

# San José Police & Fire Department Retirement Plan



## Pension Economic Assumptions Review

October 3, 2023

Bill Hallmark, ASA, EA, MAAA, FCA  
Anne Harper, FSA, EA, MAAA



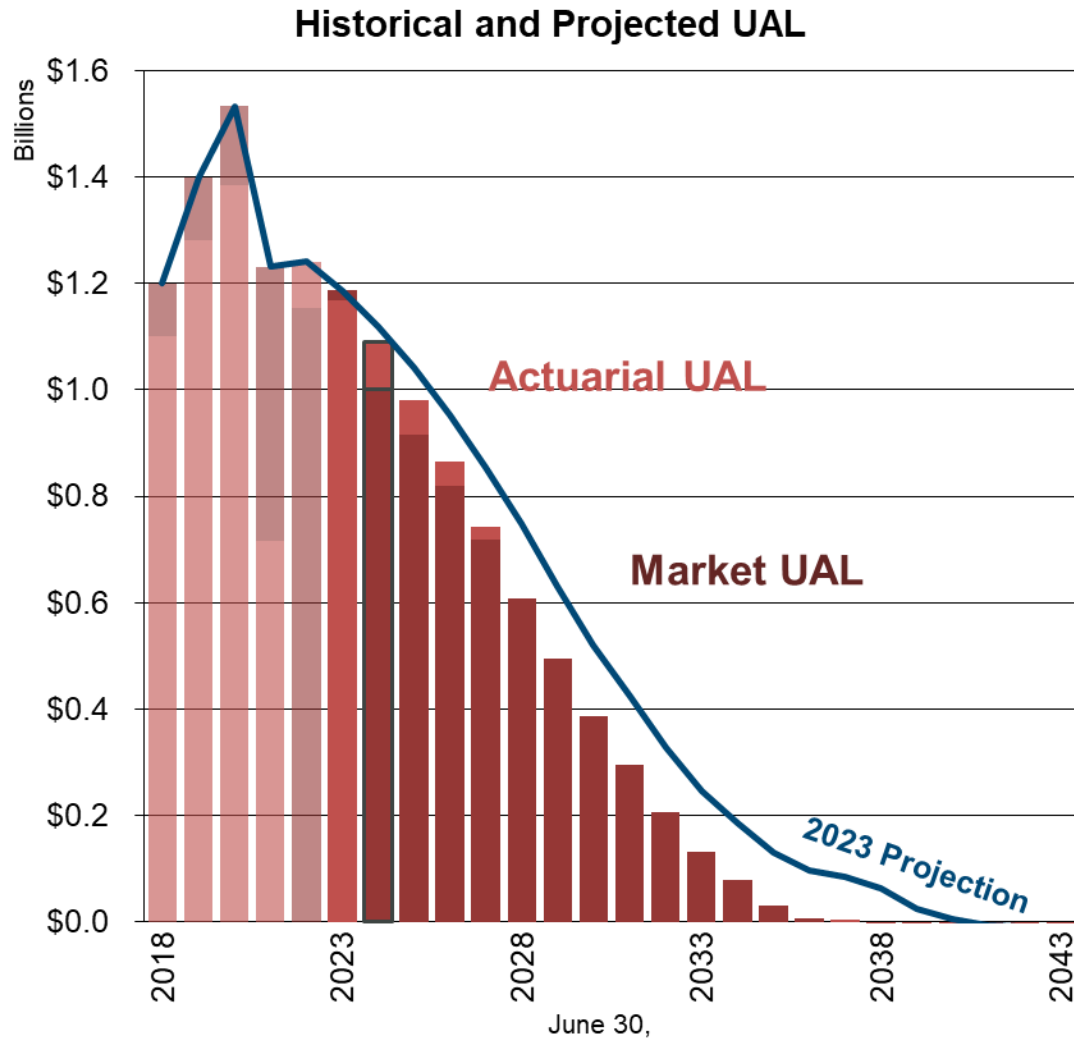


- Schedule
- Preliminary Updates
- Economic Assumptions
  - Price Inflation
  - Wage Inflation
  - Discount Rate
- Tier 1 City Amortization Allocation
- Board Decisions
- Appendix



- **October Board Meeting**
  - **Educational Presentation**
  - **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**
  - No Presentation
- **February Board Meeting**
  - Final OPEB Valuation Presentation
  - Final OPEB Valuation Report

# Preliminary Funded Status Update

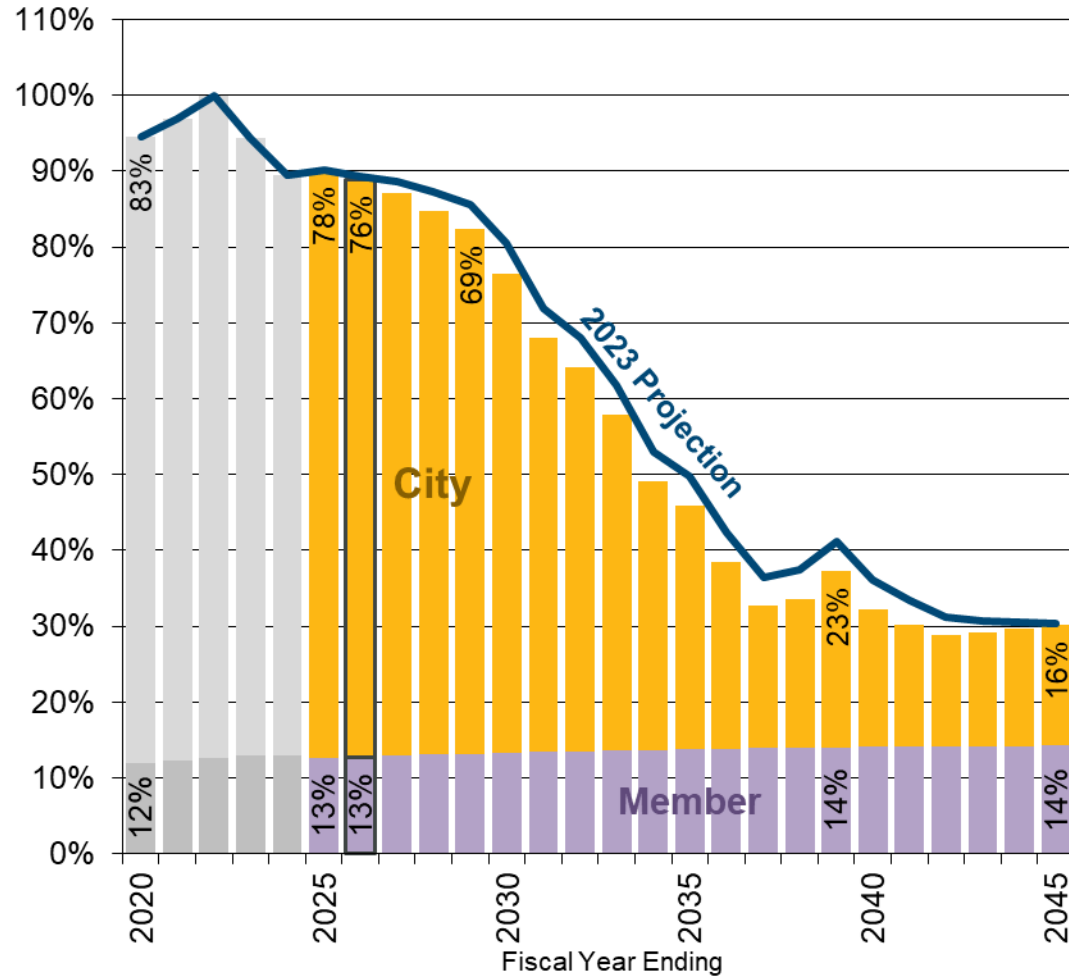


- FYE 2024 investment returns were slightly better than assumed
- Funded Ratio is estimated to improve:
  - Market value: 80% → 84%
  - Actuarial value: 80% → 82%
- UAL is estimated to decrease:
  - Market value: \$1.2 B → \$1.0 B
  - Actuarial value: \$1.2 B → \$1.1 B
- 2024 valuation changes still pending
  - Potential economic assumption changes
  - Updated census data
- Significant potential variability in projections

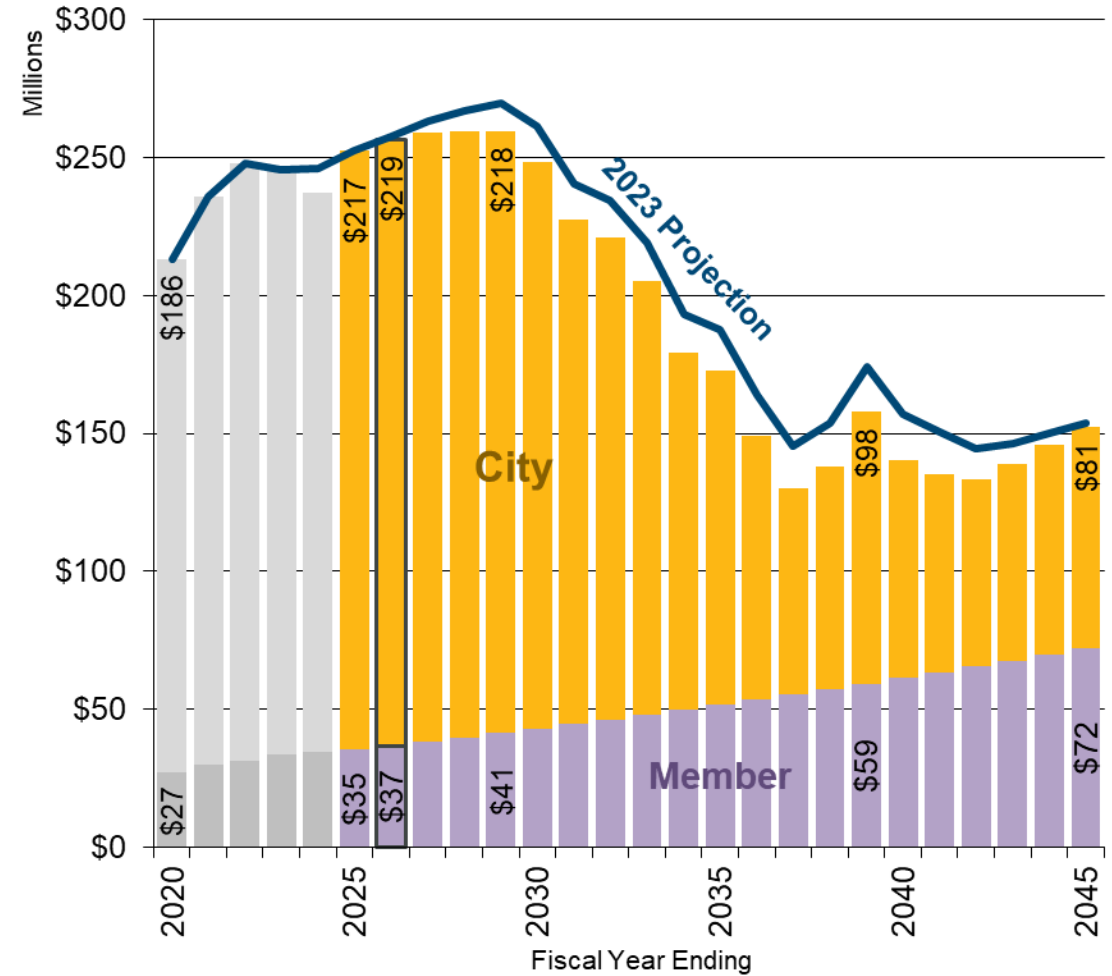
# Preliminary Contribution Projection Update



### Historical and Projected Contribution Rates



### Historical and Projected Contribution Amounts



# Economic Assumptions



# Review of Economic Assumptions



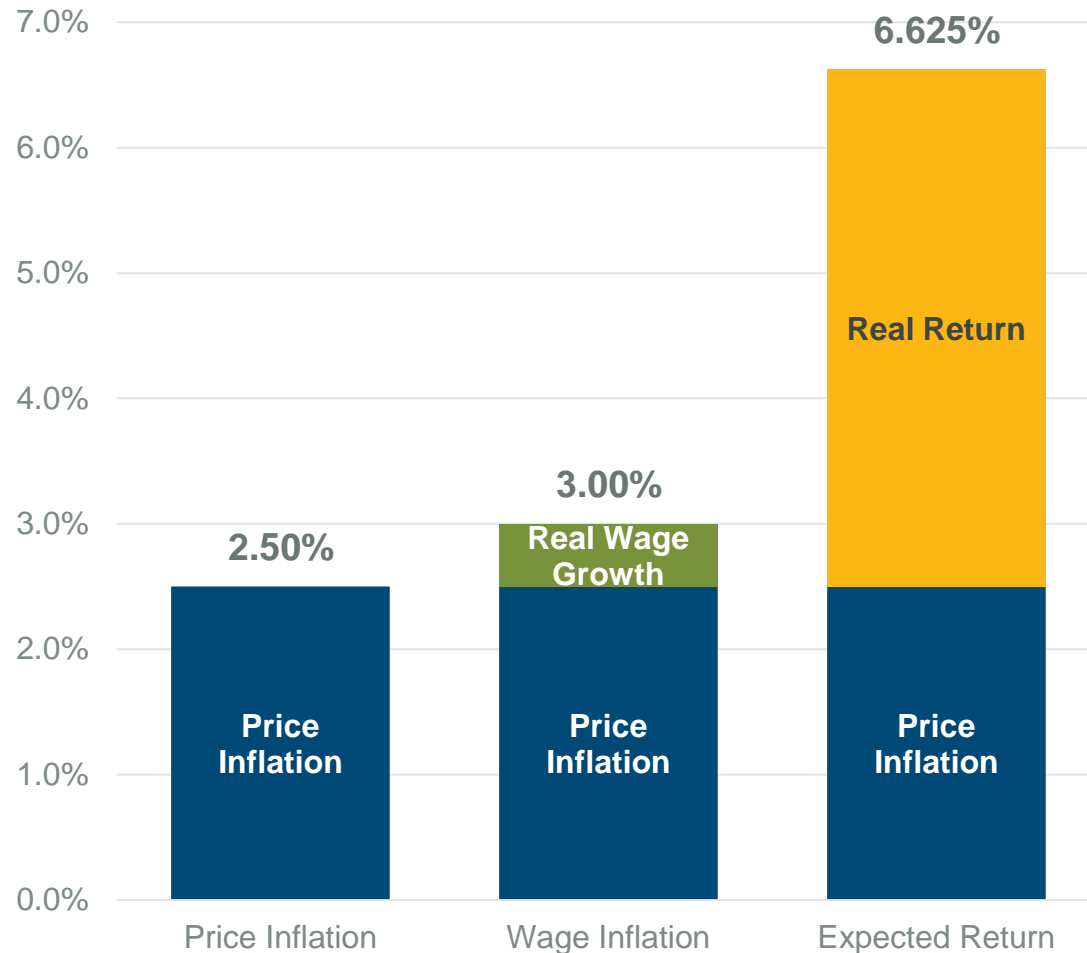
- Economic assumptions are reviewed every year
- Demographic experience study performed every two years
  - Next study in 2025
- Assumptions adopted will be used for the 2024 actuarial valuation to determine contributions for FYE 2026
  - Price Inflation – Pension and OPEB valuations
    - 2.50% – No change proposed
  - Wage Inflation – Pension and OPEB valuations
    - Proposed consideration of increase to 3.25% last year, but Board decided to maintain 3.00% in case discount rate was increased this year and change could be made in tandem
    - Consider increasing from 3.00% to 3.25%
  - Amortization Payment Increase Rate – Pension valuation only
    - 2.50% – No change proposed
  - Discount Rate – Pension valuation only
    - 6.625% – No change proposed



# Price Inflation



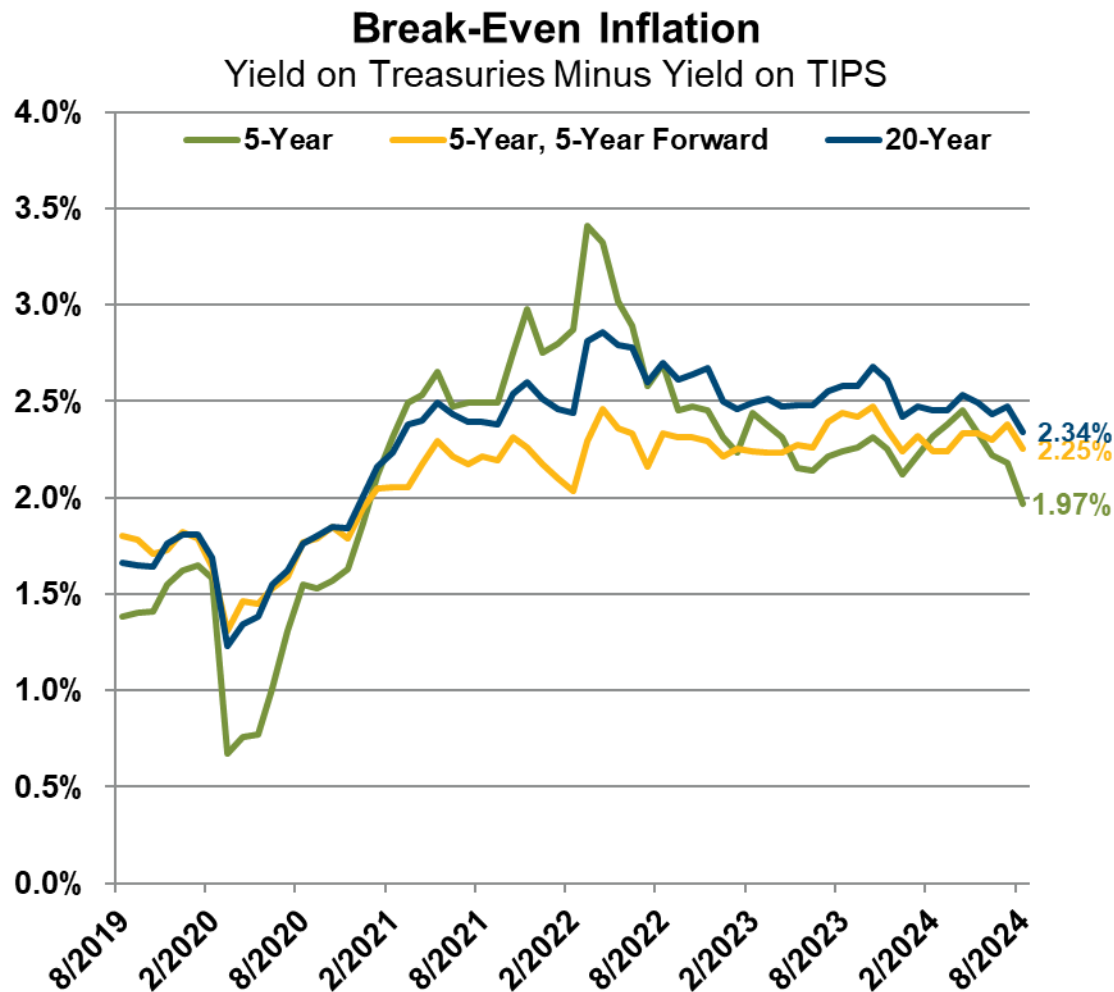
Traditional Building Blocks



- Price inflation – foundation for all economic assumptions
  - Wage inflation = Price inflation + Real wage growth
  - Expected return = Price inflation + Real return
- Current price inflation assumption = 2.5%
- Very limited direct impact on the valuation
  - Tier 1 COLA is fixed at 3.0%
  - Tier 1 Guaranteed Purchasing Power provision affects very few retirees
  - Tier 2 COLAs equal Bay Area inflation up to a maximum of 2.0%

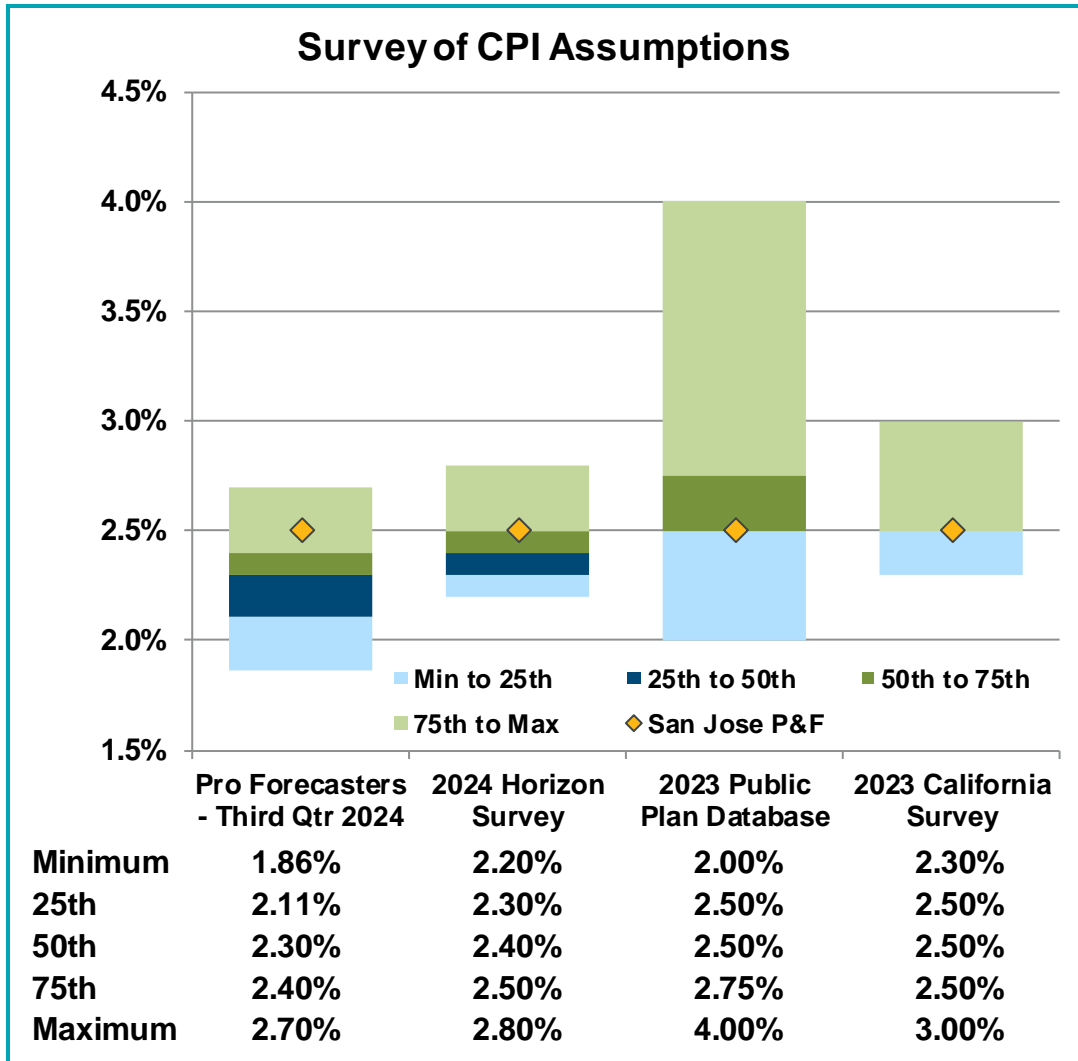


# Break-Even Inflation



- Inflation for the year-ended August 31 was 2.5%
  - Continuing downward trend
  - Expectations for future are lower
- Break-even inflation represents a consensus expectation of future inflation by investors
  - 1.97% over next 5 years
  - 2.25% over following 5 years
  - 2.34% over 20 years

# Price Inflation Forecasts

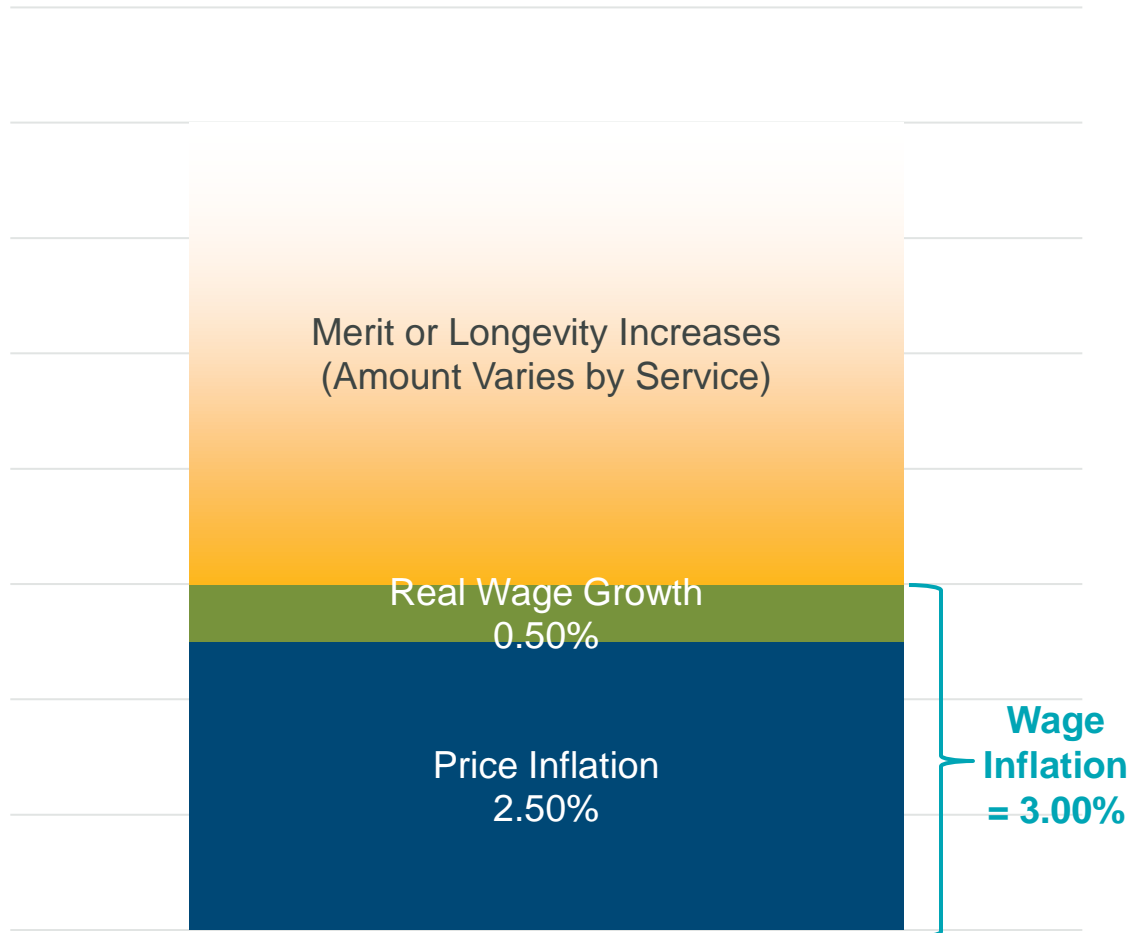


- Forecaster expectations have dropped and the range of forecasts has narrowed
  - 5-year forecasts range from 1.9% to 2.8%
  - Following 5-year forecasts range from 1.7% to 2.6%
- Meketa’s most recent assumptions are:
  - 2.4% over 10 years
  - 2.8% over 20 years
- Propose no change (2.50%)

# Wage Inflation



## Components of Salary Increases

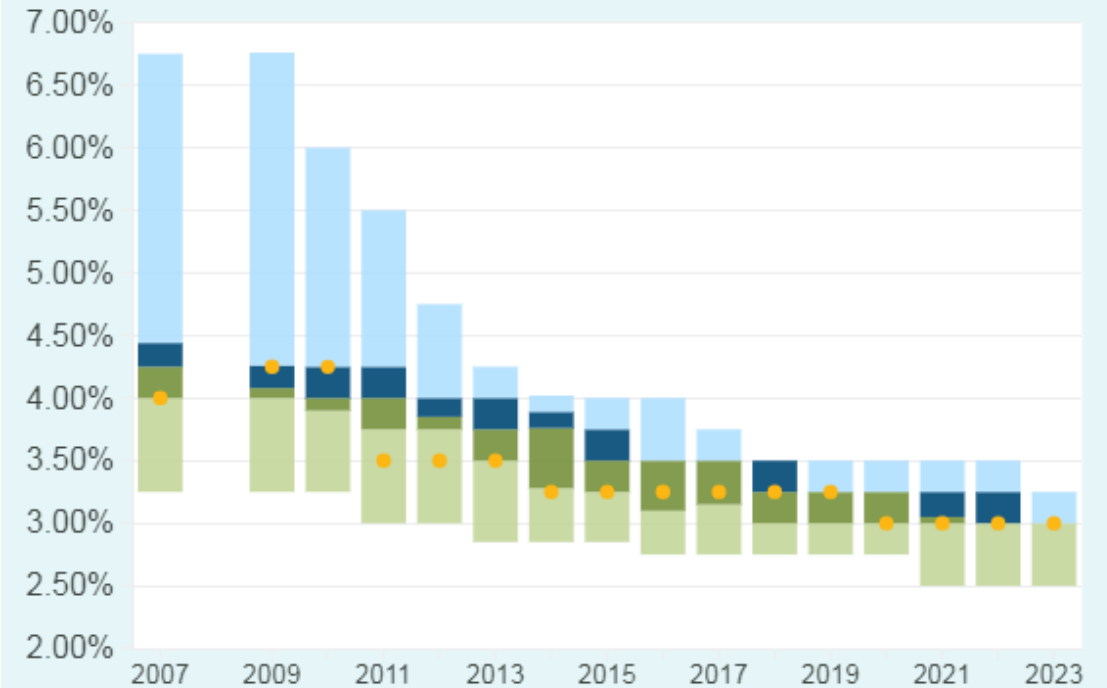


## California Public Retirement Systems - Distribution of Wage Inflation Assumptions

Wage Inflation = Price Inflation + Real Wage Growth

Gold dot = **San Jose Police & Fire**

Percentiles of Distribution: Min to 25th, 25th to 50th, 50th to 75th, 75th to Max

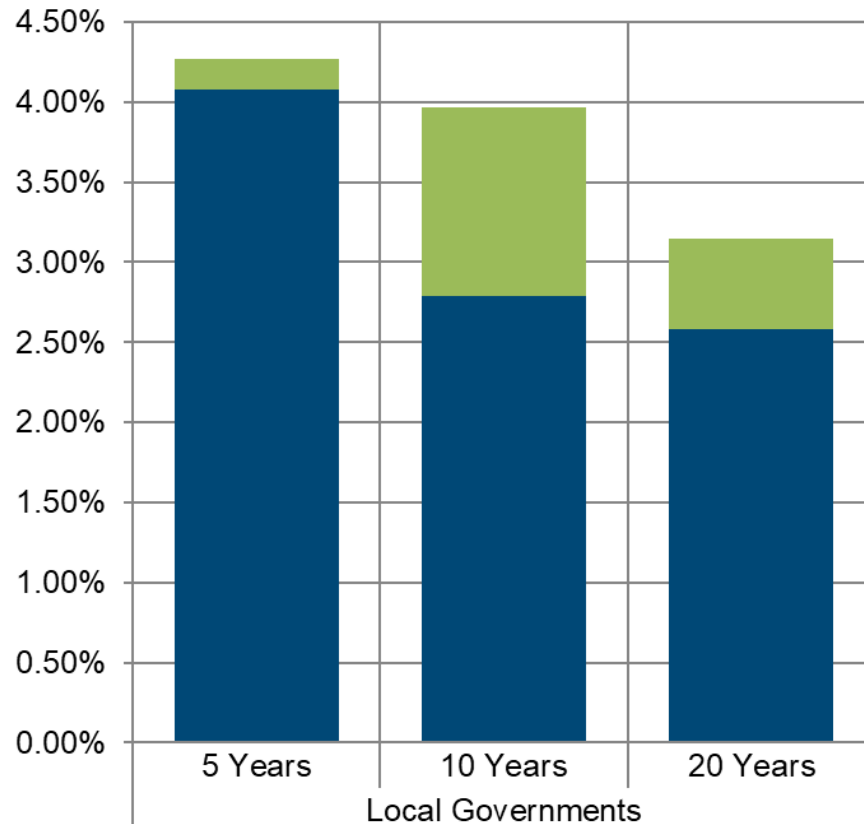


**CHEIRON** Hover over a bar to see the statistics for that year. Click on a bar to see a bee swarm of the plans for the year. Close the tab in the browser to return to the menu.

# Wage Inflation



## Wage Inflation Data



	5 Years	10 Years	20 Years
Real Wage Growth	0.20%	1.18%	0.57%
Inflation	4.07%	2.79%	2.58%
Wage Inflation	4.27%	3.97%	3.15%

Local government data from BLS Quarterly Census of Employment and Wages through 4th quarter of 2023.

## Recent Bargaining Agreements

Fiscal Year	Police	Fire
2020-2021	3.85%	4.25%
2021-2022	3.85%	4.25%
2022-2023	5.00% <sup>1</sup>	3.00% + 2.00% <sup>2</sup>
2023-2024	4.00%	4.00%
2024-2025	3.00% + 4.00% <sup>3</sup>	6.00%
2025-2026	N/A	4.00% + 1.00% <sup>4</sup>
2026-2027	N/A	3.50%

<sup>1</sup> Increase effective 12/11/2022

<sup>2</sup> Tentative agreement added 2% increase effective in November 2022

<sup>3</sup> Ongoing non-pensionable 4% retention pay becomes part of base pay

<sup>4</sup> Increase effective January 2026

- Recent salary increases have been significantly higher than expected, reflecting recent inflation and job market
- Current assumption = Reflect negotiated agreements. Assume 3.00% after agreements expire
- Consider increasing 3.00% to 3.25%

# Amortization Payment Increase Rate



- Amortization payments currently increase each year with price inflation (2.5%)
  - Payments are constant real dollars
  - Expected to gradually decline as a percentage of total payroll
  - If total payroll doesn't grow as fast as assumed inflation, the amortization payments may become a larger percentage of pay
- Recommend maintaining connection to price inflation assumption
  - No change proposed (2.50%)

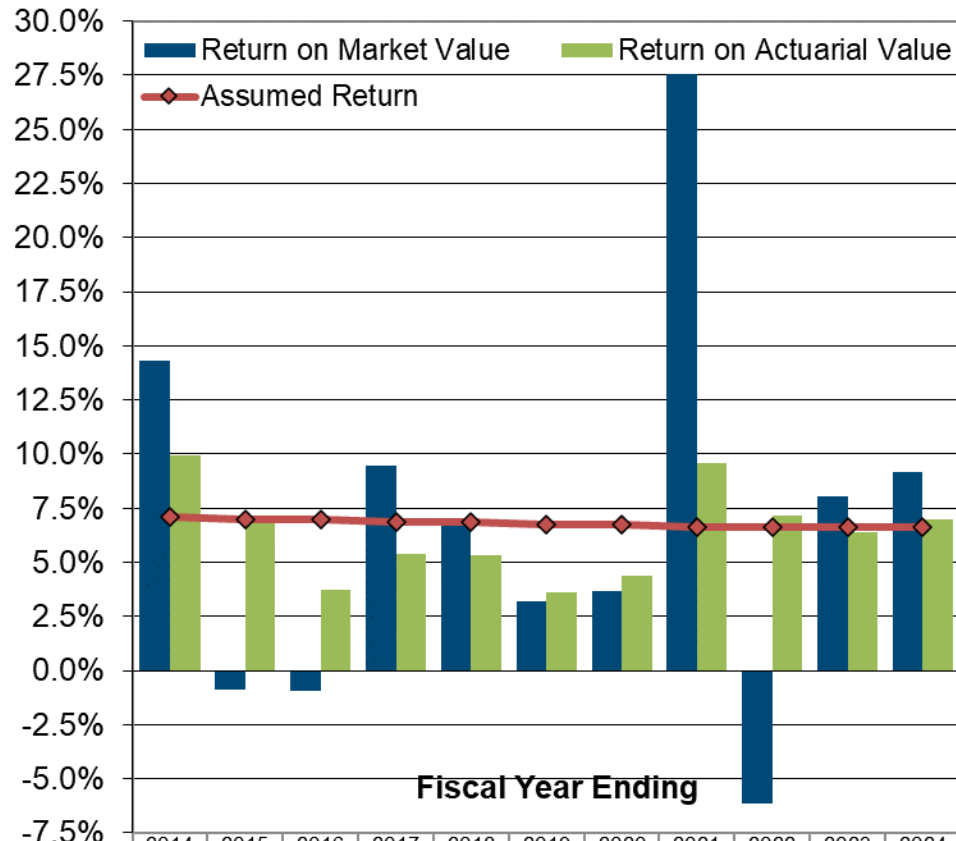


- Most powerful single assumption
  - Higher expected return → Lower expected contributions
  - Over time, actual contributions will depend on actual investment returns (not expected)
  - Current discount rate is 6.625%
- Context for selecting the discount rate
  - Historical experience
  - Industry trends
- Primary factors considered in selecting the discount rate
  - Expectations for the future
  - Board's risk preference

# Historical Experience and California Trends



## Expected vs. Actual Rates of Return

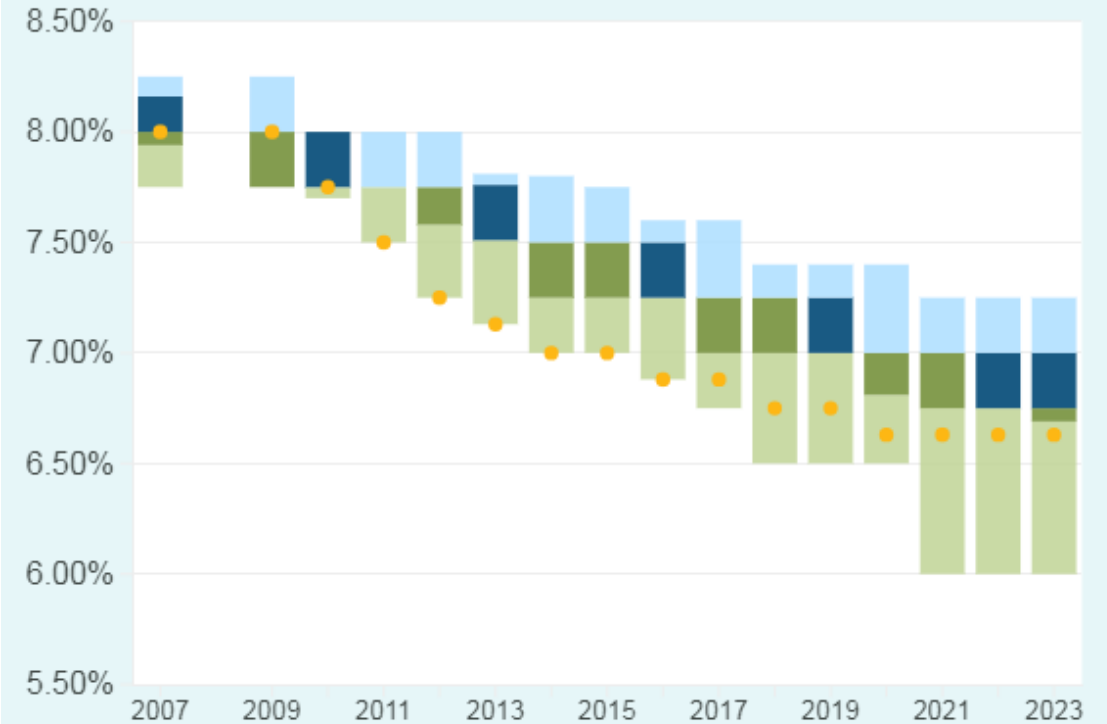


Return on Market Value	14.30%	-0.86%	-0.93%	9.47%	6.96%	3.20%	3.66%	27.57%	-6.12%	8.03%	9.15%
Return on Actuarial Value	9.91%	7.09%	3.73%	5.36%	5.35%	3.59%	4.39%	9.60%	7.15%	6.40%	7.01%
Assumed Return	7.125%	7.00%	7.00%	6.875%	6.875%	6.75%	6.75%	6.625%	6.625%	6.625%	6.625%

## California Public Retirement Systems - Distribution of Discount Rates

Gold dot = **San Jose Police & Fire**

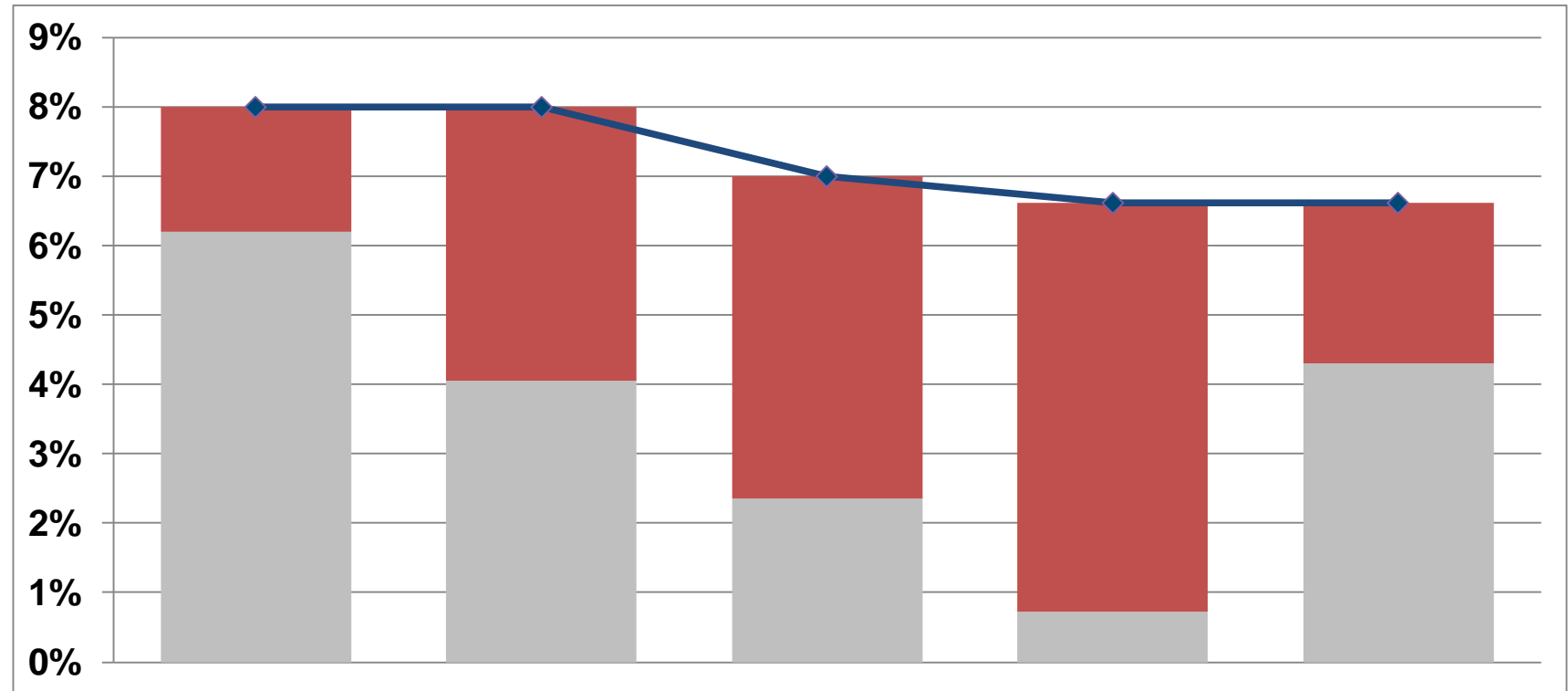
Percentiles of Distribution: Min to 25th, 25th to 50th, 50th to 75th, 75th to Max



**CHEIRON** Hover over a bar to see the statistics for that year. Click on a bar to see a bee swarm of the plans for the year. Close the tab in the browser to return to the menu.



# Changes in Interest Rates



	1995	2005	2015	2020	2024
<b>Police &amp; Fire Discount Rate</b>	<b>8.00%</b>	<b>8.00%</b>	<b>7.00%</b>	<b>6.625%</b>	<b>6.625%</b>
<b>Yield on 10-Year Treasury</b>	<b>6.21%</b>	<b>4.06%</b>	<b>2.36%</b>	<b>0.73%</b>	<b>4.31%</b>
<b>Expected Risk Premium</b>	<b>1.79%</b>	<b>3.94%</b>	<b>4.64%</b>	<b>5.90%</b>	<b>2.32%</b>

# Expected Return on Assets



- Meketa provided forward-looking capital market assumptions for 2024
  - 10- and 20-year time horizons
- Horizon survey includes:
  - 10-year time horizon – 42 consultants
  - 20-year time horizon – 27 consultants
- Expectations remain higher than discount rate
  - Interest rates have been higher for last two years
  - Fed started reducing interest rates in September

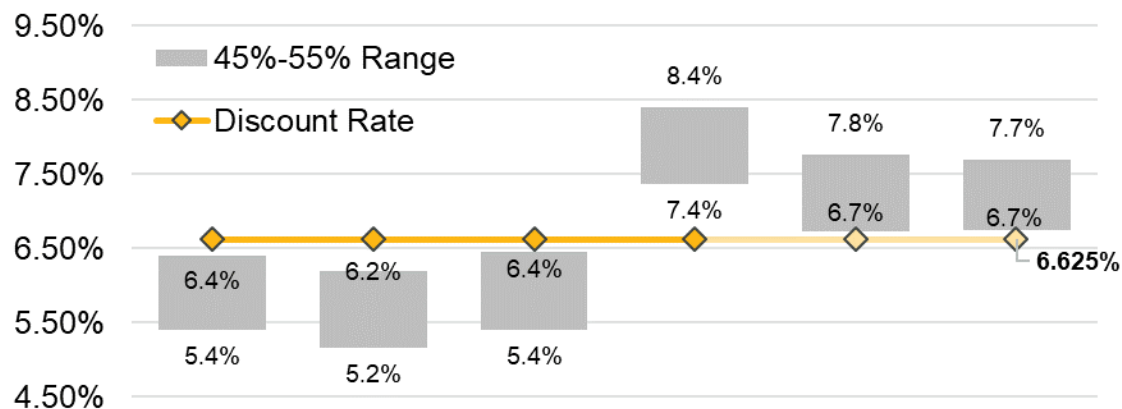
Expected Distribution of Average Annual Passive Returns				
Percentile	10-Year Timeframe Horizon		20-Year Timeframe Horizon	
	Survey	Meketa	Survey	Meketa
95th	13.6%	14.2%	12.0%	13.3%
75th	9.8%	10.1%	9.3%	10.4%
60th	8.2%	8.3%	8.2%	9.2%
55th	7.7%	7.8%	7.9%	8.8%
<b>50th</b>	<b>7.2%</b>	<b>7.2%</b>	<b>7.5%</b>	<b>8.4%</b>
45th	6.7%	6.7%	7.2%	8.1%
40th	6.3%	6.2%	6.9%	7.7%
25th	4.7%	4.5%	5.7%	6.5%
5th	1.2%	0.7%	3.2%	3.7%

*Cheiron calculations based on 2024 capital market assumptions from the Horizon survey and from Meketa*

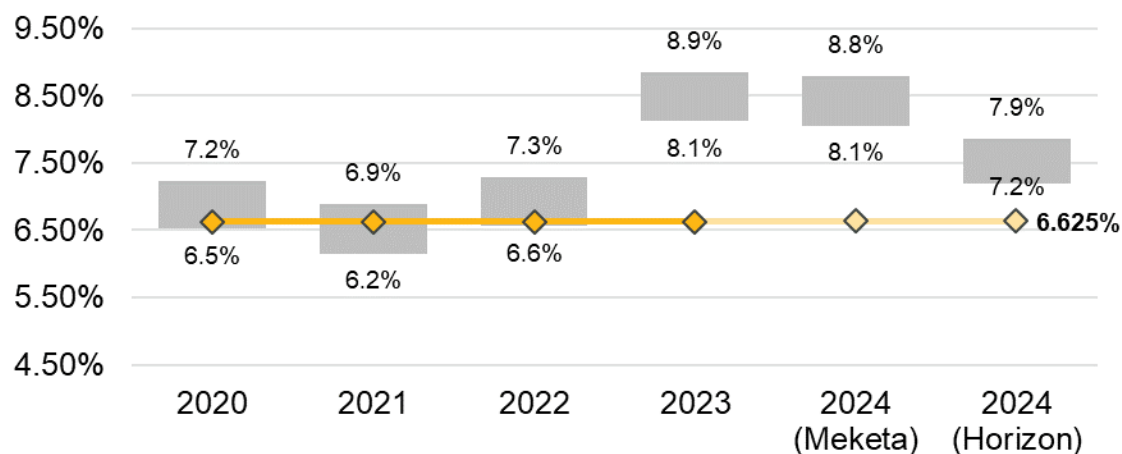
# Expected Return on Assets



**Discount Rate vs. Capital Market Assumptions**  
10-Year Horizon



**20-Year Horizon**



- Capital market assumptions fluctuate
  - Interest rates
  - Valuations (P/E ratios)
- Time horizon considerations
  - 10 years ~ 40% of the present value of benefits
  - 20 years ~ 70% of the present value of benefits
- Current discount rate of 6.625%
  - Conservative compared to 2023 and 2024 capital market assumptions
  - Chance of return exceeding discount rate
    - 10 years ~ 56% (Meketa and Horizon)
    - 20 years ~ 73% (Meketa), 63% (Horizon)

# Discount Rate Considerations



- Is the increase in capital market assumptions temporary?
  - The primary driver of increased capital market assumptions is the rise in interest rates due to actions of the Federal Reserve
  - The Federal Reserve just reduced rates 50 basis points and is forecast to continue reducing rates
- Very painful to reduce discount rate
  - Be cautious about increasing discount rate
  - Don't want to increase discount rate and then have to reverse course and reduce the discount rate again
- It is okay for the discount rate to be less than expected return
  - Higher probability of achieving a return greater than the discount rate
  - Provides margin against adverse experience
  - The reverse is not true – it is not okay for the expected return to be materially less than the discount rate
- We propose no change to the discount rate this year

# Tier 1 Amortizations



- Separate Police and Fire normal cost and UAL payments for plan changes
- Pooled UAL payments for experience and assumption changes
  - City pays all UAL payments
  - Allocated between Police and Fire as same percentage of payroll
- Tier 2 required separate UAL payments
  - City and members share payment 50/50
- After Tier 2 was established, ORS also began tracking Tier 1 assets separately for Police and Fire
  - Still, one trust, and assets are not legally separated
- Over time, pooled UAL payments have not aligned with separately tracked assets
  - Pooling has allocated less of the City's UAL contribution to Police and more to Fire than would be allocated if not pooled



- Does the Board want the City's Tier 1 UAL payments to be allocated similarly to the separately tracked assets?
  - Wouldn't affect the amount the City (or Members) contribute
  - Would only affect how the City's UAL contribution is allocated between Police and Fire
- If yes, does the Board want a transition from the current City contribution allocation or should the change quickly shift to allocate more contributions to Police?
  - Doesn't affect the total City contribution but may affect perceptions of contribution rates
- If no, we believe the allocation method should still be changed now to account for the eventual end of Tier 1 payroll

# Tier 1 Amortization Options



- All options maintain some level of pooling for Tier 1
- Minimal Change
  - Allocates in proportion to total payroll (instead of Tier 1 payroll)
- Transition Change
  - Allocates pre-Tier 2 in proportion to total payroll
  - Allocates post Tier 2 in proportion to UAL
- Quick Change
  - Allocates in proportion to UAL

Estimated City Tier 1 UAL Payment		
Method	Percent of Tier 1 Payroll	Percent of Total Payroll
Current		
Police	101%	43%
Fire	104%	63%
Minimal Change		
Police	119%	51%
Fire	83%	50%
Transition Change		
Police	152%	65%
Fire	45%	27%
Quick Change		
Police	182%	78%
Fire	10%	6%

October 3, 2024





- Price Inflation = 2.50%
  - No change proposed
- Wage inflation
  - Current bargaining agreements – no change proposed
  - Consider increasing the ultimate assumption from 3.00% to 3.25%
- Amortization payment increases = 2.50%
  - No change proposed
- Discount rate = 6.625%
  - No change proposed
- Allocation of City's Tier 1 Amortization Payment Between Police and Fire
  - Propose change to allocation to one of the following options
    - Minimal change if continued single pool is still desired
    - Quick change if desire is to match asset allocation and no transition needed
    - Transition change if desire is to match asset allocation over time



- The purpose of this presentation is to review the economic assumptions 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 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.
- 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. Other users of this presentation 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, MAAA, FCA  
Consulting Actuary

Anne. D. Harper, FSA, EA, MAAA  
Principal Consulting Actuary

# Appendix – California Survey



## Cheiron's 2023 Survey of Public Retirement Systems in California

System Name	Discount Rate	Wage Inflation	Price Inflation	Valuation Date	System Name	Discount Rate	Wage Inflation	Price Inflation	Valuation Date
AC Transit	6.75%	3.00%	2.75%	1/1/2023	Sacramento CERS	6.75%	2.75%	2.50%	6/30/2023
Alameda CERA	7.00%	3.25%	2.75%	12/31/2022	Sacramento Regional Transit	6.75%	2.75%	2.50%	7/1/2022
CalPERS	6.80%	2.80%	2.30%	6/30/2023	San Bernardino CERA	7.25%	3.00%	2.50%	6/30/2023
CalSTRS	7.00%	3.50%	2.75%	6/30/2022	San Diego City ERS	6.50%	3.25%	3.00%	6/30/2023
Contra Costa CERA	6.75%	3.00%	2.50%	12/31/2022	San Diego County ERA	6.50%	3.00%	2.50%	6/30/2023
East Bay Municipal Utility District	6.75%	3.00%	2.50%	6/30/2023	San Diego Transit	6.00%	2.50%	2.50%	7/1/2023
Fresno CERA	6.500%	3.00%	2.50%	6/30/2023	San Francisco ERS	7.20%	3.25%	2.50%	7/1/2023
Fresno City Employee System	6.750%	3.00%	2.50%	6/30/2023	San Joaquin CERA	6.75%	3.00%	2.75%	1/1/2023
Fresno City Fire & Police	6.75%	3.00%	2.50%	6/30/2023	San Jose Federated	6.63%	3.00%	2.50%	6/30/2023
Golden Gate Transit	6.75%	3.25%	2.75%	1/1/2023	San Jose Police & Fire	6.63%	3.00%	2.50%	6/30/2023
Imperial CERS	6.75%	3.00%	2.50%	6/30/2023	San Luis Obispo County	6.75%	3.00%	2.50%	1/1/2023
Kern CERA	7.00%	3.00%	2.50%	6/30/2023	San Mateo CERA	6.25%	3.25%	2.50%	6/30/2023
LA City ERS	7.00%	3.00%	2.50%	6/30/2023	Santa Barbara CERS	7.00%	3.00%	2.75%	6/30/2023
LA County ERA	7.00%	3.25%	2.75%	6/30/2023	Sonoma CERA	6.75%	3.00%	2.50%	12/31/2022
LA Fire & Police	7.00%	3.00%	2.50%	6/30/2023	Stanislaus CERA	6.75%	2.75%	2.50%	6/30/2023
LA Water and Power	6.50%	3.00%	2.50%	7/1/2023	Tulare CERA	7.00%	3.00%	2.75%	6/30/2023
Marin CERA	6.75%	3.00%	2.50%	6/30/2023	University of California	6.75%	3.25%	2.50%	7/1/2023
Mendocino CERA	6.50%	3.00%	2.50%	6/30/2023	Valley Transit Authority	6.75%	2.75%	2.50%	1/1/2023
Merced CERA	6.75%	2.75%	2.50%	6/30/2023	Ventura CERA	7.00%	3.00%	2.50%	6/30/2023
Orange CERS	7.00%	3.00%	2.50%	12/31/2022					

Access California survey tool at: <https://cheiron.us/cheironHome/content/resources/databases/survey-of-california-public-retirement-systems>

# Appendix – Capital Market Assumptions



Capital Market Assumptions									
Meketa's Assumptions					Horizon Survey Assumptions				
Asset Class	Allocation	Standard Deviation	Arithmetic Returns		Asset Class	Allocation	Standard Deviation	Arithmetic Returns	
			10-Year	20-Year				10-Year	20-Year
Cash Equivalents	10.5%	1.0%	2.41%	2.51%	US Treasuries	12.0%	1.1%	3.69%	3.44%
Long-term Government Bonds	1.5%	12.0%	4.91%	5.64%	US Corp Bonds - Core	4.5%	5.9%	5.10%	5.04%
Investment Grade Bonds	4.5%	4.0%	4.67%	4.87%	TIPS	2.0%	6.1%	4.57%	4.48%
TIPS	2.0%	7.0%	4.51%	4.92%	US Corp Bonds - High Yield	2.0%	9.9%	6.61%	6.86%
High Yield Bonds	2.0%	11.0%	7.00%	7.33%	Non-US Debt - Emerging	2.0%	10.8%	6.73%	6.89%
Private Debt	5.0%	15.0%	10.11%	10.16%	US Equity - Large Cap	24.0%	16.5%	7.74%	8.25%
Emerging Market Bonds (major)	1.0%	12.0%	7.60%	7.43%	Non-US Equity - Developed	11.0%	18.1%	8.61%	9.08%
Emerging Market Bonds (local)	1.0%	12.0%	6.90%	6.83%	Non-US Equity - Emerging	7.0%	23.6%	10.31%	11.00%
US Equity	24.0%	17.0%	8.08%	9.73%	Private Equity	14.5%	22.6%	11.55%	12.33%
Developed Market Equity (non-US)	11.0%	18.0%	9.01%	10.27%	Private Debt	5.0%	12.0%	9.02%	9.09%
Emerging Market Equity	7.0%	22.0%	9.53%	10.91%	Real Estate	9.0%	16.6%	7.43%	7.38%
Buyouts	10.0%	24.0%	11.74%	13.14%	Infrastructure	4.0%	16.0%	8.56%	8.56%
Venture Capital	4.5%	34.0%	15.05%	16.44%	Hedge Funds	3.0%	8.0%	6.24%	6.52%
Core Private Real Estate	5.0%	12.0%	5.41%	7.53%	Inflation			2.43%	2.44%
Value-Added Real Estate	2.0%	20.0%	8.91%	10.68%					
Opportunistic Real Estate	2.0%	26.0%	11.04%	13.03%					
Natural Resources (Private)	3.0%	22.0%	9.63%	11.31%					
Infrastructure (Core Private)	1.0%	14.0%	7.31%	8.85%					
Hedge Funds	3.0%	7.0%	4.71%	6.02%					
Inflation			2.40%	2.80%					