2024 FRS Actuarial Assumption Conference

Including Preliminary July 1, 2024 Actuarial Funding Valuation Results

FLORIDA RETIREMENT SYSTEM

Presented by:
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October 17, 2024

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Executive Summary

- Smoothed asset measure (AVA) investment "return" of +7.7% for a $1.8 billion investment gain
  - AVA currently $7.1 billion above market value of assets (MVA), which is a deferred investment gain
- Actuarial liability (AL) was 0.7% above expected for a $1.6 billion demographic liability loss
  - $1.3 billion of that demographic liability loss was due to salary increases above assumption
- Experience study assumption recommendations increase AL by $5.4 billion (2.3% increase)
  - Includes individual member salary increase assumptions first presented at today's meeting
- 2025-26 composite blended rates 1.10% of pay higher than 2024-25 statutory rates
  - Calculation under current actuarial methods, including 20-year level % of pay amortization
  - Greater increase for Special Risk Class (2.56% of pay) than for Regular Class (0.72% of pay)

Agenda

- "Baseline" 2024 actuarial funding valuation results before assumption changes
- Assumption changes, including individual member salary increase assumption
- "Preliminary" 2024 actuarial funding valuation results reflecting assumption changes
- Investment return assumption for FRS Pension Plan funding actuarial valuation
- Amortization policy, including schedule duration and system payroll growth assumption
- Assumptions for Health Insurance Subsidy & Florida National Guard GASB valuations
- Needed guidance from Conference Principals

FRS Pension Plan Assets, Member Demographics

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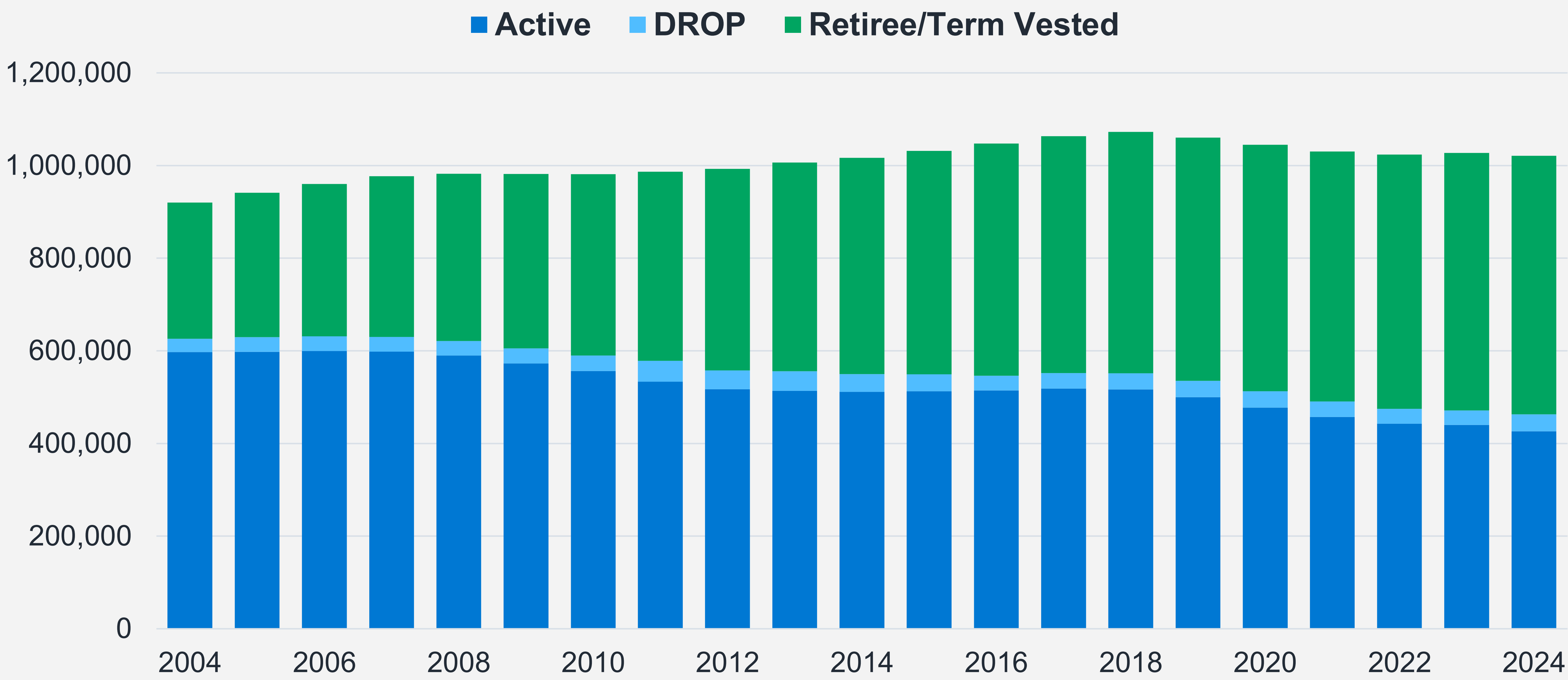
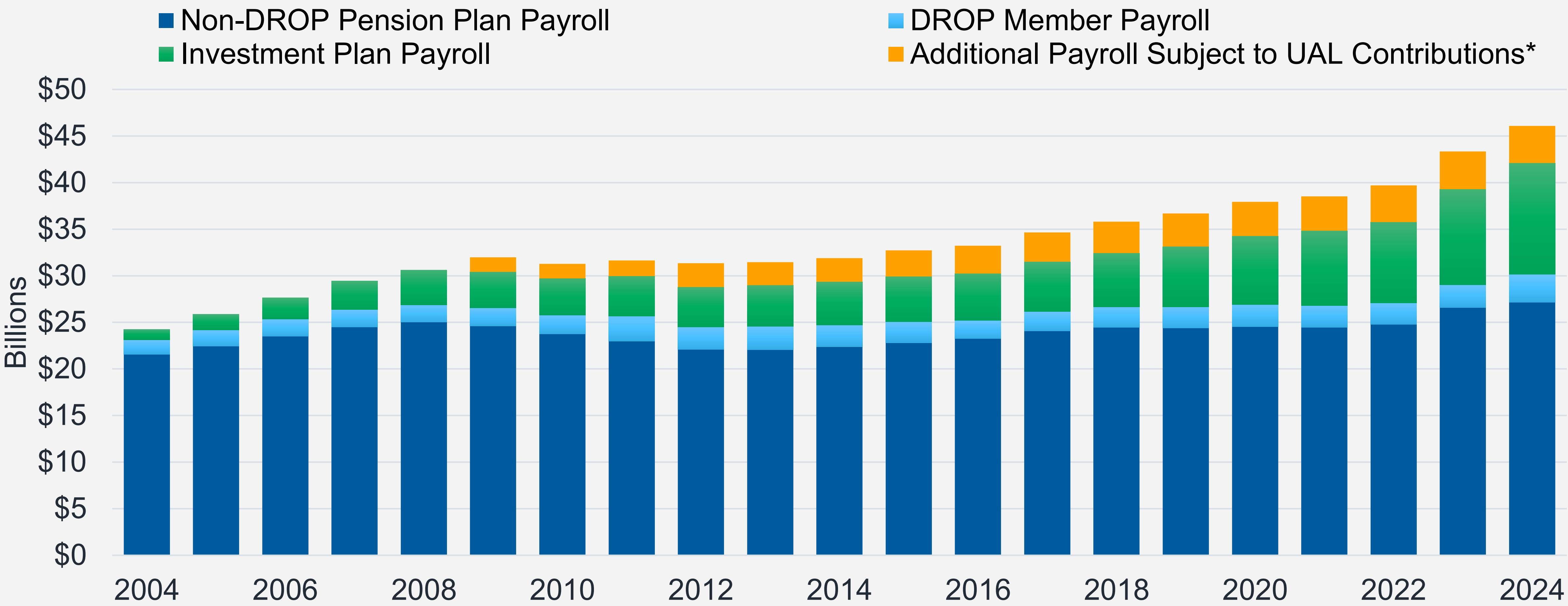
FRS Pension Plan Membership



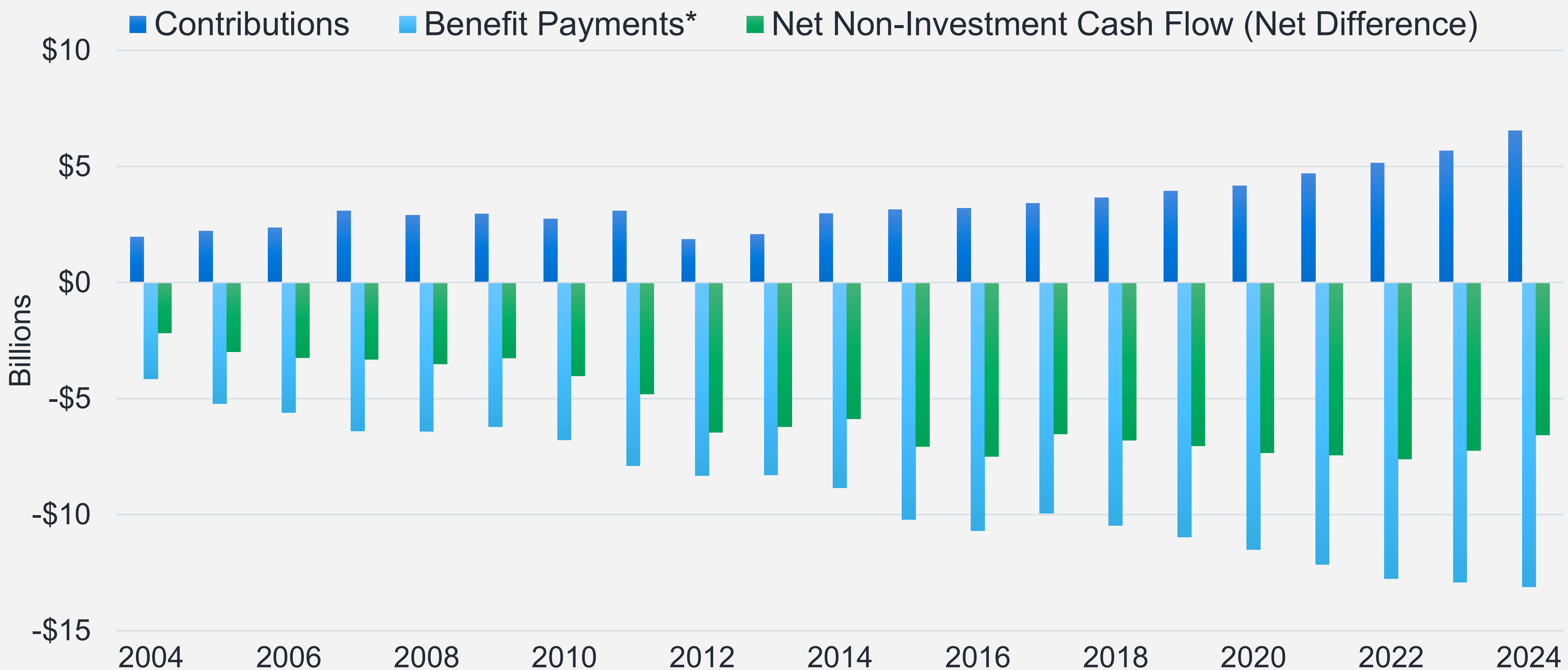
Payroll: FRS + Non-FRS UAL Contributory



- Payroll increased by 6.3% last year, and 10-year annualized payroll growth is 4.4%
  - Investment Plan payroll increased by 16.3% from 2023 to 2024

*Includes payroll for participants in certain non-FRS defined contribution plans upon which UAL Rate contributions to the FRS Pension Plan are made. This payroll component is anticipated to be $4.0B in the 2024-25 plan year.

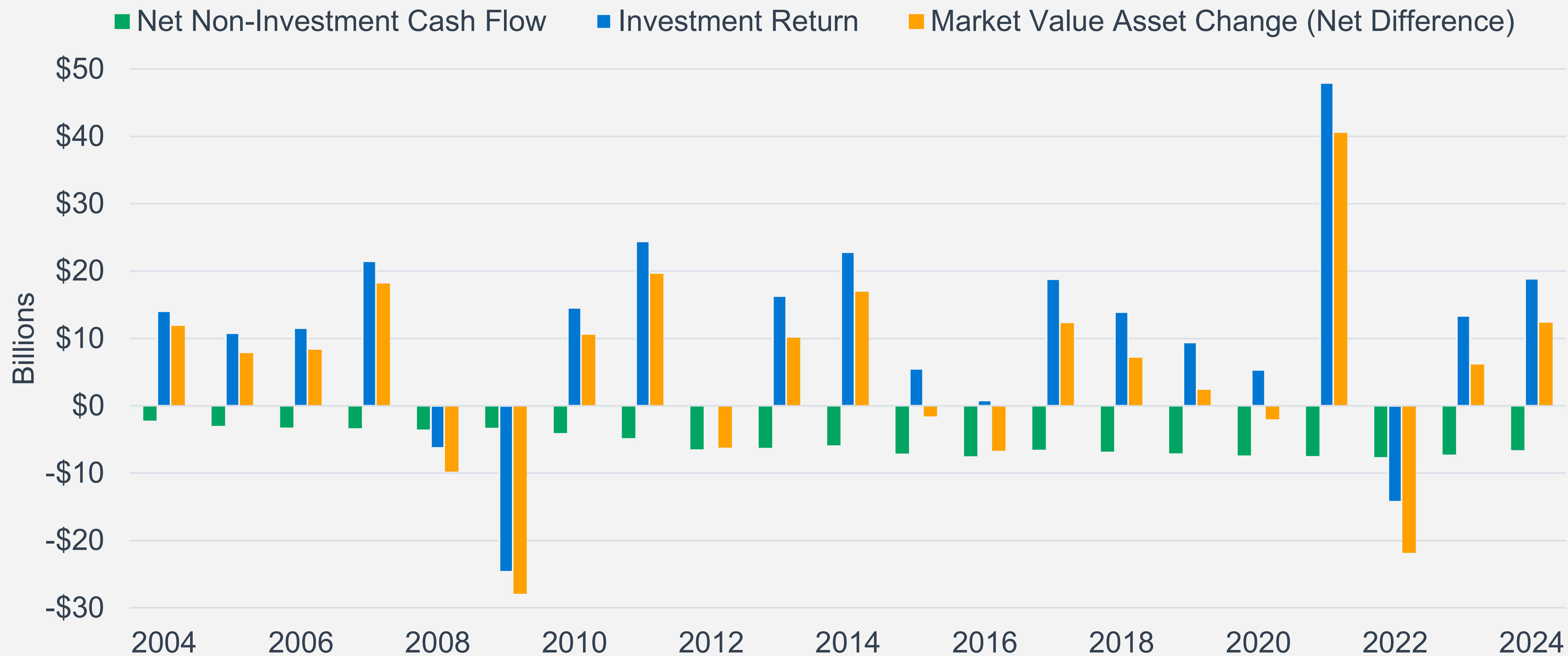
Contributions and Benefit Payments



- Net non-investment cash flow for 2024 was -3.5% of beginning of year market assets

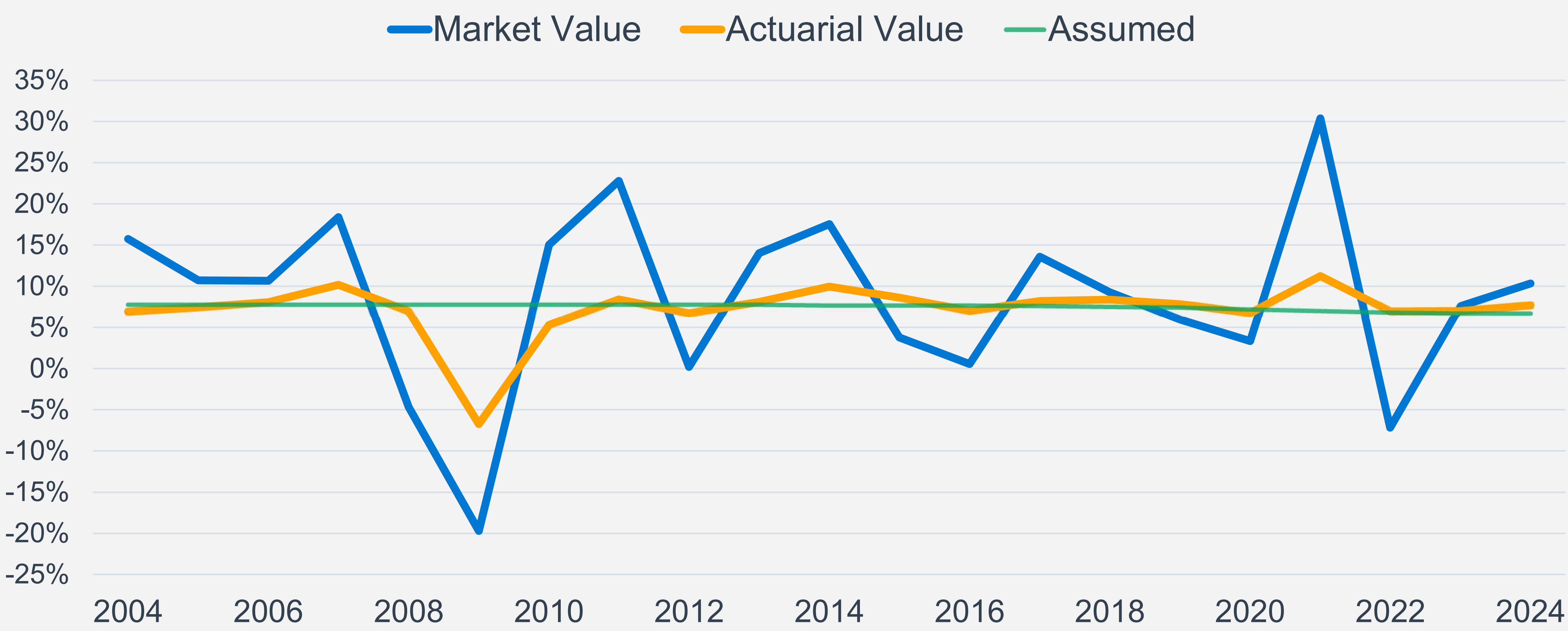
* Includes transfers to Investment Plan in 2013 and subsequent years.

Pension Plan Cash Flows



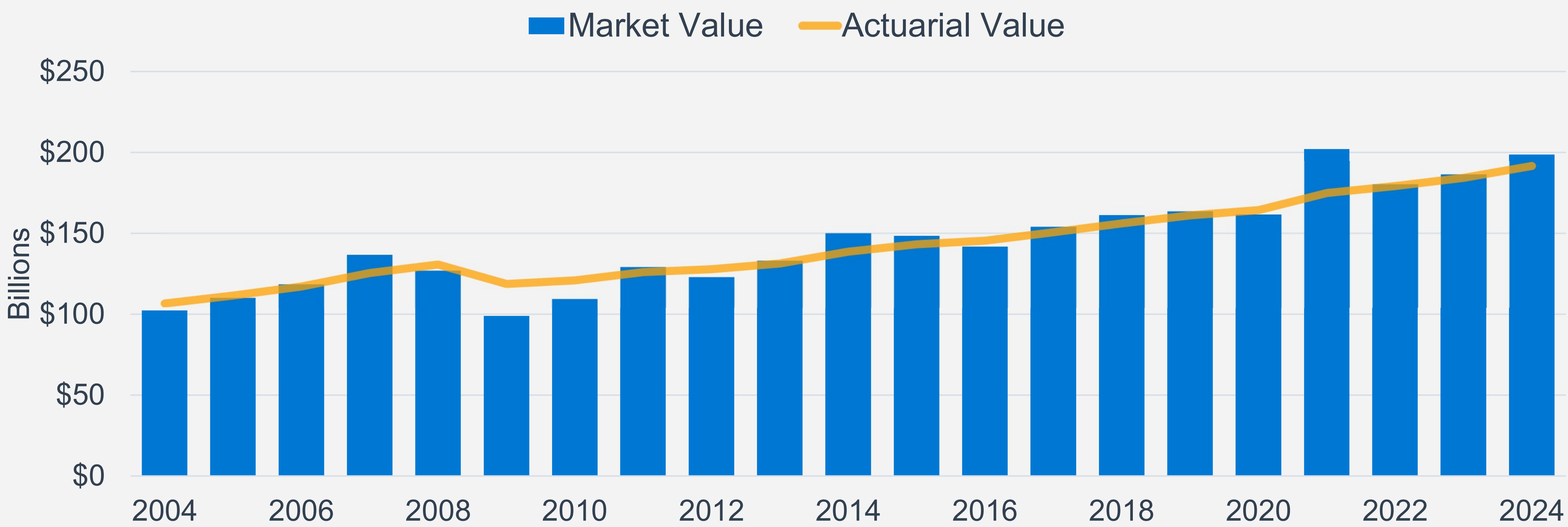
- Market value asset change was negative in seven of the most recent 21 plan years
- Market value asset change was greater than +$10 billion in nine of the most recent 21 plan years

Historic Asset Returns



- The 2023-24 return was **+10.3%** on a market value of assets (MVA) basis and +7.7% on a smoothed actuarial value of assets (AVA) basis
  - AVA return is determined by market value returns over the prior five years

Market & Actuarial Value of Assets



Market value of assets (MVA) is currently **$7.1 billion above** the smoothed Actuarial Value of Assets (AVA) measure as of July 2024. That **deferred investment gain** will be recognized in higher AVA returns (and associated **contribution rate decreases**) in future valuations if future market investment performance meets current assumption and valuation assumptions are not changed.

Baseline 2024 Actuarial Funding Valuation Results

Baseline Is Before Inclusion of Any Assumption Updates from the Experience Study

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Calculation of Valuation Results

- Projected year-by-year benefit payments are converted to a present value projected cost of total benefits using the investment return assumption
  - The present value is allocated between past (Actuarial Liability) and projected future service (Normal Costs) via the cost allocation method
- This establishes “2024 Baseline” preliminary funding valuation results using:
  - Actual 2023-24 investment returns
  - Member demographic census data as of July 2024
  - Methods and assumptions as adopted by the 2023 FRS Actuarial Assumption Conference, based in part on the 2019 Experience Study

Pension Plan UAL and Funded Status

	2023 Valuation 2023 data 2023 assumptions	**2024 Baseline** **2024 data** 2023 assumptions
Actuarial Liability (AL)	$ 226.2	$ 232.6
Actuarial Value of Assets (AVA)	184.2	191.6
Unfunded Actuarial Liability (UAL)	**$ 42.0**	**$ 41.0**
Funded Status	**81.4%**	**82.4%**

(Amounts in $ billions)

- Market Value of Assets (MVA) is $7.1 billion above the smoothed Actuarial Value of Assets (AVA) as of July 2024. That deferred investment gain will be recognized in higher future AVA returns (and associated future UAL contribution rate decreases) if future market value investment performance meets or exceeds 6.70%.
- On a market value of assets basis, the 2024 Baseline unfunded liability is **$33.9 billion**, and the funded status is **85.4%**
- Results shown use assumptions from the 2023 funding valuation, including a 6.70% investment return assumption

Effect of Assumption Changes Adopted at October 14th Conference

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Key Assumption Updates from October 14th Conference

- Retiree life expectancy / mortality assumption
  - Largest improvement was for male Special Risk members
- DROP entry and immediate retirement assumption
  - Biggest change was significant increase in DROP likelihood for K-12 Instructional members
- Termination of employment prior to unreduced retirement
  - Modest increase in likelihood; most noticeable for Regular Class non-K-12 Instructional members
- Disability incidence
  - Slight decrease to non-duty disability incidence for all membership classes
  - Slight increase to in-line-of-duty incidence for classes other than Special Risk, which had no change

October 14th Updates - Pension Plan UAL and Funded Status

	2023 Valuation 2023 data 2023 assumptions	**2024 Baseline** 2024 data 2023 assumptions	**2024 Interim** Reflects October 14 assumption updates
Actuarial Liability (AL)	$ 226.2	$ 232.6	$ 237.5
Actuarial Value of Assets (AVA)	184.2	191.6	191.6
Unfunded Actuarial Liability (UAL)	**$ 42.0**	**$ 41.0**	**$ 45.9**
Funded Status	**81.4%**	**82.3%**	**80.6%**

(Amounts in $ billions)

- Market Value of Assets (MVA) is $7.1 billion above the smoothed Actuarial Value of Assets (AVA) as of July 2024. That deferred investment gain will be recognized in higher future AVA returns (and associated future UAL contribution rate decreases) if future market value investment performance meets or exceeds 6.70%.
- On a market value of assets basis, the interim 2024 unfunded liability, which incorporates October 14th assumption updates, is **$38.9 billion** and the funded status is **83.6%**

Unused Annual Leave Assumption

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Unused Annual Leave Available at Retirement

- At time of retirement or DROP entry, unused annual leave may be included in a member's final average salary calculation
  - Hours included are limited to the lesser of 500 hours or any employer-specific policy limits
- The FRS Pension Plan valuation includes an assumption for unused annual leave at retirement
  - Assumption varies by membership class
- FRS member census demographic experience data included, by member, hours of annual leave paid out during the five fiscal years ending June 30, 2019 through June 30, 2023
  - We reviewed this information for active members who entered retirement or DROP during the experience study period

Unused Annual Leave Available at Retirement

- We propose updating the valuation assumption for unused annual leave available at retirement, as follows:

Membership Class	Hours
Special Risk	270
Senior Management Service	270
Regular Class non-K-12 Instructional	160
Regular Class K-12 Instructional	0
Elected Officers	0

- All proposed assumptions are the same or lower than prior assumptions

Individual Member Salary Increase Assumption

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Individual Member Salary Increase Assumption Introduction

- Assumption is used to project the final average salary when benefits cease accruing
- Assumption varies by membership class
  - For most membership classes it varies by service
  - When varying by service, assumption is higher for younger and/or shorter service members
  - Assumption does not vary by gender or tier

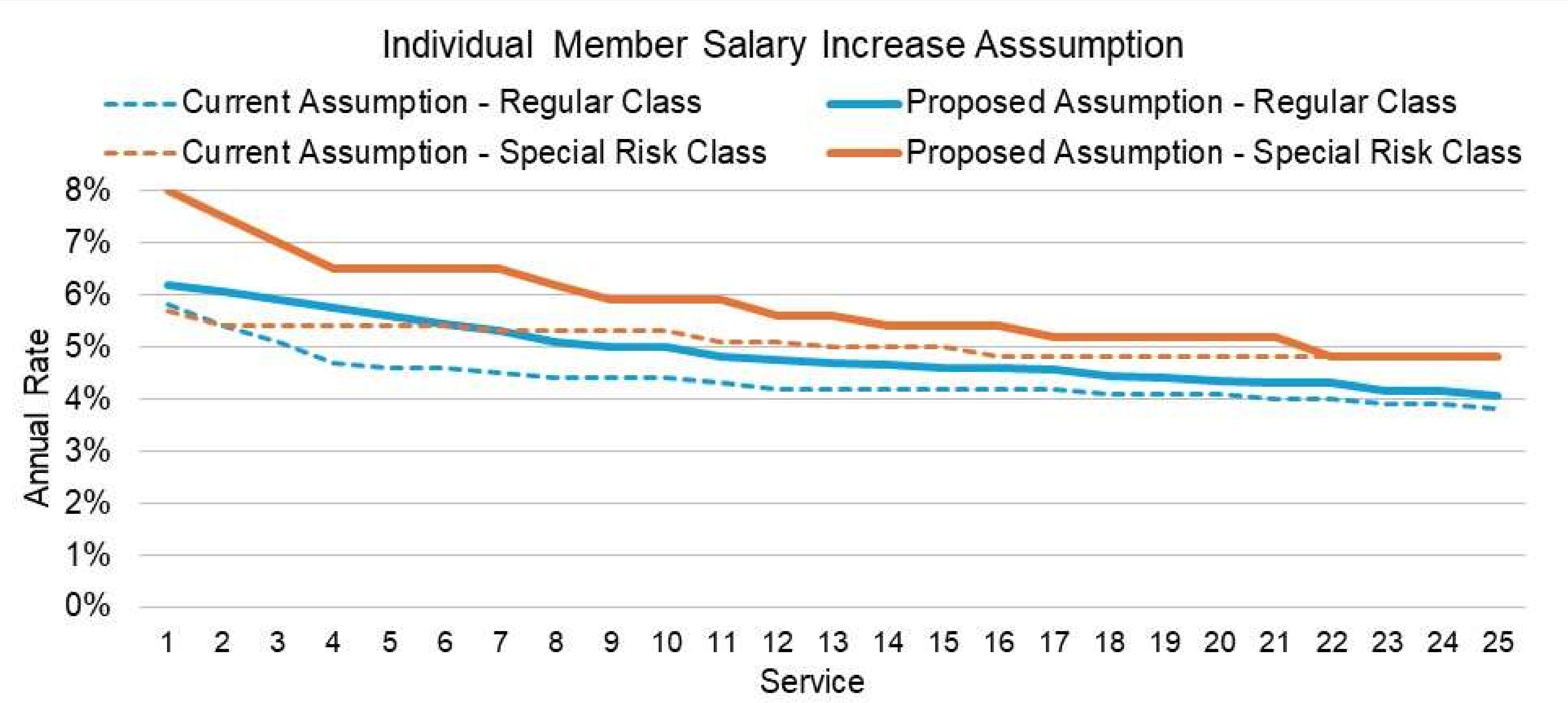
Approach to Developing Assumption Recommendations

- Milliman received five fiscal years of FRS member census demographic experience data
  - From 2018-2019 plan year (FY1) to 2022-2023 plan year (FY5)
- Increases for years FY1 to FY4 were all within a reasonable range of each other
  - Data for FY5 was a high outlier, particularly for non-Instructional Regular Class members
- The FY1 to FY4 data showed increases modestly higher than those observed prior to 2018
- Methodology used to develop assumption update recommendations for most classes:
  1) Exclude FY5 data as an outlier that is likely not predictive of future long-term average annual increases
  2) Calculate an average annual observed increase for the FY1 to FY4 period
  3) Recommendation is to increase assumption by approximately 3/5$^{\text{ths}}$ of the difference between a) the FY1 to FY4 period average and b) the current assumption, which was based on pre-2018 experience
- Methodology described above takes into consideration longer-term salary experience history for FRS, while giving the greatest weight to the recent FY1 to FY4 data

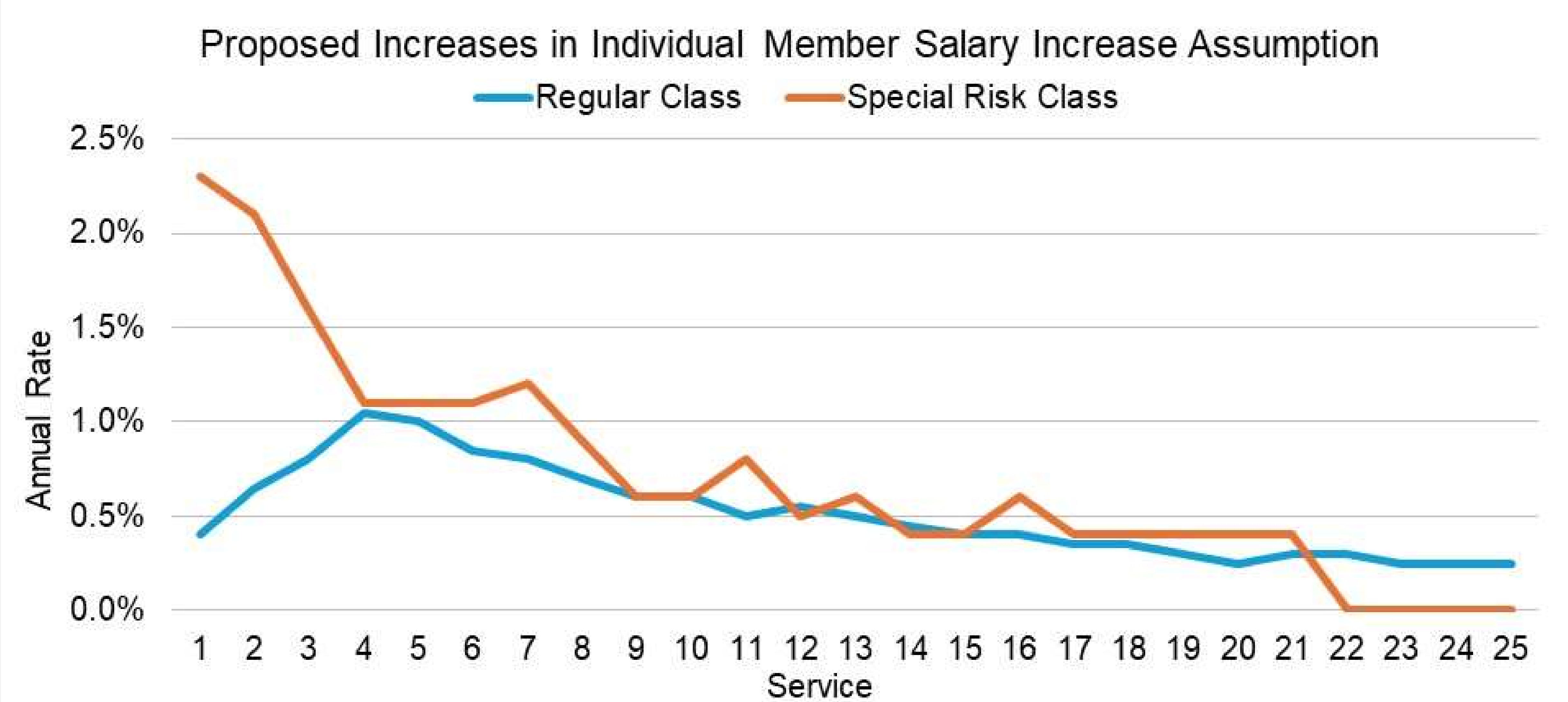
Comments on Proposed Assumption Updates and Experience Data

- Assumption generally varies by class and service
- Regular Class, Special Risk Classes, and Senior Management Service Class
  - Salary increases are generally higher as a percentage of salary at lower service years
  - Moderately higher observed experience than current assumption
- Other Classes
  - Salary increases are generally not tied to number of years of service, so we use a single assumption across all service years
  - Slightly lower observed experience than current assumption for all classes except Judicial
  - For the Judicial Class, we included FY5 in the analysis. Salary increases are based on a four-year cycle. We average out the single year of large increases across the other years of experience.

Individual Member Salary Increase - Proposed vs. Current Assumption



Individual Member Salary Increase – Proposed Increase in Assumption



Salary Increase Assumption Update - Pension Plan UAL and Funded Status

	2024 Baseline 2023 assumptions	**2024 Interim** Reflects October 14 assumption updates	**2024 Preliminary** Includes individual member salary increase updates
Actuarial Liability (AL)	$ 232.6	$ 237.5	$ 238.0
Actuarial Value of Assets (AVA)	191.6	191.6	191.6
Unfunded Actuarial Liability (UAL)	**$ 41.0**	**$ 45.9**	**$ 46.4**
Funded Status	**82.4%**	**80.6%**	**80.5%**

(Amounts in $ billions)

- Market Value of Assets (MVA) is $7.1 billion above the smoothed Actuarial Value of Assets (AVA) as of July 2024. That deferred investment gain will be recognized in higher future AVA returns (and associated future UAL contribution rate decreases) if future market value investment performance meets or exceeds 6.70%.
- On a market value of assets basis, the Preliminary 2024 unfunded liability including the individual member salary increase assumption update is **$39.3 billion**, and the funded status is **83.5%**

2023 vs. 2024 Results Reflecting All Proposed Experience Study Assumption Updates

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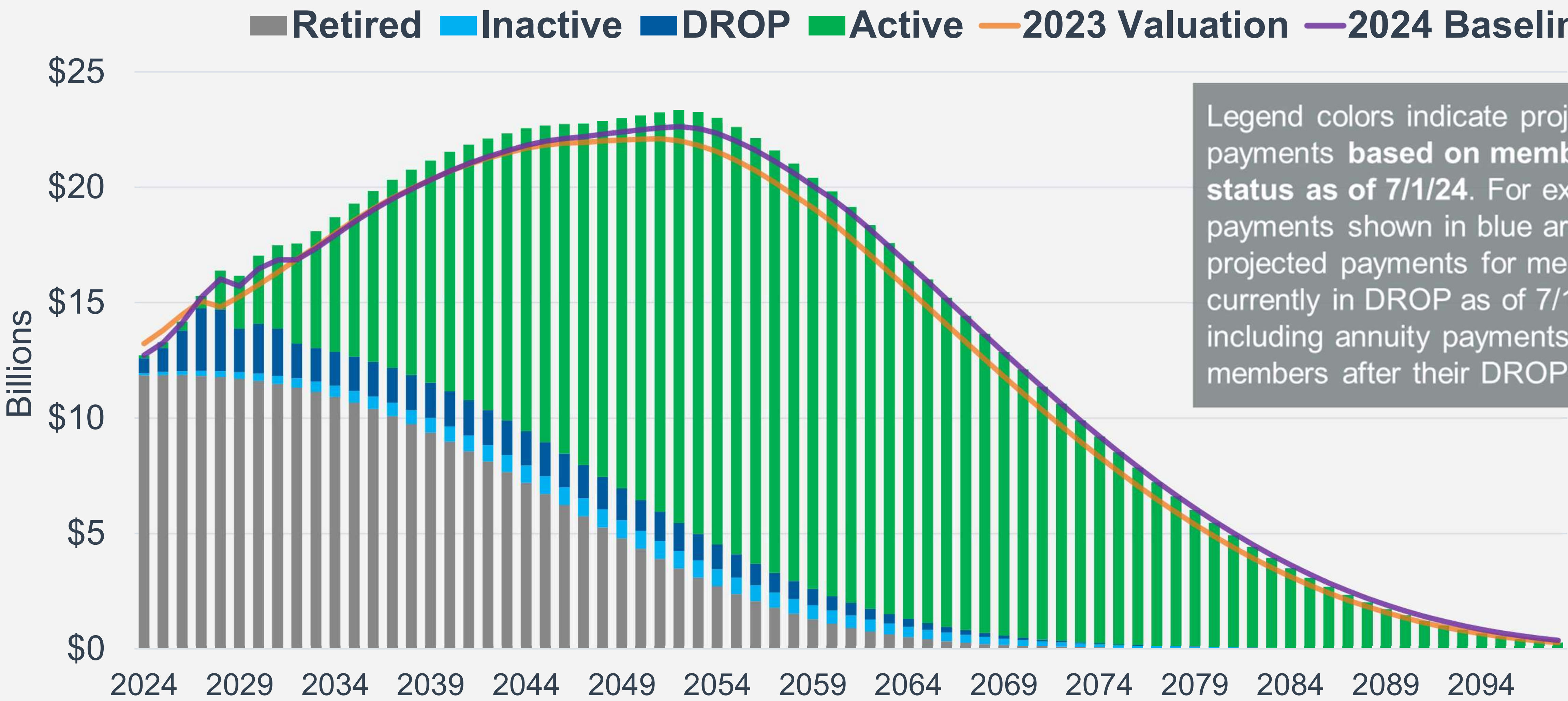
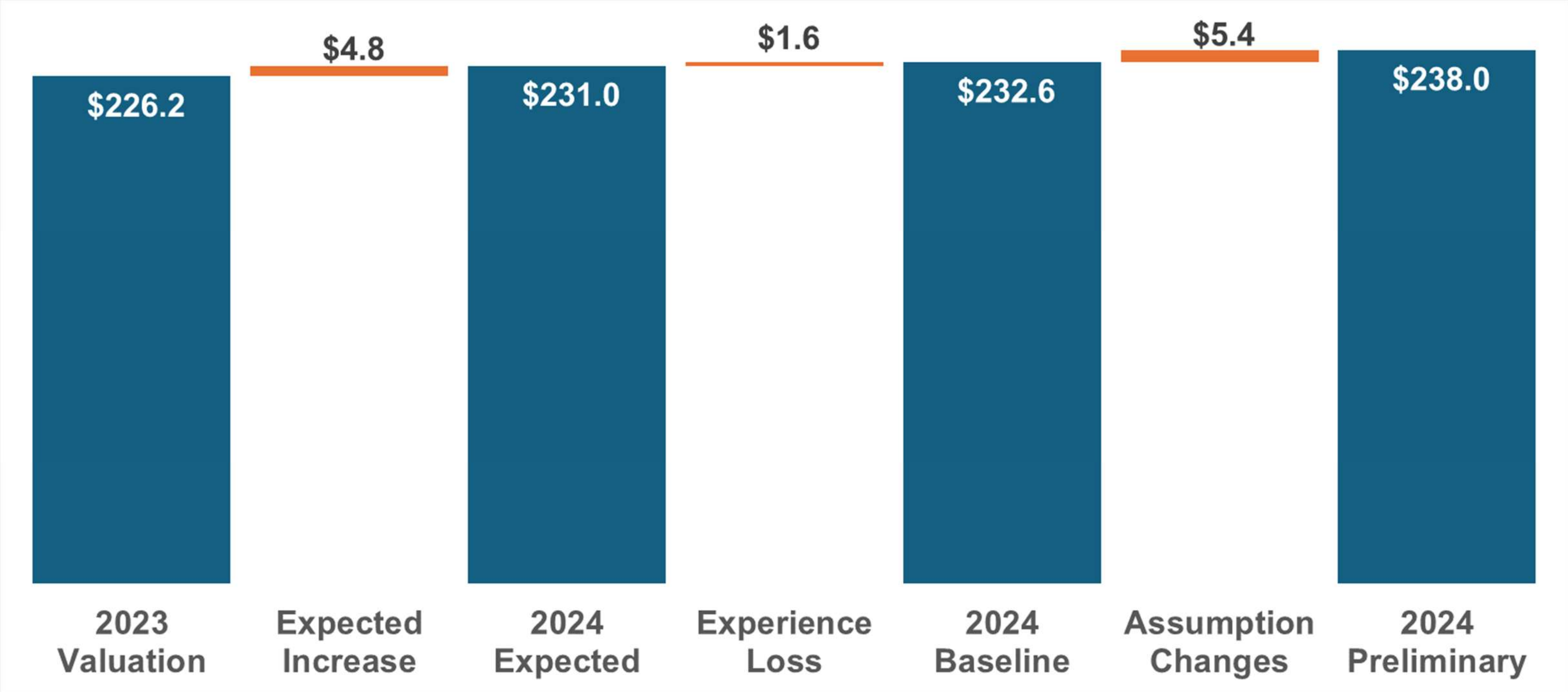
2024 Valuation Projected Benefit Payments Reflecting Assumption Updates



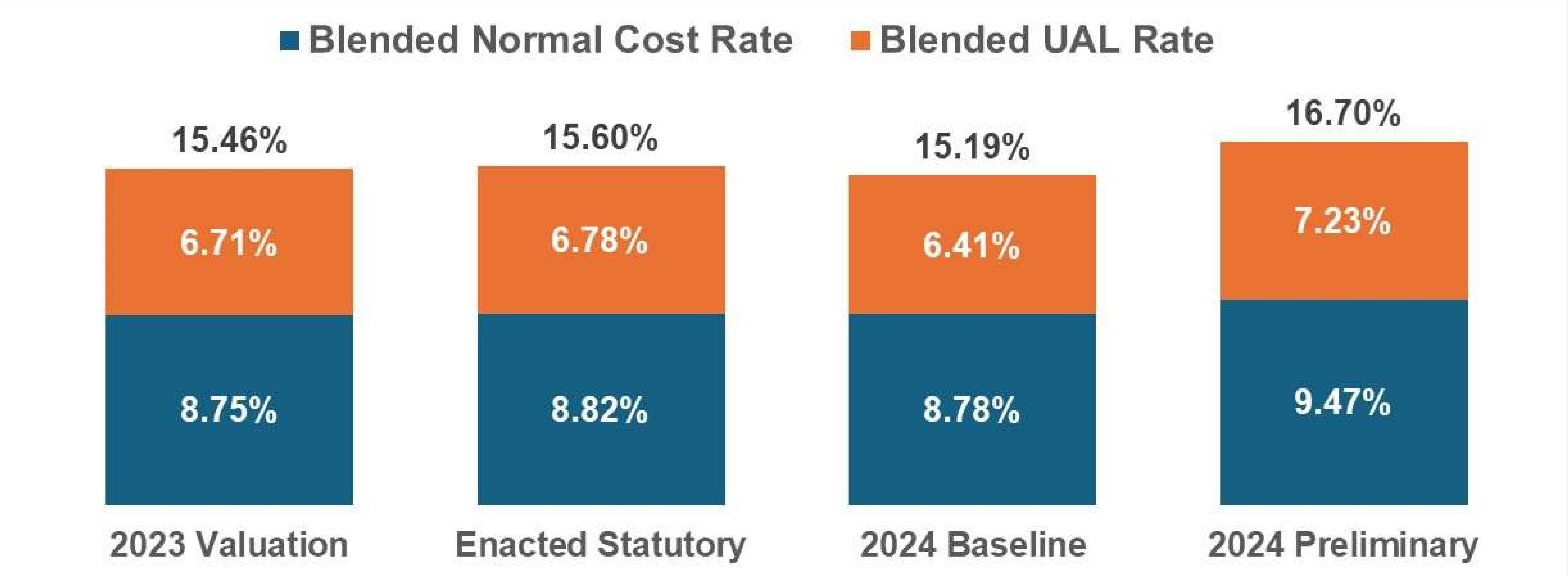
Legend colors indicate projected payments **based on member status as of 7/1/24**. For example, payments shown in blue are all projected payments for members currently in DROP as of 7/1/24, including annuity payments to those members after their DROP exit.

Year-to-Year Changes in Actuarial Liability – System Composite



- Expected increase is for new service and interest on past service, net of benefits paid
- The 0.7% of expected liability experience loss is mostly from 2023-24 individual member salary increases
- Recommended experience study assumption changes increased system composite liability by 2.3%

Year-to-Year Changes in Blended Rates – System Composite



- Legislatively enacted statutory rates set 0.14% of pay above the associated 2023 valuation results
- Prior to assumption updates, 2024 Baseline results would have decreased calculated blended rates
- Assumption updates will increase blended rates 1.10% of pay above enacted statutory levels

Year-to-Year Changes in Unfunded Actuarial Liability – System Composite

	2024 Preliminary **2024 data** **2024 assumption updates**
July 1, 2023 Unfunded Actuarial Liability (UAL)	$ 42.0
Expected UAL (decrease) if all assumptions met	(0.7)
Expected July 1, 2024 UAL	$ 41.3
Investment (gain) on smoothed AVA asset measure	(1.9)
Demographic liability experience loss (see next slide for details)	1.6
Assumption changes from experience study	5.4
Preliminary July 1, 2024 Unfunded Actuarial Liability	**$ 46.4**

(Amounts in $ billions)

Demographic Liability Experience Loss – System Composite

	2024 Preliminary 2024 data updates
Active member salary increases greater than expected	$ 1.3
Retirement and DROP entry behavior	0.3
Retiree/beneficiary mortality experience	0.0
All other demographic sources	0.0
Total demographic liability experience loss	$ 1.6

(Amounts in $ billions)

Pension Plan UAL and Funded Status – 2023 vs. 2024 Overview

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- On a market value of assets basis, the 2024 unfunded liability is **$39.3 billion**, and the funded status is **83.5%**
- 2024 results reflect a 6.70% investment return assumption and all proposed experience study assumption updates

Blended Proposed Statutory Rates at 6.70% Return

Weighted Average of Rates Across All Membership Classes	Enacted 2024-25 Rates (6.70% Assumption)			Preliminary 2025-26 Rates (6.70% Assumption)		
	NC	UAL	Total	NC	UAL	Total
PP composite employer rate	8.77%	8.54%	17.31%	9.45%	9.76%	19.21%
IP composite employer rate	9.58%	0.00%	9.58%	9.51%	0.00%	9.51%
Blended PP / IP employer rate	**8.82%**	**6.78%**	**15.60%**	**9.47%**	**7.23%**	**16.70%**
Employee contribution rate			3.00%			3.00%
Composite blended employer plus employee rate			18.60%			19.70%

- Pension Plan (PP) contribution rates are blended with Investment Plan (IP) contribution rates to create blended PP/IP proposed statutory employer rates.
- Statutory IP rates by membership class are unchanged from final 2024-25 rates, but the 2025-26 IP payroll is more heavily weighted to Regular Class, which decreases the IP composite employer rate.

Projected Employer Contributions in Dollars at 6.70% Return

Total For All Membership Classes	Normal Cost Rate	Applicable Normal Cost Payroll	UAL Rate	Applicable UAL Payroll	Blended PP/IP Rate	Employer Contribution
Statutory 2024-25	8.82%	$40.6 billion	6.78%	$44.8 billion	**15.60%**	**$6.61 billion**
Preliminary 2025-26	9.47%	$43.5 billion	7.23%	$47.6 billion	**16.70%**	**$7.56 billion**
Change	+0.65%		+0.45%		**+1.10%**	**+$0.95 billion**

- (Employer normal cost rate x normal cost payroll) + (UAL rate x UAL payroll) = Employer contribution
- Pension Plan (PP) contribution rates are blended with Investment Plan (IP) contribution rates to create blended PP/IP proposed statutory employer rates
- Preliminary 2025-26 rates reflect actual 2023-24 investment performance and July 1, 2024 FRS member census, along with all actuarial methods, and plan benefit provisions as detailed in the July 1, 2023 valuation, and actuarial assumptions as adopted by the October 14th Assumption Conference, plus individual member salary assumption changes proposed today

Investment Return Assumption for System Funding

Note: Today's Milliman speaker is not a credentialed investment advisor

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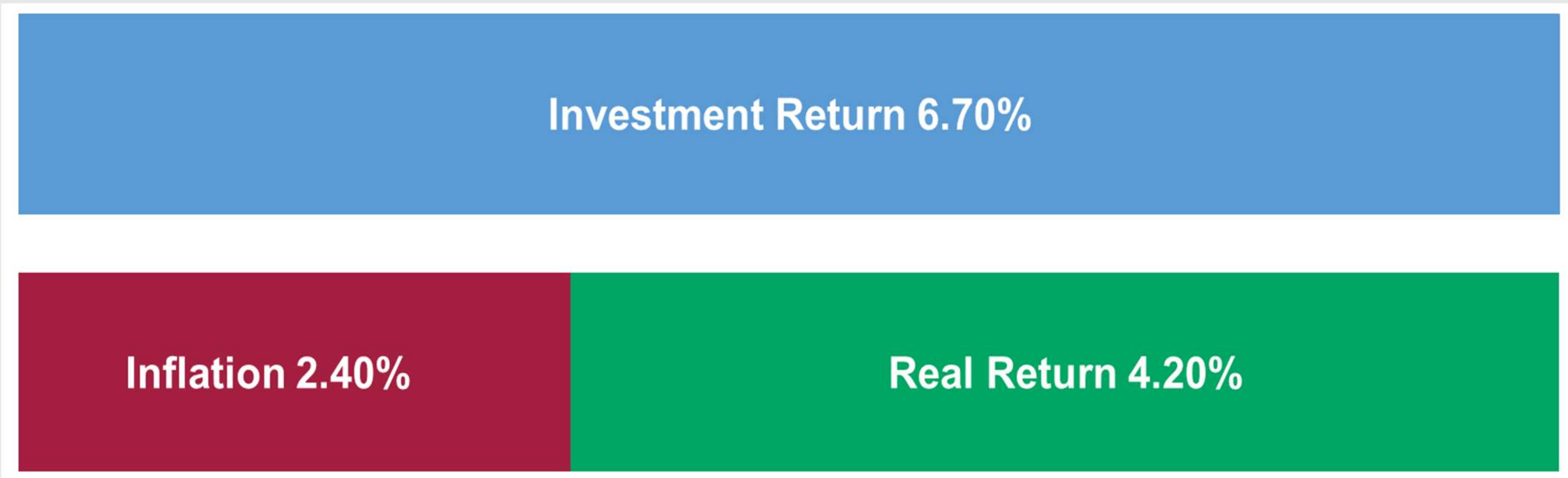
Components of 2023 Conference's Return Assumption

- The Conference identifies investment return and inflation assumptions
- From that, the Conference's implied real return assumption can be mathematically inferred



- The governing mathematical formula is:

  (1 + Investment Return) = (1 + Inflation) x (1 + Real Return)

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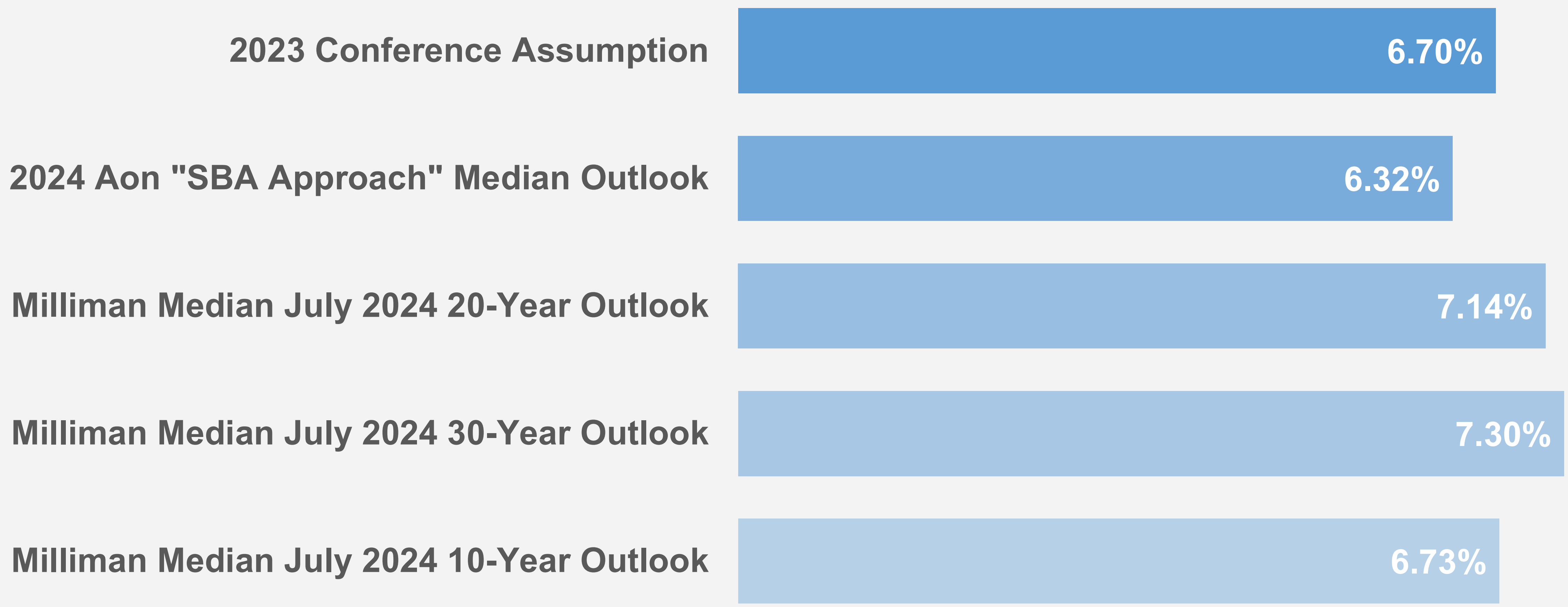
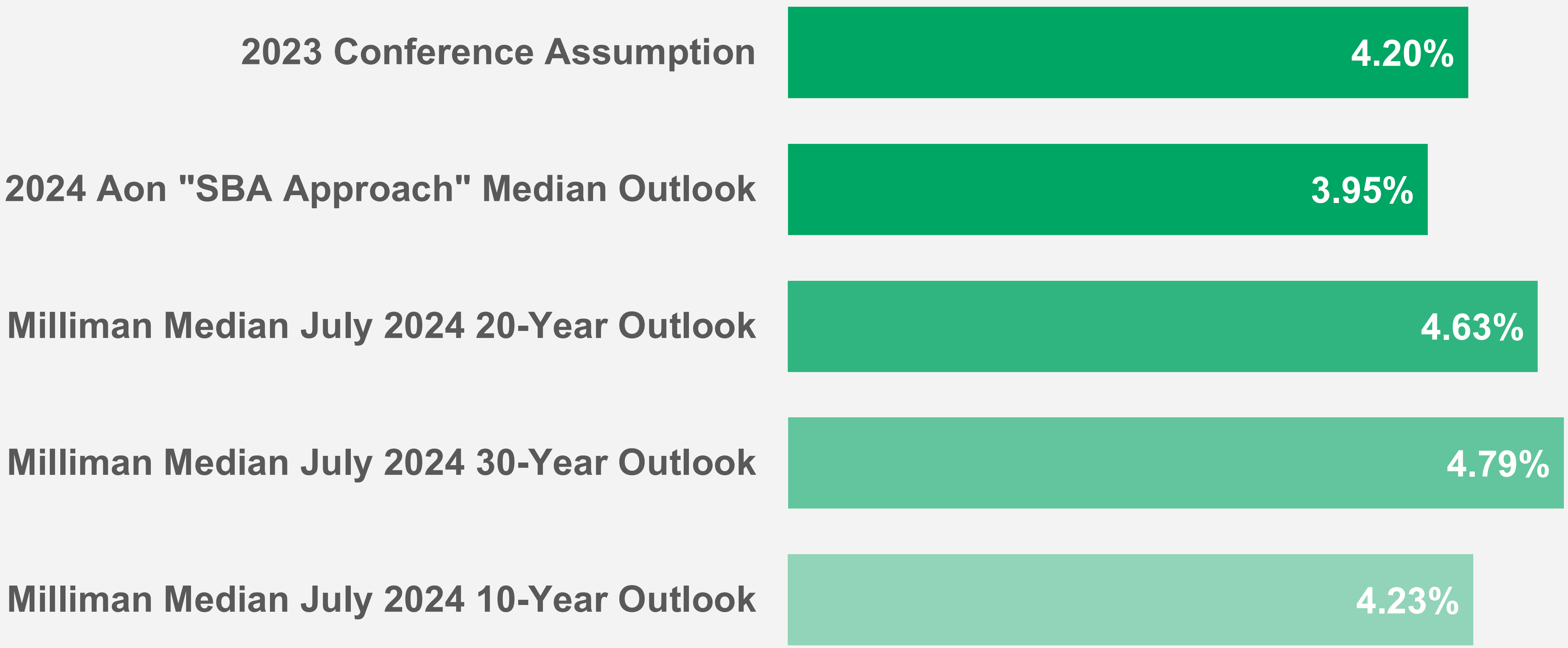
2024 Valuation - Updated Return Models for This Year

- Aon's "SBA Approach" model from its September 2023 asset-liability study that blends the global equity risk premiums of three large investment consultancies: **6.32%** median return (was 6.86% a year ago)
  - Reflects Aon's current outlook for inflation of 2.3%
  - Inferred: Aon median real (in excess of inflation) return outlook of 3.95%
- Milliman 30-year outlook model: **7.30%** median return (was 7.12% a year ago)
  - Uses the Conference's most recently adopted inflation assumption of **2.40%**
  - Inferred: Milliman median real (in excess of inflation) return outlook of **4.79%**
    - The current default inflation assumption in Milliman's 30-year outlook model is 2.32%

Guidance on Nominal Return Assumption



Guidance on Real Return Assumption



Amortization Policy

Assumptions for:

- Real Wage Growth
- System Payroll Growth

Policy for:

- Amortization Period Duration

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Amortization of UAL – Introduction

- Unfunded Actuarial Liability (UAL) is the current difference between
  - Actuarial Liability (AL)
  - Assets
    - Smoothed Actuarial Value of Assets (AVA) measure used for contributions
- Contribution rates should target reaching a 100% or greater funded ratio
  - When the funded ratio is 100% there is no UAL (>100% is "actuarial surplus")
- To progress to the target, a UAL amortization schedule is updated annually
- UAL amortization method components that determine the schedule
  - **Duration** of the UAL amortization period
  - **Shape** of the UAL amortization schedule

Amortization of Previously Unanticipated UAL Changes

- Previously unanticipated UAL changes <u>will</u> happen every year
- Sources of previously unanticipated UAL changes include:
  - Actual experience differing from the prior valuation's assumptions
  - Changes to the prior valuation's assumptions
  - Legislated changes to system benefit levels and/or benefit eligibility provisions
- Previously unanticipated UAL changes can either increase or decrease UAL
  - Increase - new amortization charge in the amortization schedule
  - Decrease - new amortization credit in the amortization schedule
- Amortization schedule sets the statutory UAL Cost contribution rate

Amortization of UAL – Duration and Shape

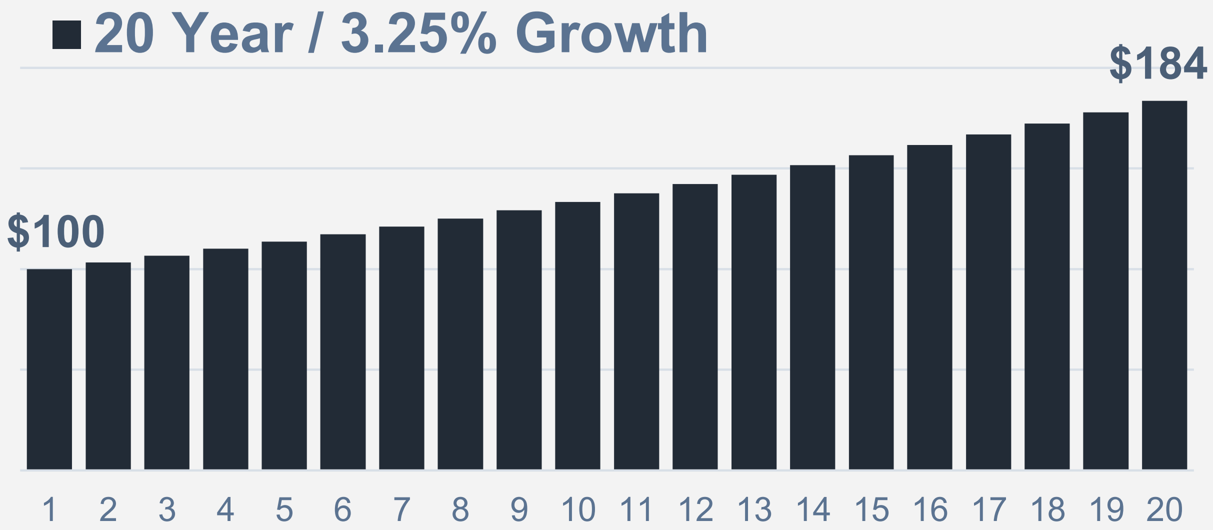
- The current FRS amortization method for newly arising UAL is:
  - Duration – **20 years**
  - Shape – amortization schedule level as a projected **percent of pay**
- Both components of the FRS amortization method are in a model range
  - Model range for duration – 15 to 20 years
  - Model shape – schedule either a level percent of pay or a level dollar amount
- Shorter duration and/or level dollar create larger “year one” volatility
  - Level dollar creates lesser “final year” volatility than level percent of pay

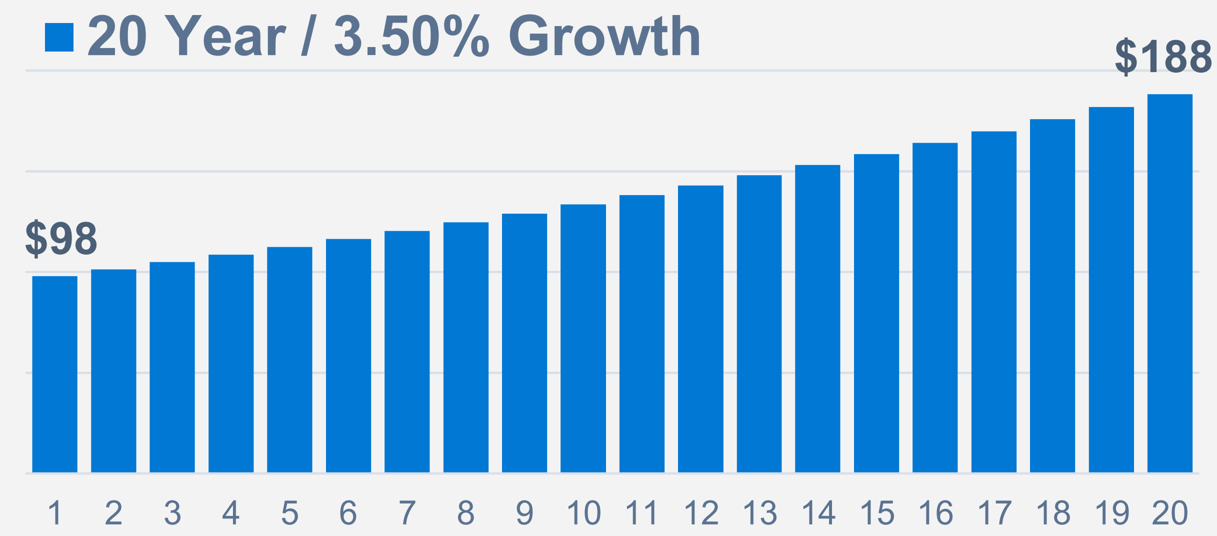
Amortization Methodology Alternatives Being Considered Today

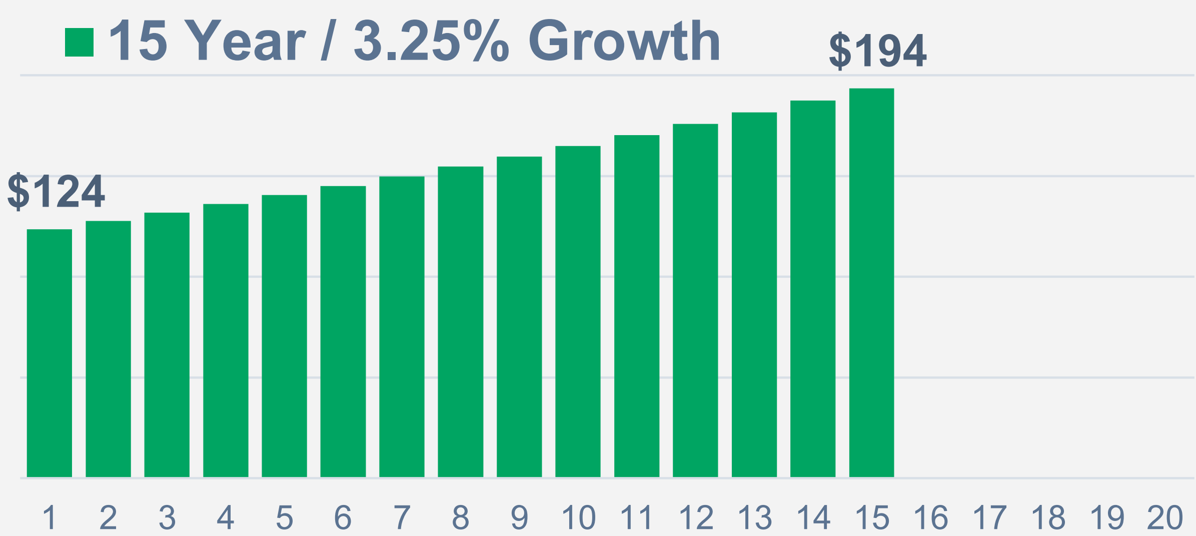
- The system payroll growth assumption is the sum of two components
  - Inflation – currently 2.40%
  - Real wage growth – currently 0.85%; alternative being considered is 1.10%
- The higher the assumption the steeper the slope of the amortization schedule
  - 3.50% system payroll growth's amortization schedule is steeper than that for 3.25%
- Shortening the amortization duration to 15 years is also being considered
  - This could be done for all existing amortization bases, or only for new bases
- All illustrations today use a level percent of pay schedule shape

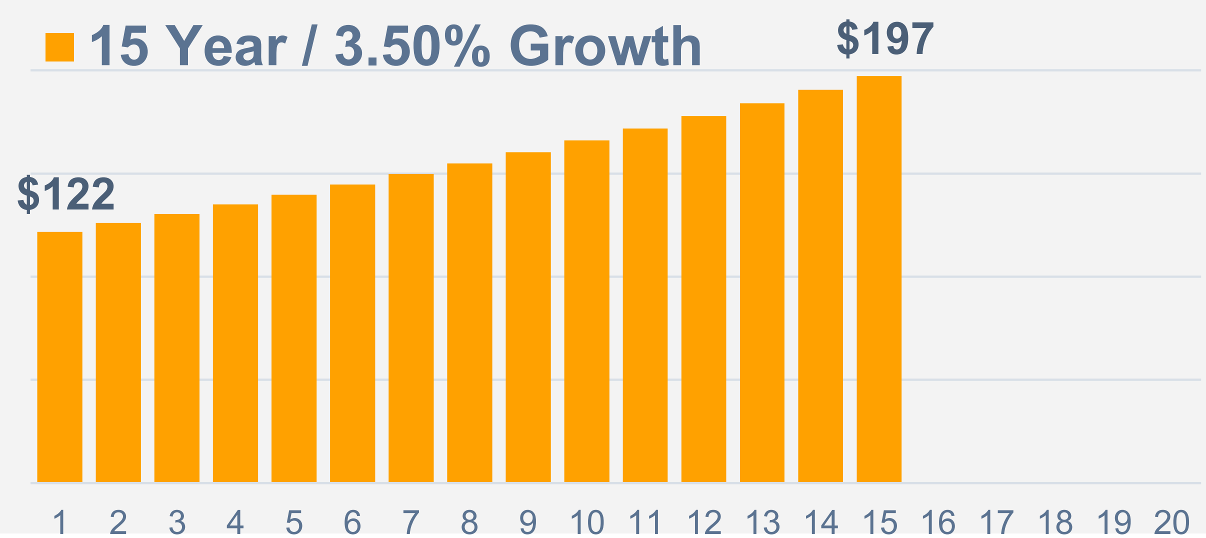
Amortization Method in Theory – Four Duration / Payroll Growth Combinations

Effect on amortization schedules of four possible approaches – amounts shown as year-by-year non-inflation-adjusted dollar amounts









Amortization Schedule – Payroll Growth and Amortization Length

Preliminary Blended IP/PP Employer 2025-26 UAL Rate

Payroll Growth Assumption	Current 20 Year Amortization Schedule	Limit All Bases to 15 Years	Only New Bases at 15 Years
3.25% (current)	7.23%	7.91%	7.38%
3.50% (alternative)	7.07%	7.75%	7.23%

- Payroll growth assumption consists of 2.40% for inflation assumption and either 0.85% (current) or 1.10% (alternative) for real wage growth assumption
- The $7.1 billion deferred investment gain as of July 1, 2024 is approximately equal to:
  - A deferred blended UAL rate decrease of 1.10% of pay under the 20-year schedule and 3.25% assumption
  - A deferred blended UAL rate decrease of 1.34% of pay under the 15-year schedule and 3.50% assumption
- Blended UAL rate above does not include Blended IP/PP Employer Normal Cost Rate of 9.47%

Illustration – Effect of Negative Investment Return on Actuarial Calculations

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Illustrative -7% FYE24 Market Return Scenario Amortization Schedule

Preliminary Blended IP/PP Employer 2025-26 UAL Rate

Payroll Growth	Current Amortization Schedule	Limit All Bases to 15 Years	Only New Bases at 15 Years
3.25% (current)	8.21%	9.12%	8.61%
3.50% (alternative)	8.03%	8.95%	8.43%

- Payroll growth assumption consists of 2.40% for inflation assumption and either 0.85% (current) or 1.10% (alternative) for real wage growth assumption
- $7.1B deferred gain in 2024 becomes $18.3B deferred investment loss, which is approximately equal to:
  - A deferred blended UAL rate increase of 2.84% of pay under the 20-year schedule and 3.25% assumption
  - A deferred blended UAL rate increase of 3.45% of pay under the 15-year schedule and 3.50% assumption
- Does not include Blended IP/PP Employer Normal Cost Rate of 9.47%.

Assumptions for HIS and National Guard Accounting Valuations

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GASB Discount Rate Assumption

- Currently, the Florida Health Insurance Subsidy (HIS) and Florida National Guard benefits are effectively funded on a pay-as-you-go basis
- Accounting standards first effective several years ago (GASB 67 & 68) give direction on the discount rate assumption to be used for financial reporting of programs funded on a pay-as-you-go basis
  - The assumption should reflect an **index of 20-year, tax exempt, high quality (AA/Aa or higher) general obligation municipal bonds**
  - The assumption selected should be based on **market conditions as of the measurement date** of the financial reporting in question
- After consideration of these requirements at the time of initial implementation of the accounting standards, the Conference adopted the **Bond Buyer General Obligation 20-Bond Municipal Bond Index** for use in HIS and National Guard GASB calculations
  - That index has been used for pay-as-you-go GASB financial reporting valuations by all public systems with which I am familiar

Historical Values of the Bond Index

- The table below shows the value of the Bond Buyer General Obligation 20-Bond Municipal Bond Index as of the last five fiscal year-end measurement dates

June 30	Index
2024	**3.93%**
2023	3.65%
2022	3.54%
2021	2.16%
2020	2.21%

- The **higher** the index, the **lower** the calculated present value liability
- An index **increase** from 3.65% to 3.93% could be expected to **decrease** June 30, 2023 HIS liability and National Guard liability by approximately $541 million and $29 million, respectively

Other Assumptions used for HIS and NG GASB valuations

- The Florida Health Insurance Subsidy (HIS) valuation uses the same demographic assumptions as the Florida Retirement System; the Florida National Guard valuation uses the FRS mortality assumption specific to non-Special Risk members who are not K-12 Instructional
- The Florida Health Insurance Subsidy (HIS) valuation requires an additional assumption relating to the proportion of eligible retirees anticipated to elect HIS in retirement
  - In conjunction with the Experience Study, we reviewed actual member elections during the 2018-2019 through 2022-2023 plan years
  - Proposed assumptions based on this experience are as follows:

Classification	Current Assumption	Proposed Assumption
Pension Plan Members		
Immediate Retirement (from Active status or DROP exit)	90%	90%
Deferred Retirement (Separating before retirement eligibility)	50%	50%
Investment Plan		
HIS-eligible at separation from active service / IP Distribution	90%	60%
Deferred Retirement (not HIS-eligible at IP Distribution)	50%	40%

Needed Guidance

Needed Guidance for FRS Pension Plan

- From Conference Principals for system funding calculations, identification of **methods** and **assumptions** to use in the 2024 FRS Pension Plan valuation calculations for system funding purposes to calculate blended proposed 2025-26 statutory contribution rates, including:
  - Investment return assumption (currently 6.70%)
  - Inflation assumption (currently 2.40%)
  - Amortization policy - currently 20-year amortization as a level percent of projected future payroll for newly arising UAL (unfunded actuarial liability) bases
    - All pre-existing UAL bases were recalculated at July 1, 2021 to be no more than 20-year amortizations as a level percent of projected future payroll

Needed Guidance for the HIS and National Guard Programs

- From Conference Principals for GASB accounting valuations of the Health Insurance Subsidy (HIS) and Florida National Guard programs:
  - Re-confirmation of the Bond Buyer General Obligation 20-Bond Municipal Bond Index as the discount rate for the two programs' GASB valuations

- Demographic assumptions will be consistent with those used in the Pension Plan valuation whenever appropriate, taking into consideration current provisions and currently available data
  - Examples: HIS will use updated FRS assumptions for retiree life expectancy, time of retirement, etc.

Appendix

Individual Member Salary Increase Assumptions

Combined Years of Service	Regular	Special Risk	Special Risk Administrative	ECO	ESO	Judicial	Senior Management
0	6.35%	8.50%	3.40%	3.25%	3.25%	4.00%	9.30%
1	6.20%	8.00%	3.40%	3.25%	3.25%	4.00%	8.70%
2	6.05%	7.50%	3.40%	3.25%	3.25%	4.00%	8.10%
3	5.90%	7.00%	3.40%	3.25%	3.25%	4.00%	7.50%
4	5.75%	6.50%	3.40%	3.25%	3.25%	4.00%	6.90%
5	5.60%	6.50%	3.40%	3.25%	3.25%	4.00%	6.30%
6	5.45%	6.50%	3.40%	3.25%	3.25%	4.00%	5.70%
7	5.30%	6.50%	3.40%	3.25%	3.25%	4.00%	5.70%
8	5.10%	6.20%	3.40%	3.25%	3.25%	4.00%	5.55%
9	5.00%	5.90%	3.40%	3.25%	3.25%	4.00%	5.55%
10	5.00%	5.90%	3.40%	3.25%	3.25%	4.00%	5.55%
11	4.80%	5.90%	3.40%	3.25%	3.25%	4.00%	5.55%
12	4.75%	5.60%	3.40%	3.25%	3.25%	4.00%	5.15%
13	4.70%	5.60%	3.40%	3.25%	3.25%	4.00%	5.15%
14	4.65%	5.40%	3.40%	3.25%	3.25%	4.00%	5.15%
15	4.60%	5.40%	3.40%	3.25%	3.25%	4.00%	4.90%
16	4.60%	5.40%	3.40%	3.25%	3.25%	4.00%	4.90%
17	4.55%	5.20%	3.40%	3.25%	3.25%	4.00%	4.40%
18	4.45%	5.20%	3.40%	3.25%	3.25%	4.00%	4.40%
19	4.40%	5.20%	3.40%	3.25%	3.25%	4.00%	4.40%
20	4.35%	5.20%	3.40%	3.25%	3.25%	4.00%	4.40%
21	4.30%	5.20%	3.40%	3.25%	3.25%	4.00%	4.40%
22	4.30%	4.80%	3.40%	3.25%	3.25%	4.00%	4.40%
23	4.15%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
24	4.15%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
25	4.05%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
26	4.00%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
27	3.90%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
28	3.75%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
29	3.65%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%
30+	3.65%	4.80%	3.40%	3.25%	3.25%	4.00%	4.20%

Milliman 30-Year Capital Market Outlook Assumptions

	Policy Allocation	Annual Arithmetic Mean	**Annualized Geometric Mean**	**Annual Standard Deviation**
US Cash	1.00%	3.34%	3.33%	1.12%
US Core Fixed Income (Aggregate)	21.00%	4.92%	4.82%	4.50%
US Government Bonds	1.00%	4.33%	4.20%	5.22%
US High Yield Bonds	1.00%	6.83%	6.36%	10.03%
US Bank/Leveraged Loans	1.00%	5.93%	5.65%	7.74%
Private Credit	4.00%	9.09%	8.43%	12.00%
Emerging Markets Bonds	1.00%	7.33%	6.44%	13.81%
Global Equity	45.00%	8.58%	7.04%	18.23%
Private Real Estate Property - Core	12.00%	8.09%	6.81%	16.57%
Private Equity	10.00%	12.85%	8.79%	30.00%
Infrastructure - Public	1.00%	8.18%	6.81%	17.18%
Hedge Funds - MultiStrategy	2.00%	6.58%	6.22%	8.72%
US Inflation (CPI-U)*		2.40%	2.40%	1.45%
Total Fund	100.00%	8.00%	**7.30%**	**12.32%**

For assessing the expected portfolio return under Milliman's capital market assumptions, we considered FRS investments to be allocated among the model's asset classes as shown below. This allocation is based on our understanding of the current target allocation policy, as provided to us by Aon Hewitt Investment Consulting via email on October 8, 2024.

*2.4% is the inflation assumption most recently adopted by the FRS Actuarial Assumption Conference. That 2.4% assumption is then applied to real return assumptions in Milliman's capital market outlook model to calculate a median (50th) percentile return.

Real return assumptions in the Milliman model are set semi-annually by a committee of credentialed investment professionals.

The default inflation assumption in the Milliman 30-year model is currently 2.30%.

Milliman 30-Year Investment Return Model

Percentile	30-Year Average
65th	8.07%
60th	7.78%
55th	7.49%
50th	**7.21%**
45th	6.93%
40th	6.65%
35th	6.36%

- Based on the current target asset allocation, model results are geometric annual average net returns based on:
  - A series of average annual real returns by asset class, plus asset class correlations
  - The 2023 Conference's 2.4% inflation assumption
  - The 40th percentile means that in the Milliman model 40% of possible 30-year average annualized returns are at or below 6.65%
  - Details on the model inputs on the previous slide

Disclaimer

At your request, we have provided these draft results prior to completion of the July 1, 2024 Actuarial Valuation Report. Because these are draft results, Milliman does not make any representation or warranty regarding the contents of the presentation. Milliman advises any reader not to take any action in reliance on anything contained in this presentation. All draft results from this presentation are subject to revision or correction prior to the release of the finalized July 1, 2024 Actuarial Valuation Report, and such changes or corrections may be material.

Certification

This presentation summarizes key preliminary results of an actuarial valuation of the Florida Retirement System (“FRS” or “the System”) as of July 1, 2024. The valuation, when finalized, will develop actuarially calculated contribution rates for the Plan Year ending June 30, 2026. The results in this presentation are preliminary in nature and may not be relied upon to, for example, prepare the System’s Annual Consolidated Financial Report. The reliance document will be the formal July 1, 2024 Actuarial Valuation Report.

In preparing this presentation, we relied, without audit, on information (some oral and some in writing) supplied by Division of Retirement (“Division”) staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

Preliminary results have been determined on the basis of actuarial assumptions and methods as most recently adopted by the October 14, 2024 FRS Actuarial Assumption Conference, as determined in the 2018-2023 Experience Study and individual member salary increase assumptions as proposed in this presentation. In our professional opinion those assumptions are individually reasonable (taking into account the experience of the System and reasonable expectations); and offer a reasonable estimate of anticipated future experience affecting the System.

Future actuarial measurements may differ significantly from the current measurements presented in this presentation 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The FRS Actuarial Assumption Conference has the final decision regarding the selection of assumptions for System funding calculations.

Certification

Computations presented in this presentation are for purposes of preliminarily estimating the actuarially calculated contribution rates for funding the System. Computations prepared for other purposes may differ. The calculations in the presentation have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this presentation have been made on a basis consistent with our understanding of the plan provisions described in the appendix of our formal actuarial valuation report as of July 1, 2024. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this presentation. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the Florida Department of Management Services ("DMS"). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third-party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

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The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel. The presenting actuary is independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of Milliman's work.

On the basis of the foregoing, we hereby certify that, to the best of my knowledge and belief, this presentation has been prepared in accordance with generally recognized and accepted actuarial principles and practices. The presenting actuary is a member of the American Academy of Actuaries and meets the Qualification Standards to render the actuarial opinion contained herein.

Actuarial Basis

Data

We have based our calculations on demographic member census data as of July 1, 2024 as supplied by the Division of Retirement ("Division"). That data will be summarized in our formal actuarial valuation report for funding purposes as of July 1, 2024, which will be published in the 4th quarter of this year. Assets as of June 30, 2024, were based on values provided by the Division.

Methods / Policies

Actuarial Cost Method: Individual Entry Age Normal, as initially adopted by the 2019 FRS Actuarial Assumption Conference and most recently adopted by the 2024 FRS Actuarial Assumption Conference.

UAL Amortization: Newly arising UAL each plan year is amortized as a level percentage of projected payroll over a closed 20-year period, except where explicitly modeled as a policy alternative in the body of the presentation.

Actuarial Value of Assets: A smoothed asset value specified by Florida Statutes that annually recognizes 20% of deviations in investment performance from the long-term assumption systematically over time. The statutory calculation approach includes a "corridor" to ensure smoothed assets vary no more than 20% from fair market value.

Assumptions

Assumptions for preliminary 2024 valuation calculations use assumptions as detailed in the July 1, 2023 Actuarial Valuation Report for funding purposes, as revised by those adopted during the October 14, 2024 Actuarial Assumption Conference, plus the individual member salary increase assumptions proposed in this presentation.

Provisions

Provisions valued are as summarized in the July 1, 2023 Actuarial Valuation Report.