

# San José Police & Fire Department Retirement Plan



## 2021 Final Pension Valuation Results

January 6, 2022

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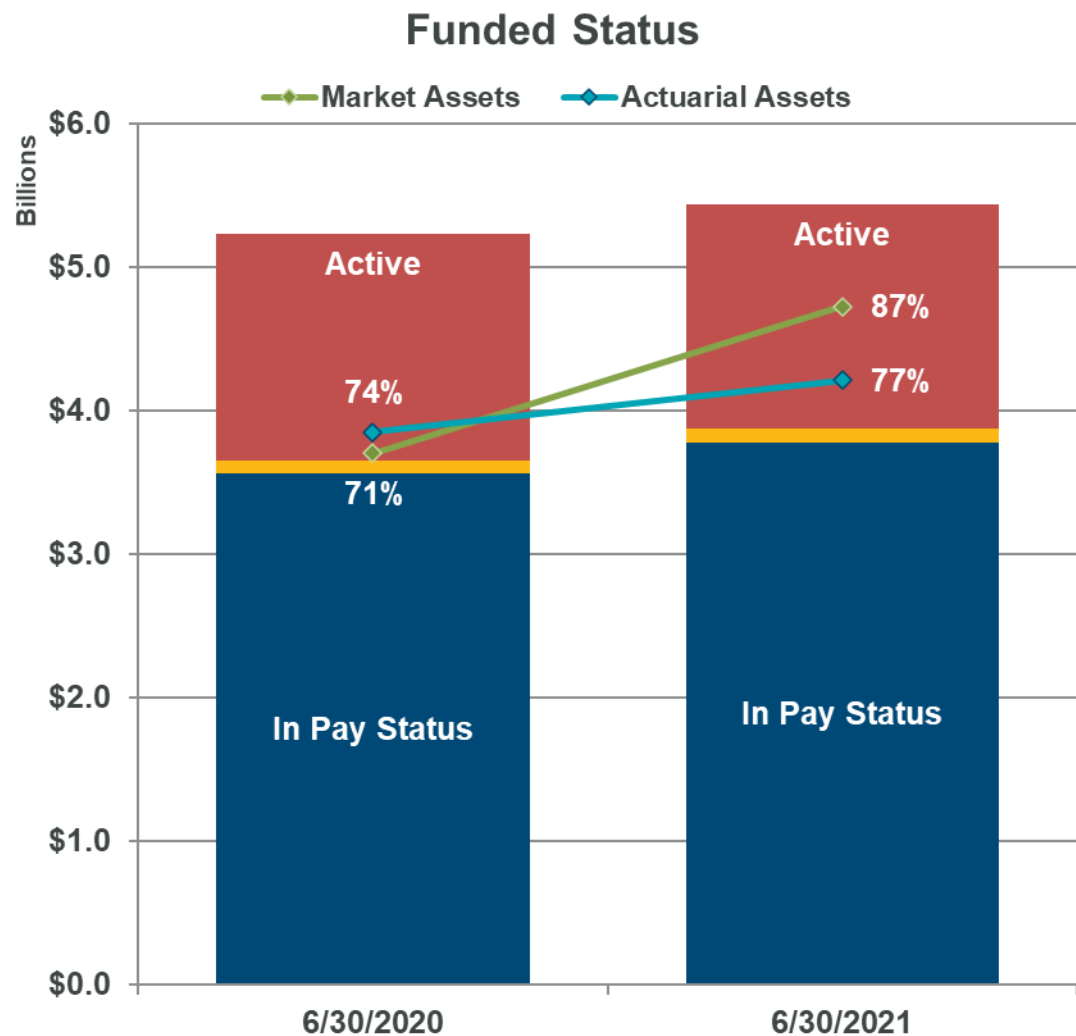


- Schedule
- Summary of Valuation Results
- Baseline Projections
- Plan Maturity and Sensitivity
- Projection Scenarios
- Appendix



- October Board Meeting
  - Pension Economic Assumption Review
- November Board Meeting
  - Demographic Experience Study
  - Final Decisions on Pension Assumptions
- December Board Meeting
  - Draft Pension Valuation Results
  - Review OPEB Assumptions
  - Final Decisions on OPEB Assumptions
- **January Board Meeting**
  - **Final Pension Valuation Report**
  - **Draft OPEB Valuation Results**
- February Board Meeting
  - Segal Pension Audit Results
  - Final OPEB Valuation Report
- March Board Meeting
  - Segal OPEB Audit Results

# Funded Status



## Funded Status By Tier

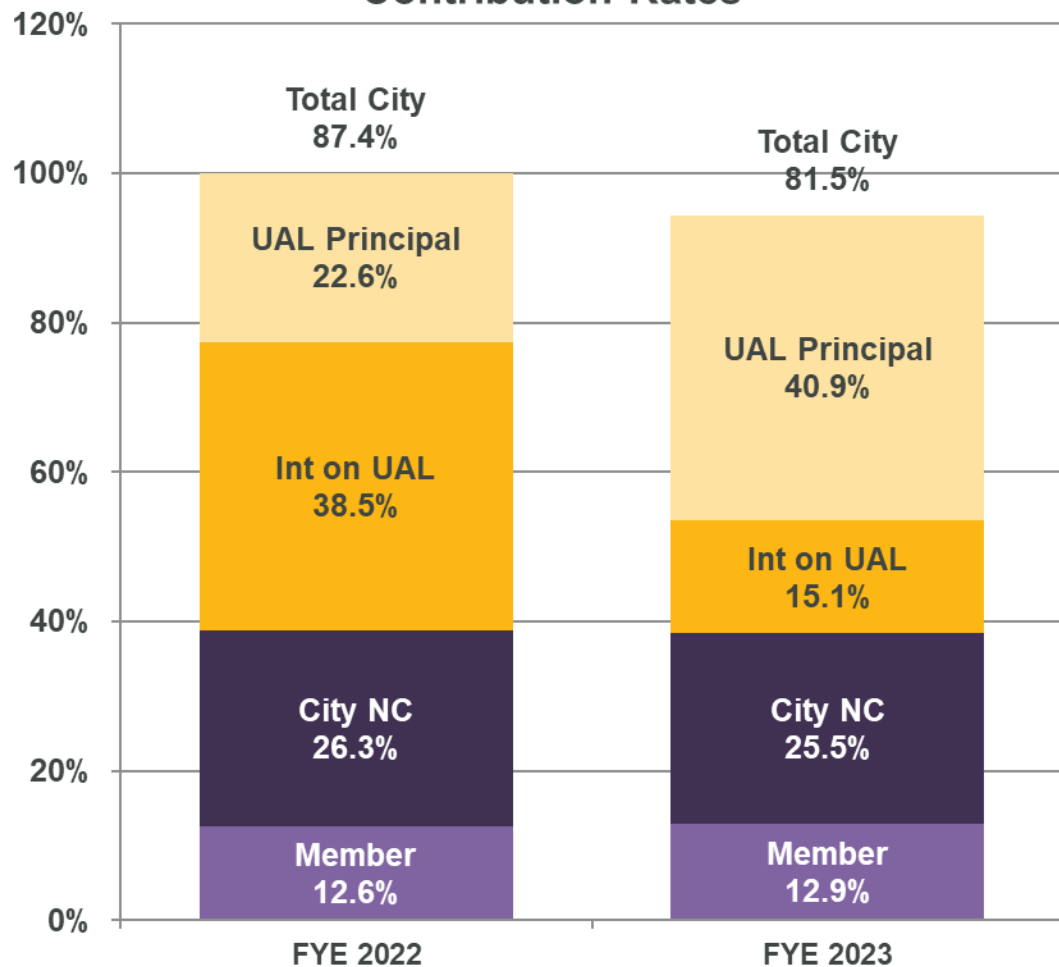
	6/30/2020	6/30/2021	Change
<b>Tier 1</b>			
Actuarial Liability	\$ 5,187.9	\$ 5,373.1	3.6%
Market Assets	3,653.9	4,641.4	27.0%
UAL - Market Basis	\$ 1,534.1	\$ 731.7	-52.3%
Funding Ratio	70.4%	86.4%	16.0%
Actuarial Assets	3,802.5	4,134.3	8.7%
UAL - Actuarial Basis	\$ 1,385.5	\$ 1,238.8	-10.6%
Funding Ratio	73.3%	76.9%	3.7%
<b>Tier 2</b>			
Actuarial Liability	\$ 47.4	\$ 68.5	44.6%
Market Assets	48.2	85.3	77.1%
UAL - Market Basis	\$ (0.8)	\$ (16.7)	2116.0%
Funding Ratio	101.6%	124.4%	22.8%
Actuarial Assets	49.5	76.1	53.8%
UAL - Actuarial Basis	\$ (2.1)	\$ (7.6)	261.2%
Funding Ratio	104.4%	111.1%	6.6%

Amounts in millions

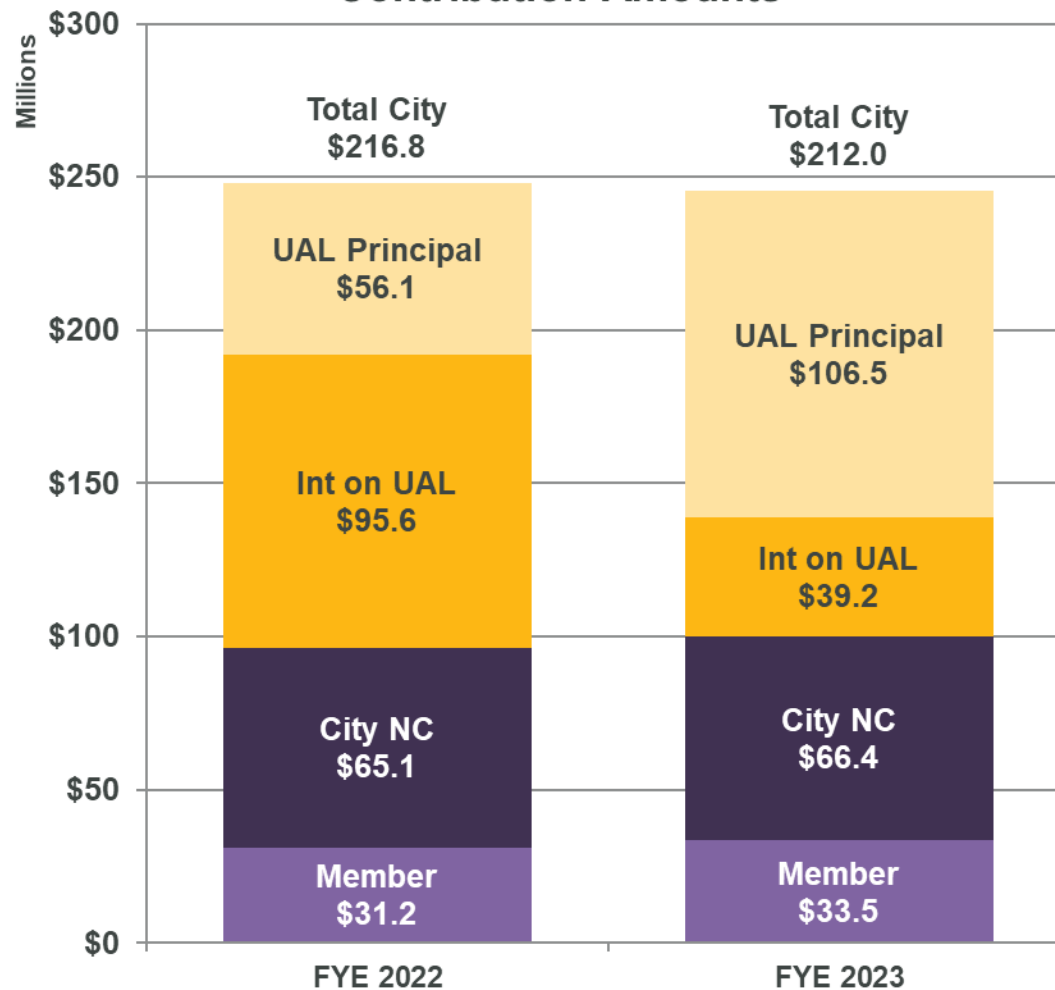
# Final Contributions



## Contribution Rates



## Contribution Amounts



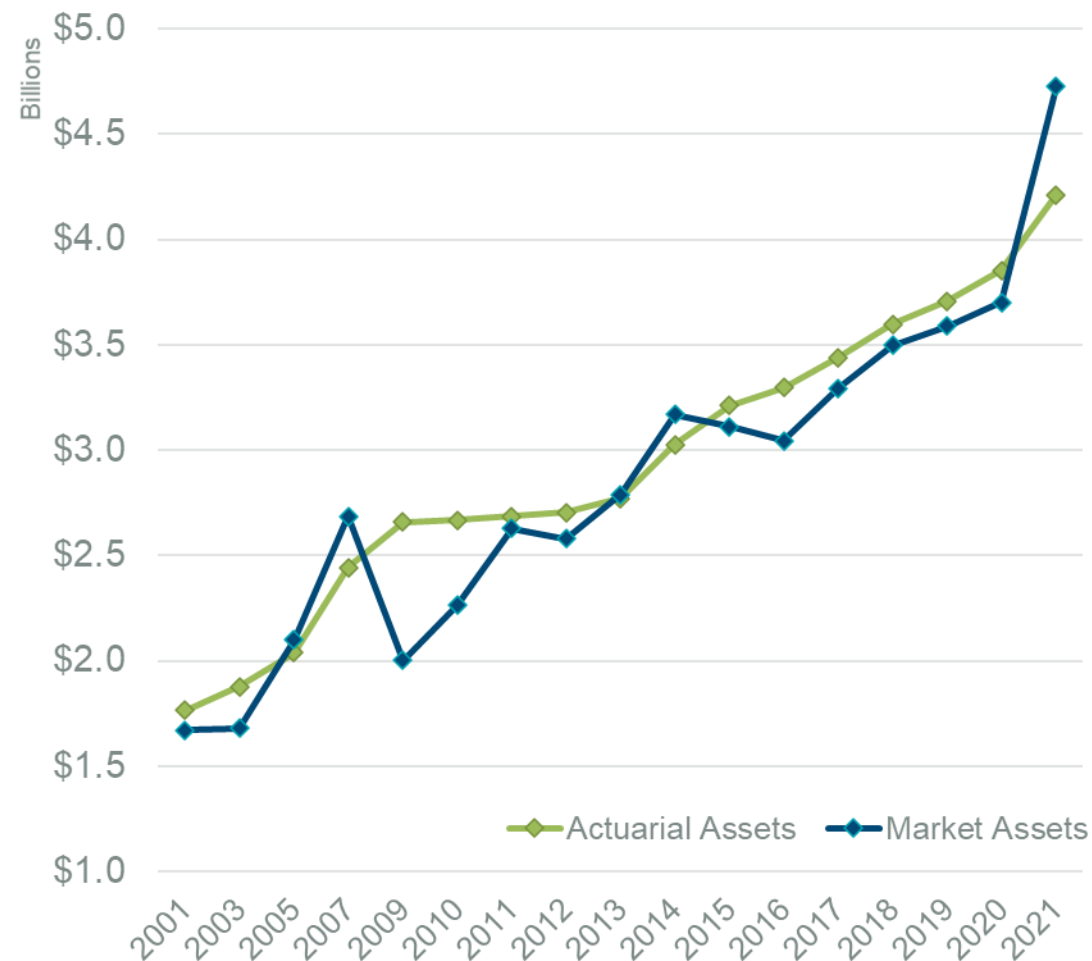
# Development of Actuarial Value of Assets



Development of Actuarial Value of Assets			
	Tier 1	Tier 2	Total
<b>Market Value</b>	<b>\$ 4,641.4</b>	<b>\$ 85.3</b>	<b>\$ 4,726.6</b>
<b>FYE 2021</b>			
Investment Gain or (Loss)	780.6	12.7	793.2
Portion Deferred (80%)	624.5	10.1	634.6
<b>FYE 2020</b>			
Investment Gain or (Loss)	(112.5)	(1.1)	(113.6)
Portion Deferred (60%)	(67.5)	(0.7)	(68.2)
<b>FYE 2019</b>			
Investment Gain or (Loss)	(126.1)	(0.8)	(126.9)
Portion Deferred (40%)	(50.5)	(0.3)	(50.8)
<b>FYE 2018</b>			
Investment Gain or (Loss)	2.7	0.0	2.7
Portion Deferred (20%)	0.5	0.0	0.5
<b>FYE 2017</b>			
Investment Gain or (Loss)	80.1	0.2	80.2
Portion Deferred (0%)	0.0	0.0	0.0
<b>Total Deferred Gain or (Loss)</b>	<b>\$ 507.1</b>	<b>9.1</b>	<b>\$ 516.2</b>
<b>Actuarial Value</b>	<b>\$ 4,134.3</b>	<b>\$ 76.1</b>	<b>\$ 4,210.4</b>

Amounts in millions

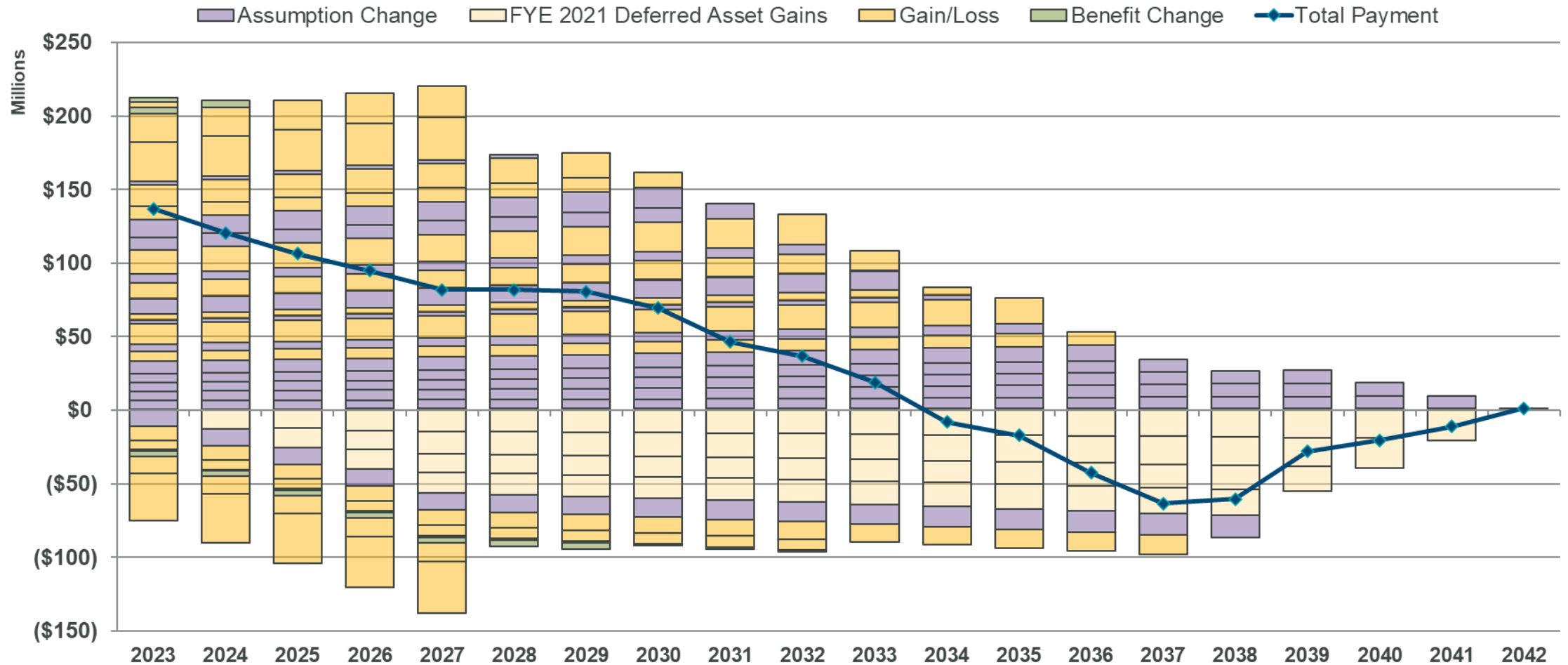
## Market vs. Actuarial Assets



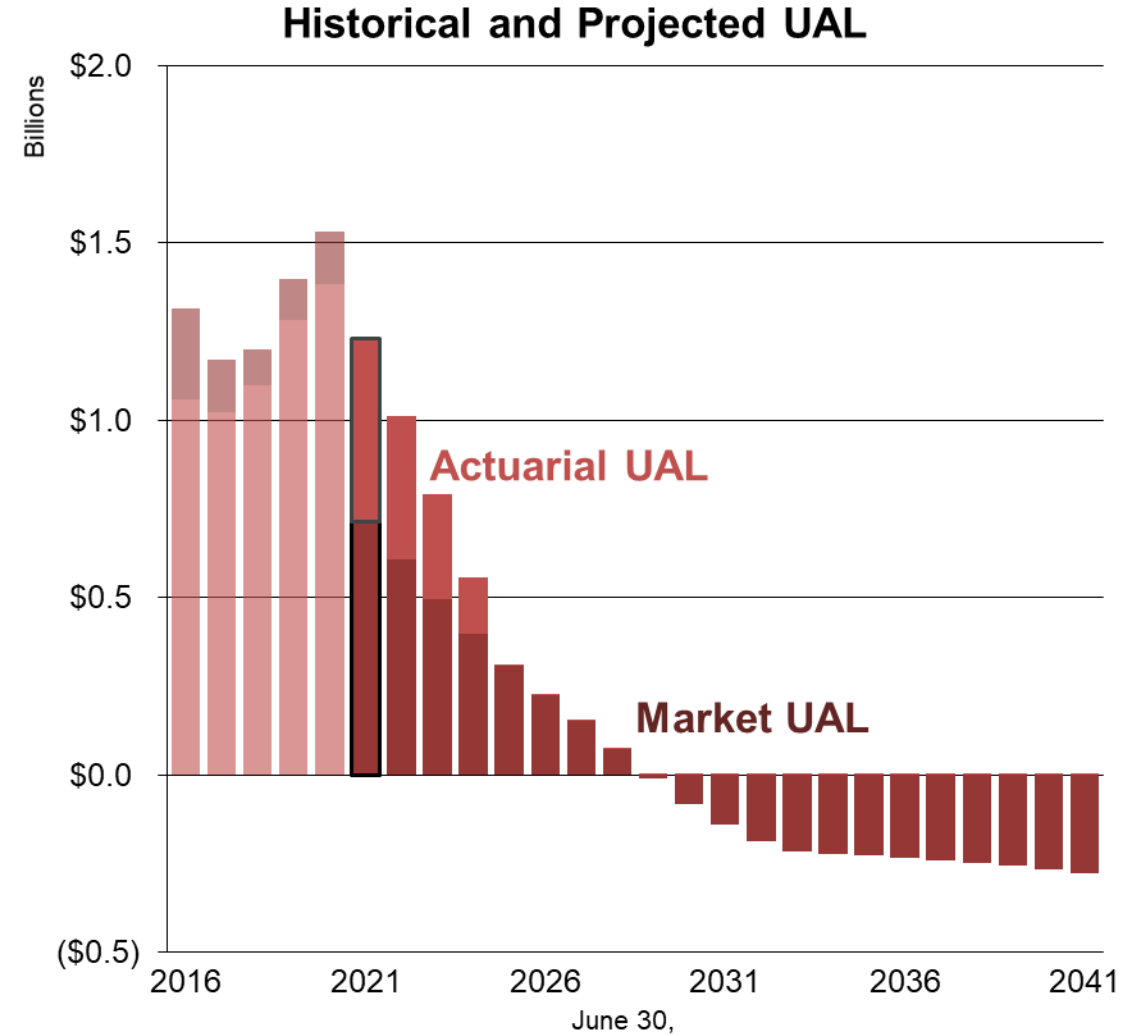
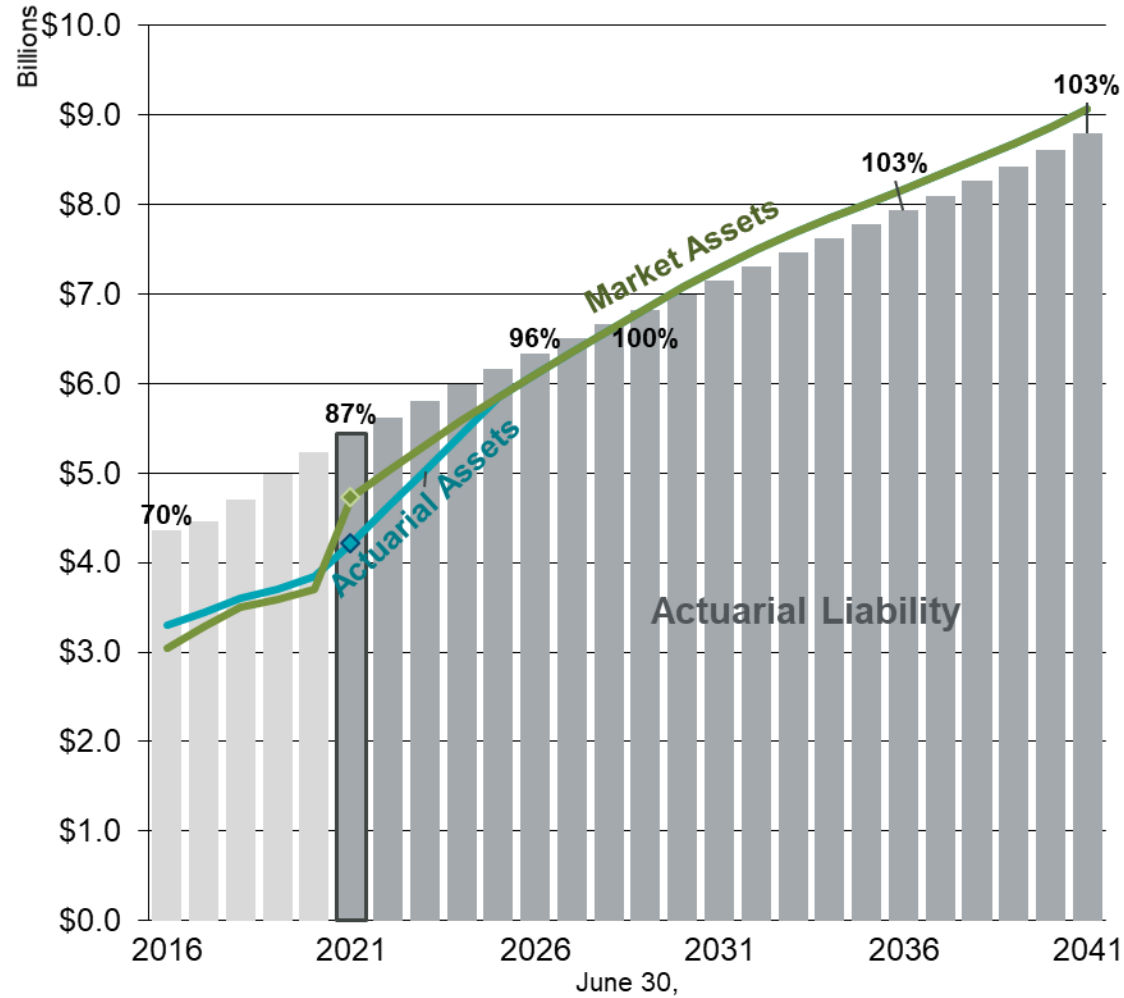
# Tier 1 City Amortization Layers



## Tier 1 City Amortization Payments



# Baseline Projections

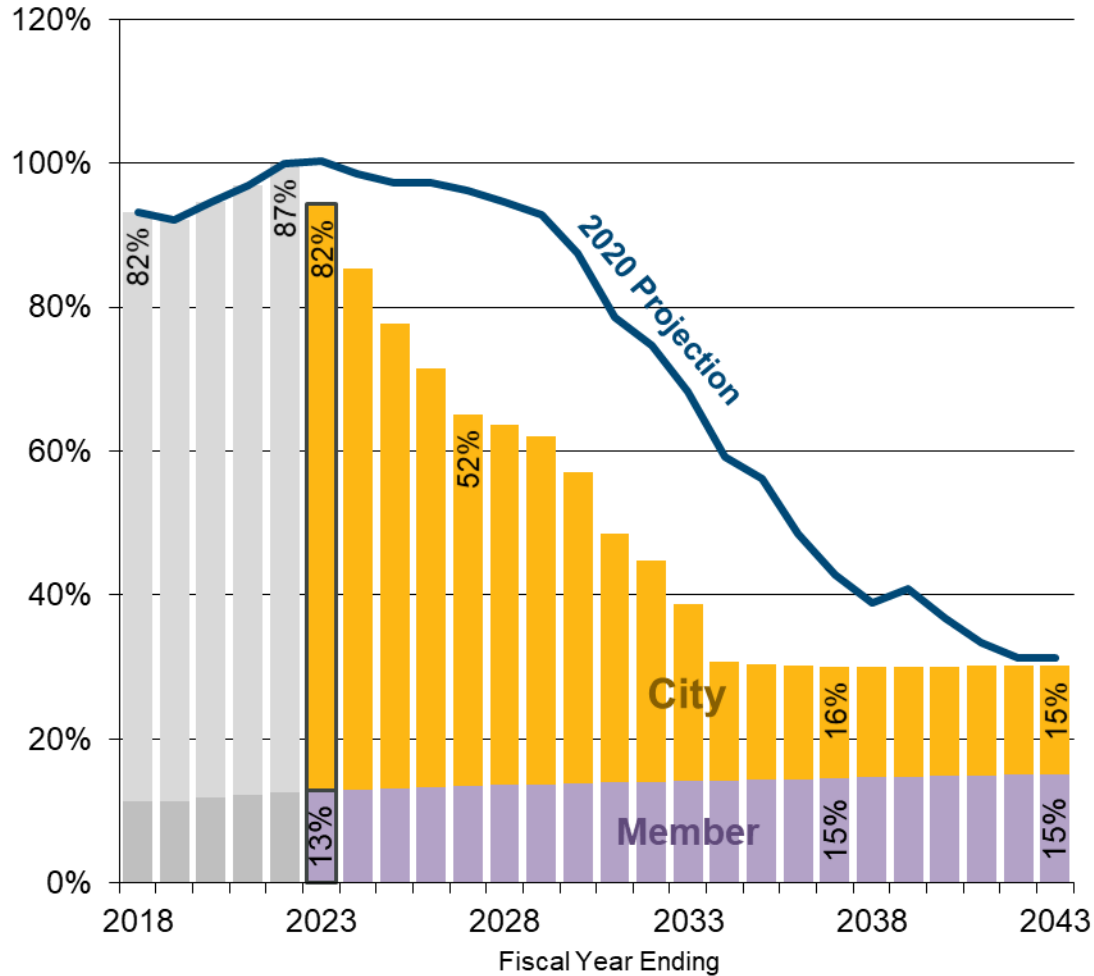




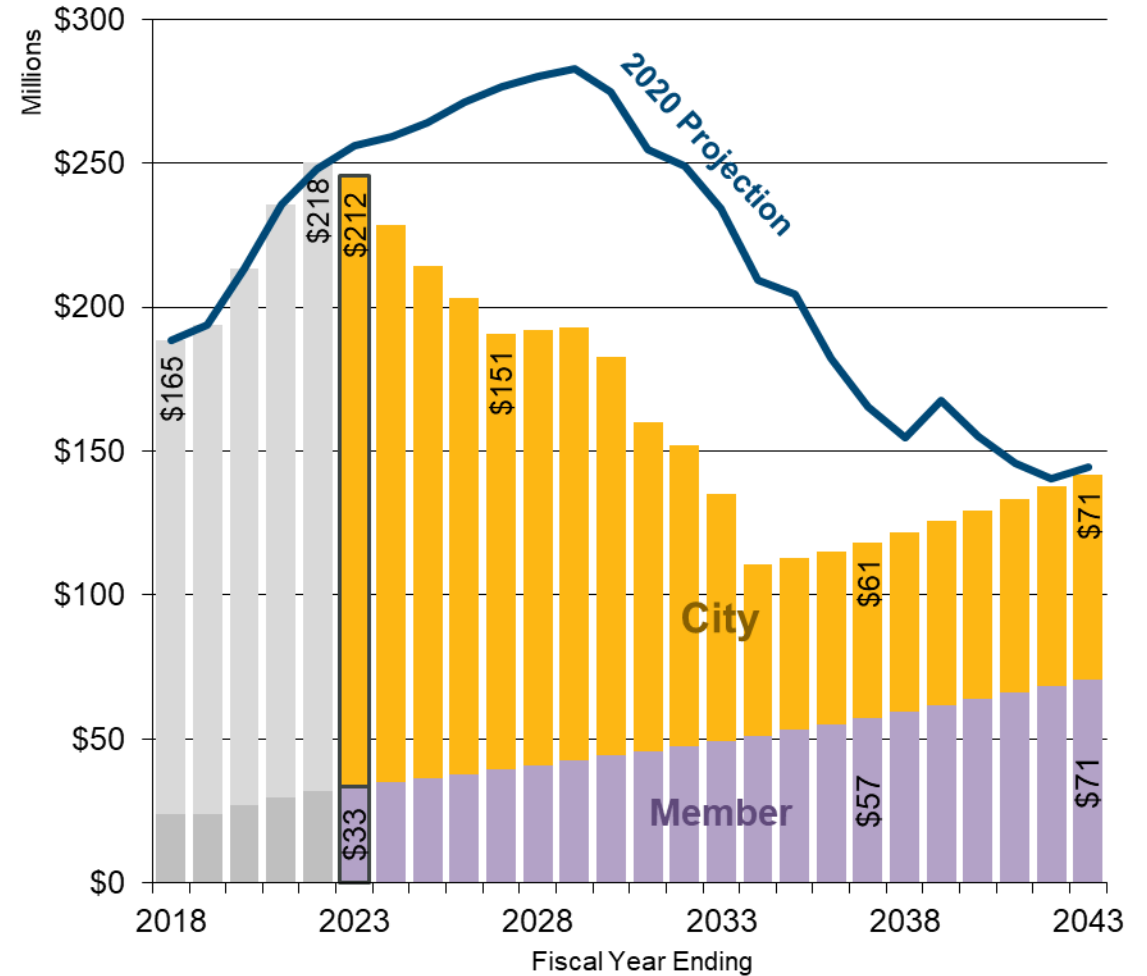
# Baseline Projections



### Historical and Projected Contribution Rates



### Historical and Projected Contribution Amounts



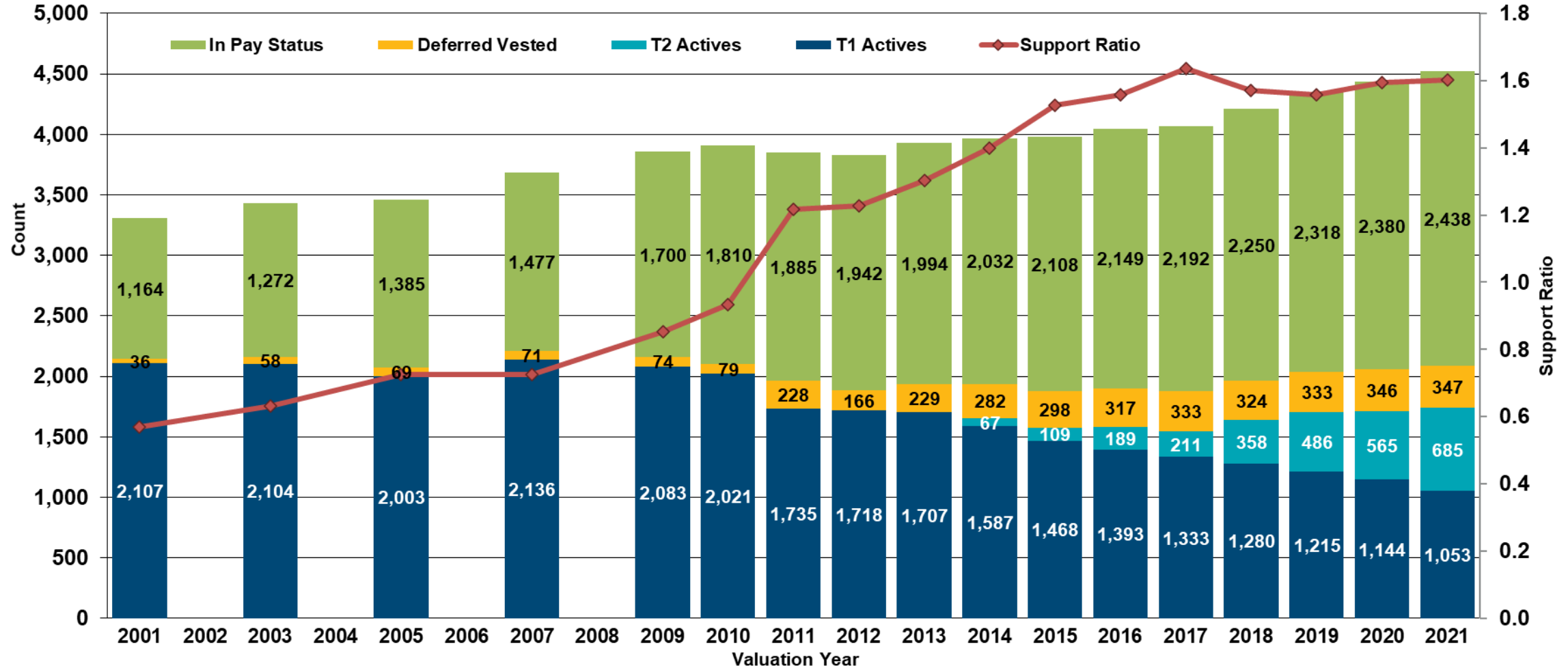


# Mature Pension Plans Are More Sensitive to Risk

# Membership Trends



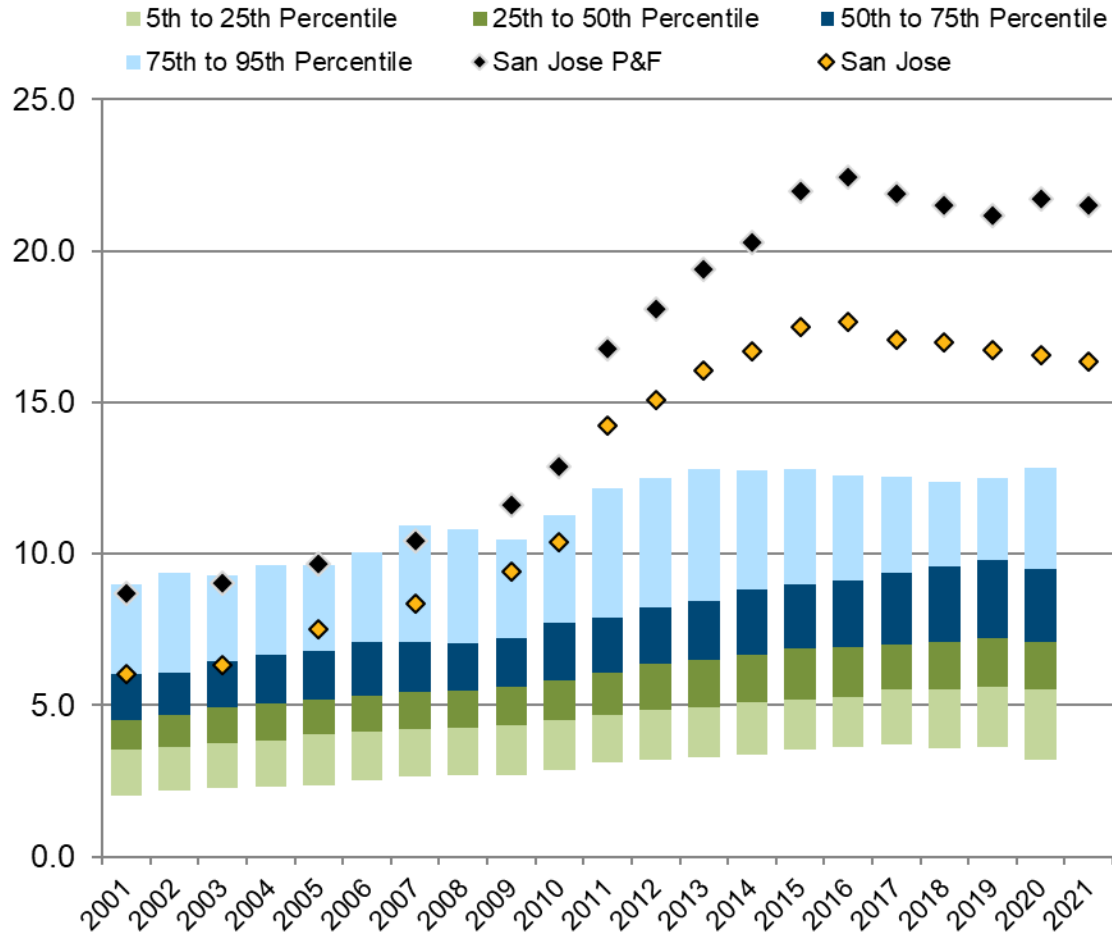
## Police & Fire Historical Membership Counts



# Leverage Ratios

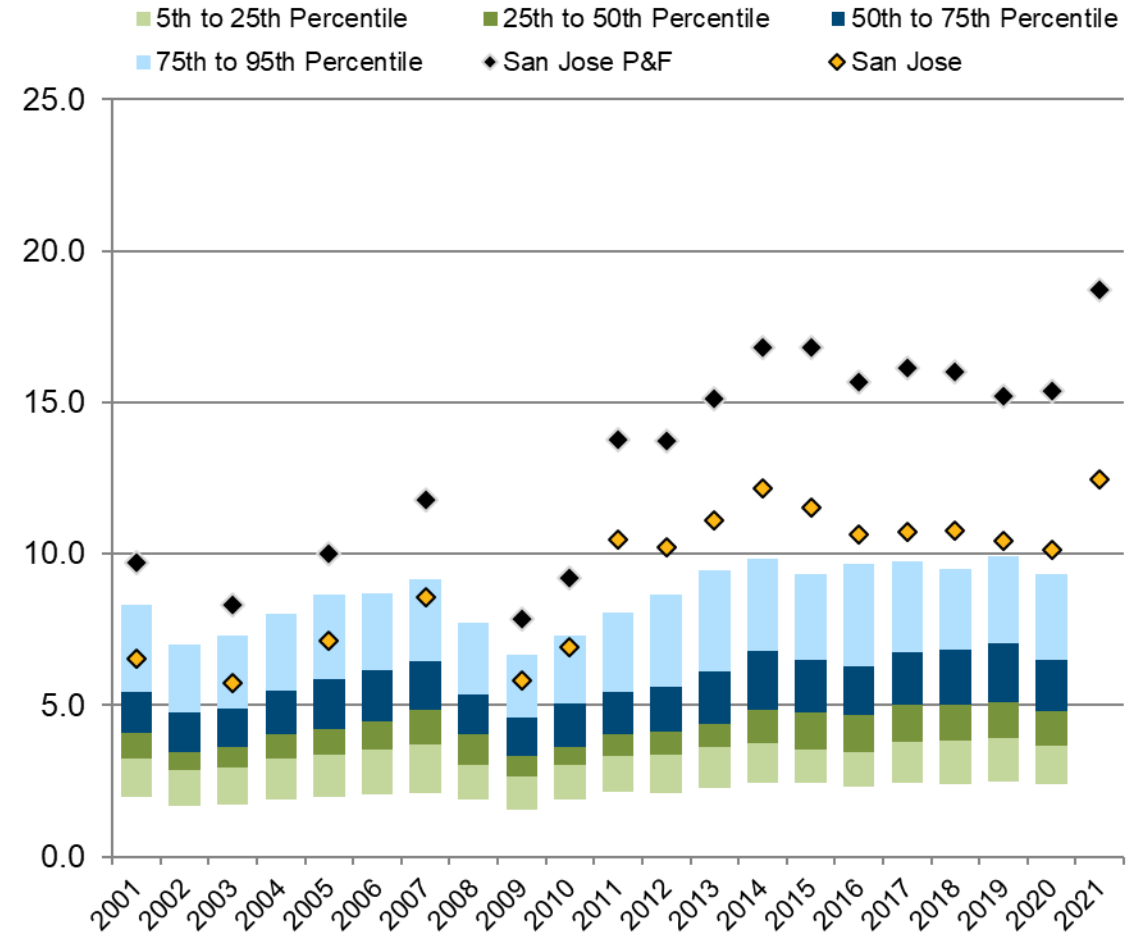


## Liability Leverage Ratio



Survey Data from Public Plans Database as of 11/29/2021

## Asset Leverage Ratio

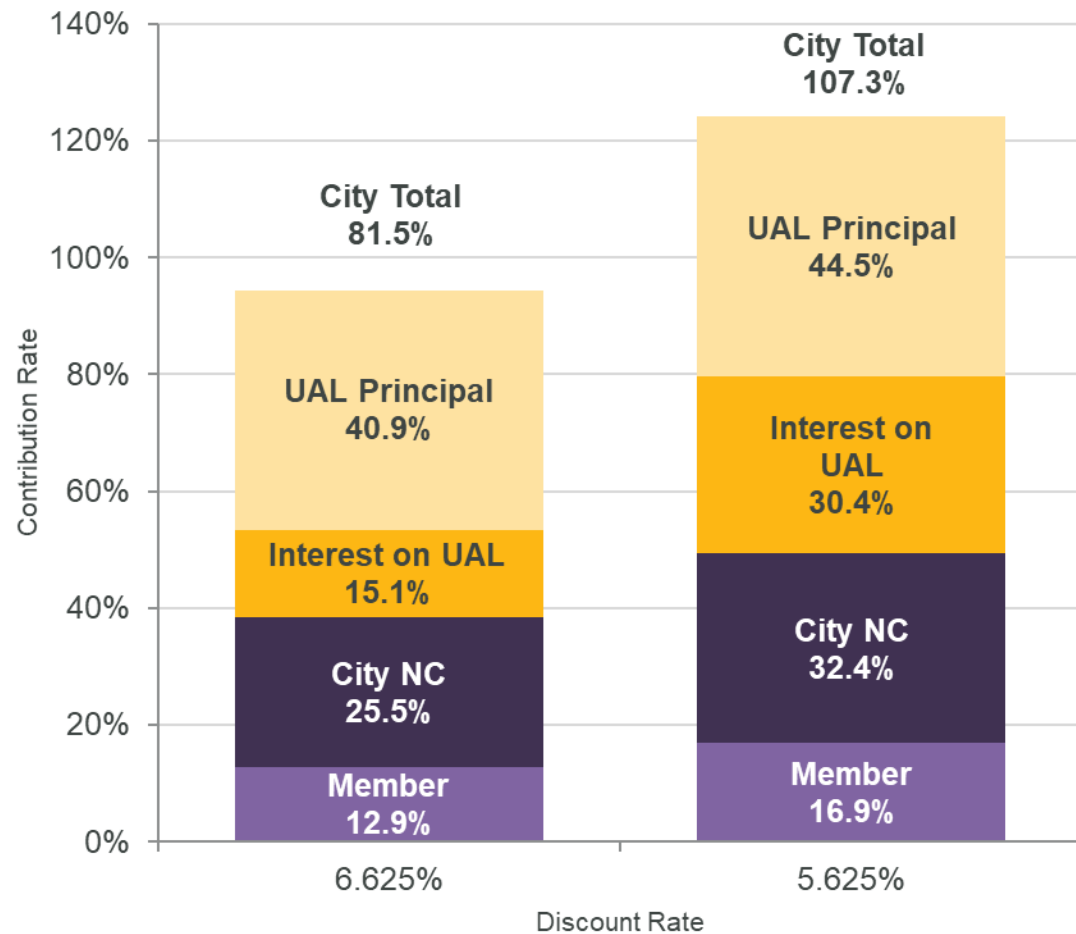


Survey Data from Public Plans Database as of 11/29/2021

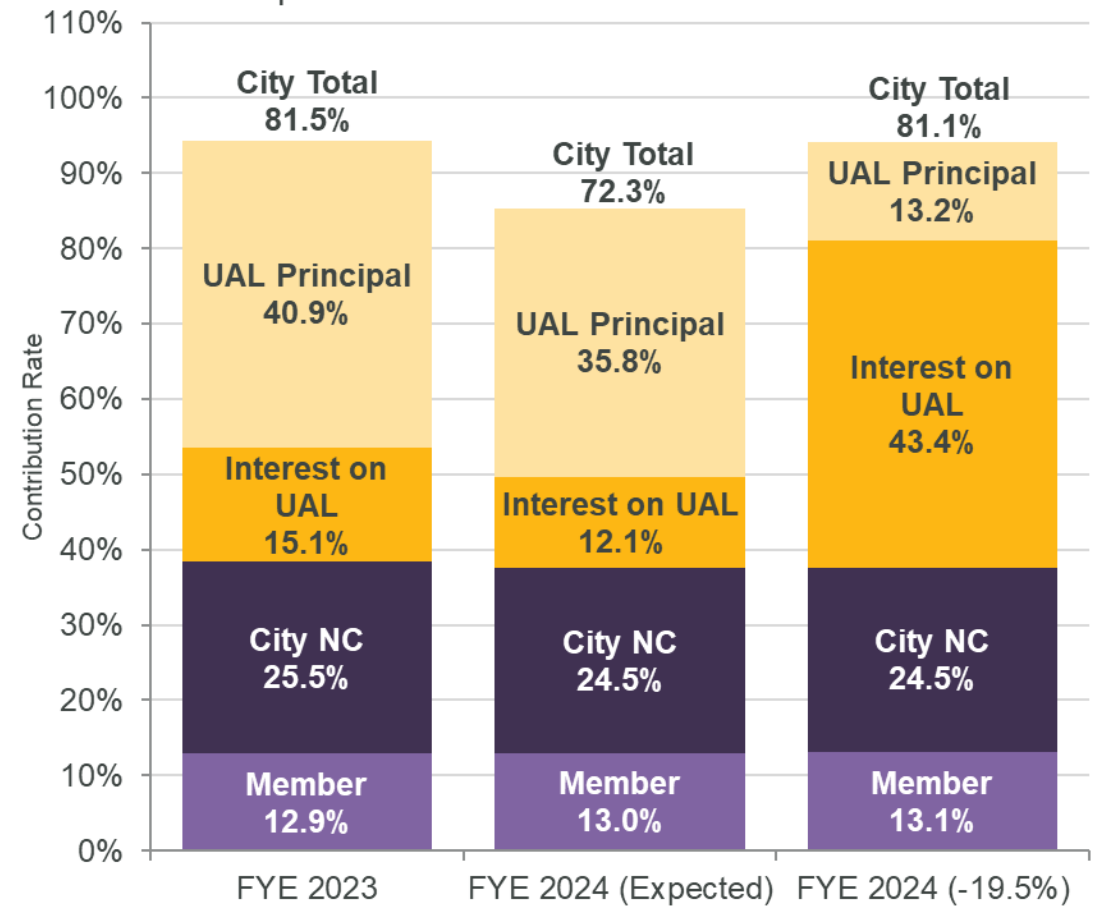
# Illustration of Sensitivity



## Discount Rate Change Impact



## Interest Cost at Risk Impact of a Two Standard Deviation Loss



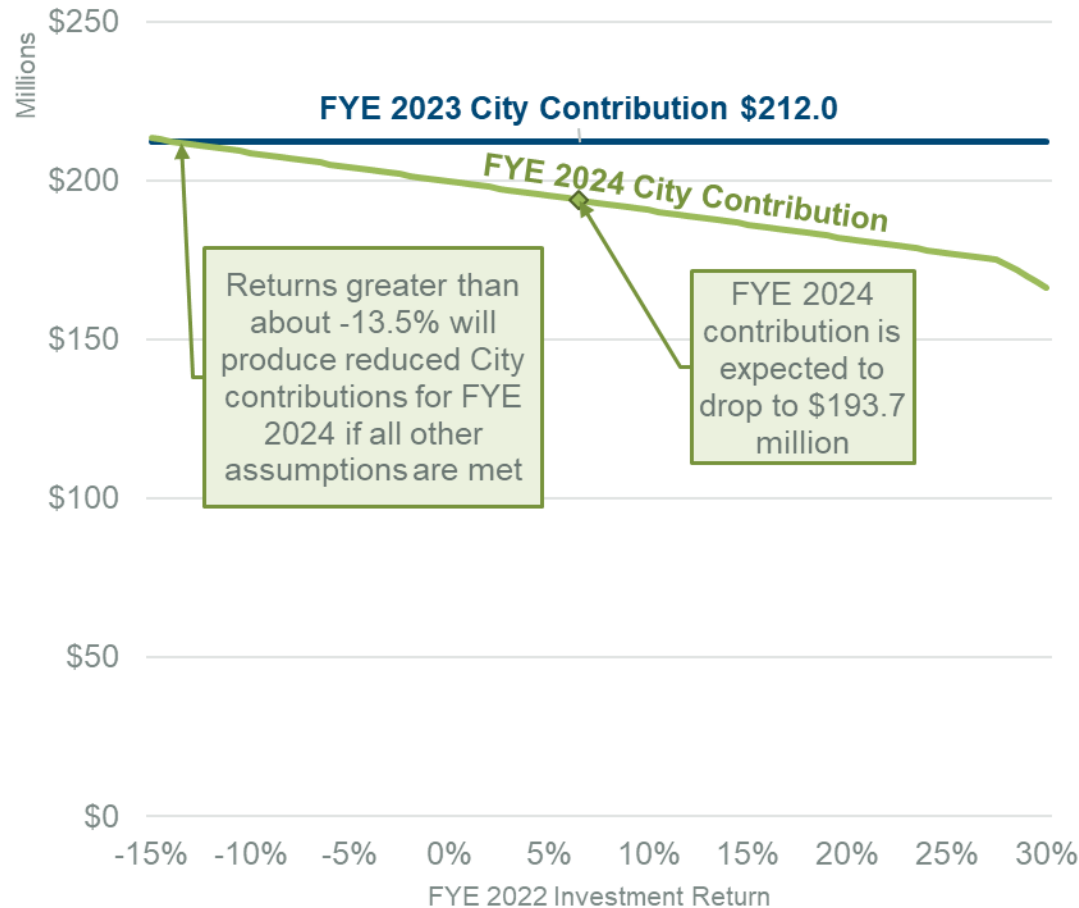
# PROJECTION SCENARIOS



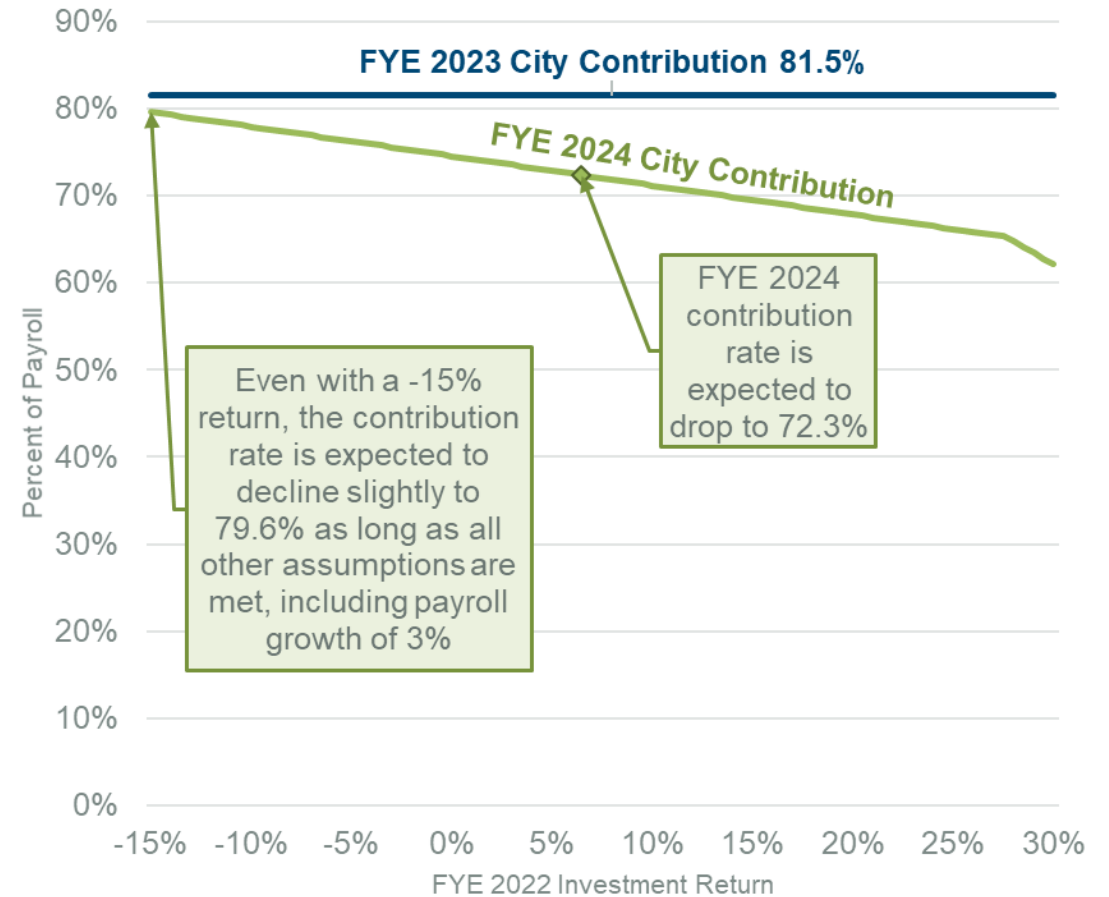
# Downward Pressure on City Contributions for FYE 2024



Projected FYE 2024 City Contribution Amount Based on FYE 2022 Investment Return



Projected FYE 2024 City Contribution Rate Based on FYE 2022 Investment Return



# Deterministic Scenarios



- Scenarios are intended to illustrate the range of potential contributions
  - Based on Meketa’s 10-year capital market assumptions
  - Impact of asset smoothing and amortization
  - Volatility due to plan maturity
- Not intended to be realistic economic scenarios

Annual Average Investment Return		
Percentile	1 Year	5 Years
95 <sup>th</sup>	29.2%	15.6%
75 <sup>th</sup>	14.8%	9.6%
25 <sup>th</sup>	-2.7%	1.9%
5 <sup>th</sup>	-13.6%	-3.4%

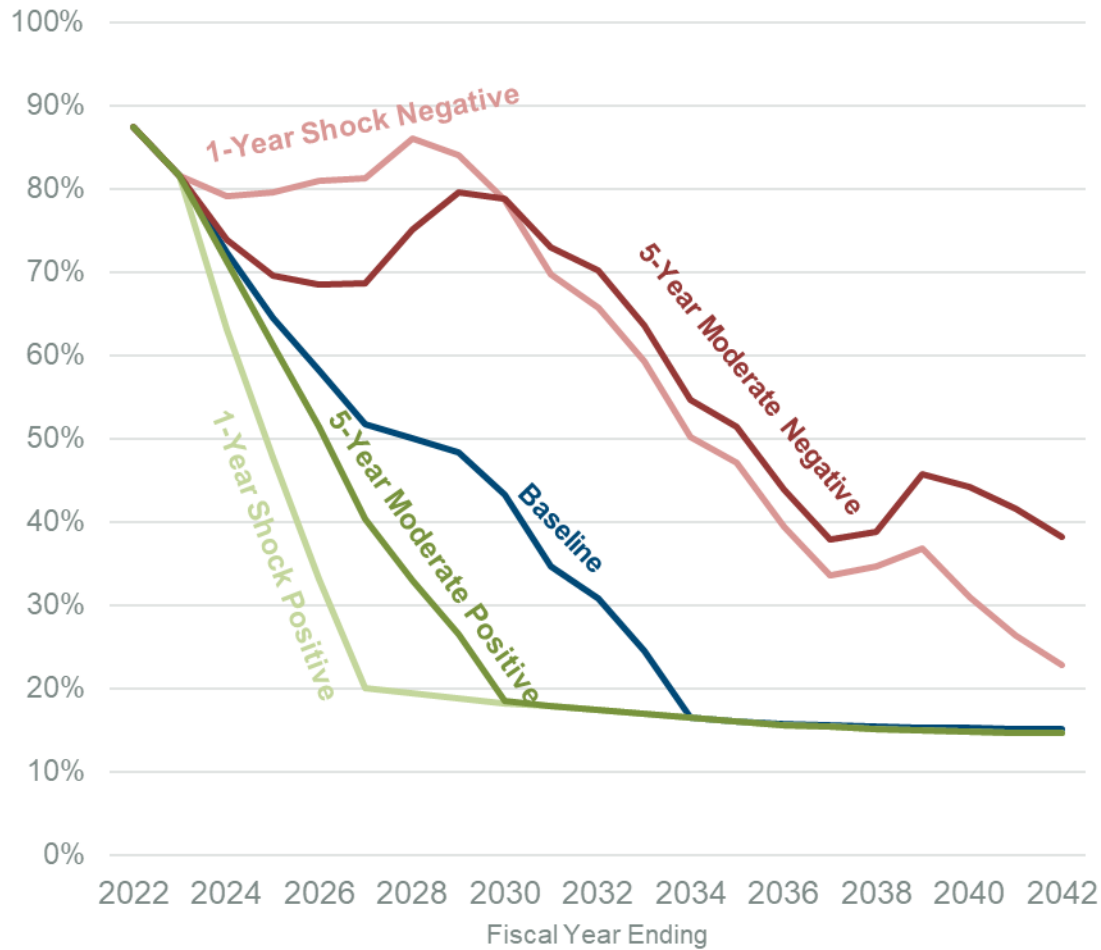
Deterministic Scenarios				
FYE	1-Year Shock		5-Year Moderate	
2022	-13.6%	29.2%	1.9%	9.6%
2023	6.625%	6.625%	1.9%	9.6%
2024	6.625%	6.625%	1.9%	9.6%
2025	6.625%	6.625%	1.9%	9.6%
2026	6.625%	6.625%	1.9%	9.6%
2027+	6.625%	6.625%	6.625%	6.625%



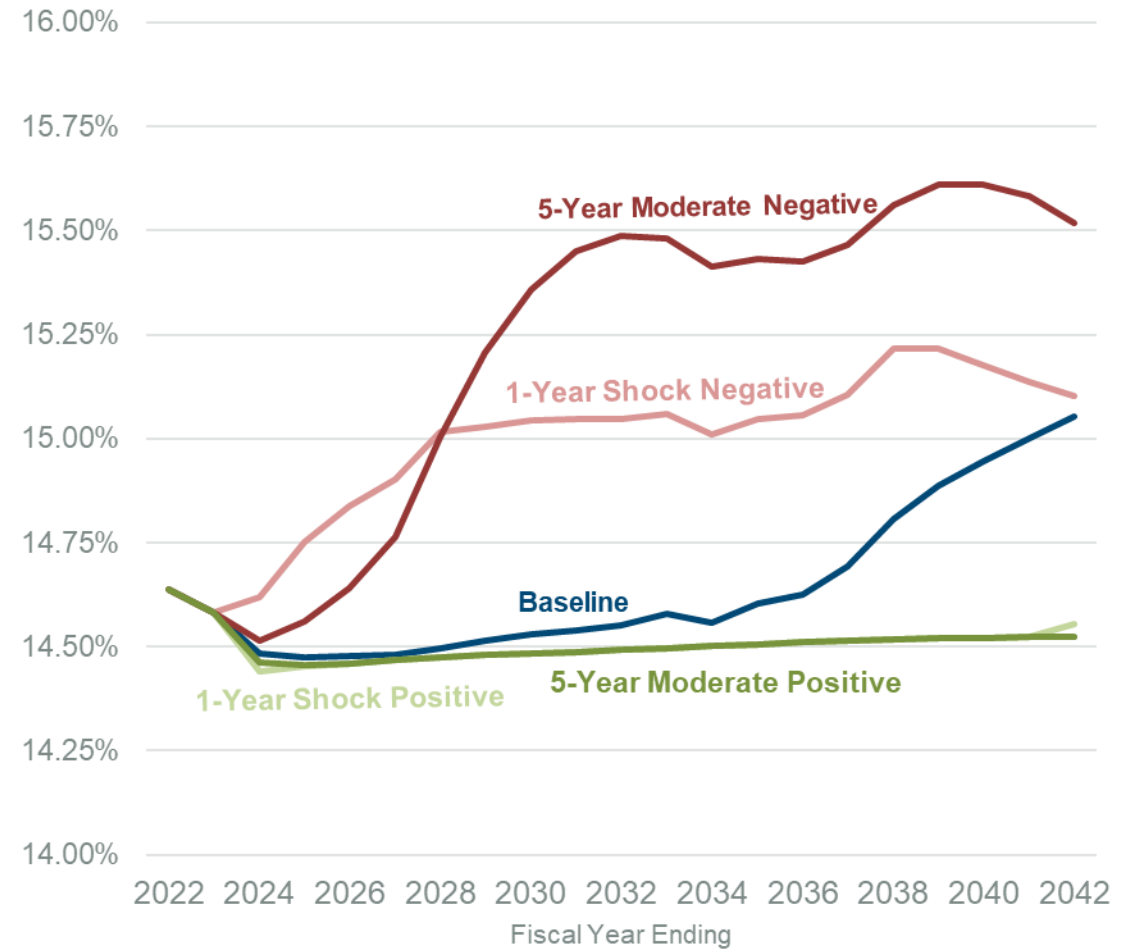
# Deterministic Projections



## City Aggregate Contribution Rates



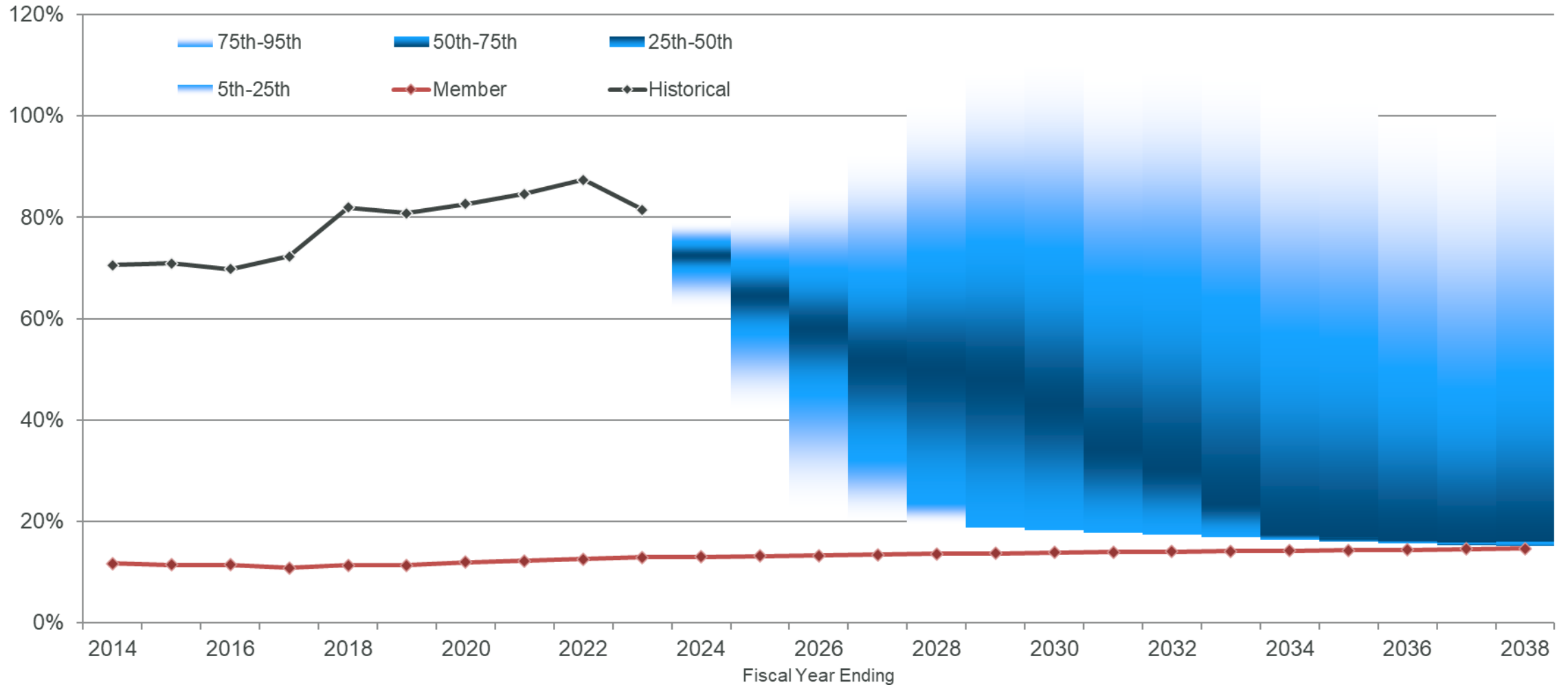
## Tier 2 Member Contribution Rates



# Stochastic Projections – Contribution Rates



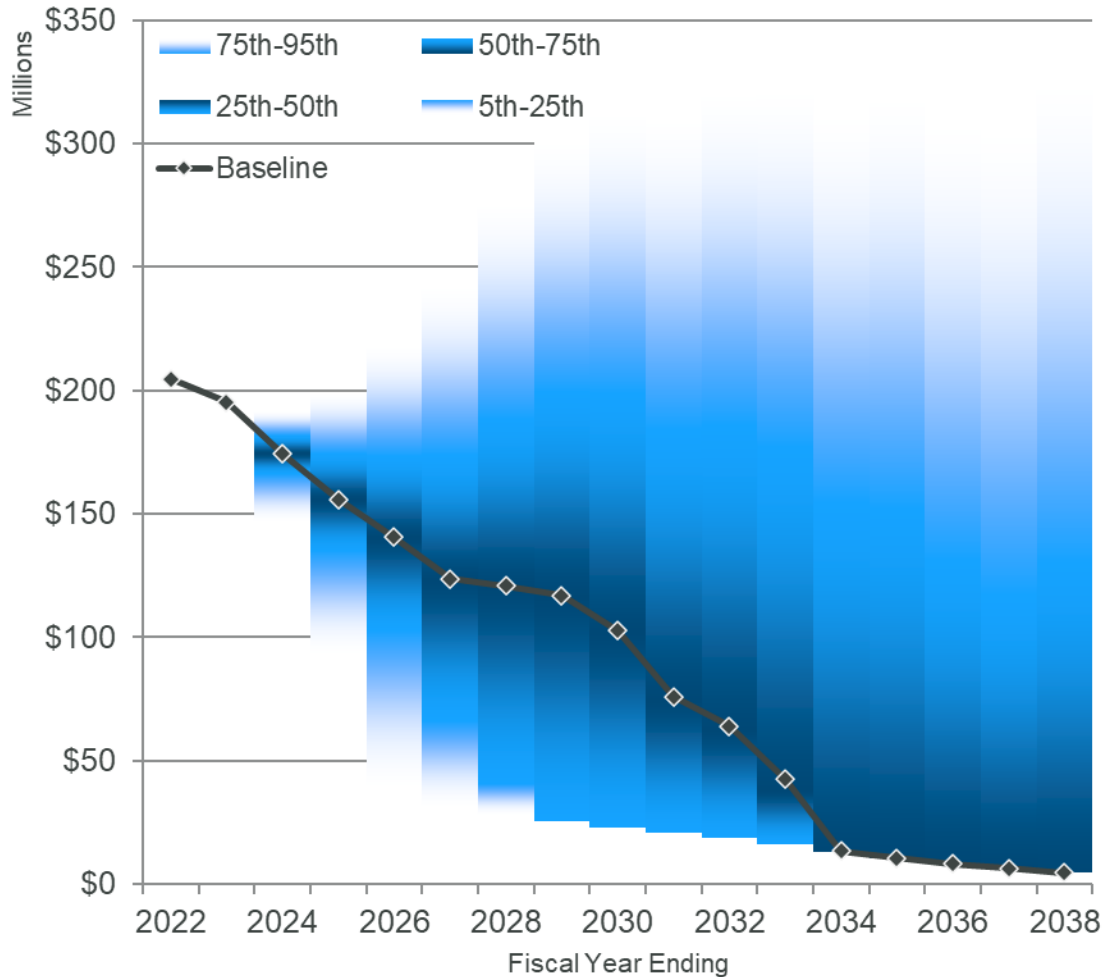
## Historical and Projected City Contribution Rates



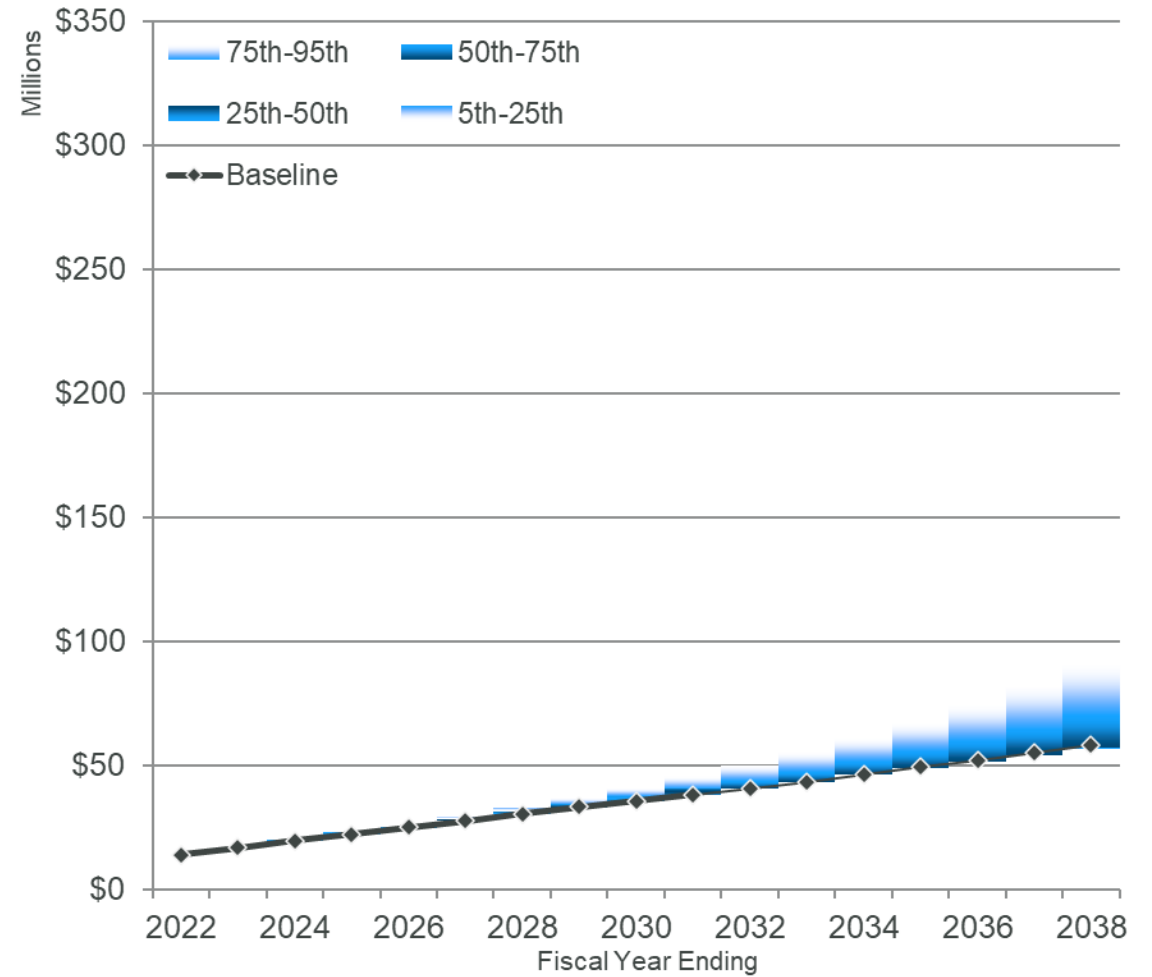
# Stochastic Contribution Projections By Tier



## Projected Tier 1 City Contribution Amounts



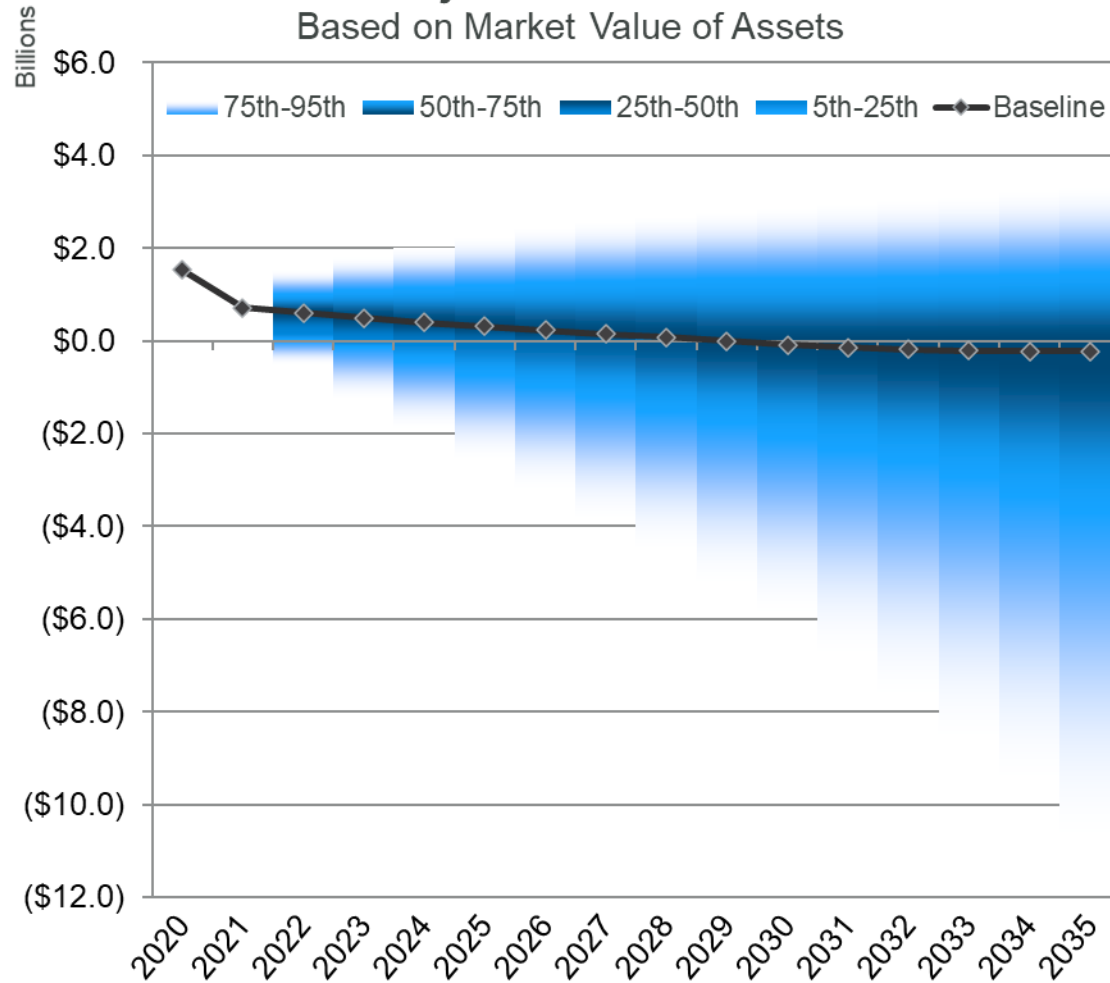
## Projected Tier 2 City Contribution Amounts



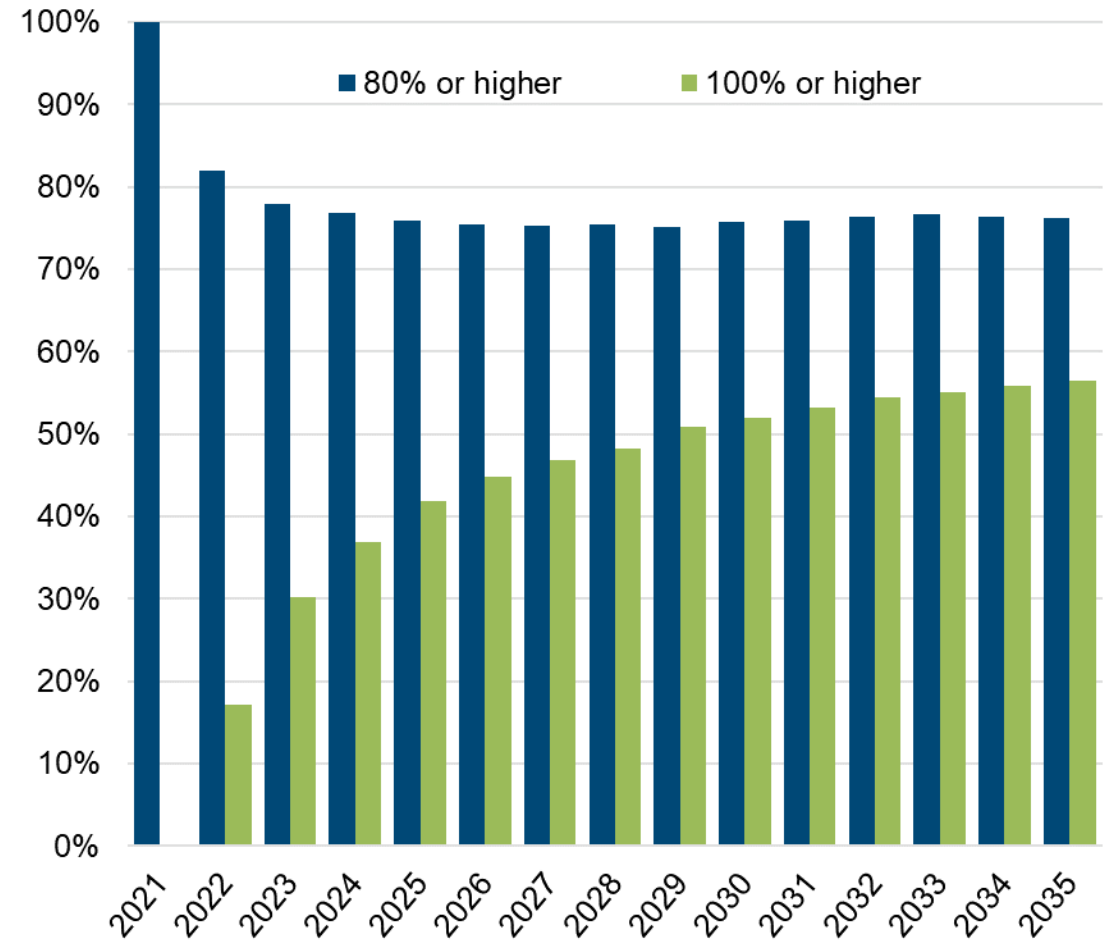
# Stochastic Projections – UAL and Funded Ratio



**Projected Plan UAL**  
Based on Market Value of Assets



**Probability of Achieving Funded Ratios**  
Based on Market Value of Assets





- The purpose of this presentation is to present the results of the June 30, 2021 Actuarial Valuation for the City of San José Police and Fire Department Retirement Plan.
- In preparing our presentation, we relied on information (some oral and some written) supplied by the City of San José Department of Retirement Services. 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. A summary of the data, assumptions, methods, and plan provisions used to prepare the valuation can be found in the June 30, 2021 actuarial valuation report.
- Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.
- This presentation 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 presentation. This presentation does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.
- This presentation was prepared exclusively for the City of San José Police and Fire Department Retirement Plan for the purpose described herein. This presentation is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

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Consulting Actuary

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Principal Consulting Actuary



- 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.

# Appendix – Contribution Detail



Contribution Rates and Amounts (Throughout the Year)						
	Fire		Police		Total	
	FYE 2022	FYE 2023	FYE 2022	FYE 2023	FYE 2022	FYE 2023
<b>Member Rates</b>						
Tier 1	11.9%	12.1%	10.9%	11.0%	11.4%	11.5%
Tier 2	<u>15.3%</u>	<u>15.2%</u>	<u>14.4%</u>	<u>14.4%</u>	<u>14.7%</u>	<u>14.6%</u>
Aggregate	12.8%	13.0%	12.5%	12.8%	12.6%	12.9%
<b>City Contributions</b>						
Tier 1 UAL	\$ 70,887	\$ 69,689	\$ 80,921	\$ 76,350	\$ 151,808	\$ 146,040
Tier 1 Normal Cost + Admin Expenses	\$ 24,192 33.7%	\$ 23,620 34.3%	\$ 27,396 32.5%	\$ 25,769 33.2%	\$ 51,589 33.0%	\$ 49,389 33.8%
Tier 2 Contribution	\$ 3,749 15.3%	\$ 4,501 15.2%	\$ 9,711 14.4%	\$ 12,096 14.4%	\$ 13,460 14.7%	\$ 16,597 14.6%
Aggregate	\$ 98,828 102.6%	\$ 97,810 99.4%	\$ 118,028 77.8%	\$ 114,216 70.6%	\$ 216,856 87.4%	\$ 212,026 81.5%

Numbers may not add due to rounding

Dollar amounts in thousands

# Appendix – 5-Year Contribution Projection



Contribution Rates and Amounts (Throughout the Year)										
Fiscal Year Ending										
	2023		2024		2025		2026		2027	
<b>Member Rates</b>										
Police Tier 1	11.03%		10.98%		10.95%		10.94%		10.96%	
Police Tier 2	14.37%		14.23%		14.21%		14.21%		14.21%	
Fire Tier 1	12.12%		12.11%		12.11%		12.11%		12.11%	
Fire Tier 2	15.18%		15.14%		15.11%		15.10%		15.08%	
<b>City Contributions</b>										
<b>Police</b>										
Tier 1 UAL		\$ 76,350		\$ 64,626		\$ 58,604		\$ 51,277		\$ 43,283
Tier 1 Normal Cost	33.24%	25,769	33.64%	23,553	34.12%	21,702	34.81%	19,897	35.71%	18,097
Tier 2	14.37%	12,096	14.23%	13,739	14.21%	15,341	14.21%	16,987	14.21%	18,662
<b>Total Police</b>	<b>70.63%</b>	<b>\$ 114,216</b>	<b>61.19%</b>	<b>\$ 101,917</b>	<b>55.75%</b>	<b>\$ 95,647</b>	<b>49.89%</b>	<b>\$ 88,161</b>	<b>43.98%</b>	<b>\$ 80,043</b>
<b>Fire</b>										
Tier 1 UAL		\$ 69,689		\$ 63,999		\$ 54,749		\$ 49,824		\$ 43,975
Tier 1 Normal Cost	34.34%	23,620	34.59%	22,194	34.88%	20,818	35.19%	19,645	35.55%	18,416
Tier 2	15.18%	4,501	15.14%	5,633	15.11%	6,760	15.10%	7,810	15.08%	8,892
<b>Total Fire</b>	<b>99.38%</b>	<b>\$ 97,810</b>	<b>90.58%</b>	<b>\$ 91,826</b>	<b>78.84%</b>	<b>\$ 82,328</b>	<b>71.85%</b>	<b>\$ 77,279</b>	<b>64.35%</b>	<b>\$ 71,283</b>
<b>Aggregate</b>	<b>81.51%</b>	<b>\$ 212,026</b>	<b>72.31%</b>	<b>\$ 193,744</b>	<b>64.49%</b>	<b>\$ 177,975</b>	<b>58.20%</b>	<b>\$ 165,441</b>	<b>51.69%</b>	<b>\$ 151,326</b>
75th Percentile	81.5%	212,026	75.1%	201,342	71.3%	196,844	69.8%	198,460	69.0%	201,925
25th Percentile	81.5%	212,026	69.3%	185,614	56.8%	156,817	44.9%	127,560	32.0%	93,640

Numbers may not add due to rounding

Dollar amounts in thousands



# Appendix – Tier 1 Beginning of Year Contributions



## Tier 1 City Contribution Amounts (Beginning of Year Assuming Full Discount)

	Fiscal Year Ending				
	2023	2024	2025	2026	2027
<b>Police</b>					
Tier 1 UAL Payment	\$ 73,940	\$ 62,586	\$ 56,754	\$ 49,658	\$ 41,917
Tier 1 Normal Cost and Administrative Expenses	24,956	22,809	21,017	19,269	17,526
<b>Total Police</b>	<b>\$ 98,896</b>	<b>\$ 85,395</b>	<b>\$ 77,771</b>	<b>\$ 68,928</b>	<b>\$ 59,443</b>
<b>Fire</b>					
Tier 1 UAL Payment	\$ 67,490	\$ 61,979	\$ 53,021	\$ 48,252	\$ 42,586
Tier 1 Normal Cost and Administrative Expenses	22,875	21,494	20,161	19,025	17,835
<b>Total Fire</b>	<b>\$ 90,364</b>	<b>\$ 83,473</b>	<b>\$ 73,182</b>	<b>\$ 67,277</b>	<b>\$ 60,421</b>
<b>Tier 1 Total</b>	<b>\$ 189,260</b>	<b>\$ 168,868</b>	<b>\$ 150,953</b>	<b>\$ 136,204</b>	<b>\$ 119,864</b>

Numbers may not add due to rounding

Dollar amounts in thousands