Public Employees Retirement Association

Experience Study Results:
Police and Fire and Local Correctional Plans
June 13, 2024

Agenda

- Introduction
- Experience Study Process
- Economic Assumptions
- Demographic Assumptions
- Cost Impact

Introduction

- Each year the actuarial liabilities of PERA are calculated as part of the June 30th valuation

- In order to perform the valuation, we must make assumptions about the future experience of the System with regard to various risk areas

- The results of the liability calculations depend upon those assumptions

Introduction

- Assumptions should be carefully chosen and continually monitored:

  - Continued use of outdated assumptions can lead to …

Introduction

- Understated costs resulting in:
  - Sharp increases in required contributions at some point in the future leading to a large burden on future taxpayers
  - In extreme cases, an inability to pay benefits when due

Introduction

- Overstated costs resulting in:
  - An unnecessarily large burden on the current generation of members, employers and taxpayers
  - Benefit levels that are kept below the level that could be supported by the employer and member contribution rates

Introduction

- No single set of assumptions will be suitable indefinitely

- Things change and our understanding of things (whether or not they are changing) also changes

- The suggested time period for reviewing assumptions is about every 4 or 5 years

- A systematic review of assumptions is called an "Experience Study"

Experience Study Process

- Our analysis was based upon data submitted for the 2019 through 2023 annual valuations

- We compared trends with those observed in prior studies

- Generally, we give confirmed trends more credibility than non-confirmed trends

- Philosophy: Do not overreact to results from any single period

  – It is better to make a series of small changes in the right direction, rather than a single large change that could turn out, with hindsight, to be in the wrong direction

Economic Assumptions

- Current Economic Assumptions
  - Price Inflation: 2.25%
  - Payroll Growth: 3.00%
    - Equal to 2.25% price inflation plus 0.75% wage growth
  - Investment Return: 7.00% (effective July 1, 2023)
- Recommended Economic Assumptions
  - No recommended changes!

Demographic Assumptions

- Merit and Seniority Increases

- Retirement

- Withdrawal (Termination)

- Disability

- Mortality

- Other (Form of Payment, Percent Married, etc.)

Liability Weighting

- Traditionally, assumptions have been analyzed on the basis of population counts
  - How many people were expected to terminate/retire versus how many people actually did?
  - Using population weighting to set assumptions does not always reduce the size of actuarial gains or losses
- Liability weighting takes into account the relative magnitude of the liability of the members that decrement, rather than population counts alone
  - More highly correlated with withdrawal and retirement
  - Decisions made based on how much the members have to gain or lose if they retire or change jobs

PUBLIC EMPLOYEES POLICE AND FIRE PLAN

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Demographic Assumptions
Merit & Seniority Increases

- Total pay increases for an individual consist of a portion due to payroll growth (wage inflation) and a portion due to an individual's job performance (i.e., merit and seniority)

- Total salary increases were consistently greater than expected during the period, due to high inflation and wage growth

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Police and Fire Plan
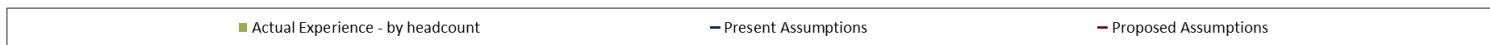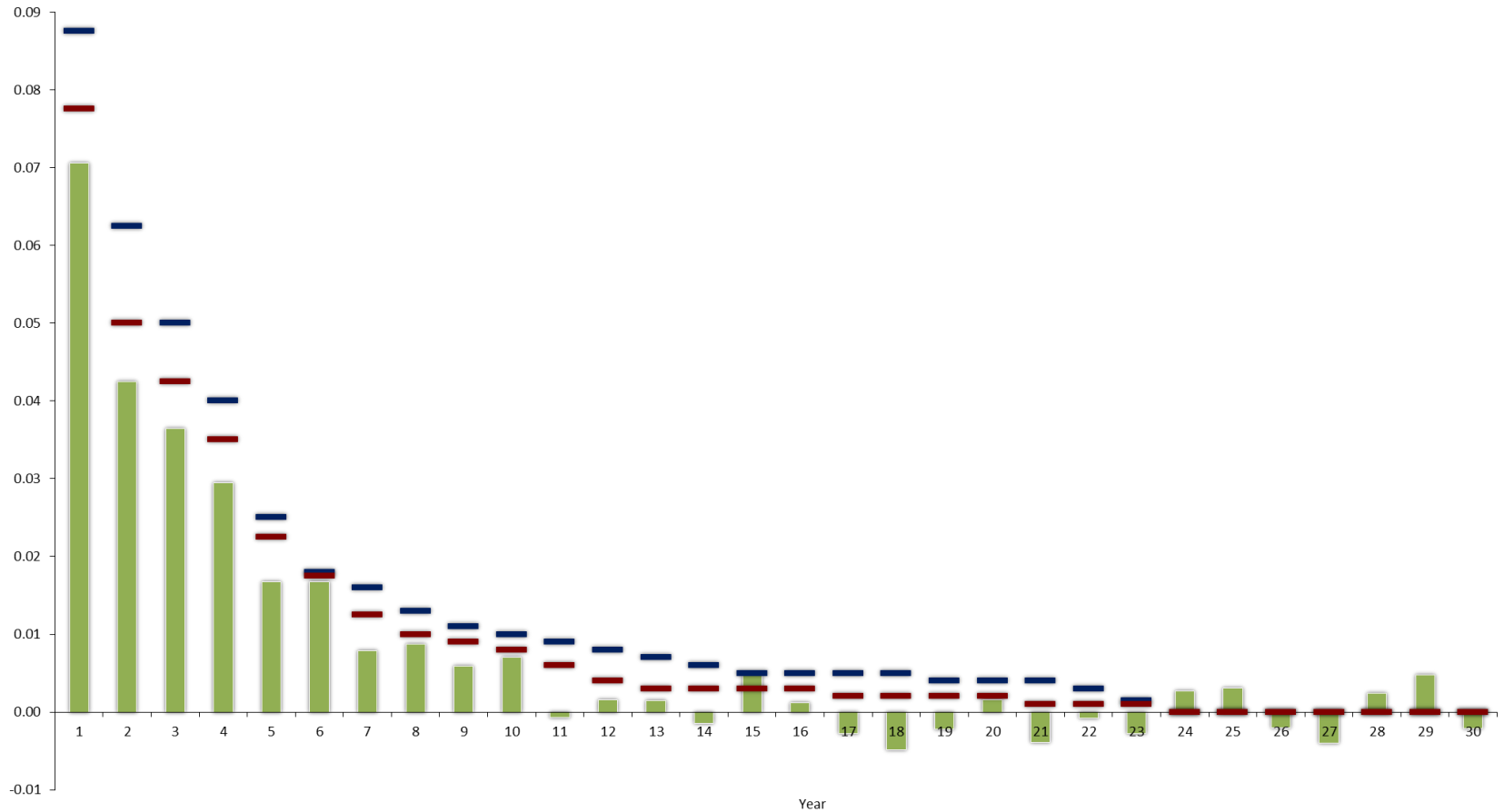## Demographic Assumptions – Merit & Seniority Increases

- Observations – Actual and expected merit & seniority increases:

	Actual	Expected
FYE 2020	0.04%	1.51%
FYE 2021	0.32%	1.53%
FYE 2022	1.09%	1.55%
FYE 2023	2.19%	1.54%
Total	0.92%	1.53%

- Recommendation:
  - Overall, slight decrease in rates

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Police and Fire Plan
Demographic Assumptions – Merit & Seniority Increases

Legend: Actual Experience - by headcount | Present Assumptions | Proposed Assumptions
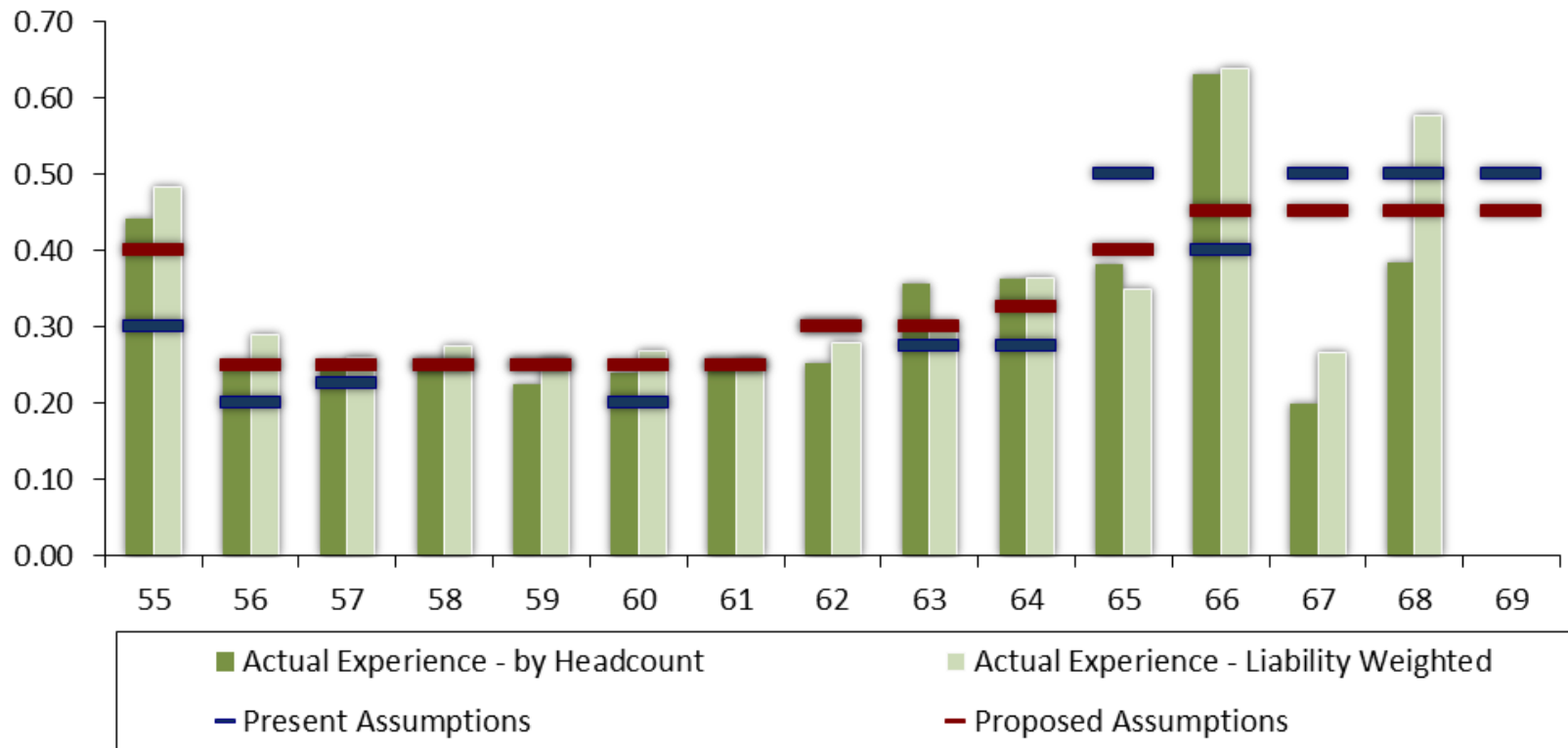
X-axis: Year

Police and Fire Plan
Demographic Assumptions – Retirement

- Observations – Ratio of actual liability to expected liability decrementing from plan:

	Unreduced	Early
FYE 2020	99.2%	64.0%
FYE 2021	157.6%	115.8%
FYE 2022	131.1%	129.1%
FYE 2023	140.9%	125.6%
Total	133.5%	109.9%

  - Retirements in FYE 2020 were lower than the other years of the study
  - Recommended rates were not fully adjusted due to this volatility

- Recommendations:
  - Higher normal retirement rates before age 65 and at age 66; lower at ages 65 and 67+
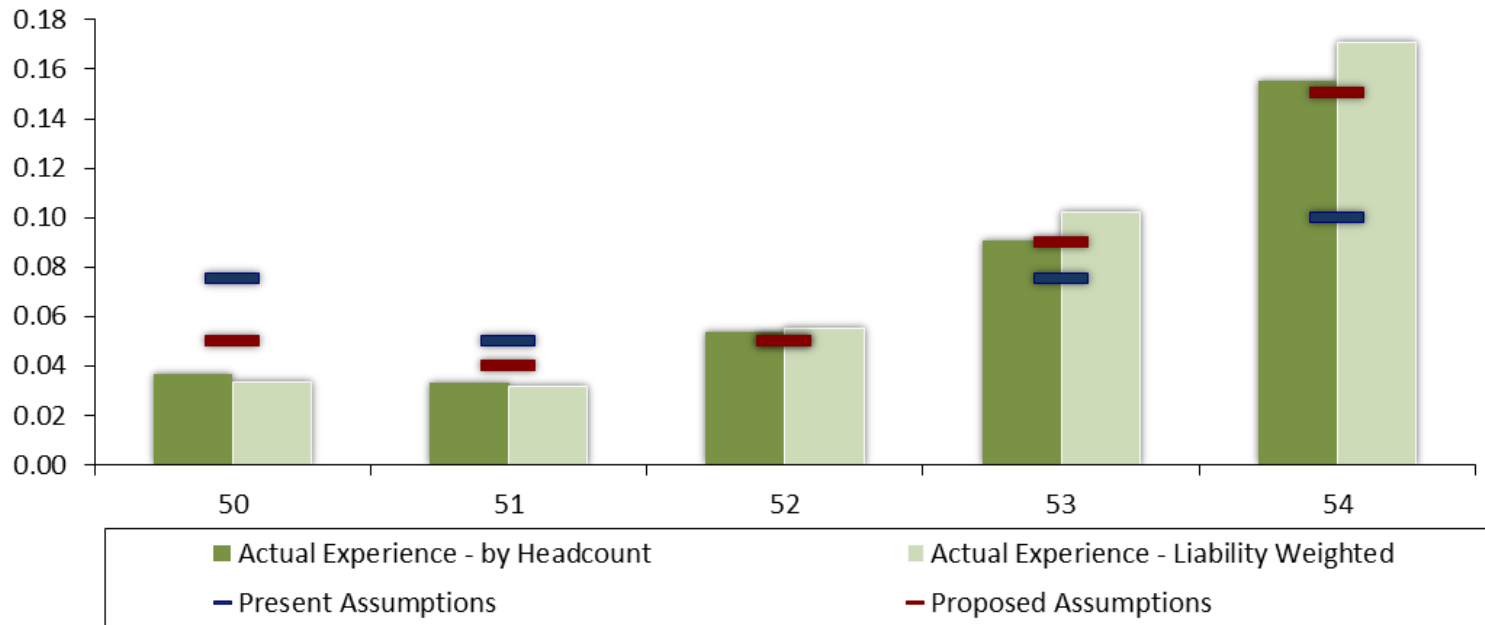 - Lower early retirement rates at ages 50 and 51; higher at ages 53 and 54

Police and Fire Plan
Demographic Assumptions – Unreduced Retirement

Police and Fire Plan
Demographic Assumptions – Reduced Retirement

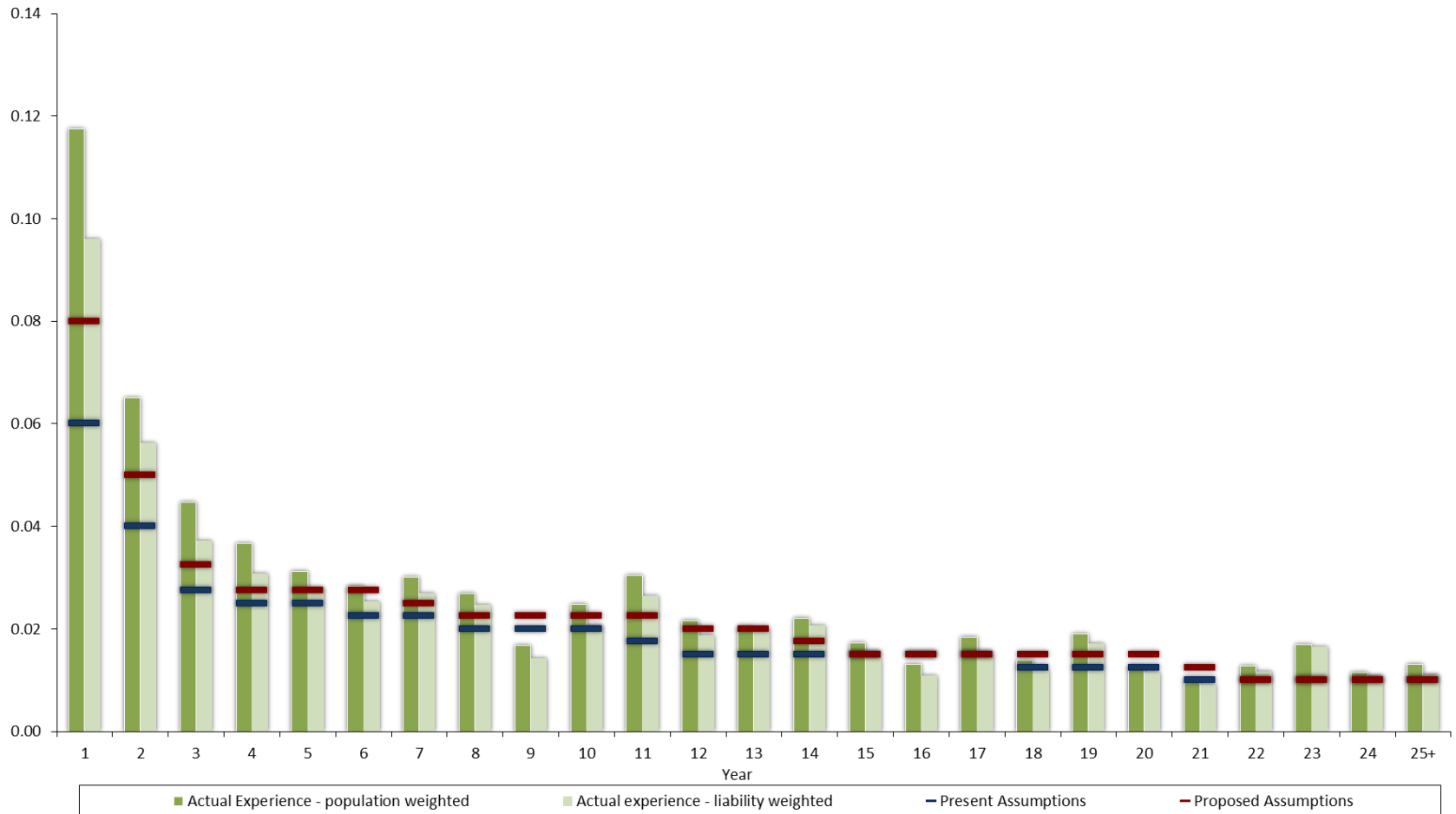# Police and Fire Plan
Demographic Assumptions – Withdrawal/Termination

- Observations – Ratio of actual liability to expected liability decrementing from plan:

	Males and Females
FYE 2020	91.9%
FYE 2021	118.9%
FYE 2022	145.8%
FYE 2023	148.8%
Total	126.5%

- Terminations in FYE 2020 were much lower than the other years of the study
- Recommended rates were not fully adjusted due to this volatility

- Recommendations:
  - Increase in rates for the first 15 years; slight increase in years 18 through 21

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Police and Fire Plan
Demographic Assumptions – Withdrawal

Police and Fire Plan
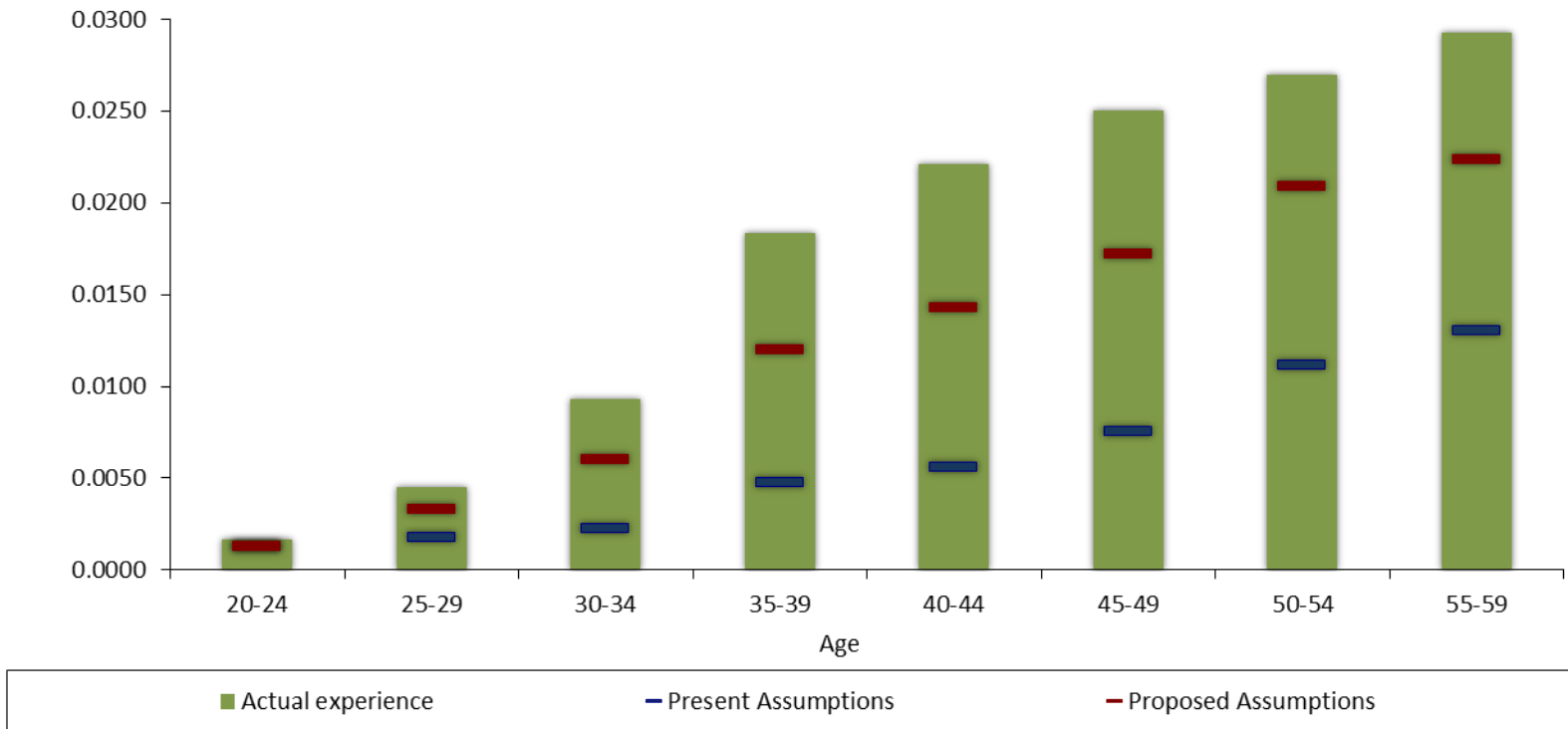# Demographic Assumptions – Disability

- Observations – Ratio of actual disability retirements to expected disability retirements decrementing from plan:

	Actual Disability Retirements	Expected Disability Retirements	Actual / Expected
FYE 2020	98	64.2	152.6%
FYE 2021	264	64.8	407.4%
FYE 2022	250	63.4	394.4%
FYE 2023	198	62.2	318.6%
Total	810	254.6	318.2%

  - Disability retirements in FYE 2020 were much lower than the other years of the study, but still higher than expected
  - Per PERA, disability applicants down since July 1, 2023; approximately 132 through May 31, 2024
  - New treatment requirements effective July 1, 2023 for disability related to psychological condition
  - Recommended rates were not fully adjusted due to the above
- Recommendations:
  - Increase rates at all ages

Police and Fire Plan
Demographic Assumptions – Disability

Police and Fire Plan
Demographic Assumptions – Mortality

- Observations – Ratio of actual experience to expected decrementing from plan:

	Healthy Retirees		Disabled Retirees		Active Members	
	Males	Females	Males	Females	Males	Females
FYE 2020	100.2%	199.0%	184.8%	34.4%	71.5%	113.7%
FYE 2021	108.6%	46.8%	112.1%	0.0%	52.2%	0.0%
FYE 2022	108.8%	92.0%	149.2%	310.7%	108.4%	0.0%
FYE 2023	106.6%	68.7%	155.8%	180.9%	69.4%	162.3%
Total	106.1%	100.7%	150.4%	146.2%	75.3%	69.1%

- Actual mortality experience of healthy male retirees was consistently higher than expected for all four years
- Regarding credibility:
  - Healthy male retiree mortality experience: fully credible
  - Disabled male retiree mortality experience: partially credible
    - More weight is given to standard tables
  - Recommend standard table without adjustments for other mortality assumptions due to low incidence

Police and Fire Plan
Demographic Assumptions – Mortality

- We did not increase healthy post-retirement mortality rates as much as indicated by the experience as a measure of conservatism and due to potentially adverse experience from the COVID-19 pandemic

- Recommendations:
  - Continued use of current tables with slight adjustments
  - Continued use of current mortality improvement scale (most up-to-date available)

- Total life expectancy of a healthy retiree at age 55 in 2023:

	Current Assumption	Recommended Assumption
Male retiree (minor adjustment)	85.7 years	85.4 years
Female retiree (no change)	87.5 years	87.5 years

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Police and Fire Plan
Demographic Assumptions – Other

- Other (Form of Payment, Percent Married, etc.)
  - Minor changes

Police and Fire Plan
Impact of Experience Study Recommendations
Actuarial Value of Assets – as of July 1, 2023

$ in Billions, Contributions as % of Pay	No Changes (Final Valuation)	Update Mortality	Update Mortality and Retirement	Update Mortality, Retirement, Withdrawal and Disability	All Assumption Changes (Add change in Salary)
Discount Rate	7.00%	7.00%	7.00%	7.00%	7.00%
Amortization Period	26 years	26 years	26 years	26 years	26 years
Actuarial Accrued Liability	$ 12.77	$ 12.72	$ 12.80	$ 12.80	$ 12.79
Actuarial Value of Assets	11.11	11.11	11.11	11.11	11.11
Unfunded Actuarial Accrued Liability	1.66	1.61	1.69	1.69	1.68
Funding Ratio	87.0%	87.3%	86.7%	86.8%	86.8%
Normal Cost plus Expenses	23.37%	23.33%	23.69%	26.80%	26.33%
Amortization of Unfunded Liability^	8.40%	8.16%	8.59%	8.56%	8.54%
Total Required Contribution	31.77%	31.49%	32.28%	35.36%	34.87%
Employee plus Employer Contributions	29.50%	29.50%	29.50%	29.50%	29.50%
Minneapolis Police/Fire Contributions	0.63%	0.63%	0.63%	0.63%	0.64%
State Contributions	1.49%	1.49%	1.49%	1.49%	1.50%
Contribution Sufficiency/(Deficiency)^	**-0.15%**	**0.13%**	**-0.66%**	**-3.74%**	**-3.23%**

^ *One-time State Aid paid in October, 2023 is treated as an offset to Accrued Liability.*

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Police and Fire Plan
Impact of Experience Study Recommendations

- Accrued liability increases $22.6 million

- Required Contribution increases 3.10% of payroll
  - Equivalent to an estimated $37 million for the fiscal year ending June 30, 2023

- Assumption changes are expected to be effective for the July 1, 2025 valuation

LOCAL GOVERNMENT CORRECTIONAL SERVICE RETIREMENT PLAN

Local Correctional Plan
## Demographic Assumption – Merit & Seniority Increases

- Observations – Actual and expected merit & seniority increases:

	Actual	Expected
FYE 2020	0.30%	1.82%
FYE 2021	0.84%	1.87%
FYE 2022	2.13%	1.79%
FYE 2023	3.50%	1.79%
Total	1.65%	1.82%

- Recommendation:
  - Overall, slight decrease in rates
  - Recommended rates are service based (previously, rates were age based)

Local Correctional Plan
Demographic Assumption – Merit & Seniority Increases
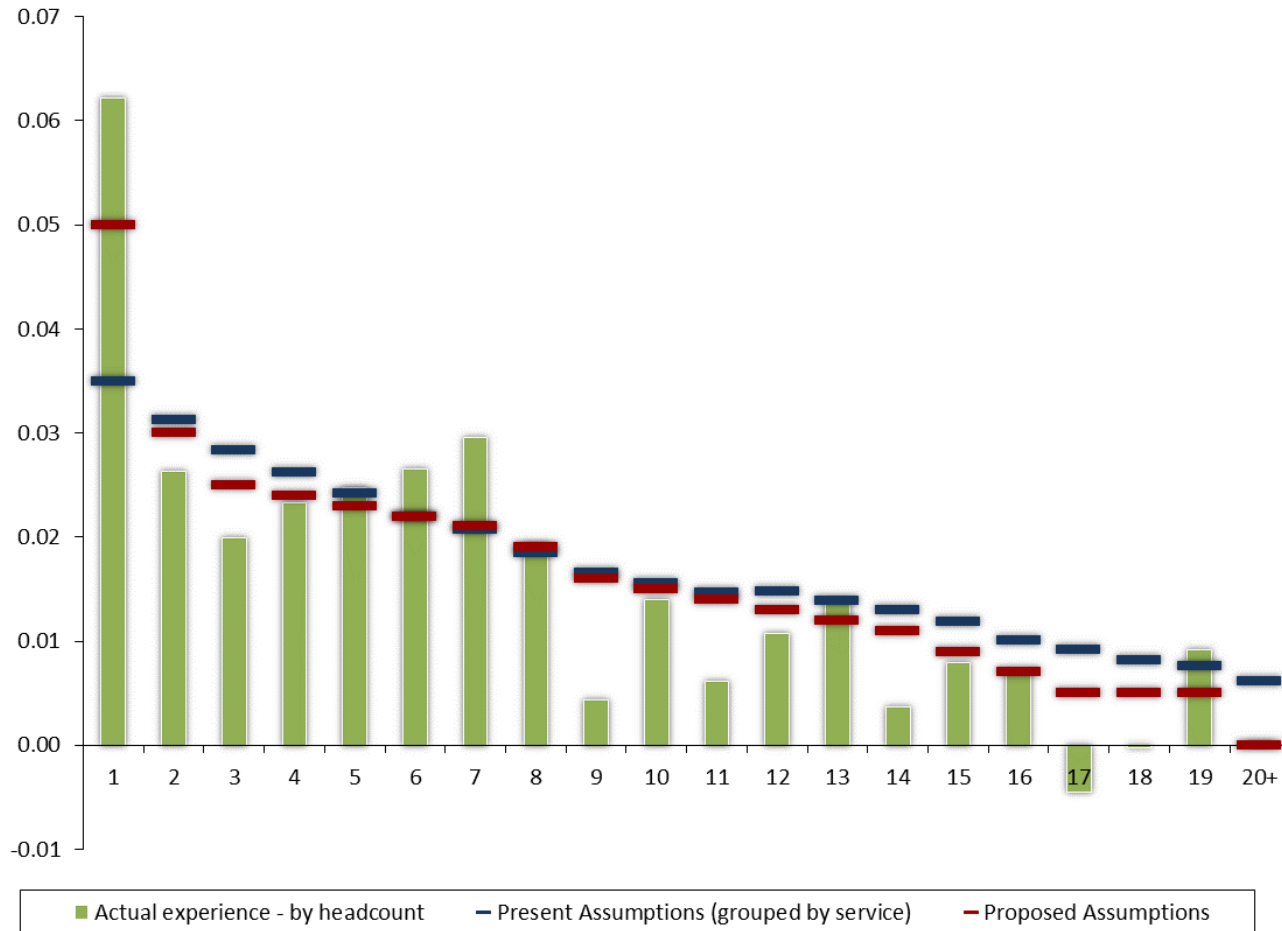
Local Correctional Plan
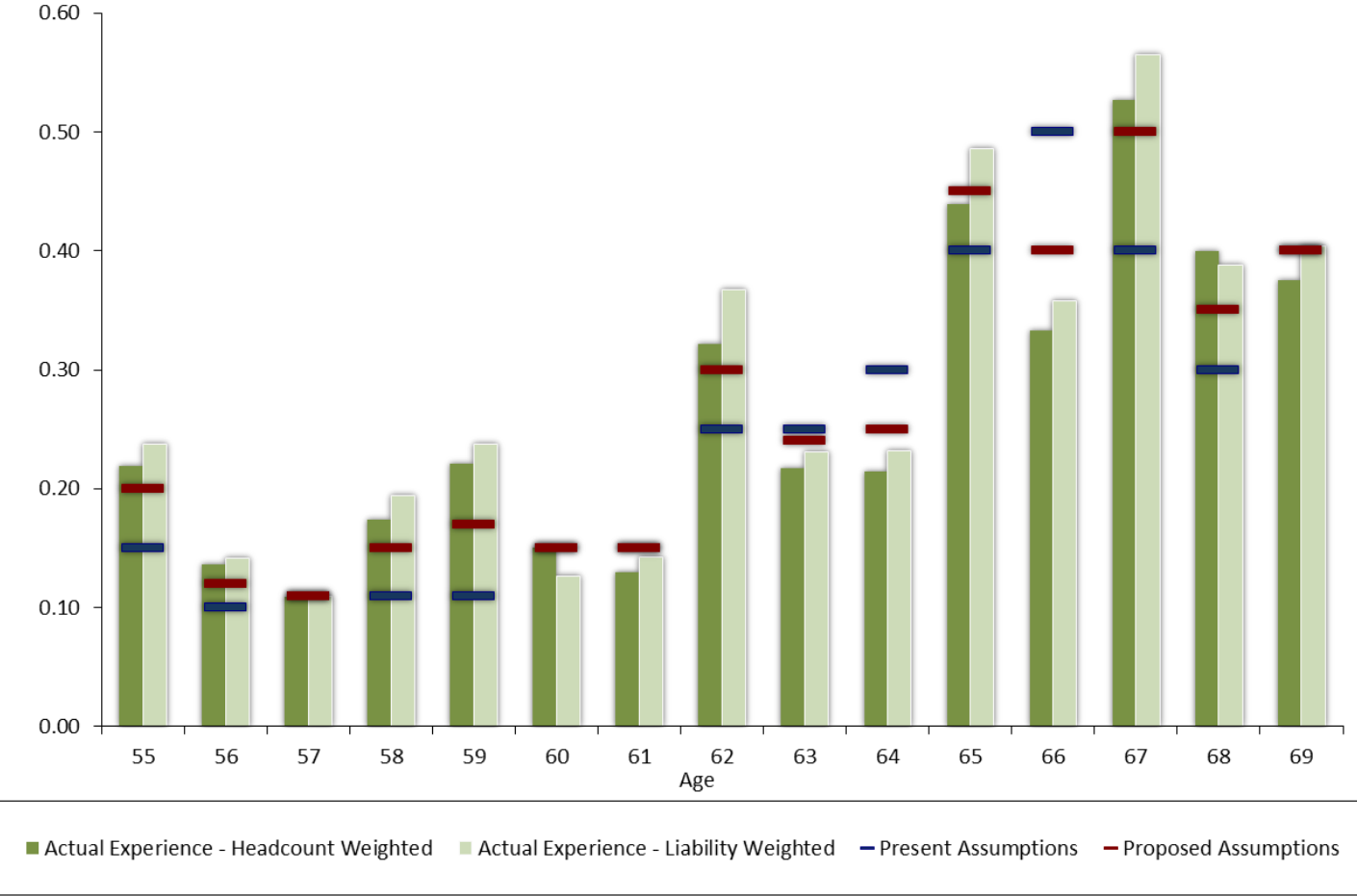# Demographic Assumption – Retirement

- Observations – Ratio of actual liability to expected liability decrementing from plan:

	Unreduced	Early
FYE 2020	107.9%	84.3%
FYE 2021	123.5%	98.0%
FYE 2022	168.6%	167.8%
FYE 2023	105.8%	129.6%
Total	127.6%	119.9%

  - Retirements in FYE 2020 were lower than the other years of the study
  - Recommended rates were not fully adjusted due to this volatility

- Recommendations:
  - Predict more unreduced retirements
    - Increase normal retirement rates prior to age 63 and at ages 65, 67 and 68
    - Reduce rates at ages 64 and 66
  - Predict more reduced retirements
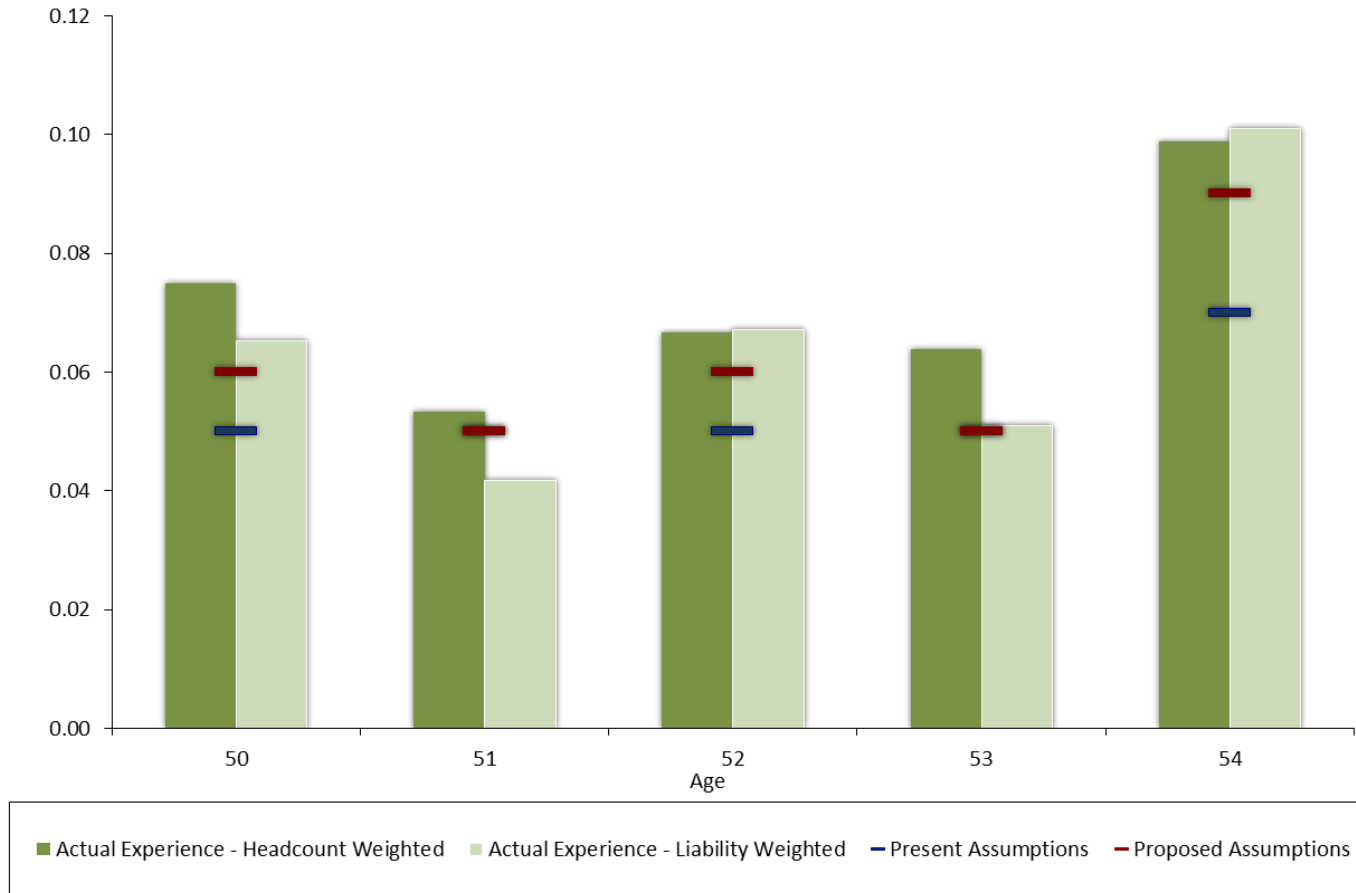   - Increase early retirement rates at ages 50, 52 and 54

Local Correctional Plan
Demographic Assumption – Unreduced Retirement

Local Correctional Plan
Demographic Assumption – Reduced Retirement

Local Correctional Plan
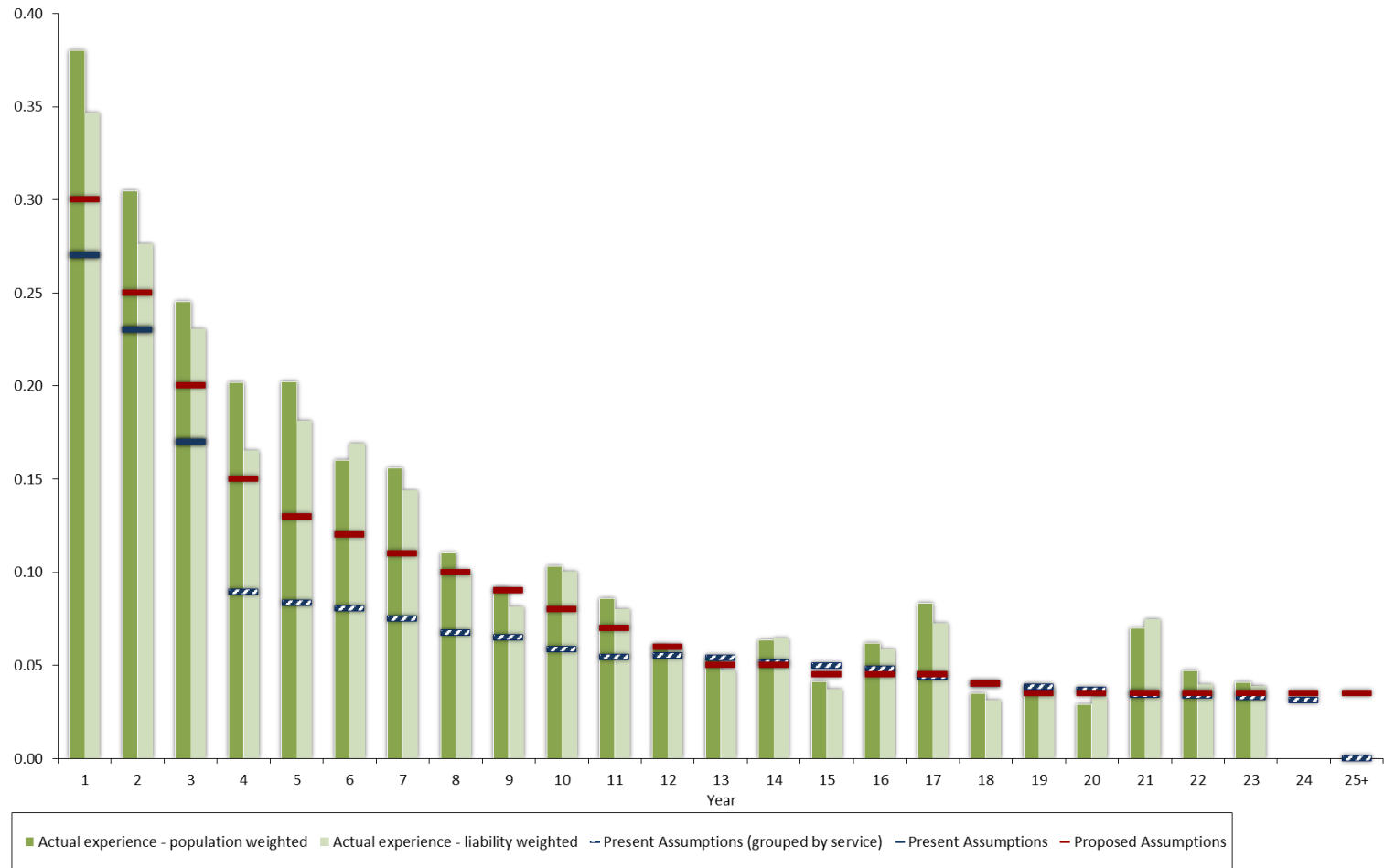## Demographic Assumption – Withdrawal/Termination

- Observations – Ratio of actual liability to expected liability decrementing from plan:

	Males	Females
FYE 2020	140.3%	150.9%
FYE 2021	112.7%	97.5%
FYE 2022	203.4%	176.0%
FYE 2023	130.2%	130.2%
Total	144.6%	138.1%

- Terminations in FYE 2022 were higher than the other years of the study
- Recommended rates were not fully adjusted due to this volatility

- Recommendations:
  - Increase in rates, with larger increases earlier in the member's career
  - Recommended rates are service based (previously, rates were age based after the third year)
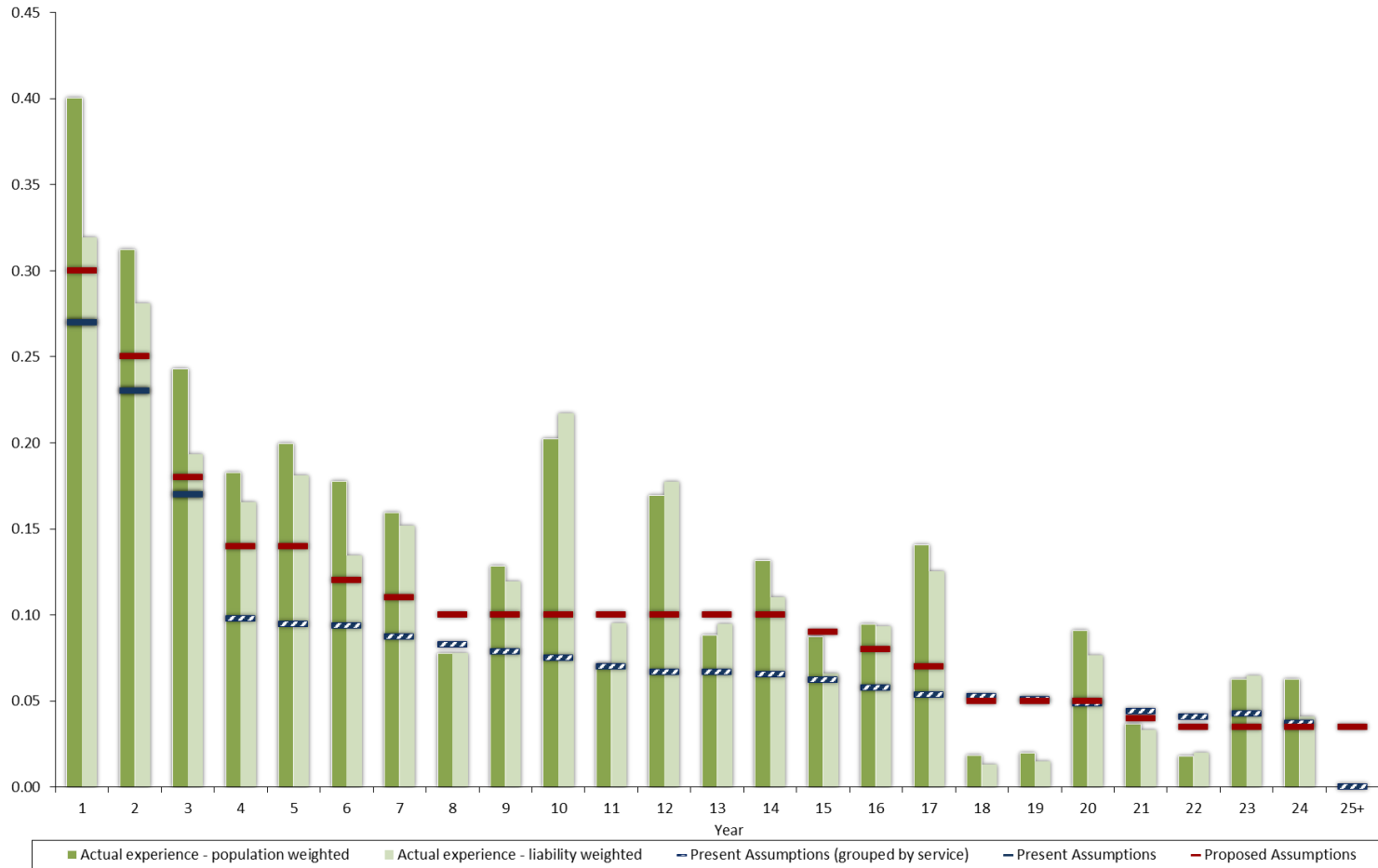
Local Correctional Plan
Demographic Assumption – Withdrawal (Males)

Local Correctional Plan
Demographic Assumption – Withdrawal (Females)

Local Correctional Plan
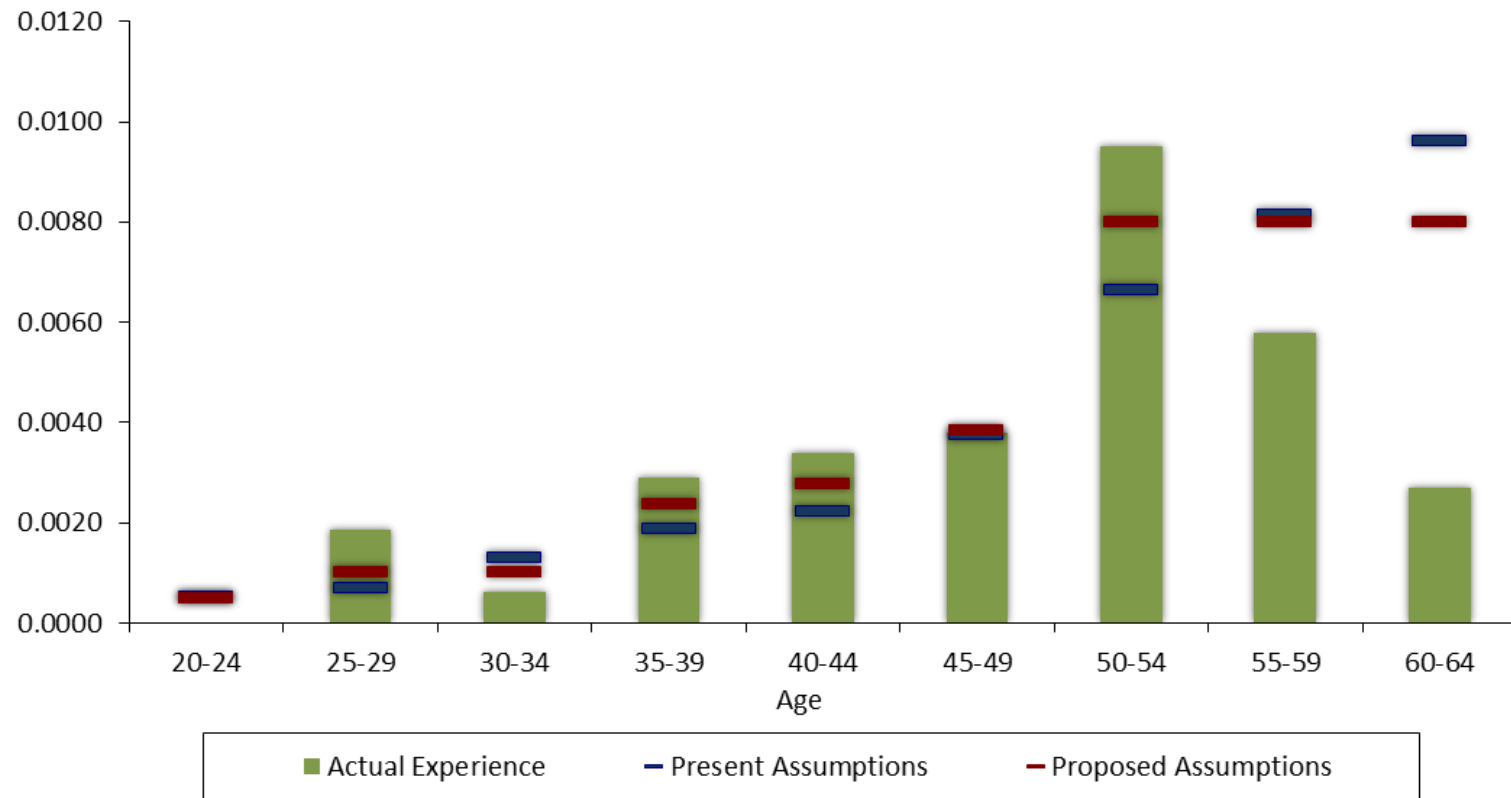# Demographic Assumption – Disability

- Observations – Ratio of actual disability retirements to expected disability retirements decrementing from plan:

	Males	Females
FYE 2020	105.7%	61.1%
FYE 2021	94.7%	20.4%
FYE 2022	111.0%	239.5%
FYE 2023	118.1%	46.6%
Total	107.1%	91.0%

  - For males, disability retirements in FYE 2021 were lower than the other years of the study
  - For females, disability experience is volatile due to low incidence
- Recommendations:
  - For males, slight increase in rates mid-career and also for ages 50 to 54; lower rates for ages 60+
  - For females, proposed rates are primarily unchanged prior to age 55 and lower for ages 55+
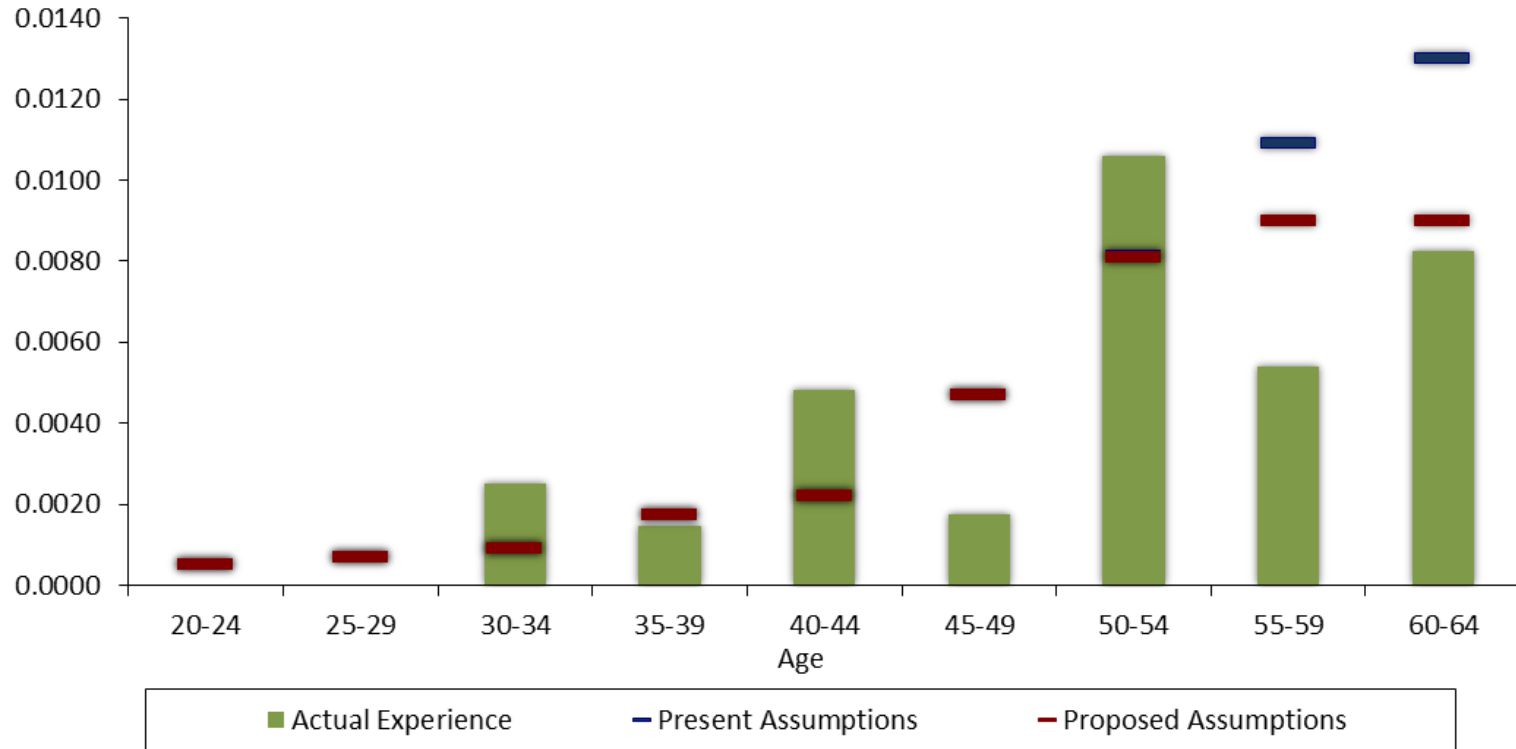
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Local Correctional Plan
Demographic Assumption – Disability (Males)

Local Correctional Plan
Demographic Assumption – Disability (Females)

Local Correctional Plan
Demographic Assumptions – Mortality

- Observations – Ratio of actual experience to expected decrementing from plan:

	Healthy Retirees		Disabled Retirees		Active Members	
	Males	Females	Males	Females	Males	Females
FYE 2020	55.1%	170.3%	81.3%	90.4%	140.0%	217.0%
FYE 2021	99.3%	161.3%	122.2%	68.4%	109.2%	301.5%
FYE 2022	150.0%	72.8%	156.7%	141.9%	311.8%	204.2%
FYE 2023	103.6%	88.7%	148.6%	11.3%	39.0%	119.6%
Total	106.1%	115.8%	130.4%	76.0%	150.8%	212.7%

- Experience is volatile and not considered credible

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Local Correctional Plan
Demographic Assumptions – Mortality

- **Recommendations:**
  - Use of standard Society of Actuary tables
  - Continued use of current mortality improvement scale (most up-to-date available)

- **Total life expectancy of a healthy retiree at age 55 in 2023:**

	Current Assumption	**Recommended Assumption**
Male retiree (minor adjustment)	85.7 years	85.5 years
Female retiree (no change)	87.5 years	87.5 years

Local Correctional Plan
Demographic Assumptions – Other

- Other (Form of Payment, Percent Married, etc.)
  - Minor changes

Local Correctional Plan
Postretirement Benefit Increase

- Benefit increases after retirement equal 100% of the Social Security Cost-of-Living Adjustment, not less than 1.0% and not more than 2.5%

- Current assumption is future increases equal 2.0% per year

Local Correctional Plan
Postretirement Benefit Increase

- Actual benefit increases since this plan provision was enacted:

Effective Date	Benefit Increase
January 1, 2019	2.5%
January 1, 2020	1.6%
January 1, 2021	1.3%
January 1, 2022	2.5%
January 1, 2023	2.5%
January 1, 2024	2.5%

- Recommendation: no change (keep the current assumption of 2.0% annual benefit increases)

Local Correctional Plan
Impact of Experience Study Recommendations
Actuarial Value of Assets – as of July 1, 2023

$ in Millions, Contributions as % of Pay	No Changes (Final Valuation)	Update Mortality	Update Mortality, Withdrawal, Disability, Retirement and Miscellaneous Assumptions	Update all Demographic plus Merit and Seniority Assumption
Discount Rate	7.00%	7.00%	7.00%	7.00%
Amortization Period:	30 years	30 years	30 years	30 years
Actuarial Accrued Liability	$ 1,112.41	$ 1,111.09	$ 1,122.02	$ 1,109.57
Actuarial Value of Assets	1,075.48	1,075.48	1,075.48	1,075.48
Unfunded Actuarial Accrued Liability	36.93	35.61	46.54	34.09
Funding Ratio	96.7%	96.8%	95.9%	96.9%
Normal Cost plus Expenses	14.11%	14.11%	13.45%	13.17%
Amortization of Unfunded Liability^	0.71%	0.68%	0.93%	0.65%
Total Required Contribution	14.82%	14.79%	14.38%	13.82%
Employee plus Employer Contributions	14.58%	14.58%	14.58%	14.58%
Contribution Sufficiency/(Deficiency)^	**-0.24%**	**-0.21%**	**0.20%**	**0.76%**

^ *One-time State Aid paid in October, 2023 is treated as an offset to Accrued Liability.*

Local Correctional Plan
Impact of Experience Study Recommendations

- Accrued liability decreases $2.8 million

- Required Contribution decreases 1.0% of payroll
  - Equivalent to an estimated $2.5 million for the fiscal year ending June 30, 2023

- Caution: Maintaining the current statutory contribution rates is recommended

- Assumption changes are expected to be effective for the July 1, 2025 valuation

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Disclaimers

- The calculations are based upon assumptions regarding future events, which may or may not materialize. They are also based upon the data, assumptions, methods and Plan provisions that are outlined in the Public Employees Police and Fire Plan and Local Government Correctional Service Retirement Plan 2023 funding valuation reports unless noted otherwise.

- Estimated results reflecting recommended assumptions from the experience studies are outlined in the PERA Public Employees Police and Fire Plan and Local Government Correctional Service Retirement Plan 4-Year Experience Study draft reports, dated June 6 and June 10, 2024, respectively.

Disclaimers

- If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the authors of this report prior to relying on information in the report.

- The calculations included in this presentation show estimated funded status under one economic scenario. These results are based on valuation data as of July 1, 2023.

- Minnesota Statute 356.215 allows for the potential extension of the statutory amortization period when the accrued liability increases due to a change in actuarial assumptions. We have not applied an extension of the amortization period, if any applies, in these estimates.