

# San José Federated City Employees' Retirement System

4a(1)



## 2022 Final Pension Valuation Results

December 15, 2022

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FCERS 12.15.22

# Agenda



Schedule

Summary of Valuation Results

Baseline Projections

Tier 1 vs. Tier 2

Plan Maturity and Sensitivity

Projection Scenarios

Appendix



- September Meeting
  - Tier 1 Amortization Periods
- October Board Meeting
  - Pension Economic Assumption Review
- November Board Meeting
  - Preliminary Pension Valuation Results
  - OPEB Assumptions Review
- **December Board Meeting**
  - **Final Pension Valuation Presentation**
  - **Final Pension Valuation Report**
  - **Preliminary OPEB Valuation Results**
- January Board Meeting
  - Final OPEB Valuation Presentation
  - Final OPEB Valuation Report

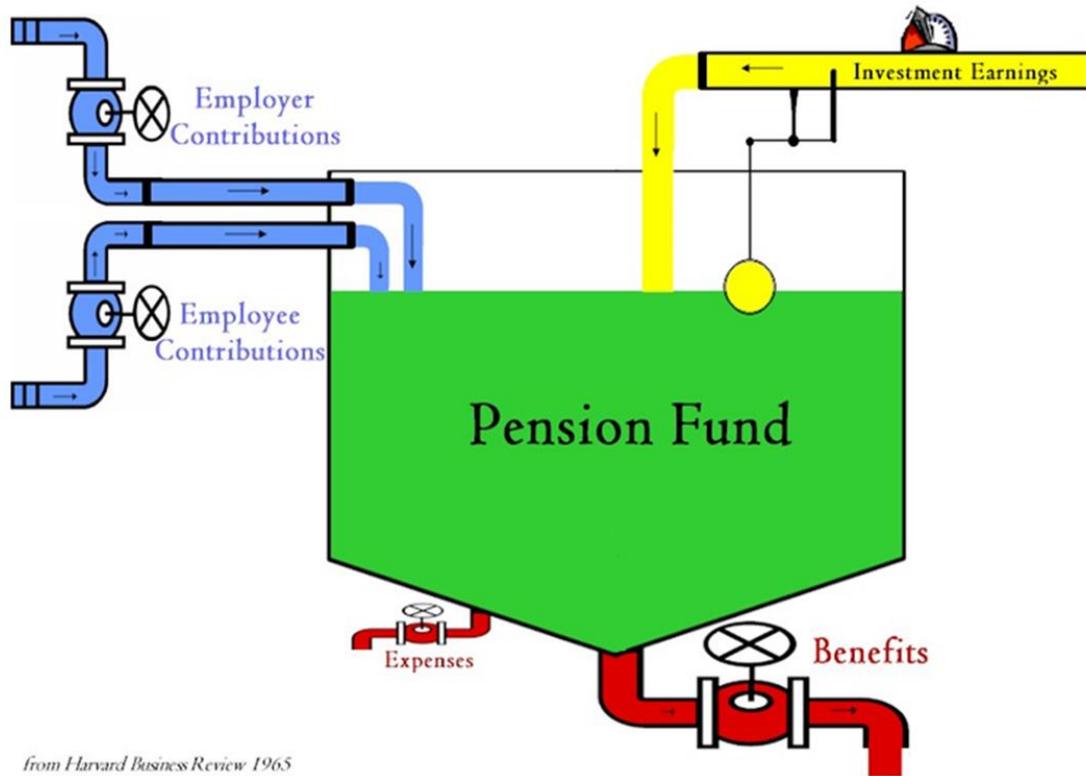
# Final Results



# A Dynamic System



Contributions + Investments =

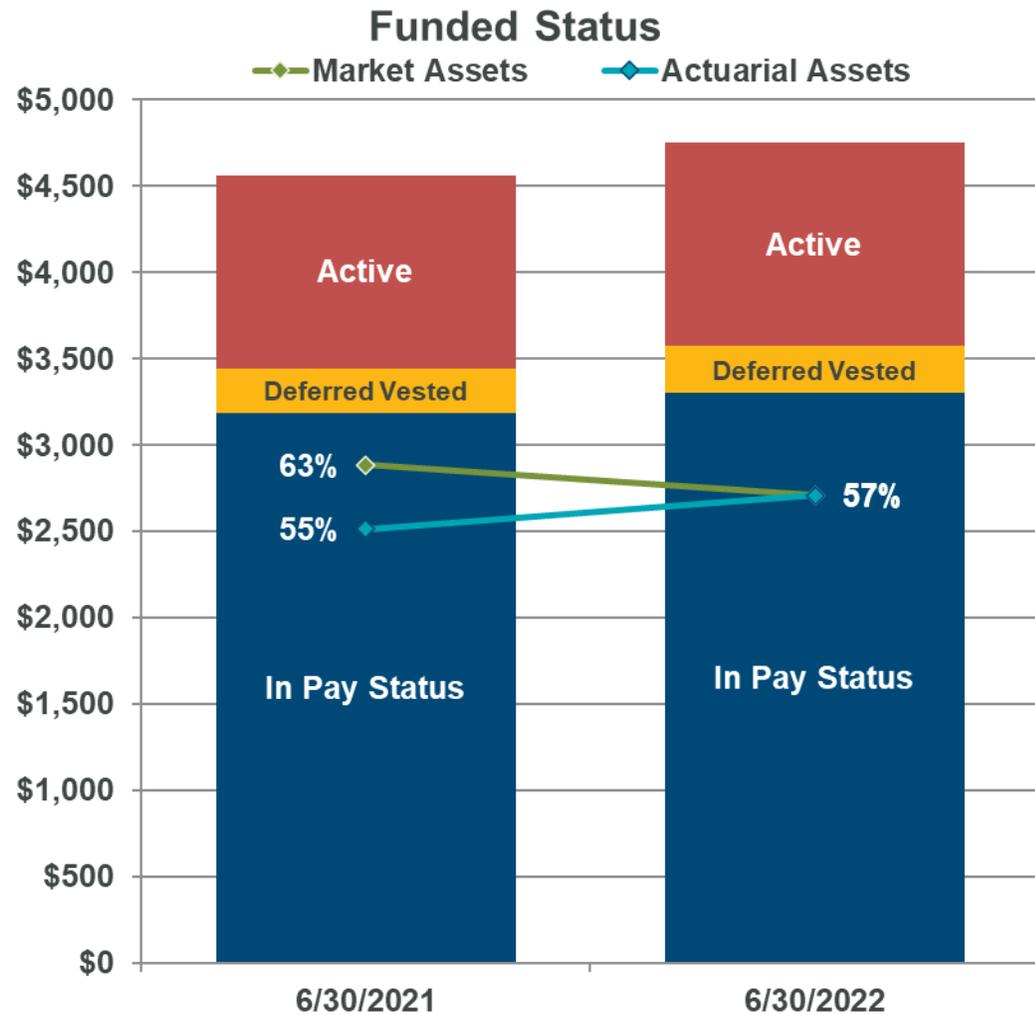


*from Harvard Business Review 1965*

Expenses + Benefits

- Primary purpose of valuation is to set member and City contributions
  - 2022 valuation develops contributions for FYE 2024
- Project future benefit payments
  - Plan provisions, census data, and actuarial assumptions
- Determine funding target
  - Actuarial cost method and assumptions
- Set member and City contributions
  - Plan provisions, actuarial methods, and discount rate

# Funded Status



## Funded Status By Tier

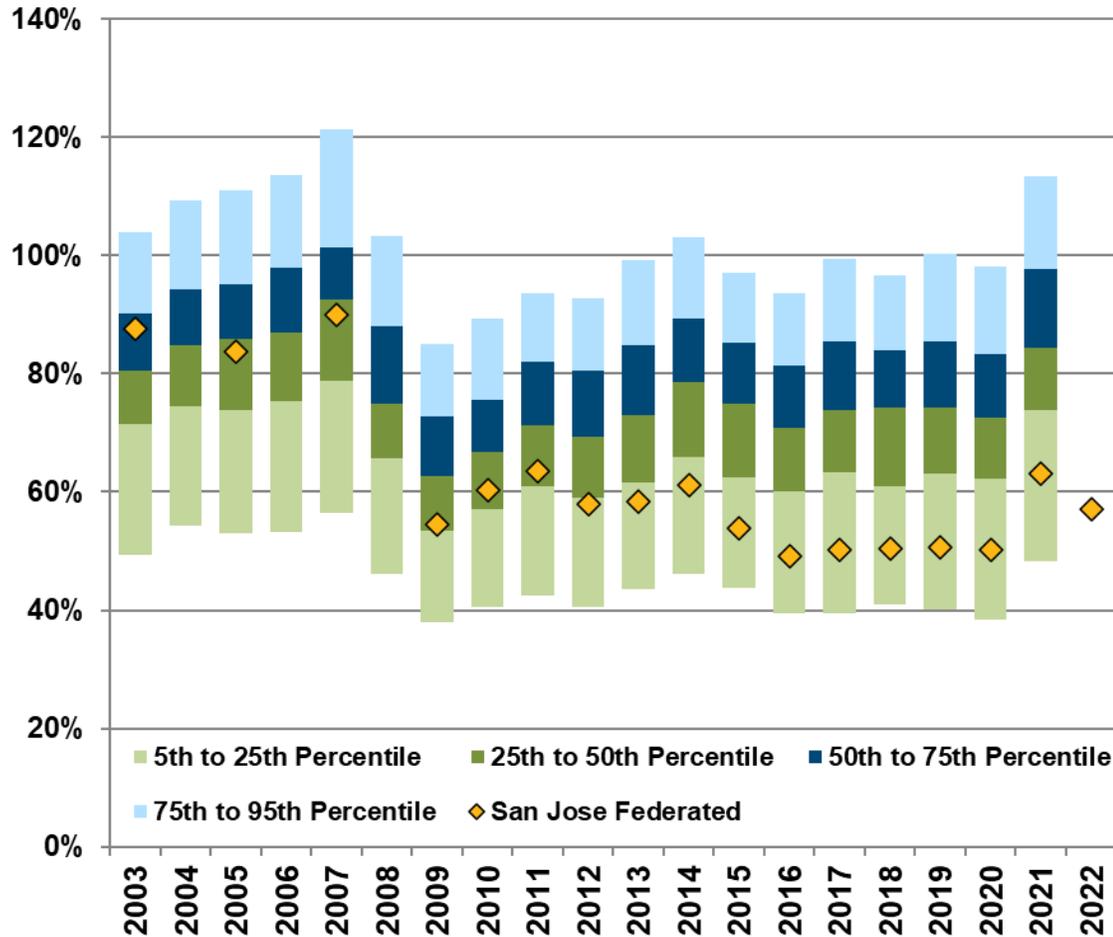
	6/30/2021	6/30/2022	Change
<b>Tier 1</b>			
Actuarial Liability	\$ 4,411.4	\$ 4,555.2	3.3%
AVA	<u>2,370.2</u>	<u>2,522.8</u>	6.4%
UAL-AVA Basis	2,041.2	2,032.4	-0.4%
AVA Funded Ratio	53.7%	55.4%	1.7%
MVA	<u>2,720.5</u>	<u>2,523.1</u>	-7.3%
UAL-MVA Basis	1,690.9	2,032.1	20.2%
MVA Funded Ratio	61.7%	55.4%	-6.3%
<b>Tier 2</b>			
Actuarial Liability	\$ 151.6	\$ 195.5	29.0%
AVA	<u>142.9</u>	<u>186.8</u>	30.8%
UAL-AVA Basis	8.7	8.6	-0.5%
AVA Funded Ratio	94.3%	95.6%	1.3%
MVA	<u>163.8</u>	<u>184.9</u>	12.9%
UAL-MVA Basis	(12.3)	10.6	-186.2%
MVA Funded Ratio	108.1%	94.6%	-13.5%

Amounts in millions

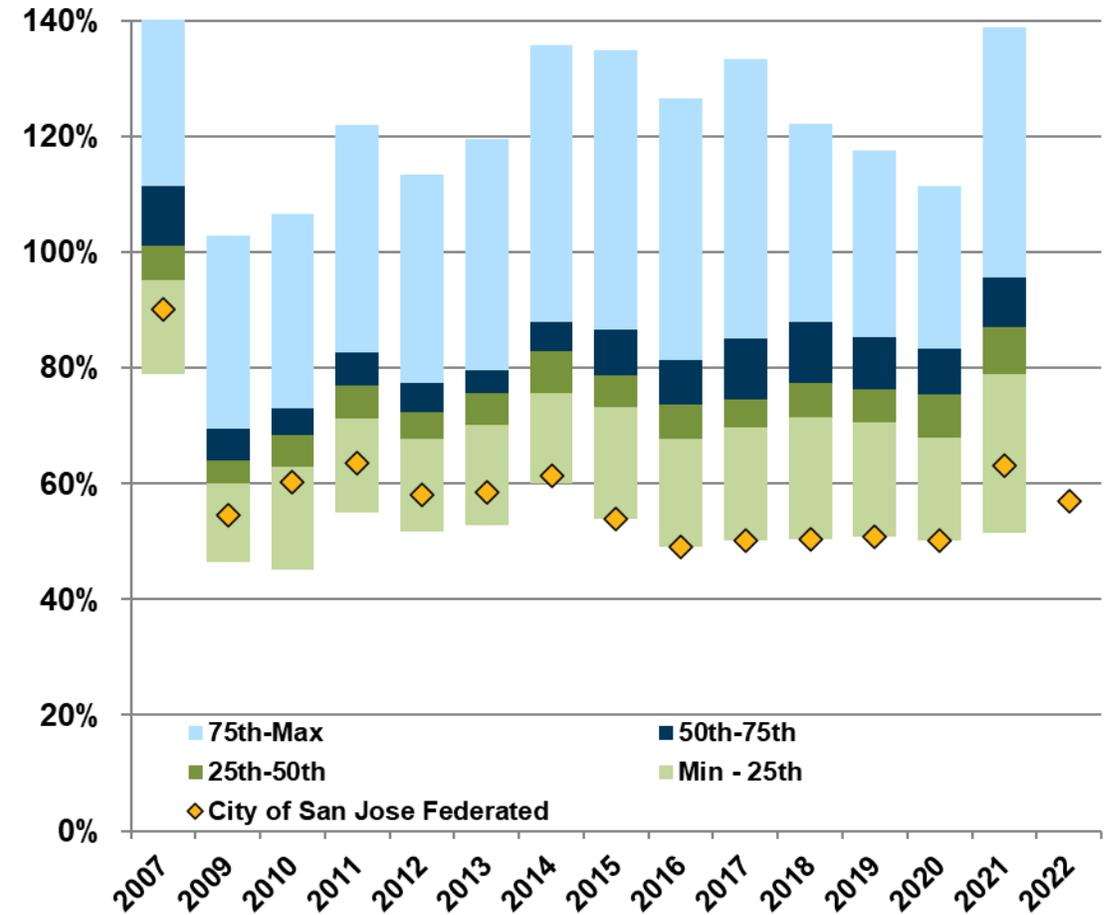
# Comparison of Market Funded Ratio



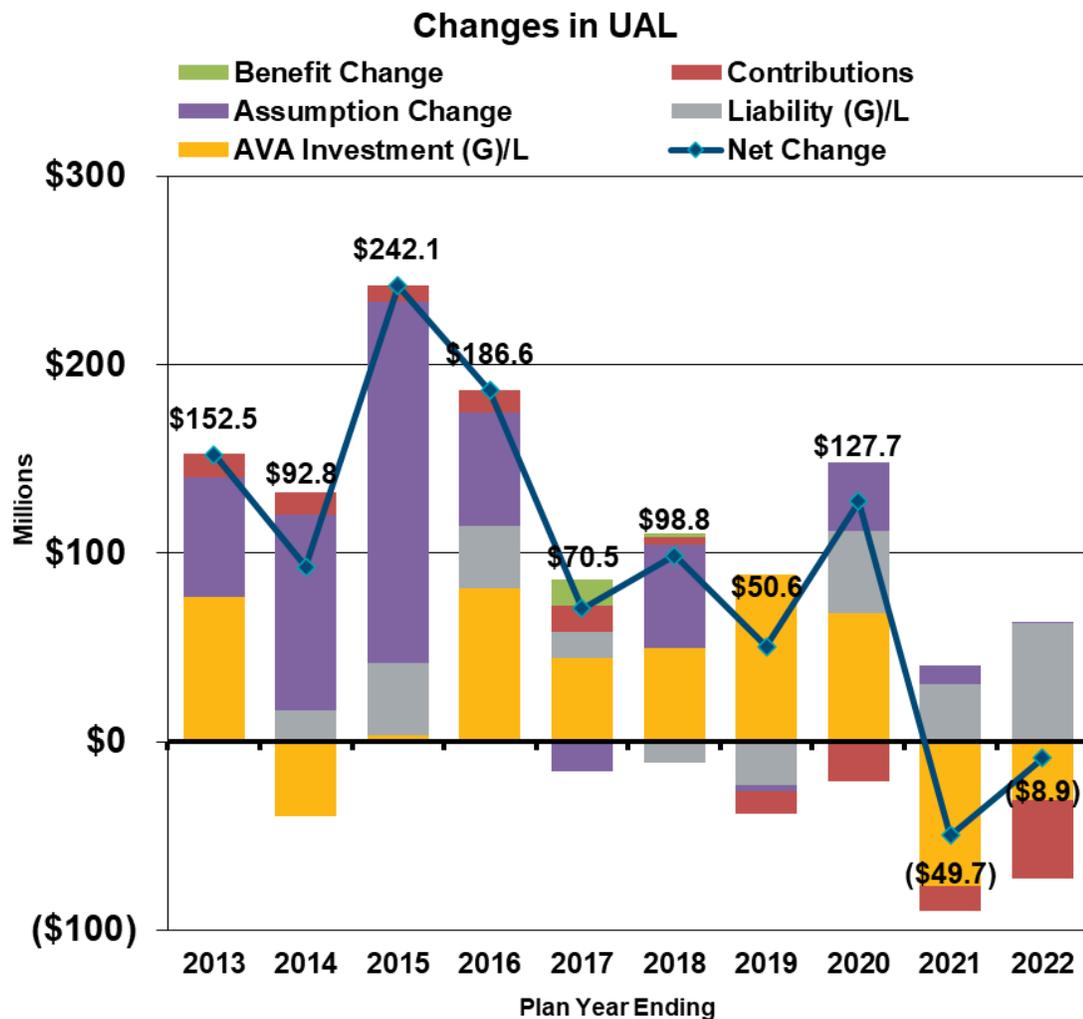
**MVA Funded Ratio**  
Survey Data from Public Plans Data as of 11/16/2022



**Funded Status - Market Value of Assets**  
Cheiron Survey of California Systems



# Historical Changes in UAL

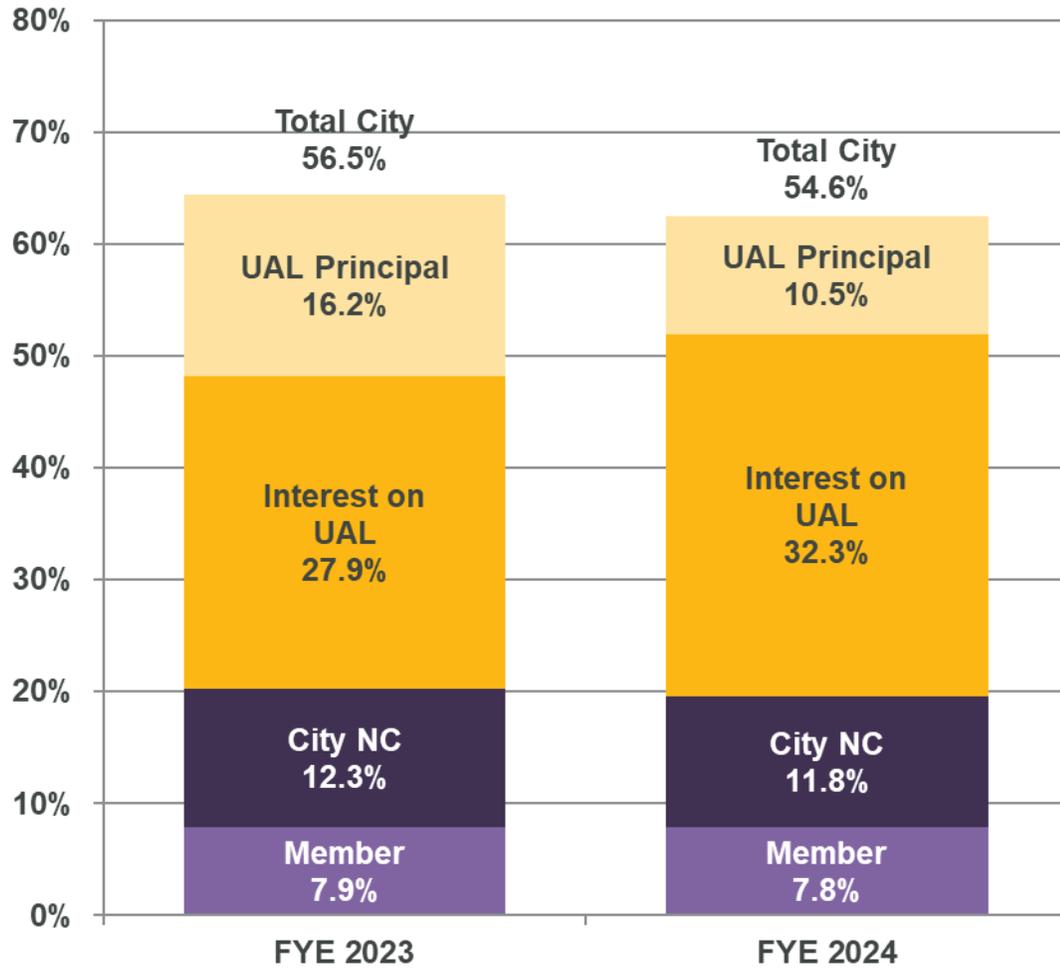


- The UAL has increased in 8 of the last 10 years for a total increase of \$963 million
  - \$502 million due to assumption changes
  - \$266 million due to investment returns on actuarial value
  - \$204 million due to liability experience
  - \$16 million due to benefit changes
  - \$(25) million due to contributions greater than the tread water amount

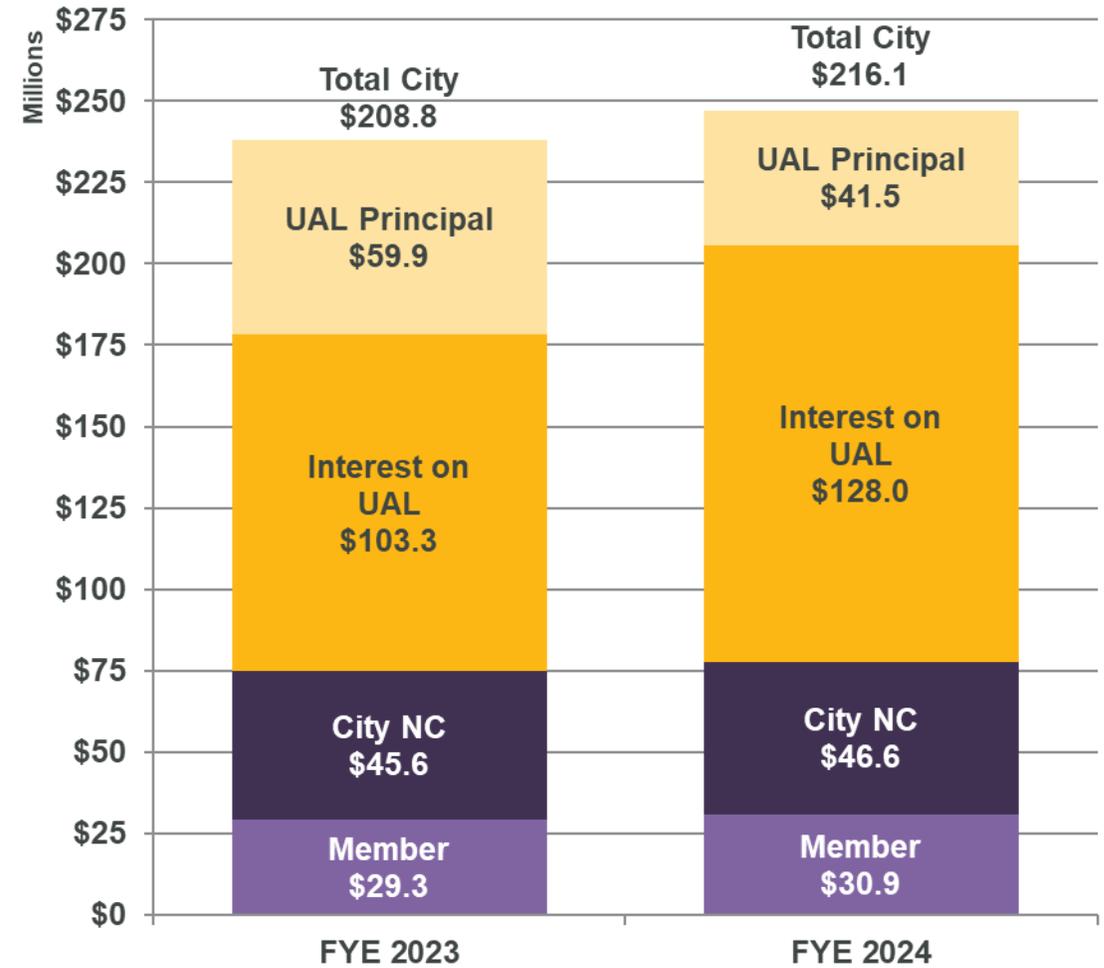
# Final FYE 2024 Contributions



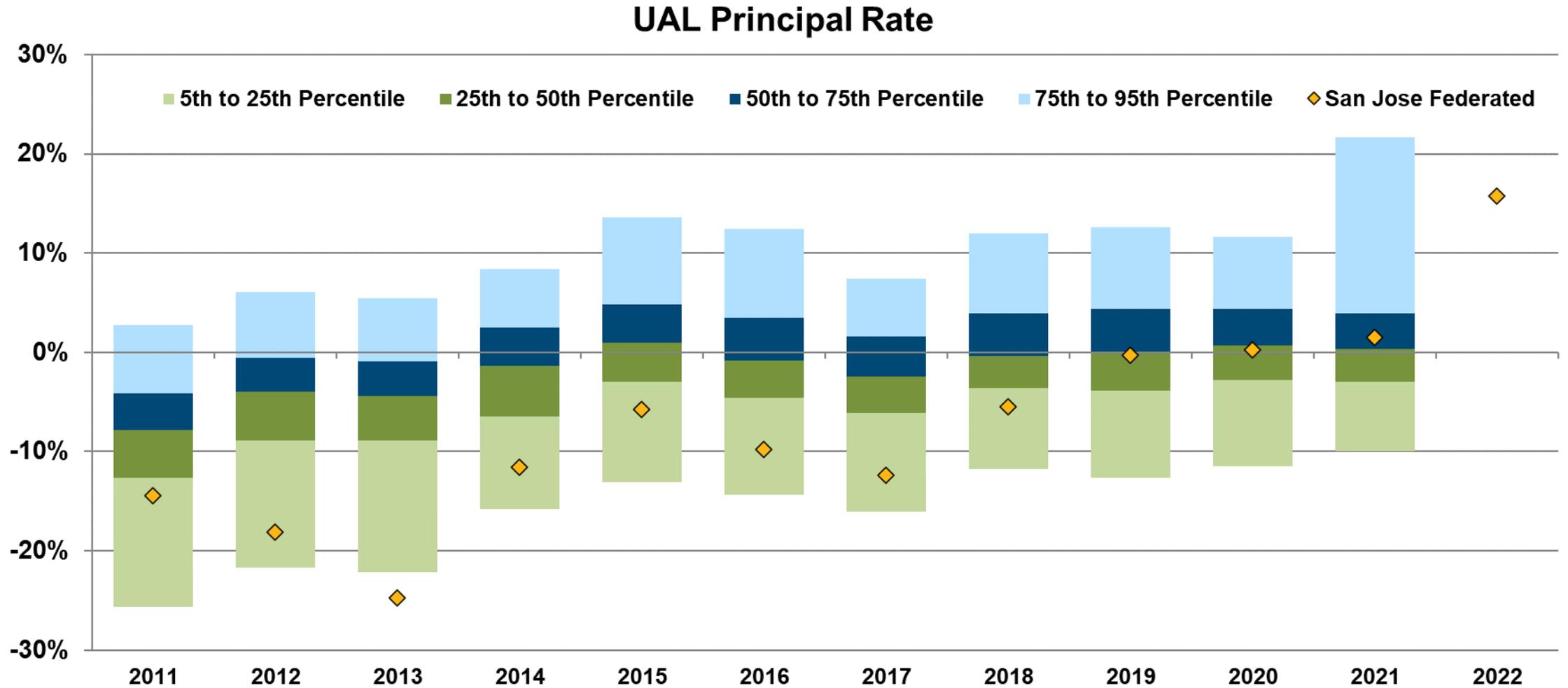
### Contribution Rates



### Contribution Amounts



# Historical UAL Principal Rates

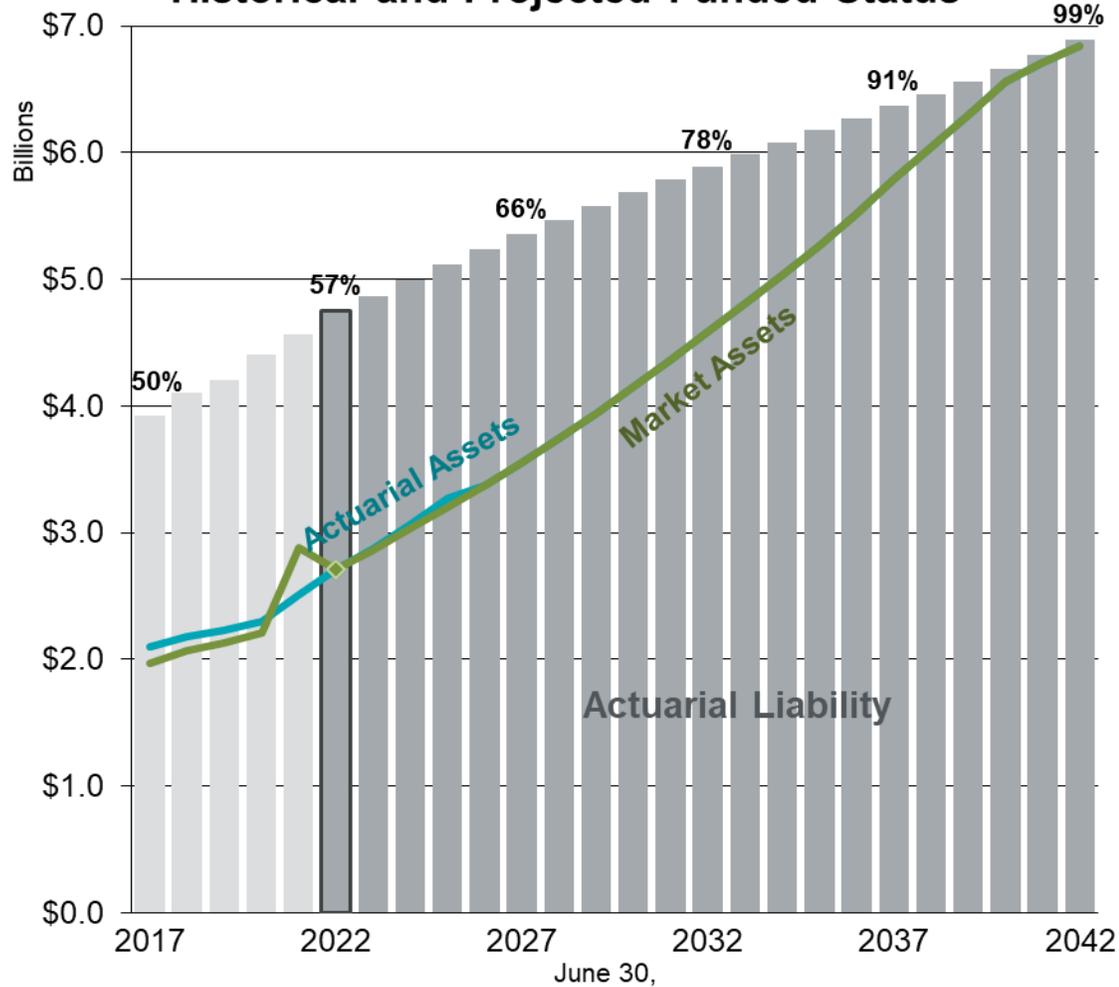


Survey Data from Public Plans Data as of 11/16/2022

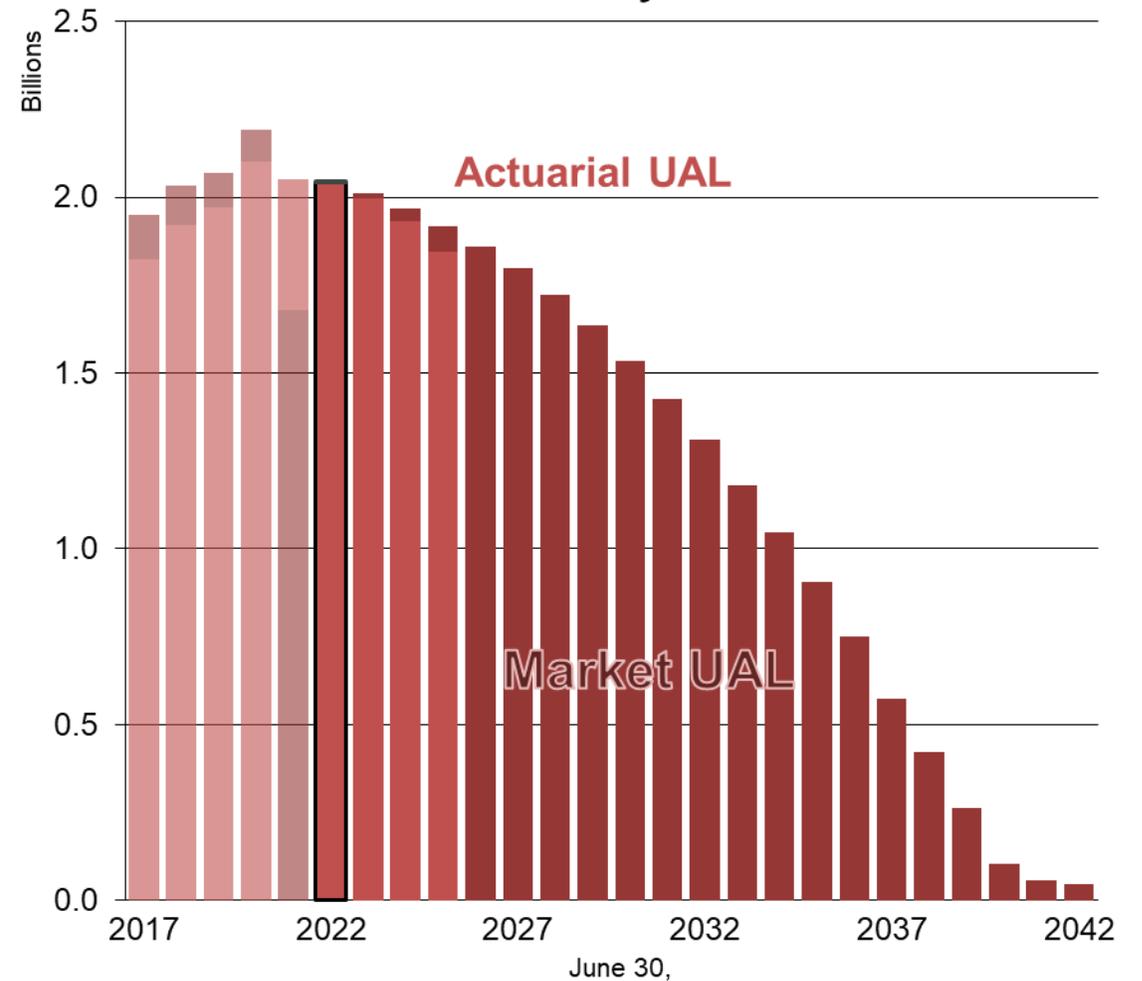
# Baseline Projections – Funded Status and UAL



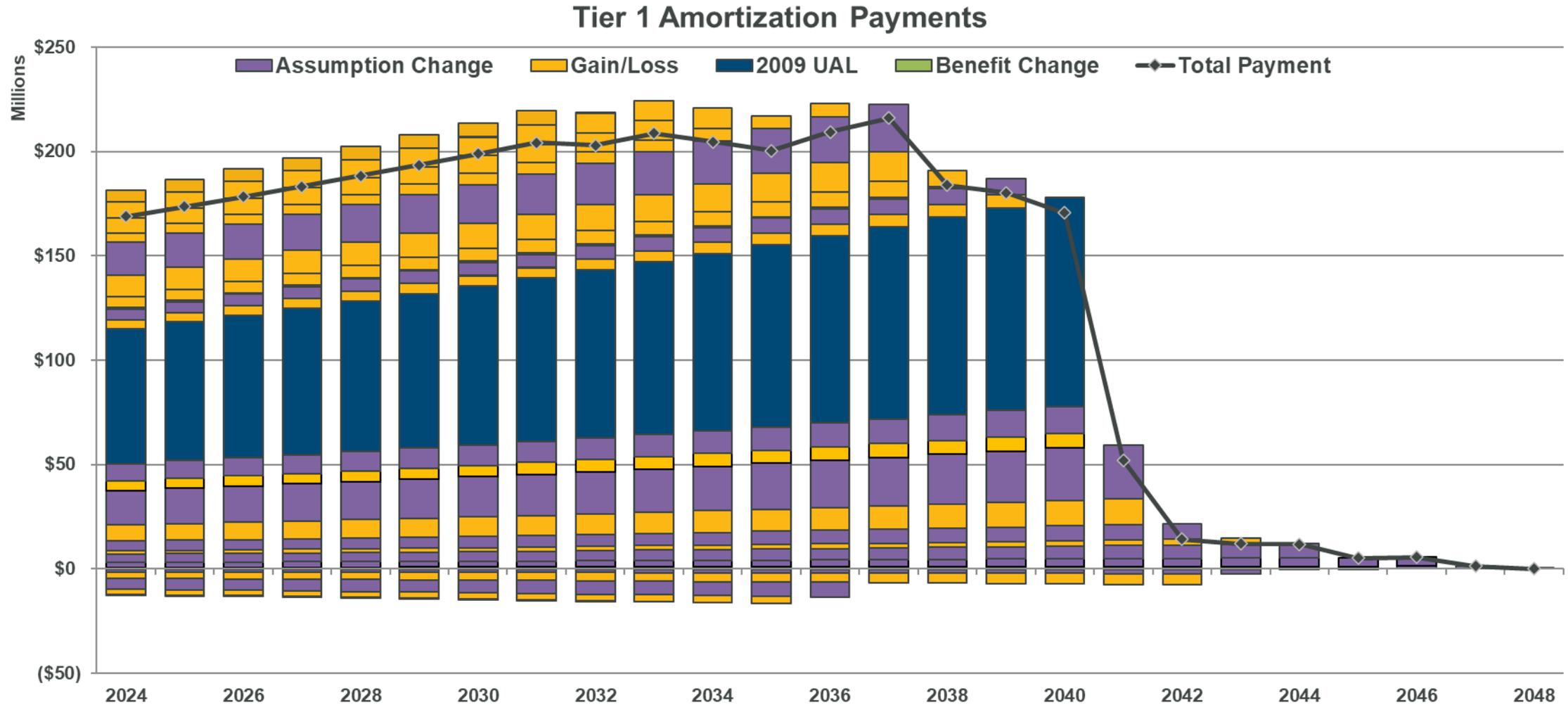
### Historical and Projected Funded Status



### Historical and Projected UAL



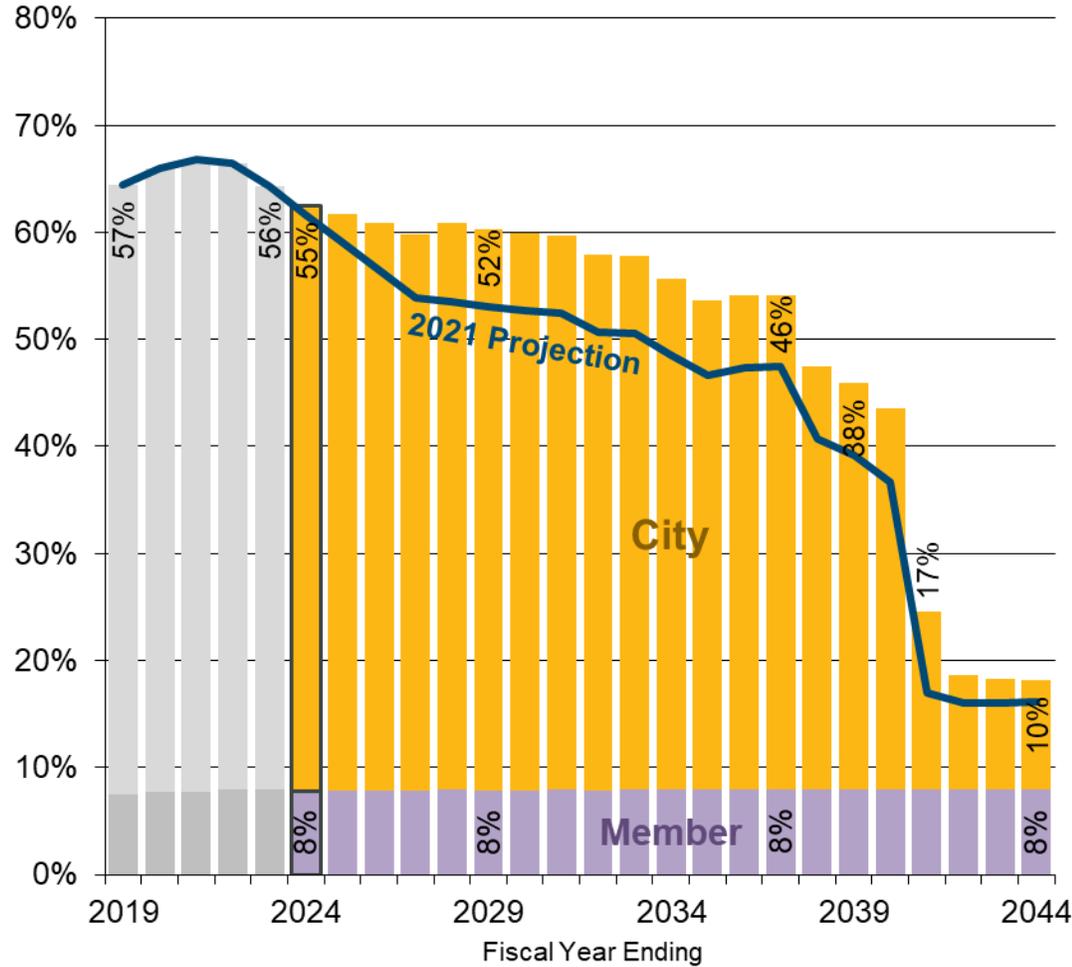
# Schedule of Tier 1 Amortization Payments



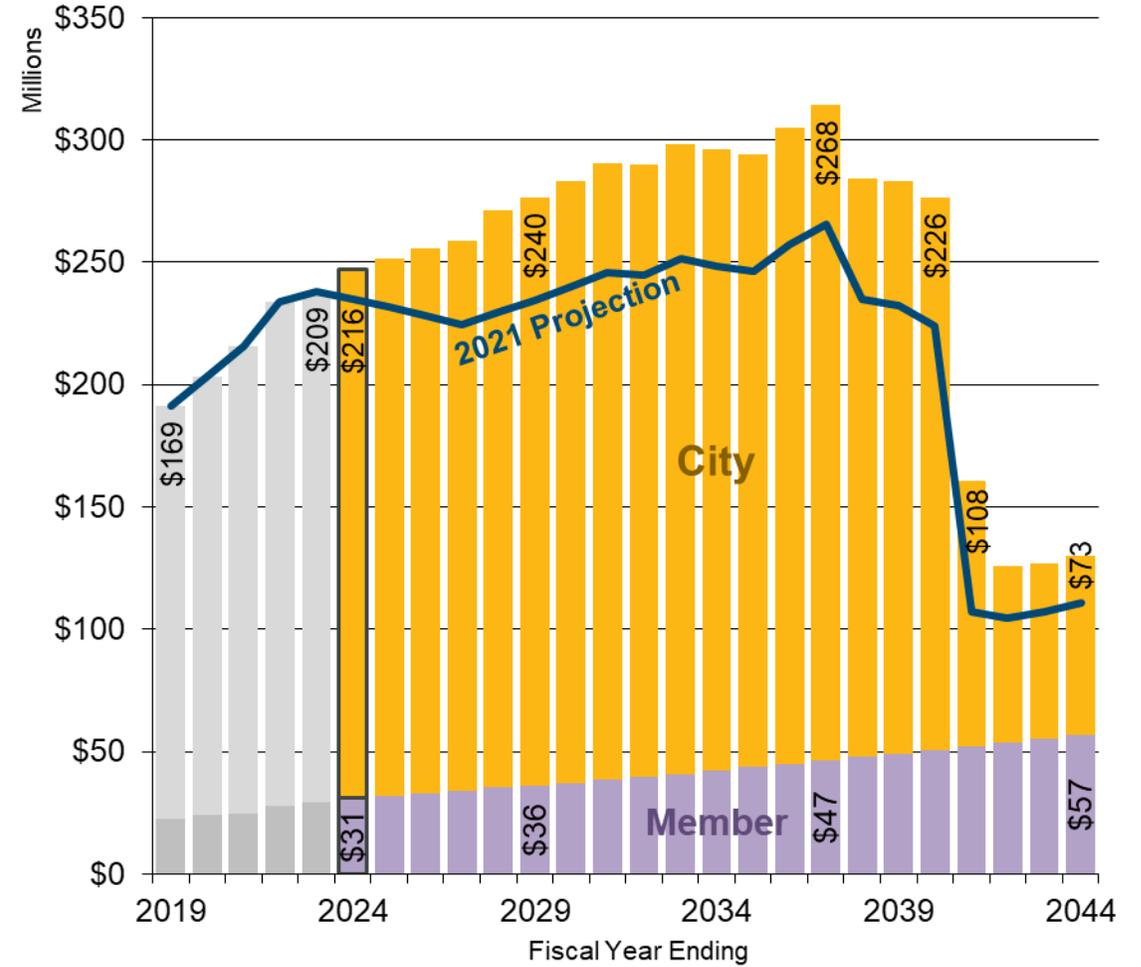
# Baseline Projections – Contributions



### Historical and Projected Contribution Rates



### Historical and Projected Contribution Amounts



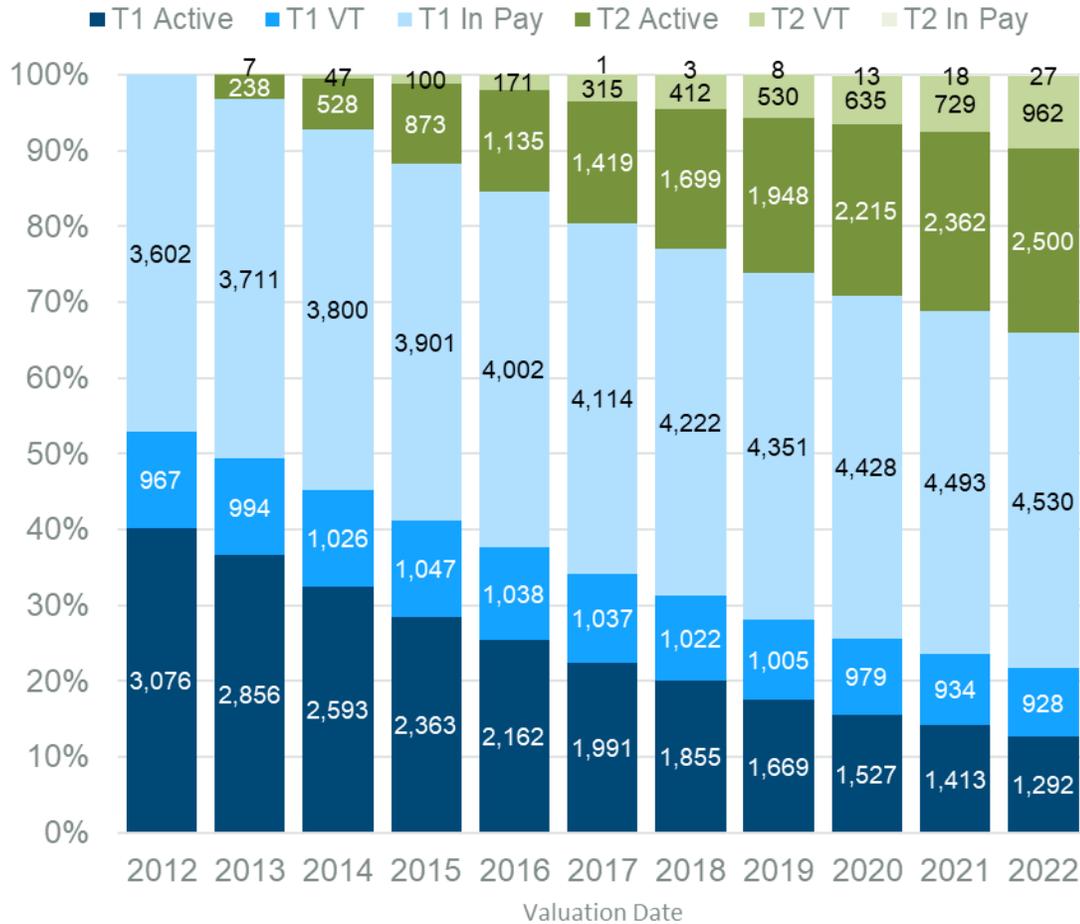


# Tier 1 vs. Tier 2

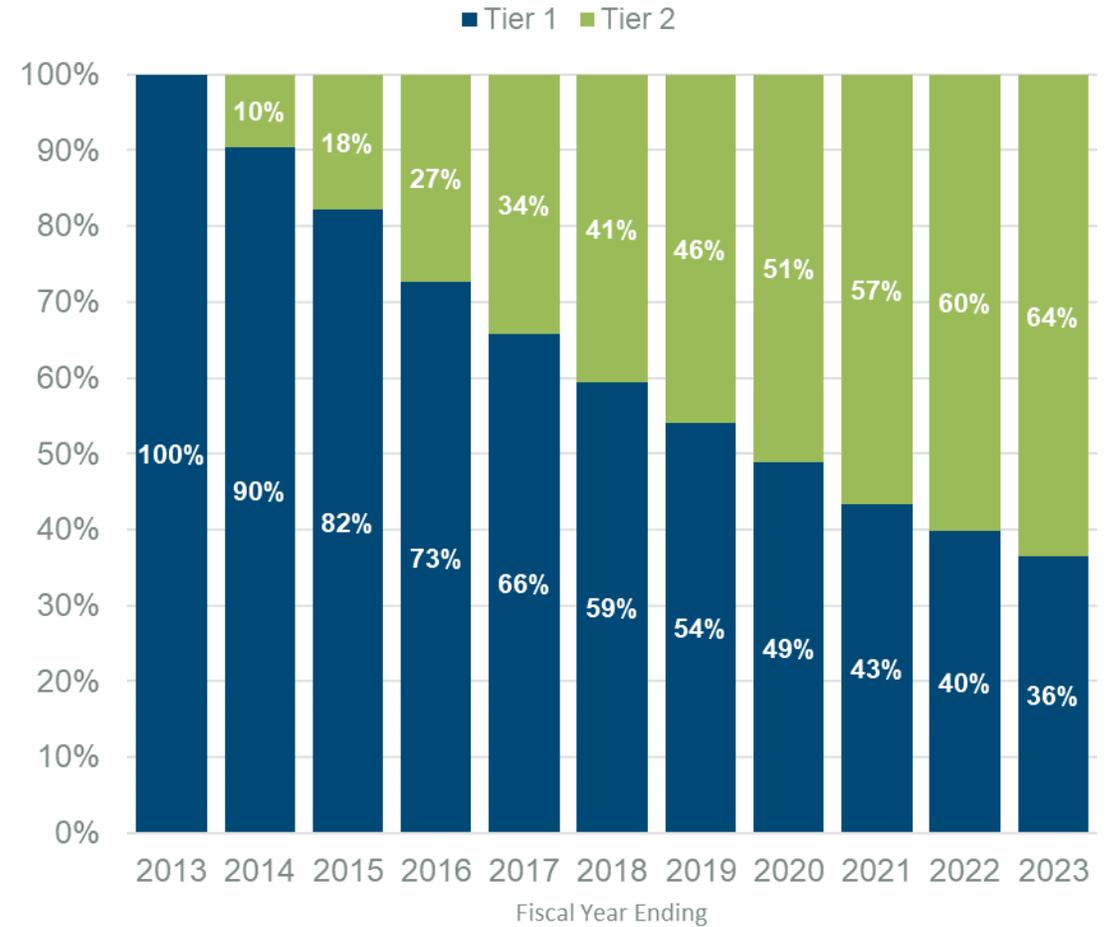
# Tier 1 vs. Tier 2



## Member Counts



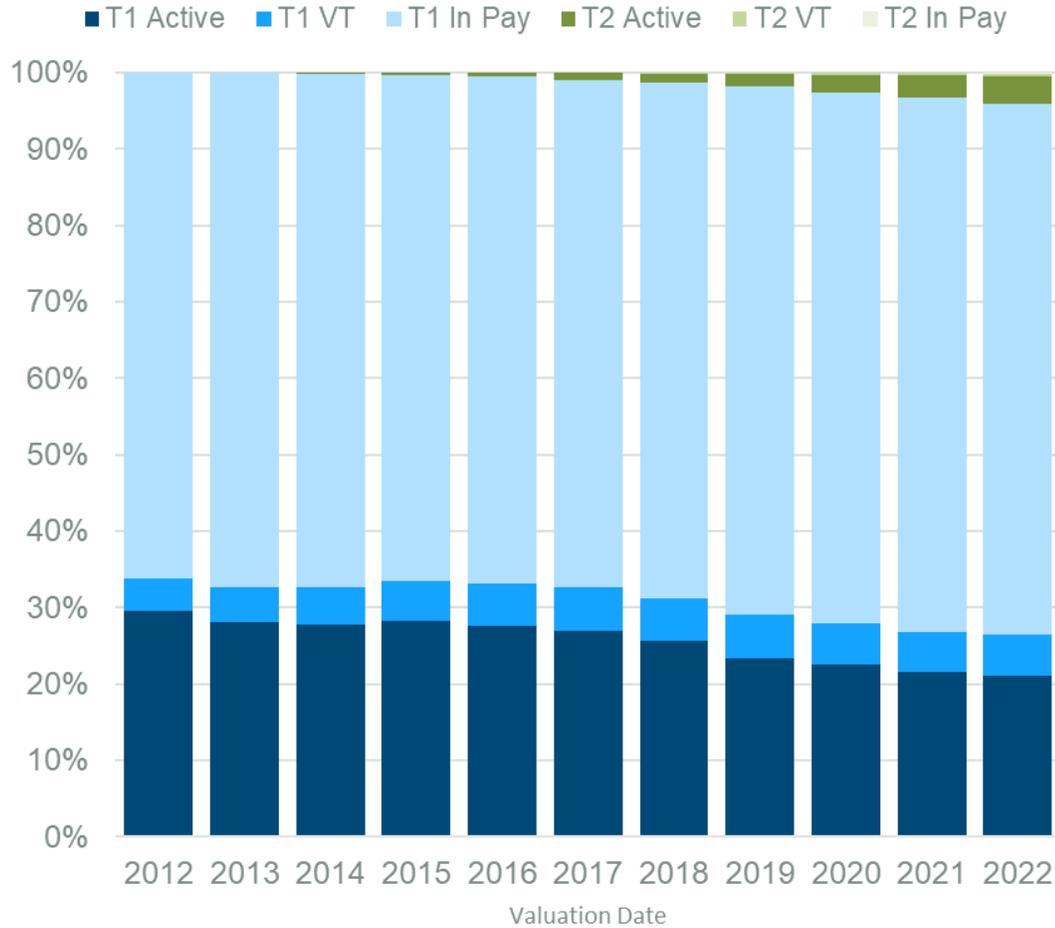
## Expected Active Member Payroll



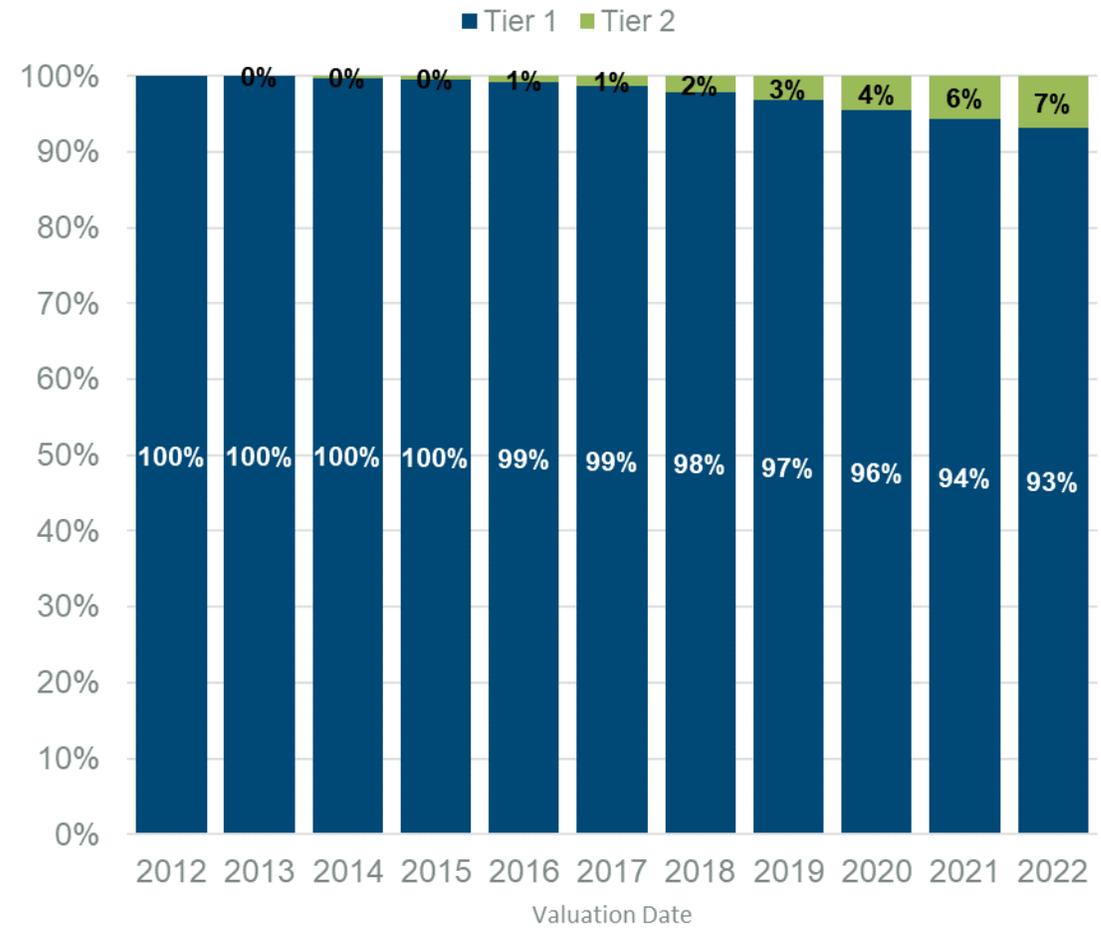
# Tier 1 vs. Tier 2



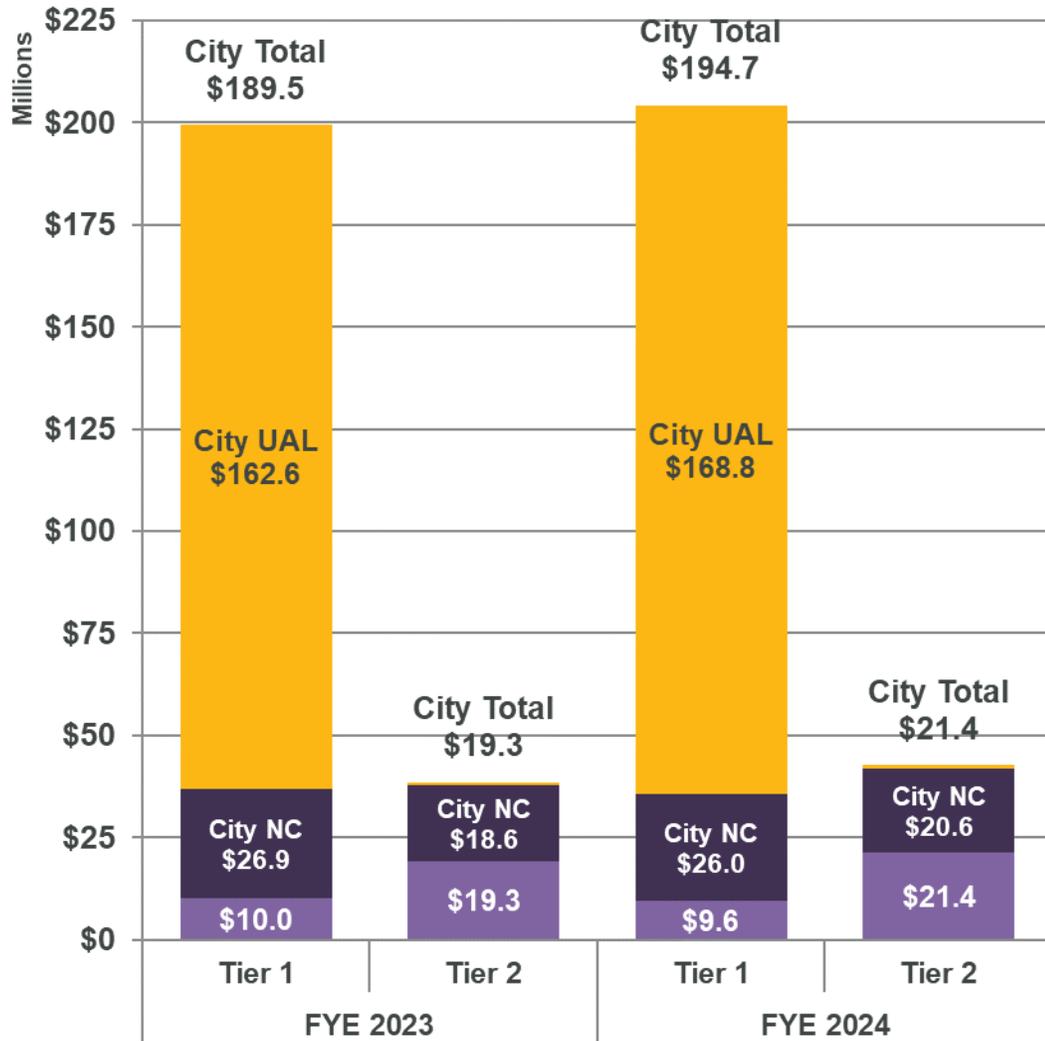
### Actuarial Liability



### Actuarial Assets



# Tier 1 vs. Tier 2 Contributions



- Tier 1
  - Member rate (excluding reclassification rates) decreased slightly to 7.34%
  - City normal cost contributions declining slightly as Tier 1 members retire
  - Tier 1 City UAL payments increased about \$6.2 million
- Tier 2
  - City and member contribution amounts increased about \$2.1 million each, reflecting the growth of Tier 2
  - City and member contribution rates decrease from 8.13% in FYE 2023 to 8.01% in FYE 2024

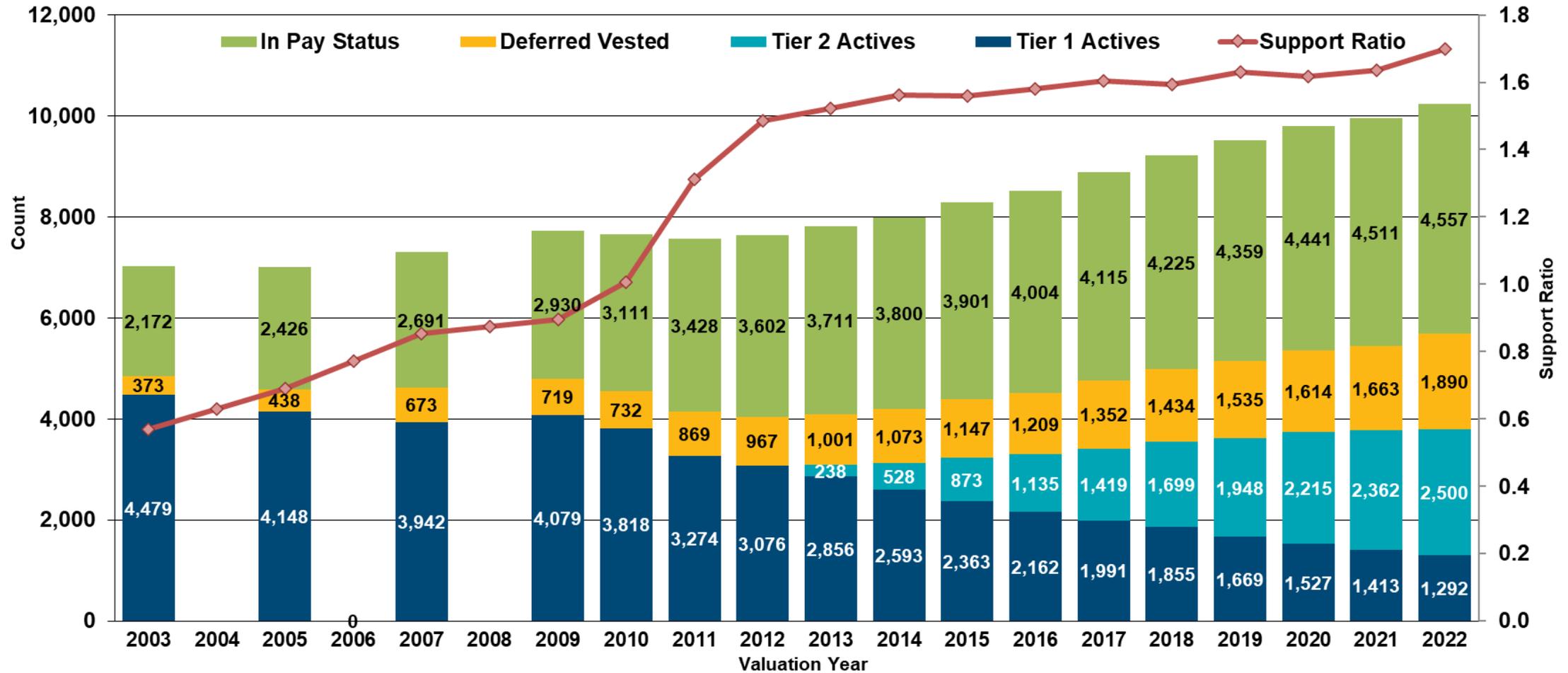


# Mature Pension Plans Are More Sensitive to Risk

# Membership Trends



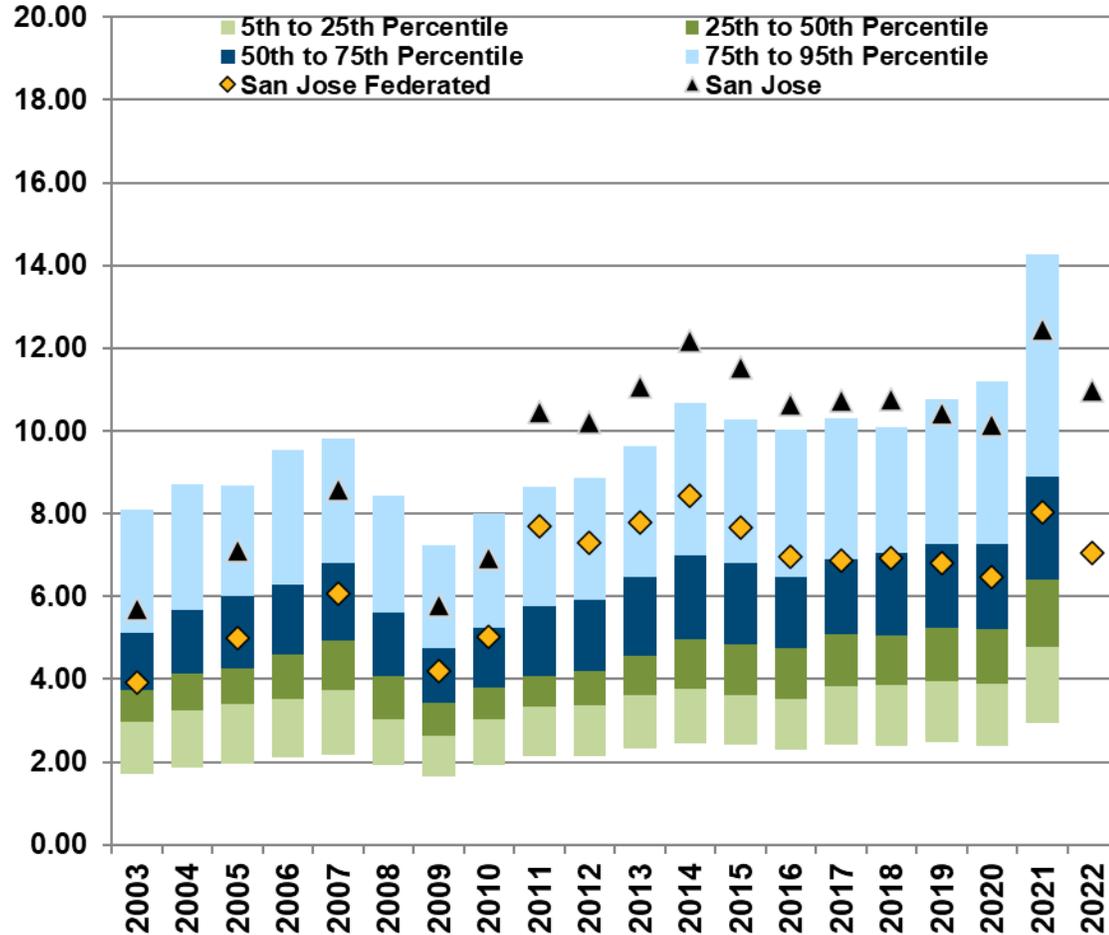
## Federated Historical Membership Counts



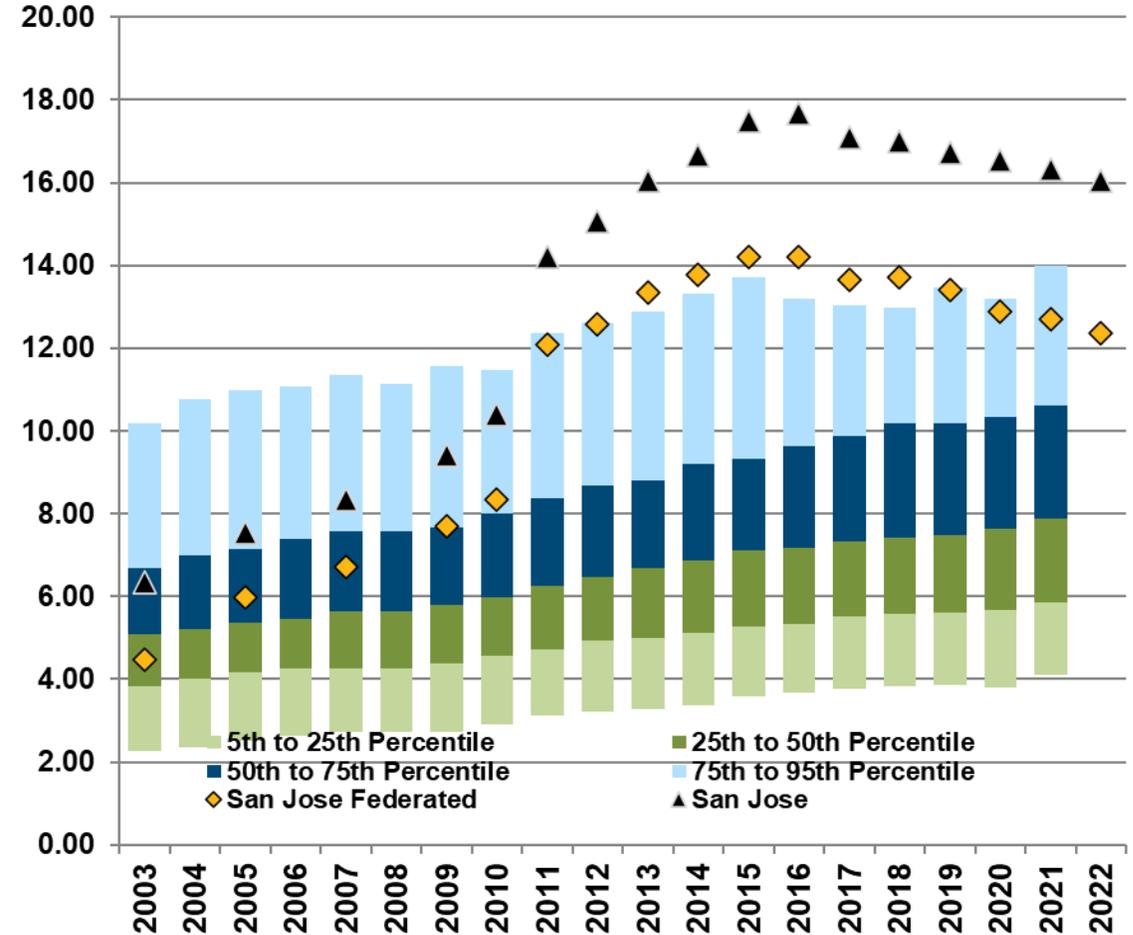
# Leverage Ratios



**Asset Leverage Ratio**  
Survey Data from Public Plans Data as of 11/16/2022



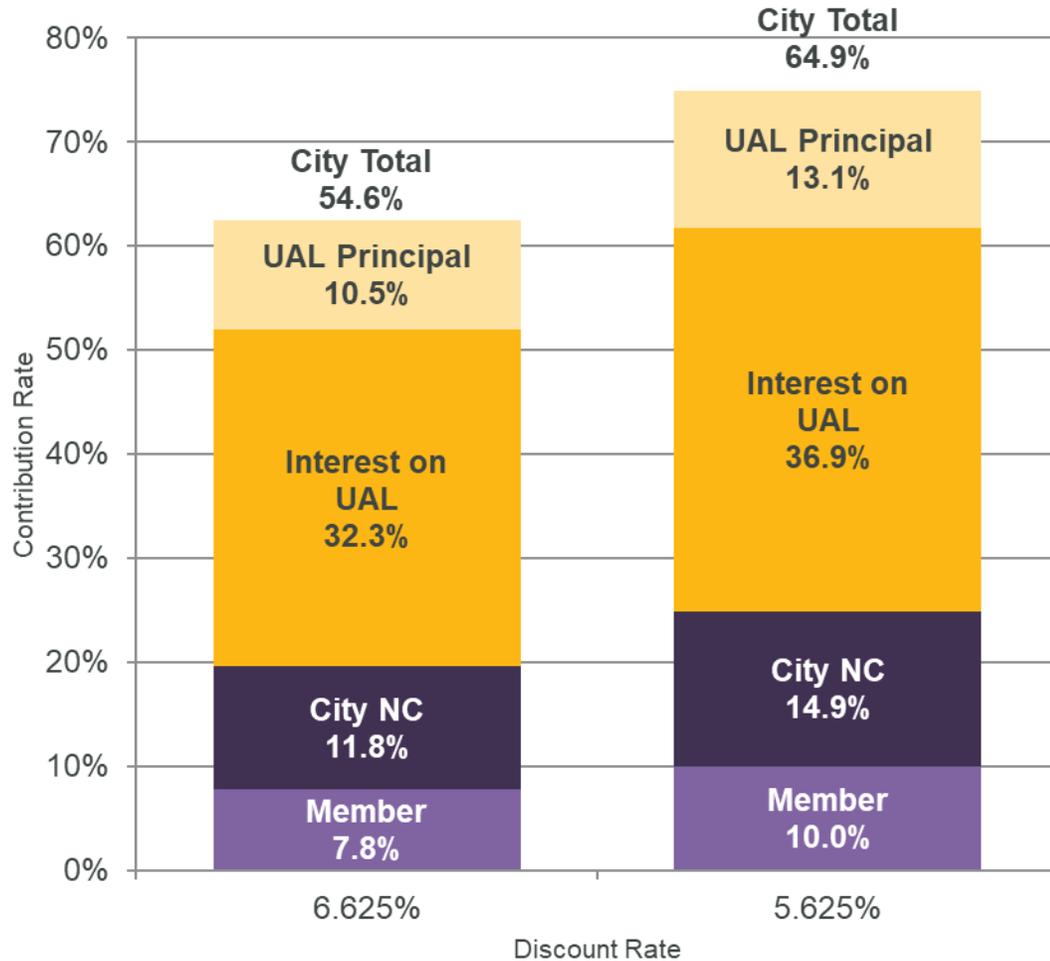
**Liability Leverage Ratio**  
Survey Data from Public Plans Data as of 11/16/2022



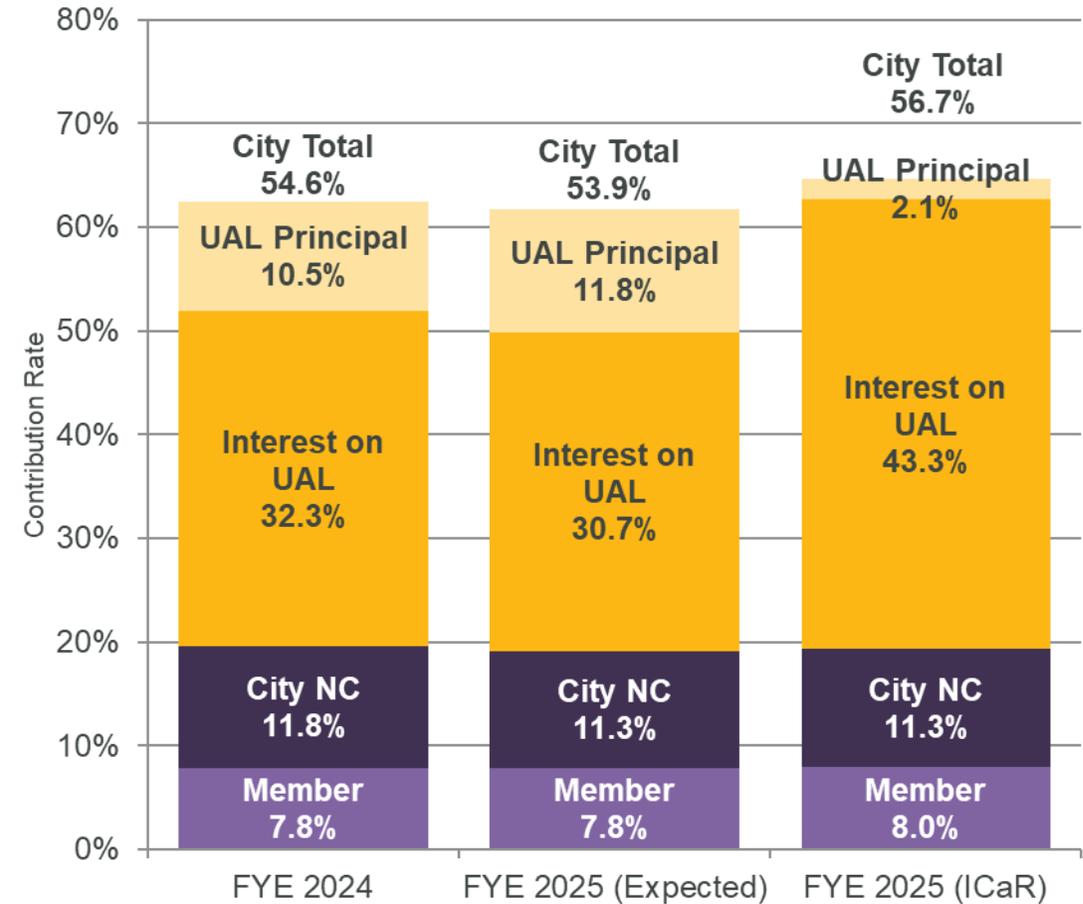
# Illustration of Sensitivity



## Discount Rate Change Impact



## Interest Cost at Risk



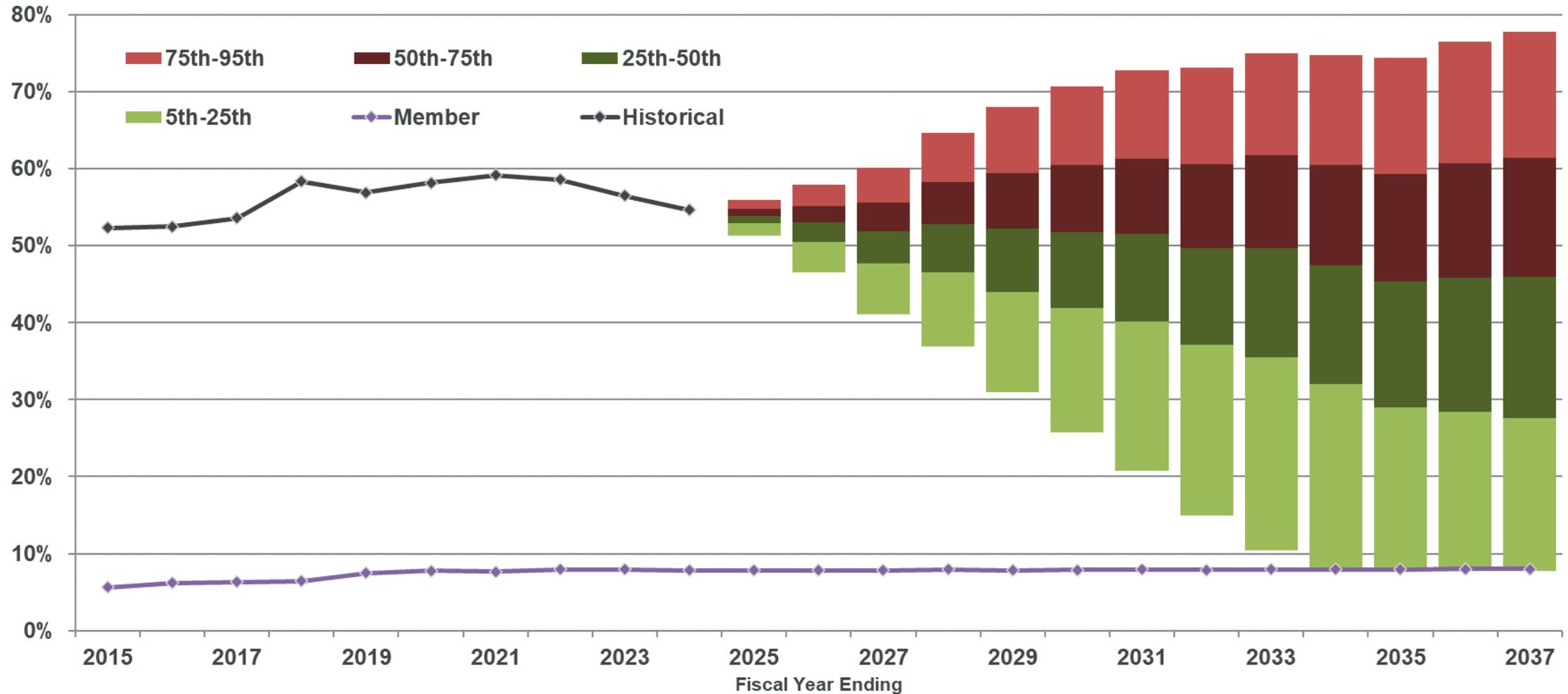
# Projection Scenarios



# Stochastic Contributions – Contribution Rates



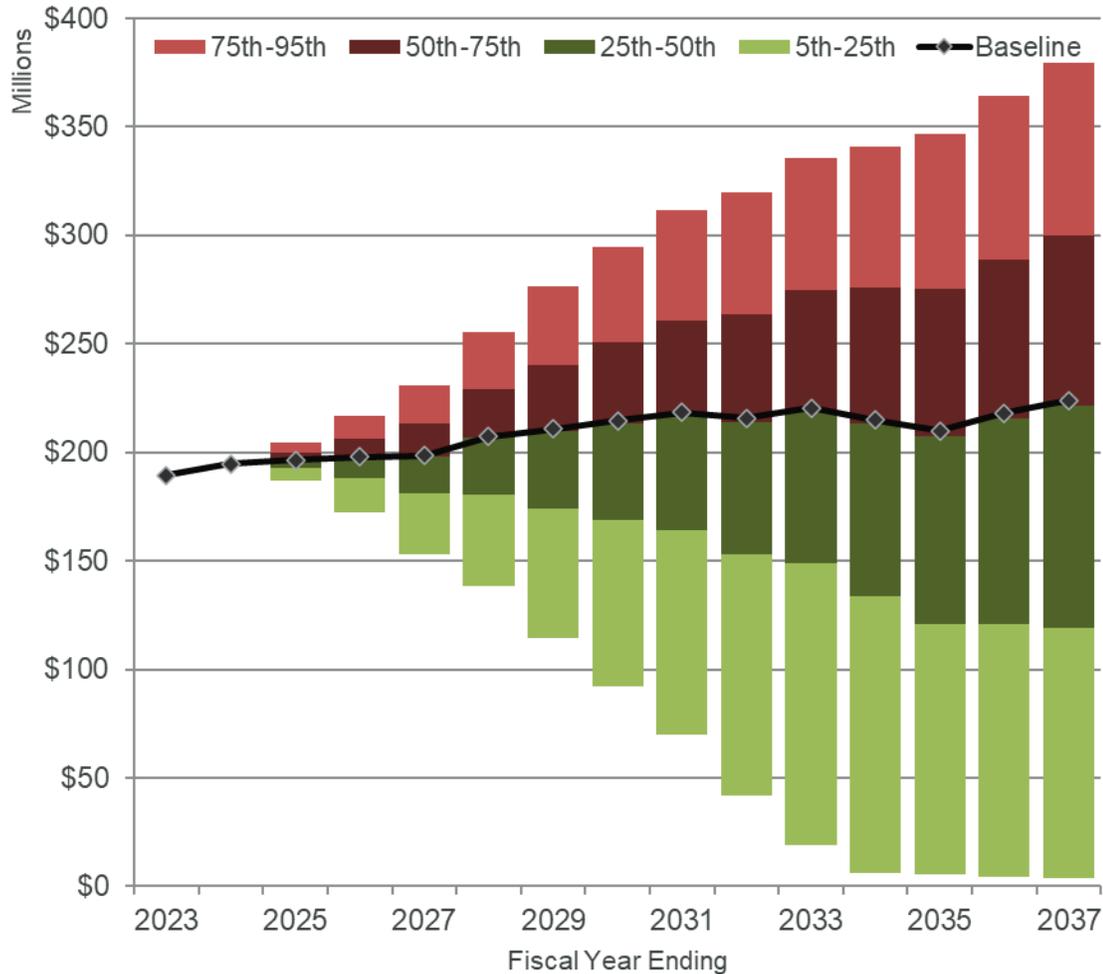
## Historical and Projected City Contribution Rates



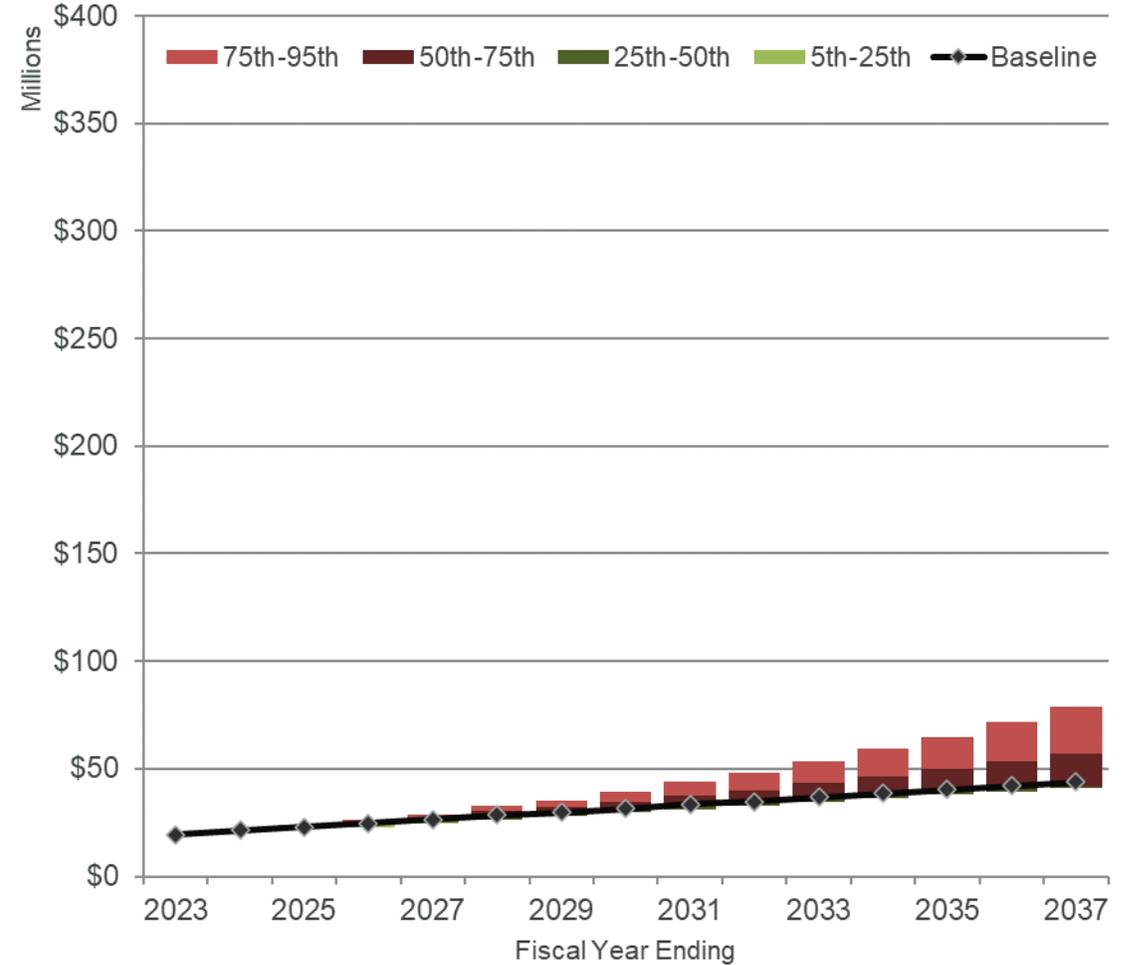
# Stochastic Projections – Contributions by Tier



### Projected Tier 1 City Contribution Amounts



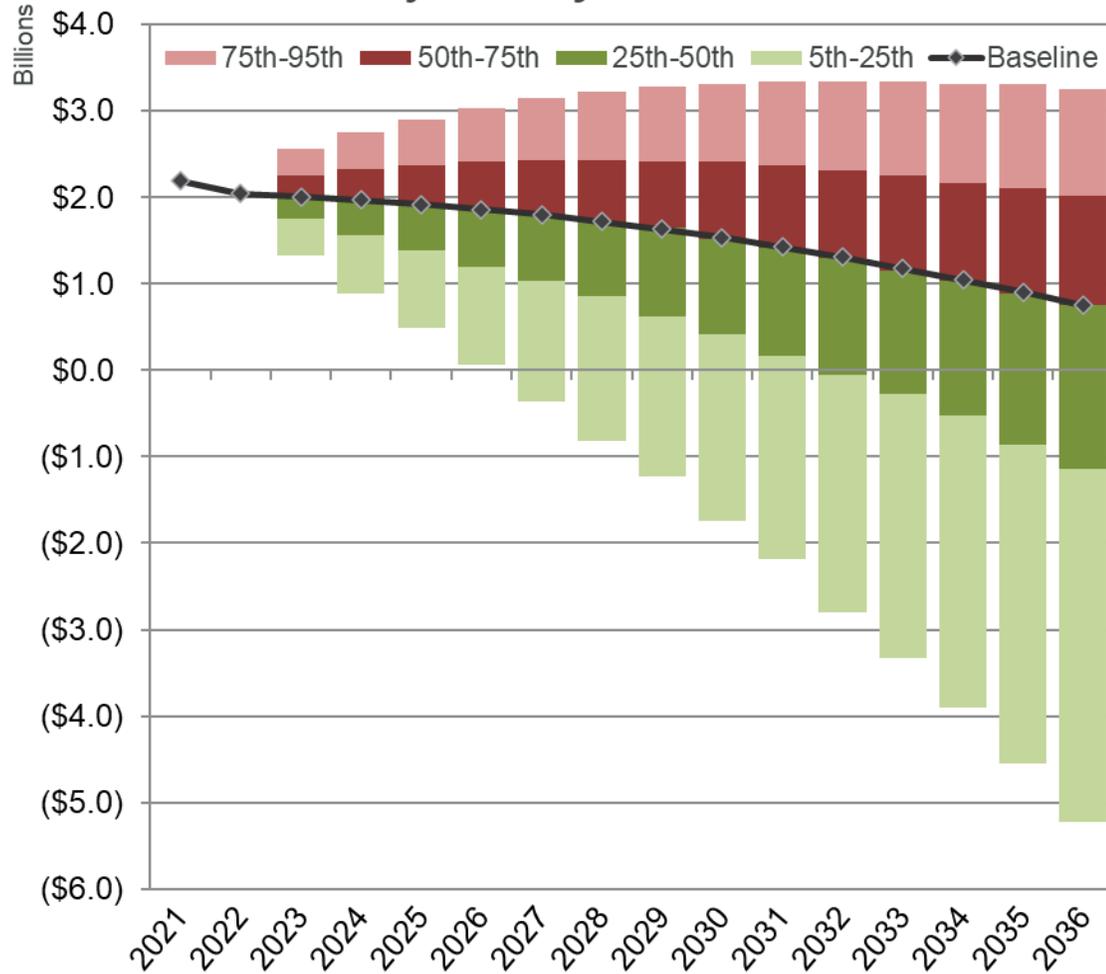
### Projected Tier 2 City Contribution Amounts



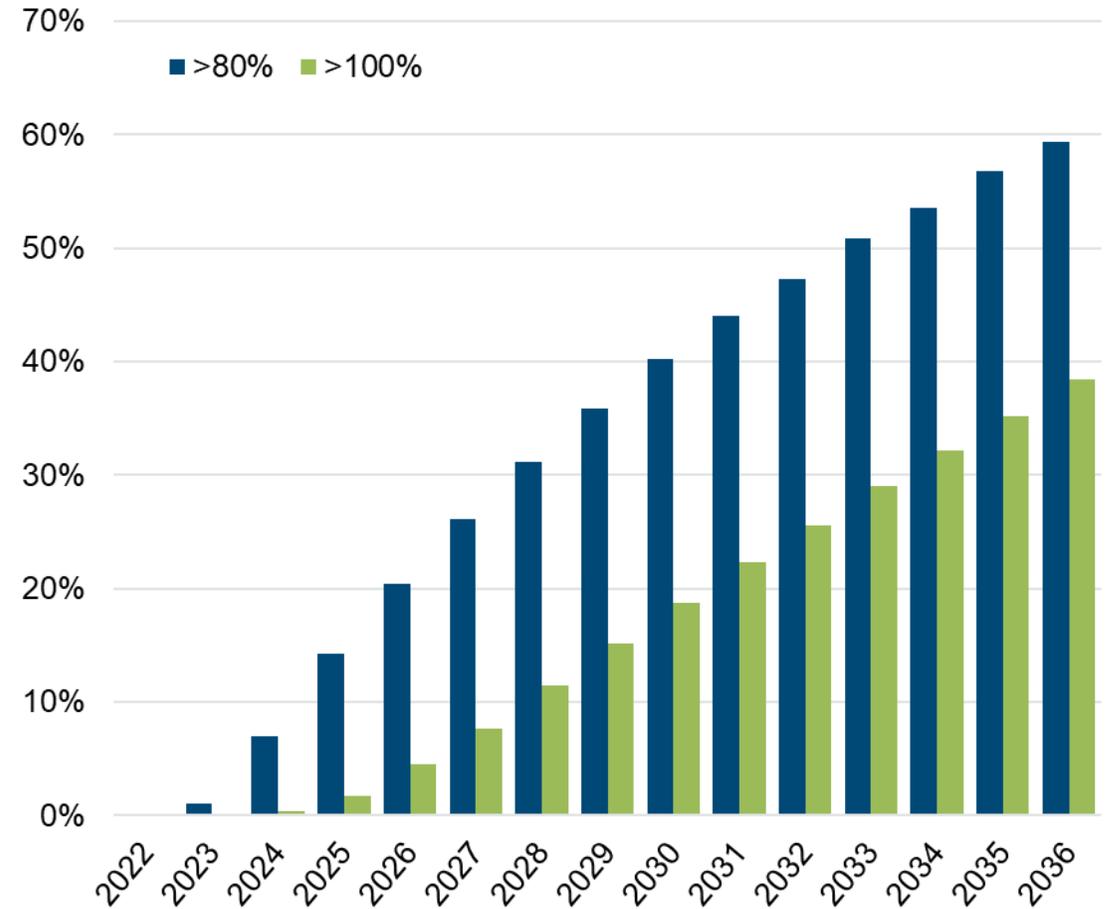
# Stochastic Projections – UAL and Funded Ratio



### Projected System UAL



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



# 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

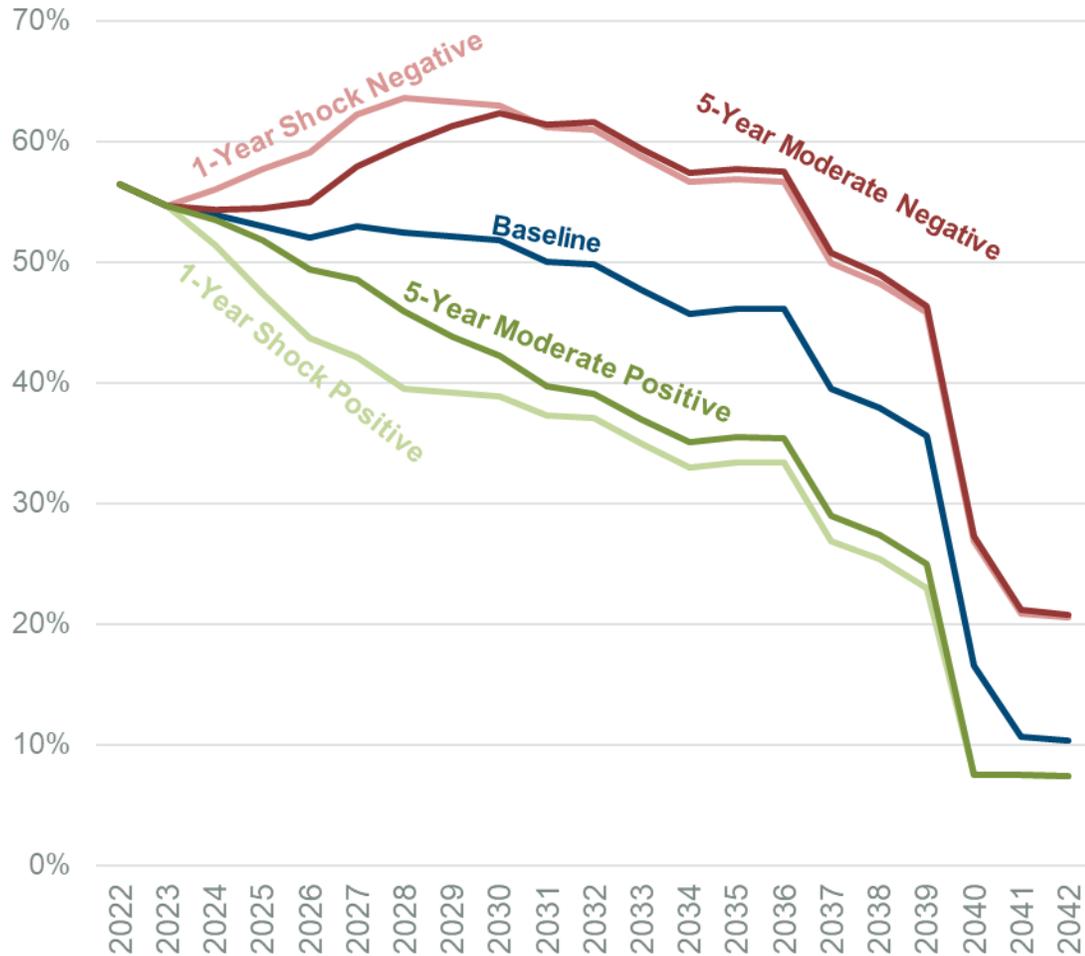
Annual Average Investment Return		
Percentile	1 Year	5 Years
95 <sup>th</sup>	31.7%	16.9%
75 <sup>th</sup>	16.0%	10.4%
25 <sup>th</sup>	-2.9%	2.0%
5 <sup>th</sup>	-14.5%	-3.6%

Deterministic Scenarios				
FYE	1-Year Shock		5-Year Moderate	
2022	-14.5%	31.7%	2.0%	10.4%
2023	6.625%	6.625%	2.0%	10.4%
2024	6.625%	6.625%	2.0%	10.4%
2025	6.625%	6.625%	2.0%	10.4%
2026	6.625%	6.625%	2.0%	10.4%
2027+	6.625%	6.625%	6.625%	6.625%

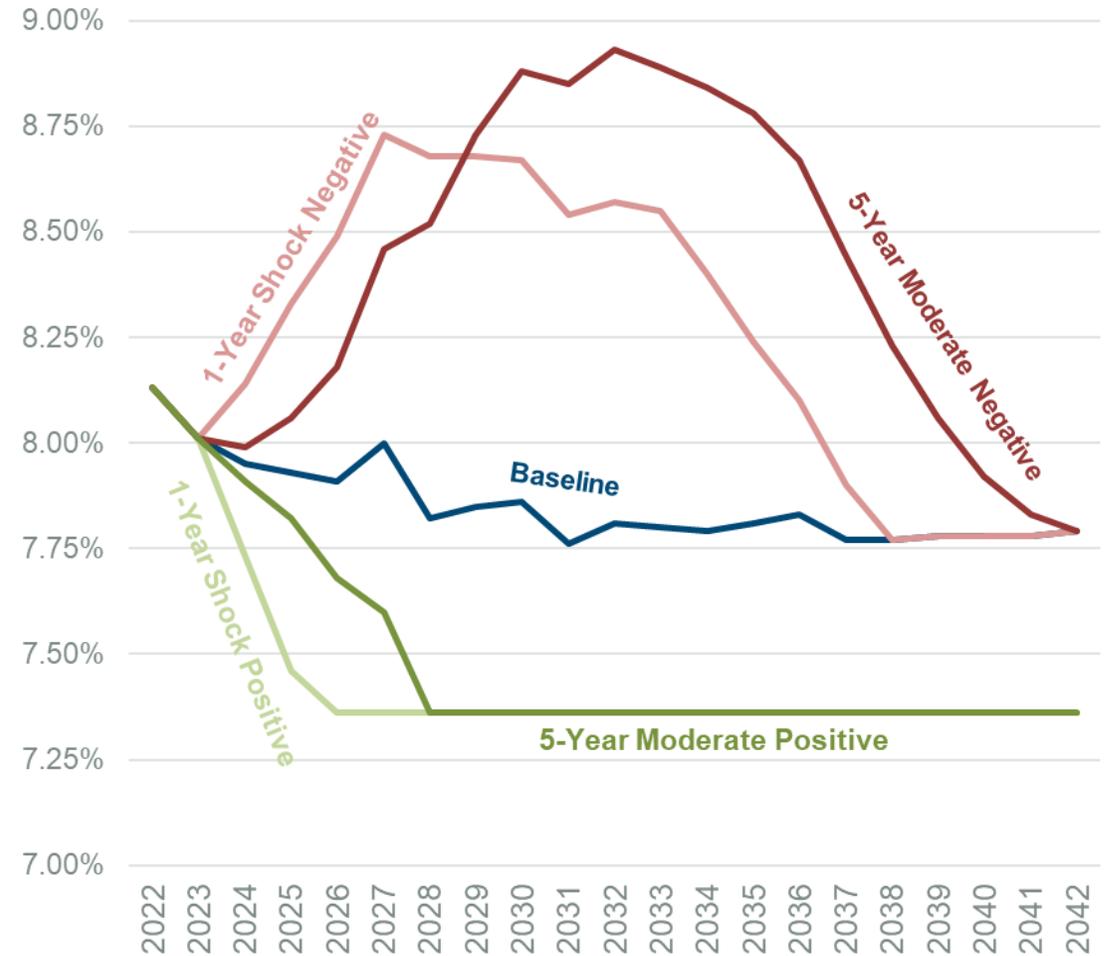
# Deterministic Projections



## City Aggregate Contribution Rates



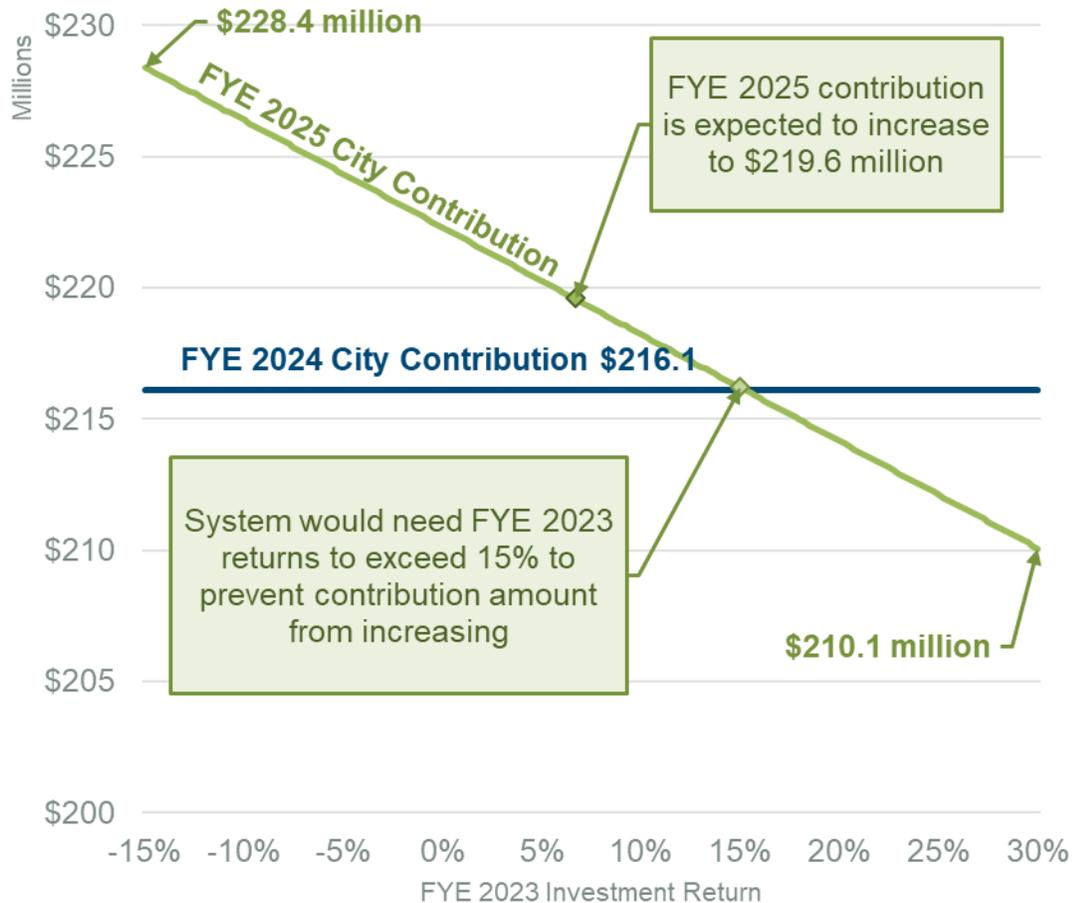
## Tier 2 Member Contribution Rates



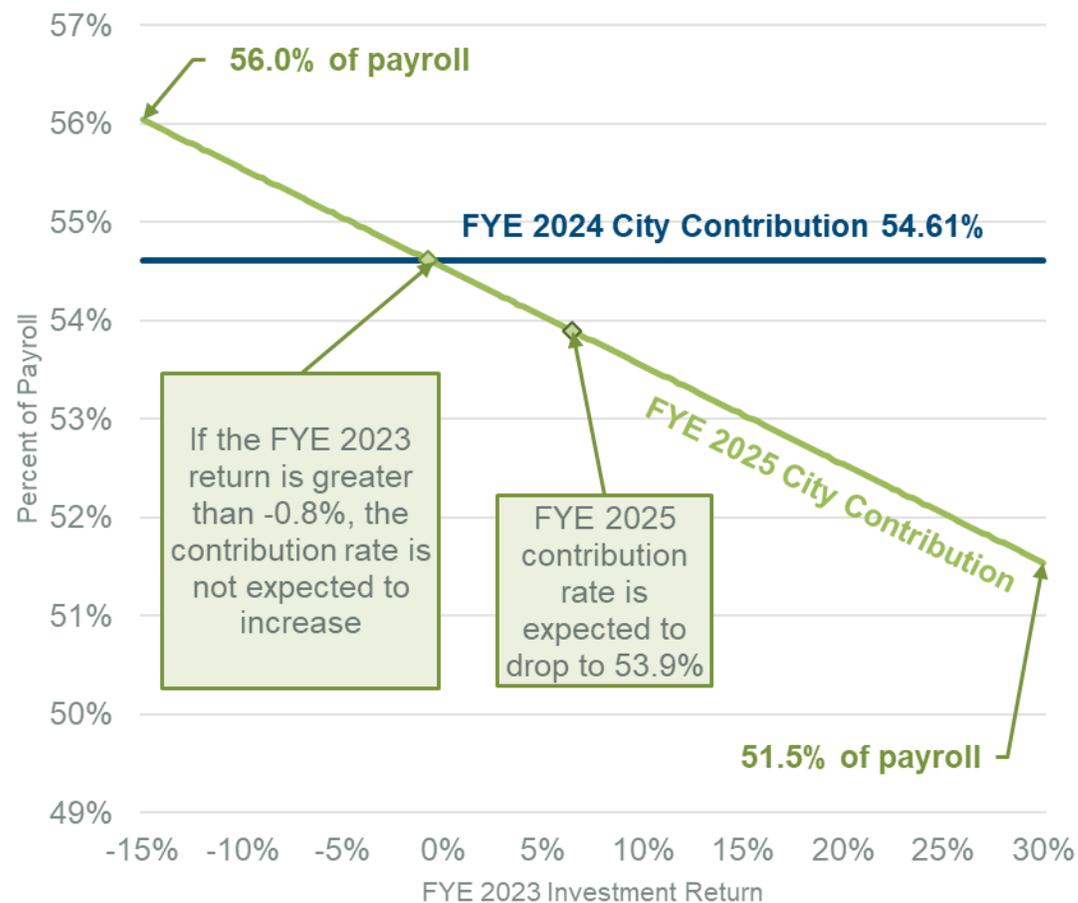
# FYE 2025 Contributions by Investment Return



Projected FYE 2025 City Contribution Amount  
Based on FYE 2023 Investment Return



Projected FYE 2025 City Contribution Rate  
Based on FYE 2023 Investment Return





- The purpose of this presentation is to present the results of the June 30, 2022 Actuarial Valuation for the City of San José Federated City Employees' Retirement System.
- 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, 2022 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 Federated City Employees' Retirement System 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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Consulting Actuary

Jacqueline R. King, FSA, EA, MAAA  
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 – 5-Year Contribution Projection



## Contribution Rates and Amounts (Throughout the Year)

	Fiscal Year Ending					
	2023	2024	2025	2026	2027	2028
<b>Member Rates (including reclassification rates)</b>						
Tier 1	7.54%	7.48%	7.52%	7.60%	7.71%	7.85%
Tier 2	8.13%	8.01%	7.95%	7.93%	7.91%	8.00%
<b>City Rates and Amounts</b>						
Tier 1 UAL Payment	\$ 162,602	\$ 168,762	\$ 172,649	\$ 175,635	\$ 177,963	\$ 188,468
Tier 1 Normal Cost and Administrative Expenses	\$ 26,942 20.32%	\$ 25,982 20.16%	\$ 23,973 20.25%	\$ 22,168 20.39%	\$ 20,443 20.65%	\$ 18,783 20.95%
Tier 2 Contribution	\$ 19,288 8.13%	\$ 21,374 8.01%	\$ 22,992 7.95%	\$ 24,670 7.93%	\$ 26,373 7.91%	\$ 28,459 8.00%
<b>Aggregate City Contribution</b>	<b>\$ 208,832 56.46%</b>	<b>\$ 216,118 54.61%</b>	<b>\$ 219,614 53.88%</b>	<b>\$ 222,473 52.99%</b>	<b>\$ 224,779 51.98%</b>	<b>\$ 235,710 52.92%</b>

*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	2028			
Tier 1 UAL Payment	\$ 157,470	\$ 163,435	\$ 167,200	\$ 170,091	\$ 172,345	\$ 182,519			
Tier 1 Normal Cost and Administrative Expenses	\$ 26,092	\$ 25,162	\$ 23,216	\$ 21,468	\$ 19,798	\$ 18,190			
<b>Tier 1 Total</b>	<b>\$ 183,562</b>	<b>\$ 188,597</b>	<b>\$ 190,416</b>	<b>\$ 191,559</b>	<b>\$ 192,143</b>	<b>\$ 200,709</b>			

*Dollar amounts in thousands*