

San José Federated City Employees' Retirement System

5c



Economic Assumptions Review

October 21, 2021

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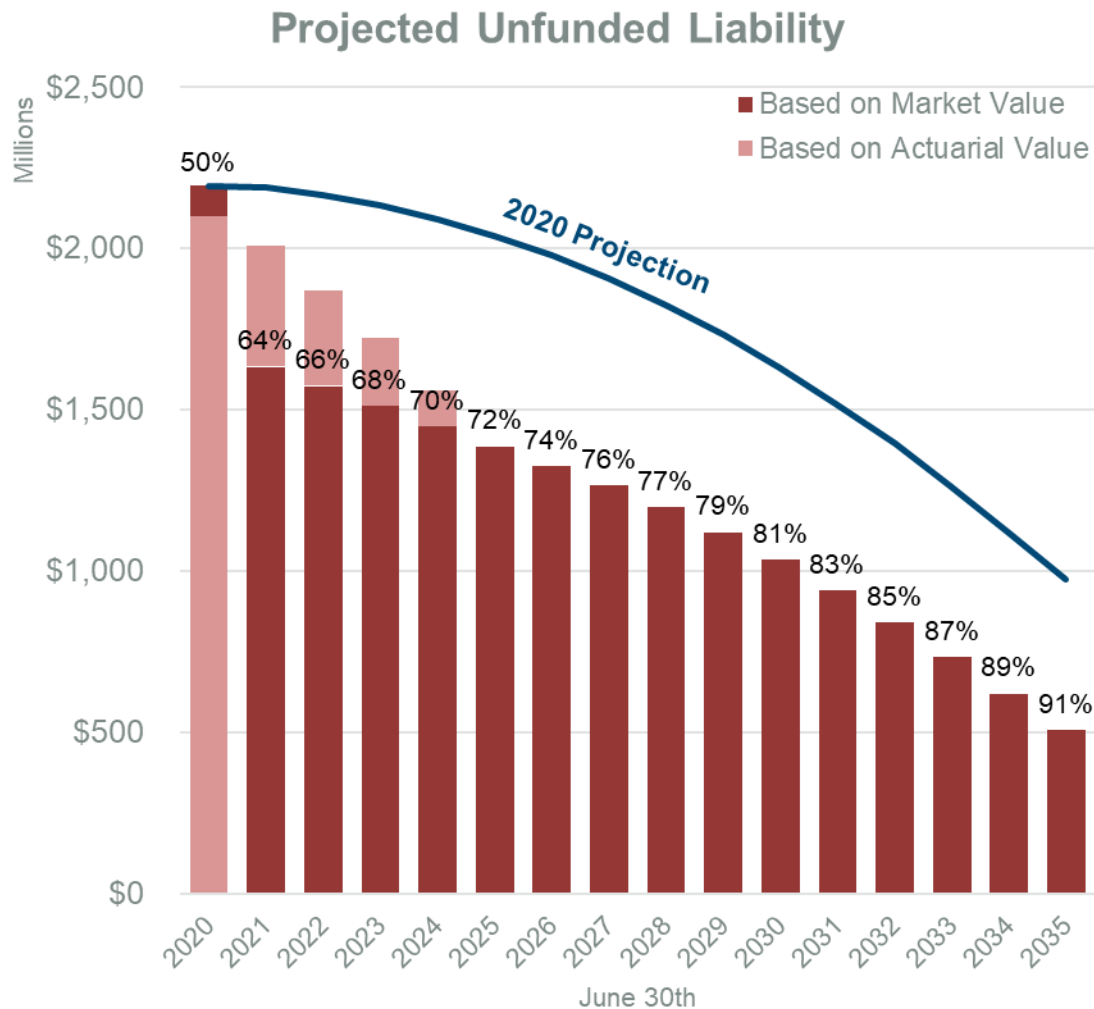


- Schedule
- Preliminary Updates
- Economic Assumptions
 - Price Inflation
 - Wage Inflation
 - Amortization Payment Increase Rate
 - Discount Rate
- Board Decisions
- Appendix



- October Board Meeting
 - Pension Economic Assumption Review
- November Board Meeting
 - Draft Pension Valuation Results
 - Review OPEB Assumptions
 - Final Decisions on OPEB Assumptions
- December Board Meeting
 - Segal Pension Audit Results
 - Final Pension Valuation Report
 - Draft OPEB Valuation Results
- January Board Meeting
 - Segal OPEB Audit Results
 - Final OPEB Valuation Report

Preliminary Funded Status Update

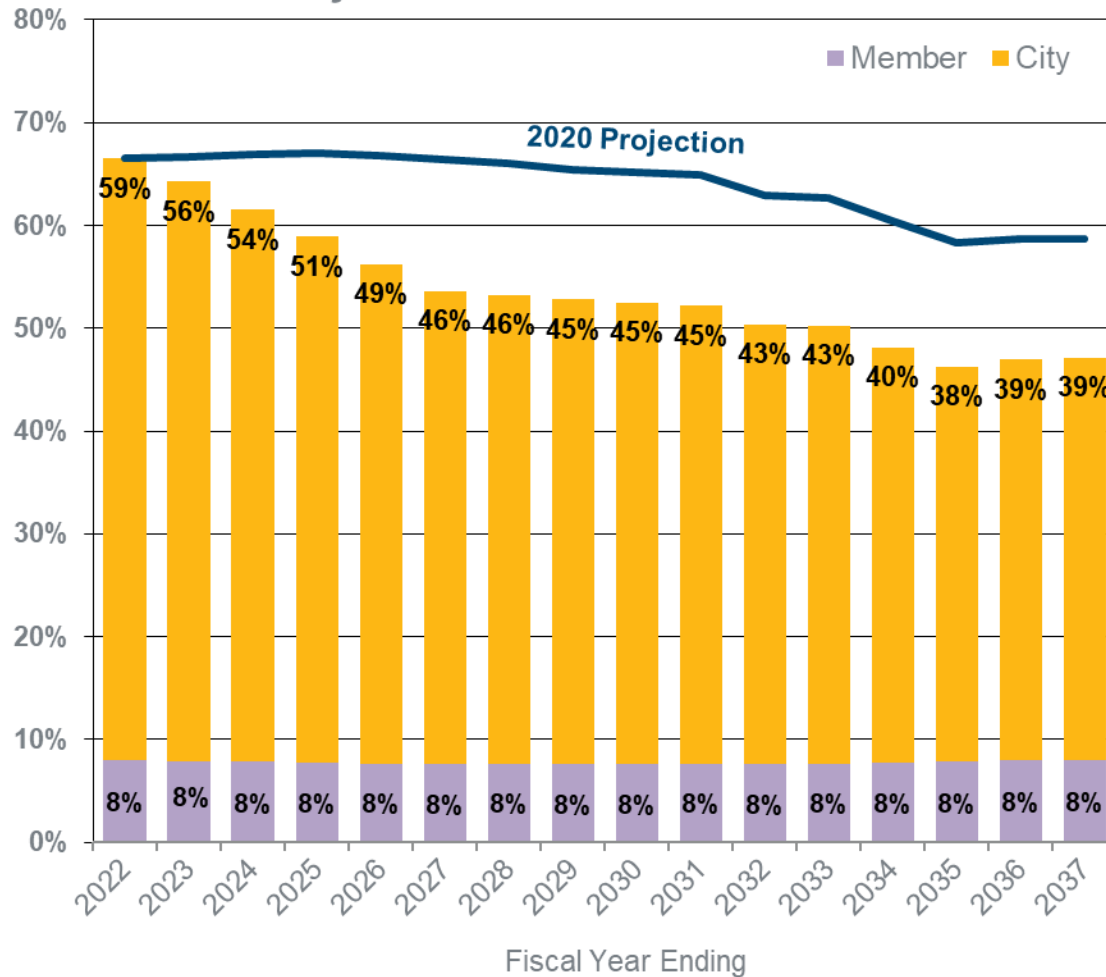


- Exceptional investment returns for FYE 2021 changed the outlook
- Based on Market Value of Assets:
 - Funded status estimated to improve from 50% to 64%
 - UAL estimated to be reduced from \$2.2 billion to \$1.6 billion
- Based on Actuarial Value of Assets:
 - Funded status estimated to improve from 52% to 56%
 - UAL estimated to be reduced from \$2.1 billion to \$2.0 billion
- 2021 valuation changes still pending
 - Potential assumption changes
 - Updated census data
- Significant potential variability in projections

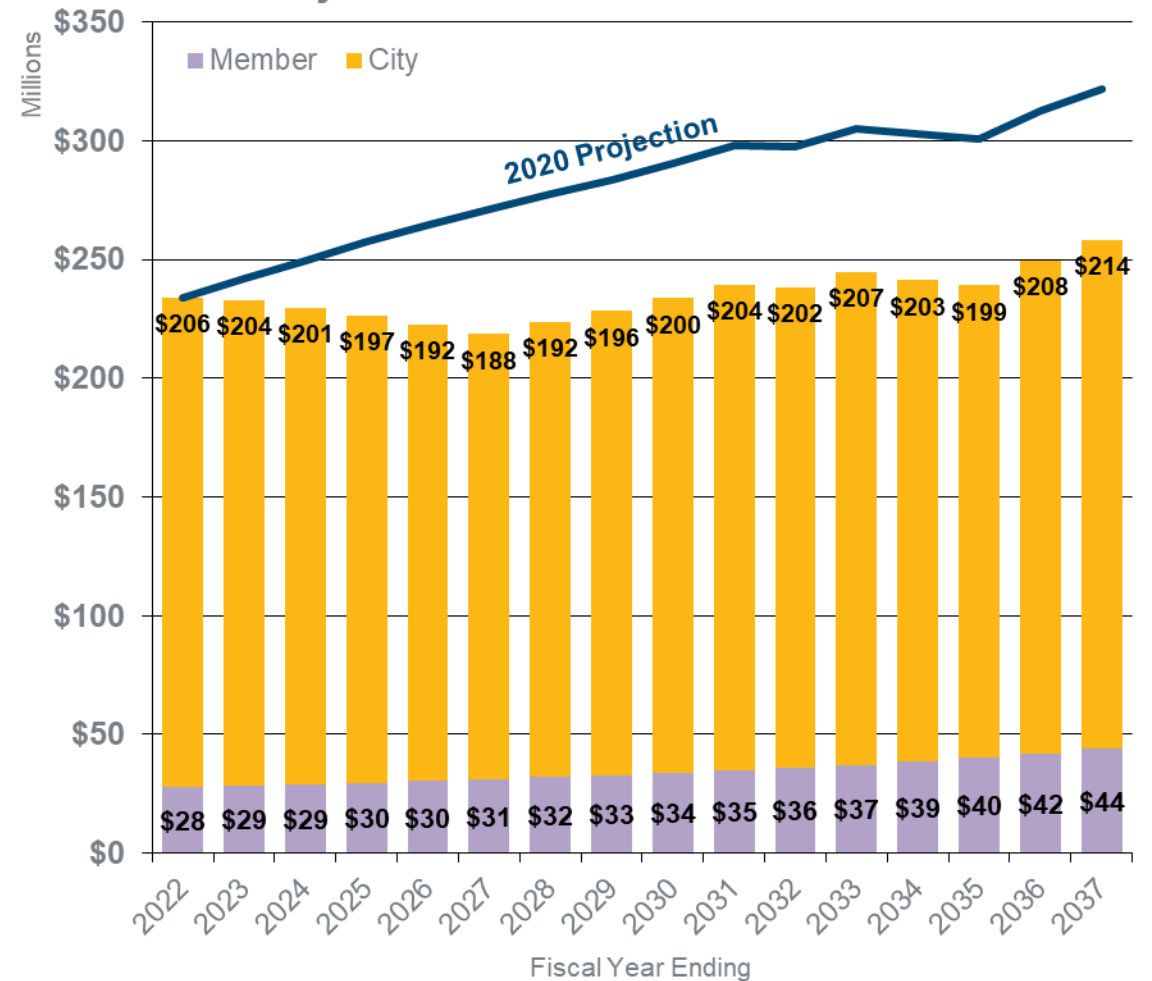
Preliminary Contribution Projection Update



Projected Contribution Rates



Projected Contribution Amounts





Economic Assumptions

Review of Economic Assumptions



- Economic assumptions are reviewed every year
- Demographic experience study performed every four to five years
 - Last study in 2019
- Assumptions adopted will be used for the 2021 actuarial valuation to determine contributions for FYE 2023
 - Price Inflation – Pension and OPEB valuations
 - Wage Inflation – Pension and OPEB valuations
 - Amortization Payment Increase Rate – Pension valuation only
 - Discount Rate – Pension valuation only

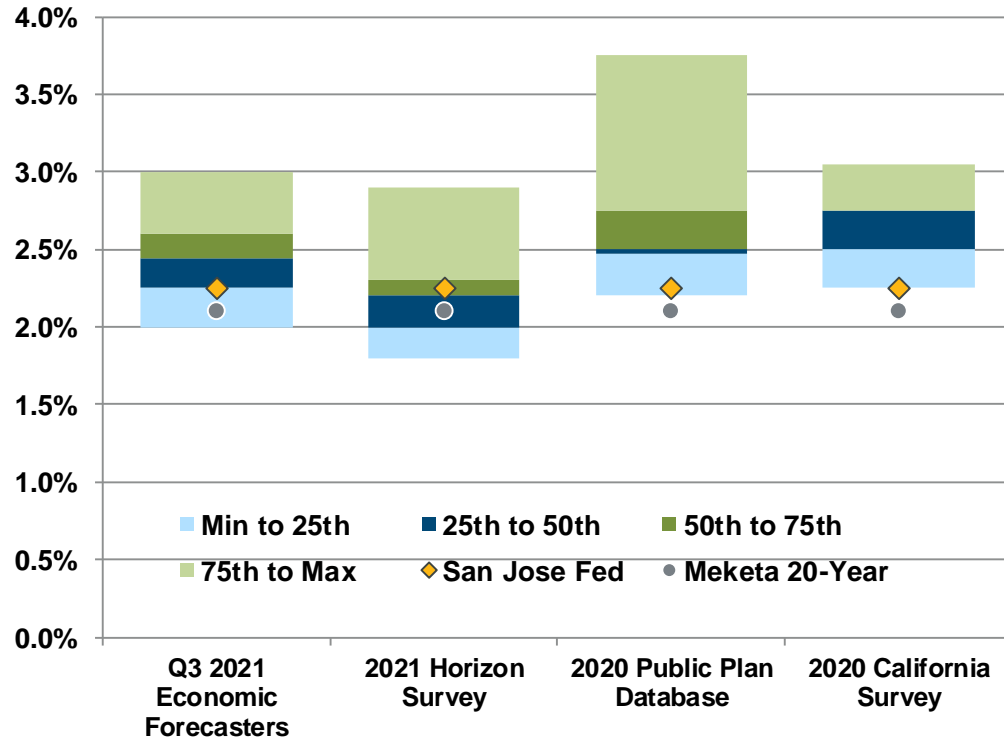


- Price inflation is the foundation for all economic assumptions
 - Wage inflation = Price inflation + Real wage growth
 - Expected return = Price inflation + Real return
 - Ultimate health care trend = Price inflation + Real per capita GDP growth
- Current price inflation assumption = 2.25%
 - No change recommended
- Very limited direct impact on the valuation
 - Tier 1 COLA is fixed at 3.0% regardless of inflation
 - Tier 1 Guaranteed Purchasing Power provision and 415(b) limits affect very few retirees
 - Tier 2 COLAs equal inflation up to a maximum that varies from 1.25% to 2.0% depending on service
 - Given the volatility of inflation, Tier 2 COLAs will average something slightly less than their maximum
 - However, we recommend assuming the maximum as a conservative assumption

Price Inflation

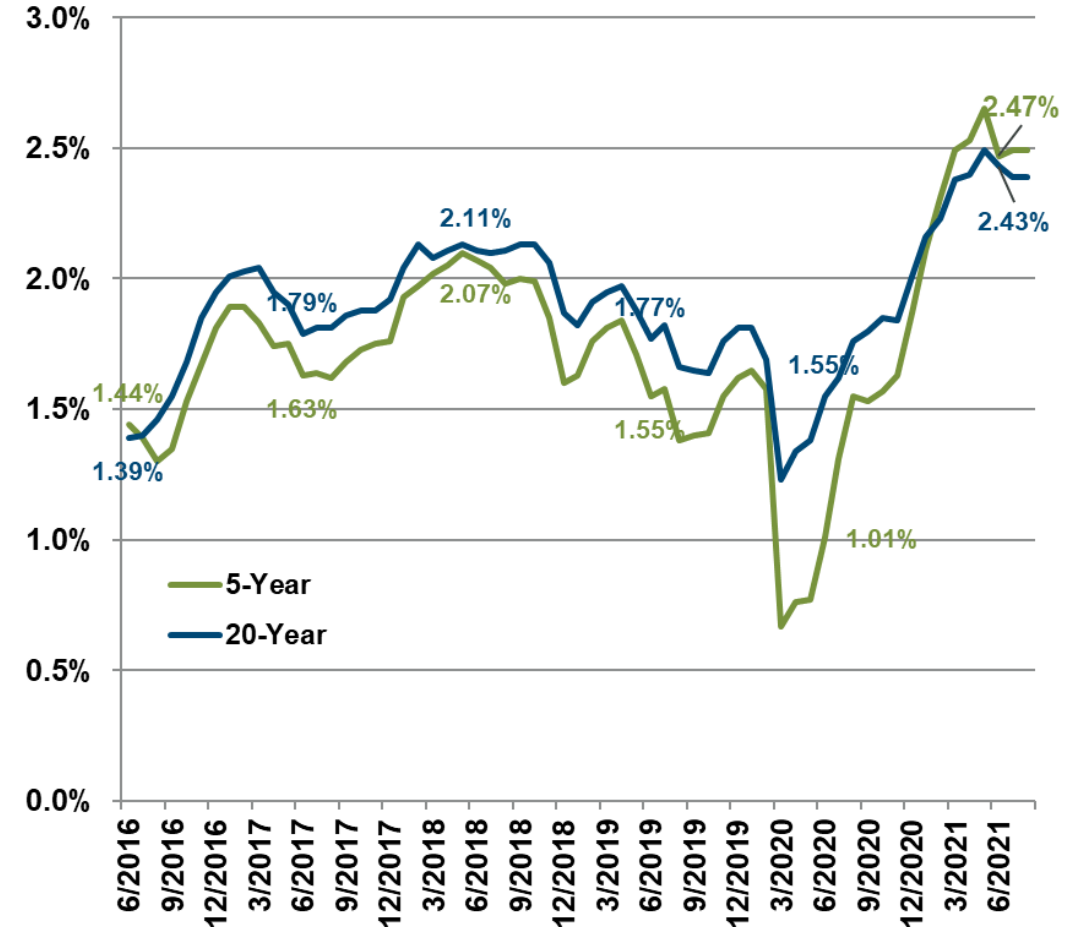


Survey of CPI Assumptions



	Q3 2021 Economic Forecasters	2021 Horizon Survey	2020 Public Plan Database	2020 California Survey
Minimum	2.00%	1.80%	2.20%	2.25%
25th	2.25%	2.00%	2.48%	2.50%
50th	2.44%	2.20%	2.50%	2.75%
75th	2.60%	2.30%	2.75%	2.75%
Maximum	3.00%	2.90%	3.75%	3.05%

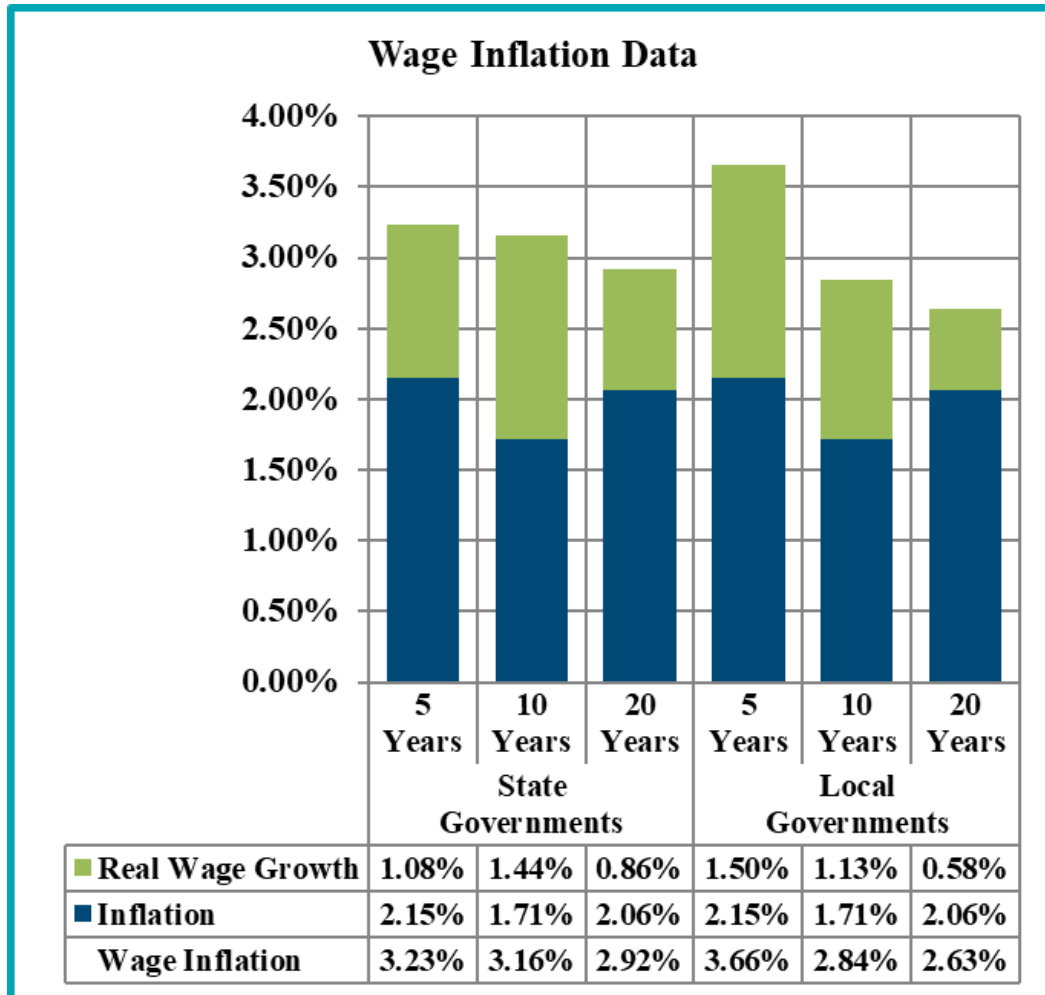
Break-Even Inflation





- Wage inflation can be thought of as the annual across-the-board increases in wages
 - Individual salary increases in excess of wage inflation are studied as part of the merit salary scale
- Wage inflation generally exceeds price inflation over the long term by some margin reflecting the history of increased purchasing power
- Wage inflation is used in the actuarial valuation as the minimum individual salary increase and the rate of payroll growth
- The current assumption reflects current bargaining agreements and then a 3.00% ultimate rate
 - 2.25% price inflation + 0.75% real wage growth

Wage Inflation



- San José bargaining agreements
 - 3.00% – 3.25% for FYE 2022
 - 3.00% for FYEs 2023 and 2024
 - Some agreements are still tentative
- California Survey
 - Range = 2.75% to 3.50%
 - Median = 3.25% (20 plans)
- We propose no change
 - Reflect current bargaining agreements
 - 3.00% ultimate rate
 - 0.75% real wage growth + 2.25% inflation
 - 12 plans in CA survey

Local government data from BLS Quarterly Census of Employment and Wages through 1st quarter of 2021.

Amortization Payment Increase Rate

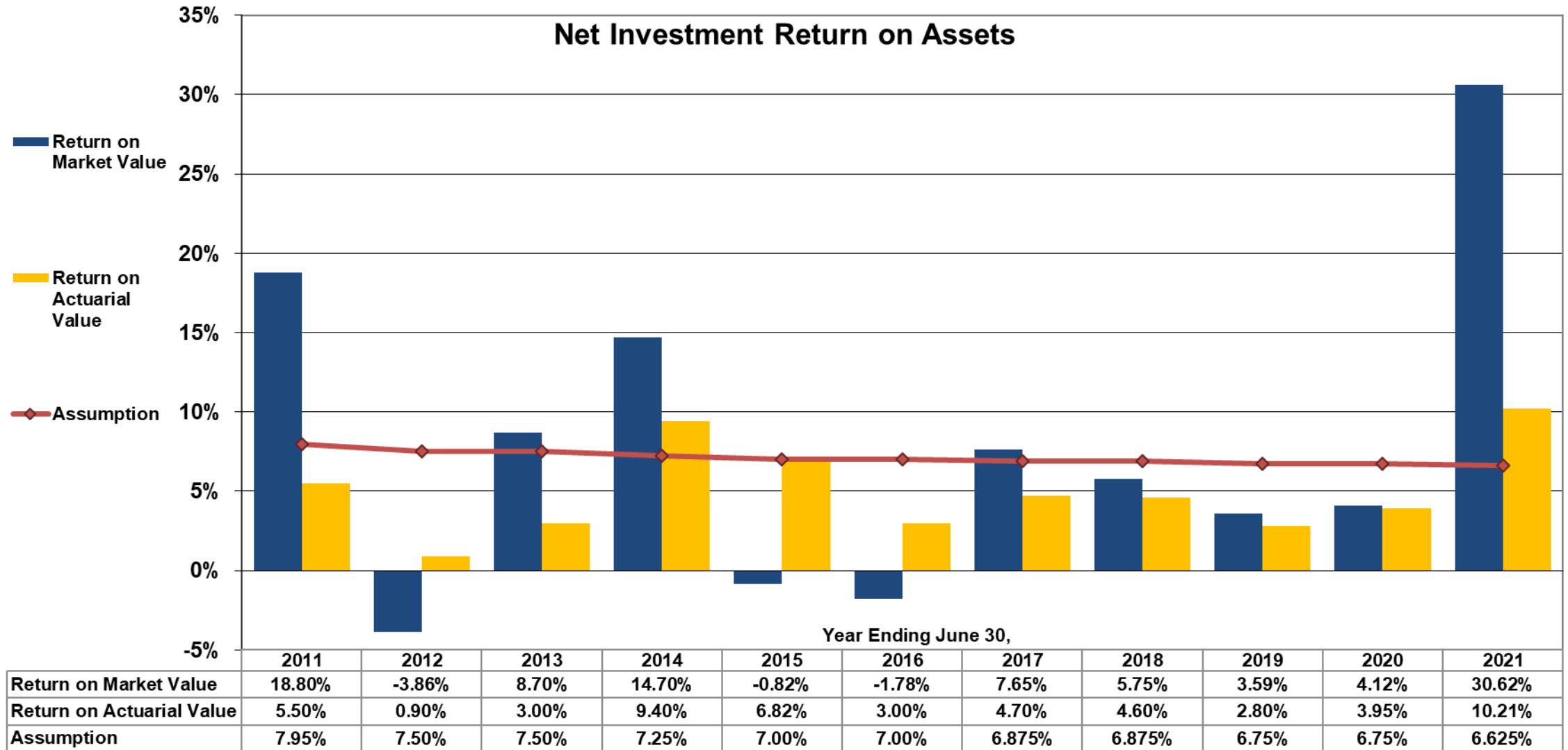


- Amortization payments currently increase each year at 2.75%
 - More conservative than payroll growth, so amortization payments are expected to decline slightly as a percentage of payroll
 - If total payroll grows slower than 2.75% per year, the amortization payments become a larger percentage of payroll
 - Police and Fire uses 2.25% to match inflation assumption
- Recommend maintaining assumption of 2.75%
 - Alternative option to reduce to 2.5% or 2.25%



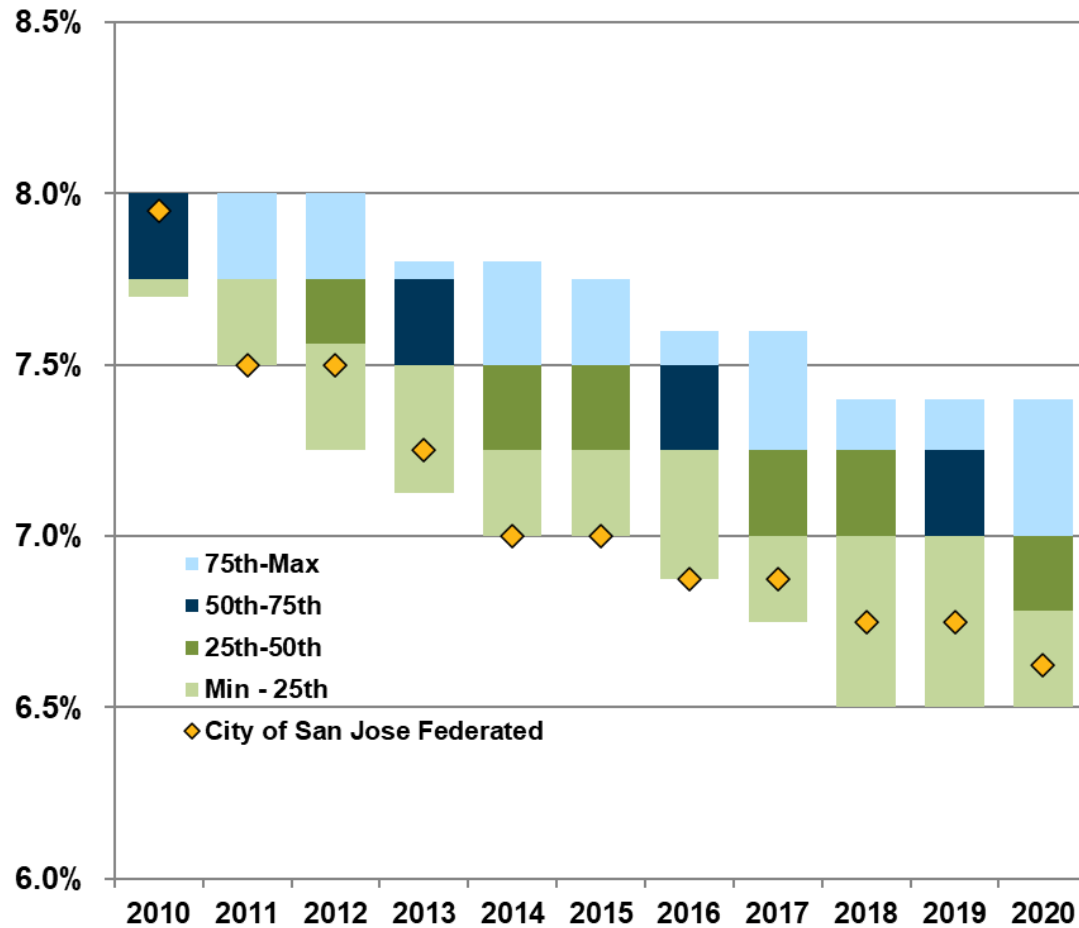
- Most powerful single assumption
 - Higher expected return → Lower expected contributions
 - Over time, actual contributions will depend on actual investment returns (not expected)
 - Current discount rate is 6.625% (Gradually reduced from 8.25% prior to 2009)
- Context for selecting the discount rate
 - Historical experience
 - Industry trends
- Primary factors considered in selecting the discount rate
 - Expectations for the future
 - Board's risk preference

Historical Performance

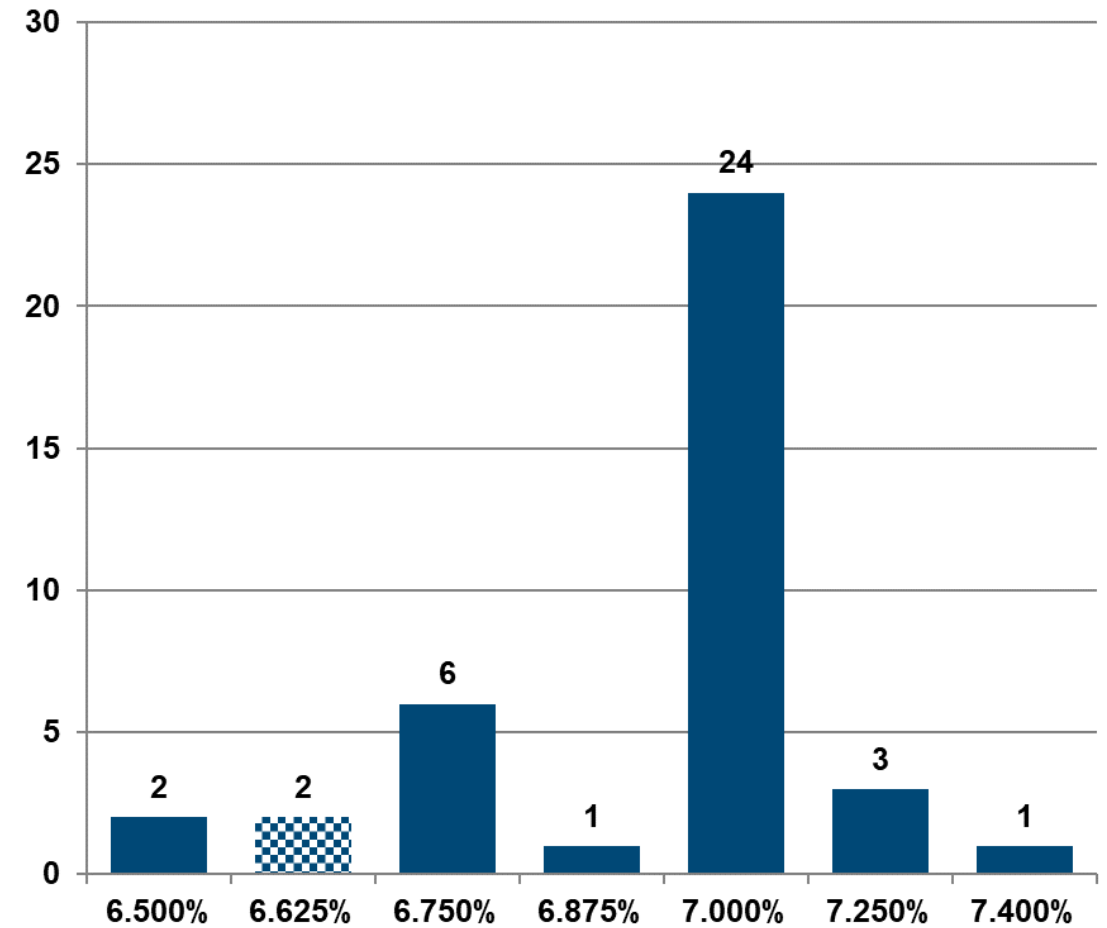




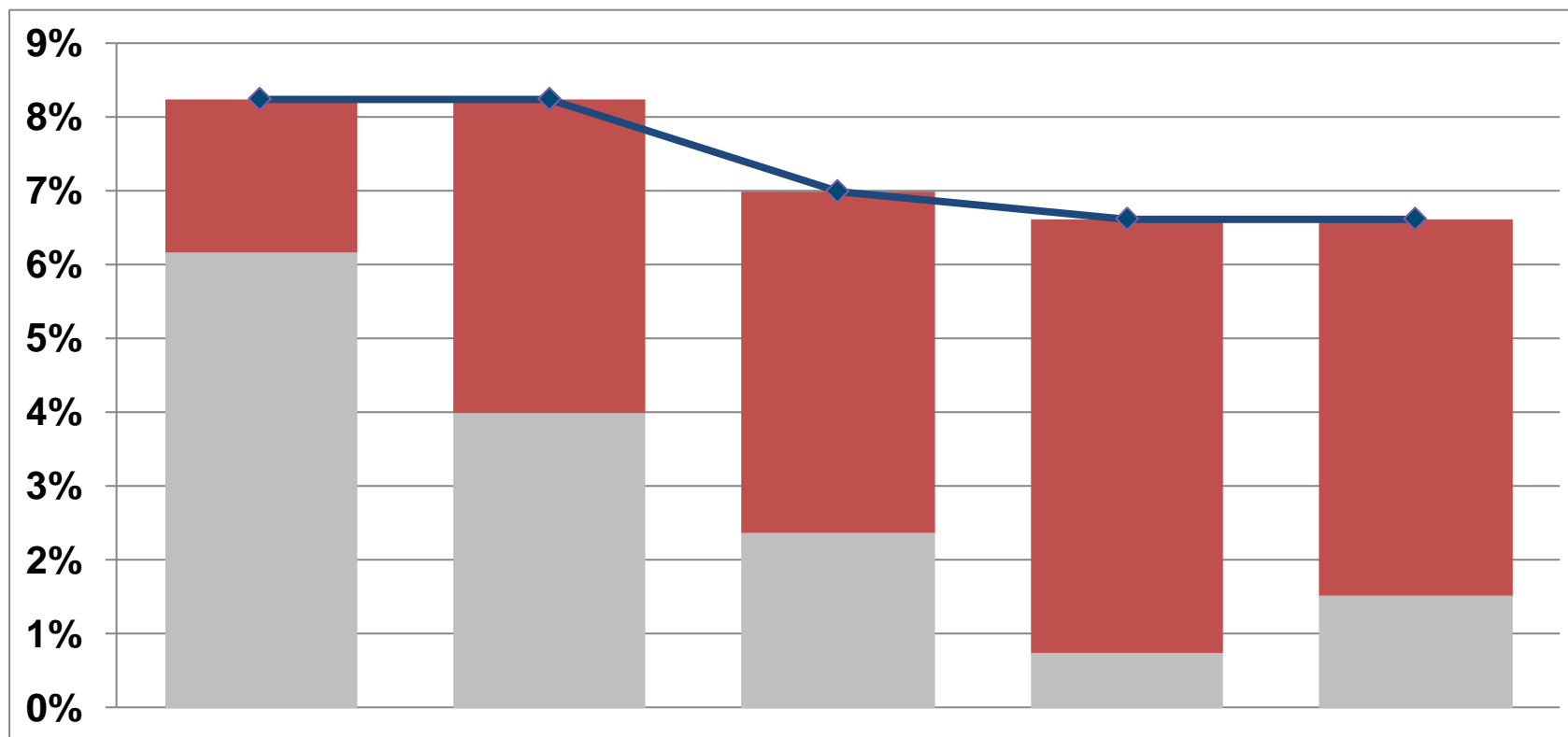
Discount Rate Trends
Cheiron Survey of California Systems



Distribution of Latest Discount Rates
Cheiron Survey of California Systems



Declining Interest Rates



	1995	2005	2015	2020	2021
Federated Discount Rate	8.25%	8.25%	7.00%	6.625%	6.625%
Yield on 10-Year Treasury	6.17%	4.00%	2.36%	0.73%	1.52%
Expected Risk Premium	2.08%	4.25%	4.64%	5.90%	5.11%

Expected Return on Assets

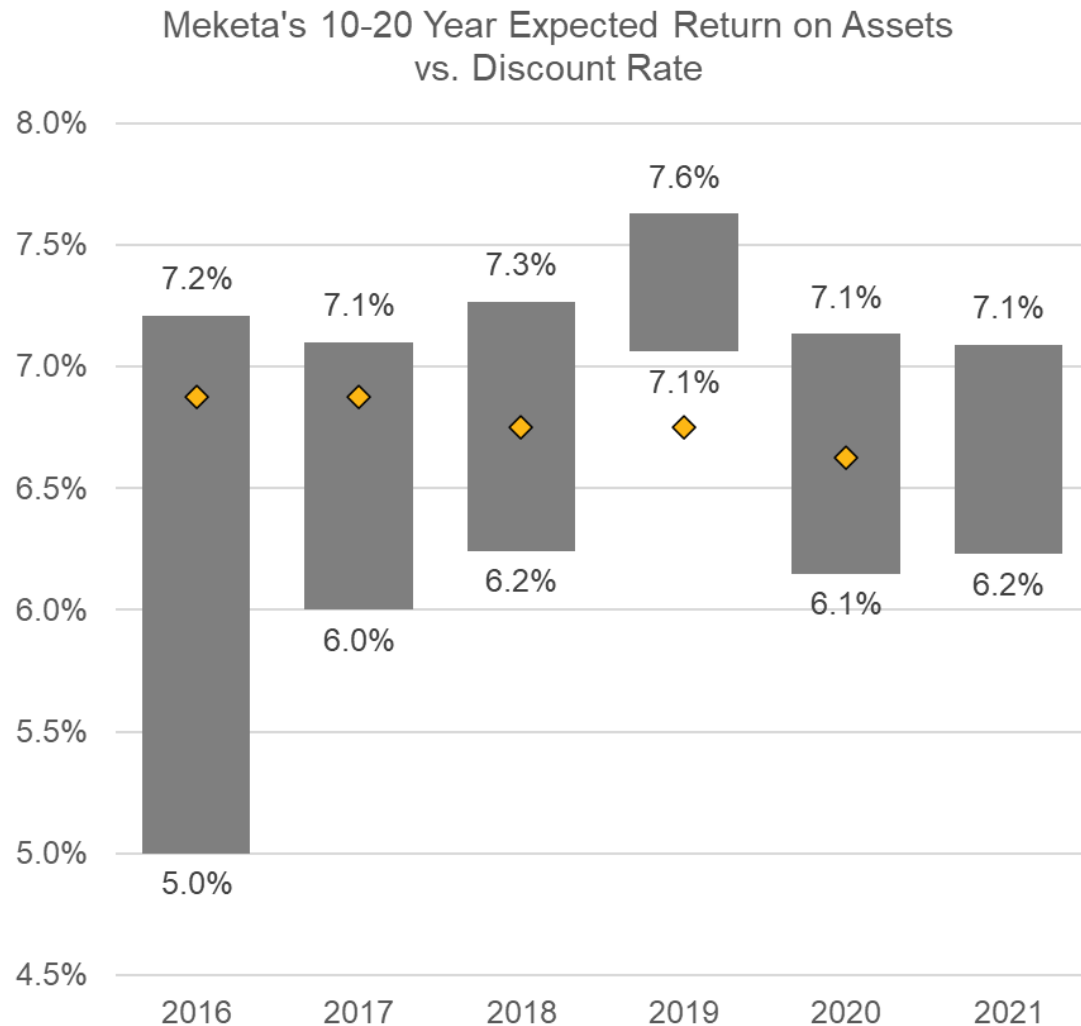


- Meketa provided forward-looking capital market assumptions for 2021
 - 10-Year time horizon
 - 20-Year time horizon
- Horizon survey includes 39 consultants over a 10-year horizon and 24 consultants over a 20-year horizon
- Lower interest rates and higher valuations have reduced future expected returns

Expected Distribution of Average Annual Passive Returns				
Percentile	10-Years		20-Years	
	Meketa	Horizon	Meketa	Horizon
95th	13.49%	13.02%	12.08%	11.86%
75th	9.00%	8.96%	8.95%	9.02%
60th	7.10%	7.24%	7.62%	7.82%
55th	6.54%	6.73%	7.22%	7.45%
50th	5.98%	6.22%	6.83%	7.09%
45th	5.43%	5.72%	6.44%	6.74%
40th	4.87%	5.21%	6.04%	6.38%
25th	3.05%	3.55%	4.75%	5.20%
5th	-1.03%	-0.17%	1.82%	2.53%

We did not exactly match Meketa's geometric return calculations. Meketa's calculations produced median returns of 6.23% over 10 years and 7.09% over 20 years.

Expected Return on Assets



- 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% remains reasonable



- Price Inflation = 2.25%
 - No change recommended
- Wage inflation = Current bargaining agreements, 3.00%
 - No change recommended
- Amortization payment increases = 2.75%
 - No change recommended, but could reduce by 25 or 50 basis points
- Discount rate = 6.625%
 - No change recommended



- The purpose of this presentation is to review the economic assumptions 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 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 Federated City Employees' Retirement System 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.

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Appendix – California Survey



Cheiron's 2020 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	7.00%	3.00%	2.75%	1/1/2020	SACRT - Sacramento Regional Transit	6.75%	2.75%	2.50%	7/1/2020
ACERA - Alameda County	7.00%	3.50%	2.75%	12/31/2020	SamCERA - San Mateo County	6.50%	3.00%	2.50%	6/30/2020
CalPERS	7.00%	2.75%	2.50%	6/30/2020	San Diego Transit	6.75%	2.75%	2.75%	7/1/2020
CalSTRS - Defined Benefit	7.00%	3.50%	2.75%	6/30/2020	SBCERA - San Bernardino County	7.25%	3.25%	2.75%	6/30/2020
City of Fresno - Employee System	7.00%	3.25%	2.75%	6/30/2020	SBCERS - Santa Barbara County	7.00%	3.00%	2.75%	6/30/2020
City of Fresno - Fire & Police	7.00%	3.25%	2.75%	6/30/2020	SCERA - Sonoma County	7.00%	3.25%	2.75%	12/31/2019
City of San Jose Federated	6.625%	3.00%	2.25%	6/30/2020	SCERS - Sacramento County	6.75%	3.00%	2.75%	6/30/2020
City of San Jose Police & Fire	6.625%	3.00%	2.25%	6/30/2020	SDCERA - San Diego County	7.00%	3.25%	2.75%	6/30/2020
Contra Costa County ERA	7.00%	3.25%	2.75%	12/31/2019	SDCERS - San Diego City	6.50%	3.05%	3.05%	6/30/2020
East Bay Municipal Utility District	7.00%	3.25%	2.75%	6/30/2019	SFERS - San Francisco	7.40%	3.25%	2.50%	7/1/2020
FCERA - Fresno County	7.00%	3.25%	2.75%	6/30/2020	SJCERA - San Joaquin County	7.00%	3.00%	2.75%	1/1/2020
Golden Gate Transit	7.00%	3.25%	2.75%	1/1/2020	SLOCPT - San Luis Obispo county	6.875%	2.75%	2.25%	1/1/2020
ICERS - Imperial County	7.00%	3.25%	2.75%	6/30/2020	StanCERA - Stanislaus County	7.00%	3.00%	2.75%	6/30/2020
KCERA - Kern County	7.25%	3.25%	2.75%	6/30/2020	TCERA - Tulare County	7.00%	3.00%	2.75%	6/30/2020
LACERA - Los Angeles County	7.00%	3.25%	2.75%	6/30/2020	University of California	6.75%	3.25%	2.50%	7/1/2020
LACERS - Los Angeles City	7.00%	3.25%	2.75%	6/30/2020	Valley Transit Authority	7.00%	3.00%	2.75%	1/1/2020
Los Angeles Fire & Police Pension	7.00%	3.25%	2.75%	6/30/2020	VCERA - Ventura County	7.25%	3.25%	2.75%	6/30/2020
Los Angeles Water and Power	7.00%	3.25%	2.75%	7/1/2020					
MCERA - Marin County	6.75%	3.00%	2.50%	6/30/2020	Minimum	6.50%	2.75%	2.25%	6/30/2019
MCERA - Mendocino County	6.75%	3.25%	2.75%	6/30/2020	Median (50th Percentile)	7.00%	3.25%	2.75%	6/30/2020
MCERA - Merced County	7.00%	2.75%	2.50%	6/30/2020	Maximum	7.40%	3.50%	3.05%	12/31/2020
OCERS - Orange County	7.00%	3.25%	2.75%	12/31/2019					

Appendix – Meketa's CMAs



Meketa's Capital Market Assumptions - Federated Pension Portfolio

Asset Class	Allocation	Standard Deviation	Geometric Return	
			10-Year	20-Year
Cash Equivalents	5.00%	1.00%	0.70%	1.10%
Investment Grade Bonds	8.00%	4.00%	1.20%	1.80%
Long-term Government Bonds	2.00%	12.00%	1.60%	2.50%
TIPS	2.00%	7.00%	1.20%	1.80%
High Yield Bonds	2.00%	11.00%	3.30%	4.20%
Private Debt	3.00%	16.00%	6.60%	6.80%
Emerging Market Bonds (major)	1.50%	11.00%	3.50%	3.70%
Emerging Market Bonds (local)	1.50%	14.00%	4.30%	3.90%
US Equity	25.00%	18.00%	5.20%	6.80%
Developed Market Equity (non-US)	12.00%	19.00%	6.70%	7.10%
Emerging Market Equity	12.00%	24.00%	7.50%	8.10%
Buyouts	8.00%	25.00%	7.90%	9.00%
Venture Capital	4.00%	36.00%	8.10%	9.60%
Core Private Real Estate	5.00%	12.00%	5.00%	5.50%
Value-Added Real Estate	2.00%	20.00%	7.50%	7.70%
Opportunistic Real Estate	1.00%	26.00%	8.50%	9.20%
Natural Resources (Private)	2.00%	23.00%	7.90%	8.30%
Commodities (naive)	0.00%	17.00%	3.40%	3.70%
Infrastructure (Core Private)	1.00%	14.00%	7.10%	7.00%
Hedge Funds	3.00%	7.00%	3.40%	4.30%
Total	100.00%	14.12%	6.23%	7.09%