

# San José Police & Fire Department Retirement Plan

4d



## Pension Economic Assumptions Review

October 5, 2023

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

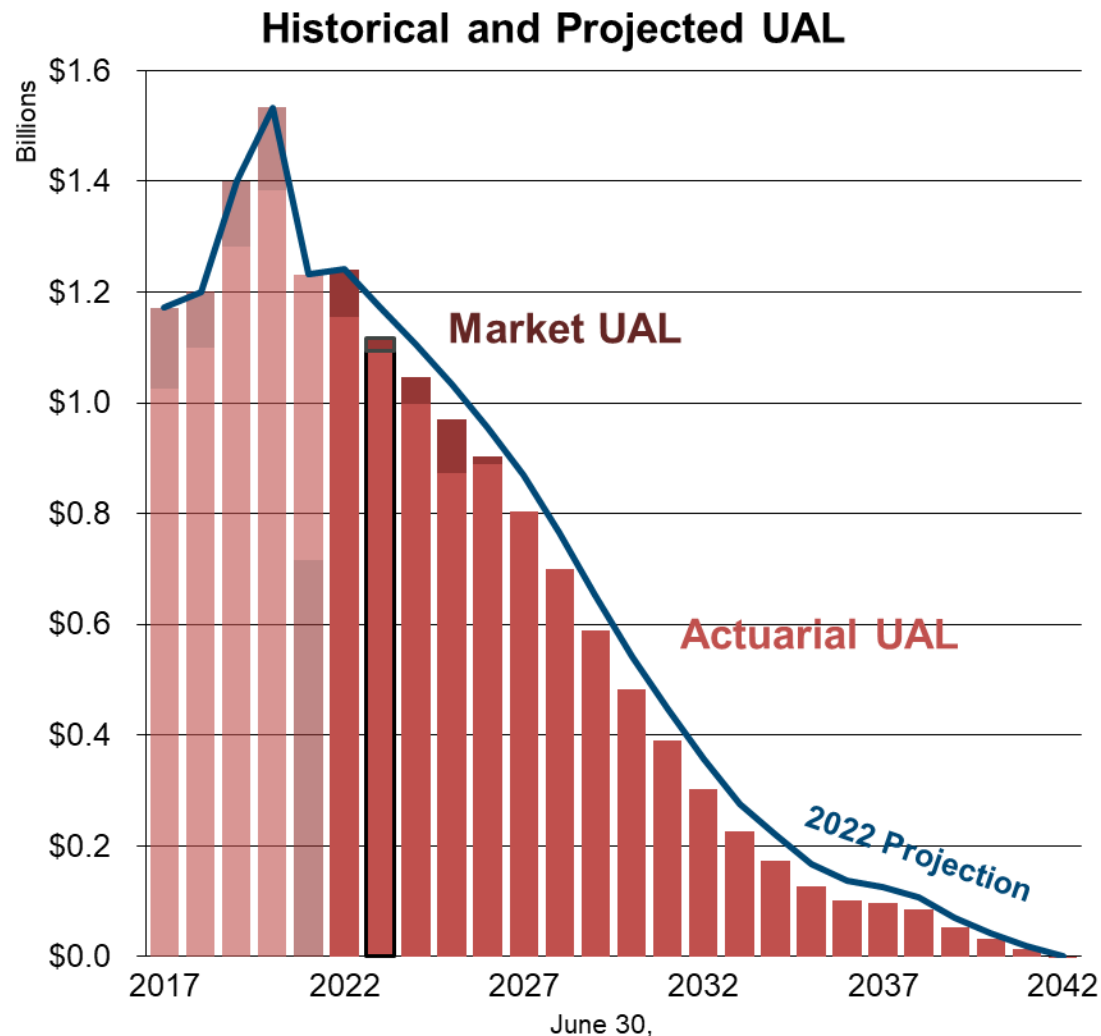


- Schedule
- Preliminary Updates
- Economic Assumptions
  - Price Inflation
  - Wage Inflation
  - Discount Rate
- Board Decisions
- Appendix



- **October Board Meeting**
  - **ASOP 4 Changes**
  - **Pension Economic Assumption Review**
- November Board Meeting
  - Demographic Experience Study
  - 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

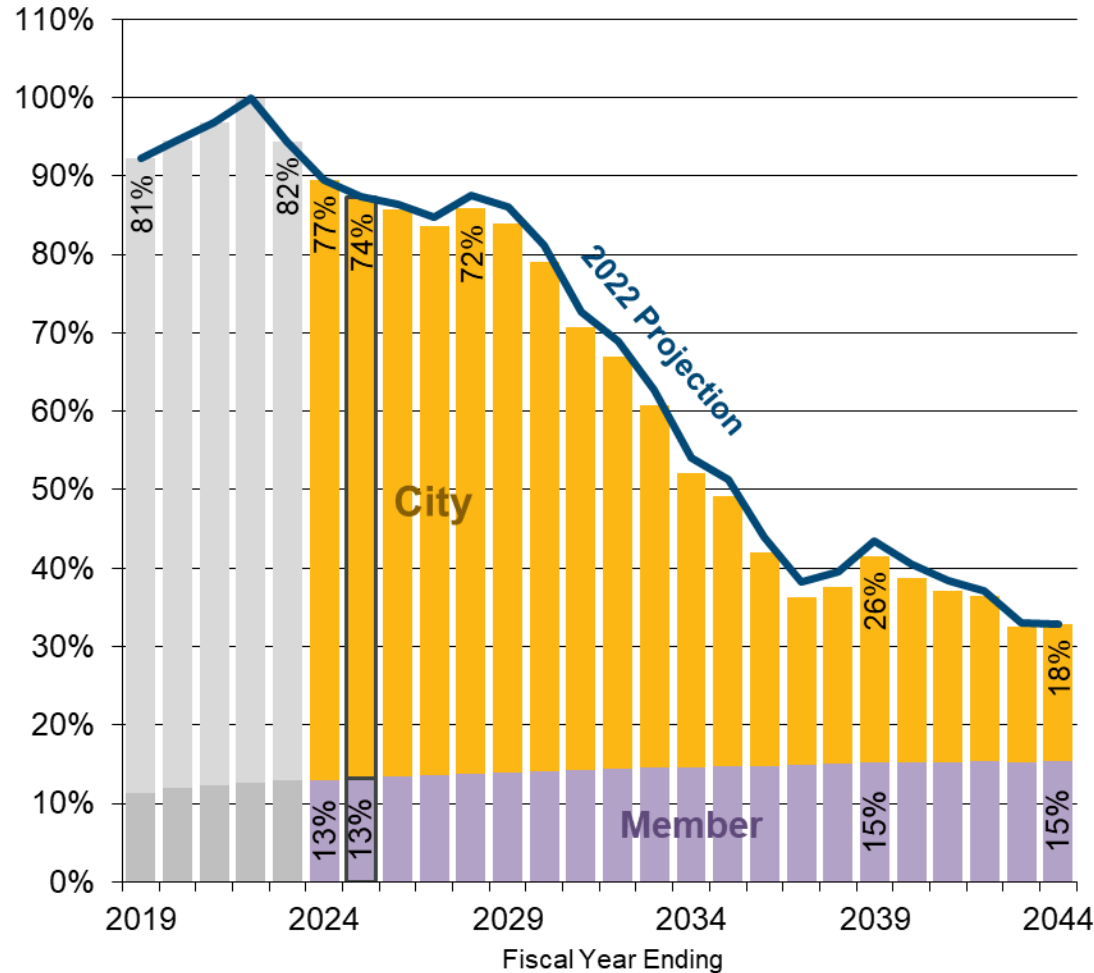


- FYE 2023 investment returns were slightly better than assumed
- Based on Market Value of Assets:
  - Funded status estimated to improve from 78% to 81%
  - UAL estimated to decrease from \$1.2 billion to \$1.1 billion
- Based on Actuarial Value of Assets:
  - Funded status estimated to improve from 80% to 81%
  - UAL estimated to decrease from \$1.2 billion to \$1.1 billion
- 2023 valuation changes still pending
  - Potential economic assumption changes
  - Potential demographic assumption changes
  - Updated census data
- Significant potential variability in projections

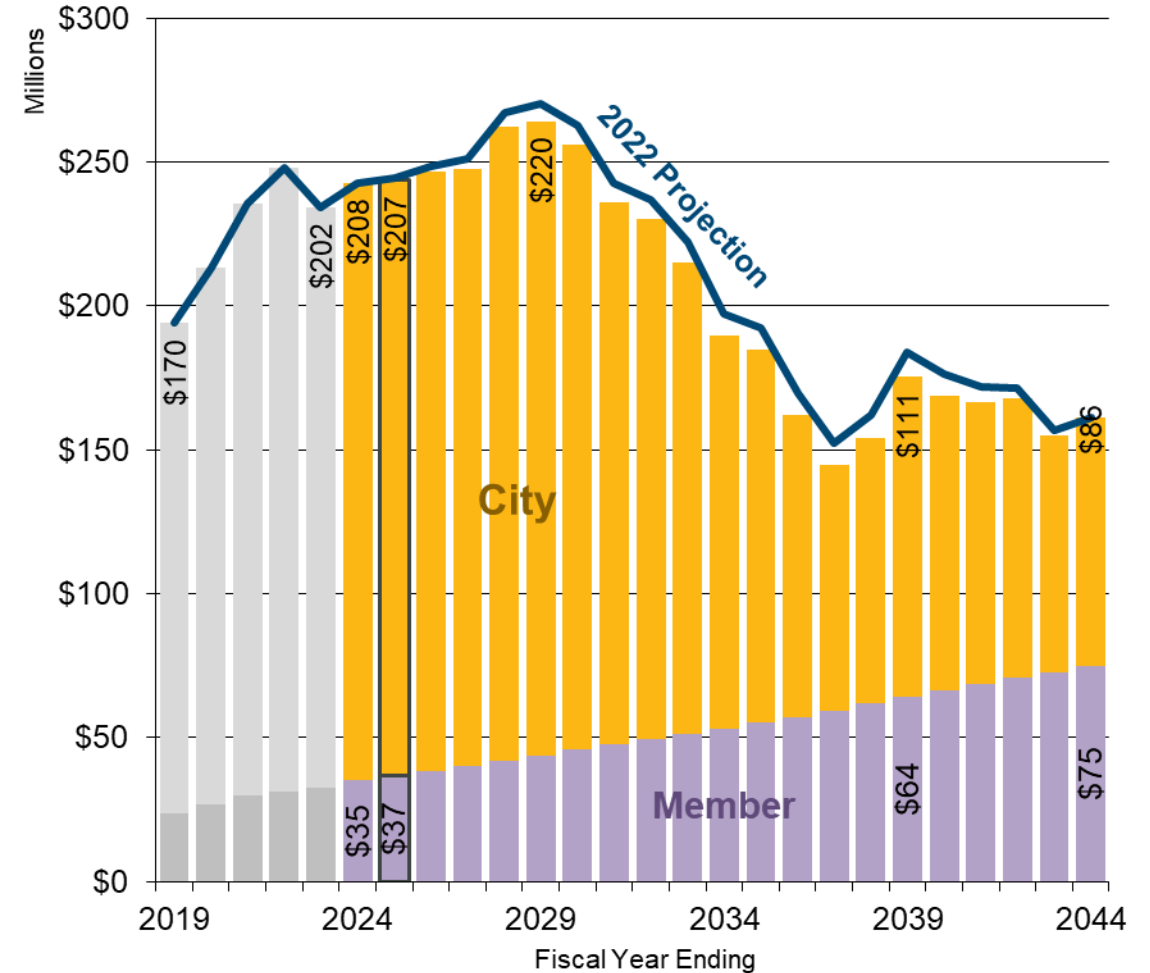
# Preliminary Contribution Projection Update



## Historical and Projected Contribution Rates



## Historical and Projected Contribution Amounts



# Economic Assumptions



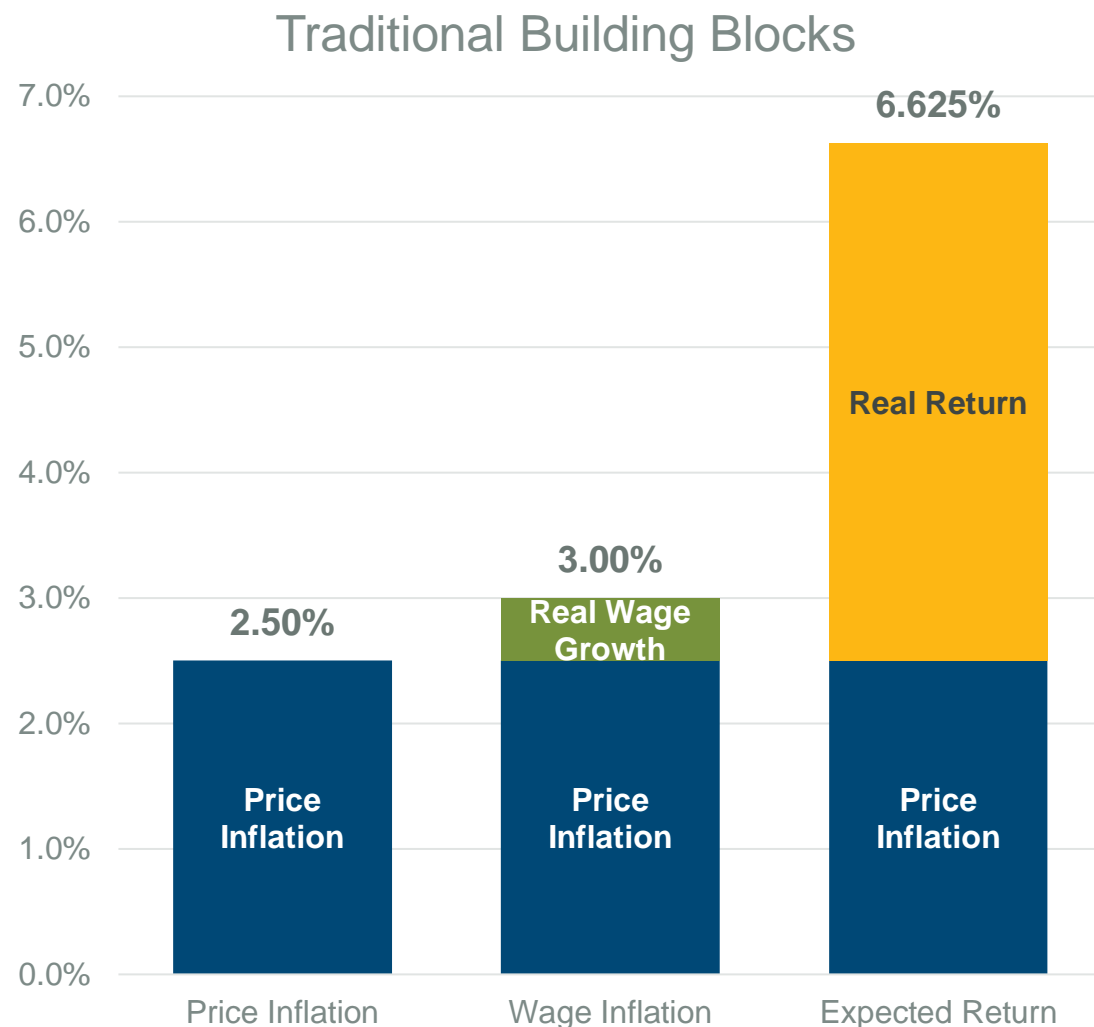


# Review of Economic Assumptions



- Economic assumptions are reviewed every year
- Demographic experience study performed every two years
  - Next study presented at November meeting
- Assumptions adopted will be used for the 2023 actuarial valuation to determine contributions for FYE 2025
  - Price Inflation – Pension and OPEB valuations
    - Increased from 2.25% to 2.50% last year
  - Wage Inflation – Pension and OPEB valuations
    - Recommended increase to 3.25% last year, but Board decided to maintain 3.00%, postponing decision in case discount rate was increased this year and change could be made in tandem
  - Amortization Payment Increase Rate – Pension valuation only
    - Increased from 2.25% to 2.50% last year to remain consistent with inflation
  - Discount Rate – Pension valuation only
    - Interim capital market assumptions showed significant increase in expected returns. No change made as Board considers whether recent changes are temporary

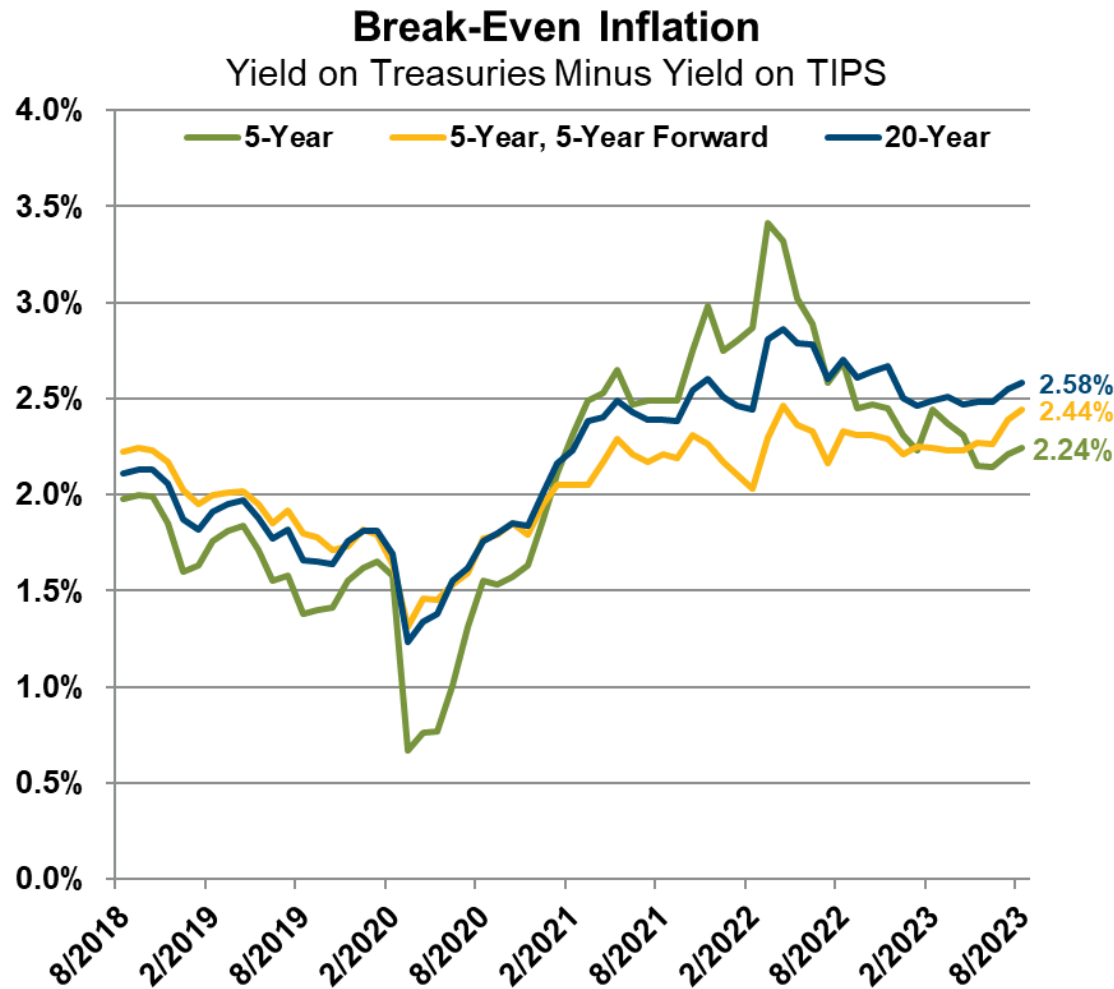
# Price Inflation



- Price inflation – foundation for all economic assumptions
  - $\text{Wage inflation} = \text{Price inflation} + \text{Real wage growth}$
  - $\text{Expected return} = \text{Price inflation} + \text{Real return}$
- 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%

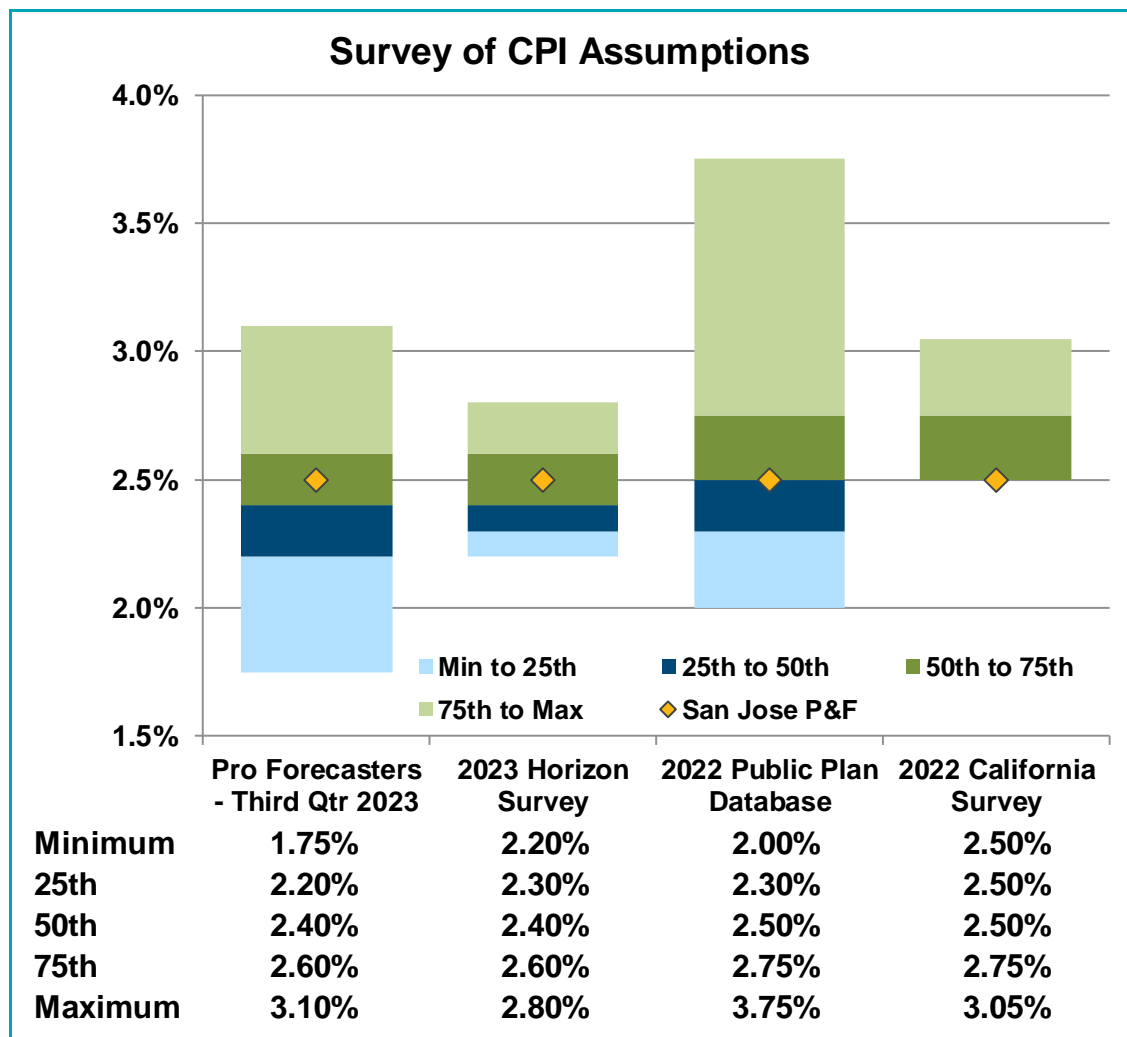


# Break-Even Inflation



- Inflation for the year-ended August 31 was 3.7%
  - Significantly lower than prior year
  - Expectations for future remain lower
- Break-even inflation represents a consensus expectation of future inflation by investors
  - 2.24% over next 5 years
  - 2.44% over following 5 years
  - 2.58% over 20 years

# Price Inflation Forecasts

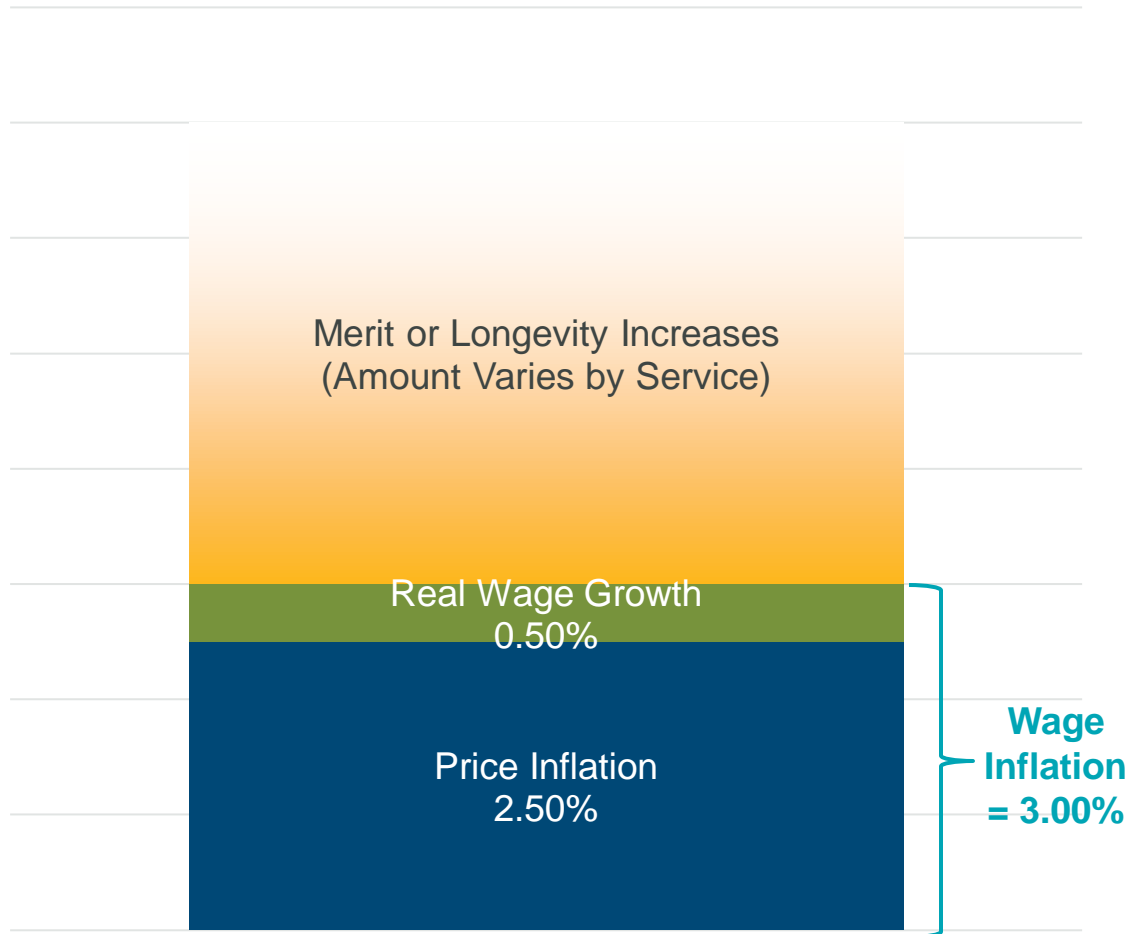


- Significant uncertainty in Pro-Forecaster expectations
  - 5-year forecasts range from 1.5% to 3.8%
  - Following 5-year forecasts range from 1.5% to 3.0%
- Meketa's most recent assumptions are:
  - 2.5% over 10 years
  - 2.6% over 20 years
- Propose no change (2.50%)

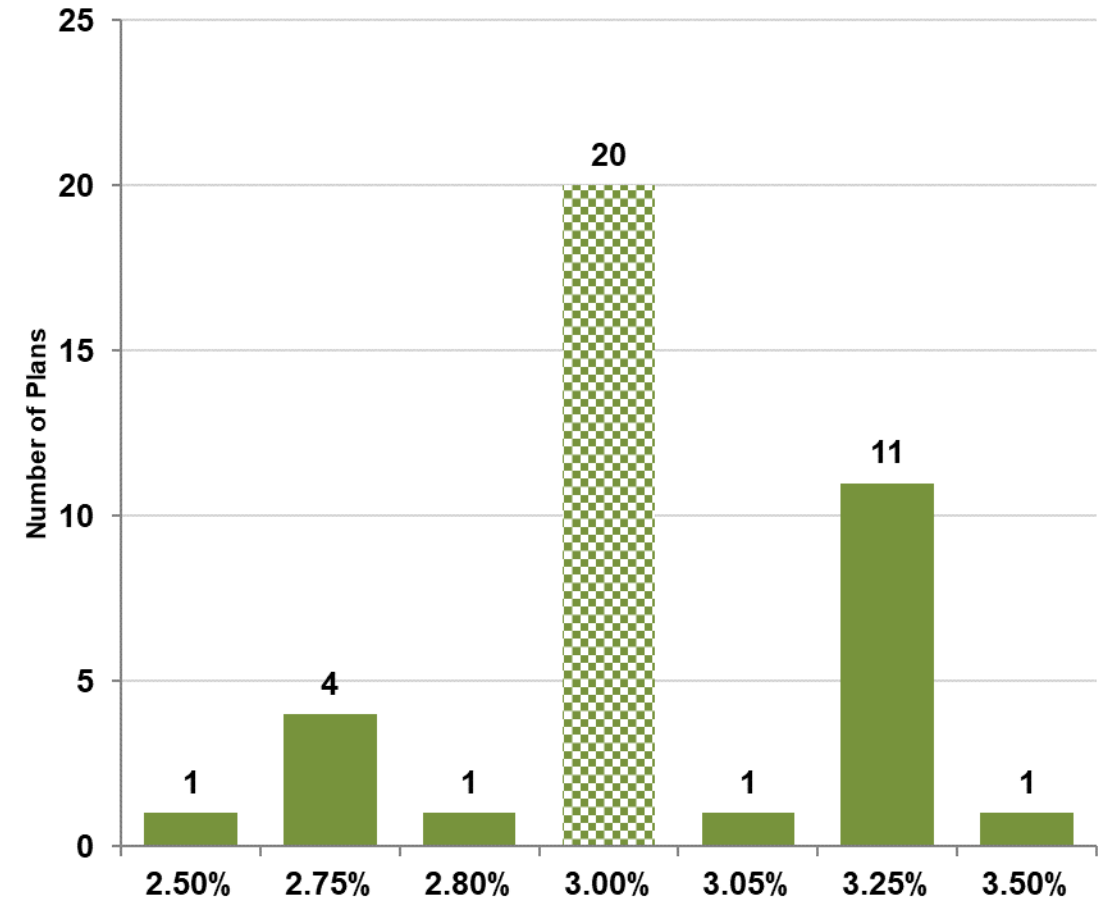
# Wage Inflation



## Components of Salary Increases



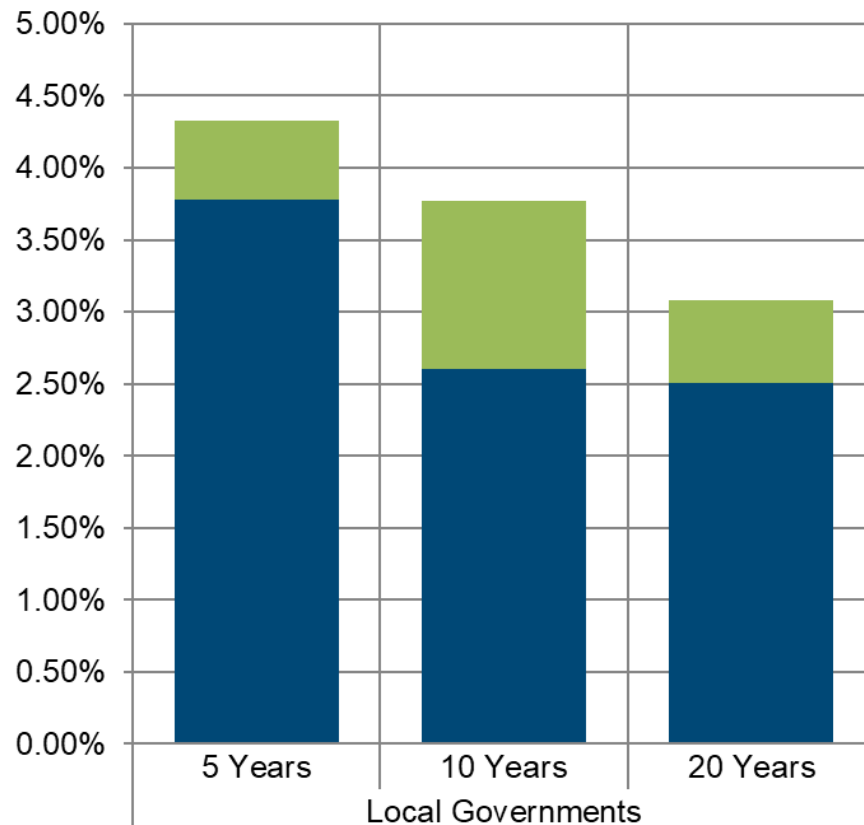
## Latest Wage Inflation Assumptions Cheiron Survey of California Systems



# Wage Inflation



**Wage Inflation Data**



Real Wage Growth	0.55%	1.17%	0.57%
Inflation	3.78%	2.60%	2.51%
Wage Inflation	4.33%	3.77%	3.08%

Local government data from BLS Quarterly Census of Employment and Wages through 4th quarter of 2022.

**Recent Bargaining Agreements**

Fiscal Year	Police	Fire
2018-2019	3.25%	3.00%
2019-2020	3.00%	4.25%
2020-2021	3.85%	4.25%
2021-2022	3.85%	4.25%
2022-2023	5.00%*	3.00% + 2.00%**
2023-2024	4.00%	4.00%
2024-2025	3.00% + 4.00%***	N/A

\* Increase effective 12/11/2022

\*\* Tentative agreement added 2% increase effective in November, 2022

\*\*\* Ongoing non-pensionable 4% retention pay becomes part of base pay

- 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%)

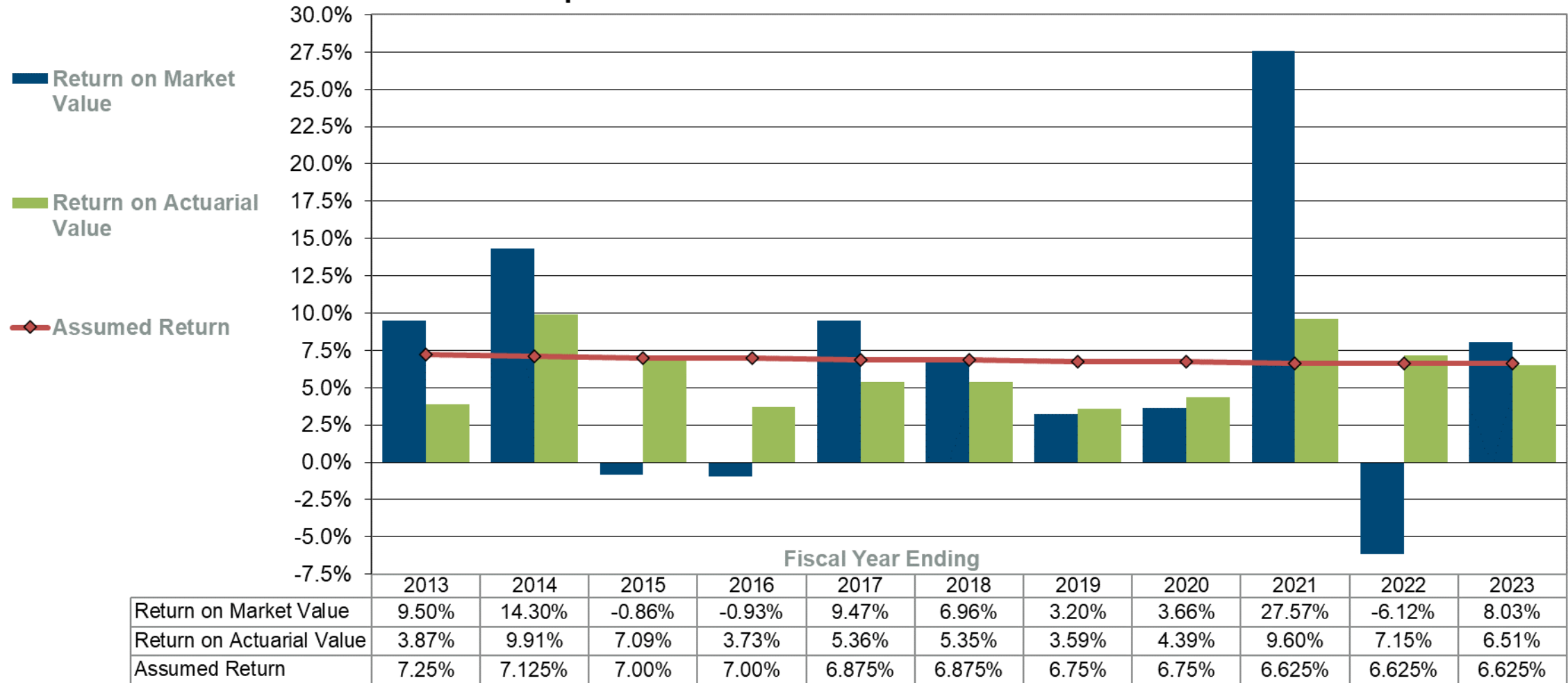


- Most powerful single assumption
  - Higher expected return → Lower expected contributions
  - Over time, actual contributions will depend on actual investment returns (not expected)
  - Current discount rate is 6.625%
- Context for selecting the discount rate
  - Historical experience
  - Industry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

# Historical Performance



Expected vs. Actual Rates of Return



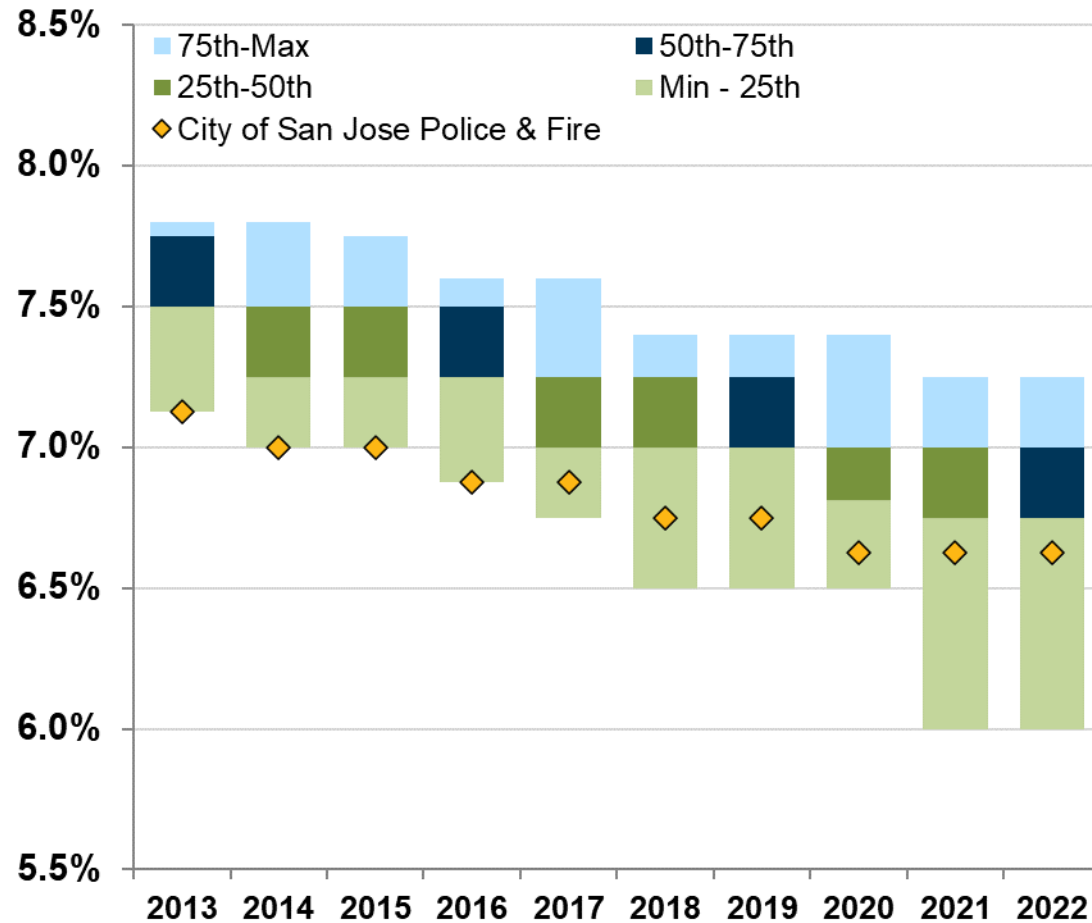
Average compound return is 6.5% on market value and 6.0% on actuarial value



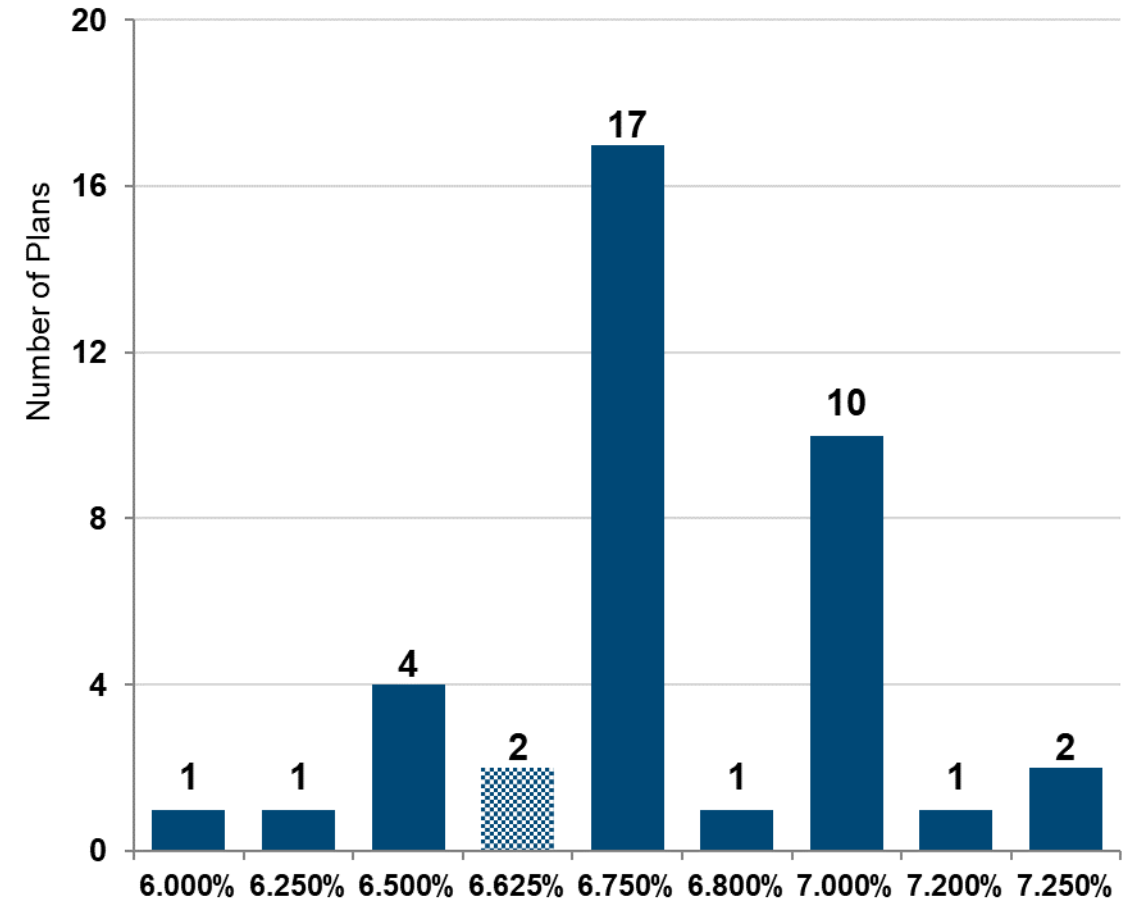
# California Survey



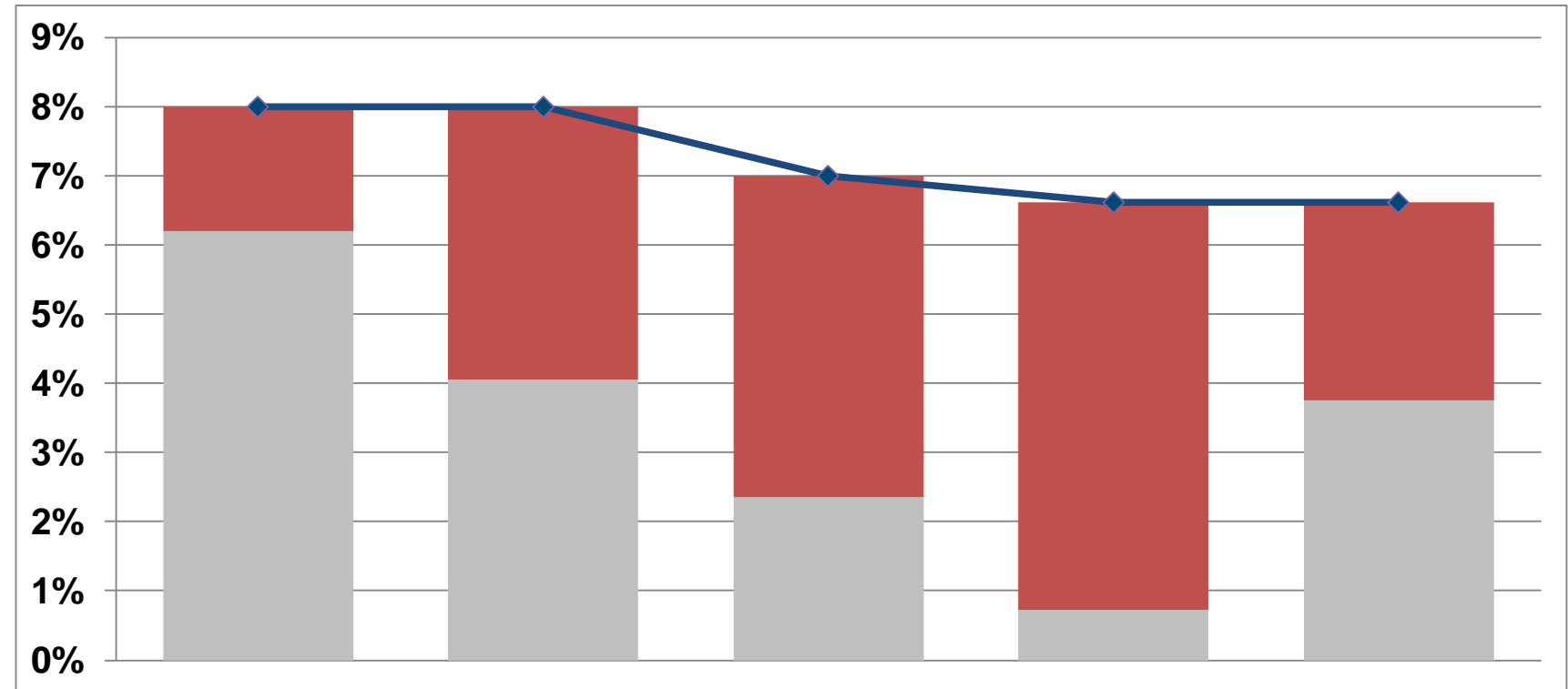
**Discount Rate Trends**  
Cheiron Survey of California Systems



**Distribution of Latest Discount Rates**  
Cheiron Survey of California Systems



# Changes in Interest Rates



	1995	2005	2015	2020	2023
Police & Fire Discount Rate	8.00%	8.00%	7.00%	6.625%	6.625%
Yield on 10-Year Treasury	6.21%	4.06%	2.36%	0.73%	3.75%
Expected Risk Premium	1.79%	3.94%	4.64%	5.90%	2.88%

# Expected Return on Assets



- Meketa provided forward-looking capital market assumptions for 2023
  - 10- and 20-year time horizons
- Horizon survey includes:
  - 10-year time horizon – 42 consultants
  - 20-year time horizon – 27 consultants
- Very significant increase in expectations this year
  - 150-200 bps for Meketa

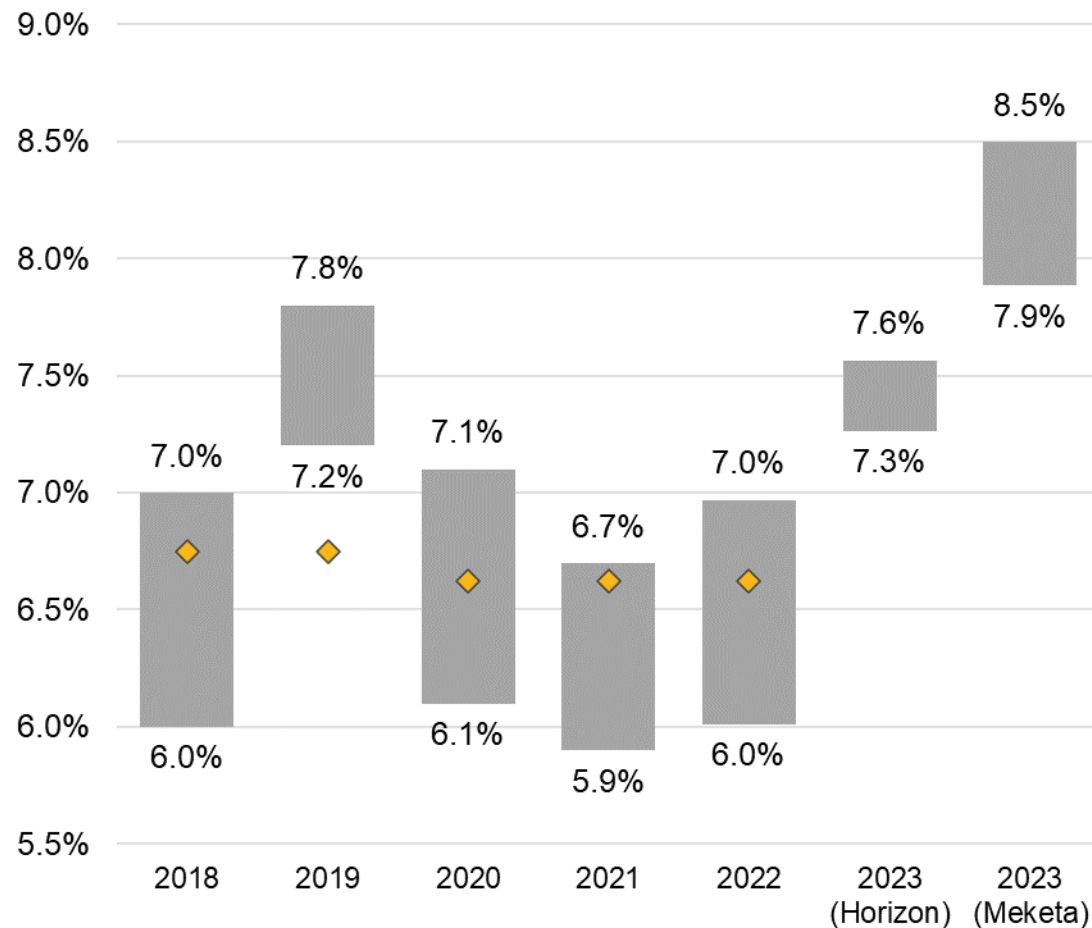
Expected Distribution of Average Annual Passive Returns				
Percentile	10-Year Timeframe		20-Year Timeframe	
	Horizon Survey	Meketa	Horizon Survey	Meketa
95th	13.4%	14.9%	11.9%	13.4%
75th	9.8%	10.7%	9.3%	10.5%
60th	8.2%	8.9%	8.2%	9.2%
55th	7.7%	8.4%	7.9%	8.9%
50th	7.3%	7.9%	7.6%	8.5%
45th	6.8%	7.4%	7.2%	8.1%
40th	6.3%	6.8%	6.9%	7.8%
25th	4.8%	5.1%	5.8%	6.5%
5th	1.4%	1.3%	3.4%	3.8%

*Cheiron calculations based on 2023 capital market assumptions from the Horizon survey and from Meketa*

# Expected Return on Assets



Expected Return on Assets vs. Discount Rate  
10 and 20-Year Time Horizons



- Capital market assumptions fluctuate
  - Interest rates
  - Valuations (P/E ratios)
- Discount rate typically falls between 10- and 20-year expectations
  - 10 years ~ 40% of the present value of benefits
  - 20 years ~ 70% of the present value of benefits
- Current discount rate of 6.625% is conservative based on 2023 capital market assumptions
  - Significant change from prior years

# Discount Rate Considerations

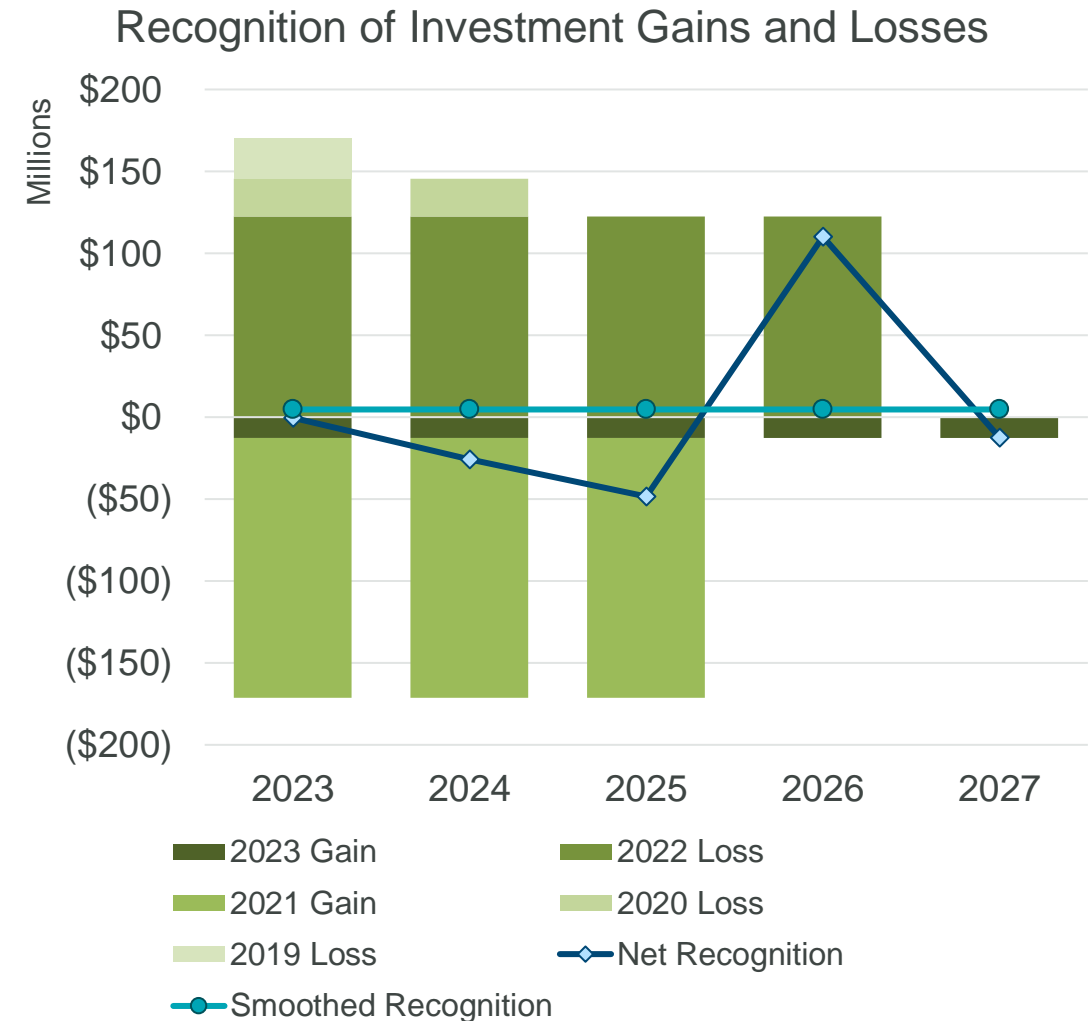


- Is the increase in capital market assumptions temporary?
  - Primary driver of increased capital market assumptions is the rise in interest rates due to actions of the Federal Reserve
  - Not clear if/when rates may come down
- Very painful to reduce discount rate
  - Be cautious about increasing discount 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
  - Greater probability of achieving the return
  - 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
  - If Board elects to increase the discount rate, small steps would be prudent

# Asset Smoothing – Proposed Reset



- In 2022 valuation, asset smoothing deferred \$86 million in investment losses
- For FYE 2023, there are \$63 million in investment gains, leaving a total of \$23 million in investment losses to recognize
- Pattern of recognition is not smooth which will affect contribution pattern going forward
- Instead of the current pattern of recognition, we recommend recognizing 20% of the \$23 million each year for the next five years
  - Recommendation would reduce actuarial assets as of 6/30/2023 by about \$5 million
- Future gains and losses will follow the prior method





- Price Inflation = 2.50%
  - No change proposed
- Wage inflation
  - Current bargaining agreements – no change proposed
  - Consider increasing ultimate assumption from 3.00% to 3.25%
- Amortization payment increases = 2.50%
  - No change proposed
- Discount rate = 6.625%
  - No change proposed
- Asset Smoothing
  - Reset smoothing





- 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, FCA, MAAA  
Consulting Actuary

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

# Appendix – California Survey



## Cheiron's 2022 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%	1/1/2022	MCERA - Merced County	6.75%	2.75%	2.50%	6/30/2022
ACERA - Alameda County	7.00%	3.25%	2.75%	12/31/2021	OCERS - Orange County	7.00%	3.00%	2.50%	12/31/2021
CalPERS	6.80%	2.80%	2.30%	6/30/2021	SACRT - Sacramento Regional Transit	6.75%	2.75%	2.50%	7/1/2022
CalSTRS - Defined Benefit	7.00%	3.50%	2.75%	6/30/2022	SamCERA - San Mateo County	6.25%	3.00%	2.50%	6/30/2022
City of Fresno - Employee System	6.75%	3.00%	2.50%	6/30/2022	San Diego Transit	6.00%	2.50%	2.50%	7/1/2022
City of Fresno - Fire & Police	6.75%	3.00%	2.50%	6/30/2022	SBCERA - San Bernardino County	7.25%	3.25%	2.75%	6/30/2022
City of San Jose Federated	6.625%	3.00%	2.50%	6/30/2022	SBCERS - Santa Barbara County	7.00%	3.00%	2.75%	6/30/2022
City of San Jose Police & Fire	6.625%	3.00%	2.50%	6/30/2022	SCERA - Sonoma County	6.75%	3.00%	2.50%	12/31/2021
Contra Costa County ERA	6.75%	3.00%	2.50%	12/31/2021	SCERS - Sacramento County	6.75%	3.00%	2.75%	6/30/2022
East Bay Municipal Utility District	6.75%	3.00%	2.50%	6/30/2022	SDCERA - San Diego County	6.50%	3.00%	2.50%	6/30/2022
FCERA - Fresno County	6.50%	3.00%	2.50%	6/30/2022	SDCERS - San Diego City	6.50%	3.05%	3.05%	6/30/2022
Golden Gate Transit	6.75%	3.25%	2.75%	1/1/2022	SFERS - San Francisco	7.20%	3.25%	2.50%	7/1/2022
ICERS - Imperial County	7.00%	3.25%	2.75%	6/30/2022	SJCERA - San Joaquin County	6.75%	3.00%	2.75%	1/1/2022
KCERA - Kern County	7.25%	3.25%	2.75%	6/30/2022	SLOCPT - San Luis Obispo County	6.75%	3.00%	2.50%	1/1/2022
LACERA - Los Angeles County	7.00%	3.25%	2.75%	6/30/2022	StanCERA - Stanislaus County	6.75%	2.75%	2.50%	6/30/2022
LACERS - Los Angeles City	7.00%	3.25%	2.75%	6/30/2022	TCERA - Tulare County	7.00%	3.00%	2.75%	6/30/2022
Los Angeles Fire & Police Pension	7.00%	3.25%	2.75%	6/30/2022	University of California	6.75%	3.25%	2.50%	7/1/2022
Los Angeles Water and Power	6.50%	3.00%	2.50%	7/1/2022	Valley Transit Authority	6.75%	2.75%	2.50%	1/1/2022
MCERA - Marin County	6.75%	3.00%	2.50%	6/30/2022	VCERA - Ventura County	7.00%	3.00%	2.50%	6/30/2022
MCERA - Mendocino County	6.75%	3.25%	2.75%	6/30/2022					

# Appendix – Capital Market Assumptions



Capital Market Assumptions									
Meketa's Assumptions					Horizon Survey Assumptions				
Asset Class	Allocation	Standard Deviation	Arithmetic Returns 10-Year	Arithmetic Returns 20-Year	Asset Class	Allocation	Standard Deviation	Arithmetic Returns 10-Year	Arithmetic Returns 20-Year
Cash Equivalents	13.0%	1.0%	3.11%	2.89%	US Treasuries	14.5%	1.1%	3.39%	3.23%
Long-term Government Bonds	1.5%	12.0%	4.91%	6.27%	US Corp Bonds - Core	4.5%	5.9%	4.88%	4.93%
Investment Grade Bonds	4.5%	4.0%	4.87%	4.76%	TIPS	2.0%	6.2%	4.27%	4.29%
TIPS	2.0%	7.0%	4.51%	4.69%	US Corp Bonds - High Yield	2.0%	10.0%	6.91%	7.03%
High Yield Bonds	2.0%	11.0%	8.50%	7.86%	Non-US Debt - Emerging	2.0%	10.9%	6.86%	7.00%
Emerging Market Bonds (major)	1.0%	12.0%	7.30%	7.07%	US Equity - Large Cap	24.0%	16.6%	8.19%	8.67%
Emerging Market Bonds (local)	1.0%	12.0%	7.00%	6.64%	Non-US Equity - Developed	11.0%	18.3%	9.05%	9.38%
US Equity	24.0%	18.0%	9.11%	10.10%	Non-US Equity - Emerging	7.0%	23.9%	10.86%	11.39%
Developed Market Equity (non-US)	11.0%	19.0%	11.53%	11.34%	Private Equity	13.0%	22.6%	11.92%	12.77%
Emerging Market Equity	7.0%	23.0%	12.36%	12.21%	Private Debt	4.0%	11.7%	8.84%	8.89%
Buyouts	9.0%	25.0%	11.83%	13.21%	Real Estate	9.0%	16.7%	7.34%	7.48%
Venture Capital	4.0%	36.0%	15.13%	16.52%	Infrastructure	4.0%	17.1%	8.56%	8.38%
Private Debt	4.0%	15.0%	10.31%	9.96%	Hedge Funds	3.0%	8.1%	6.29%	6.54%
Core Private Real Estate	5.0%	12.0%	4.91%	7.09%	Inflation		1.9%	2.56%	2.47%
Value-Added Real Estate	2.0%	20.0%	8.12%	10.01%					
Opportunistic Real Estate	2.0%	26.0%	10.25%	12.37%					
Natural Resources (Private)	3.0%	24.0%	10.86%	12.16%					
Infrastructure (Core Private)	1.0%	14.0%	7.21%	8.61%					
Hedge Funds	3.0%	7.0%	5.61%	6.32%					
Inflation		3.0%	2.54%	2.63%					