Pension Levers and Plan Design Options

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Agenda

- Pension Plan Key Concepts
- Levers
- Other alternative plan changes

Pension Plan Key Concepts

Pension Plan Basics

C + I = B + E

Contributions + Interest = Benefits + Expenses

Contributions and interest earned on those contributions over time must equal benefits paid to participants and expenses of running the pension plan

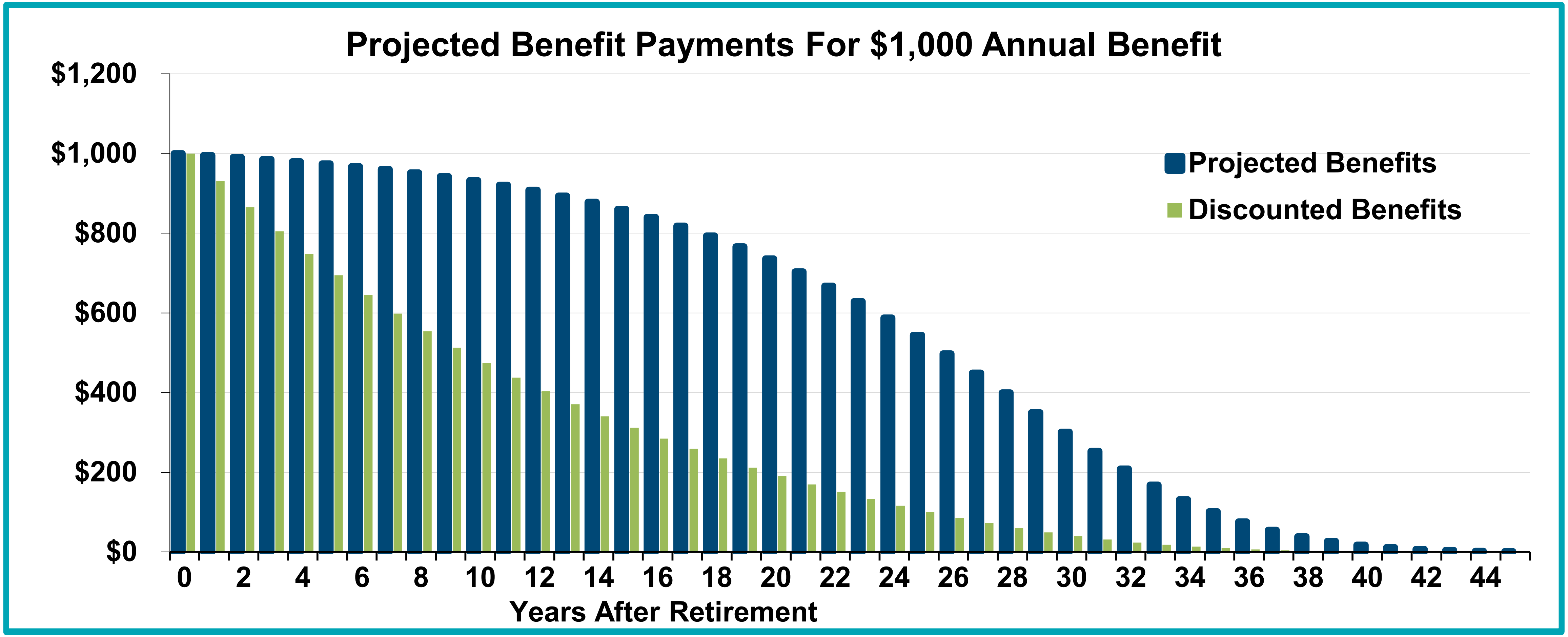
Present Values

- Present Value (PV) discounts future cash flows to today
- Examples below assume 7% expected return
  - PV of $100 payable today is . . . $100
  - PV of $100 payable next year is:
    - $\$100/1.07 \sim \$93$
  - PV of $100 payable in two years is:
    - $\$100/1.07^2 \sim \$87$
  - $280 today could pay for a $100 payment for three years ($100+$93+$87=$280)

Present Values

- Present Value (PV) of pension benefits also includes the probability that the member remains alive
- PV of \$1,000 payable annually to John Carpenter while he is alive
  - $\$1{,}000 + \$1{,}000/1.07 \times 99\% + \$1{,}000/1.07^2 \times 98\% + \ldots \sim \$12{,}000$

Present Values

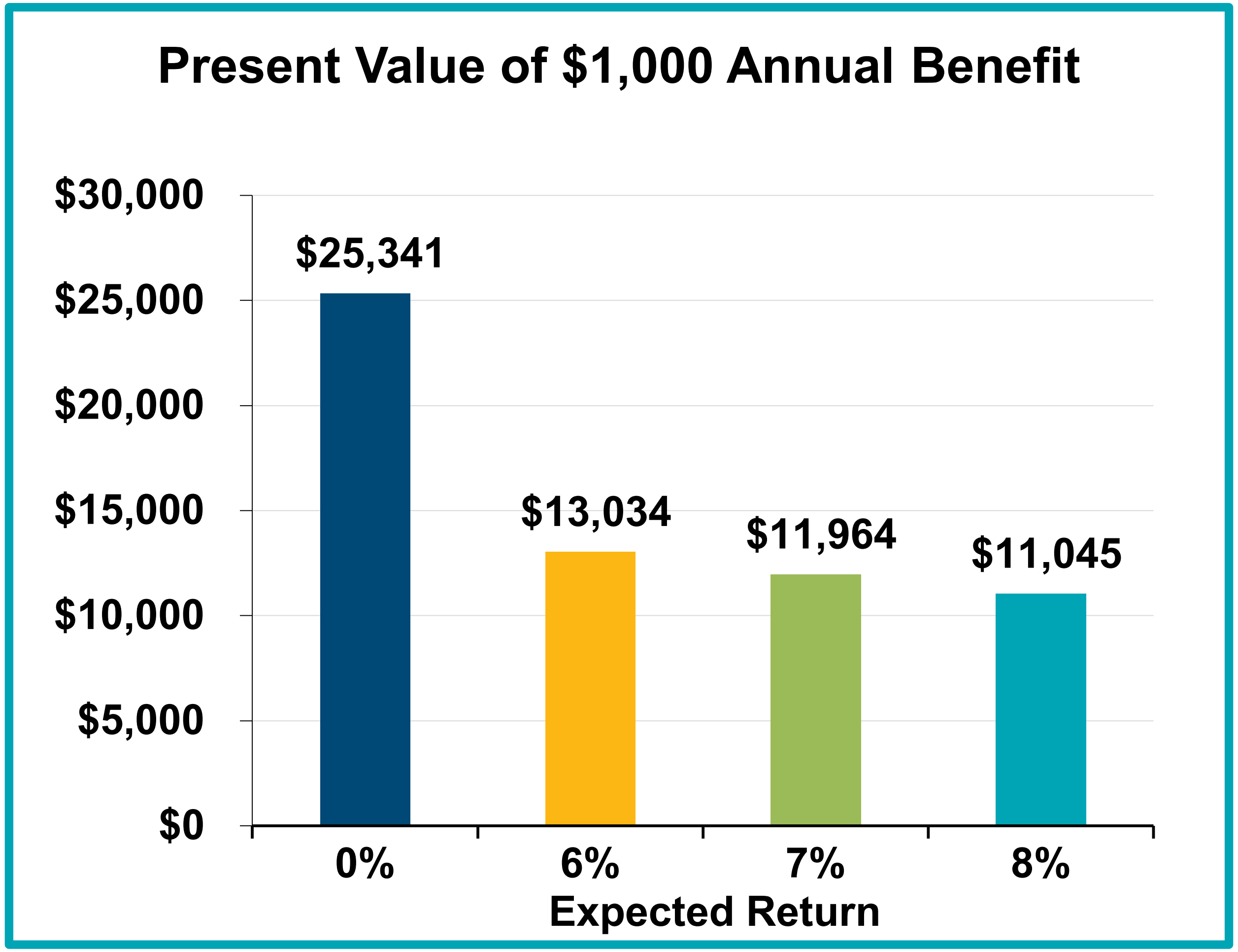


Reflects probability member remains alive and uses a 7% expected return

Present Values

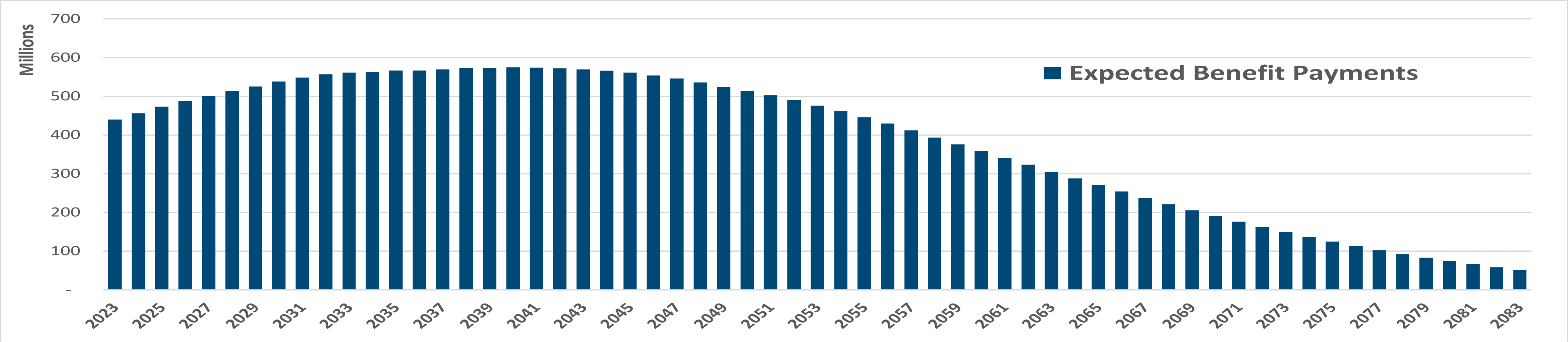
- Present Value (PV) of pension benefits vary depending on the assumptions used
- Hypothetical impact of varying expected return and mortality assumptions are shown on the next few slides

Present Values



A one percent (100 basis point) change in the expected return changed the present value of benefits by 8-9%.

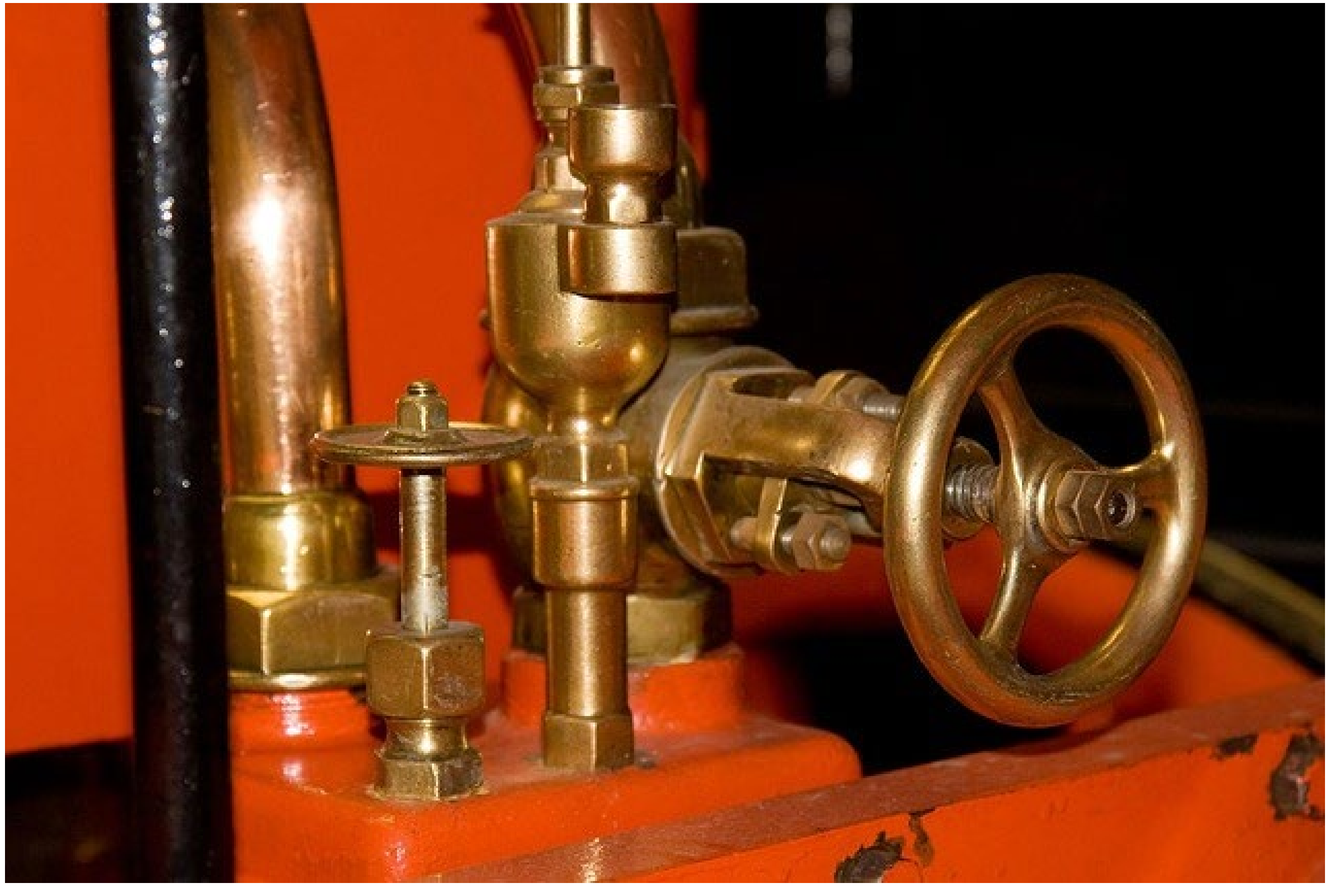
Pension Liabilities



Total expected future benefits

Present Value of Future Benefits	**Discount to present**

Actuarial Liability	**Normal Cost**	**PV of Future Normal Cost**



Levers

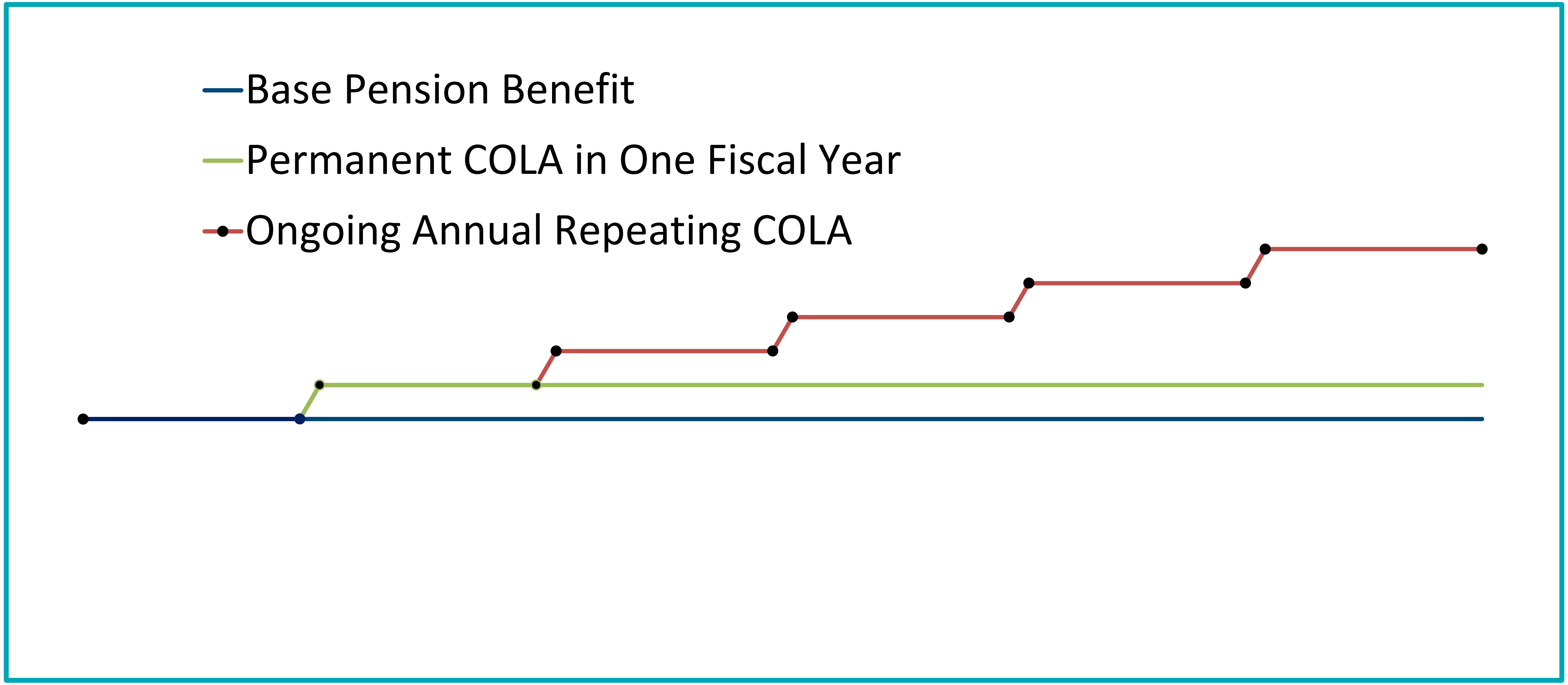
Levers included in the Actuarial Valuation Report

- + 1% contribution from ER
- - 1% contribution from EE
- Permanent COLA in FY 2025 of 1%, 2%, & 3%
- Ongoing annual repeating COLA of 1%, 2%, & 3%
- Eligibility for unreduced retirement changed to 34, 33, 32, 31, and 30 years of service

Levers Details

- +1% additional contribution from employers
  - No impact on benefits
- -1% contribution from employees
  - Small decrease in present value of benefits due to return of contributions being less for those who take that option

Levers Details – COLA Examples



Lever Details – Eligibility Requirement Changes

- Change Service requirement for unreduced retirement
  - Values shown for levers report use the current valuation assumptions (no changes to participant behavior)
  - Changes to unreduced retirement provisions may change participant behavior and should be considered when making material changes

Levers Details – Table with Preliminary SBEP

			Valuation metrics 6/30/2024		Outlook and funding policy metrics on 6/30/2024			SBEP
			If results=assumptions FY2024					*Preliminary**
		Modeled as if FY2024 results exactly matched assumptions	Normal Cost 2024	Actuarial Liability 2024	Funded Ratio 2024	Funding Period 2024	Summary Score 2024	Budget Impact ($M)
0		DB Plan, provisions as of FY2023	10.67%	105,341	80.3%	9.7	-1	$0
Scenario			*Change*	*Change ($M)*				
1.1	Contributions	+1% employer contribution rate	0.00%	-	80.3%	9.7	-1	-$1,360
1.2		-1% employee contribution rate	-0.02%	(28)	80.2%	9.8	-1	$1,310
2.1	COLA	3% ongoing annual repeating simple COLA, FY2025+	1.69%	20,584	67.2%	33.7	-7	$21,280
2.2		2% ongoing annual repeating simple COLA, FY2025+	1.13%	13,722	71.1%	22.5	-5	$14,180
2.3		1% ongoing annual repeating simple COLA, FY2025+	0.56%	6,861	75.4%	15.1	-3	$7,090
2.4		Permanent 3% COLA, FY2025 only	0.00%	1,453	79.2%	10.6	-2	$1,360
2.5		Permanent 2% COLA, FY2025 only	0.00%	969	79.6%	10.3	-1	$910
2.6		Permanent 1% COLA, FY2025 only	0.00%	484	80.0%	10.0	-1	$450
3.1	Eligibility	Unreduced retirement at 34 years	0.18%	702	79.8%	10.3	-2	$850
3.2		Unreduced retirement at 33 years	0.40%	1,726	79.0%	11.2	-2	$1,990
3.3		Unreduced retirement at 32 years	0.59%	2,621	78.4%	12.0	-2	$2,970
3.4		Unreduced retirement at 31 years	0.75%	3,314	77.8%	12.6	-2	$3,730
3.5		Unreduced retirement at 30 years	0.86%	3,781	77.5%	13.1	-2	$4,220

Preliminary results based on same assumptions as those used in the FYE 2023 valuation

Additional Plan Options for Budget Consideration

- Changes to unreduced eligibility but only for a temporary period
  - Extension of 34 years for 10 additional years
  - 33 years unreduced for 5, 10, and 15 years
- Early retirement factor “cliff”

Options – Service requirement changes

- Change service requirement for unreduced retirement
  - Early retirement factors are actuarially equivalent for each year retirement starts prior to unreduced eligibility
  - Temporary requirements create “cliffs”, which become steeper when the change is larger (i.e. change from 34 back to 35 versus change from 33 to 35)

Early Retirement Cliff – Current Plan Example

Using the CURRENT plan provisions - Unreduced at 34 years through July 1, 2028
Changing to unreduced retirement at 35 years on August 1, 2028

	Person A				Person B
On July 1, 2027					
Age	60				60
Service	33	<=	Person A has 1 more year of service than Person B		32
Final Avg Pay (FAP)	60,000				60,000
Years before unreduced	1		Person B has 2 more years of reduction for early retirement	=>	3
Accrued Multiplier	72.6%				70.4%
Benefit before reduction	43,560				42,240
Reduction Factor	9%	<=	This creates a "Cliff" between the reduction factors	=>	24%
Multiplier w/ reduction	66.1%				53.5%
Reduced Benefit	39,640				32,102

Early Retirement Cliff – 33 years increasing to 35

If the Plan is changed to allow unreduced retirement at 33 years through July 1, 2028
Changing to unreduced retirement at 35 years on August 1, 2028

	Person B				Person C
On July 1, 2027					
Age	60				60
Service	32	<=	Person B has 1 more year of service than Person C		31
Final Avg Pay (FAP)	60,000				60,000
Years before unreduced	1		Person C has 3 more years of reduction for early retirement	=>	4
Accrued Multiplier	70.4%				68.2%
Benefit before reduction	42,240				40,920
Reduction Factor	9%	<=	The "Cliff" between the reduction factors has grown	=>	30%
Multiplier w/ reduction	64.1%				47.7%
Reduced Benefit	38,438				28,644

Options – Cost Analysis

- Estimates of temporary extension of reduction in service required for unreduced retirement eligibility
  - Budget impact will be refined in the spring for SBEP discussion
  - Retirement rates increased in the year before change to account for the cliff

Enhancement	First Year COLA	Future Years COLA	ER Contrib	EE Contrib	Elig. Unred	SBEP Budget Impact ($M)
Baseline - Actual	-	-	14%	14%	34 yrs for 5 yrs	***Preliminary****
3.1B - 34 yrs, temp for 10 more yrs	No	No	14%	14%	34 yrs for 15 yrs	$ 500
3.2B - 33 yrs, temp for 5 yrs, Adj. Rates	No	No	14%	14%	33 yrs for 5 yrs	$ 800
3.2C - 33 yrs, temp for 10 yrs, Adj. Rates	No	No	14%	14%	33 yrs for 10 yrs	$ 1,370
3.2D - 33 yrs, temp for 15 yrs, Adj. Rates	No	No	14%	14%	33 yrs for 15 yrs	$ 1,640

** Preliminary results based on same assumptions as those used in the FYE 2023 valuation*

Next Steps

- December – Valuation Report Updated with Plan Design Levers
- February-March – Economic Assumptions Review
- February-April – SBEP Calculations of Budget & Costs of Enhancements

Required Disclosures

The purpose of this presentation is to present actuarial the valuation results for the State Teachers Retirement System of Ohio. This presentation is for the use of the Board and System staff.

In preparing our presentation, we relied on information, some oral and some written, supplied by the State Teachers Retirement System of Ohio. 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.

The actuarial assumptions, data, and methods are those used in the preparation of the Actuarial Valuation Report as of June 30, 2023.

The assumptions reflect our understanding of the likely future experience of the System, and the assumptions as a whole represent our best estimate for the future experience of the System. The results of this presentation are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the System could vary from our results.

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