u>220</u>	<u>1,449</u>	<u>802</u>	<u>80.7%</u>
Total Tier 2	\$ 96,031	\$ 17,870	\$ 113,901	\$ 77,230	47.5%
Total System	\$ 2,673,897	\$ 1,727,186	\$ 4,401,083	\$ 4,200,708	4.8%

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION V – MEASURES OF LIABILITY

Liability (Gains) and Losses

Each year the Actuarial Liability increases with normal cost and interest and decreases due to benefit payments. In addition, any deviation in experience from the actuarial assumptions creates a gain or loss. Table V-4 below summarizes the sources of liability gains and losses for the last five years. The other category includes gains and losses on administrative expenses as well as minor demographic assumptions and data corrections. The large gain in 2019 due to other sources is largely attributable to a significant one-time data correction.

Table V-4

Historical Sources of Liability (Gain) or Loss						
Source	Year Ending June 30th					Total
	2020	2019	2018	2017	2016	
Salary increases	25,889	9,573	(9,844)	16,382	23,325	65,325
Retirement	7,873	5,626	6,454	5,941	6,276	32,170
Termination	7,077	3,285	(2,519)	1,623	2,033	11,499
Mortality	(1,330)	2,847	(2,274)	(6,604)	1,067	(6,294)
Disability	49	(945)	(249)	80	(157)	(1,222)
Other	4,129	(43,618)	(3,035)	(3,748)	482	(45,790)
Total	\$ 43,687	\$ (23,232)	\$ (11,467)	\$ 13,674	\$ 33,026	\$ 55,688

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION VI – CONTRIBUTIONS

Amortization of the Unfunded Actuarial Liability

Under the contribution allocation procedure employed by the System, there are three components to the contribution: the normal cost, administrative expenses, and an amortization payment on the Unfunded Actuarial Liability (UAL). The normal cost rate was developed in Section V. This section develops the administrative expense and UAL contribution rates.

The difference between the Actuarial Liability and the Actuarial Value of Assets is the Unfunded Actuarial Liability. The UAL is made up of the unamortized UAL as of June 30, 2019 plus the impact of the 2020 experience and assumption changes, and the 2019 UAL payment that is made by the City on July 1, 2020.

For members who were reclassified under Measure F from Tier 2 to Tier 1, a portion of the increase in liability for the reclassification is to be paid by members. Table VI-1 below shows the outstanding amount owed by members and the amortization payment amount. Rehires pay a fixed percentage of pay until the amount they owe has been paid. Classic members pay their portion of the UAL over 20 years (18 years remaining).

Table VI-1

Tier 1 Member UAL Amortization			
	Outstanding Balance	Remaining Period	Amortization Payment
EE Rehire UAL Pmt	\$ 888	N/A	\$ 113
Classic UAL Pmt	919	18	73
Total Members	\$ 1,807		\$ 186
Basic	1,051		108
COLA	756		78

Dollar amounts in thousands

Table VI-2 on the following page provides the payment schedule to amortize the Tier 1 UAL. The entire UAL as of June 30, 2009 was originally amortized over 30 years. Any subsequent actuarial gains/(losses) or method changes were amortized over 20 years and assumption changes over 25 years from the valuation in which they are first recognized.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VI – CONTRIBUTIONS

Table VI-2

Tier 1 City UAL Amortization				
	Outstanding Balance	Remaining Period		Amortization Payment
Golden Handshake	\$ 20,977	19	\$	1,609
2009 UAL	752,667	19		57,747
2010 (Gain) or Loss	40,945	10		5,128
2010 Assumption Change	(51,562)	15		(4,689)
2011 (Gain) or Loss	(2,507)	11		(290)
2011 Assumption Changes	167,596	16		14,530
2012 (Gain) or Loss	101,611	12		10,978
SRBR Elimination	(37,341)	12		(4,034)
2013 (Gain) or Loss	65,626	13		6,657
2013 Assumption Changes	59,828	18		4,766
2014 (Gain) or Loss	(23,391)	14		(2,241)
2014 Assumption Changes	99,403	19		7,626
2015 (Gain) or Loss	45,851	15		4,170
2015 Assumption Changes	201,965	20		14,962
2016 (Gain) or Loss	107,447	16		9,316
2016 Assumption Changes	59,414	21		4,260
2017 (Gain) or Loss	57,643	17		4,782
Measure F	6,883	17		571
2017 Assumption Changes	(17,386)	22		(1,209)
2018 (Gain) or Loss	47,739	18		3,803
2018 Assumption Change	53,227	23		3,598
2019 (Gain) or Loss	55,649	19		4,269
2019 Assumption Change	(1,699)	24		(112)
2020 (Gain) or Loss	97,371	20		7,213
2020 Assumption Change	34,465	25		2,212
7/1/2020 Payment	<u>143,689</u>			
Total City	\$ 2,086,110		\$	155,622
Basic	1,175,102			82,127
COLA	911,008			73,495

Dollar amounts in thousands

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SECTION VI – CONTRIBUTIONS

Table VI-3 below provides the payment schedule to amortize the Tier 2 UAL as of June 30, 2020 over 10 years. The amortization payments increase 2.75% each year while payroll is expected to increase 3.00% each year. As a result, payments are expected to become a slightly smaller percentage of combined Tier 1 and Tier 2 payroll each year.

Table VI-3

Tier 2 UAL Amortization			
	Outstanding Balance	Remaining Period	Amortization Payment
2013 (Gain) or Loss	\$ 39	7	\$ 8
2013 Assumption Changes	0	7	0
2014 (Gain) or Loss	(492)	7	(84)
2014 Assumption Changes	90	7	15
2015 (Gain) or Loss	710	7	120
2015 Assumption Changes	344	7	58
2016 (Gain) or Loss	(464)	7	(79)
2016 Assumption Changes	378	7	64
2017 (Gain) or Loss	(609)	7	(103)
Measure F	4,647	7	789
2017 Assumption Changes	1,368	7	232
2018 (Gain) or Loss	(2,047)	8	(309)
2018 Assumption Changes	1,254	8	190
2019 (Gain) or Loss	914	9	125
2019 Assumption Changes	(1,168)	9	(160)
2020 (G)/L	3,370	10	422
2020 Assumption Change	2,516	10	315
7/1/2020 Payment	<u>846</u>		
Total Tier 2	\$ 11,696		\$ 1,603
Basic	8,072		1,100
COLA	3,624		503

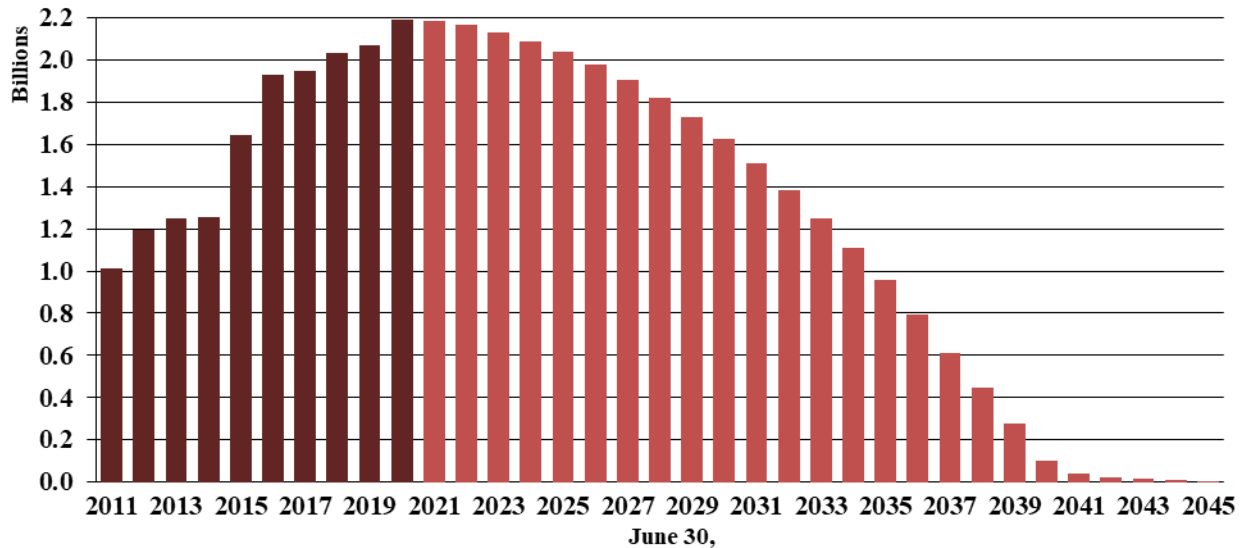
Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VI – CONTRIBUTIONS

The chart below shows the historical UAL based on the Market Value of Assets and its projected decline if all assumptions are met as unrecognized investment gains and losses from the asset smoothing method are recognized over the next four years and as payments are made on the amortization schedules over the next 25 years.

Historical and Projected Unfunded Actuarial Liability



This amortization structure results in a total UAL rate of 46.2% of payroll for FYE 2022, which is more than the amount needed to pay the projected interest on the UAL based on the Market Value of Assets (41.2% of payroll). As a result, the dollar amount of the UAL based on the Market Value of Assets is expected to decrease during FYE 2022.

Contributions for Administrative Expenses

Beginning with FYE 2021, contributions for administrative expenses were set equal to \$515 per member (increasing 3.0 percent each year). Table VI-4 on the next page shows the number of members for each tier, the contributions for administrative expenses by tier, and the administrative expense contribution rates by tier for FYE 2022 and 2021. Tier 1 members pay 3/11^{ths} of the administrative expenses expected for Tier 1, and Tier 2 members pay half of the administrative expenses expected for Tier 2.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VI – CONTRIBUTIONS

Table VI-4

	Administrative Expense By Group			
	Fiscal Year Ending 2022		Fiscal Year Ending 2021	
	Tier 1	Tier 2	Tier 1	Tier 2
Members	6,934	2,863	7,025	2,486
Administrative Expense	\$ 3,678	\$ 1,519	\$ 3,618	\$ 1,280
Member Admin Expense Rate	0.73%	0.35%	0.69%	0.35%
Basic	0.47%	0.30%	0.45%	0.31%
COLA	0.26%	0.05%	0.24%	0.04%
City Admin Expense Rate	1.95%	0.35%	1.85%	0.35%
Basic	1.24%	0.30%	1.21%	0.31%
COLA	0.71%	0.05%	0.64%	0.04%

Contribution Rates and Amounts

Tier 1 members pay 3/11ths of the total normal cost (excluding reciprocity normal cost) and administrative expenses while the City pays 8/11ths of the total normal cost (excluding reciprocity normal cost), all of the reciprocity normal cost, 8/11ths of administrative expenses, and the UAL payments shown above. The total contribution cannot be less than the normal cost.

For Tier 2, members and the City each pay half of the total normal cost, half of administrative expenses, and half of the UAL payments. However, the member's UAL contribution rate cannot increase by more than 0.33% of pay each year. The City contributes any amounts in excess of this cap that would otherwise be contributed by the member. The member and City contribution rates each cannot be less than 50% of the normal cost rate.

Tier 1 members who were rehired into Tier 2 and subsequently reclassified back into Tier 1 under Measure F pay half of the increased cost attributable to their Tier 2 service. The Board set a contribution rate of 3.0 percent of pay that applies to each individual member until they have paid off their individual UAL amount for reclassification. In addition, Tier 2 members who were defined as classic members due to reciprocal service were reclassified as Tier 1 members under Measure F. All classic members pay an additional contribution rate to pay half of the additional liability attributable to reclassifying these members. This contribution rate is recalculated with each valuation. Table VI-5 shows the reclassification contribution rates applicable to classic members for FYE 2022 and 2021.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VI – CONTRIBUTIONS

Table VI-5

Classic Member Contribution Rate						
	Fiscal Year Ending 2022			Fiscal Year Ending 2021		
	Basic	COLA	Total	Basic	COLA	Total
Classic UAL Payment	\$ 43	\$ 30	\$ 73	\$ 43	\$ 30	\$ 73
Expected Classic Payroll			\$ 6,983			\$ 6,590
Classic Member Rate	0.62%	0.43%	1.05%	0.76%	0.53%	1.29%

Dollar amounts in thousands

Table VI-6 shows the components of the member contribution rates for FYE 2022 and 2021, including the average of the reclassification rates under Measure F over all Tier 1 payroll.

Table VI-6

Member Contribution Rates						
	Fiscal Year Ending 2022			Fiscal Year Ending 2021		
	Basic	COLA	Total	Basic	COLA	Total
<u>Tier 1</u>						
Normal Cost Rate	4.78%	1.88%	6.66%	4.70%	1.83%	6.53%
Admin Expense Rate	<u>0.47%</u>	<u>0.26%</u>	<u>0.73%</u>	<u>0.45%</u>	<u>0.24%</u>	<u>0.69%</u>
Regular Member Rate	5.25%	2.14%	7.39%	5.15%	2.07%	7.22%
Average Reclassification Rate	<u>0.08%</u>	<u>0.06%</u>	<u>0.14%</u>	<u>0.08%</u>	<u>0.06%</u>	<u>0.14%</u>
Average Member Rate	5.33%	2.20%	7.53%	5.23%	2.13%	7.36%
<u>Tier 2</u>						
Normal Cost Rate	6.36%	1.07%	7.43%	6.29%	1.04%	7.33%
Admin Expense Rate	0.30%	0.05%	0.35%	0.31%	0.04%	0.35%
UAL Rate	<u>0.26%</u>	<u>0.13%</u>	<u>0.39%</u>	<u>0.15%</u>	<u>0.09%</u>	<u>0.24%</u>
Member Rate	6.92%	1.25%	8.17%	6.75%	1.17%	7.92%

Table VI-7 shows the City's contribution rates and dollar amounts for FYE 2022 and 2021 assuming contributions are made throughout the fiscal year. The UAL rate is calculated as the payment shown in Tables VI-1 and VI-2 increased with one-half year of interest and divided by the projected payroll for the fiscal year. For FYE 2022, the projected payroll is \$137.2 million for Tier 1 and \$214.6 million for Tier 2.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VI – CONTRIBUTIONS

Table VI-7

	City Contribution Rates and Amounts Throughout the Year					
	Fiscal Year Ending 2022			Fiscal Year Ending 2021		
	Basic	COLA	Total	Basic	COLA	Total
Tier 1 UAL Payment	\$ 84,804	\$ 75,890	\$ 160,694	\$ 77,179	\$ 71,281	\$ 148,460
Tier 1 Normal Cost	\$ 18,034 13.14%	\$ 7,082 5.16%	\$ 25,116 18.30%	\$ 18,342 12.91%	\$ 7,190 5.06%	\$ 25,532 17.97%
Tier 1 Admin Expenses	\$ 1,702 1.24%	\$ 974 0.71%	\$ 2,676 1.95%	\$ 1,719 1.21%	\$ 909 0.64%	\$ 2,628 1.85%
Tier 2 Contribution	\$ 14,847 6.92%	\$ 2,682 1.25%	\$ 17,529 8.17%	\$ 12,193 6.75%	\$ 2,113 1.17%	\$ 14,306 7.92%
Aggregate Contribution	\$ 119,387 33.94%	\$ 86,628 24.62%	\$ 206,015 58.56%	\$ 109,433 33.91%	\$ 81,493 25.25%	\$ 190,926 59.16%

Dollar amounts in thousands

The City retains an option to make its Tier 1 contribution as a lump sum at the beginning of the fiscal year. Table VI-8 below shows the City contribution amounts for Tier 1 as of the beginning of the fiscal year assuming the Board elects to discount the amounts for one half year of interest at the valuation discount rate. Any amounts contributed after the beginning of the year should be adjusted for interest at the valuation discount rate.

Table VI-8

	Estimated Tier 1 City Contribution Amounts - Beginning of Year					
	Fiscal Year Ending 2022			Fiscal Year Ending 2021		
	Basic	COLA	Total	Basic	COLA	Total
Tier 1						
Normal Cost/Admin	\$ 19,113	\$ 7,802	\$ 26,915	\$ 19,417	\$ 7,838	\$ 27,255
UAL	<u>82,127</u>	<u>73,494</u>	<u>155,622</u>	<u>74,699</u>	<u>68,990</u>	<u>143,689</u>
Total	\$ 101,240	\$ 81,296	\$ 182,537	\$ 94,116	\$ 76,829	\$ 170,945

Dollar amounts in thousands

Table VI-9 reconciles the change in the Tier 1 and Tier 2 member and City contributions from the contribution rates and amounts calculated in the prior valuation. The asset experience shown in the table includes investment returns, contributions, and administrative expense experience. As a result, for Tier 2, even though there were investment losses, contributions greater than expected due to higher payroll and administrative expenses that were lower than expected resulted in a reduction in the contribution rate due to asset experience. The higher than expected payroll growth caused a net reduction in the contribution rate because the UAL payment is

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

SECTION VI – CONTRIBUTIONS

spread over a larger payroll, but it also caused an increase in the dollar amount of the contribution because the normal cost rate is charged on a larger payroll.

Table VI-9

Reconciliation of Changes in Contribution Rates and Amounts							
	Member Rate		Normal	UAL	City Aggregate		City
					Total	Projected	
	Tier 1	Tier 2	Cost	Rate	Rate	Payroll	Amount
FYE 2021 Contribution	7.36%	7.92%	13.02%	46.14%	59.16%	\$ 322,709	\$ 190,926
Expected FYE 2022	7.42%	7.86%	12.85%	46.93%	59.78%	332,391	198,694
Changes Due to:							
Asset experience	0.00%	-0.12%	0.00%	0.54%	0.54%	332,391	1,795
Demographic experience	-0.06%	0.20%	-0.49%	0.89%	0.40%	332,391	1,338
Payroll Change	0.00%	-0.01%	0.00%	-2.66%	-2.66%	351,799	2,429
Assumption Change	<u>0.17%</u>	<u>0.24%</u>	<u>0.28%</u>	<u>0.22%</u>	<u>0.50%</u>	<u>351,799</u>	<u>1,759</u>
Subtotal	0.11%	0.31%	-0.21%	-1.01%	-1.22%	\$ 351,799	\$ 7,321
FYE 2022 Contribution	7.53%	8.17%	12.64%	45.92%	58.56%	\$ 351,799	\$ 206,015

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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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 AL	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
06/30/2020 ¹⁰	\$ 2,301,469	\$ 4,401,083	\$ 2,099,614	52%	\$ 341,552	615%
06/30/2019 ⁹	2,228,802	4,200,708	1,971,906	53%	313,310	629%
06/30/2018 ⁸	2,179,488	4,100,821	1,921,333	53%	298,985	643%
06/30/2017 ⁷	2,101,435	3,923,966	1,822,531	54%	287,339	634%
06/30/2016 ⁶	2,034,741	3,786,730	1,751,989	54%	266,823	657%
06/30/2015 ⁵	2,004,481	3,569,898	1,565,417	56%	251,430	623%
06/30/2014 ⁴	1,911,773	3,235,065	1,323,292	59%	234,677	564%
06/30/2013 ³	1,783,270	3,013,763	1,230,493	59%	225,779	545%
06/30/2012 ²	1,762,973	2,841,000	1,078,027	62%	225,859	477%
06/30/2011 ¹	1,788,660	2,770,227	981,567	65%	228,936	429%

Dollar amounts in thousands

- ¹ Demographic and economic assumption changes, including reducing the discount rate from 7.95% to 7.50%, increased the AL by \$188 million
- ² Elimination of the Supplemental Retirement Benefit Reserve reduced the AL by \$43 million
- ³ Reducing the discount rate from 7.50% to 7.25% and wage inflation to 2% for five years and 2.85% thereafter increased the AL by \$64 million
- ⁴ Reducing the discount rate from 7.25% to 7.00% and eliminating the temporary 2% wage inflation increased the AL by \$103 million
- ⁵ Demographic and economic assumption changes decreased the AL by \$192 million.
- ⁶ Reducing the discount rate from 7.00% to 6.875% increased the AL by \$60 million.
- ⁷ Measure F implementation increased the AL by \$14 million and assumption changes decreased the AL by \$16 million
- ⁸ Assumption changes, including reducing the discount rate from 6.875% to 6.75%, increased the AL by \$54 million
- ⁹ Assumption changes decreased the AL by \$3 million
- ¹⁰ Assumption changes, including reducing the discount rate from 6.75% to 6.625%, increased the AL by \$37 million

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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SECTION VII – ACTUARIAL SECTION OF THE CAFR

Table VII-2

Schedule of Funded Liabilities by Type								
Valuation Date	Actuarial Liability For				Portion of Actuarial Liability Covered by Reported Assets			
	(A)	(B)	(C)	Reported				
	Active Member Contributions	Retirees, Beneficiaries and Other Inactives	Remaining Active Members' Liabilities	Assets*	(A)	(B)	(C)	
6/30/2020	\$ 234,385	\$ 3,308,069	\$ 858,629	\$ 2,301,469	100%	62%	0%	
6/30/2019	228,905	3,150,673	821,130	2,228,802	100%	63%	0%	
6/30/2018	230,282	3,002,012	868,527	2,179,488	100%	65%	0%	
6/30/2017	236,819	2,830,143	857,004	2,101,435	100%	66%	0%	
6/30/2016	240,872	2,722,224	823,634	2,034,741	100%	66%	0%	
6/30/2015	243,828	2,553,892	772,178	2,004,481	100%	69%	0%	
6/30/2014	233,289	2,331,656	670,120	1,911,773	100%	72%	0%	
6/30/2013	234,217	2,164,153	615,393	1,783,270	100%	72%	0%	
6/30/2012	234,619	2,001,498	604,883	1,762,973	100%	76%	0%	
6/30/2011	234,574	1,848,254	687,400	1,788,660	100%	84%	0%	

* Actuarial Value of Assets

Dollar amounts in thousands

Table VII-3

Analysis of Financial Experience						
Actuarial Valuation Date	Gain or (Loss) for Year Ending on Valuation Date Due To:					
	Investment Income	Combined Liability Experience	Total Financial Experience	Non-Recurring Items	Total Experience	
6/30/2020	\$ (67,979)	\$ (32,828)	\$ (100,808)	\$ (36,981)	\$ (137,788)	
6/30/2019	(88,845)	(4,283)	(93,129)	39,030	(54,099)	
6/30/2018	(49,921)	4,702	(45,219)	(56,306)	(101,525)	
6/30/2017	(44,650)	(13,819)	(58,468)	1,813	(56,655)	
6/30/2016	(81,539)	(29,989)	(111,528)	(60,233)	(171,761)	
6/30/2015	(3,641)	(45,998)	(49,639)	(191,527)	(241,167)	
6/30/2014	39,675	(13,600)	26,075	(103,404)	(77,329)	
6/30/2013	(76,502)	2,899	(73,603)	(63,668)	(137,271)	
6/30/2012	(119,331)	2,023	(117,308)	43,109	(74,199)	
6/30/2011	(82,166)	83,403	1,237	(187,548)	(186,311)	

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Data Assumptions and Methods

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

- Records on the “Active” data file are considered to be Active if they do not have a reason for termination.
- Records on any of the data files are considered to be Inactive if they have a reason for termination of deferred vested or leave of absence/inactive.
- Records on the “Retiree” and “Beneficiary/QDRO” files are considered in pay status if they do not have a date of death, are not inactive, and have not withdrawn from the plan.
- All active employees are assumed to accrue a full year of service in all future years.
- Service for inactives that have no service amount is calculated to be the time from date of hire to date of termination.
- The expected annual salary for Tier 1 full-time active employees is calculated to be “compensation rate 2 earnable” multiplied by the expected pay periods for the year and increased by any expected pay increases.
- The expected annual salary for Tier 1 part-time active employees and all Tier 2 active employees is calculated to be 80 hours multiplied by their hourly rate of pay in the pay period immediately preceding the valuation date, multiplied by the expected pay periods for the year and increased by any expected pay increase.
- The Tier 1 annual benefit for inactives is set to be the accrued benefit provided. If an accrued benefit is not provided, then the annual benefit is calculated to be 2.5% of final compensation per year of service in Tier 1, up to a maximum of 75% of final compensation. Members who terminated prior to June 30, 2001 have their final compensation adjusted for a three-year average rather than a 12-month average.
- The Tier 2 annual benefit for inactives is set to be the accrued benefit provided. If an accrued benefit is not provided, then the annual benefit is calculated to be 2.0% of final compensation per year of service in Tier 2, up to a maximum of 65% of final compensation. The final compensation is adjusted for a three-year average.
- 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.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX A – MEMBERSHIP INFORMATION

Table A-1

Active Member Data			
	June 30, 2020	June 30, 2019	% Change
<u>Tier 1</u>			
Count	1,527.0	1,669.0	-8.5%
Average Current Age	50.7	50.1	1.2%
Average Eligibility Service	17.8	17.2	3.5%
Average Benefit Service	17.2	16.7	3.0%
Annual Expected Pensionable Earnings	\$ 157,240,775	\$ 162,086,289	-3.0%
Average Expected Pensionable Earnings	\$ 102,974	\$ 97,116	6.0%
<u>Tier 2</u>			
Count	2,215	1,948	13.7%
Average Current Age	38.5	38.1	1.0%
Average Eligibility Service	3.1	2.7	14.8%
Average Benefit Service	3.1	2.7	14.8%
Average Expected Pensionable Earnings	\$ 83,211	\$ 77,630	7.2%
<u>Total</u>			
Count	3,742	3,617	3.5%
Average Current Age	43.5	43.6	-0.2%
Average Eligibility Service	9.1	9.4	-3.2%
Average Benefit Service	8.8	9.1	-3.3%
Average Expected Pensionable Earnings	\$ 91,275	\$ 86,622	5.4%

Table A-2

Schedule of Active Member Data				
Valuation Date	Active Count	Annual Payroll	Average Annual Pay	Percent Change in Average Pay
2020	3,742	\$ 341,552,000	\$ 91,275	5.4%
2019	3,617	313,310,000	86,622	3.0%
2018	3,554	298,985,000	84,126	-0.2%
2017	3,410	287,339,000	84,264	4.1%
2016	3,297	266,823,000	80,929	4.2%
2015	3,236	251,430,000	77,698	3.3%
2014	3,121	234,677,000	75,193	3.0%
2013	3,094	225,779,000	72,973	-0.6%
2012	3,076	225,859,000	73,426	5.0%
2011	3,274	228,936,000	69,925	-11.2%

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX A – MEMBERSHIP INFORMATION

Table A-3

Payee Member Data			
	June 30, 2020	June 30, 2019	%Change
Retired			
Count	3,719	3,637	2.3%
Average Age	69.8	69.6	0.3%
Average Annual Benefit	\$ 53,469	\$ 51,880	3.1%
Service Disability			
Count	118	120	- 1.7%
Average Age	66.8	66.4	0.6%
Average Annual Benefit	\$ 39,024	\$ 37,338	4.5%
Non-Service Disability			
Count	70	73	- 4.1%
Average Age	66.9	66.0	1.4%
Average Annual Benefit	\$ 34,415	\$ 33,786	1.9%
Beneficiaries & SADROs			
Count	534	529	0.9%
Average Age	75.0	75.1	- 0.1%
Average Annual Benefit	\$ 29,421	\$ 27,817	5.8%
Total			
Count	4,441	4,359	1.9%
Average Age	70.3	70.1	0.3%
Average Annual Benefit	\$ 49,893	\$ 48,256	3.4%

Benefits provided in June 30 valuation data.

Table A-4

Schedule Of Retirees And Beneficiaries Added To And Removed From Rolls										
Period	Beginning of Period		Added to Rolls		Removed from Rolls		End of Period		% Increase in Annual Allowances	Average Annual Allowances
	Count	Annual Allowances	Count	Annual Allowances	Count	Annual Allowances	Count	Annual Allowances		
2019-2020	4,359	\$ 210,350	208	\$ 9,499	126	\$ 4,596	4,441	\$ 221,575	5.3%	\$ 50
2018-2019	4,225	198,157	230	10,394	96	3,634	4,359	210,350	6.2%	48
2017-2018	4,115	187,714	223	9,133	113	3,994	4,225	198,157	5.6%	47
2016-2017	4,003	177,751	225	8,843	113	3,894	4,115	187,714	5.6%	46
2015-2016	3,901	168,917	212	7,907	110	3,904	4,003	177,751	5.2%	44
2014-2015	3,800	159,124	200	8,266	99	3,122	3,901	168,917	6.2%	43
2013-2014	3,711	150,934	194	7,274	105	3,405	3,800	159,124	5.4%	42
2012-2013	3,602	142,063	198	7,036	89	2,360	3,711	150,934	6.2%	41
2011-2012	3,428	129,869	250	14,158	76	1,964	3,602	142,063	9.4%	39
2010-2011	3,111	112,660	398	19,615	81	2,406	3,428	129,869	15.3%	38

Dollar amounts in thousands

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-5

Inactive Member Data				
	Count			
	June 30, 2020	June 30, 2019		% Change
Tier 1				
Terminated Vested / Reciprocal				
Count	912	937		-2.7%
Average Age	48.2	47.9		0.6%
Average Annual Benefit	\$ 18,411	\$ 18,616		-1.1%
Average Contribution Balance with Interest	\$ 67,356	\$ 66,801		0.8%
Non-Vested Terminated				
Count	67	68		-1.5%
Average Age	45.9	44.6		2.9%
Average Annual Benefit	\$ 2,893	\$ 2,917		-0.8%
Average Contribution Balance with Interest	\$ 14,802	\$ 14,412		2.7%
Total				
Count	979	1,005		-2.6%
Average Age	48.0	47.7		0.6%
Average Annual Benefit	\$ 17,349	\$ 17,554		-1.2%
Average Contribution Balance with Interest	\$ 63,760	\$ 63,256		0.8%
Tier 2				
Terminated Vested / Reciprocal				
Count	230	182		26.4%
Average Age	38.5	38.7		-0.5%
Average Annual Benefit	\$ 4,387	\$ 4,084		7.4%
Average Contribution Balance with Interest	\$ 16,444	\$ 14,860		10.7%
Non-Vested Terminated				
Count	405	348		16.4%
Average Age	38.1	38.0		0.3%
Average Annual Benefit	\$ 1,786	\$ 1,618		10.4%
Average Contribution Balance with Interest	\$ 7,105	\$ 6,137		15.8%
Total				
Count	635	530		19.8%
Average Age	38.2	38.3		-0.3%
Average Annual Benefit	\$ 2,728	\$ 2,465		10.7%
Average Contribution Balance with Interest	\$ 10,487	\$ 9,132		14.8%
Total				
Count	1,614	1,535		5.1%
Average Age	44.2	44.4		-0.5%
Average Annual Benefit	\$ 11,597	\$ 12,344		-6.1%
Average Contribution Balance with Interest	\$ 42,801	\$ 44,568		-4.0%

For Inactives, benefit is calculated on the data assumptions and methods outlined in Appendix A if not provided in the June 30 valuation data.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-6

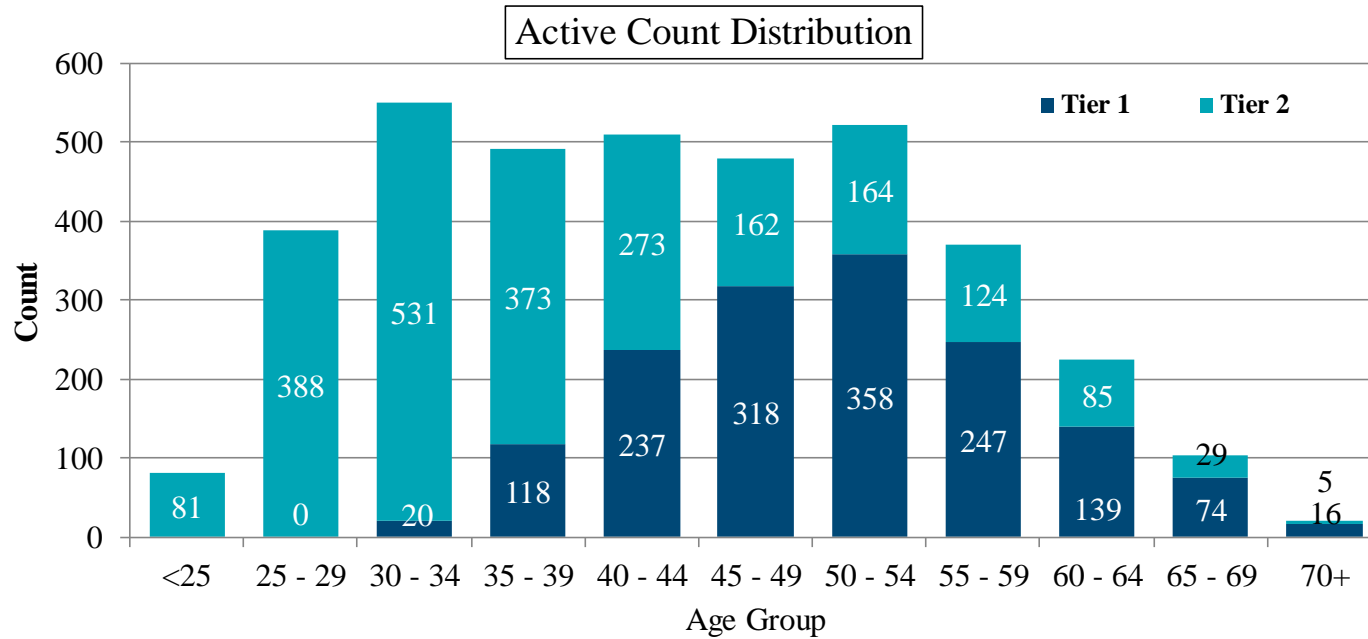
Distribution of Active Members as of June 30, 2020											
Age	Years of Benefit Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Total
Under 25	55	26	0	0	0	0	0	0	0	0	81
25 to 29	117	258	13	0	0	0	0	0	0	0	388
30 to 34	101	326	115	9	0	0	0	0	0	0	551
35 to 39	58	219	135	71	8	0	0	0	0	0	491
40 to 44	39	173	106	98	71	23	0	0	0	0	510
45 to 49	28	98	66	64	106	107	11	0	0	0	480
50 to 54	26	102	63	61	101	114	49	6	0	0	522
55 to 59	20	80	48	49	61	81	25	7	0	0	371
60 to 64	10	41	47	46	30	28	15	4	3	0	224
65 to 69	3	15	16	14	24	15	8	7	0	1	103
70 and up	0	6	0	4	5	3	2	1	0	0	21
Total Count	457	1,344	609	416	406	371	110	25	3	1	3,742

Distribution of Active Members as of June 30, 2020											
Age	Average Expected Salary										
	Years of Benefit Service										
Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Total	
Under 25	\$ 66,428	\$ 62,660	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 65,219	
25 to 29	69,058	70,885	77,511	0	0	0	0	0	0	70,556	
30 to 34	71,612	77,467	91,040	76,772	0	0	0	0	0	79,215	
35 to 39	78,105	82,387	93,387	100,921	85,632	0	0	0	0	87,638	
40 to 44	83,386	90,735	98,402	94,797	101,746	95,398	0	0	0	94,290	
45 to 49	91,802	97,006	96,477	101,020	98,924	105,988	104,785	0	0	99,769	
50 to 54	94,865	94,010	104,583	102,574	101,629	101,642	103,847	96,691	0	100,424	
55 to 59	80,262	94,473	100,528	99,675	103,647	106,026	115,866	151,766	0	101,731	
60 to 64	83,039	106,245	105,420	99,118	98,449	103,133	110,227	123,306	119,118	102,883	
65 to 69	135,903	84,661	108,316	90,547	100,832	98,078	144,786	133,705	0	104,072	
70 and up	0	126,058	0	126,107	77,279	109,954	98,516	135,496	0	109,979	
Avg. Salary	\$ 75,774	\$ 83,294	\$ 96,855	\$ 98,760	\$ 100,349	\$ 103,501	\$ 110,423	\$ 128,287	\$ 119,118	\$ 55,675	\$ 91,275

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
 JUNE 30, 2020 ACTUARIAL VALUATION REPORT

APPENDIX A – MEMBERSHIP INFORMATION

Chart A-1



**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-7

Benefit Effective Fiscal Year End	Age										Total
	Under 50	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and up	
Prior to 1995	0	0	1	3	7	9	26	100	110	109	365
1996	0	2	0	1	1	0	8	11	7	0	30
1997	0	0	1	0	0	1	26	14	8	1	51
1998	0	0	1	0	2	2	22	10	9	0	46
1999	0	0	0	1	1	6	41	10	7	3	69
2000	0	0	0	0	1	9	50	12	4	1	77
2001	0	0	0	1	2	12	39	17	2	1	74
2002	0	0	1	2	2	56	32	26	3	1	123
2003	0	0	1	1	6	58	27	14	3	2	112
2004	1	0	3	1	18	71	21	9	1	0	125
2005	0	0	0	3	11	86	33	17	3	1	154
2006	2	1	3	4	31	64	26	12	0	0	143
2007	0	0	1	7	56	47	22	8	1	2	144
2008	0	1	1	6	68	46	22	7	1	0	152
2009	0	3	1	16	65	33	16	5	0	0	139
2010	0	0	1	23	105	53	21	2	1	0	206
2011	0	2	3	62	148	83	31	4	1	1	335
2012	0	0	9	86	54	42	15	6	0	0	212
2013	1	0	4	85	23	26	2	1	0	0	142
2014	1	2	11	94	24	12	6	0	0	0	150
2015	0	2	17	101	29	14	3	1	0	0	167
2016	0	4	48	69	25	22	1	0	1	0	170
2017	0	4	81	49	32	11	4	0	0	0	181
2018	1	2	90	41	28	16	4	2	0	0	184
2019	0	14	114	31	27	7	2	0	0	0	195
2020	0	14	94	33	15	3	2	0	0	0	161
Total	6	51	486	720	781	789	502	288	162	122	3,907
Average Age at Retirement/Disability											57.6
Average Current Age											69.6
Average Annual Pension											\$ 52,691

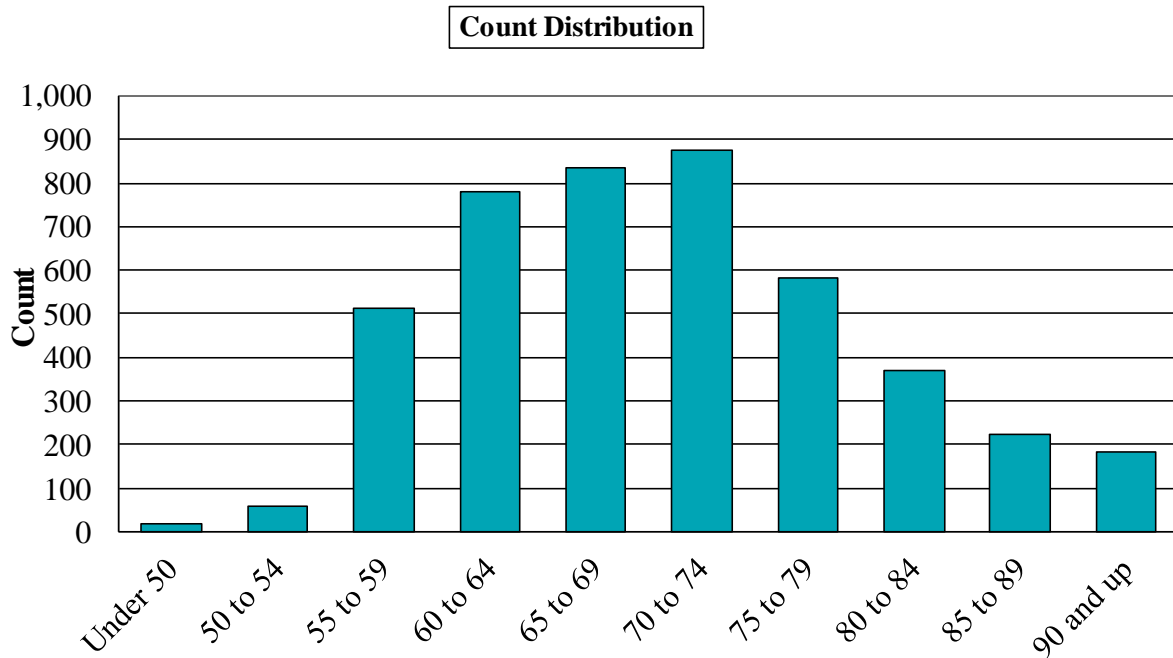
**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-8

Distribution of Retirees, Disabled Members, and Beneficiaries as of June 30, 2020		
Age	Count	Annual Benefit
Under 50	19	\$ 512,053
50 to 54	60	3,759,450
55 to 59	511	25,992,549
60 to 64	779	39,836,016
65 to 69	836	44,651,730
70 to 74	875	47,314,879
75 to 79	584	28,732,429
80 to 84	370	16,274,761
85 to 89	223	8,242,996
90 and up	<u>184</u>	<u>6,257,927</u>
Total	4,441	\$ 221,574,789

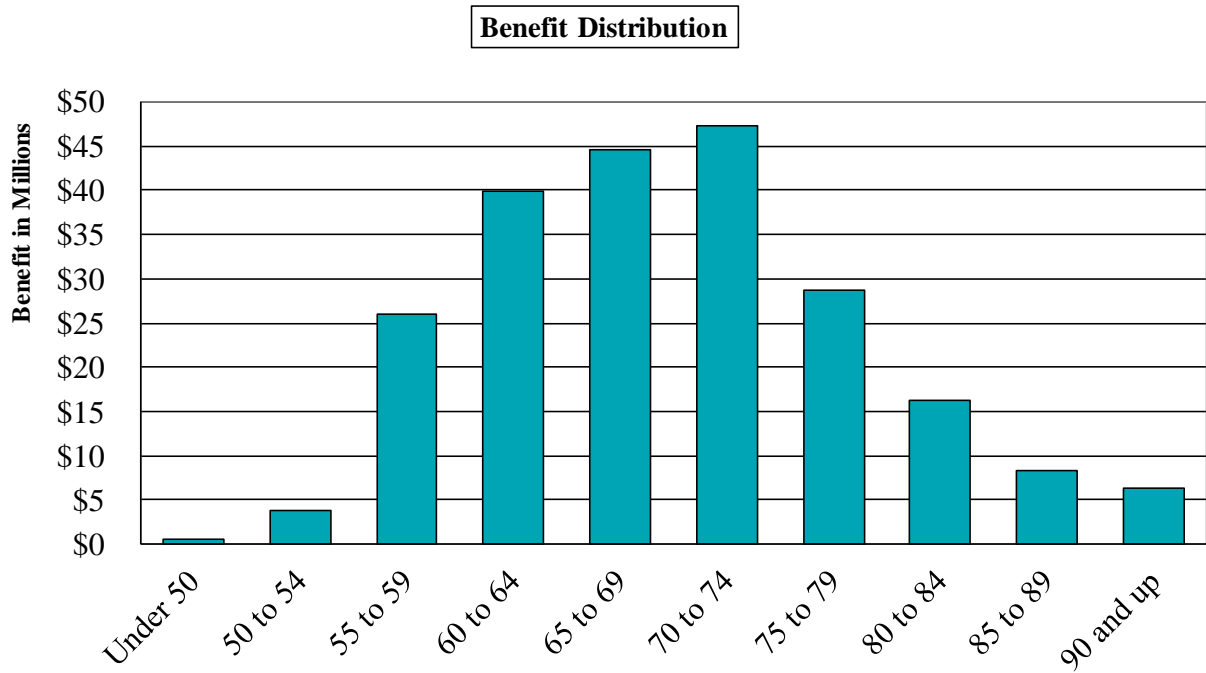
Chart A-2



FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT

APPENDIX A – MEMBERSHIP INFORMATION

Chart A-3



**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-9

Change in Plan Membership							
TIER 1							
	Actives	Vested Terminations / Reciprocals	Non-Vested Terminations	Retirees	Disabilities	Beneficiaries/ SADRO	Total
June 30, 2019	1,669	937	68	3,629	193	529	7,025
New Entrants	0	0	0	0	0	0	0
Rehires	2	(2)	0	0	0	0	0
Non-Vested Terminations	(1)	(1)	2	0	0	0	0
Vested Terminations / Reciprocals	(34)	35	(1)	0	0	0	0
Return of Contributions	0	(5)	(2)	0	0	0	(7)
Disabilities	(2)	(1)	0	(2)	5	0	0
Retirements	(112)	(50)	0	162	0	0	0
Deaths	(3)	(1)	0	(83)	(10)	37	(60)
Beneficiary Deaths	0	0	0	0	0	(33)	(33)
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustment	1	0	0	0	0	0	1
Miscellaneous Adjustments*	7	0	0	0	0	1	8
June 30, 2020	1,527	912	67	3,706	188	534	6,934
TIER 2							
	Actives	Vested Terminations / Reciprocals	Non-Vested Terminations	Retirees	Disabilities	Beneficiaries/ SADRO	Total
June 30, 2019	1,948	182	348	8	0	0	2,486
New Entrants	433	0	11	0	0	0	444
Rehires	5	(2)	(3)	0	0	0	0
Non-Vested Terminations	(82)	(1)	83	0	0	0	0
Vested Terminations / Reciprocals	(51)	56	(5)	0	0	0	0
Return of Contributions	(35)	(4)	(29)	0	0	0	(68)
Disabilities	0	0	0	0	0	0	0
Retirements	(2)	(3)	0	5	0	0	0
Deaths	0	0	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustment	(1)	0	0	0	0	0	(1)
Miscellaneous Adjustments	0	2	0	0	0	0	2
June 30, 2020	2,215	230	405	13	0	0	2,863
TOTAL							
	Actives	Vested Terminations / Reciprocals	Non-Vested Terminations	Retirees	Disabilities	Beneficiaries/ SADRO	Total
June 30, 2019	3,617	1,119	416	3,637	193	529	9,511
New Entrants	433	0	11	0	0	0	444
Rehires	7	(4)	(3)	0	0	0	0
Non-Vested Terminations	(83)	(2)	85	0	0	0	0
Vested Terminations / Reciprocals	(85)	91	(6)	0	0	0	0
Return of Contributions	(35)	(9)	(31)	0	0	0	(75)
Disabilities	(2)	(1)	0	(2)	5	0	0
Retirements	(114)	(53)	0	167	0	0	0
Deaths	(3)	(1)	0	(83)	(10)	37	(60)
Beneficiary Deaths	0	0	0	0	0	(33)	(33)
Benefit Ceased	0	0	0	0	0	0	0
Tier Adjustment	0	0	0	0	0	0	0
Miscellaneous Adjustments*	7	2	0	0	0	1	10
June 30, 2020	3,742	1,142	472	3,719	188	534	9,797

* Includes new CalPERS Classic reclassified members

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

The price inflation, wage inflation, amortization payment growth, and discount rates were adopted by the Board of Administration with our input at the November 19, 2020 Board meeting. All other assumptions were adopted at the November 21, 2019 Board meeting based on recommendations from our experience study covering plan experience through June 30, 2019. Please refer to the full experience study report for details, including the rationale for each assumption.

1. Discount Rate

6.625%. The Board expects a long-term rate of return of 7.1% based on Meketa's 2020 20-year capital market assumptions and the System's current investment policy. A margin for adverse deviation was used to improve the probability of achieving the discount rate.

2. Wage Inflation and Payroll Growth

3.00%, compounded annually.

3. Amortization Payment Growth

2.75%, compounded annually.

4. Price Inflation

2.25%, compounded annually.

5. Administrative Expenses

\$515 per member for FYE 2021, increasing at the wage inflation assumption of 3.00% per annum.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

6. Salary Increase Rate

In addition to the wage inflation component of 3.00% shown above, the following merit component is added based on an individual member's years of service:

Table B-1 Salary Merit Increases			
Years of Service	Merit/ Longevity	Years of Service	Merit/ Longevity
0	3.75%	8	1.00
1	3.00	9	0.85
2	2.50	10	0.70
3	2.15	11	0.55
4	1.85	12	0.45
5	1.60	13	0.30
6	1.40	14	0.20
7	1.20	15+	0.10

7. Rates of Termination

Rates of termination are shown in the following Table B-2.

Table B-2 Rates of Termination			
Years of Service	Termination Rate	Years of Service	Termination Rate
0	15.00%	8	5.50
1	12.75	9	4.75
2	11.75	10	4.25
3	10.75	11	4.00
4	9.75	12	3.75
5	8.75	13	3.50
6	7.75	14	3.25
7	6.50	15+	3.25

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

8. Rate of Reciprocity

30% of terminating employees that are assumed to subsequently work for a reciprocal employer and receive 3.00% pay increases per year.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

9. Rates of Refund

Tier 1:

Rates of vested terminated and reciprocal employees electing a refund of contributions are shown in the following Table B-3.

Table B-3 Rates of Refund			
Years of Service	Under Age 35	Ages 35 - 44	Ages 45 and Older
0-4	100.00%	100.00%	100.00%
5	25.00	15.00	18.00
6	20.00	12.50	15.00
7	20.00	10.00	12.00
8	20.00	10.00	9.00
9	20.00	10.00	6.00
10	20.00	10.00	3.00
11	17.50	10.00	0.00
12	15.00	10.00	0.00
13	10.00	10.00	0.00
14	10.00	7.50	0.00
15	10.00	5.00	0.00
16	10.00	2.50	0.00
17+	10.00	0.00	0.00

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

Tier 2:

Vested terminated and reciprocal employees are expected to take a refund if it exceeds the actuarial present value of their deferred benefit payment.

10. Deferred Vested Member Retirement Age

Tier 1 terminated vested members are assumed to retire from age 57 and Tier 2 terminated vested members are assumed to retire at age 62.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

11. Rates of Retirement for Tier 1 Members

Rates of retirement for Tier 1 members are based on age according to the following Table B-4 – Tier 1.

Table B-4 – Tier 1 Rates of Retirement by Age and Service			
Age	Less than 15 Years of Service	15 or more Years of Service and less than 30 Years of Service	30 or more Years of Service
50	0.0%	0.0%	70.0%
51	0.0	0.0	70.0
52	0.0	0.0	70.0
53	0.0	0.0	70.0
54	0.0	0.0	70.0
55	10.0	35.0	50.0
56	10.0	20.0	45.0
57	10.0	20.0	40.0
58	5.0	15.0	35.0
59	5.0	15.0	30.0
60	5.0	15.0	30.0
61	10.0	20.0	30.0
62	15.0	20.0	30.0
63	20.0	20.0	30.0
64	20.0	20.0	30.0
65	20.0	20.0	30.0
66	25.0	30.0	30.0
67	25.0	35.0	30.0
68	25.0	35.0	30.0
69	25.0	35.0	30.0
70 & over	100.0	100.0	100.0

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

12. Rates of Retirement for Tier 2 Members

Rates of retirement for Tier 2 members are based on age and service as shown in the following Table B-4 – Tier 2. These rates are based on CalPERS retirement rates for its 2.0% at age 62 formula with adjustments based on professional judgment for differences between the CalPERS benefits and the benefits provided to Tier 2 members.

Table B-4 – Tier 2					
Tier 2 Rates of Retirement by Age and Service					
Age	Years of Service				
	5 – 10	11 – 20	21 – 25	26 – 34	35 +
55	3.0%	5.0%	7.0%	10.0%	15.0%
56	2.0%	3.5%	4.0%	7.0%	10.5%
57	2.5%	4.5%	5.0%	8.5%	12.75%
58	3.0%	5.5%	7.0%	11.0%	16.5%
59	3.5%	7.0%	9.0%	13.5%	20.25%
60 – 61	4.0%	8.5%	10.0%	14.5%	21.75%
62	7.5%	12.5%	17.5%	25.0%	100.0%
63 – 69	5.0%	10.0%	15.0%	25.0%	100.0%
70 & over	100.0%	100.0%	100.0%	100.0%	100.0%

13. Rates of Disability

Disability rates are equal to the 0.973 times the CalPERS 2017 non-industrial disability incidence rates for miscellaneous state agencies, blended 55% male and 45% female. Sample disability rates of active members are provided in Table B-5.

Table B-5	
Rates of Disability at Selected Ages	
Age	Disability
25	0.0272
30	0.0303
35	0.0613
40	0.1366
45	0.2519
50	0.3240
55	0.2631
60+	0.2191

45% of disabilities are assumed to be duty related, and 55% are assumed to be non-duty related.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

14. Base Rates of Mortality

Base mortality rates are based on the sex-distinct employee and retiree mortality tables shown below.

Table B-6 Base Mortality Tables		
Category	Male	Female
Healthy Annuitant	0.995 times the 2010 Public General Mortality Table (PubG-2010) for Healthy Retirees	0.960 times the 2010 Public General Mortality Table (PubG-2010) for Healthy Retirees
Healthy Non-Annuitant	0.992 times the 2010 Public General Mortality Table (PubG-2010) for Healthy Employees	1.084 times the 2010 Public General Mortality Table (PubG-2010) for Healthy Employees
Disabled Annuitant	1.051 times the CalPERS 2009 Ordinary Disability Mortality Table	0.991 times the CalPERS 2009 Ordinary Disability Mortality Table

15. Rates of Mortality Improvement

Future mortality improvements are reflected by applying the most recent projection scale issued by the Society of Actuaries on a generational basis from the base year of 2010 for the Pub2010 tables and 2009 for the CalPERS tables. The projection scale used for the June 30, 2020 valuation is MP-2020.

16. Family Composition

Percentage married is shown in the following Table B-7. Male retirees are assumed to be three years older than their partner, and female retirees are assumed to be two years younger than their partner.

Table B-7 Percentage Married	
Gender	Percentage
Males	80%
Females	60%

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
JUNE 30, 2020 ACTUARIAL VALUATION REPORT**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

17. Changes Since the Last Valuation

The discount rate was reduced from 6.75% to 6.625%.

The price inflation was reduced from 2.50% to 2.25%.

The assumed rate of mortality improvement was updated from MP-2019 to MP-2020.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

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, 2010 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 all benefits between each member's date of hire and last assumed date of employment. The Actuarial Liability is the difference between the present value of future benefits and the present value of future normal costs. Or, equivalently, it is the accumulation of normal costs for all periods prior to the valuation date. The normal cost and Actuarial Liability are calculated on an individual basis. The sum of the individual amounts is the normal cost and Actuarial Liability for the System. The Actuarial Liability for the System represents the target amount of assets the System should have as of the valuation date according to the actuarial cost method.

2. Asset Valuation Method

For the purpose of determining contribution rates and amounts, an Actuarial Value of Assets is used that dampens the volatility in the Market Value of Assets, resulting in a smoother pattern of contribution rates.

The Actuarial Value of Assets is calculated by recognizing 20% of the difference in each of the prior four years of actual investment returns compared to the expected return on the Market Value of Assets.

3. Amortization Method

The Unfunded Actuarial Liability is the difference between the Actuarial Liability and the Actuarial Value of Assets.

The Tier 1 Unfunded Actuarial Liability as of June 30, 2009 is amortized as a level percentage of Tier 1 pay over a closed 30-year period commencing June 30, 2009. Tier 1 actuarial gains and losses and plan changes are amortized over 20-year periods and Tier 1 assumption changes are amortized over 25-year periods beginning with the valuation date in which they first arise. Effective June 30, 2017, all prior assumption amortization base periods were increased by 5 years so they have the same remaining period as if they had originally been amortized over 25 years. Amortization payments are scheduled to increase 2.75% each year.

The Tier 2 Unfunded Actuarial Liability as of June 30, 2017 is amortized over a closed 10-year period. Future Tier 2 actuarial gains and losses, assumption changes, and plan

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

changes will be amortized over 10-year periods beginning with the valuation date in which they first arise. Amortization payments are scheduled to increase 2.75% each year.

4. Contributions

The Board adopted a policy in 2010 and modified it in 2015 setting the City's contribution to be the UAL contribution amount reported in the actuarial valuation plus the greater of the normal cost dollar amount reported in the actuarial valuation (adjusted for interest based on the time of the contribution) and the dollar amount determined by applying the normal cost as a percent of payroll reported in the actuarial valuation to the actual payroll for the fiscal year. The City and Member contributions determined by a valuation become effective for the fiscal year commencing one year after the valuation date. Contributions are generally made on a payroll-by-payroll basis although the City retains an option to make its contribution as of the beginning of the year.

The total contribution rate is the sum of the normal cost rate, assumed administrative expenses, and the UAL rate. Under Measure F, the total contribution rate cannot be less than the normal cost rate. The normal cost rate is determined by dividing the total normal cost determined under the actuarial cost method by the payroll expected for members active on the valuation date. The UAL payments are adjusted for interest from the valuation date to the date of expected payment in the following fiscal year. The UAL rate is determined by dividing the UAL payments by the total expected payroll for the year (including members active on the valuation date and new entrants expected to replace active members who are expected to leave employment).

For Tier 1, members contribute 3/11ths of the normal cost rate (including administrative expenses, but excluding reciprocity), and the City pays the remainder of the total contribution rate. Tier 1 members who were rehired into Tier 2 and then returned to Tier 1 under Measure F also pay half of the increased cost attributable to their Tier 2 service.

For Tier 2, the members and the City each pay half of the total contribution rate. However, the member's UAL contribution rate cannot increase by more than 0.33% of pay each year. The City contributes any amounts in excess of this cap that would otherwise be contributed by the member.

5. Changes Since the Last Valuation

None.

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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 full-time employment for members hired before September 30, 2012, including members that are rehired after September 30, 2012 and had prior service under Tier 1 and did not take a return of contributions. In addition, any person accepting employment on or after September 30, 2012 who is otherwise eligible for this plan and who was a “classic” member in another California public retirement system with which this plan has reciprocity, and who has a break in service of less than six months from that covered employment and employment with the City, shall be a Tier 1 member of this plan.

2. Final Compensation

Members who separated from city service prior to June 30, 2001

The highest average annual compensation earnable during any period of three consecutive years.

Members who separated from city service on or after June 30, 2001

The highest average annual compensation earnable during any period of twelve consecutive months.

3. Credited Service

One year of service credit is given for 1,739 or more hours of Federated city service rendered in any calendar year. A partial year (fraction with the numerator equal to the hours worked, and the denominator equal to 1,739) is given for each calendar year with less than 1,739 hours worked.

4. Member Contributions

Member

The amount needed to fund 3/11ths of benefits accruing for the current year. These contributions are credited with interest at 3.0% per year, compounded annually.

Employer

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX C – SUMMARY OF PLAN PROVISIONS
TIER 1

5. Service Retirement

Eligibility

Age 55 with five years of service, or any age with 30 years of service.

Benefit – Member

2.5% of Final Compensation for each year of credited service, subject to a maximum of 75% of Final Compensation.

Benefit – Survivor

50% of the service retirement benefit paid to a qualified survivor.

6. Service-Connected Disability Retirement

Eligibility

No age or service requirement.

Benefit – Member

2.5% of Final Compensation for each year of credited service, subject to a minimum of 40% and a maximum of 75% of Final Compensation. Workers' Compensation benefits are generally offset from the service-connected benefits under this system.

Benefit – Survivor

50% of the disability retirement benefit paid to a qualified survivor.

7. Non-Service Connected Disability Retirement

Eligibility

Five years of service.

Benefit – Member

Members who were hired prior to September 1, 1998:

The amount of the service-connected benefit reduced by 0.5% for each year that the disability age preceded 55.

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

Members who were hired on or after September 1, 1998:

20% of Final Compensation, plus 2% of Final Compensation for each year of credited service between six and 16 years, plus 2.5% of Final Compensation for each year of credited service in excess of 16 years, subject to a maximum of 75% of Final Compensation.

Benefit – Survivor

50% of the disability retirement benefit paid to a qualified survivor.

8. Death While an Active Employee

Less than five Years of Service, or No Qualified Survivor

Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus one month of salary for each year of service, up to a maximum of six years.

Five or more Years of Service

2.5% of Final Compensation for each year of credited service, subject to a minimum of 40% and a maximum of 75% of Final Compensation. The benefit is payable until the spouse or registered domestic partner marries or establishes a domestic partnership. If the member was age 55 with 20 years of service at death, the benefit is payable for the lifetime of the member's spouse or registered domestic partner.

9. Withdrawal Benefits

Less than five Years of 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, payable at age 55.

10. Additional Post-retirement Death Benefit

A death benefit payable as a lump sum equal to \$500 will be paid to a qualified survivor upon the member's death.

11. Post-retirement Cost-of-Living Benefit

Benefits are increased every April 1 by 3.0%, regardless of actual inflation.

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

12. Changes Since the Last Valuation

None.

**FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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**APPENDIX C – SUMMARY OF PLAN PROVISIONS
TIER 2**

1. Membership Requirement

Any person who is hired, rehired or reinstated by the City on or after September 30, 2012 except those who elect to participate in a defined contribution plan, had prior service under Tier 1 and did not take a return of contributions, or had prior service as a “classic” member in a reciprocal system with less than a six month break in service.

2. Final Compensation

The average annual compensation earnable during the highest three consecutive years of service. Final compensation only includes base pay, excluding premium pay and any other additional compensation.

3. Credited Service

One year of service credit is given for 2,080 or more hours of Federated 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. However, the member’s UAL contribution rate cannot increase by more than 0.33% of pay each year. The City contributes any amounts in excess of this cap that would otherwise be contributed by the member.

The member contribution rate cannot be less than 50% of the normal cost rate.

5. City Contributions

50% of total Tier 2 contributions to the pension plan, including, but not limited to administrative expenses, normal cost, and Unfunded Actuarial Liability. In addition, the City contributes any UAL amounts in excess of the member UAL cap until the member rate covers 50% of the UAL rate.

The City contribution rate cannot be less than 50% of the normal cost rate.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX C – SUMMARY OF PLAN PROVISIONS
TIER 2

6. Unreduced Service Retirement

Eligibility

Age 62 with five years of service.

Benefit – Member

2.0% of Final Compensation for each year of credited service attributable to Tier 2, subject to a maximum of 70% of Final Compensation.

Benefit – Survivor

50% of the service retirement benefit paid to a qualified survivor.

7. Early Service Retirement

Eligibility

Age 55 with five years of service.

Benefit – Member

Benefit reduced by a factor of 5% for each year the member retires before age 62.

The early retirement reduction is applied to the benefit after the application of the maximum of 70% of final compensation.

8. Service-Connected Disability Retirement

Eligibility

No age or service requirement.

Benefit – Member

2.0% of Final Compensation for each year of credited service, subject to a minimum of 40% of Final Compensation and a maximum of 70% of Final compensation, less the amounts specified in Section 3.28.1330 and Section 3.28.1340.

FEDERATED CITY EMPLOYEES' RETIREMENT SYSTEM
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APPENDIX C – SUMMARY OF PLAN PROVISIONS
TIER 2

9. Non-Service Connected Disability Retirement

Eligibility

Five years of service.

Benefit – Member

2.0% of Final Compensation for each year of credited service attributable to Tier 2, subject to a minimum of 20% of Final Compensation and a maximum of 70% of Final Compensation less the amounts specified in Section 3.28.1330 and Section 3.28.1340.

10. Death Before Retirement

Less than five Years of Service, or No Qualified Survivor

Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus one month of salary for each year of service, up to a maximum of six years.

Five or more Years of Service

2.5% of Final Compensation for each year of credited service, subject to a minimum of 40% and a maximum of 70% of Final Compensation. The benefit is payable until the spouse or registered domestic partner marries or establishes a domestic partnership. If the member was age 55 with 20 years of service at death, the benefit is payable for the lifetime of the member's spouse or registered domestic partner.

11. 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 reduced for early retirement, and payable when retirement eligibility is reached.

12. Benefit Forms

Annuity benefits are paid in the form of a 50% joint and survivor annuity or an actuarially equivalent annuity with 75% or 100% continuance to a survivor.

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

13. 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 based on years of service as shown in the table below.

Years of Service	Maximum COLA
At least 1, but less than 11	1.25%*
At least 11, but less than 21	1.50%
At least 21, but less than 26	1.75%
At least 26	2.00%

*1.5% for members hired before Measure F effective date

The first COLA after retirement shall be prorated based on the number of months retired.

14. Changes Since the Last Valuation

None.

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 as the “accrued liability” or “actuarial accrued liability.” The Actuarial Liability represents the targeted 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 System as determined by the actuary using a contribution allocation procedure. It may or may not be the actual amount contributed to the System.

7. Amortization Method

A method for determining the amount, timing, and pattern of payments 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

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 compared to the target established by the actuarial cost method as of the valuation date. 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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