

San José Federated City Employees' Retirement System

5c

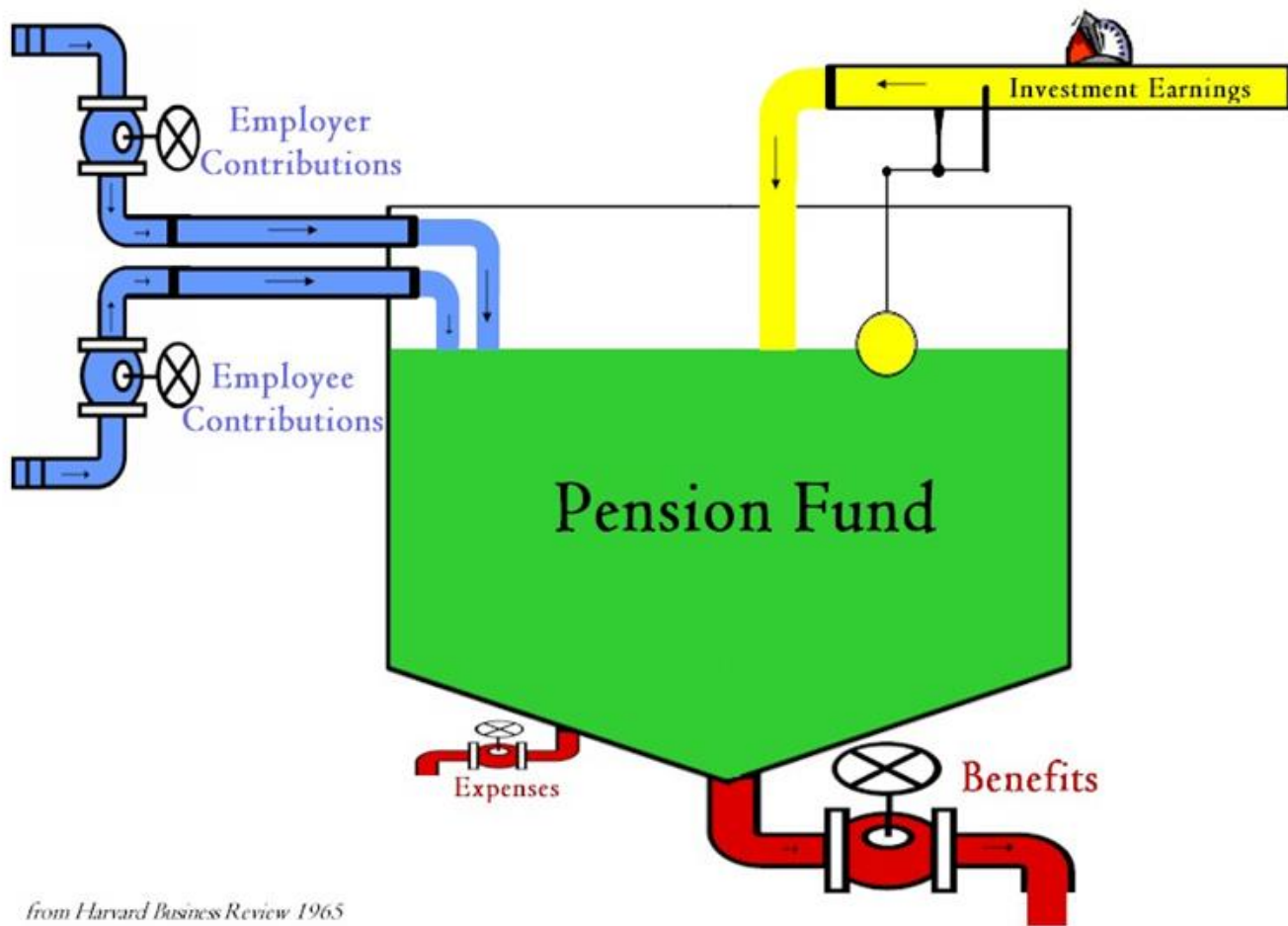


Actuarial Funding Background

October 17, 2024

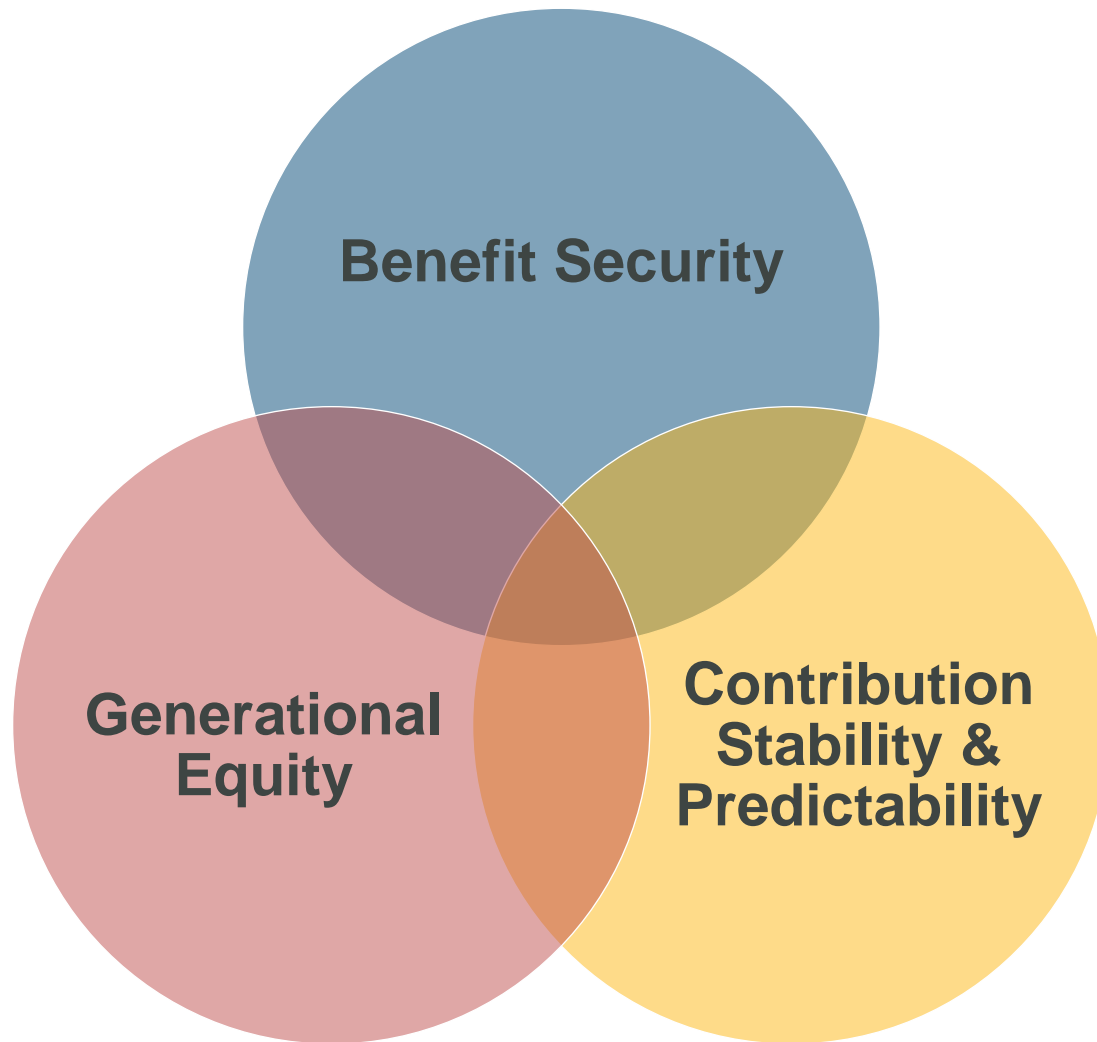
Bill Hallmark, ASA, EA, MAAA, FCA
Steven Hastings, FSA, EA, MAAA, FCA

Fundamental Law of Pension Funding



$$\begin{aligned} &\text{Contributions +} \\ &\text{Investments} \\ &= \\ &\text{Expenses +} \\ &\text{Benefits} \end{aligned}$$

from Harvard Business Review 1965



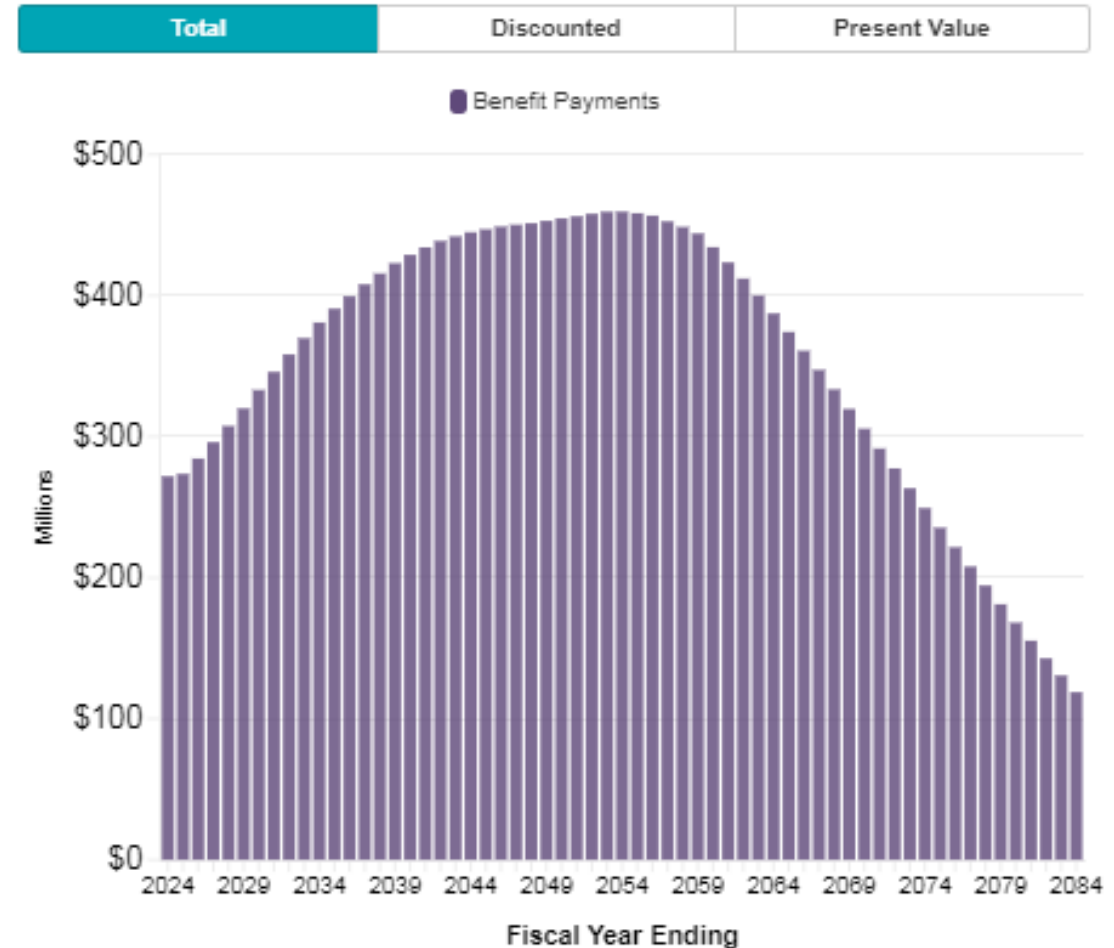
- **Benefit Security** – The primary objective is to make sure the benefits can be paid when due
- **Generational Equity** – Ideally, each generation of taxpayers pays for the retirement benefits of the employees who provided services to that generation
- **Contribution Stability and Predictability** – Volatility in contributions, particularly if it is unexpected, is difficult to manage within the budget process

Calculating a Funding Target



- Project pension benefits based on:
 - Census information
 - Plan provisions
 - Assumptions
 - Salary increases
 - Retirement rates
 - Mortality
 - Etc.
- Discount projected pension benefits to the valuation date
 - Present Value of Benefits (i.e., value in today's dollars)
- Allocate value of benefits for active members between past and future service

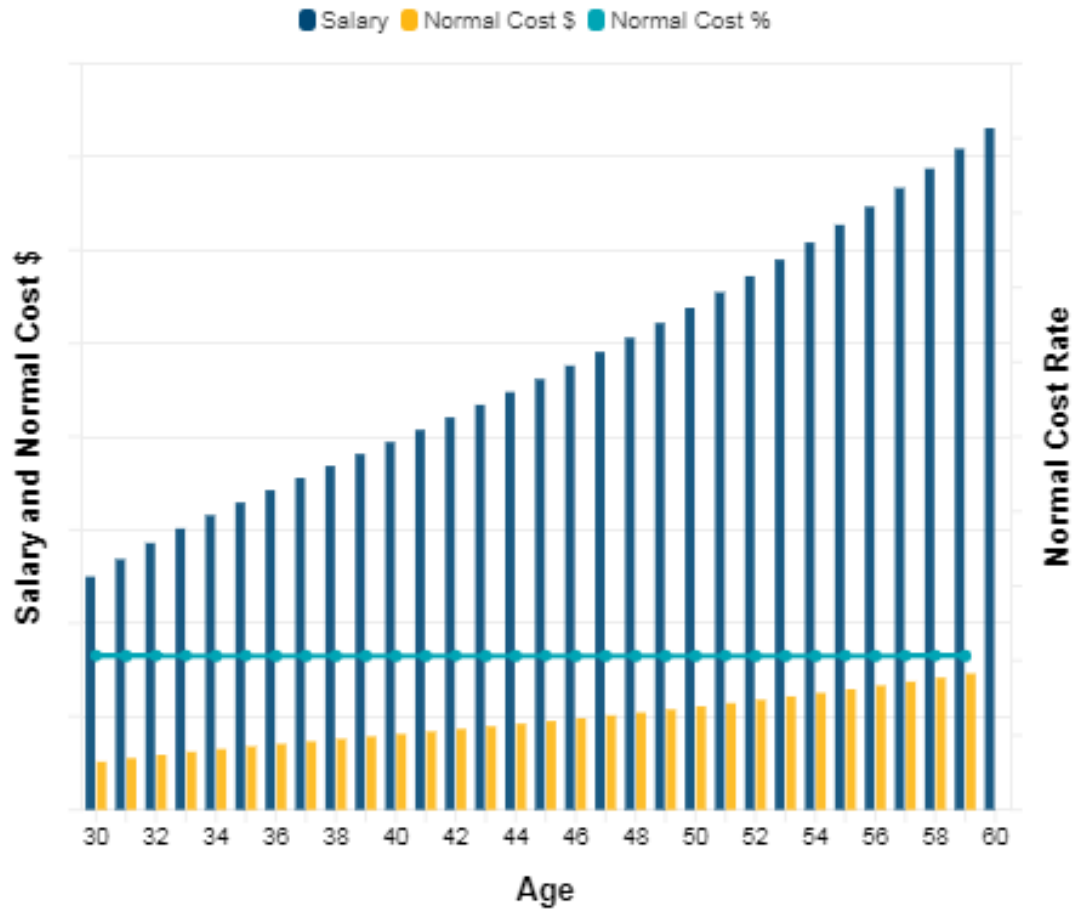
Projected Benefit Payments



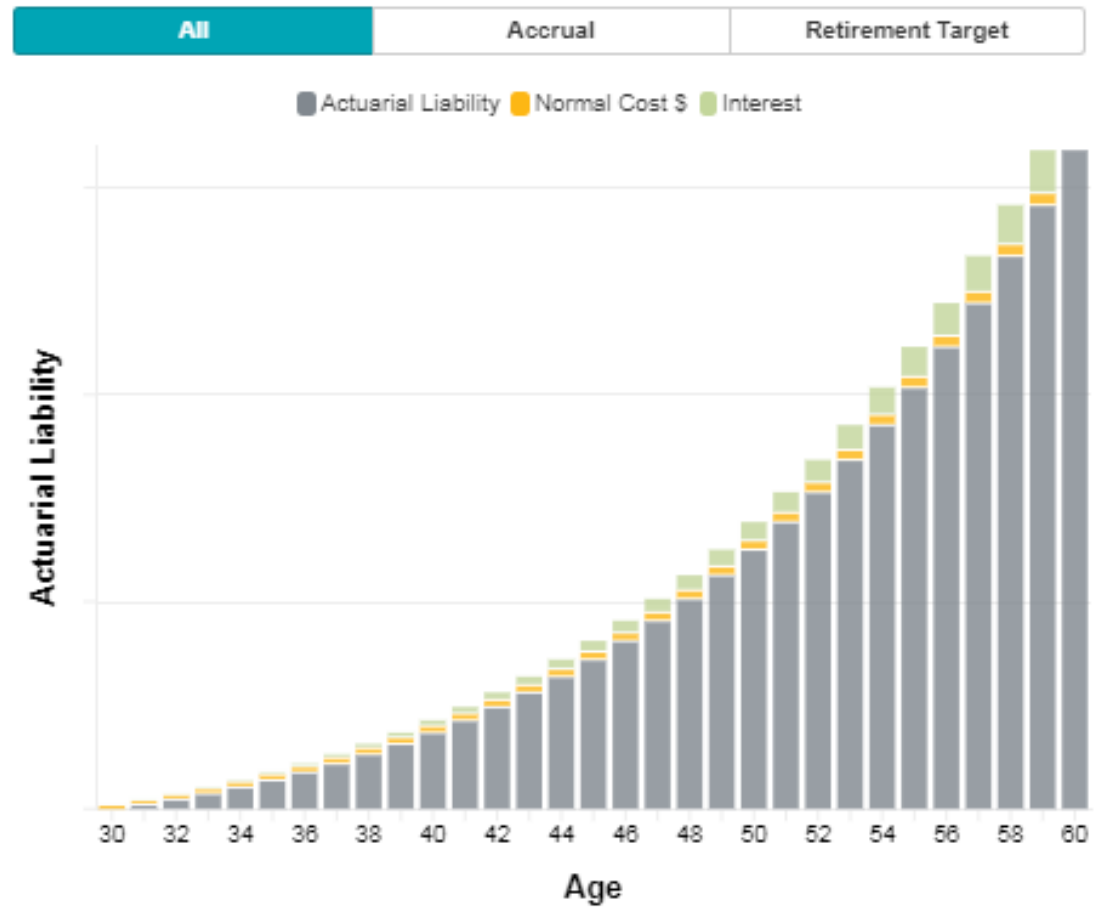
Actuarial Cost Method



Normal Cost Example
Member Hired at Age 30, Retired at Age 60



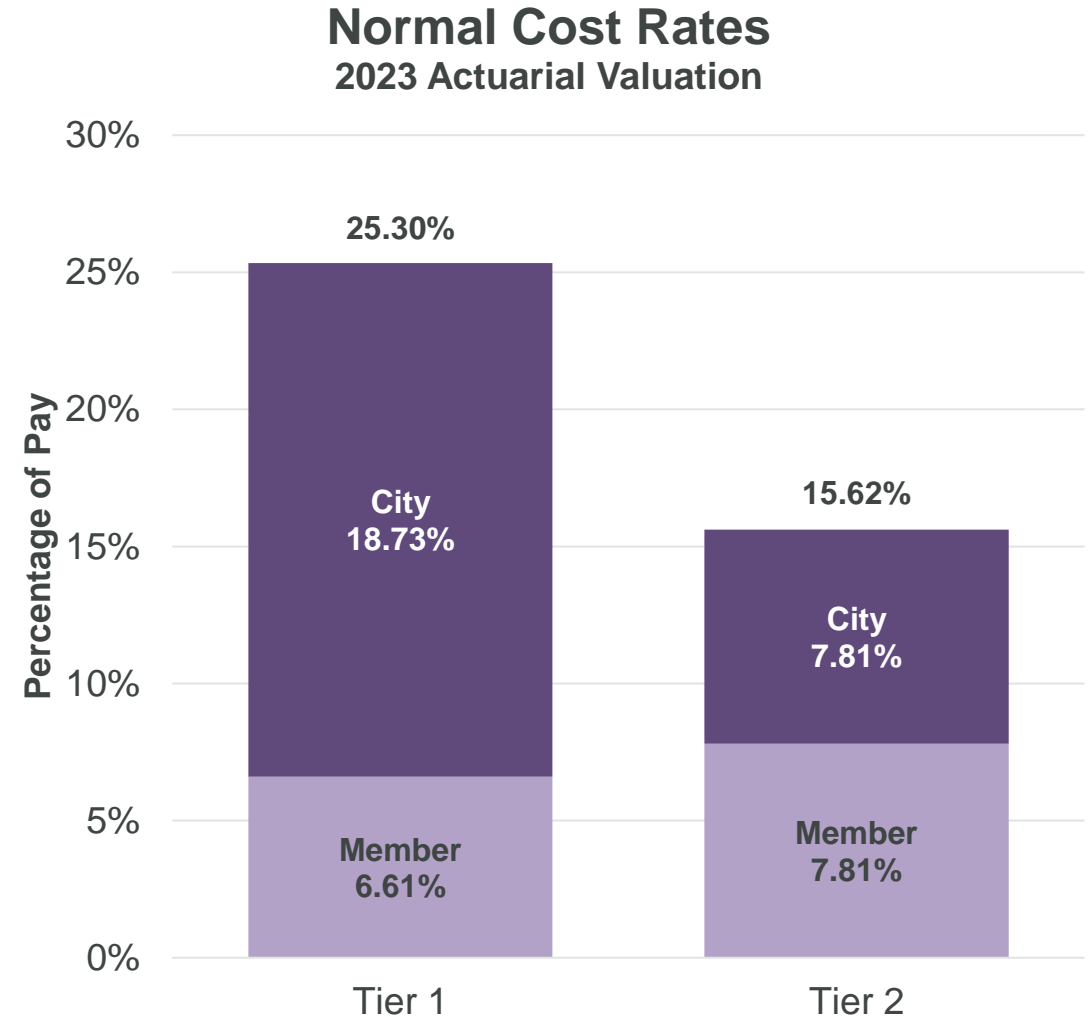
Actuarial Liability Example
Member Hired at Age 30, Retired at Age 60



2023 Valuation Normal Cost Rates



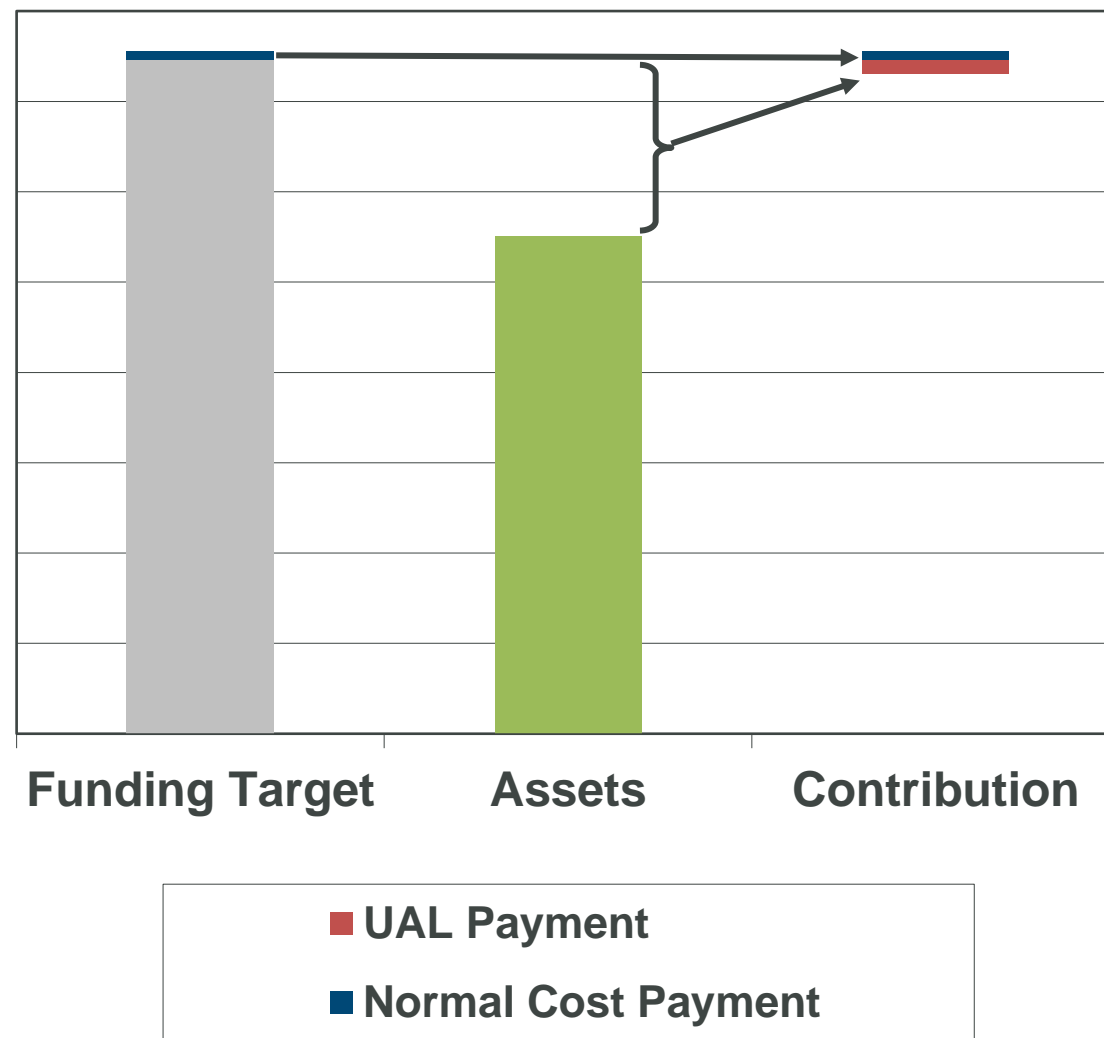
- Total normal cost rate = the sum of the individual normal cost amounts divided by total payroll
- Municipal Code defines the proportion paid by members and City
 - Tier 1 members pay 3/11
 - Tier 2 members pay 1/2
- Normal cost rates change when:
 - Weighted average changes
 - Assumptions change
 - Plan provisions change



Deviations From Funding Target



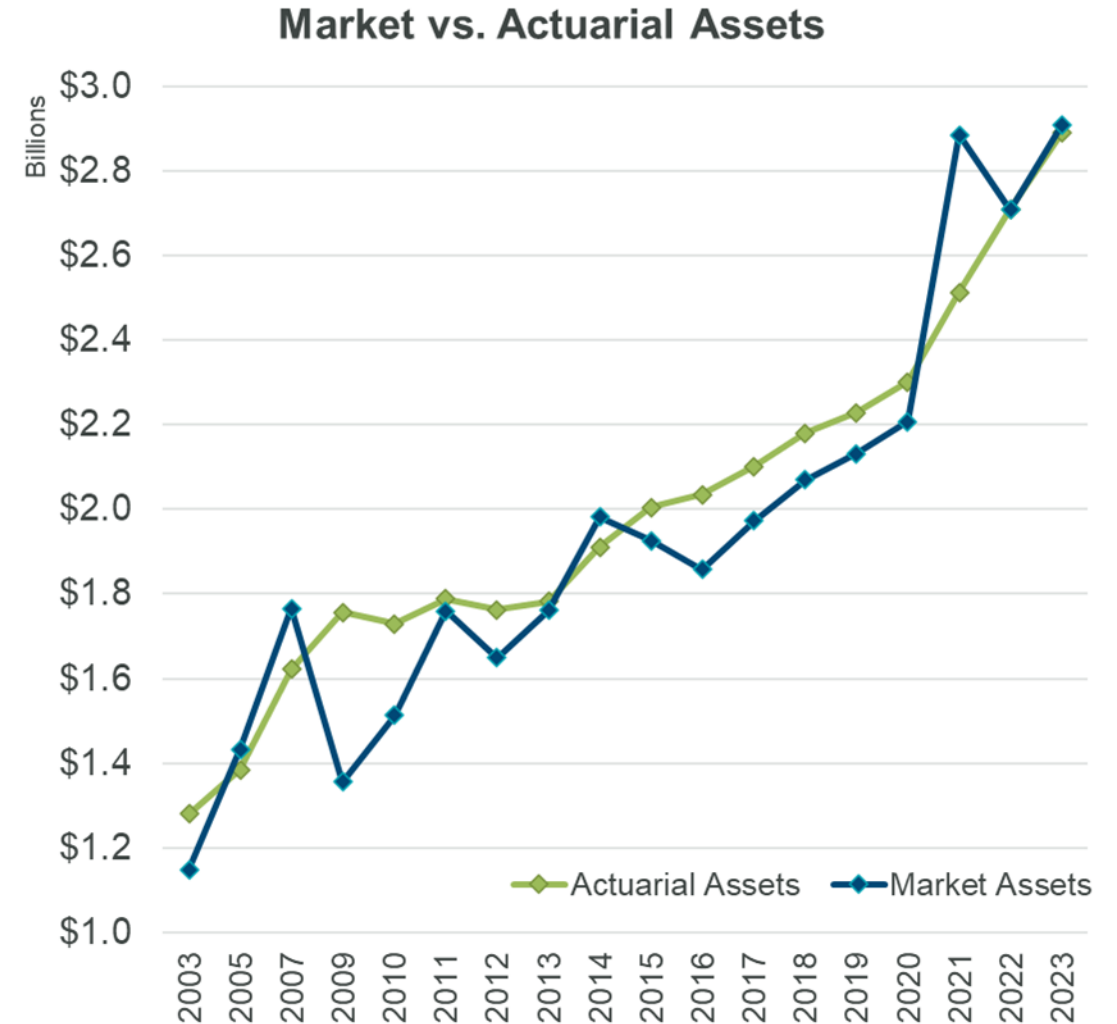
- If all assumptions are met every year, contributions will always equal the normal cost
- That doesn't happen
 - Experience doesn't match assumptions
 - Assumptions change
- The objective is to get assets back to the funding target within a reasonable period while limiting the volatility of contributions
 - Asset smoothing
 - Amortization



Asset Smoothing



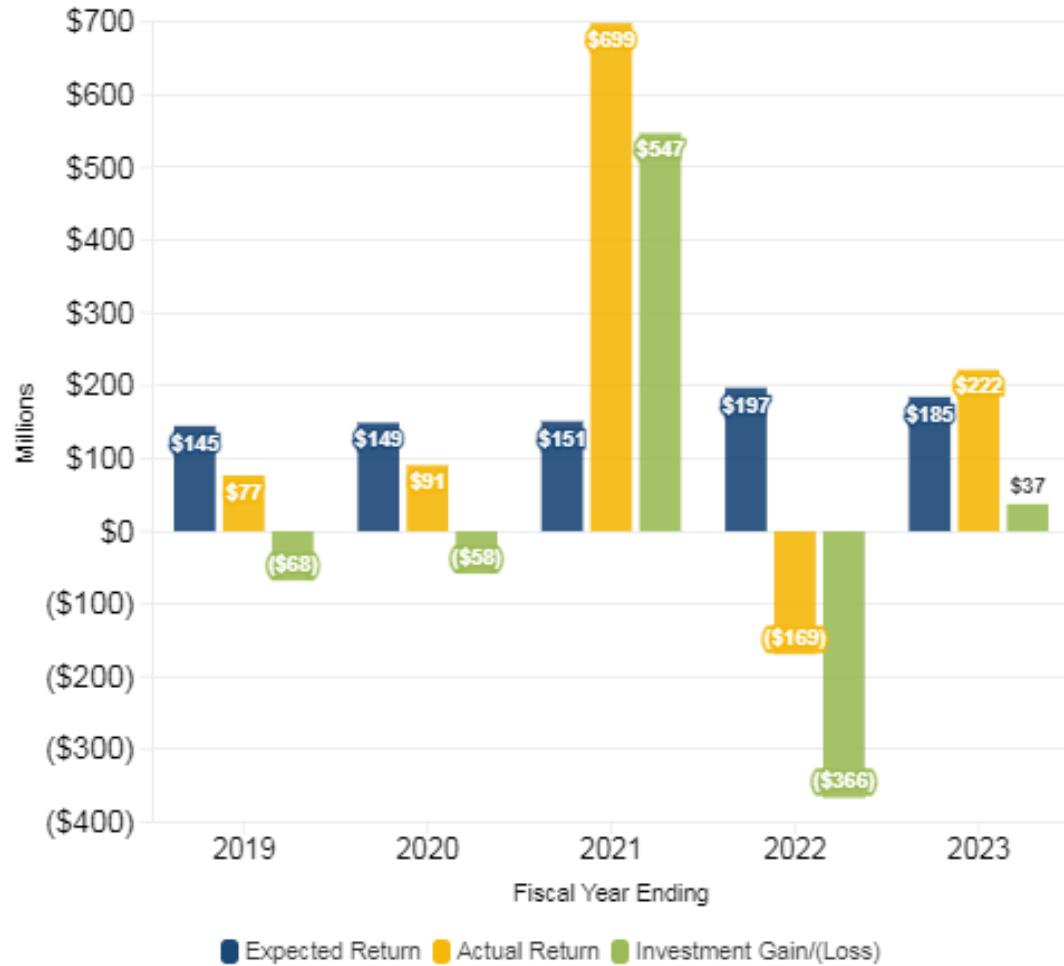
- Investment returns cause most contribution volatility
- Asset smoothing dampens the year-to-year volatility while following long-term trends
 - Investment gains and losses are recognized over 5 years
 - Actuarial assets limited to 20% corridor around market assets



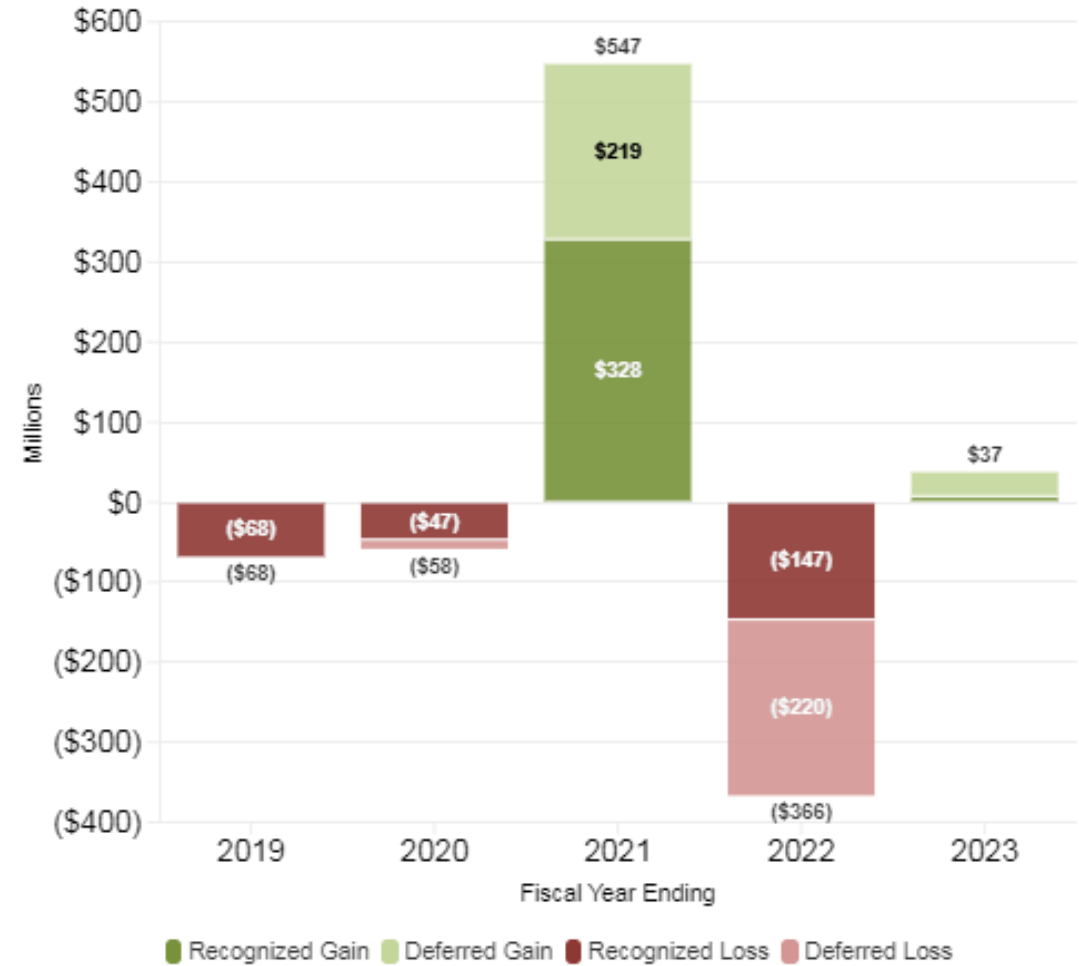
Asset Smoothing



Investment Gains and Losses



Deferred Investment Returns



Amortization Policy



- Amortization policy balances:
 - Period to return plan to 100% funded
 - Stability of contributions
- When combined with 5-year asset smoothing, it takes an additional 4 years to amortize an investment gain or loss
- Municipal Code splits payments
 - Tier 1: 100% City
 - Tier 2: 50% City / 50% Members

Amortization	“Model” Policy	Federated Tier 1	Federated Tier 2
Type	Layered	Layered	Layered
Period			
Experience	15 – 20 Years	20 Years	10 Years
Assumption Changes	15 – 25 Years	25 Years	10 Years
Plan Changes	Demographics	20 Years	10 Years
Surplus	Long (e.g., 30 Years)	Not Defined	Not Defined
Payment Growth	0% to Payroll Growth Rate (3.0%)	2.75%	2.75%

Impact of Amortization Periods



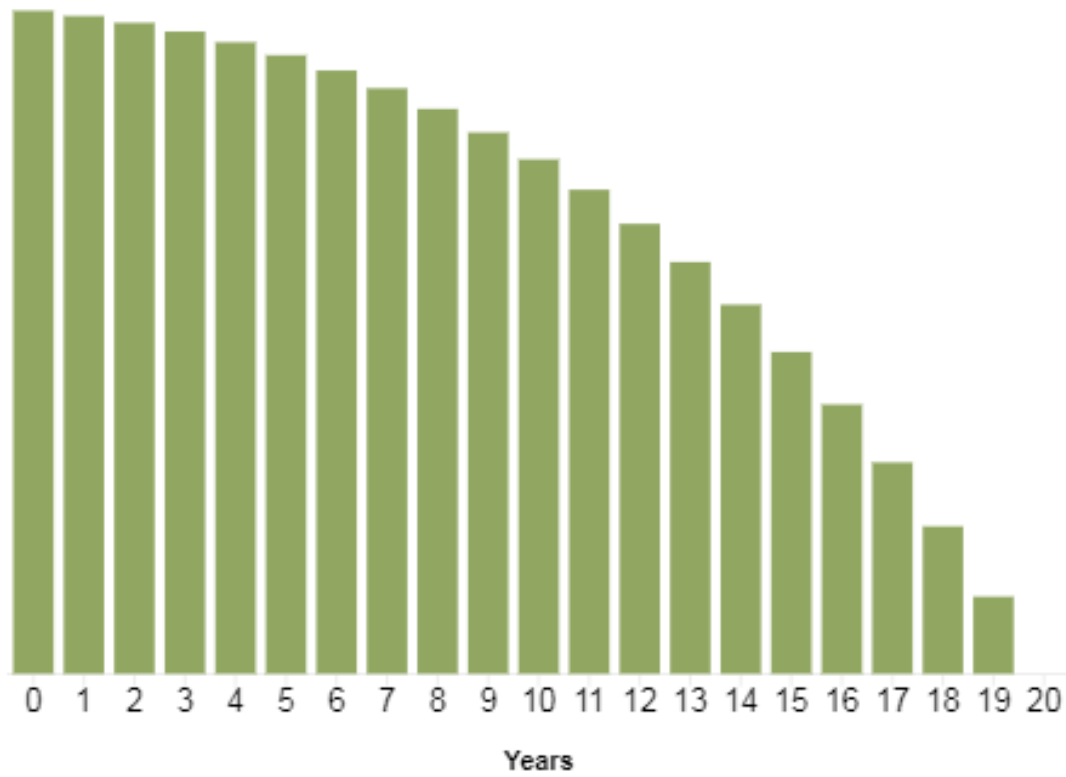
Remaining Amortization Balance

6.625% Discount Rate, 2.75% Annual Payment Increase

Amortization Period

10 15 **20** 25 30 (2007 Assumps = 8.25%/4.00%)

Rolling 30 (2007 Assumps = 8.25%/4.00%)



Amortization Payments

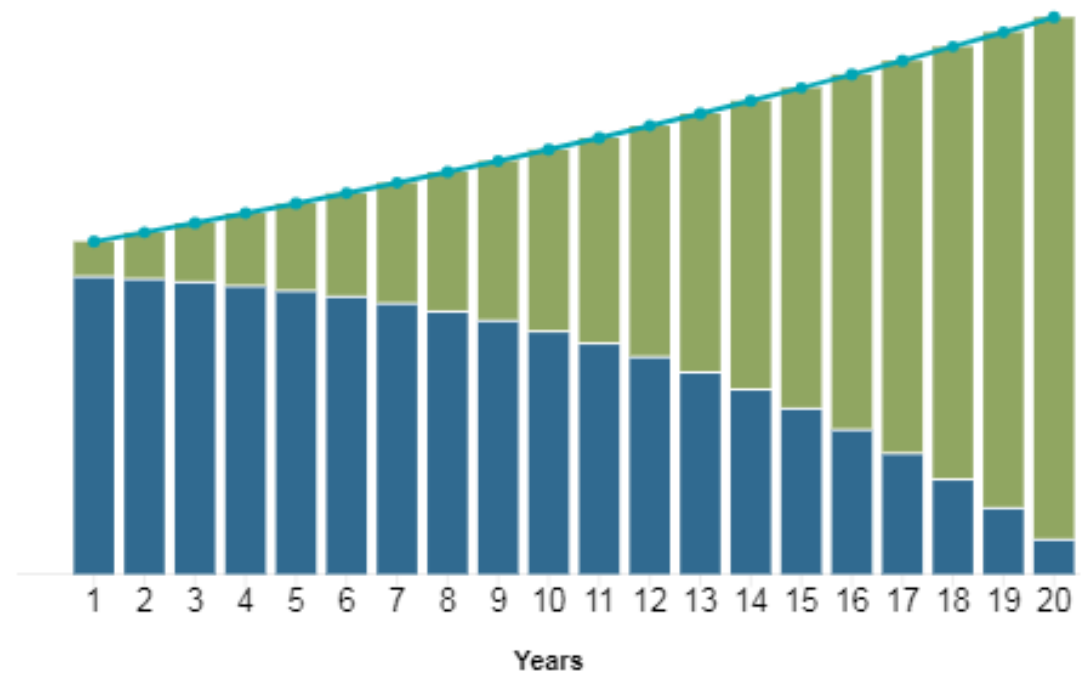
6.625% Discount Rate, 2.75% Annual Payment Increase

Amortization Period

10 15 **20** 25 30 (2007 Assumps = 8.25%/4.00%)

Rolling 30 (2007 Assumps = 8.25%/4.00%)

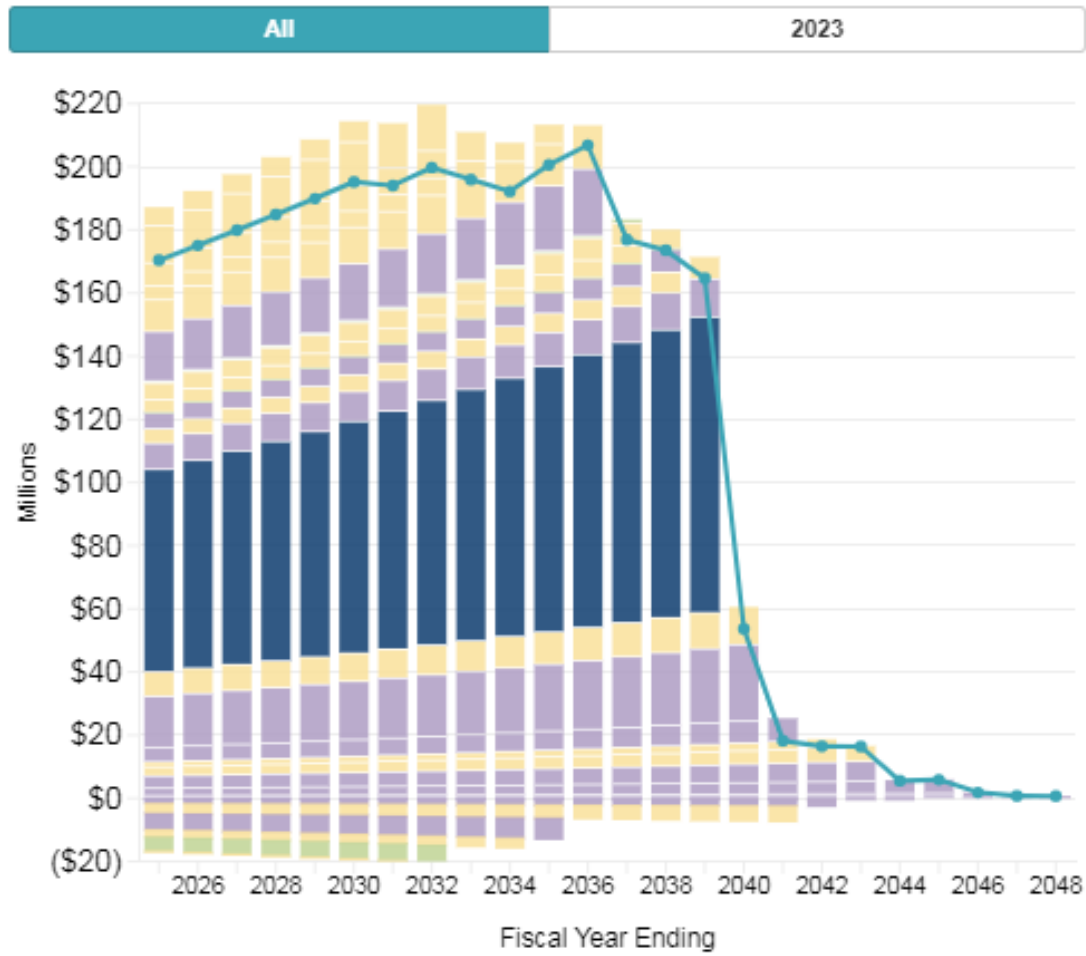
Total Payment Interest Principal



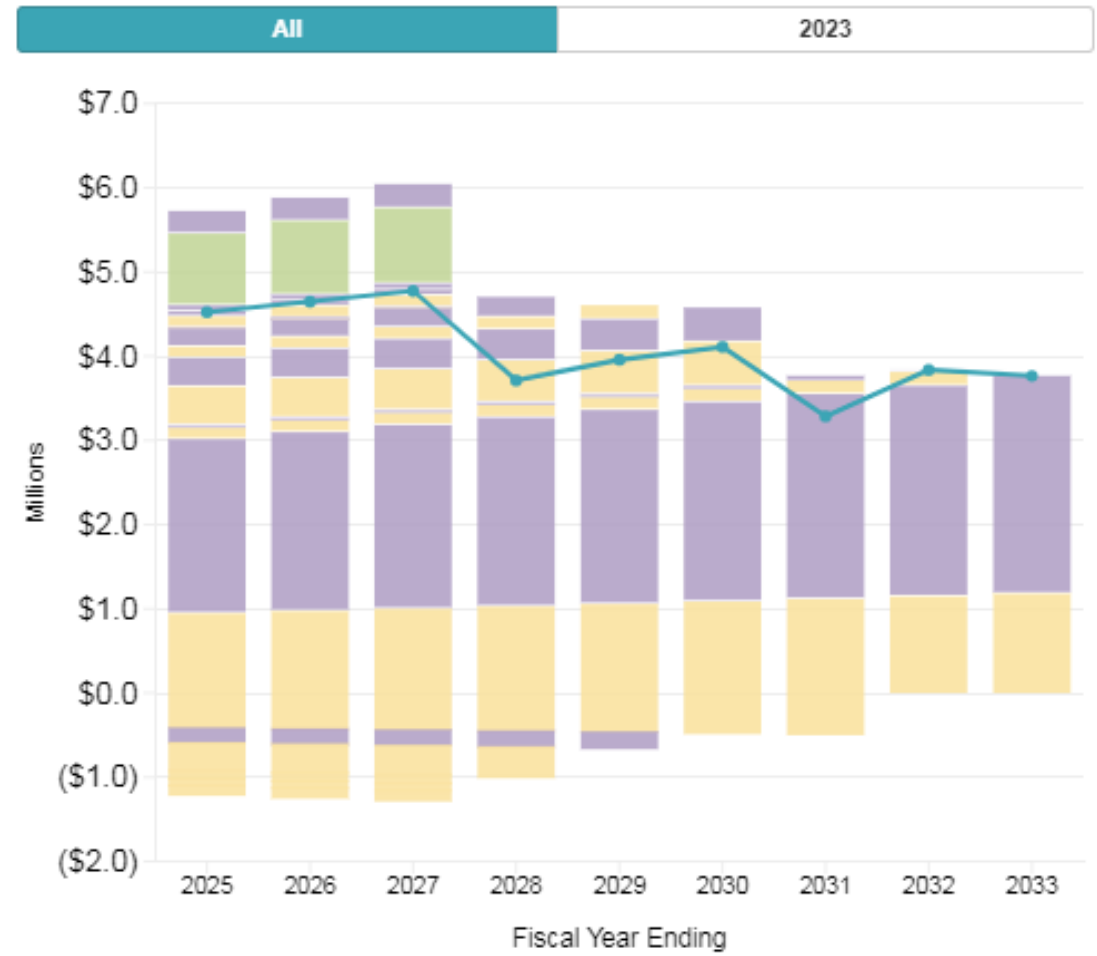
Layered Amortization Schedules



Tier 1 City Amortization Payment Layers



Tier 2 City/Employee Amortization Payment Layers

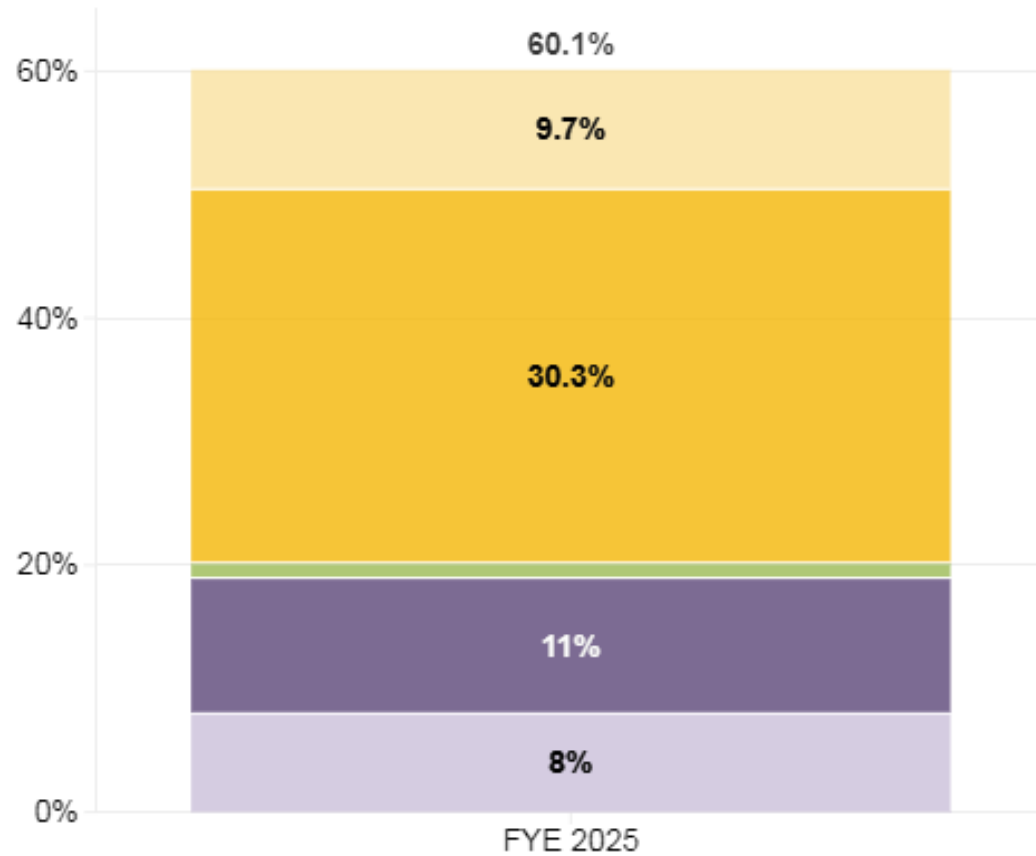


FYE 2025 Contributions



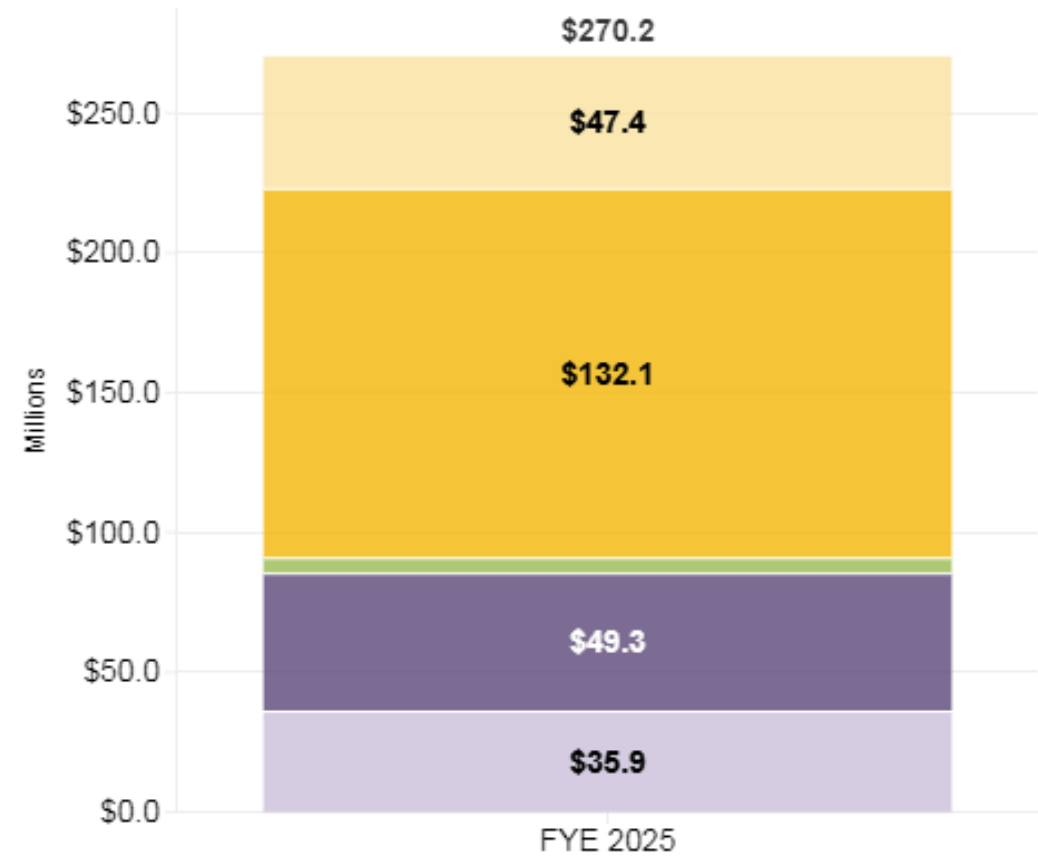
FYE 2025 Contribution Rates

Member City Normal Cost City Admin Expenses Interest on UAL
UAL Principal



FYE 2025 Contribution Amounts

Member City Normal Cost City Admin Expenses Interest on UAL
UAL Principal



Funded Ratio vs. Interest Cost

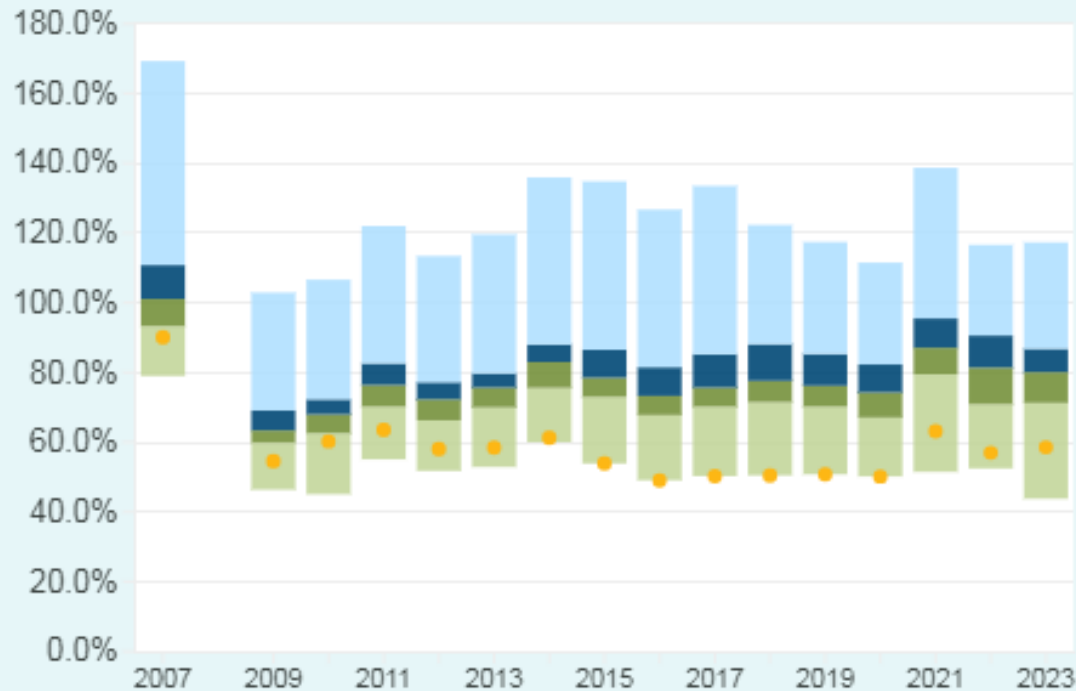


California Public Retirement Systems - Distribution of Market Funded Ratios

Market Funded Ratio = Market Value of Assets / Actuarial Liability

Gold dot = **San Jose Federated**

Percentiles of Distribution ■ Min to 25th ■ 25th to 50th ■ 50th to 75th ■ 75th to Max



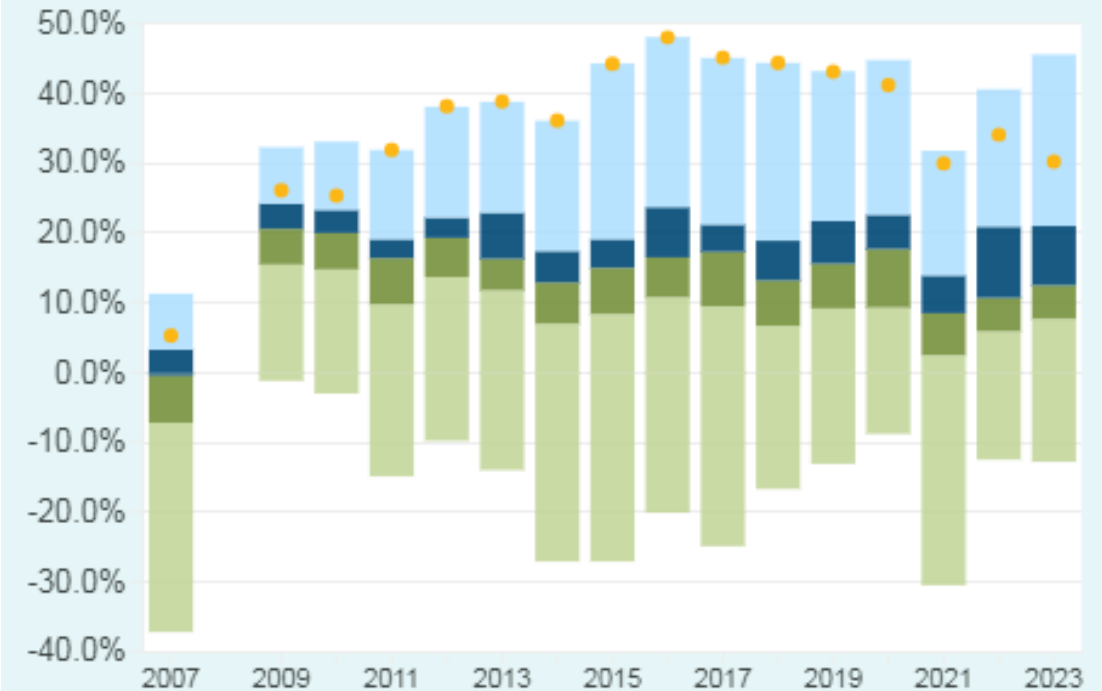
CHEIRON Hover over a bar to see the statistics for that year. Click on a bar to see a bee swarm of the plans for the year. Close the tab in the browser to return to the menu.

California Public Retirement Systems - Distribution of Interest Costs

Interest Cost = Interest on UAL / Payroll

Gold dot = **San Jose Federated**

Percentiles of Distribution ■ Min to 25th ■ 25th to 50th ■ 50th to 75th ■ 75th to Max

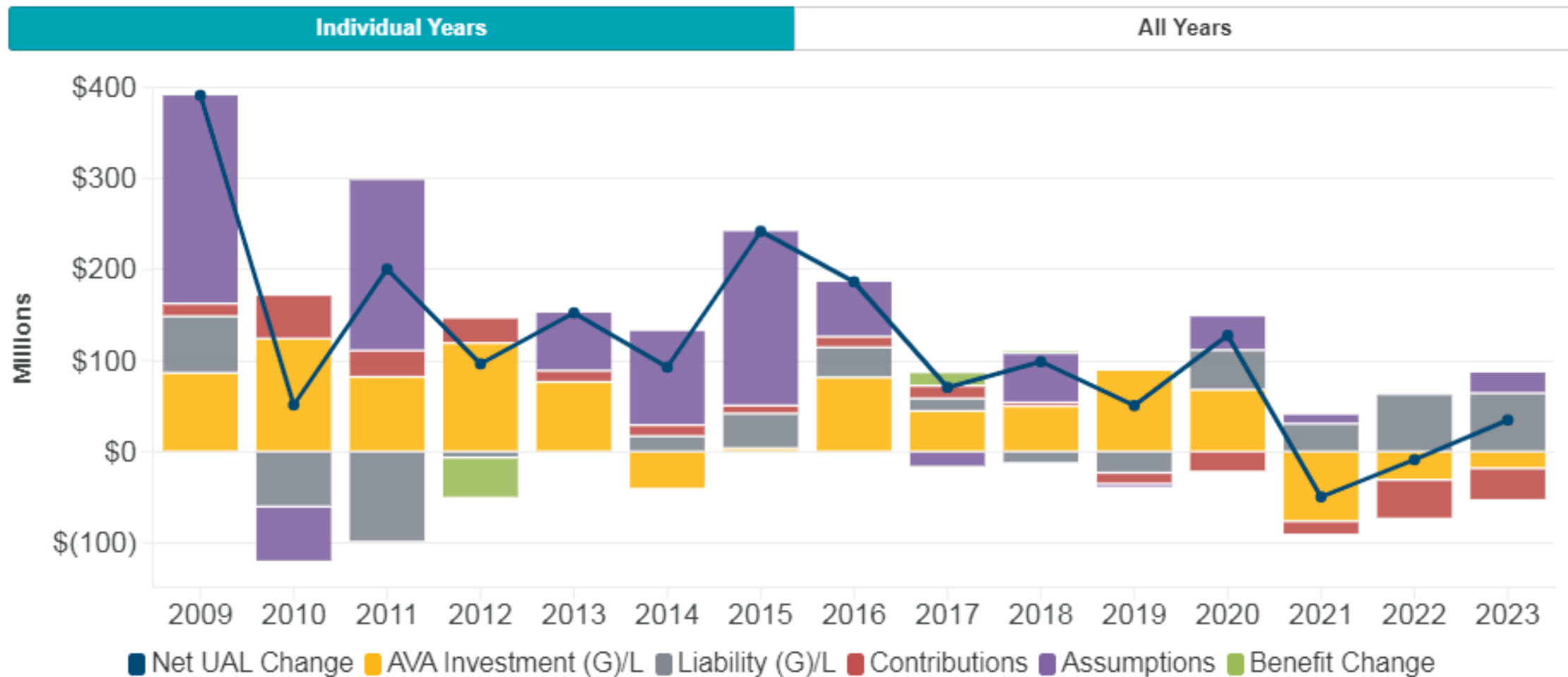


CHEIRON Hover over a bar to see the statistics for that year. Click on a bar to see a bee swarm of the plans for the year. Close the tab in the browser to return to the menu.

How Did the Plan Get Here?



Changes in UAL



Summary Conclusions



- In 2007, the Plan was 90% funded. The \$1.7 billion increase in the UAL since then is primarily attributable to the following:
 - Reductions in assumed investment returns and other assumption changes
 - Lower smoothed investment returns than assumed before 2021
 - Contributions have not been sufficient to reduce the UAL until recently
- Contribution policy has transitioned from a weak policy to a strong policy
 - Annual contributions now pay normal cost, interest on the UAL, and some principal on the UAL
 - Contributions are high
 - It takes time to restore the funding status of the pension system
- Reasonable assumptions are critical for maintaining costs at expected levels
 - Maintain a neutral to conservative bias in selecting assumptions



- The purpose of this presentation is to provide education about actuarial funding policies for the trustees of 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, 2023 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.

William R. Hallmark, ASA, EA, MAAA, FCA
Consulting Actuary

Steven M. Hastings, FSA, EA, MAAA, FCA
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.