INDIANA PUBLIC RETIREMENT SYSTEM

EXPERIENCE STUDY FOR FIVE-YEAR PERIOD ENDING JUNE 30, 2024

SUBMITTED: March 7, 2025

CavMac
Actuarial Consulting Services

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March 7, 2025

Board of Trustees
Indiana Public Retirement System
1 North Capitol, Suite 001
Indianapolis, IN 46204

Dear Members of the Board:

It is our pleasure to submit this report of our investigation of the experience of the Indiana Public Retirement System for the five-year period beginning July 1, 2019 and ending June 30, 2024. The study was based on the data submitted by the System for the annual valuations of the System. In preparing our report we relied, without audit, on the data provided.

The results of the experience study are the basis for recommended changes in the actuarial assumptions, which if adopted by the Board, will be first used for the July 1, 2025 valuation. With the Board's approval of the recommendations in the report, we believe the actuarial condition of the System will be more accurately portrayed. We would like to acknowledge the help in the preparation of the data for this investigation given by the INPRS staff.

We hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board (ASB) and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries. In particular, we have prepared the assumptions developed in this report in keeping with our understanding of Actuarial Standards of Practice No. 27 (Selection of Assumptions for Measuring Pension Obligations).

We, Brent A. Banister, Edward J. Koebel, and Virginia Fritz, are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

Brent A. Banister, PhD, FSA, EA, FCA, MAAA
Chief Actuary

Edward J. Koebel, EA, FCA, MAAA
Chief Executive Officer

Virginia Fritz, FSA, EA, FCA, MAAA
Senior Actuary

SECTION 1 – BOARD SUMMARY

Introduction

The purpose of an actuarial valuation is to provide a timely best estimate of the ultimate costs related to benefits expected to be paid by a retirement system. Actuarial valuations of the Funds in the Indiana Public Retirement System (INPRS) are prepared annually to determine the employer contribution rate required to fund the System on an actuarial reserve basis, i.e. the current assets plus future contributions, along with investment earnings will be sufficient to provide the benefits promised by the System. The valuation requires the use of certain assumptions with respect to the occurrence of future events, such as rates of death, termination of employment, retirement age, and salary changes to estimate the obligations of the System.

The basic purpose of an experience study is to determine whether the actuarial assumptions currently in use have adequately projected actual emerging experience. This information, along with the professional judgment of System personnel and advisors, is used to evaluate the appropriateness of continued use of the current actuarial assumptions. When analyzing experience and assumptions, it is important to recognize that actual experience is reported short term while assumptions are intended to be long term estimates of experience.

At the request of the Board of Trustees, Cavanaugh Macdonald Consulting, LLC (CavMac) performed a study of the experience for the period July 1, 2019 through June 30, 2024 for INPRS. This report presents the results and recommendations of our study, which if approved by the Board, will be implemented in the July 1, 2025 actuarial valuations.

These assumptions have been developed in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the applicable Standards of Practice adopted by the Actuarial Standards Board (ASB). While the recommended assumptions represent our best estimate of future experience, there are other reasonable assumption sets that could be supported by the results of this experience study. Those other sets of reasonable assumptions could produce liabilities and costs that either are higher or lower.

Our Philosophy

Similar to an actuarial valuation, the calculation of actual and expected experience is a fairly mechanical process. From one actuary to another, you would expect to see very little difference. However, the setting of assumptions is a different story, as it is more art than science. In this report, we have recommended changes to certain assumptions. To allow you to better understand our thought process, we offer a brief summary of our philosophy:

- **Don't Overreact**: When we see significant changes in experience, we generally do not adjust our rates to reflect the entire difference. We will typically recommend rates somewhere between the old rates and the new experience. If the experience during the next study period shows the same result, we will probably recognize the trend at

that point in time or at least move further in the direction of the observed experience. On the other hand, if experience returns closer to its prior level, we will not have overreacted, possibly causing volatility in the actuarial contribution rates.

- **Anticipate Trends**: If there is an identified trend that is expected to continue, we believe that this should be recognized. An example is the retiree mortality assumption. It is an established trend that people are living longer. Therefore, we believe the best estimate of liabilities in the valuation should reflect an expected increase in life expectancy.

- **Simplify**: In general, we attempt to identify which factors are significant and eliminate or ignore the ones that do not materially improve the accuracy of the liability projections.

Actuarial Methods

The basic actuarial methodologies used in the valuation process include the actuarial cost method, the asset valuation method and the unfunded actuarial accrued liability (UAAL) amortization methodology. We recommend all these methods be retained. Generally, these methods are:

- Cost Method - Entry Age Normal
- Asset Valuation - Five-year recognition of gains and losses with a 20% corridor
- Amortization method – Layered bases with new experience bases amortized over a closed 20-year period as a level dollar amount.

We are recommending some technical changes in the valuation calculations. These deal primarily with the fact that there is a time delay between the valuation date and when contributions are made. Historically, this has been ignored, but we believe it will be an improvement to make these changes. Additional changes reflect that the normal cost portion of employer contributions on DROP payroll serves as an additional payment on the Unfunded Actuarial Accrued Liability and can reduce the required amortization payment.

Economic Assumptions

The following table summarizes the current and proposed key economic assumptions:

	Current Assumptions	Proposed Assumptions
Price Inflation	2.00%	2.00%
General Wage Inflation	2.65%	2.90% for five years, 2.65% thereafter
Cost-of–Living Adjustments		
'77 Fund (based on CPI)	1.95%	1.95%
JRS (based on salary growth)	2.65%	2.90% for five years, 2.65% thereafter
PERF, TRF, EG&C, LE DB	Based on statute	Based on statute
PARF	None	None
Interest Crediting Rate on Member Balances		
'77 Fund, EG&C, JRS, and PARF	3.30%	3.30%
PERF, TRF, LE DB	None	None
Investment Return	6.25%	6.25%

Currently INPRS is anticipating an asset-liability study in the next year which could result in recommended changes to the current asset allocation. Because our recommended assumption depends heavily upon the asset allocation, we may change our recommendation following the adoption of a new portfolio asset allocation.

A notable change in the economic assumptions is the increase of the wage inflation assumption. This assumption is our assessment of how wages grow as a result of price inflation and general productivity improvements throughout the national labor force. This assumption is an underpinning to all of wage and salary assumptions utilized in the valuation. Following our last experience study, the Board adopted an assumption for wage inflation of 2.65%. Our recommendation of 2.90% for the next five years reflects the expectation of some additional increases in response to recent inflation and labor market conditions.

Demographic Assumptions

The major demographic assumptions include mortality, retirement, disability, terminations, and salary merit increases. There are some additional minor assumptions that are required as well. For each of these assumptions, we considered the observed behavior patterns during the study period to determine what adjustments might be appropriate. We note that the study period overlapped substantially with the onset of and then recovery from the Covid-19 pandemic, and so we are intentionally cautious in making changes based on the study period alone.

Mortality is typically the most significant demographic assumption. As we discuss in the report, we are recommending that INPRS retain the Society of Actuaries Pub-2010 family of mortality tables issued in 2019 based on public retirement plan data. Note that retaining this assumption includes some adjustments that were adopted in the prior study. We recommend the continued use of generational mortality, a technique in which mortality rates are assumed to improve slightly each year in the future.

For the other assumptions, we have recommended a number of changes, many minor, and a few of moderate impact. The following pages contain a summary by fund of the changes made, while the report and appendices provide greater detail. Included on the summaries on the following pages is information regarding the cost impact of the proposed changes, estimated with the 2024 valuations. While the adoption of assumptions should not hinge on the cost impact, it can be helpful in understanding the relative significance of the assumption changes. Of course, the proposed changes will be implemented with the 2025 valuations, and so the actual amount of the impact will differ.

PERF ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 19,673,147,024	$ 19,654,432,112	$ (18,714,912)
Actuarial Value of Assets	16,218,699,854	16,218,699,854	0
Unfunded Actuarial Accrued Liability (UAAL)	3,454,447,170	3,435,732,258	(18,714,912)
Funded Ratio	82.4%	82.5%	0.1%
Actuarially Determined Contribution (ADC)			
- Base Normal Cost Rate	4.04%	4.44%	0.40%
- Amortization of UAAL Rate	3.19%	3.36%	0.17%
ADC Rate - Base Plan	7.23%	7.80%	0.57%
Projected Payroll for FY 2025	$ 6,767,983,564	$ 6,784,466,719	$ 16,483,155

Actuarial Assumptions

Economic	Current	Proposed
Salary Increases	2.65% + Merit	2.90% for five years, 2.65% thereafter + Merit
Cost-of-Living Adjustment	Retirements before 7/1/2025: Annual, indexed 13th check Retirements on/after 7/1/2025: 1%	No change
Demographic	**Current**	**Proposed**
Mortality Tables	Pub-2010 General Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set forward 3 years, females set forward 1year.	No change
Retirement	Age based tables for early and unreduced retirement	No change
Termination	Split by State/PSD, earnings of $20K, and sex. Age and service based tables	No change
Disability	Age based rates, sex distinct	Rate modifications

TRF '96 ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 10,023,470,935	$ 10,049,994,389	$ 26,523,454
Actuarial Value of Assets	8,659,292,125	8,659,292,125	0
Unfunded Actuarial Accrued Liability (UAAL)	1,364,178,810	1,390,702,264	26,523,454
Funded Ratio	86.4%	86.2%	-0.2%
Actuarially Determined Contribution (ADC)			
- Base Normal Cost Rate	5.72%	5.92%	0.20%
- Amortization of UAAL Rate	0.97%	1.09%	0.12%
ADC Rate - Base Plan	6.69%	7.01%	0.32%
Projected Payroll for FY 2025	$ 4,665,519,477	$ 4,676,882,164	$ 11,362,687

Actuarial Assumptions

Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65% + Merit	2.90% for five years, 2.65% thereafter + Merit
Cost-of-Living Adjustment	Retirements before 7/1/2025: Annual, indexed 13th check Retirements on/after 7/1/2025: 1%	No change
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 Teachers Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set forward 1 year, females set forward 1 year.	No change
Retirement	Age based for early and unreduced	Rate modifications
Termination	Service based, sex distinct	Rate modifications, unisex
Disability	Age based rates, unisex	Rate modifications

TRF PRE-'96 ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 13,409,995,582	$ 13,393,794,136	$ (16,201,446)
Actuarial Value of Assets	9,119,074,596	9,119,074,596	0
Unfunded Actuarial Accrued Liability (UAAL)	4,290,920,986	4,274,719,540	(16,201,446)
Funded Ratio	68.0%	68.1%	0.1%
Actuarially Determined Contribution (ADC)			
- Base Normal Cost Rate	5.33%	5.47%	0.14%
- Scheduled Contribution for FYE June 30, 2024	$ 1,035,200,000	$ 1,035,200,000	$ 0
- Scheduled Contribution for FYE June 30, 2025:			
- Prior year increased by 3%	1,066,300,000	1,066,300,000	0
- Expected FYE June 30, 2025 benefit payments	1,215,945,748	1,182,255,034	(33,690,714)
ADC Amount - Base Plan	$ 1,066,300,000	$ 1,066,300,000	$ 0

Actuarial Assumptions

Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65% + Merit	2.90% for five years, 2.65% thereafter + Merit
Cost-of-Living Adjustment	Retirements before 7/1/2025: Annual, indexed 13th check Retirements on/after 7/1/2025: 1%	No change
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 Teachers Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set forward 1 year, females set forward 1 year.	No change
Retirement	Age based for early and unreduced	Rate modifications
Termination	Service based, sex distinct	Rate modifications, unisex
Disability	Age based rates, unisex	Rate modifications

'77 FUND ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 9,544,024,995	$ 9,628,869,112	$ 84,844,117
Actuarial Value of Assets	8,557,667,518	8,557,667,518	0
Unfunded Actuarial Accrued Liability (UAAL)	986,357,477	1,071,201,594	84,844,117
Funded Ratio	89.7%	88.9%	-0.8%
Actuarially Determined Contribution (ADC)			
- Total Normal Cost Rate	21.77%	23.37%	1.60%
- Amortization of UAAL Rate	7.37%	7.90%	0.53%
- Less Employee Contribution Rate	5.91%	5.91%	0.00%
ADC Rate	23.23%	25.36%	2.13%
Projected Payroll for FY 2025	$ 1,171,334,947	$ 1,174,187,687	$ 2,852,740
Actuarially Determined Contribution Amount	272,101,108	297,773,997	25,672,889

Actuarial Assumptions

Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65%	2.90% for five years, 2.65% thereafter
Cost-of-Living Adjustment	1.95% (2.65% Catastrophic Disability)	1.95% (2.90% for five years, 2.65% thereafter Catastrophic Disability)
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 Safety Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set forward 3 years, females not adjusted.	No change
Retirement	Age based, unisex	No change
Termination	Service based, unisex	No change
Disability	Age based rates, unisex	Rate modifications
DROP Election	Service based; In DROP 5 years	No change

EG&C ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 231,122,047	$ 231,397,638	$ 275,591
Actuarial Value of Assets	199,605,285	199,605,285	0
Unfunded Actuarial Accrued Liability (UAAL)	31,516,762	31,792,353	275,591
Funded Ratio	86.4%	86.3%	-0.1%
Actuarially Determined Contribution (ADC)			
- Base Normal Cost Rate	13.17%	14.65%	1.48%
- Amortization of UAAL Rate	3.27%	3.34%	0.07%
- Less Employee Contribution Rate	4.00%	4.00%	0.00%
ADC Rate - Base Plan	12.44%	13.99%	1.55%
Projected Payroll for FY 2025	$ 49,862,941	$ 49,984,380	$ 121,439

Actuarial Assumptions

Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65% + Merit	2.90% for five years, 2.65% thereafter + Merit
Cost-of-Living Adjustment	Retirements before 7/1/2025: Annual, indexed 13th check Retirements on/after 7/1/2025: 1%	No change
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 Safety Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set forward 3 years, females not adjusted.	No change
Retirement	Age based for early and unreduced	No change
Termination	Service based, unisex	Rate modifications
Disability	Age based rates, unisex	Rate modifications
DROP Election	50% enter DROP for 5 years	No change

JRS ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 768,302,006	$758,084,306	$ (10,217,700)
Actuarial Value of Assets	700,280,337	700,280,337	0
Unfunded Actuarial Accrued Liability (UAAL)	68,021,669	57,803,969	(10,217,700)
Funded Ratio	91.2%	92.4%	1.3%
Actuarially Determined Contribution (ADC)			
- Base Normal Cost Rate	34.23%	34.46%	0.23%
- Amortization of UAAL Rate	9.66%	9.06%	-0.60%
- Less Employee Contribution Rate	6.00%	6.00%	0.00%
ADC Rate	37.89%	37.52%	-0.37%
Projected Payroll for FY 2025 [1]	$ 74,252,657	$ 74,252,657	$ 0
Actuarially Determined Contribution Amount	28,134,332	27,859,597	(274,735)

[1] Payroll projected using known salary increase.

Actuarial Assumptions

Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65%	2.90% for five years, 2.65% thereafter
Cost-of-Living Adjustment	2.65%	2.90% for five years, 2.65% thereafter
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 General Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set back 1 year, females set back 1 year.	No change
Retirement	Age based for early and unreduced	Rate modifications
Termination	3% per year	No change
Disability	Age based rates, unisex	Rate modifications

PARF ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$133,003,943	$132,580,778	$ (423,165)
Actuarial Value of Assets	90,676,586	90,676,586	0
Unfunded Actuarial Accrued Liability (UAAL)	42,327,357	41,904,192	(423,165)
Funded Ratio	68.2%	68.4%	0.2%
Actuarially Determined Contribution (ADC)			
- Total Normal Cost Rate	9.07%	9.80%	0.73%
- Amortization of UAAL Rate	13.68%	14.46%	0.78%
- Less Employee Contribution Rate	6.00%	6.00%	0.00%
ADC Rate	16.75%	18.26%	1.51%
Projected Payroll for FY 2025 [1]	$ 29,824,797	$ 29,824,797	$ 0
Actuarially Determined Contribution Amount	4,995,653	5,446,008	450,355

[1] Payroll projected using known salary increase.

Actuarial Assumptions

Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65%	2.90% for five years, 2.65% thereafter
Cost-of-Living Adjustment	None	No change
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 General Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set back 1 year, females set back 1 year.	No change
Retirement	Age based for early and unreduced	No change
Termination	10% per year	No change
Disability	Age based rates, sex distinct	Rate modifications

LE DB ASSUMPTIONS

6/30/2024 Valuation	Current Assumptions	Proposed Assumptions	Impact
Actuarial Accrued Liability	$ 2,623,699	$ 2,623,699	$ 0
Actuarial Value of Assets	2,967,551	2,967,551	0
Unfunded Actuarial Accrued Liability (UAAL)	(343,852)	(343,852)	0
Funded Ratio	113.1%	113.1%	0.0%
Actuarially Determined Contribution (ADC)			
- Amortization of UAAL Amount	$ (32,533)	$ (35,630)	$ (3,097)
- Expenses	38,646	42,325	3,679
ADC Amount - Base Plan	$ 6,113	$ 6,695	$ 582

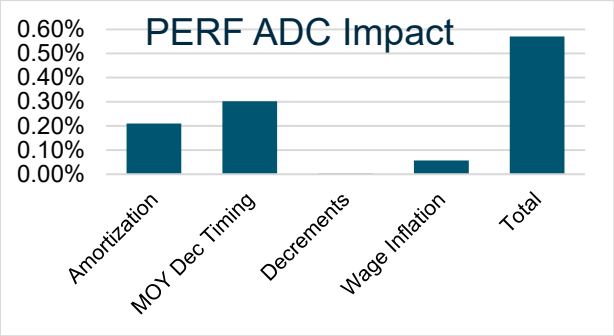
Actuarial Assumptions

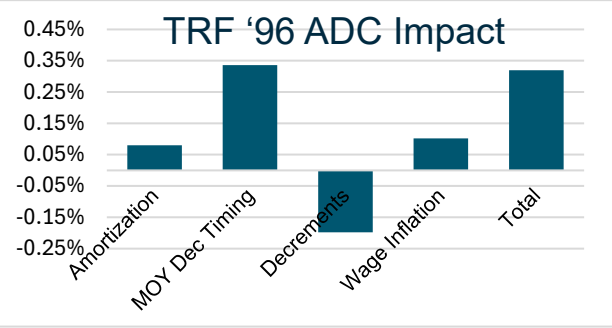
Economic	Current Assumption	Proposed Assumption
Salary Increases	2.65%	Not needed
Cost-of-Living Adjustment	Retirements before 7/1/2025: Annual, indexed 13th check Retirements on/after 7/1/2025: 1%	No change
Demographic	**Current Assumption**	**Proposed Assumption**
Mortality Tables	Pub-2010 General Amount-Weighted Mortality projected with MP-2019 (generational). Male ages set back 1 year, females set back 1 year.	No change
Retirement	Age based, unisex	No change
Termination	None	No change
Disability	None	No change

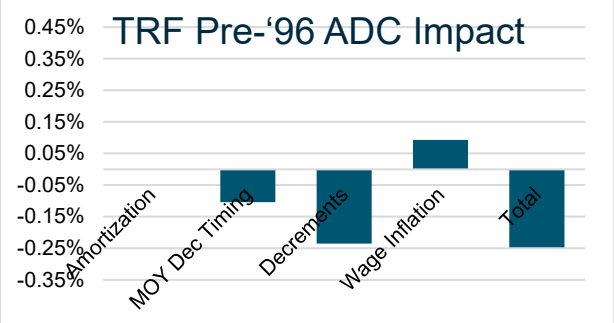
IMPACT ON PLAN LIABILITIES AND COSTS

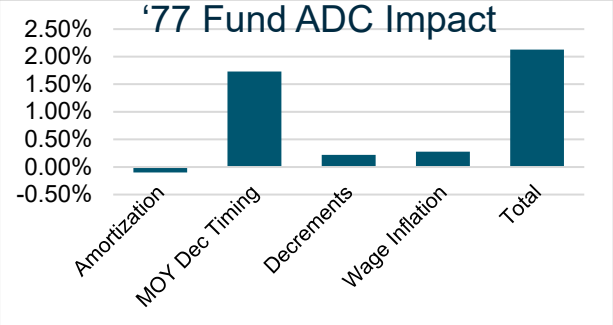
Actuarial assumptions are set to anticipate future payouts of a plan, which means as assumptions change, so will the plan's liabilities and costs. The impact on liabilities is a measure of how important the assumption is to the plan and the degree to which an assumption changed. As the liabilities or actuarial methodology changes, so does the cost. The charts below give a sense of the importance of each change.

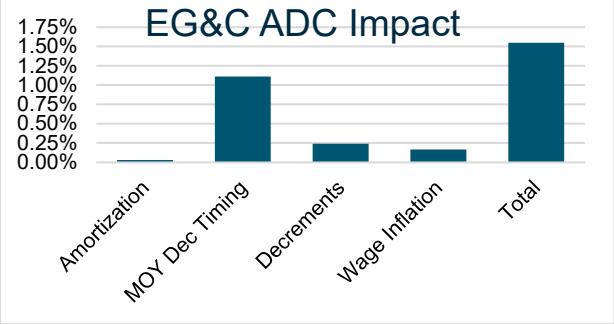
Change in Actuarially Determined Contributions by Type of Assumption

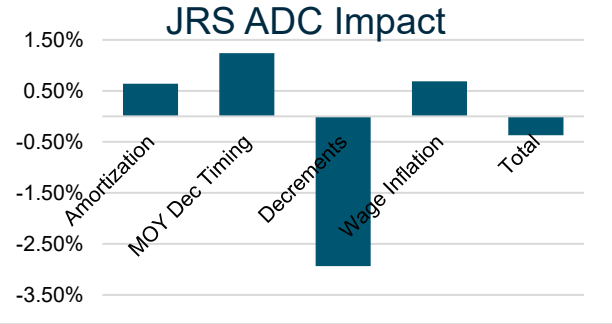


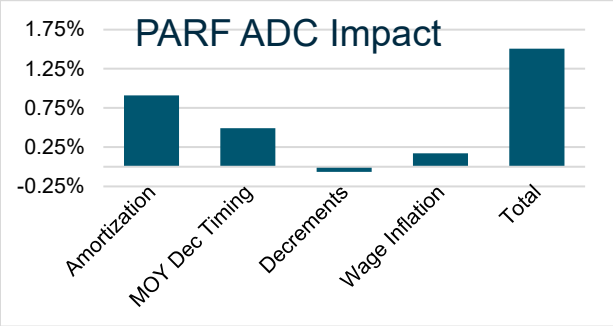











PARF ADC Impact
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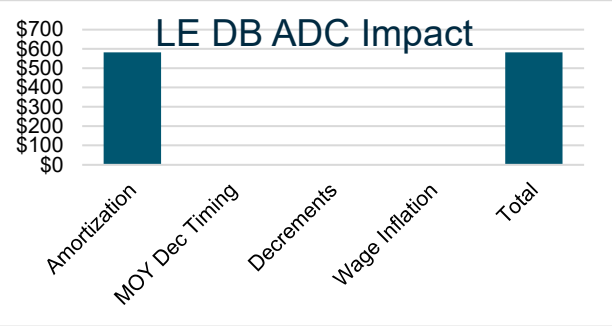
1.25%
0.75%
0.25%
-0.25%
Amortization
MOY Dec Timing
Decrements
Wage Inflation
Total


LE DB ADC Impact
$700
$600
$500
$400
$300
$200
$100
$0
Amortization
MOY Dec Timing
Decrements
Wage Inflation
Total

SECTION 2 – ACTUARIAL METHOD

ACTUARIAL COST METHOD

The systematic financing of a pension plan requires that contributions be made in an orderly fashion while a member is actively employed, so that the accumulation of these contributions, together with investment earnings should be sufficient to provide promised benefits and cover administration expenses. The actuarial valuation is the process used to determine when money should be contributed, i.e., as part of the budgeting process.

The actuarial valuation will not impact the amount of benefits paid or the actual cost of those benefits. In the long run, actuaries cannot change the costs of the pension plan, regardless of the funding method used or the assumptions selected. However, actuaries will influence the incidence of costs by their choice of methods and assumptions.

The valuation or determination of the present value of all future benefits to be paid by the funds reflects the assumptions that best describe anticipated future experience. The choice of a funding method does not impact the determination of the present value of future benefits. The funding method determines only the incidence of cost. In other words, the purpose of the funding method is to allocate the present value of future benefits determination into annual costs. In order to do this allocation, it is necessary for the funding method to "break down" the present value of future benefits into two components: (1) that which is attributable to the past, (2) and that which is attributable to the future. The excess of that portion attributable to the past over the plan assets is then amortized over a period of years. Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability". The portion of the present value of future benefits allocated to the future is commonly known as "the present value of future normal costs", with the specific piece of it allocated to the current year being called "the normal cost". The difference between the plan assets and actuarial accrued liability is called the "unfunded actuarial accrued liability".

Two key points should be noted. First, there is no single "correct" funding method, since different funding methods simply change the timing of the funding. Second, the allocation of the present value of future benefits and hence cost to the past for amortization and to the future for annual normal cost payments is not necessarily in a one-to-one relationship with service earned in the past and future service to be earned.

Entry Age Normal

There are various actuarial cost methods, each of which has different characteristics, advantages and disadvantages. However, Governmental Accounting Standard Board Statement Numbers 67 and 68 require that the Entry Age Normal cost method be used for financial reporting. Most retirement systems will not want to use a different actuarial cost method for funding and financial reporting. In addition, the Entry Age Normal method has been the most popular funding method for public systems for many years. This is the cost method currently used by INPRS for all plans.

SECTION 2 – ACTUARIAL METHOD

The rationale of the entry age normal (EAN) funding method is that the cost of each member's benefit is determined to be a level percentage of salary from date of hire to the end of employment. This level percentage multiplied by the member's annual salary is referred to as the normal cost and is that portion of the total cost of the employee's benefit which is allocated to the current year. The portion of the present value of future benefits allocated to the future is determined by multiplying this percentage times the present value of the member's assumed earnings for all future years including the current year. The entry age normal actuarial accrued liability is then developed by subtracting from the present value of future benefits that portion of costs allocated to the future. To determine the unfunded actuarial accrued liability, the actuarial value of plan assets is subtracted from the entry age normal actuarial accrued liability. The current year's cost to amortize the unfunded actuarial accrued liability is developed by applying an amortization factor based on the funding policy.

It is to be expected that future events will not occur exactly as predicted by the actuarial assumptions in each year. Actuarial gains/losses from experience under this actuarial cost method can be directly calculated and are reflected as a decrease/increase in the unfunded actuarial accrued liability. Consequently, the gain/loss results in a decrease/increase in the amortization payment, and therefore the contribution rate or amount.

Recommendation

Considering that the Entry Age Normal cost method is the most commonly used cost method by public plans, that it develops a normal cost rate that tends to be stable and is the required cost method under calculations required by Governmental Accounting Standard Numbers 67 and 68, **we recommend the Entry Age Normal actuarial cost method be retained by INPRS for all plans.** Note that because of GASB 67 and 68 requirements, the Entry Age Normal method will also be used by the plans for accounting disclosures.

ACTUARIAL VALUE OF ASSETS

In preparing an actuarial valuation, the actuary must assign a value to the assets of the fund. An adjusted market value is often used to smooth out the volatility in the market value. This is because most plan sponsors would rather have annual costs remain smooth, as percentage of payroll or in actual dollars, as opposed to a cost pattern that is extremely volatile.

The actuary does not have complete freedom in assigning this value. The Actuarial Standards Board also has basic principles regarding the calculation of a smoothed asset value, Actuarial Standard of Practice No. 44 (ASOP 44), *Selection and Use of Asset Valuation Methods for Pension Valuations.*

ASOP 44 provides that the asset valuation method should bear a reasonable relationship to the market value. Furthermore, the asset valuation method should be likely to satisfy both of the following:

- Produce values within a reasonable range around market value, AND
- Recognize differences from market value in a reasonable amount of time.

In lieu of both of the above, the standard will be met if either of the following requirements is satisfied:

- There is a sufficiently narrow range around the market value, OR
- The method recognizes differences from market value in a sufficiently short period.

These rules or principles prevent the asset valuation methodology from being used to distort annual funding patterns. No matter what asset valuation method is used, it is important to note that, like a cost method or actuarial assumptions, the asset valuation method does not affect the true cost of the plan; it only impacts the incidence of cost.

INPRS values assets, for actuarial valuation purposes, based on the principle that the difference between actual and expected investment returns on market value should be subject to partial recognition to smooth out fluctuations in the total return achieved by the fund from year to year. This philosophy is consistent with the long-term nature of a retirement system. Under the current method, the difference between the actual investment return on the market value of assets and the assumed investment return on the market value of assets is recognized equally over a five-year period.

This methodology is the asset smoothing method most commonly used by public plans. Additionally, the actuarial value of assets is subject to a 20% corridor, meaning the smoothed asset value must be between 80% and 120% of the current market value of assets. For plans with separate assets for their base benefits and supplemental benefits, the market value of the supplemental assets is separated from the base assets; therefore, the actuarial value of assets

is also determined separately for both components using the methodology described above. We believe that this method meets actuarial standards under ASOP 44. Note that this method would, in our opinion, also be acceptable without the application of the corridor.

Recommendation

An asset valuation method is used to "smooth out" the volatility that occurs in the market value of assets. We believe the current method is reasonable and acceptable under actuarial standards of practice. **We recommend the current asset valuation method be retained**.

AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

As described earlier, actuarial liabilities are the portion of the actuarial present value of future benefits that are not included in future normal costs. Thus, it represents the liability that, in theory, should have been funded through normal costs for past service. Unfunded actuarial accrued liabilities (UAAL) exist when actuarial liabilities exceed plan assets. These deficiencies can result from (i) plan improvements that have not been completely paid for, (ii) experience that is less favorable than expected, (iii) assumption changes that increase liabilities, or (iv) contributions that are less than the actuarial contribution rate.

There are a variety of different methods that can be used to amortize the UAAL. Each method results in a different payment stream and, therefore, has cost implications. For each methodology, there are three characteristics:

- The period over which the UAAL is amortized,
- The rate at which the amortization payment increases, and
- The number of components of UAAL (separate amortization bases).

Amortization Period

The amortization period can be either closed or open. If it is a closed amortization period, the number of years remaining in the amortization period declines by one in each future year. Alternatively, if the amortization period is an open or rolling period, the amortization period does not decline but is reset to the same number each year. This approach essentially "refinances" the debt (UAAL) every year.

Amortization Payment

The level dollar amortization method is similar to the method in which a home owner pays off a mortgage. The liability, once calculated, is financed by a constant fixed dollar amount, based on the amortization period until the liability is extinguished. This results in the liability steadily decreasing while the payments, though remaining level in dollar terms, in all probability decrease as a percentage of payroll. (Even if a plan sponsor's population is not growing, inflationary salary increases will usually be sufficient to increase the aggregate covered payroll).

The rationale behind the level percentage of payroll amortization method is that since normal cost is calculated to be a constant percentage of pay, unfunded actuarial accrued liabilities should be paid off in the same manner. When this method of amortizing the unfunded actuarial accrued liability is adopted, the initial amortization payments are lower than they would be under a level dollar amortization payment method, but the payments increase at a fixed rate each year so that ultimately the annual payment far exceeds the level dollar payment. The expectation is that total payroll will increase as rapidly so that the amortization payments will remain constant as a percentage of payroll. In the initial years, the level percentage of payroll amortization payment is

often less than the interest accruing on the unfunded actuarial accrued liability meaning that even if there are no experience losses, the dollar amount of the unfunded actuarial accrued liability will grow (called negative amortization). This is particularly true if the plan sponsor is paying off the unfunded actuarial accrued liability over a long period, such as 20 or more years.

Amortization Bases

The UAAL can either be amortized as one single amount or as components or "layers", each with a separate amortization base, payment and period. If the UAAL is amortized as one amount, the UAAL is recalculated each year in the valuation and experience gains/losses or other change in the UAAL are folded into the single UAAL amortization base. The amortization payment is then the total UAAL divided by an amortization factor for the applicable amortization period.

If separate amortization bases are maintained, the UAAL is composed of multiple amortization bases, each with its own payment and remaining amortization period. In each valuation, the unexpected change in the UAAL is established as a new amortization base over the appropriate amortization period beginning on the valuation date. The UAAL is then the sum of all of the outstanding amortization bases on the valuation date and the UAAL payment is the sum of all of the amortization payments on the existing amortization bases. This approach provides transparency in that the current UAAL is paid off over a fixed period of time and the remaining components of the UAAL are clearly identified. Adjustments to the UAAL in future years are also separately identified in each future year. One downside of this approach is that it can create some discontinuities in contribution rates when UAAL layers/components are fully paid off. If this occurs, it likely would be far in the future, with adequate time to address any adjustments needed.

INPRS' Actuarial Amortization Method

The current amortization method used by INPRS for funding is a closed, level dollar amortization method maintaining separate, layered amortization bases. The gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period (five years for the LE DB Fund) with level payments each year. A new gain or loss base is established each year based on the gain or loss during that year and that base is amortized over a new 20-year period. (Gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over the remaining period.)

However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. Effective June 30, 2024, certain plans that have separate funding methods for the base benefits and supplemental benefits use separate bases for the base benefits and the supplemental benefits (see the following discussion on special situations). The purpose of INPRS' amortization method is to give

a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

Recommendation

The Government Finance Officers Association (GFOA) and the Conference of Consulting Actuaries (CCA) have published guidance on public pension plan funding, including the amortization period. Although these recommendations are not binding, they do point to an increased focus on developing amortization policies that are designed to pay down the UAAL in a meaningful way over a reasonable period. The Actuarial Standards Board has also recently updated its required disclosures regarding amortization. The INPRS current method aligns with the objectives set forth by all three of these organizations. **Therefore, we recommend the current amortization methods be retained by INPRS.**

SPECIAL SITUATIONS

PERF, TRF '96, EG&C, and LE DB – Cost-of-Living Adjustment (COLA) Surcharge

Beginning with the June 30, 2018 actuarial valuation, an additional asset account was set up for the purpose of funding future post-retirement benefit increases, such as a COLA or 13th check, through a surcharge. Contributions are now split between the guaranteed base plan benefits or by the surcharge for benefits paid from the Supplemental Retirement Account (SRA). With the June 30, 2024 valuation, the SRA and base benefits are funded in the same manner but are considered separately. **Therefore, we recommend retaining the COLA surcharge methodology.**

TRF Pre-'96

Historically, the TRF Pre-'96 program was funded on a "pay-as-you-go" basis. The current funding strategy is based on the state increasing contributions by 3% each year until the contributions meet or exceed the annual base benefit payments. Contributions will then continue to be equal to anticipated benefit payments until the fund reaches a 100% funding ratio, at which point it is anticipated that contributions will be limited to the UAAL, if any. Lottery proceeds will be used to fund the supplemental benefits. **We recommend retaining this funding methodology.**

ANTICIPATED TOTAL PAYROLL

Currently, the actuarial valuation sets the anticipated total payroll for the next fiscal year as equal to the actual total payroll during the year ending on the valuation date, increased with one year of wage inflation. This methodology takes into account the most recent information about total payroll to help avoid the one-year lag in the valuation census data. This is particularly important relative to the TRF '96 plan which has a seasonality component related to retiring or terminating teachers being no longer active as of June 30, but new hires to replace them have yet to join the System ahead of the fall school-year contracts beginning. **We recommend retaining the current methodology.**

EMPLOYER CONTRIBUTION RATES AND APPROPRIATION AMOUNTS

The actuarial valuation calculates the actuarially determined contribution rate or amount using the assumptions and methods. The Board considers this information but has ultimate authority in setting the employer contributions or recommending state appropriations. The funds operate differently as outlined below. **We recommend retaining the current methodology.**

Contribution Rate Plans

The INPRS Board of Trustees has established a funding policy where contributions are computed in accordance with a stable contribution rate.

PERF State– The actuarially determined employer contribution rate determined in the valuation will be used for the *fiscal year* beginning one year in the future. For example, the June 30, 2025 actuarially determined employer contribution rate will be used by the Board to set the July 1, 2026 through June 30, 2027 contribution rate.

PERF PSD, '77 FUND and EG&C and TRF '96 – The actuarially determined employer contribution rate determined in the valuation will be used for the *calendar year* beginning during the second fiscal years in the future. For example, the June 30, 2025 actuarially determined employer contribution rate will be used by the Board to set the 2027 calendar year rate.

Appropriation Plans

JRS, PARF, and LE DB – The INPRS Board of Trustees has established a funding policy of requesting appropriations from the State in an amount equal to the actuarially determined contribution. Appropriations are set on a biennial cycle, and so the actuarially determined employer contribution amount determined in the valuation will be used for two consecutive fiscal years. For example, the June 30, 2024 amount was used for fiscal years 2026 and 2027. Therefore, the June 30, 2025 actuarial valuation will not be used for determining recommended appropriations, while the fiscal year 2028 and 2029 recommended appropriations will be based on the June 30, 2026 valuation.

TRF Pre-'96 – The recommended appropriation amounts for this fund follow the funding method described earlier.

MEMBER CENSUS DATA ROLLFORWARD

Currently, the actuarial valuation uses member census data from one year prior to the valuation date, which is adjusted, as appropriate, to reflect known changes such as granted COLAs between the census date and valuation date. A standard actuarial roll-forward is used to project the liabilities to the valuation date, reflecting benefit accruals during the year, interest for the passage of time, and benefits paid. **We recommend retaining the current methodology,** although we are open to collecting data closer to the valuation date (with a partial-year roll forward) should this be determined by INPRS to be feasible at some future time**.**

TECHNICAL CALCULATION ITEMS

When CavMac began providing actuarial valuations for INPRS, we retained the specific calculation approaches used by the prior actuarial firms for the most part in order to provide continuity, even though we would have preferred to use some different approaches. Several of these items were commented on during the 2023 audit of our work, and so we believe this is a good time to make these changes.

1) Calculation of the amortization payment. Currently, the amortization payment of each base is calculated as of the valuation date. In reality, because the contributions based on the valuation will not start for 12 to 18 months after the valuation date and be made over the course of the following year, **we recommend that the payment amount be adjusted to reflect the timing of the payment. Where a rate of pay is used, we also recommend that the rate be adjusted to reflect the expected pay during the period in which the payment is made.**

2) Calculation of biennial appropriation amounts. The JRS, PARF, and LEDB funds have calculated Actuarially Determined Contribution amounts for two years determined ahead of each biennium. (In the off year, an amount for one year is calculated for informational purposes.) Currently, the second year of the biennium is determined by using the same rate of pay (or dollar amount for LEDB) as it applicable in the first year. **We recommend that the amounts for each year of the biennium be directly calculated based on a constant normal cost rate with expected pay and an amortization payment adjusted to reflect the timing of the payment with appropriate interest and pay adjustments.**

3) Calculation of the normal cost rate. Currently the normal cost rate is calculated as though the funding all occurred on the valuation date. There is a related assumption that reflects decrements occurring at the beginning of the year. **We recommend that the normal cost rate be calculated reflecting middle of year decrement timing and that the payment of the normal cost is throughout the year.**

4) For the '77 Fund and EG&C, there is currently no recognition that a portion of the employer contributions received on DROP payroll was determined based on the normal cost of the non-DROP active members. These contributions serve to reduce the Unfunded Actuarial Accrued Liability but are not reflected in the cost determination. **We recommend reflecting the anticipated employer contributions on DROP payroll calculated as the allocation to the normal cost be credited as an offset to the amortization cost.**

ECONOMIC ASSUMPTIONS

The economic assumptions for INPRS include price inflation, wage inflation (the across-the-board portion of salary increases), cost-of-living adjustments, long-term investment return, and the interest crediting rate for member account balances. Unlike demographic assumptions, economic assumptions do not lend themselves to analysis simply on the basis of internal historical patterns because economic assumptions are impacted by external forces in the economy. The investment return and general wage increase assumptions are selected on the basis of expectations in an inflation-free environment and then increased by the long-term expectation for inflation.

Sources of data considered in the analysis and selection of the economic assumptions included:

- The 2024 Social Security Trustees Report
- Data from the Bureau of Labor Statistics
- Bond pricing from the Department of the Treasury
- Future expectations of INPRS investment consultant, Verus.
- Historical observations of price and wage inflation statistics and investment returns
- Survey information from other large public retirement systems

Actuarial Standard of Practice Number 27

Guidance regarding the selection of economic assumptions for measuring pension obligations is provided by Actuarial Standard of Practice (ASOP) No. 27, *Selection of Assumptions for Measuring Pension Obligations*. Because no one knows what the future holds, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes. These estimates are based on a mixture of past experience, future expectations, and professional judgment.

ASOP 27 requires the actuary to select a "reasonable" assumption. For this purpose, an assumption is reasonable if it has the following characteristics:

a. it is appropriate for the purpose of the measurement;
b. it reflects the actuary's professional judgment;
c. it takes into account historical and current economic data that is relevant as of the measurement date;
d. it reflects the actuary's estimate of future experience, the actuary's observation of the estimates inherent in market data, or a combination thereof; and
e. it has no significant bias (i.e., it is neither significantly optimistic nor pessimistic) except when provisions for adverse deviation or plan provisions that are difficult to measure are included.

With respect to relevant data, the standard recommends the actuary review appropriate recent and long-term historical economic data but advises the actuary not to give undue weight to recent experience. Furthermore, it advises the actuary to consider that some historical economic data may not be appropriate for use in developing assumptions for future periods due to changes in

the underlying environment. In addition, with respect to any particular valuation, each economic assumption should be consistent with all other economic assumptions over the measurement period.

ASOP 27 recognizes that economic data and analyses are available from a variety of sources, including representatives of the plan sponsor, investment advisors, economists, and other professionals. The actuary is permitted to incorporate the views of experts, but the selection or advice must reflect the actuary's professional judgment.

The standard also notes that "the actuary should also recognize that different actuaries will apply professional judgment and may choose different reasonable assumptions." As a result, a range of reasonable assumptions may develop both for an individual actuary and across actuarial practice. For this study, we have selected a single set of proposed economic assumptions as shown in the table below.

	Current Assumptions	Proposed Assumptions
Price Inflation	2.00%	2.00%
General Wage Inflation	2.65%	2.90% for five years, 2.65% thereafter
Cost-of–Living Adjustments		
'77 Fund (based on CPI)	1.95%	1.95%
JRS (based on salary growth)	2.65%	2.90% for five years, 2.65% thereafter
PERF, TRF, EG&C, LE DB	Based on statute	Based on statute
PARF	None	None
Interest Crediting Rate on Member Balances		
'77 Fund, EG&C, JRS, and PARF	3.30%	3.30%
PERF, TRF, LE DB	None	None
Investment Return	6.25%	6.25%

Currently INPRS is anticipating a significant asset-liability study later this year which has the potential to result in recommended changes to the current asset allocation. Because our recommended assumption depends heavily upon the asset allocation, we may update our recommended investment return assumption following the Board's adoption of a new portfolio allocation.

SECTION 3 – ECONOMIC ASSUMPTIONS

The remaining section of this report will address the relevant types of economic assumptions used in the actuarial valuation to determine the obligations of the System. In our opinion, the economic assumptions proposed in this report have been developed in accordance with ASOP No. 27.

PRICE INFLATION

Use in the Valuation

Future price inflation has an indirect impact on the results of the actuarial valuation through the development of the assumptions for investment return, member balance interest crediting rate, cost-of-living adjustment, wage inflation, and individual salary increases.

The long-term relationship between price inflation and investment return has long been recognized by economists. The basic principle is that the investor demands a more or less level "real return" – the excess of actual investment return over price inflation. If inflation rates are expected to be high, investment return rates are also expected to be high, while low inflation rates are expected to result in lower expected investment returns, at least in the long run.

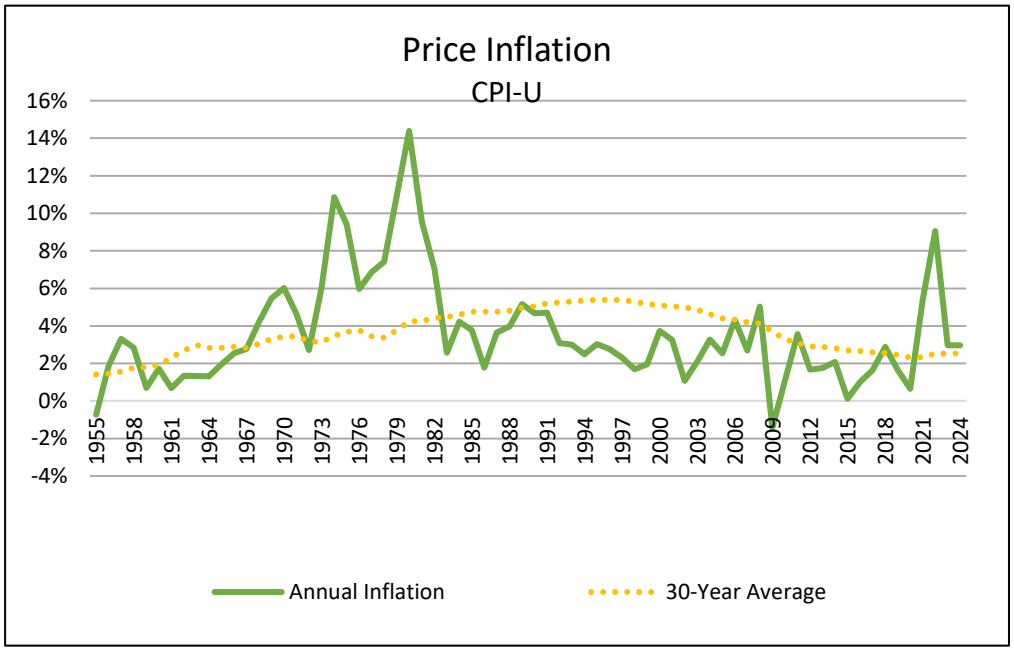
The current assumption for price inflation is 2.00% per year.

Past Experience

Although economic activities, in general, and inflation in particular, do not lend themselves to prediction solely on the basis of historical analysis, historical patterns and long-term trends are factors to be considered in developing the inflation assumption. The Consumer Price Index, US City Average, All Urban Consumers, CPI (U), has been used as the basis for reviewing historical levels of price inflation. The following table provides historical annualized rates and annual standard deviations of the CPI-U over periods ending June 30th.

Period	Number of Years	Annualized Rate of Inflation	Annual Standard Deviation
1924 – 2024	100	2.96%	4.00%
1964 – 2024	60	3.84	2.89
1974 – 2024	50	3.79	2.94
1984 – 2024	40	2.81	1.75
1994 – 2024	30	2.54	1.86
2004 – 2024	20	2.55	2.23
2014 - 2024	10	2.80	2.66

The following graph illustrates the historical annual change in price inflation, measured as of June 30 for each of the last 70 years, as well as the thirty-year rolling average.



While for much of the last 70 years inflation has been low, there have been periods when higher inflation has occurred. While there has been a general downward trend since the early 1980's, the recent brief spike is a reminder that there can be unexpected changes.

Forecasts Implied from the Bond Market

Additional information to consider in formulating this assumption is obtained from measuring the spread on Treasury Inflation Protected Securities (TIPS) and from the prevailing economic forecasts. The spread between the nominal yield on treasury securities (bonds) and the inflation indexed yield on TIPS of the same maturity is referred to as the "breakeven rate of inflation" and represents the bond market's expectation of inflation over the period to maturity.

The table below provides the calculation of the breakeven rate of inflation as of December 31, 2024.

Years to Maturity	Nominal Bond Yield	TIPS Yield	Breakeven Rate of Inflation
5	4.38%	2.00%	2.38%
10	4.58	2.24	2.34
20	4.86	2.41	2.45
30	4.78	2.48	2.30

As this data indicates, the bond market is anticipating very low inflation of 2.3% to 2.5% for both the short and long term. The bond market expectations may be heavily influenced by the expectations of actions by the Federal Reserve Bank. Whether inflation returns to the higher rates observed historically remains to be seen. We note that measures can move fairly significantly over just a few months.

Forecasts from the Social Security Administration

Although many economists forecast lower inflation than the assumptions used by retirement systems, they are generally looking at a shorter time horizon (10 years) than is appropriate for a pension valuation. To consider a longer, similar time frame, we looked at the expected increase in the CPI by the Office of the Chief Actuary for the Social Security Administration. In the most recent report (May 2024), the projected average annual increase in the CPI over the next 75 years was estimated to be 2.4%, under the intermediate (best estimate) cost assumption. The range of price inflation used in the Social Security 75-year modeling, which includes a low and a high cost scenario, in addition to the intermediate cost projection, was 1.8% to 3.0%.

Forecasts from Investment Consulting Firms and Other Professionals

In setting their capital market assumptions, most investment consulting firms use an inflation assumption. INPRS receives investment consulting advice from Verus and we believe it is especially appropriate to give consideration to their analysis. Their 2025 capital market assumptions include a 10-year forecast of inflation to be 2.4% and a 30-year forecast of 2.2%.

Horizon Actuarial Services, LLC publishes a survey of capital market assumptions obtained from various investment consultants. The 2024 Horizon Survey includes the assumptions, including the expected rate of inflation, for twenty-six advisors who develop longer-term assumptions (20 years or more). The Survey showed a range of expected inflation for the next 20 years, for these consultants, of 2.2% to 2.8%, with a median of 2.4%. Inflation over a shorter time horizon (and including another 15 consultants), for the next 10 years, was very similar range of 2.0% to 3.0%, with a median of 2.4%.

Another source to consider in setting this assumption is a quarterly survey of the Society of Professional Forecasters that is conducted by the Philadelphia Federal Reserve of economists. Their most recent forecast (fourth quarter of 2024) was for inflation over the next ten years (2024 to 2033) to average 2.23%.

Forecasts from Peer System Comparison

While we do not recommend the selection of any assumption based on what other systems use, it does provide another set of relevant information to consider. Based on the Public Plan Database (a survey of over 125+ state and local retirement systems maintained by a collaboration between the Center for Retirement Research at Boston College, the Center for State and Local Government Excellence, and the National Association of State Retirement Administrators), the average inflation assumption for governmental plans is 2.46%. This data is largely based on actuarial valuations prepared with measurement dates in 2023. Based on our experience, we believe the inflation assumption has been steady for most systems over the last year.

Recommendation

The following table provides a comparison of the current levels of expected inflation.

Source	Expected Inflation
INPRS' Consultant (Verus)	2.2 - 2.4%
2024 Horizon Survey	2.4%
Bond Market	2.3 - 2.5%
2024 SSA Trustees Report	2.4%
Survey of Professional Forecasters	2.2%
Federal Reserve Target	2.0%

The current inflation assumption of 2.00% was influenced heavily by the belief of INPRS staff that the Federal Reserve would over the long-term be able to attain its target. We do not believe that there has been a significant change in the various expectations that would cause us to believe a different assumption is necessary. Based on the information presented above**, we recommend the inflation assumption remain at 2.00%.**

WAGE INFLATION

Background

Wage inflation, thought of as the "across the board" rate of salary increases, is composed of the price inflation assumption combined with an assumption for the real rate of wage increases. In constructing the individual salary increase assumption, the wage inflation assumption is further combined with an assumption for age- or service-based salary increases (called a merit scale). The merit scale assumption is discussed later in this report.

Currently, the wage inflation assumption is 2.65%, which implies an assumed real rate of wage increase or real wage inflation of 0.65% (2.65% less the current inflation assumption of 2.00%). The excess of wage inflation over price inflation represents the increase in the standard of living, also called productivity growth. There has been debate on the issue of whether public sector employees will receive, over the long term, the same rewards for productivity as employees in the private sector, where productivity is more readily measurable. To our knowledge, no definitive research has been completed on this topic. Nevertheless, it is our opinion that public sector employees will eventually be rewarded with the same productivity increases as those participating in the remainder of the economy, even if there is a time lag.

Historical Perspective

Wage statistics from the Social Security System on the National Average Wage back to 1951 are used because that is the most comprehensive database available. Because the National Average Wage is based on all wage earners in the country, it can be influenced by the mix of jobs (full-time vs. part-time, manufacturing vs. service, etc.) as well as by changes in some segments of the workforce that are not seen in all segments (e.g. regional changes or growth in computer technology). Furthermore, if compensation is shifted between wages and benefits, the wage index would not accurately reflect increases in total compensation. INPRS' membership is composed exclusively of governmental employees working in Indiana. Because the competition for workers can, in the long term, extend across industries and geography, the broad national earnings growth will have some impact on INPRS' members. In the shorter term, however, the wage growth of INPRS and the nation may be less correlated.

There are numerous ways to review this data. For consistency with our observations of CPI, the table on the next page shows the compound annual rates of wage growth for various 10-year periods based on the calendar year, and for longer periods ended in 2023 (most recent available data).

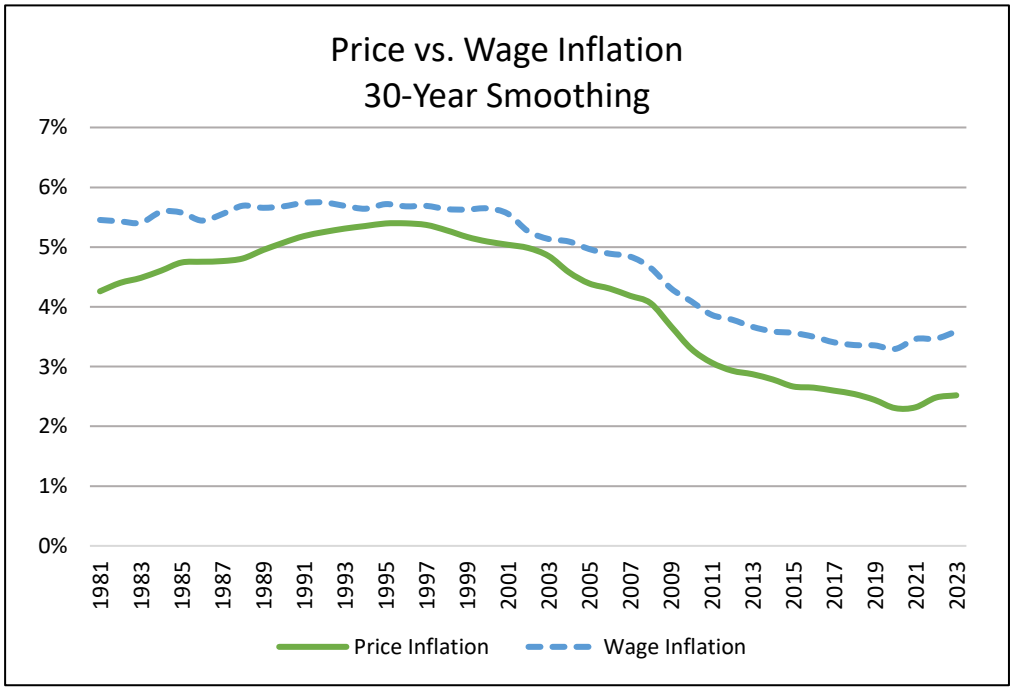
The excess of wage inflation over price inflation represents the real wage inflation rate. Although real wage inflation has been very low in recent years, likely due to the slow recovery from the 2008 financial crisis, our focus must remain on the long term. The following tables show the compounded wage growth over various periods, along with the comparable price inflation rate for the same period. The differences represent the real wage inflation rate. The table on the left

shows the real wage inflation over different 10-year periods while the table on the right shows the real wage inflation over increasing periods of 10 to 70 years.

Decade	General Wage Inflation	CPI Incr.	Real Wage Inflation
2013-2023	4.03%	2.71%	1.32%
2003-2023	3.41%	2.57%	0.84%
1993-2023	3.59%	2.52%	1.07%
1983-2023	3.76%	2.84%	0.92%
1973-2023	4.44%	3.94%	0.50%
1963-2023	4.63%	3.91%	0.72%
1953-2023	4.46%	3.54%	0.92%

Period	General Wage Inflation	CPI Incr.	Real Wage Inflation
2013-2023	4.03%	2.71%	1.32%
2003-2013	2.80%	2.43%	0.37%
1993-2003	3.95%	2.44%	1.51%
1983-1993	4.26%	3.79%	0.47%
1973-1983	7.23%	8.45%	-1.22%
1963-1973	5.60%	3.75%	1.85%
1953-1963	3.43%	1.33%	2.10%

Similar information over rolling thirty-year periods is shown in the following graph:



Public Sector Compensation and Wages

The Bureau of Labor Statistics publishes the Employment Cost Index, including detail for real (net of inflation) total compensation and wages and salaries. Further, this index is also broken down for state and local government workers. From 2005 through 2024, real compensation grew by at an annualized rate of 2.85%, while wages and salaries grew at a rate of 2.47%. This difference is a reflection that state and local government workers have had much of their compensation

increase delivered through benefits rather than wages and salaries. While it is certainly reasonable to anticipate that total compensation will continue to increase faster than wages and salaries, it is also reasonable to anticipate that the difference between the two will moderate over time.

Recommendation

While national wage statistics for the last 30 years indicate a productivity increase of around 0.80%, the Social Security projections assume larger increases (over 1.0%). Public sector compensation, however, also has a significant portion of its growth in non-wage areas. We also note that the recent inflation spike and a tight labor market are likely to put some additional upward pressure on wages, at least for a few years. Based on the available data and our professional judgment, **we recommend that the assumed real wage inflation be increased to 0.90% per year for the next five years and then use the current assumption of 0.65% thereafter. When coupled with the price inflation assumption, the resulting general wage inflation assumption is 2.90% for the five-year period ending June 30, 2030 and then continue at the current assumption of 2.65% thereafter.**

COST-OF-LIVING ADJUSTMENT

The provisions of the plans outlined below provide an adjustment to retiree benefits to increase at a rate known as the cost-of-living adjustment (COLA). This benefit adjustment can maintain or stabilize the purchasing power of the member's benefit by offsetting increasing costs due to general inflation over time.

'77 FUND

In-payment retirees, disableds (resulting from non-catastrophic injuries), and beneficiaries automatically receive a COLA in an amount that is tied to actual price inflation, with a cap of 3% and a minimum of 0%. The COLA on July 1 is determined as the average of the January, February, and March amounts for the current year over the January, February, and March amounts for the prior year.

Recognizing that annual inflation has a random component, we simulated the expected effective (compound) COLAs that would apply to the '77 Fund with the cap and floor reflected. Based on the price inflation assumption of 2.00% and estimated standard deviation, **we recommend retaining the current COLA assumption of 1.95%.**

For disableds resulting from catastrophic physical injuries (degree of impairment of at least 67% and member permanently prevented from performing any gainful work), the member receives a COLA in an amount that is tied to the increase in the First Class Officer base salary. We therefore believe this should be set at the wage inflation assumption. **We recommend aligning the disableds COLA assumption with the general wage inflation assumption of 2.90% for the**

five-year period ending June 30, 2030, and then continue at the current assumption of 2.65% thereafter.

JRS

In-payment retirees and disableds automatically receive a COLA in an amount that is tied to the annual increase granted for the position the member held at retirement. Beneficiaries do not receive the COLA. We therefore believe this should be set at the wage inflation assumption. **We recommend using a COLA assumption of 2.90% for the five-year period ending June 30, 2030, and then continue at the current assumption of 2.65% thereafter.**

PARF

No COLA is provided.

PERF, TRF Pre-'96, TRF '96, EG&C, and LE DB

There is no guaranteed COLA under these plans, though in-payment retirees, disableds, and beneficiaries may receive a discretionary COLA or other post-retirement adjustment in an amount set by statute. In recent history, 13th checks have been provided in lieu of a COLA, which valuations take into account once legislation is passed. Beginning July 1, 2018 or January 1, 2019 (depending on the fund), a Supplemental Retirement Account was established for these funds that will be used eventually to provide the additional post-retirement benefits. The funds are accumulated separately from the guaranteed base plan benefits through a surcharge on the actuarially determined contribution, where the board is responsible for setting the actual surcharge funded. (Lottery proceeds provide the funding for the TRF Pre-'96 fund and may be shared with other funds, as determined by the Board.)

Beginning as soon as the 2021 legislative session, specific benefit increases may be authorized to be paid from these funds. A proposed benefit will only be granted through statute if the Supplemental Retirement Account for all five plans each has enough money to fund the present value of the current and future benefits resulting from the proposed COLA or 13th check. Because there are five plans that must, by law, provide the same COLA or 13th check, the funding strategy needs to consider the funding needs of the entire System, as well as the specific fund. Therefore, the surcharge relies heavily on the COLA assumption. Historically, a 13th check has been provided during fiscal years 2018, 2019, 2020, 2021, and 2025. There was also a 1% COLA granted in fiscal year 2022. However, beginning with the 2024 valuation, legislation was passed so that the plan's would be funded for an inflation-indexed 13th check for those commencing benefits before July 1, 2025 and a 1% COLA for those commencing benefits on or after July 1, 2025. While these are the targeted benefits used to fund the SRA, no benefits have been granted or promised and COLA increases or 13th checks will continue to be subject to legislation. Based on the legislative guidance for the funding of the supplemental benefits, **we recommend no change in the supplemental account COLA assumption.**

INTEREST CREDITED ON MEMBER ACCOUNTS

'77 FUND, JRS, EG&C, and PARF

EG&C members contribute 4% of their salaries, whereas the other members in these contributory plans contribute 6% of their salaries. In the event a member receives a refund of their contributions (e.g. non-vested termination), interest is included. Indiana code stipulates the interest rate is "established by rule of the board". In April 2013, the board approved the methodology to set the interest rate as the average of the January, February, and March month-end 10-year U.S. Treasury Note yields for the current calendar year. The rates would be established annually by the Board no later than June 30th. Interest is credited at least once annually on the prior fiscal year-end balance in accordance with 35 IAC 1.2-1-6. However, in practice, interest is posted daily to the active member's full account balance on that date. The current member balance interest crediting rate assumption is 3.30%.

The 10-year U.S. Treasury bond yield generally reflects the expected price inflation plus the real return. To get an understanding of the real return, we can look at the yield on 10-year inflation protected U.S. Treasuries (TIPS), as the financial markets typically estimate expected inflation by using the difference between the Treasury bonds and TIPS. Using our price inflation assumption of 2.00% and a real return expectation of 1.30% would result in the current interest crediting rate assumption of 3.30%. During 2023 and 2024, the TIPS return about 1.8%, while over the five-year period from 2020 to 2024, it averaged about 0.5%. This is a reflection of the general economic tumult during and following the Covid pandemic. Because of the recent variation, we are hesitant to change this assumption, especially because it has a small impact on assessing liabilities. **We recommend leaving the member balance interest crediting rate assumption at 3.30%.**

INVESTMENT RETURN

Use in the Valuation

The investment return assumption reflects the anticipated returns on the current and future assets. It is one of the primary determinants in the allocation of the expected cost of the promised benefits, providing a discount of the estimated future benefit payments to reflect the time value of money. Generally, the investment return assumption should be set with consideration of the asset allocation policy, expected long term real rates of return on the specific asset classes, the underlying inflation rate, and any investment expenses.

The current investment return assumption is 6.25% per year, net of all investment-related and administrative expenses (except for the LEDB fund where expenses are explicitly reflected). The 6.25% rate of return is referred to as the nominal rate of return and is composed of two components. The first component is price inflation (previously discussed). Any excess return over price inflation is referred to as the real rate of return. The real rate of return, based on the current set of assumptions, is 4.25% (6.25% nominal return less 2.00% inflation).

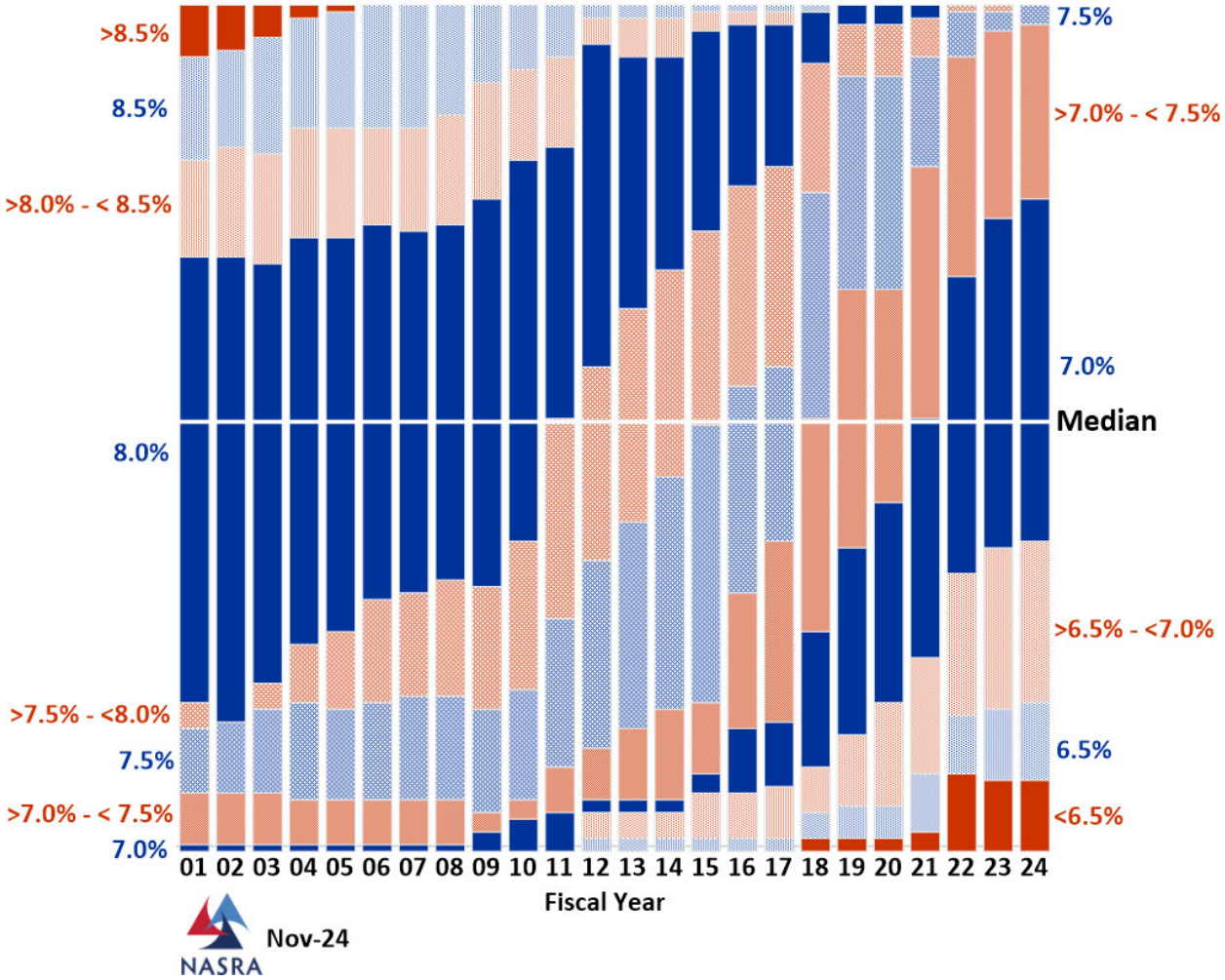
Forward Looking Analysis

In developing our investment return assumption, we generally give the greatest consideration to the expected returns based on the portfolio composition and expected capital market assumptions. INPRS is anticipating an extensive Asset-Liability Study later this year which may result in a change in the asset allocation of the portfolio. Consequently, we believe that the complete development of this assumption should wait until the study is complete. We note that the current assumption does not appear unreasonable and will most likely be appropriate for use in the 2025 valuation in case the study is not completed in time for us to propose a revised assumption.

Peer System Comparison

While we do not recommend the selection of an investment return assumption be based on the assumptions used by other systems, this information does provide another set of relevant data to consider as long as we recognize that asset allocation varies from system to system. The graph on the following page shows the change in the distribution of the investment return assumption from fiscal year 2001 through 2024 for the 120+ large public retirement systems included in the NASRA Public Fund Survey.

As the graph indicates, the investment return assumptions used by public plans have decreased over the last decade, likely impacted by a corresponding decrease in the underlying inflation assumption from 4.00% to 2.50% over the same period. INPRS has been among the lowest for a number of years, reflecting the investment style adopted by the Board.



Recommendation

As noted earlier, because INPRS is conducting an Asset-Liability Study, we wish to defer making a recommendation until that study is complete. We note that the current assumption does not appear unreasonable and will be appropriate for use in the 2025 valuation in case the study is not completed in time for us to propose a revised assumption.

When we do recommend an assumption, it should be noted that by actuarial standards, we are required to maintain a long-term perspective in setting all assumptions, including the investment return assumption. Therefore, we believe we must be careful not to let recent experience or short-term expectations impact our judgment regarding an appropriate investment return assumption over the long term.

DEMOGRAPHIC ASSUMPTIONS

Actuarial Standard of Practice (ASOP) No. 27 provides guidance to actuaries regarding the selection of demographic and other non-economic assumptions for measuring pension obligations. ASOP 27 states that the actuary should use professional judgment to estimate possible future outcomes based on past experience and future expectations, and select assumptions based upon application of that professional judgment. The actuary should select reasonable demographic assumptions in light of the particular characteristics of the defined benefit plan that is the subject of the measurement. A reasonable assumption is one that is expected to appropriately model the contingency being measured and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Each individual demographic assumption should satisfy the criteria of ASOP 27. In selecting demographic assumptions, the actuary should also consider: the internal consistency between the assumptions, materiality, cost effectiveness, and the combined effect of all assumptions. At each measurement date, the actuary should consider whether the selected assumptions continue to be reasonable, but the actuary is not required to do a complete assumption study at each measurement date. In addition, the actuary should include a specific assumption with respect to expected mortality improvements after the measurement date. In our opinion, the demographic assumptions recommended in this report have been developed in accordance with ASOP 27.

Overview of Analysis

The purpose of a study of demographic experience is to compare what actually happened to the individual members of the System during the study period (July 1, 2019 through June 30, 2024) with what was expected to happen based on the actuarial assumptions.

Studies of demographic experience generally involve three steps:

- First, the number of members changing membership status, called decrements, during the study is tabulated by age, duration, gender, group, and membership class (active, retired, etc.).
- Next, the number of members expected to change status is calculated by multiplying certain membership statistics, called exposure, by the expected rates of decrement.
- Finally, the number of actual decrements is compared with the number of expected decrements. The comparison is called the Actual-to-Expected ratio (A/E Ratio), and is expressed as a percentage.

In general, if the actual experience differs significantly from the overall expected results, or if the pattern of actual decrements, or rates of decrement, by age, sex, or duration deviates significantly from the expected pattern, new assumptions are considered. Recommended revisions are normally not an exact representation of the experience during the observation period. Judgment is required to anticipate future experience from past trends and current evidence, including a determination of the amount of weight to assign to the most recent experience.

SECTION 4 – DEMOGRAPHIC ASSUMPTIONS

For most of the decrements we analyze the experience using a liability-weighted approach. This is approximated by using the member's compensation and years of service to estimate the member's benefit level. (For retirees, the benefit is determined directly from the data.) The exposure and actual occurrences are then multiplied by the benefit level to provide the liability-weighted experience. This approach is particularly insightful when analyzing experience from a non-homogenous group. While we reviewed experience on both a count and liability-weighted basis, we generally used the liability-weighted results to evaluate experience and develop new assumptions, if necessary.

Revised rates of decrement are tested by using them to recalculate the expected number of decrements during the study period, and the results are shown as revised Actual-to-Expected Ratios.

It takes a fair amount of data to perform a credible study of demographic assumptions. Because the membership or certain subsets of the membership are relatively small, some assumptions have been selected based more on our professional judgment of reasonable future outcomes than actual experience.

Because much of the past 5 years of experience overlapped the worldwide Covid pandemic, we recognize that the actual demographic experience captured in this study may be influenced by the presence of the disease, by decisions the various employers made to manage their workforces through this period, and by choices employees may have made in response to actual or perceived changes in the world around them. Further, it is possible that some of these changes will reflect a new reality and show up in future years, while other changes will likely revert back quickly to the previous norms. Consequently, we believe caution is warranted in this study before making significant changes based on the recent data only.

MORTALITY

One of the most important demographic assumptions in the valuation is mortality because it projects how long benefit payments will be made. The longer members live, the greater the true cost of future benefit obligations will be.

For many years, rates of mortality have been declining, meaning people, in general, are living longer. Consequently, we anticipate that mortality tables will need to be updated periodically. This anticipated improvement is also directly reflected by the selection of a mortality improvement table.

Because of the substantial amount of data required to construct a mortality table, actuaries usually rely on standard tables published by the Society of Actuaries. Actuaries then use various adjustments such as age adjustments or scaling to these standard published mortality tables in order to better match the observed mortality rates of a specific group. Due to anticipated differences in mortality, we break down our study by gender (males and females), by group (PERF, TRF, '77 Fund and EG&C, and Judges, prosecuting attorneys, and Legislators), and by status (healthy retirees, disabled retirees, and active members).

The first of these adjustments is an age adjustment that can be either a "setback" or a "set forward". A one-year age setback treats all members as if they were one year younger than they truly are when applying the rates in the mortality table. Thus, a one year set back would treat a 61 year old retiree as if he will exhibit the mortality of a 60 year old in the standard mortality table.

The second adjustment that can be used to adjust the mortality rates in a standard table to better fit actual experience is to "scale" a mortality table by multiplying the probabilities of death by factors less than one (to reflect better mortality) or factors greater than one (to reflect poorer mortality). Scaling factors can be applied to an entire table or a portion of the table. Of course, if needed, actuaries may use both of these methods to develop an appropriate table to model the mortality of the specific plan population.

In 2019, the Society of Actuaries released a family of mortality tables named the Pub-2010 tables. While prior pension mortality tables have been based solely on private corporate and union retirement plans, these new tables are based entirely on public sector plan data. These tables are split by three membership types: Safety, Teachers, and General to reflect the observed differences in mortality patterns related to the three groups. Tables are further split for healthy retirees, disabled retirees, contingent beneficiaries, and employees. (There are still other breakdowns that are not relevant for INPRS.) We used this family of tables for our current assumptions. The Society has just recently issued an exposure draft of an update of this family of tables. Because these new tables are not yet officially issued, we are not anticipating using them at this point. Once the tables are officially issued, we will consider if there would be a significant improvement in adopting them, and then proposing that for the 2026 valuations, if appropriate. Note that because we use adjustments as described in the previous paragraphs to

match INPRS experience, there may not be an important difference between the adjusted old tables and the adjusted new tables.

The issue of future mortality improvement is one that the actuarial profession has become increasingly focused on studying and monitoring. This has resulted in changes over time to the relevant Actuarial Standard of Practice, ASOP 27, *Selection of Assumptions for Measuring Pension Obligations*. This ASOP requires the pension actuary to make and disclose a specific recommendation with respect to future improvements in mortality after the valuation date, although it does not require that an actuary assume there will be future improvements. There have been significant improvements in longevity in the past, although there are different opinions about future expectations, and thus there is a subjective component in the estimation of future mortality improvement. We believe it is prudent to anticipate that the trend will continue to some degree in the future and that it is appropriate to reflect some future mortality improvement as part of the mortality assumption.

There are two widely-used ways to reflect future improvements in mortality:

(1) Static table with "margin"
(2) Generational mortality

The first approach to reflecting mortality improvements is through the use of a static mortality table with "margin." Under this approach, the Actual to Expected Ratio is intentionally targeted to be over 100% so that mortality can improve without creating actuarial losses. This has been the approach used historically by many other systems because of its computational simplicity.

Another approach, referred to as generational mortality, directly anticipates future improvements in mortality by using a different set of mortality rates based on each year of birth, with the rates for later years of birth assuming lower mortality than the rates for earlier years of birth. The varying mortality rates by year of birth create a series of tables that contain "built-in" mortality improvements, e.g., a member who turns age 65 in 2035 has a longer life expectancy than a member who turns age 65 in 2020. When using generational mortality, the Actual to Expected Ratios for the observed experience are set near 100% as future mortality improvements will be taken into account directly in the actuarial valuation process. The generational approach is our preferred method for recognizing future mortality improvements in the valuation process because it is more direct and results in longer life expectancy for members who are younger, consistent with what we believe is more likely to occur. Over the last 10-15 years, this method has become quite common as computing power has increased. This is the method currently used in the valuation and we recommend it continue to be used.

In developing our recommendations for mortality tables, we have not only considered how the table fits the experience in total, but we have also looked at the quality of the fit at just the younger ages and just the older ages when there is sufficient data. One tool to assist with this has been to plot the actual and observed data on a logarithmic graph, allowing the comparison of fit across the entire age range to be readily assessed.

MORTALITY – Healthy Retirees

The valuation currently uses three separate mortality assumptions for healthy members: (1) for PERF; (2) for TRF, PARF, JRS, and LE DB funds; and (3) for the '77 Fund and EG&C. These three groups are further divided for male and female members. The underlying mortality tables are from the Society of Actuaries Pub-2010 tables, using the Safety Employee version for '77 Fund/EG&C, the Teacher Employee version for TRF and the General Employee version for PERF/PARF/JRS/LE DB. No age adjustments or scaling factors were applied. Generational improvement was projected using the SOA Scale MP-2019 improvement assumption.

In our analysis of the last five years, we looked at the experience each year and noted that fiscal years ending 2021 and 2022 had noticeably higher death rates, coinciding with the Covid pandemic. Because this represents a significant portion of the study period, we determined that it would be inappropriate to attempt to make any adjustments in this study based on the recent experience.

The results of the experience study for healthy retirees ages 55 to 100 (50-100 for 77Fund/EG&C), on a count basis, are summarized in the following chart. Because of the limited amount of data for females in funds other than PERF and TRF, no meaningful analysis could be performed.

Healthy Retiree Deaths
Count Basis

	Actual	Expected	A/E Ratio
PERF			
Male	6,349	5,513	115%
Female	9,771	8,143	120
TRF			
Male	3,093	2,840	109
Female	4,537	4,338	105
'77 Fund/EG&C			
Male	236	245	96
PARF/JRS/LE DB			
Male	84	70	120

In this experience study, we also analyzed recent experience on a benefit-weighted basis where the exposures and deaths are multiplied by the monthly retirement benefit amount. This helps to reflect any differences that arise from better mortality experience among those with larger benefits. Because a valuation is designed to measure the amount and timing of future benefit payments (liability) rather than simply the number of retirees leaving pay status, this benefit-

weighted approach is an important factor in valuing plan obligations. The Actual to Expected Ratios on the benefit-weighted basis were different from the Actual to Expected Ratios on a count basis, confirming that members with higher benefits also tend to have better mortality. Please note that we are not saying that larger benefits definitely lead to better mortality, but simply that there is a correlation between the two.

The Actual to Expected Ratios on a benefit-weighted basis are summarized and compared to those on a count basis in the following table. The fact that the ratios are lower on a weighted basis than on a count basis is an indication that individuals with larger benefits do indeed have slightly better mortality on average, as was anticipated. (Note that most mortality tables used by actuaries are developed on a weighted basis.)

Healthy Retiree Mortality A/E Ratios

	Count	Weighted
PERF		
Male	115%	107%
Female	120	117
TRF		
Male	109	105
Female	105	102
'77 Fund/EG&C		
Male	96	97
PARF/JRS/LE DB		
Male	120	127

Therefore, we recommend retaining the current mortality assumptions which are based on the Pub-2010 healthy annuitant tables, with adjustments as outlined below to better fit actual experience, projected generationally with the MP-2019 scale.

Group	Membership Table	Set Forward/Setback
PERF	General	Male: +3, Female: +1
TRF	Teachers	Male: +1, Female: +1
'77 Fund/EG&C	Safety	Male: +3, Female: +0
JRS/PARF/LE DB	General	Male: -1, Female: -1

MORTALITY – Beneficiaries

The mortality of beneficiaries applies to the survivors of members who retired with a joint and survivor option. There are significantly fewer members receiving survivor benefits under the joint and survivor options which limits the ability to analyze this group in detail. Because of this, we analyzed beneficiaries from all funds together and developed a common assumption. The results are summarized in the following table:

Beneficiary Mortality A/E Ratios (Weighted)	
	Current
Male	153%
Female	113

As with he health retirees, there is a significant impact from Covid during this period and so we do not believe it appropriate to reflect any changes.

We recommend Pub-2010 Contingent Survivors Table be retained with no adjustment for males and a two-year set-forward for females, projected generationally with the MP-2019 scale.

MORTALITY – Disabled Retirees

The valuation assumes that disabled members, in general, will not live as long as retired members who met the regular service retirement eligibility. There tends to be more fluctuation in disabled mortality than healthy mortality because of differences in the types of disabilities. In addition, the smaller number of exposures makes the results more volatile. Because the requirements to receive a disability retirement for public safety groups require a lower threshold than other groups, we have analyzed the '77 Fund and EG&C separately from the other groups.

Disabled Mortality A/E Ratios (Weighted)	
	Current
77 Fund/EG&C	
Male	101%
All Others	
Male	133
Female	103

Again, due to the presence of Covid, we are not prepared to make any adjustments at this times.

We recommend retaining the Pub-2010 General Disabled Table for '77 Fund and EG&C, projected generationally with the MP-2019 scale. For the other groups, we recommend retaining the use of 140% of the Pub-2010 General Disabled Table be used, projected generationally with the MP-2019 scale.

MORTALITY – Actives

The active member mortality assumption models eligibility for death benefits prior to retirement. Therefore, it has a much smaller impact on the valuation results than the post-retirement mortality assumption.

It is difficult to isolate the mortality for active members as it may be impacted by active members first terminating or moving to disabled status before death. The data collection methods used in this study do not fully capture known deaths, and so can be misleading. Finally, the probability of active death is very small, so volatility is not uncommon. Consequently, we prefer to set this assumption by utilizing the more reliable analysis performed on the retiree data.

We recommend retaining the current mortality assumptions which are based on the Pub-2010 employee tables, with adjustments as outlined below, projected generationally with the MP-2019 scale.

Group	Membership Table	Set Forward/Setback
PERF	General	Male: +3, Female: +1
TRF	Teachers	Male: +1, Female: +1
'77 Fund/EG&C	Safety	Male: +3, Female: +0
JRS/PARF/LE DB	General	Male: -1, Female: -1

LINE-OF-DUTY DEATHS

For the ’77 Fund and EG&C, active member death benefits may vary depending upon whether or not the death was in the line of duty. INPRS provided a complete listing for the past five years of all active member deaths for these funds along with an indication of which deaths were in the line of duty. Currently, the assumption is that 20% of active deaths are line-of-duty deaths. Of the 76 deaths reported for the ’77 Fund, 20 of them, or 26%, were in the line of duty. We note that some of these were Covid-related deaths during the early stages of the pandemic. In conjunction with our professional judgment and experience with similar systems, **we recommend that the assumption be retained in assuming that 20% of active deaths for the ’77 Fund and EG&C are in the line of duty.** (EG&C death benefits currently are the same for all active deaths, though this assumption would be utilized for plan design cost studies as necessary.)

RETIREMENT RATES

Service retirement measures the change in status from active membership directly to retirement. This assumption does not include the retirement patterns of the retirees who terminated from active membership prior to their retirement.

The decision to retire is influenced by many factors, but certain patterns emerge from the data that can help us in setting the assumption. First, the member's age is generally a factor. Retirement rates increase with age, although sometimes there are certain ages such as 62 or 65 that may be higher than the ages that follow because of Social Security and Medicare provisions. Second, plan design features may influence the decision as well. We typically observe lower rates of retirement when a member is eligible for an early retirement benefit that includes a reduction for the early commencement. Once members reach unreduced retirement age, rates of retirement typically increase. Finally, other plan features such as service maximum for the benefit formula or the existence of a Deferred Retirement Option Program (DROP) can have an influence as well. All of these factors combine to form a retirement plan's experience, and the uniqueness of each plan means that the structure and pattern of the retirement assumption will also be unique.

RETIREMENT – PERF

We separately analyzed the retirement rates for members who were eligible for early retirement with reduced benefits and those eligible for unreduced retirement. Early retirements include those who terminate and are eligible to retire, even if benefits did not commence immediately. There is a separate assumption regarding when benefits commence for those who terminate when they are eligible for an early retirement.

PERF Retirements
Count Basis

				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
Early	63,611	3,355	2,849	118%	101%
Unreduced	102,429	18,934	20,432	93%	93%

Early retirement was utilized by more members than expected, but because those taking early retirement tended to have lower service and salary than the group as a whole, the liability-weighted A/E ratio was still right around 100%. Because of the low utilization (assumed rates are 4% to 5%), we do not see any reason to adjust this assumption at this time.

Of the 3,355 early retirees, 391 commenced benefits immediately, while 2,964 deferred commencement. Currently, 30% of early retirees are assumed to commence immediately. This assumption was lowered as part of the previous experience study, and if this trend continues, we anticipate that we would recommend lowering it again in the next experience study. For now, we

recommend retaining that 30% of PERF early retirements commence immediately and 70% are deferred.

Unreduced retirements were observed at a slightly lower level than expected. In general, the pattern of retirement by age was reasonably in line with the assumptions. We note that the A/E ratio increases across the five years being studied, but with the presence of Covid in the middle of this, we are hesitant to conclude anything at this point. We will be watching this assumption through time to see if rates might need to be increased in the next experience study. Therefore, **we recommend that the current PERF retirement rates for early and unreduced retirement be retained.**

RETIREMENT – TRF

As with PERF, we separately analyzed the retirement rates for members who were eligible for early retirement with reduced benefits and those eligible for unreduced retirement. The results are summarized below:

TRF Retirements
Count Basis

	Exposures	Actual	Expected	A/E Ratio Count	A/E Ratio Weighted
Early	48,904	1,701	1,812	94%	86%
Unreduced	39,634	7,786	9,240	84%	87%

The number of people taking early retirement was lower than expected, particularly at ages 58 and 59. **We recommend changing the probability of early retirement to 7% at ages 58 and 59.**

Of the 1,701 early retirees, 121 commenced benefits immediately, while 1,580 deferred commencement. Currently, 30% of early retirees are assumed to commence immediately, and similar to PERF, **we recommend retaining that 30% of TRF early retirements commence immediately and 70% are deferred.** As with PERF, we will be watching this assumption through time and anticipate that it might be adjusted in the next experience study.

For this study period, there were fewer unreduced retirements than expected. We propose that rates from ages 62 through 64 be decreased to better reflect the observed patterns. In keeping with our general philosophy and especially because of the possible effects of Covid, we suggest moving part way from the current rates to the observed rates, resulting in a weighted A/E Ratio of 87%. Therefore, **we recommend that the TRF retirement rates for unreduced retirement rates at ages 62 through 64 be decreased as indicated in Appendix D.**

RETIREMENT – ’77 FUND

The ’77 Fund retirement provisions include early (reduced) retirement at age 50 with 20 years of service and unreduced retirement at age 52, also with 20 years of service. The benefit provisions are such that no further accruals are earned after 32 years of service, although a member’s benefit may still increase as the applicable First Class Officer’s salary increases. The ’77 Fund also has a Deferred Retirement Option Program (DROP) which allows members who are eligible to retire to continue as active employees but be treated from a retirement program perspective as though they had retired. Monthly benefits are accumulated to be paid out upon cessation of employment, at which point a benefit (calculated as of the DROP entrance date) is paid for life.

The current assumptions for retirement include a table of rates for members with under 32 years of service, and a second table of rates for members with at least 32 years of service. These rates, with changes from the prior rates based on professional judgment, were first used in the 2024 valuation in response to a law change extending the DROP eligibility period. Therefore, the recent observed experience is for a set of provisions that differ from the current provisions. Consequently, we have chosen to compare the observed experience to the old rates as well as the current rates to determine if the current rates should be modified. No direct recognition of DROP is made, which essentially treats the retirement rates as the rate of either retiring or entering DROP. We first examined the experience over the study period on this basis. The results are summarized below:

’77 Fund Retirements
Count Basis

				A/E Ratio (Previous)	
	Exposures	Previous	Current	Count	Weighted
Total Members	10,989	2,039	1,679	121%	123%

The previous rates are considerably lower than what has been observed at the younger ages, but the current rates, with a weighted A/E ratio of 92% are higher than what has been observed at those ages. Because the new provisions are expected to increase retirement rates at younger ages, we believe the current rates appear to be a reasonable estimate. **We recommend that the current rates be retained**, but we will be monitoring this assumption as experience with the new provisions unfolds.

In the last experience study, we included an assumption of probabilities of electing DROP. Because the provisions for DROP changed as of the last day of our study period, we cannot draw any conclusions from the data. When we studied this change in advance, it was our judgment that DROP election probabilities were unlikely to change, but we did expect the DROP duration to increase. **We recommend that the ’77 Fund probability of DROP election be retained and assume that members elect to remain in DROP for five years, the maximum period allowed.**

RETIREMENT – EG&C

The EG&C retirement provisions include early (reduced) retirement at age 45 with 15 years of service and unreduced retirement at age 65 (mandatory retirement), age 50 with 25 years of service, age 55 with 85 points, or upon 10 years of service if a member was hired after age 50. The benefit provisions are such that no further accruals are earned after 40 years of service, although a member's benefit may still increase as salary increases. The EG&C plan also has a Deferred Retirement Option Program (DROP) which allows members who are eligible to retire to continue as active employees but be treated from a retirement program perspective as though they had retired. Monthly benefits are accumulated to be paid out upon cessation of employment, at which point a benefit (calculated as of the DROP entrance date) is paid for life.

The current assumptions for retirement include tables of rates for all members, based on eligibility for early versus unreduced retirement. The unreduced eligibility rates, with changes from the prior rates based on professional judgment, were first used in the 2024 valuation in response to a law change extending the DROP eligibility period. Therefore, the recent observed experience is for a set of provisions that differ from the current provisions. Consequently, we have chosen to compare the observed experience to the old rates as well as the current rates to determine if the current rates should be modified. No direct recognition of DROP is made, which essentially treats the retirement rates as the rate of either retiring or entering DROP. We first examined the experience over the study period on this basis. The results are summarized below:

EG&C Retirements
Count Basis

				A/E Ratio (Previous)	
	Exposures	Actual	Expected	Count	Weighted
Early Retirement	362	6	7	86%	98%
Unreduced Retirement	332	53	93	57%	61%

As with the '77 Fund, we are dealing with a situation in which the plan provisions have just changed, and so we cannot directly compare experience with what is anticipated. As was noted in the cost study for the change in DROP length, our professional judgment suggests that the changes in behavior for EG&C are likely to be greater than the changes for the '77 Fund. As a result, we believe it wise to continue with the new assumptions and give attention to actual experience as it unfolds. **We recommend retaining the EG&C retirement rates and probability of DROP election, with members assumed to elect to remain in DROP for five years, the maximum period allowed.**

RETIREMENT – JRS

The JRS retirement provisions include early (reduced) retirement at age 62 with 8 years of service and unreduced retirement at age 65, also with 8 years of service, or at age 55 with 85 points. The benefit provisions are such that no further accruals are earned after 22 years of service, although a member's benefit may still increase as their applicable position's salary increases.

The current assumptions for retirement include a table of rates early retirement, and a second table of rates for unreduced retirement. We first examined the experience over the study period on this basis. The results are summarized below:

JRS Retirements
Count Basis

				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
Early	140	8	11	73%	62%
Unreduced	459	73	133	55%	49%

The current rates are higher than what has been observed, just as they were in the prior study. Because of the relatively limited exposure for the early retirement rates, we suggest leaving them unchanged. We propose again reducing the unreduced retirement rates part way. The weighted A/E Ratio for unreduced retirement is now 60%. We will continue to observe this group and revisit this assumption in the future, adding credibility in the next study since there will not be any concern about the influences of Covid. **We recommend that the JRS retirement rates be changed as indicated in Appendix D.**

RETIREMENT – PARF

The PARF retirement provisions include early (reduced) retirement at age 62 with 8 years of service and unreduced retirement at age 65, also with 8 years of service, or at age 55 with 85 points. The benefit provisions are such that no further accruals are earned after 22 years of service, although a member's benefit may still increase as their applicable position's salary increases.

The current assumptions for retirement include a table of rates early retirement, and a second table of rates for unreduced retirement. We first examined the experience over the study period on this basis. The results are summarized below:

PARF Retirements Count Basis					
				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
Early	19	1	4	25%	34%
Unreduced	64	16	34	47%	44%

Because of the limited size of the group and the presence of Covid, we are cautious about adjusting rates, even though the current rates are higher than what has been observed. If this trend continues, we expect to lower rates in the next study. **We recommend that the PARF retirement rates be retained.**

RETIREMENT – LE DB

The LE DB plan has been closed to new hires for many years and has 3 active members as of June 30, 2024, all of whom are eligible for an unreduced retirement benefit. The current age-based retirement rates are reasonable and conservatively assume members retire by age 65, although all remaining actives are currently over 70 years old. Given the low count of active members and minimal impact of this assumption on the overall plan, **we recommend the current assumption be retained.**

INACTIVE VESTED MEMBER RETIREMENT

Inactive vested members are those who have left employment with the right to a future benefit upon meeting retirement eligibility requirements. Some of the funds have reductions for early retirement that we would classify as subsidized, while others have factors that are approximately actuarially equivalent. The current assumption for JRS and EG&C, which have significant subsidies, is that inactive vested members retire at their earliest retirement date. While PARF has the same subsidy as JRS, because of the linkage with PERF, the assumption is that deferred members will retire at their first unreduced age. For PERF, TRF, and the '77 Fund, the assumption is that members retire at their first unreduced retirement date. Such an approach to setting the assumption is logical if members tend to act in their personal best financial interest. This approach also provides a small degree of conservatism in protecting the plan from actuarial losses. The observations discussed earlier in the report regarding PERF and TRF members who end employment while eligible for early retirement help further substantiate the reasonableness of this approach, so we see no reason to change. **We recommend the current assumption be retained for all funds.**

DISABILITY

Disability rates reflect the likelihood of a member transitioning from active status to a disability retirement. In cases where a member is not entitled to a disability benefit, the data will only indicate that a termination of employment has occurred. Because the definition of disability usually has some sort of reference to the ability to perform one's job, the disability requirements and the nature of the work for public safety are generally such that these job groups have higher rates. There also tends to be a strong relationship with disability rates and age.

DISABILITY – PERF and PARF

Historically, PERF and PARF have utilized the same assumption for disability rates. We see no compelling reason to change this practice and have analyzed disability experience for the two groups combined. Because of the population sizes, this is, of course, essentially utilizing PERF experience for PARF. The analysis, performed separately for males and females, is shown in the following table:

PERF and PARF Disability
Count Basis, Ages 25-60

				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
Males	188,876	137	243	56%	46%
Females	314,672	168	325	52%	45%

Based on these results, we believe that it is appropriate to reduce the assumed rates. In keeping with our general philosophy, we move part way from the current rates toward the observed rates. Our proposed rates are 75% of the current rates. If the observations in this study were typical of long-term experience, we would anticipate that there will be a further reduction of the assumed rates in the next study. **We recommend the rates be adjusted as shown in Appendix D.**

DISABILITY – TRF

TRF disability rates have been utilized on a unisex basis, in contrast with the PERF and PARF rates that are sex-distinct. This is a reasonable approach, especially since the rates are quite low. Our review of the data indicates a sufficiently similar pattern between males and females that we are comfortable with retaining the unisex assumption for now. The observed data is summarized below:

TRF Disability Count Basis, Ages 25-60					
				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
All Members	308,727	42	68	62%	59%

As with PERF and PARF, we recommend reducing the disability rates part way from the current rates toward the observed rates. Our proposed rates resulted in a weighted A/E ratio of 74%. Again, if the observations in this study were typical of long-term experience, we would anticipate that there will be a further reduction of the assumed rates in the next study. **We recommend the rates be adjusted as shown in Appendix D.**

DISABILITY – '77 FUND

Like TRF, the '77 Fund disability assumption is on a unisex basis. There is minimal female data available, and so we did not consider a sex-distinct analysis. The observed data is summarized below.

'77 Fund Disability Count Basis, Ages 25-60					
				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
All Members	65,821	268	201	133%	127%

Our review of the observed and expected disabled rates by age shows that the observed experience is not as age-driven as the current rates would anticipate. We suspect that many on the disablements in this group are related to events rather than aging, and so we believe we should make some adjustment to flatten the rates across the core ages. The resulting A/E ratio on weighted basis is 116%. **We recommend the rates be adjusted as shown in Appendix D.**

A further assumption for the '77 Fund disability valuation is an assessment of the type, or "class", and severity of disabilities. The classes of disability are defined as Catastrophic (with a degree of impairment of at least 67%) or non-catastrophic. For members hired after 1989, the non-catastrophic disabilities are further broken into Class 1 (occurs while on duty or due to an occupational disease), Class 2 (proven duty-related disease), and Class 3 (any other disability). Currently, the assumption is that 1% are Catastrophic and 99% are non-catastrophic. For members hired after 1989, the non-catastrophic disabilities include 59% in Class 1, 10% in Class 2, and 30% in Class 3.

The severity is a measure of the degree of impairment between 0% and 100% as determined by medical experts. Disability benefits are currently assumed to be paid out as a flat percent of pay, ranging from 100% for a Catastrophic disability down to 36% for a Class 3 disability, where the assumption accounts for both service and the degree of impairment.

We reviewed the recent disabilities and compared with this with our review in the prior study. For the severity assessment, the average degree of impairment for disabled members is slightly less than 20%. This degree of impairment is used by the INPRS medical authority to determine the additional benefit percentage the member is entitled to per IC 36-8-8-135(f), which ranges from 10% to 45%. A degree of impairment of 20% would result in an additional benefit percentage of 17% of pay. **We recommend the type and severity assumptions be retained.**

DISABILITY – EG&C

There were no observed disabilities in the EG&C fund during the study period, although 7 were expected under the current assumptions. This suggests that the current assumptions are likely too high. Because of the limited data and because of the somewhat similar nature of the jobs, **we recommend that the EG&C fund utilize the same disability rates proposed for the '77 Fund.**

Like the '77 Fund, there is also an assumption required for the class and severity of disabilities. This assumption is simplified in its form because of the limited number of expected disabilities in the fund. Because there are only three disabled retirees, the most recent of whom was disabled in 2012, we could only do a general assessment of the reasonableness of the current assumption. Based on this review and professional judgment, **we recommend that the current type and severity combined assumption be retained.**

DISABILITY – JRS

There was one observed disability among the Judges during the study period, although 4 were expected under the current assumptions. Because there is limited data, our adjustments are made primarily on the basis of professional judgment, and we suggest reducing rates by 35%. **We recommend the rates be adjusted as shown in Appendix D.**

DISABILITY – LE DB

The legislator plan does not have an assumption for disability benefits, nor is it reasonable to anticipate that such a benefit could be payable in the future, given the makeup of the remaining actives. **We recommend the disability assumption continue to be eliminated for the Legislators' DB fund.**

SECTION 8 – TERMINATION OF EMPLOYMENT (WITHDRAWAL)

TERMINATION

The rates of withdrawal adopted by the Board are used to determine the expected number of separations from active service as a result of resignation or dismissal that will occur prior to attaining the eligibility requirement for a retirement benefit. The number of withdrawals includes all members reported to have terminated employment.

This section of the report summarizes the results of our study of terminations of employment for reasons other than death, retirement, or disability. Rates of termination tend to be higher in the earliest years of employment, and so service-based tables are frequently used. In certain cases, however, age may be a better indicator of termination patterns. Even when not discussed in this report, we examined the actual terminations along both service and age to find an appropriate fit.

TERMINATION – PERF

Currently, the termination assumption for PERF has rates that are based on employment by the State of Indiana or a political subdivision (PSD), and further for the PSD group on salary level above or below $20,000 per year, with a further breakdown by sex for those under $20,000 per year. Within these categories, the termination rates are based either on service for state and PSD over $20,000, and age for PSD under $20,000. The analysis, performed separately for each group, is shown in the following table:

PERF Termination Rates
Count Basis

				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
PSD Sal <$20k Male	13,948	3,971	3,634	109%	85%
PSD Sal <$20k Female	54,088	12,872	10,298	125%	108%
PSD Sal >=$20k	249,308	29,065	24,145	120%	116%
State	114,225	17,702	15,333	115%	104%

For all of these categories, the A/E Ratio on a count basis exceeds the ratio on the weighted basis. This typically indicates that those terminating earn less, on average, than those who are not terminating. In order to best measure the liabilities of the fund, this means that we need to select termination rates that may predict fewer terminations than observed so that they can predict more accurately the amount of liability that leaves active status due to termination.

While other assumptions for PERF are not split by the employer (PSD and State), the two groups exhibit clear differences in patterns of termination, and so the difference in assumptions by group is warranted. We find that a difference between state and local governments is often present in other states, so we are not surprised to observe this pattern in Indiana.

The tables for PSD males and females earning under $20,000 are sex-distinct age-based tables. The termination rates in these tables are quite high, reflecting that individuals who have these jobs are more likely to leave employment. We considered whether a service-based table might be a better fit as well as whether or not the sex-distinct tables could be combined. We concluded that the current tables should be continued to be used.

We recommend the termination rates for all of the PERF groups be retained.

TERMINATION – TRF

Currently, the termination assumption for TRF utilizes sex-distinct service-based rates. The analysis, performed separately for males and females, is shown in the following table:

TRF Termination Rates
Count Basis

				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
Males	61,663	4,702	3,302	142%	143%
Females	185,023	14,438	10,401	139%	133%

While terminations were up significantly during the study period, we observe that the first year of the study period – which was before Covid – had terminations in line with what was expected. We do not know if the significantly higher rates observed in the following four years will continue or not, but we believe that there is a significant enough shift that we need to raise termination rates approximately 10%. We also noted that male and female rates are very similar, if not identical, and so we propose simplifying this assumption by making it on a unisex basis. **We recommend the rates be adopted as shown in Appendix D.**

TERMINATION – '77 FUND

The '77 Fund uses a single service-based table of termination rates. The analysis is shown in the following table:

'77 Fund Termination Rates
Count Basis

				A/E Ratio	
	Exposures	Actual	Expected	Count	Weighted
All	54,982	1,790	1,597	112%	137%

For the first 20 years of service, the current table is providing a reasonable estimate of the observed experience. For service after 20 years of service, the observed data is higher than the current assumption, however, there is not enough credible data to warrant us recommending a change at this time, especially in light of the possible Covid influences. **We recommend the current rates be retained.**

TERMINATION – JRS, PARF, and EG&C

The small funds utilize service based tables for termination. The analysis is shown in the following table:

Termination Rates
Count Basis

	Exposures	Actual	Expected	A/E Ratio Count	A/E Ratio Weighted
JRS	1,712	42	51	82%	84%
PARF	922	78	92	85%	90%
EG&C	1,545	44	61	72%	108%

Based on our review of each fund, we find that the current assumptions for JRS and PARF are reasonable given the amount of data available. We have noted in the past two studies that the distribution of terminations for EG&C continues to vary from the assumption, so we believe a change in the shape of the termination rates is appropriate. **We recommend that the current termination assumption be retained for JRS and PARF. We recommend that the termination rates for EG&C be modified as shown in Appendix D.**

TERMINATION – LE DB

The Legislators' DB fund currently does not have a termination assumption, nor is such an assumption needed since all actives are eligible to retire. **We recommend the termination assumption continue to be eliminated for the Legislators' DB fund.**

SALARY MERIT SCALE

Estimates of future salaries for each member are based on assumptions for two types of increases:

- Increases in each individual's salary due to promotion or longevity (often called merit scale), and
- Increases in the general wage increase of the membership, which is directly related to price and wage inflation.

Earlier in this report, we recommended using a wage inflation assumption of 2.90% for the next five years and 2.65% thereafter. The merit scale will be added to the applicable wage inflation assumption to develop the total individual salary increase assumption.

Several of the funds are excluded from this analysis for various reasons. Active members in JRS and PARF have their salaries set based on the position they hold, regardless of length of time on the job. There is very little movement in these funds due to promotion, and so we believe it is appropriate to ignore any merit component. Likewise, the '77 Fund benefits are all linked to the First Class Officer pay, regardless of the rank of the member. For this reason, we believe merit should be excluded from consideration. Since the Legislators' DB plan has frozen benefits, no salary assumption at all is needed for it.

Analysis of the merit salary scale is complicated by the fact that only total salary is reported to INPRS, which includes both the general wage inflation component of salary increases and the merit salary scale. Furthermore, there is often a delay in actual price inflation compared to when it has an impact on salary increases. As a result, it is difficult to isolate the merit scale for purposes of measuring the actual salary experience. One technique we used to help reduce the effect of inflation was to look at the individual salary increases for each of the five years in the study period and adjust the results so that the longer service individuals had increases of approximately 2.65 which was the expected increase for the study period. This allows us to focus on the shape of the increases and determine the reasonableness of a possible salary merit scale. In addition, salary increases for governmental employees during this study period have had some adjustments to respond to conditions in the employment market. Consequently, the selection of a merit scale has a significant component of professional judgment.

PERF

The current salary merit assumption is an service-based assumption that ranges from 6.00% for those at the start of their career down to 0% after 13 years. We found that this assumption continues to fit the general shape of the observed data. **We recommend the salary merit rates be retained.**

SECTION 9 – SALARY MERIT SCALE

TRF

The current salary merit assumption is an service-based assumption that ranges from 11.25% for those at the start of their career down to 0% after 20 years. We found that this assumption continues to fit the general shape of the observed data. **We recommend the salary merit rates be retained.**

EG&C

Currently, EG&C has a merit scale that starts at 2.25% and grades down to 0% over the first 9 years of service. There was a very large increase in the final year of the study period that distorted results, and so that year was excluded in our analysis. In general, we found the shape for the first four years to be consistent with the current assumption. **We recommend the salary merit rates be retained.**

FORM OF PAYMENT

Upon commencement, members elect between the normal form of payment and all other optional forms (if any) offered by statute. Optional form benefits are only available in PERF and TRF, where they are determined on an actuarial equivalence basis and, therefore, do not have a material impact on the valuation of the plan if an alternative election is made. Currently, members are assumed to elect the normal form of payment, and **we recommend the current assumption be retained.**

MARITAL STATUS – PERCENT MARRIED

'77 FUND, EG&C, JRS, PARF, and LE DB

These plans automatically provide a joint life annuity for married members. Therefore, one way to review this assumption is to look at newly retired and disabled members within the past five years to see whether or not they received a joint life annuity.

Optional Form				
	Single life	**Joint Life**	**Total**	**Joint Life Percent**
'77 Fund	585	2,439	3,024	81%
EG&C	12	58	47	83%
JRS	16	119	135	88%
PARF	11	64	75	85%
LE DB	0	8	8	100%

The current marriage assumption for EG&C, JRS, PARF, and LE DB is that 90% of members are assumed to be married or to have a dependent beneficiary. In general, this is close enough to the Joint Life Percent in the table above, that with the limited amount of data, **we recommend the current assumption be retained for these plans.**

The '77 Fund has a current marriage assumption that is split between males and females, where 80% of males and 60% of females are assumed to be married. A review of the past five years for new retirees and disabilities, show that 81% of members are listed on the data as married. A further breakdown shows 82% of males and 62% of females are married. **We recommend the current assumption of 80% for males and 60% for females be retained for the '77 Fund.**

PERF and TRF

The current marriage assumption for PERF is that 80% of males and 65% of females are assumed to be married. For TRF, it is assumed 75% of participants are married. This assumption is less important compared to the others plans because the normal form of payment is based only on the life of the member. However, the assumption is used for valuing pre-retirement death benefits. This assumption is not readily testable, but we believe it to be reasonable based on our professional judgement. **We recommend the assumption be retained.**

SECTION 10 – MISCELLANEOUS ASSUMPTIONS

MARITAL STATUS – SPOUSE AGE

The current assumption across all plans is that males are three years older than their spouses, while females are two years younger. Experience is in line with the current assumption. Based on this analysis, **we recommend the current assumption be retained.**

LOAD ON AVERAGE ANNUAL COMPENSATION

PERF and TRF

The PERF and TRF plans currently have a $200 load on their average annual compensation for wages received due to severance, unused sick leave, or other pay upon the commencement of employment (IC 5-10.2-4-3). We reviewed this assumption as part of some cost studies over the past few years and believe that this remains a reasonable assumption. **We recommend retaining the current assumption for active members.** We also note that any additional pay for deferred vested members is already included on the data, since any severance pay would have been paid in the past.

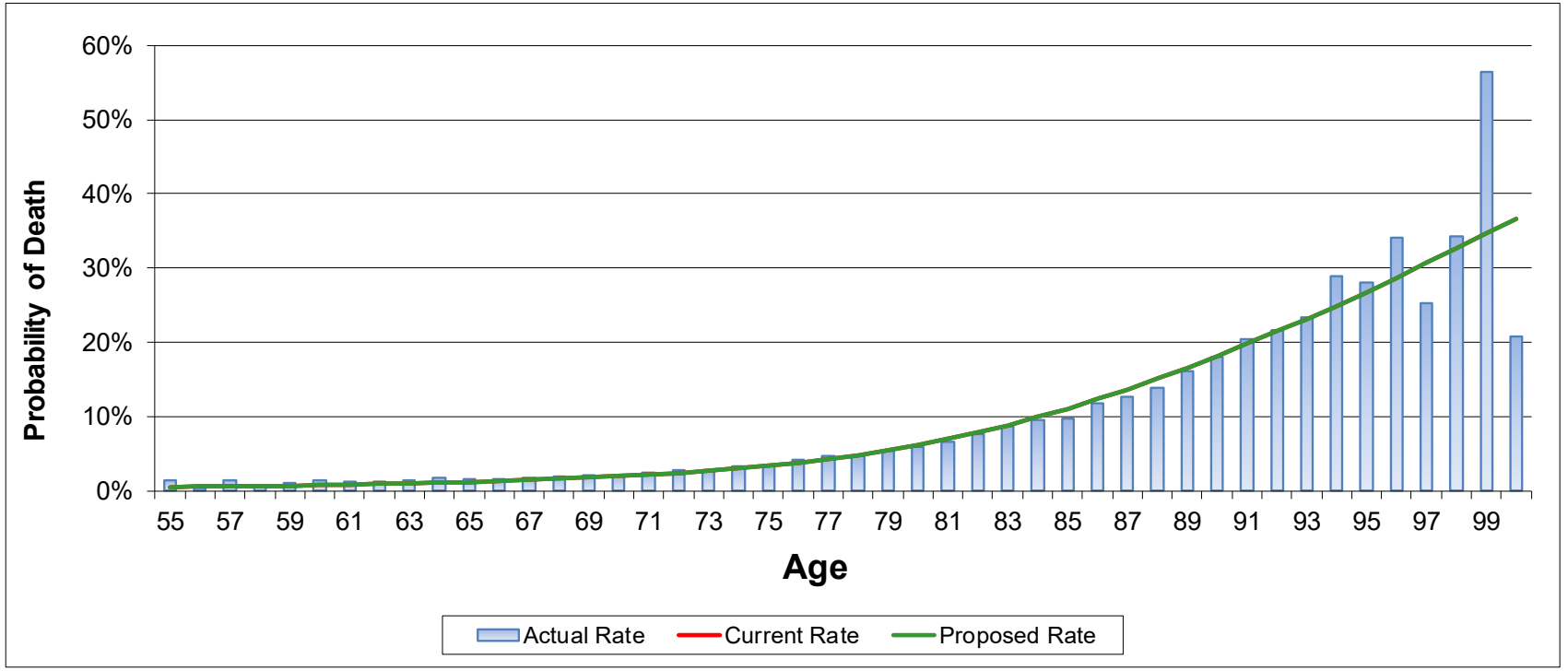
Probability of Death – Healthy Retirees

PERF Males

Exhibit A – 1

Indiana Public Retirement System

2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	5,238	4,909	4,909
Actual/Expected		107%	107%

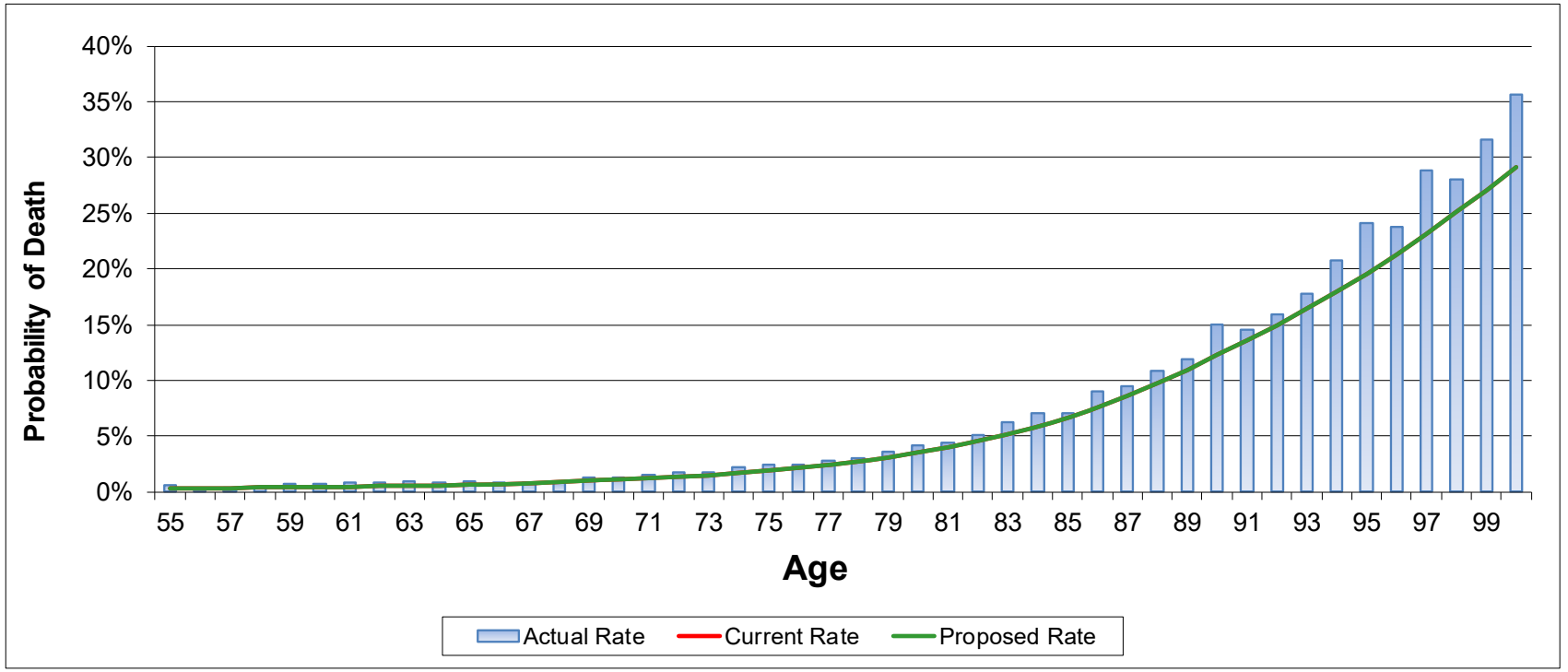
Probability of Death – Healthy Retirees

PERF Females

Exhibit A – 2

Indiana Public Retirement System

2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	5,743	4,896	4,896
Actual/Expected		117%	117%

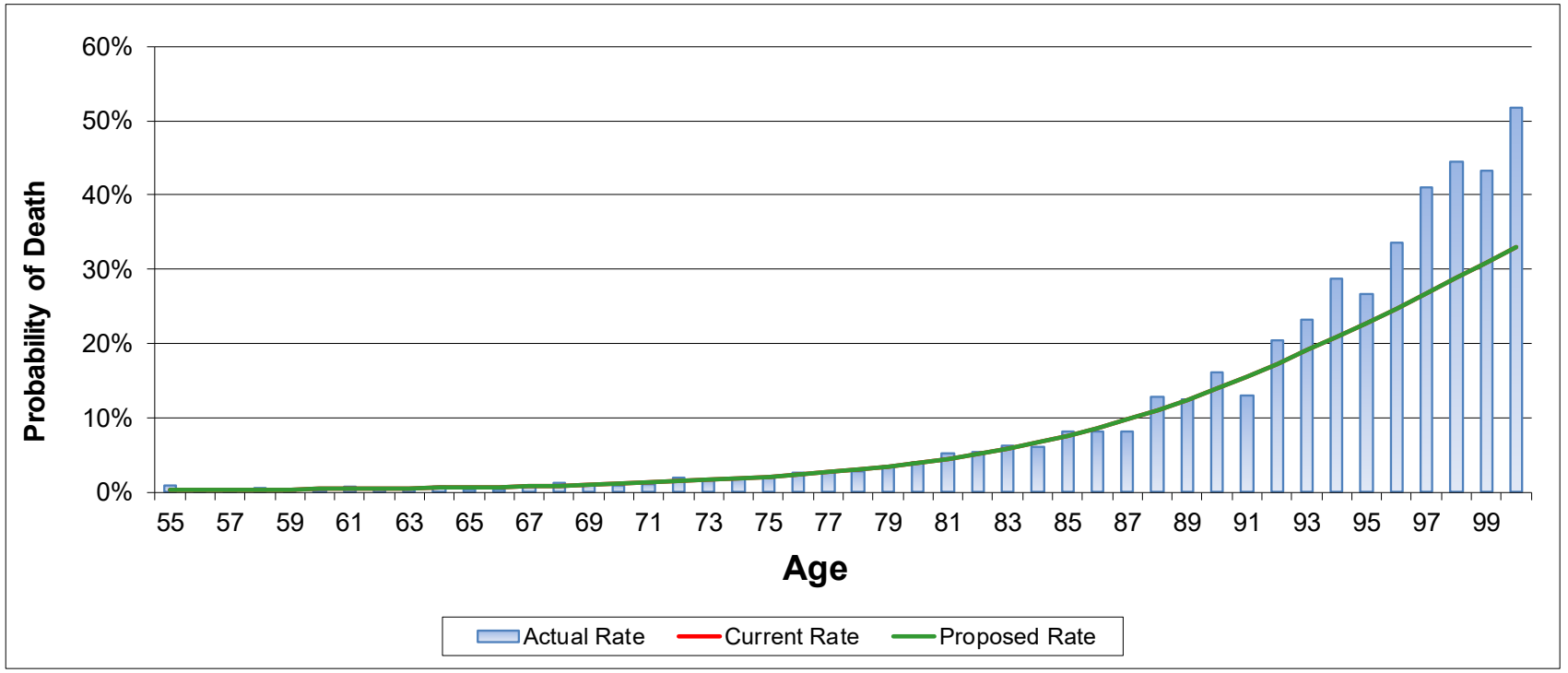
Probability of Death – Healthy Retirees

TRF Males

Exhibit A – 3

Indiana Public Retirement System

2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	5,532	5,293	5,293
Actual/Expected		105%	105%

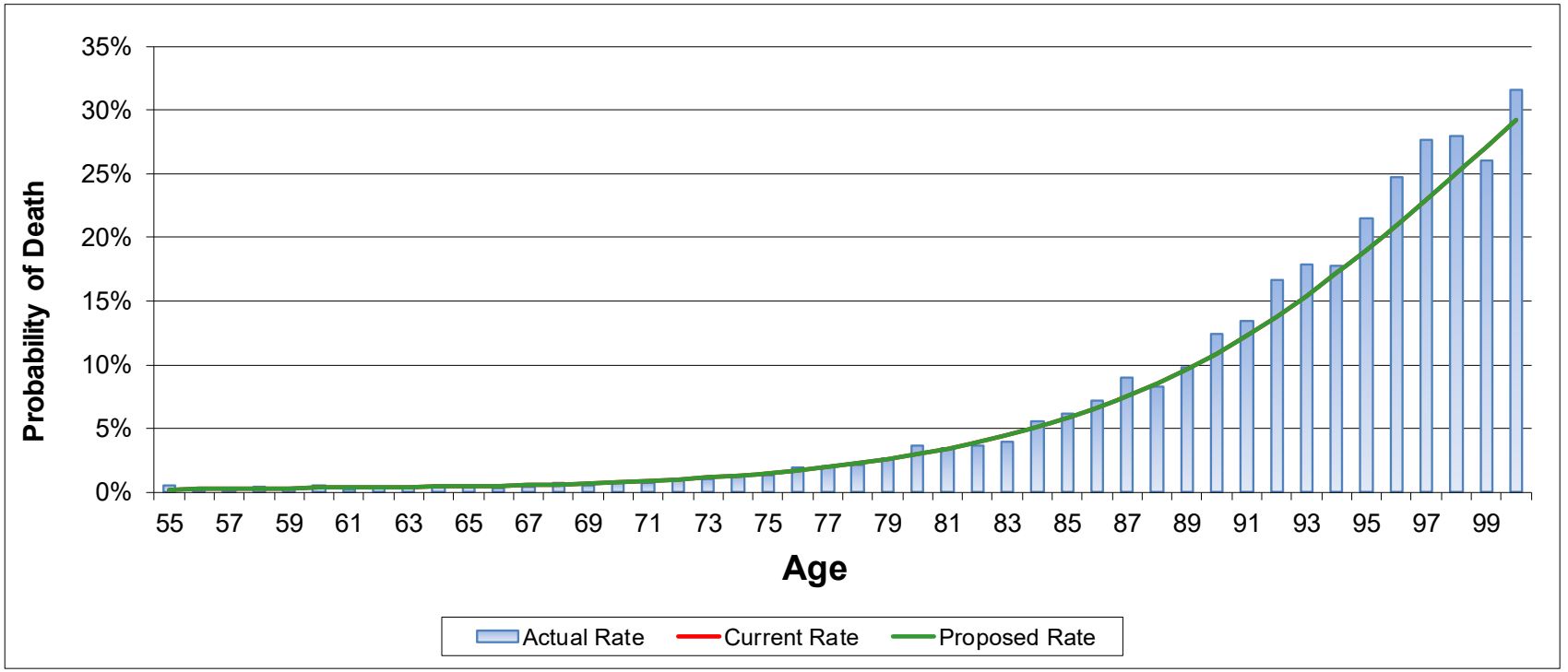
Probability of Death – Healthy Retirees

TRF Females

Exhibit A – 4

Indiana Public Retirement System

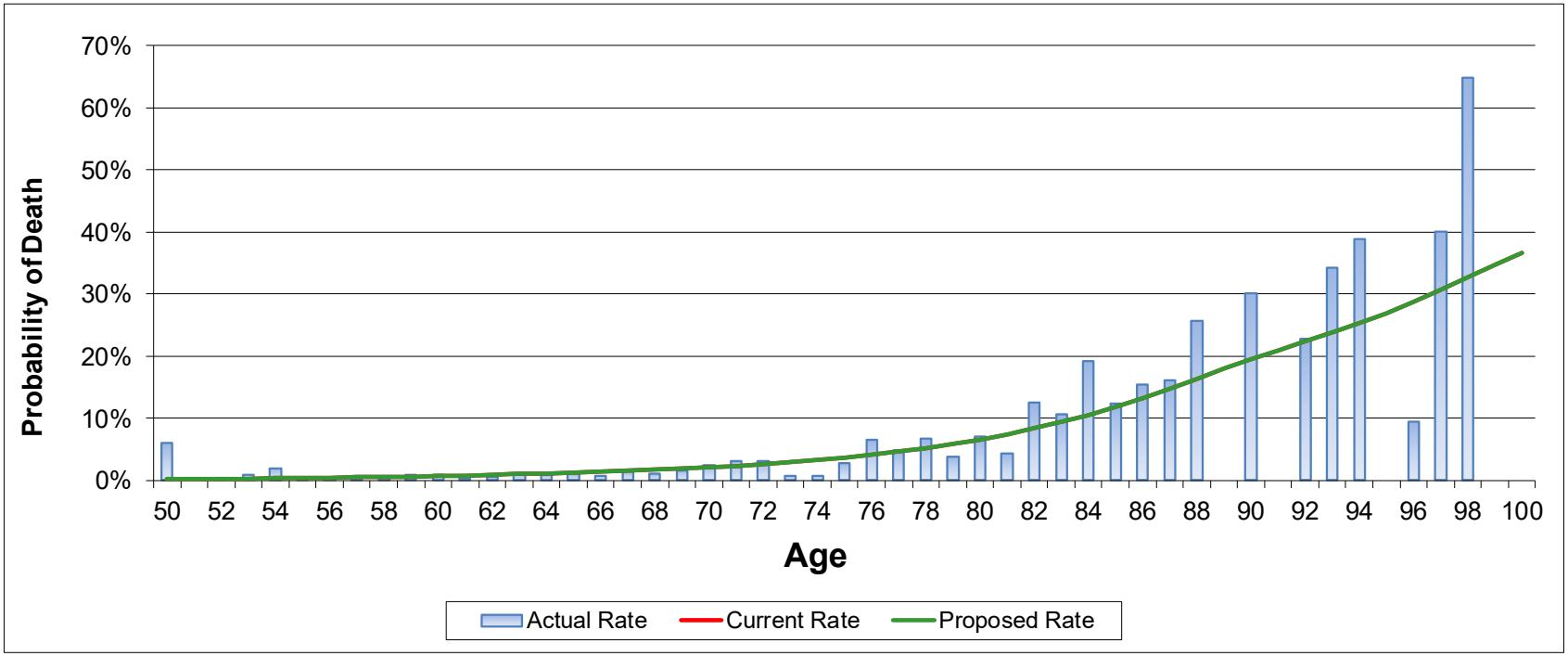
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	6,479	6,352	6,352
Actual/Expected		102%	102%

Probability of Death – Healthy Retirees
'77 FUND and EG&C Males
Exhibit A – 5

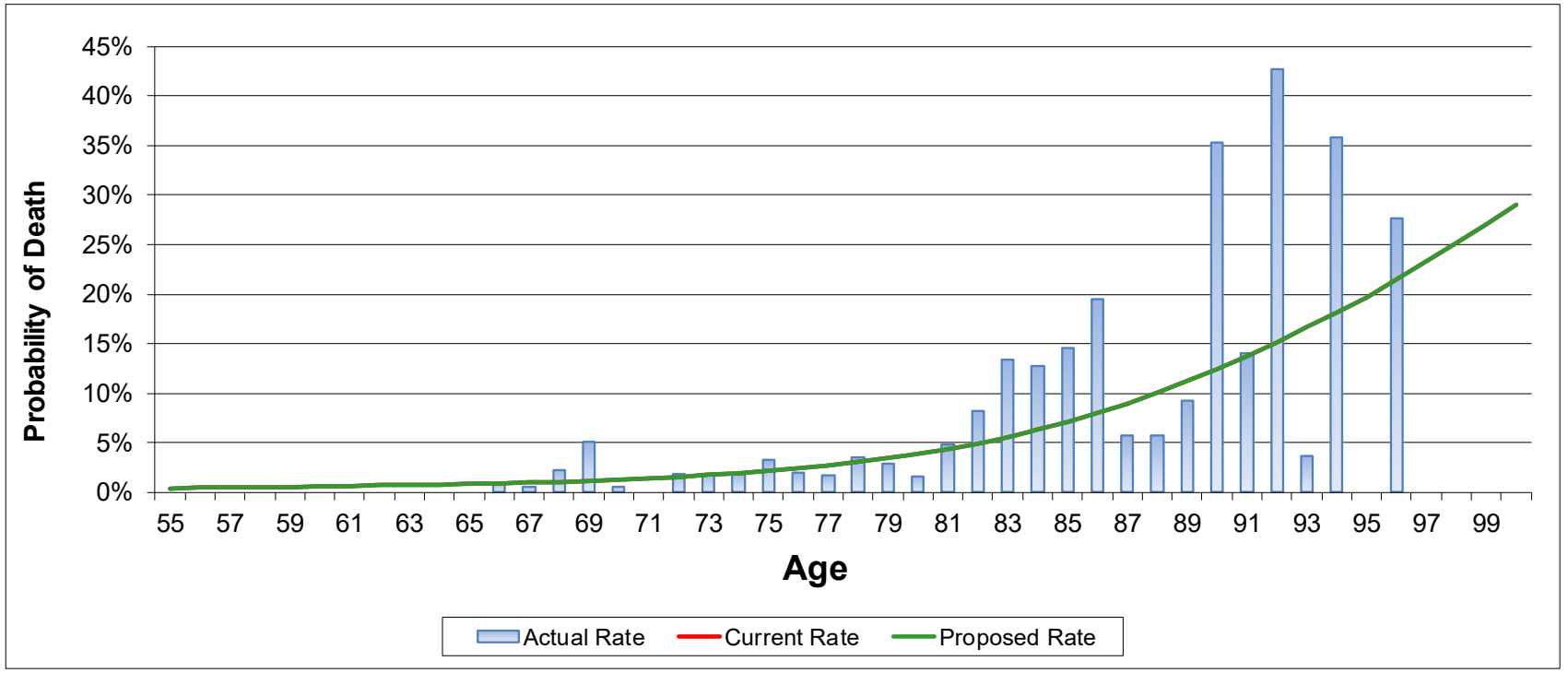
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	643	665	665
Actual/Expected		97%	97%

Probability of Death – Healthy Retirees
JRS, PARF, and LE DB Males
Exhibit A – 6

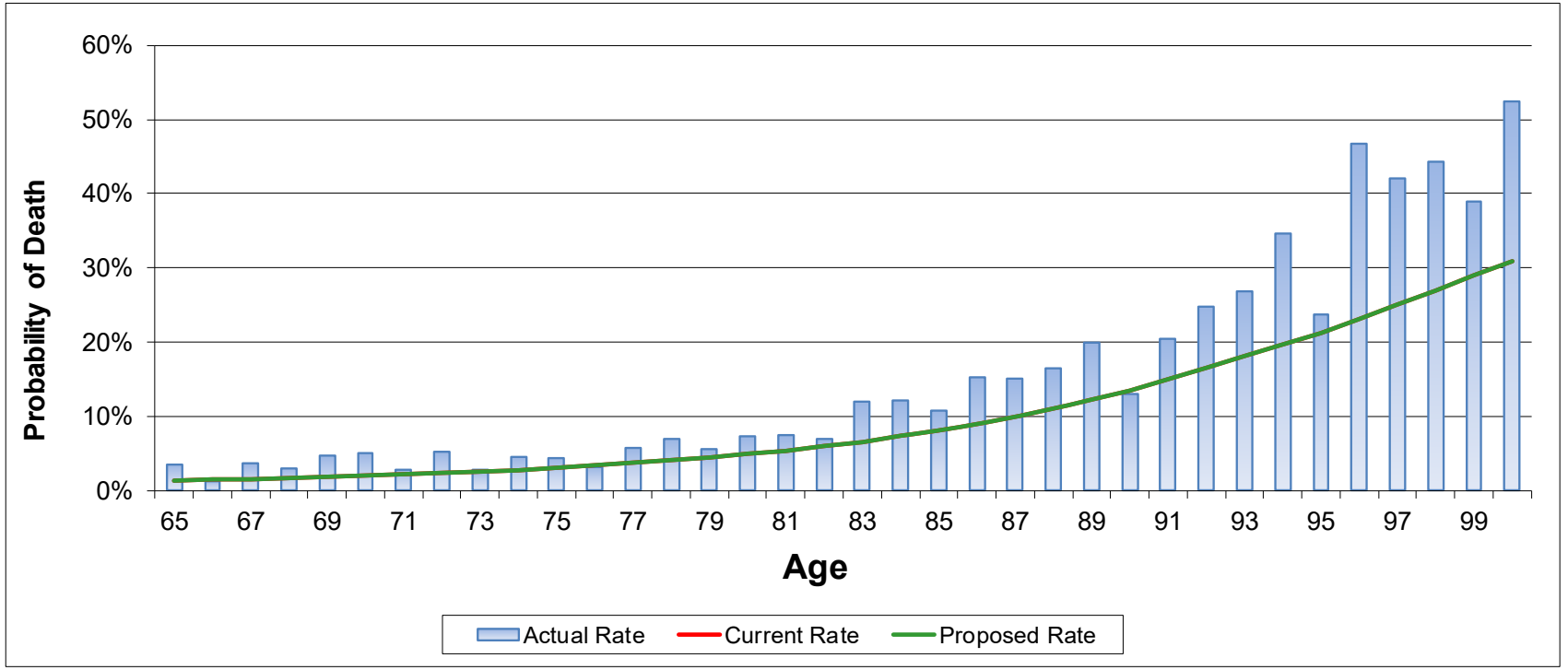
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	418	328	328
Actual/Expected		127%	127%

Probability of Death – In Pay Beneficiaries
All Plans – Males
Exhibit A – 7

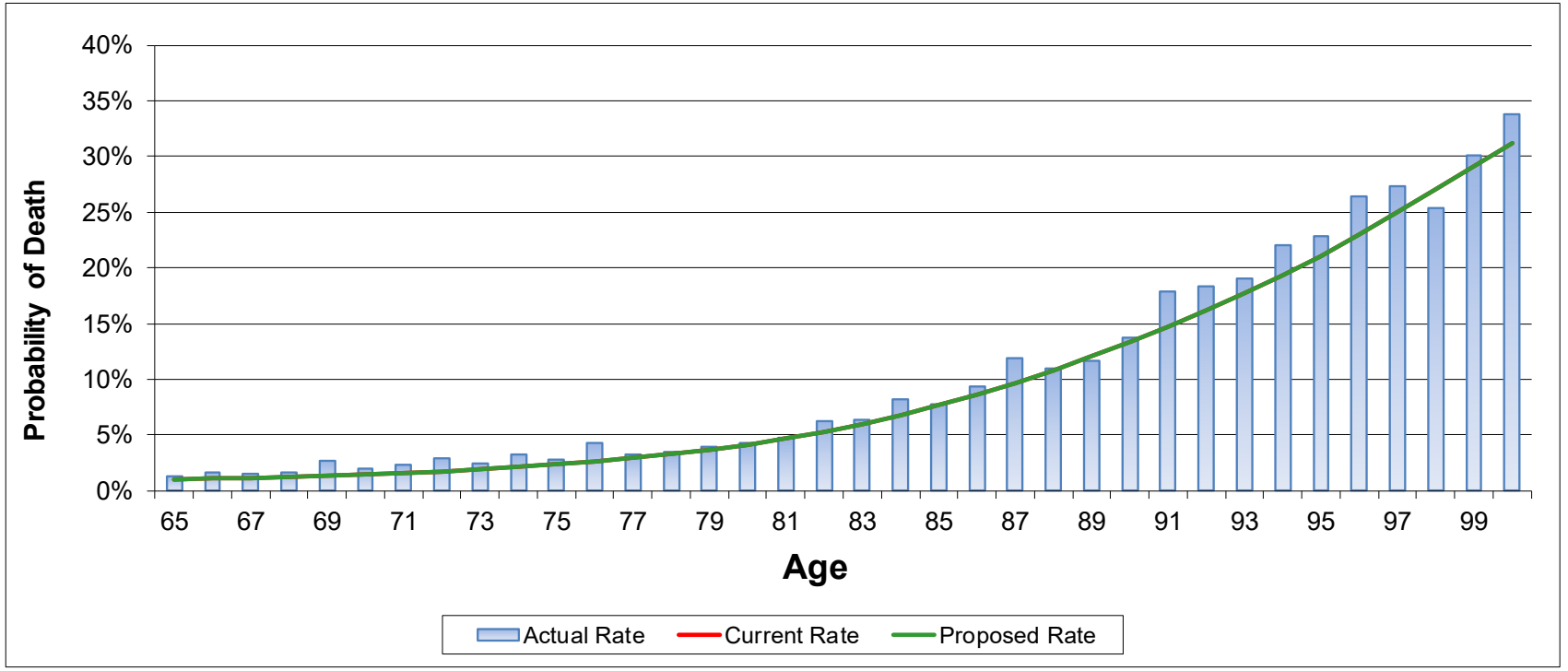
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	975	637	637
Actual/Expected		153%	153%

Probability of Death – In Pay Beneficiaries
All Plans – Females
Exhibit A – 8

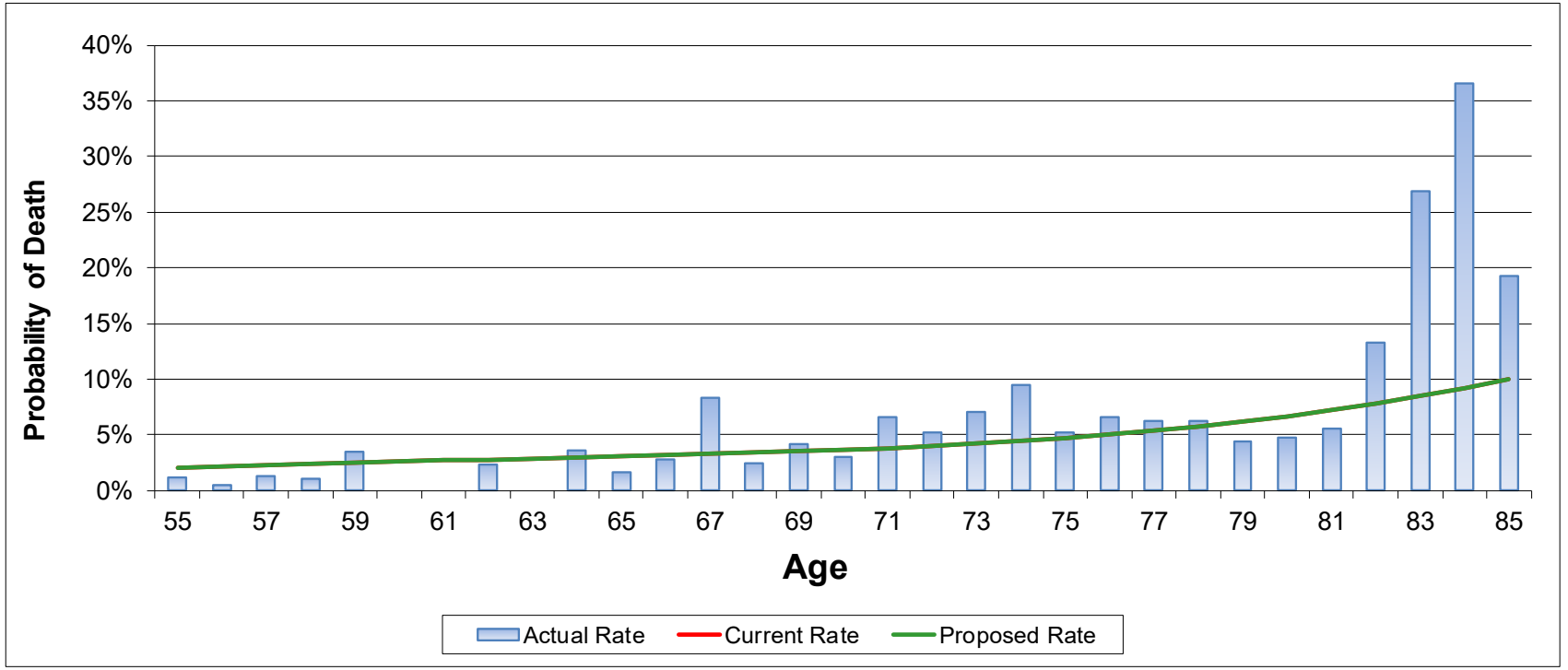
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	3,654	3,228	3,228
Actual/Expected		113%	113%

Probability of Death – Disabled Participants
'77 FUND and EG&C Males
Exhibit A – 9

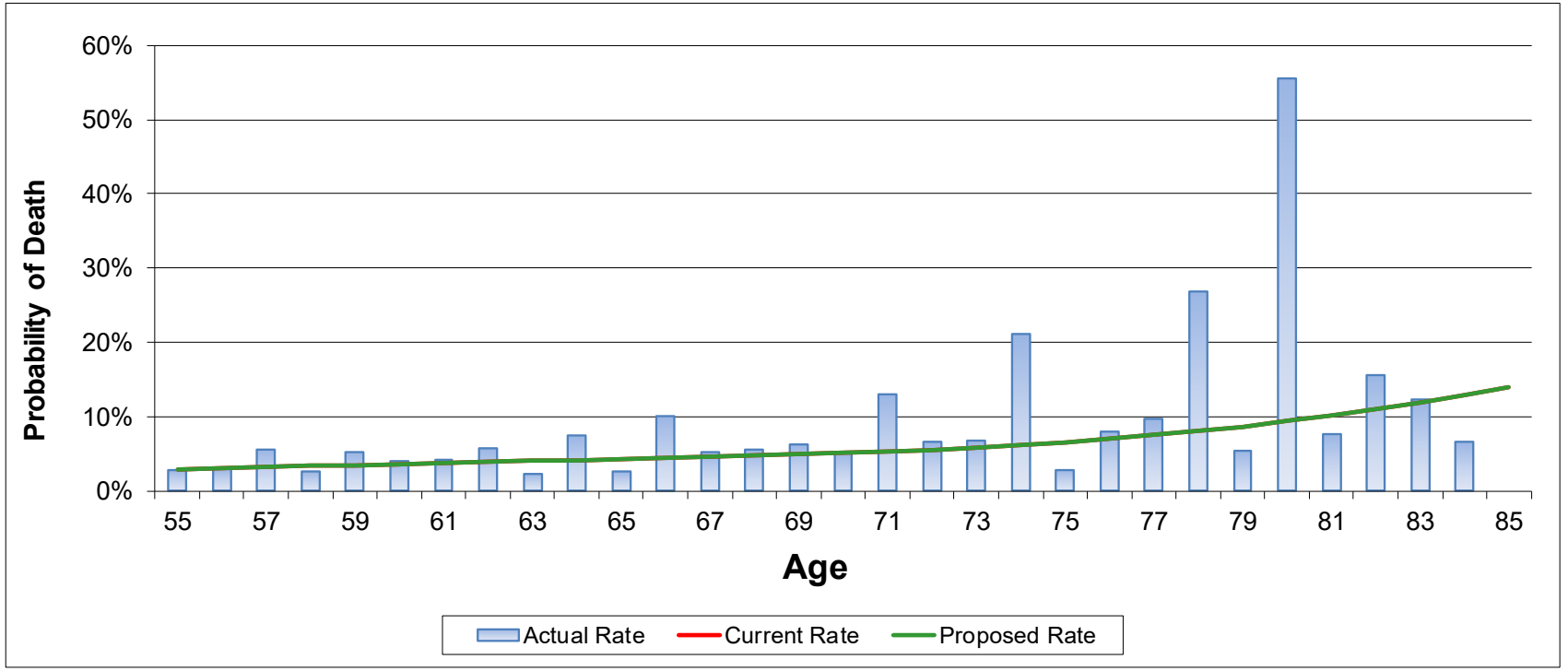
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	161	159	159
Actual/Expected		101%	101%

Probability of Death – Disabled Participants
All Other Plans – Males
Exhibit A – 10

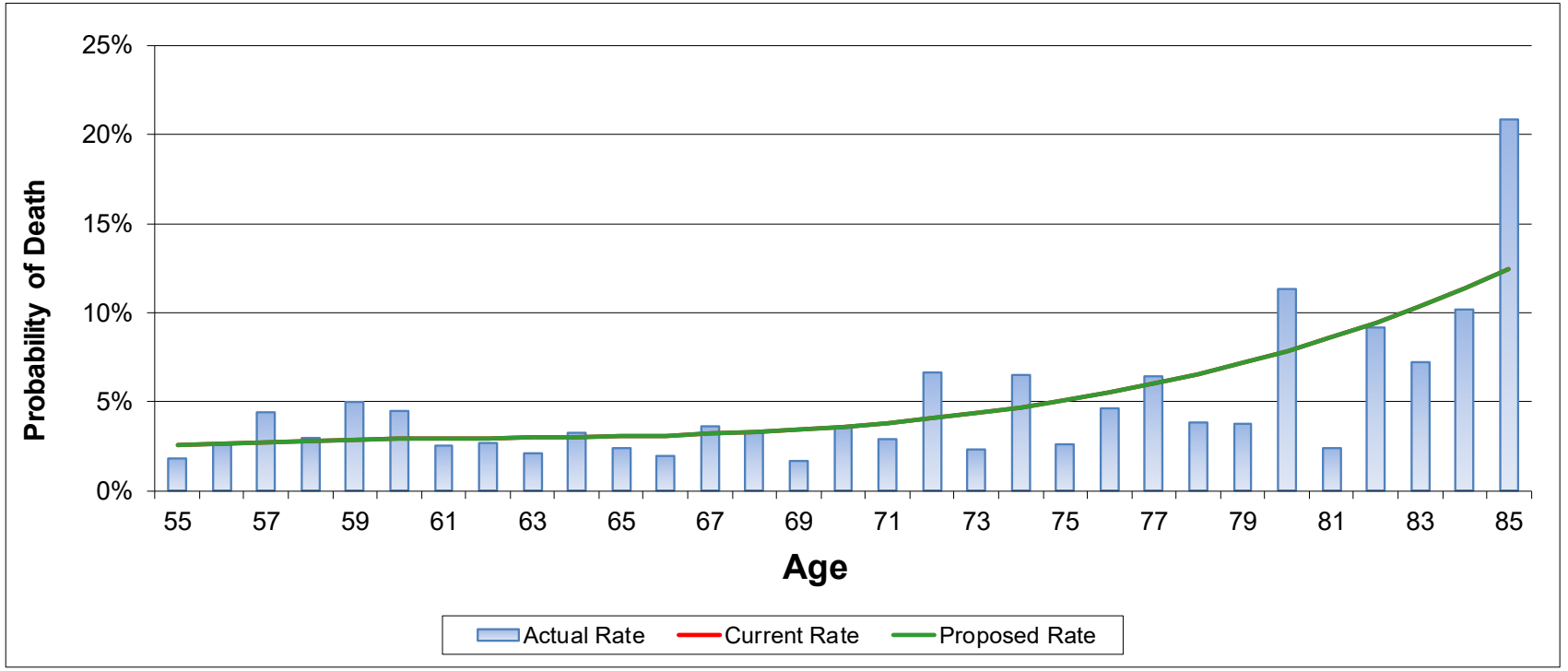
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	152	114	114
Actual/Expected		133%	133%

Probability of Death – Disabled Participants
All Other Plans – Females
Exhibit A – 11

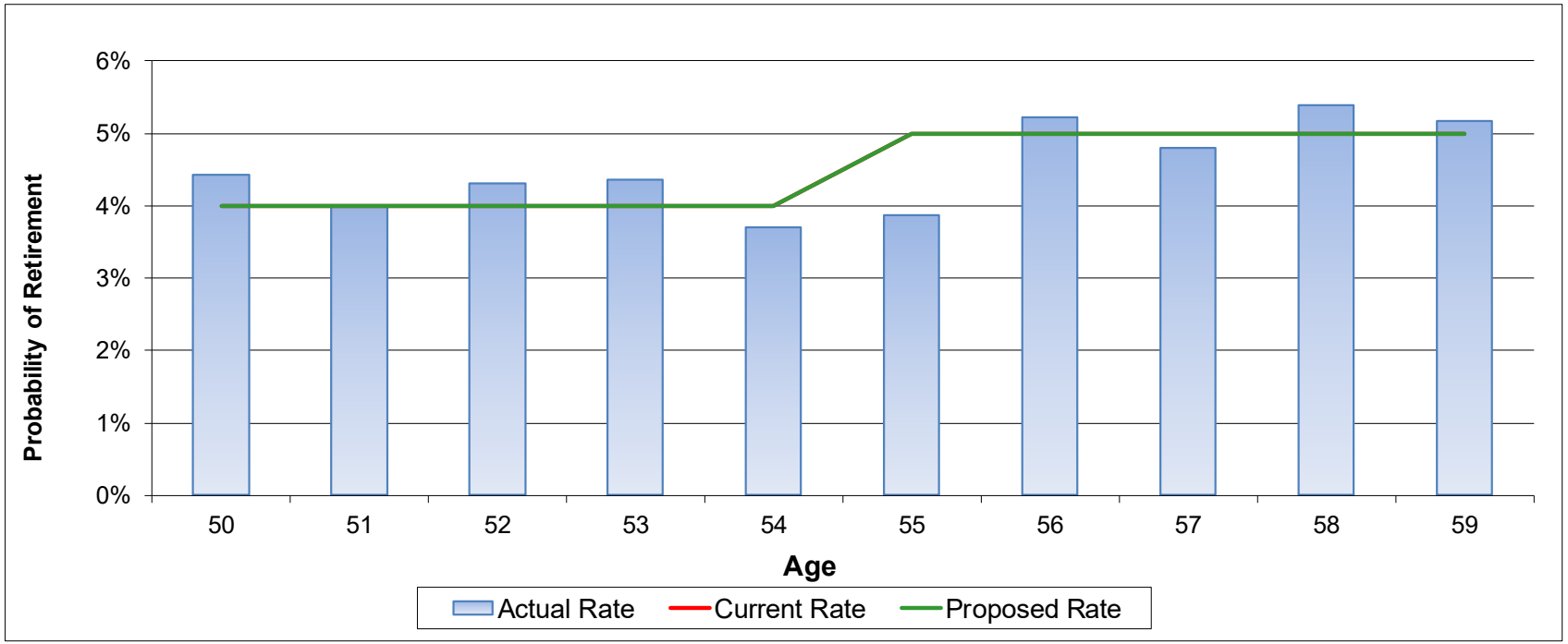
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	114	111	111
Actual/Expected		103%	103%

Probability of Retirement
PERF Early Retirement
Exhibit A – 12

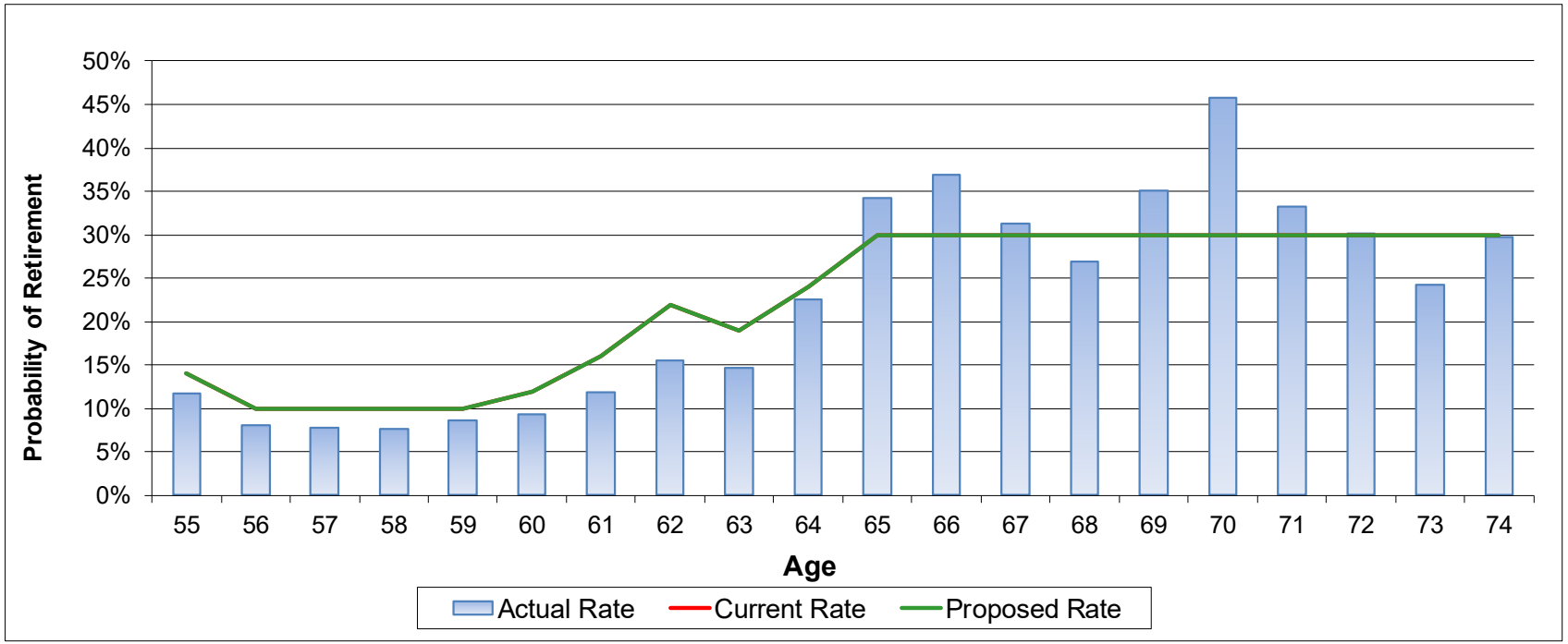
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	3,008	2,992	2,992
Actual/Expected		101%	101%

Probability of Retirement
PERF Unreduced Retirement
Exhibit A – 13

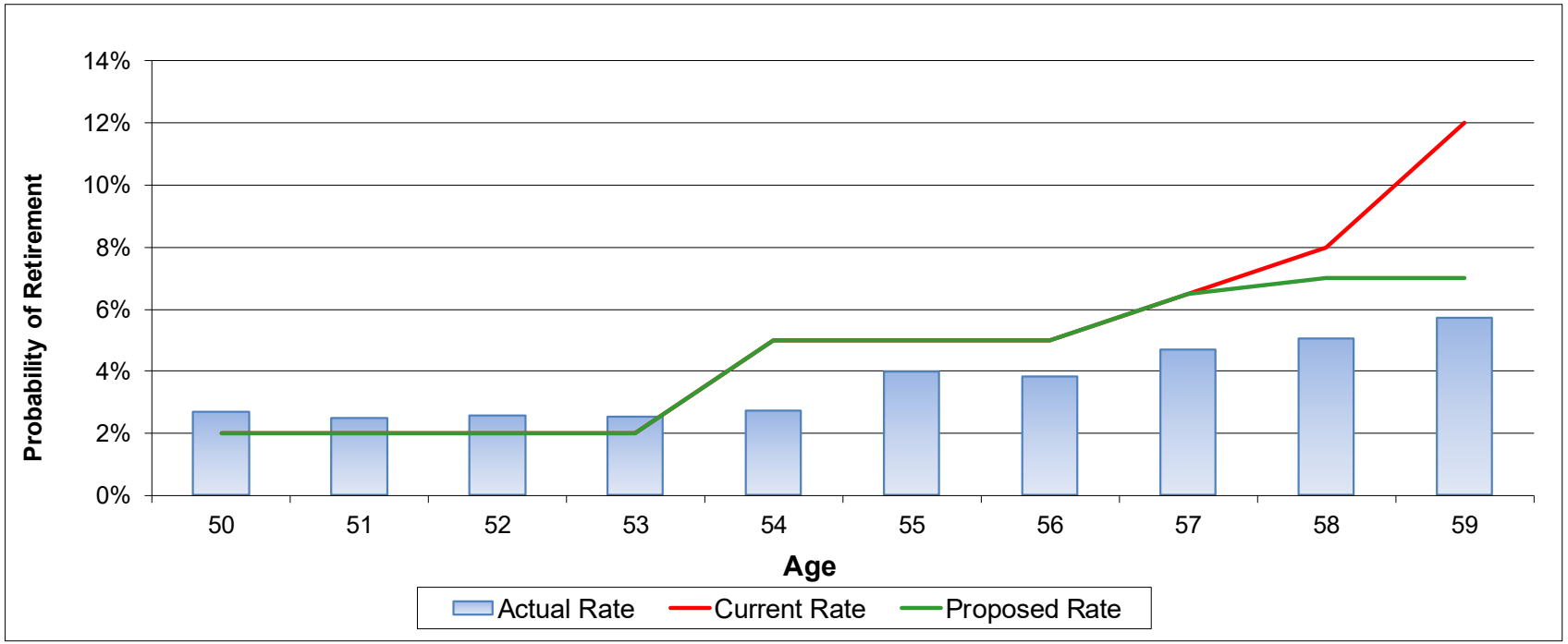
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	22,690	24,446	24,446
Actual/Expected		93%	93%

Probability of Retirement
TRF Early Retirement
Exhibit A – 14

Indiana Public Retirement System
2019-2024 Experience



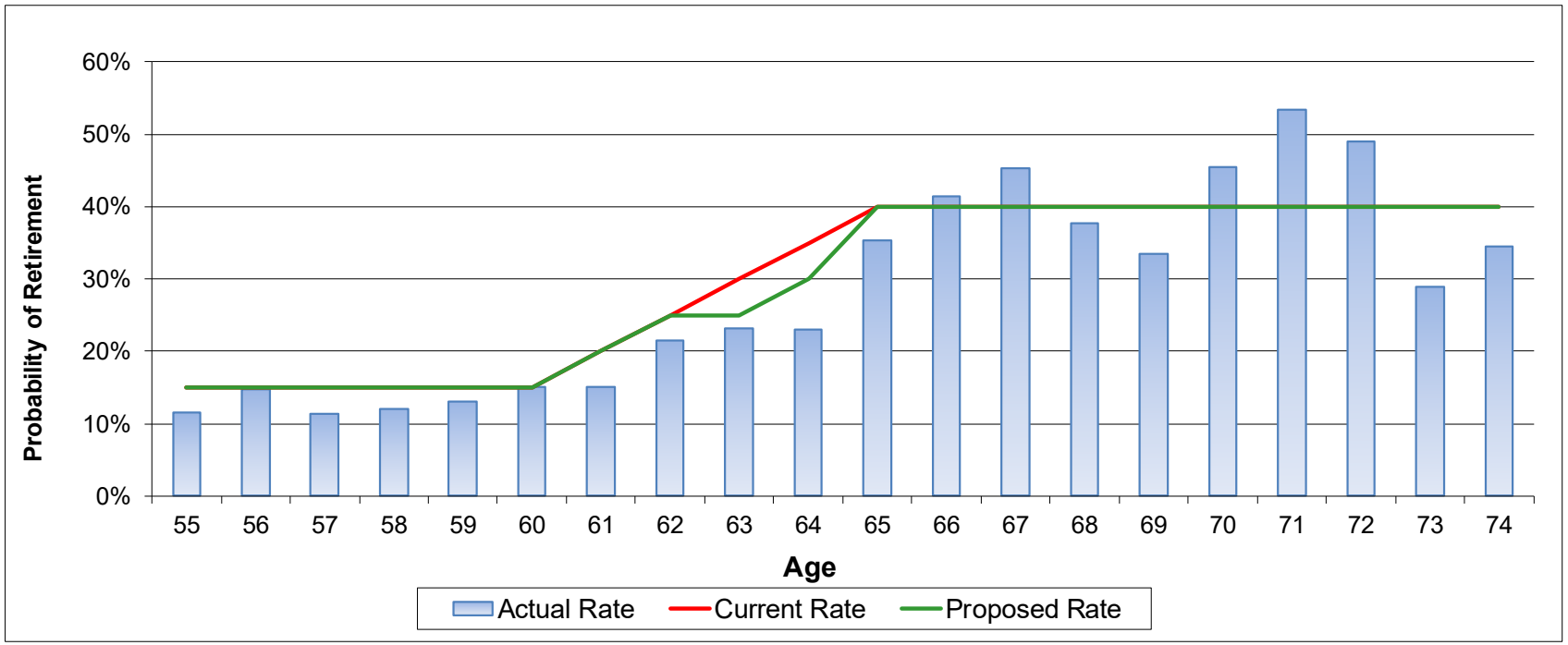
	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	2,577	3,009	2,860
Actual/Expected		86%	90%

TRF Unreduced Retirement

Exhibit A – 15

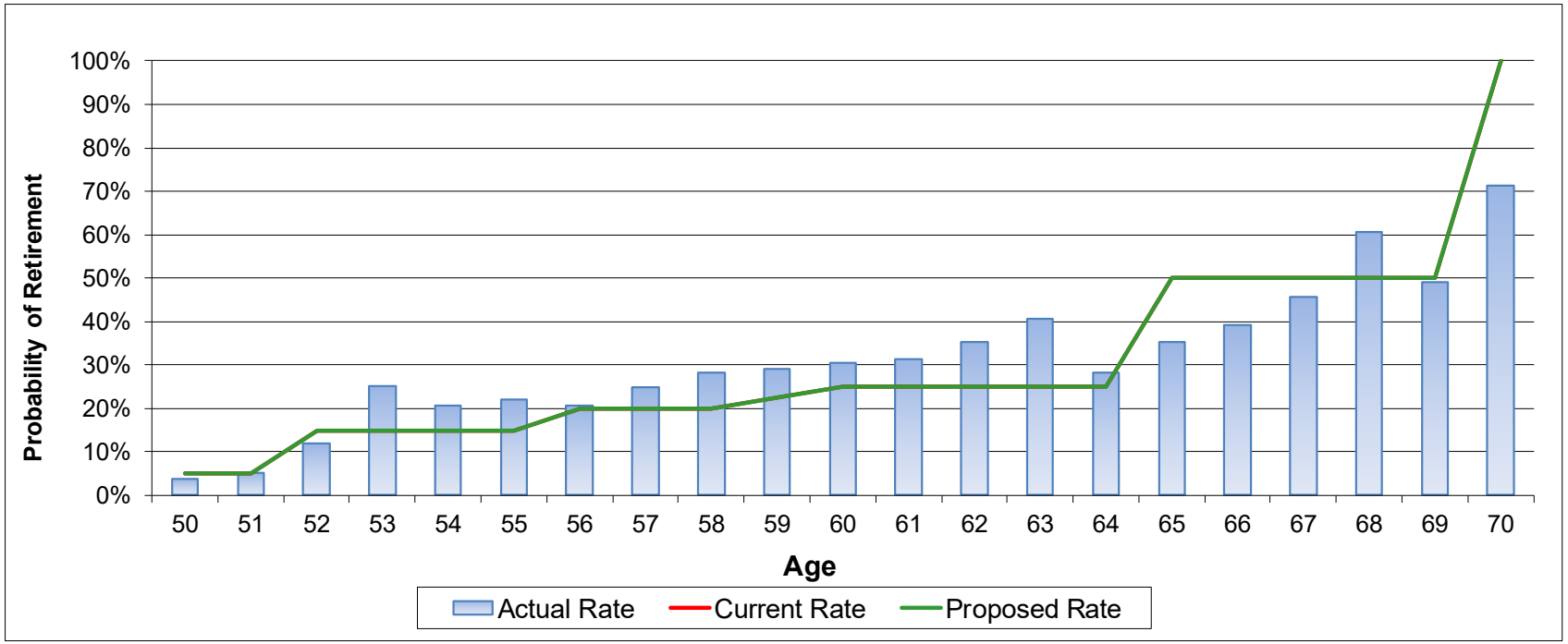
Indiana Public Retirement System

2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	18,606	21,464	20,809
Actual/Expected		87%	89%

'77 Fund Retirement
Exhibit A – 16
Indiana Public Retirement System
2019-2024 Experience



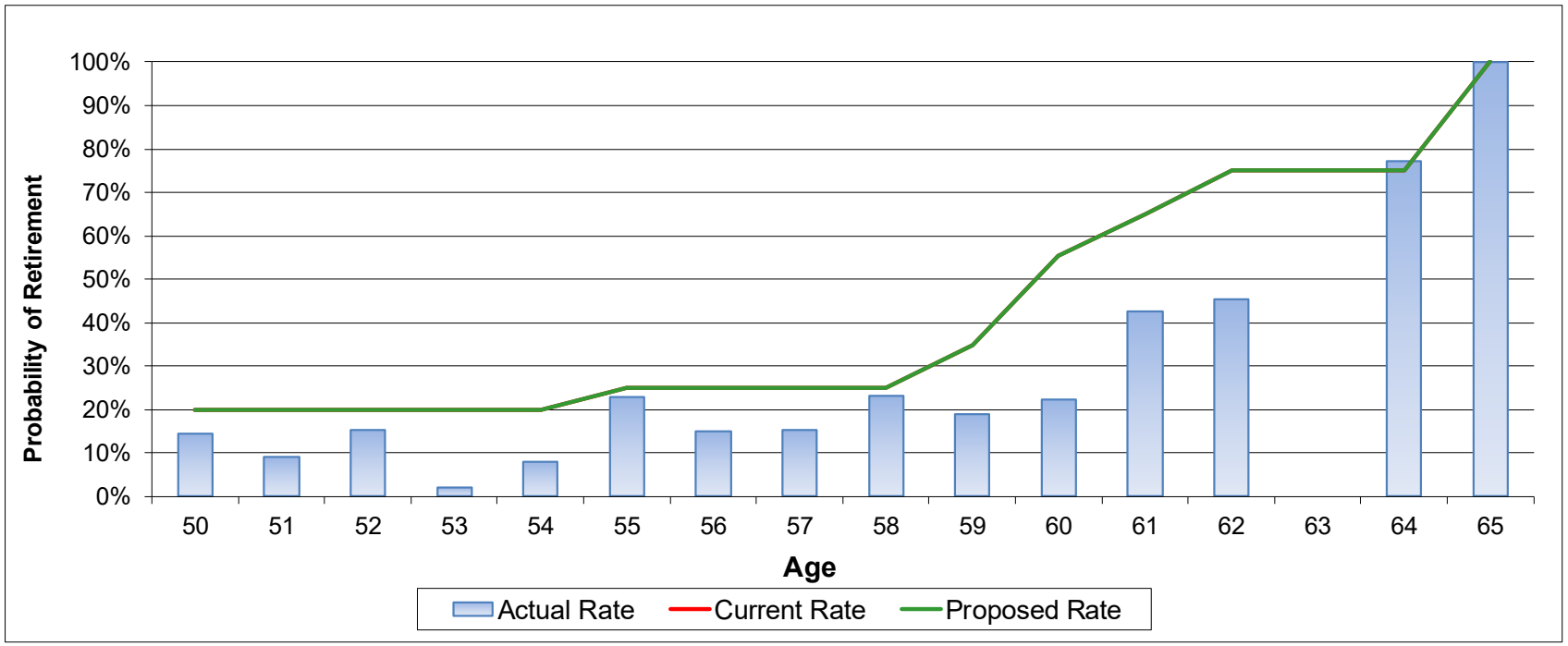
	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	3,733	3,035	3,035
Actual/Expected		123%	123%

EG&C Unreduced Retirement

Exhibit A – 17

Indiana Public Retirement System

2019-2024 Experience



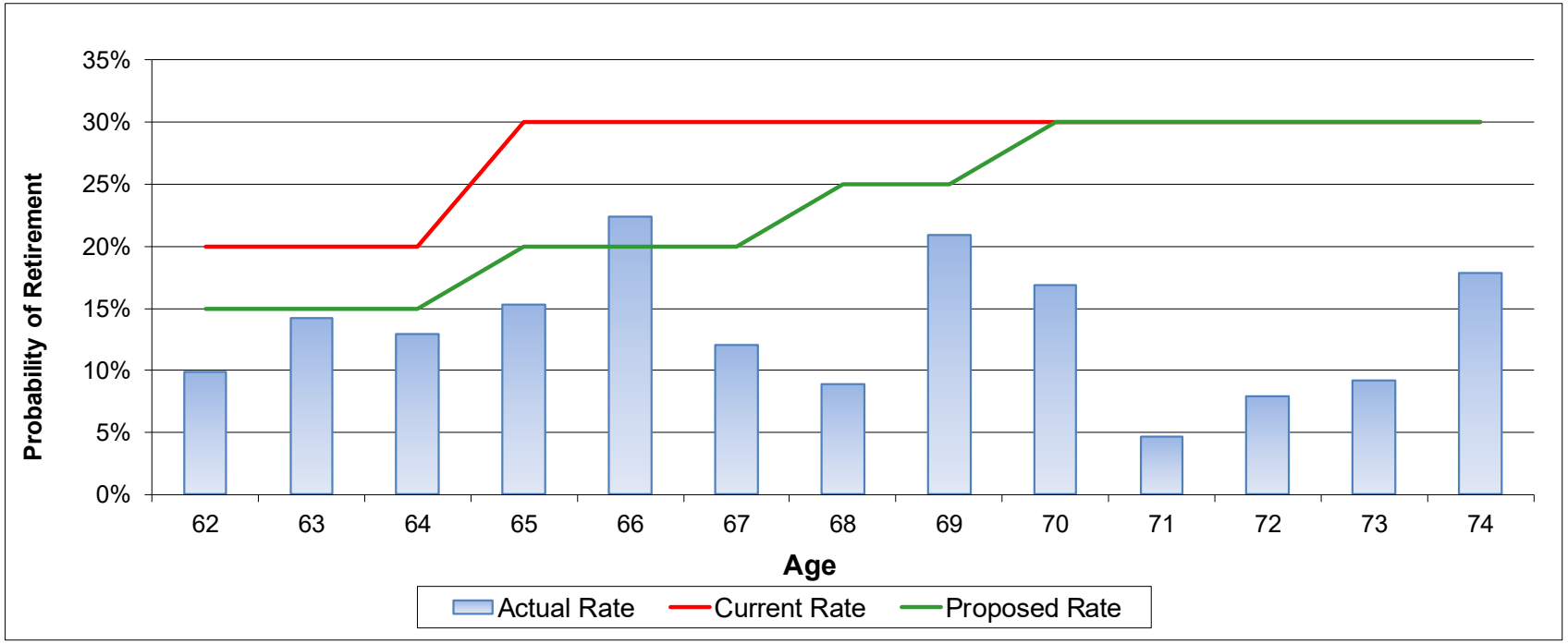
	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	109	178	178
Actual/Expected		61%	61%

JRS Unreduced Retirement

Exhibit A – 18

Indiana Public Retirement System

2019-2024 Experience



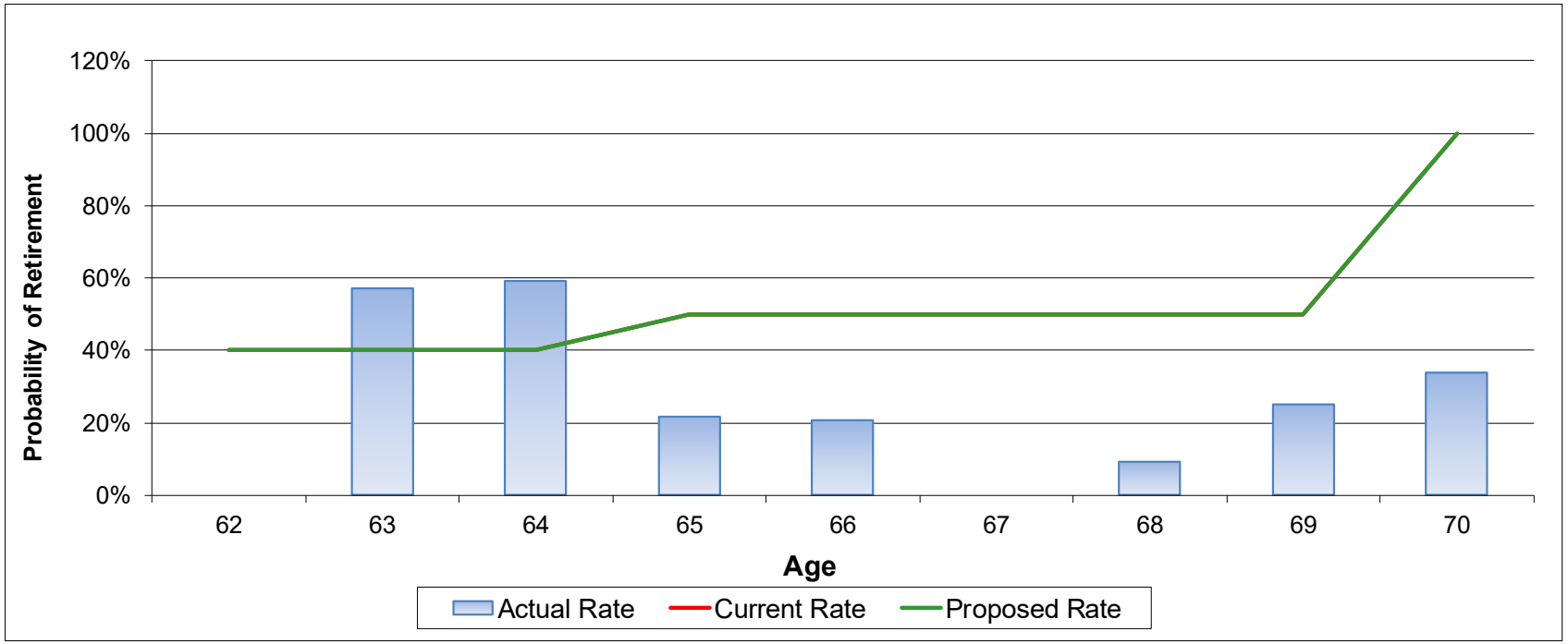
	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	214	433	354
Actual/Expected		49%	60%

PARF Unreduced Retirement

Exhibit A – 19

Indiana Public Retirement System

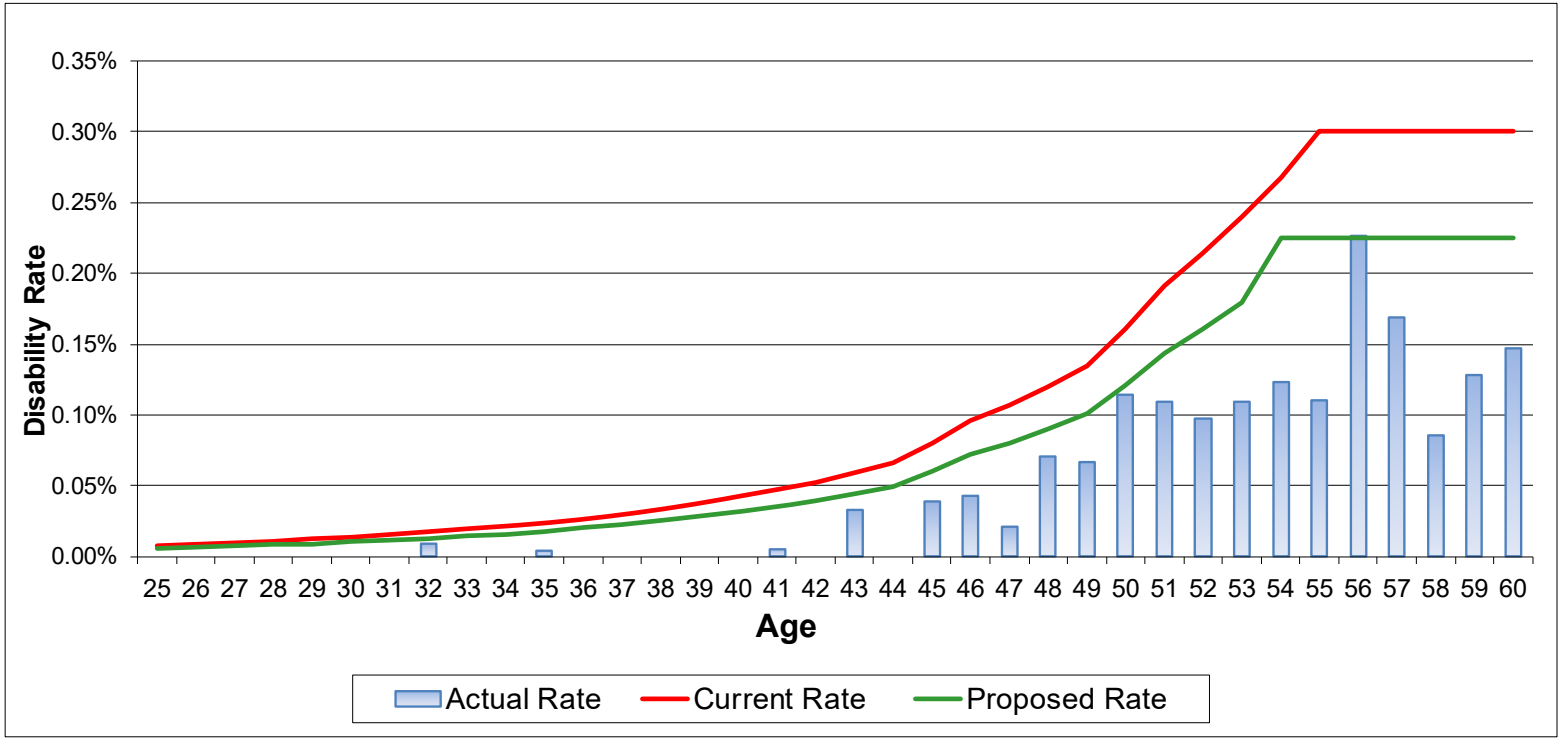
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	36	81	81
Actual/Expected		44%	44%

Rate of Disability – Active Lives
PERF and PARF Males
Exhibit A – 20

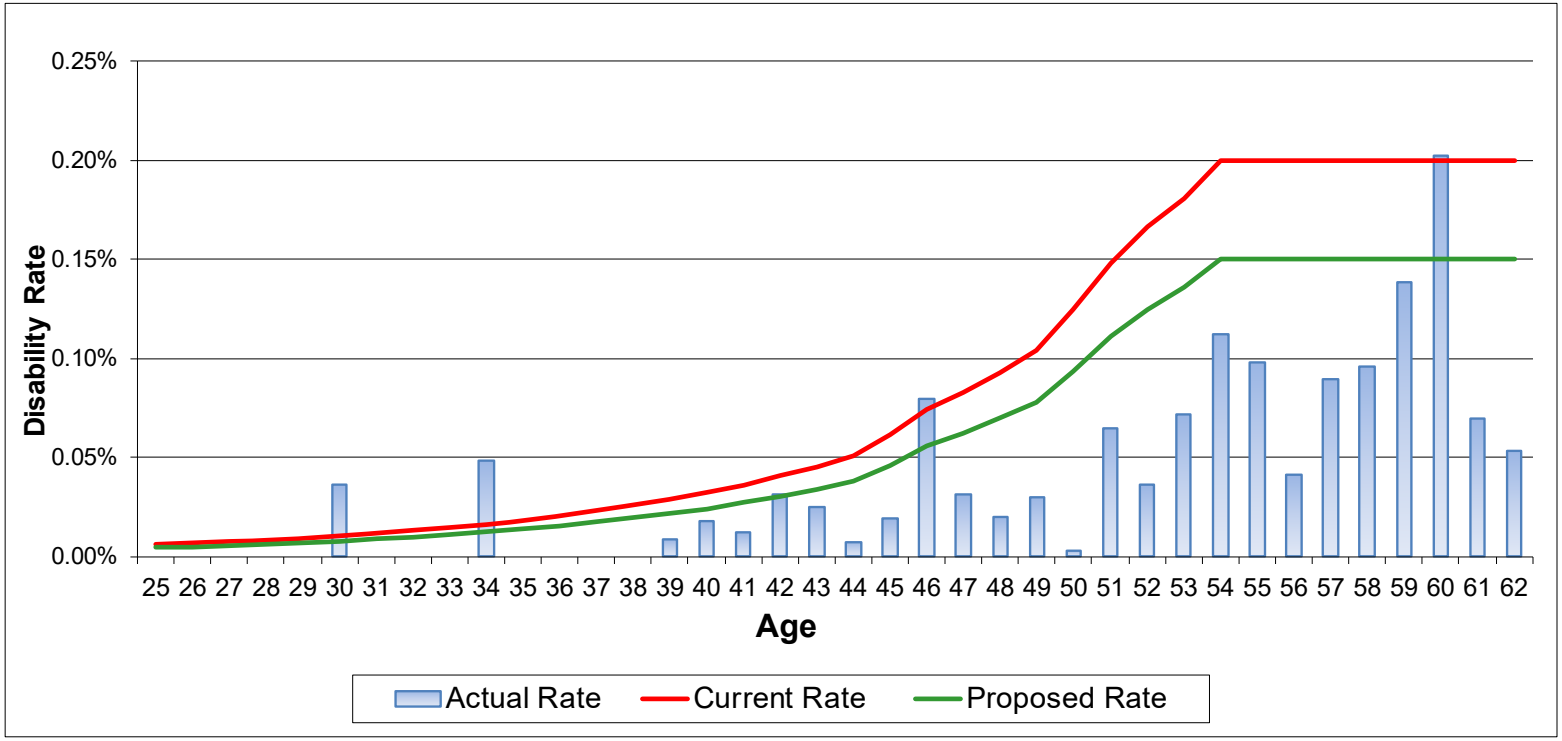
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	92	199	150
Actual/Expected		46%	61%

Rate of Disability – Active Lives
PERF and PARF Females
Exhibit A – 21

Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	89	195	146
Actual/Expected		45%	61%

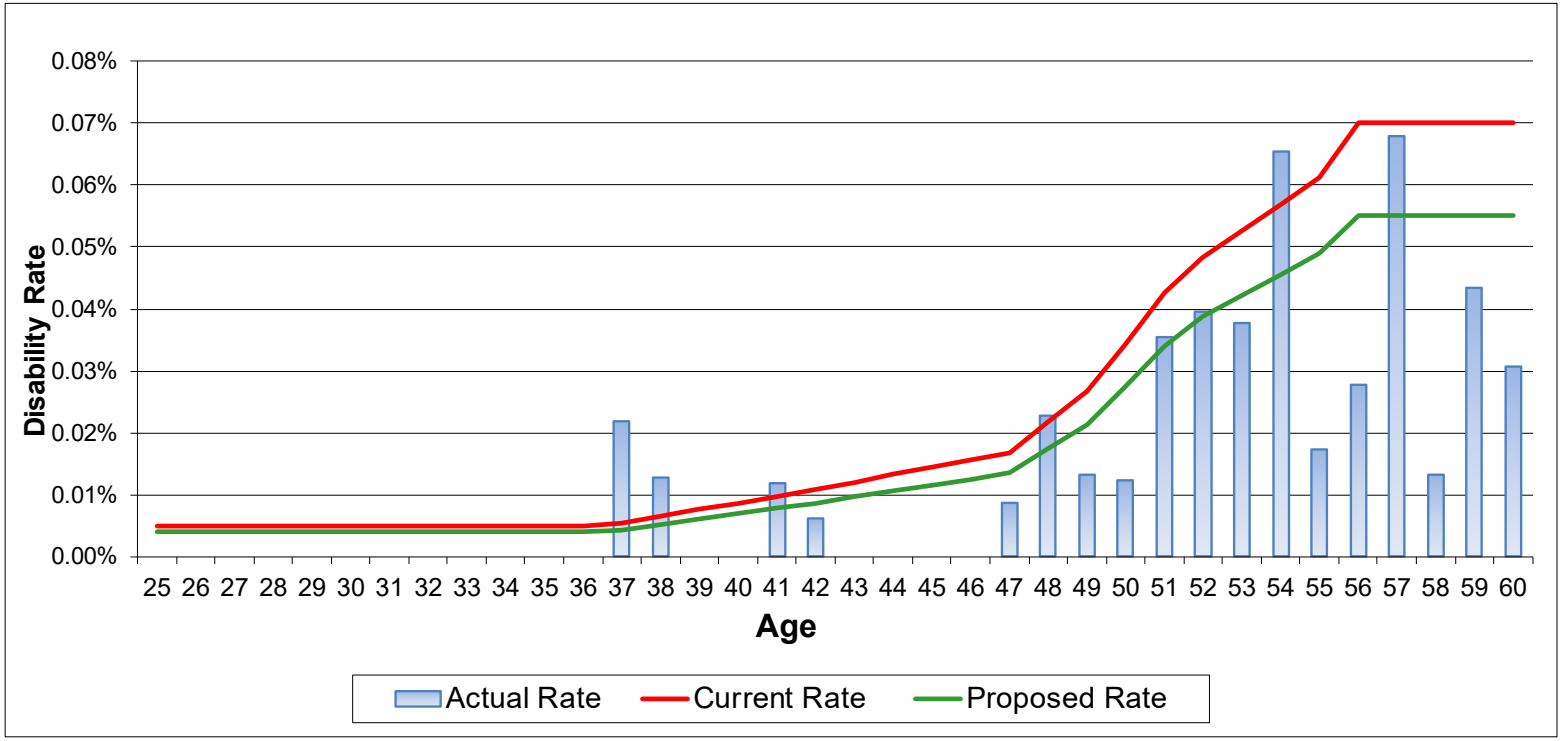
Rate of Disability – Active Lives

TRF

Exhibit A – 22

Indiana Public Retirement System

2014-2019 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	58	98	78
Actual/Expected		59%	74%

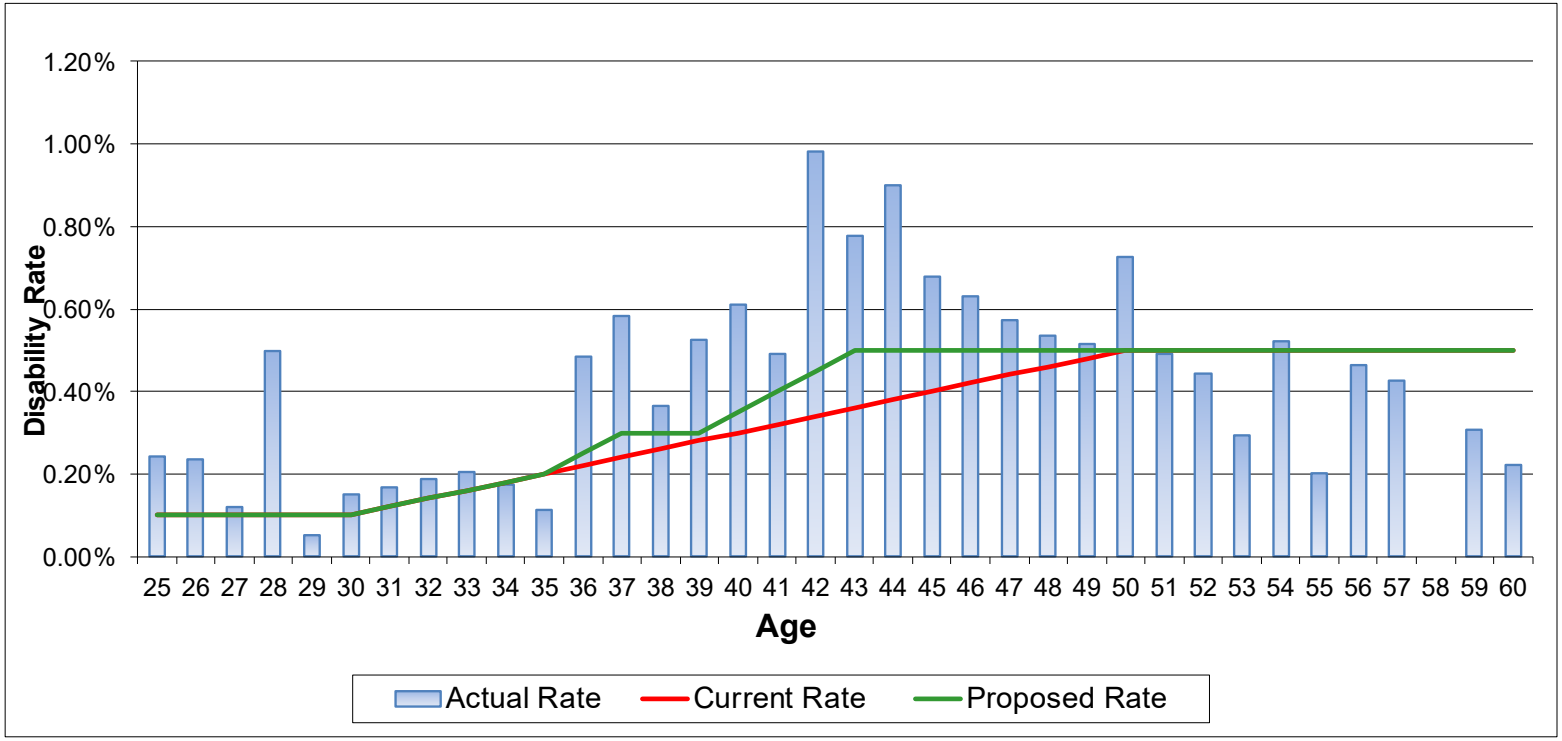
Rate of Disability – Active Lives

'77 FUND

Exhibit A – 23

Indiana Public Retirement System

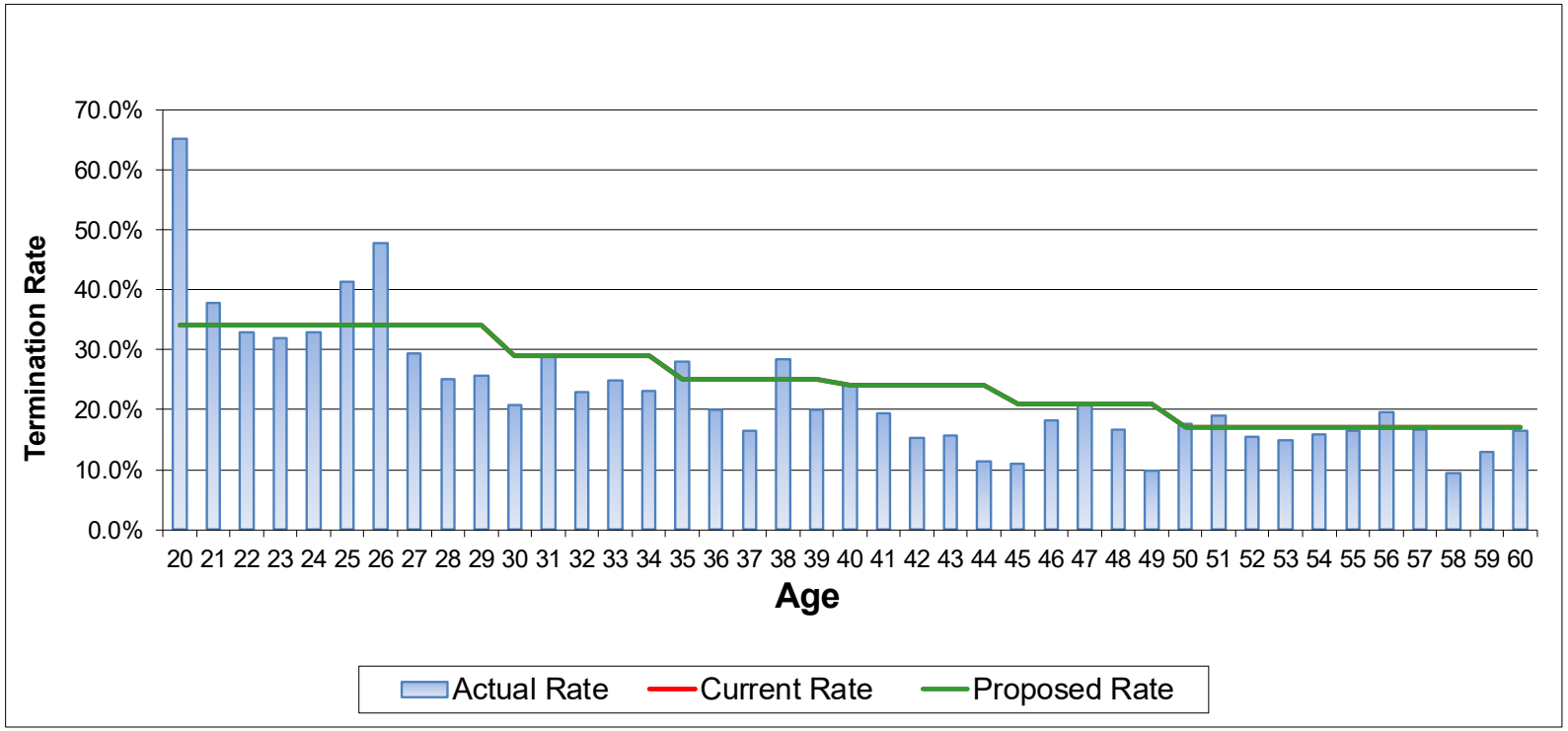
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	289	228	248
Actual/Expected		127%	116%

Rate Actives Terminate Employment
PERF Political Subdivision < $20,000, Males
Exhibit A – 24

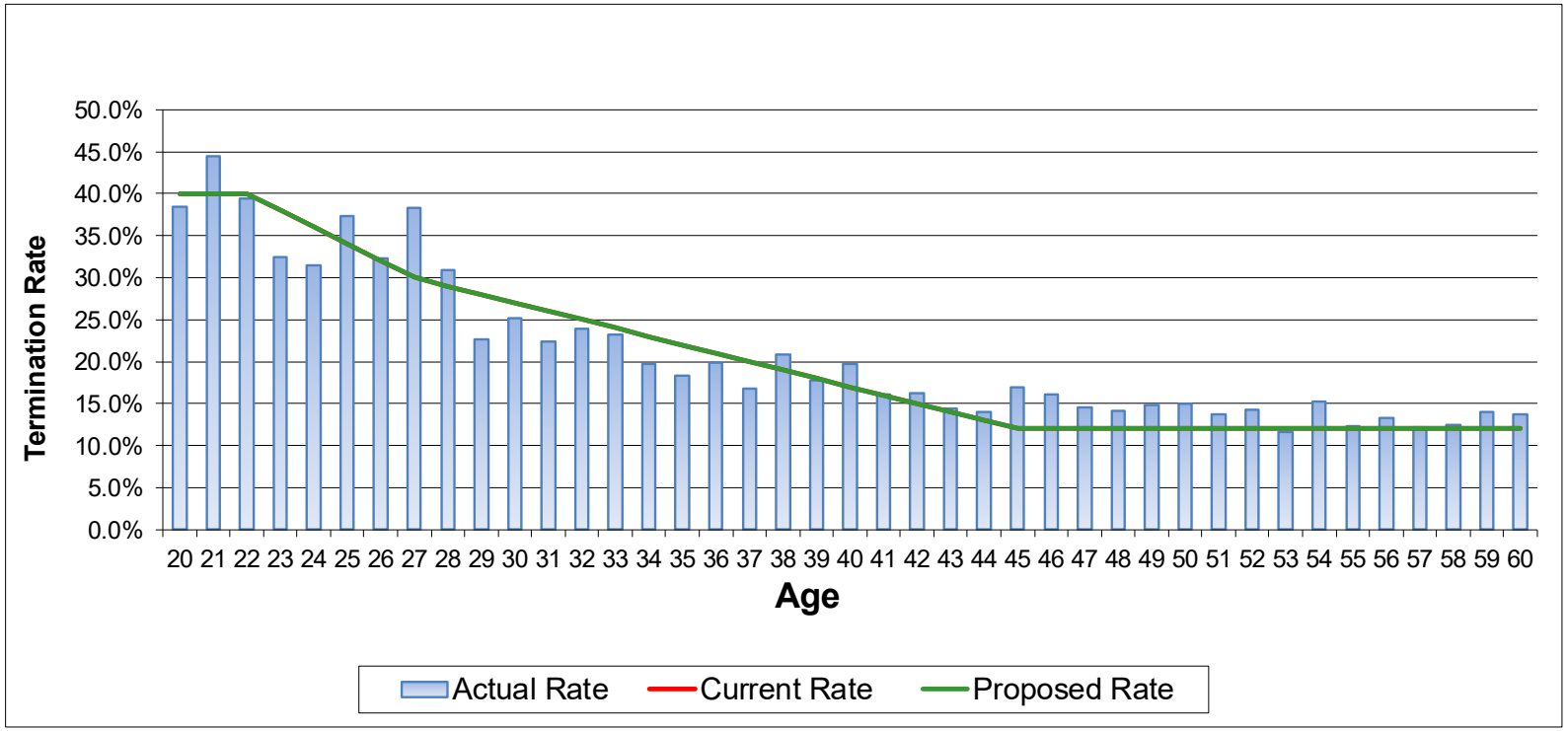
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	61,877,575	72,697,982	72,697,982
Actual/Expected		85%	85%

Rate Actives Terminate Employment
PERF Political Subdivision < $20,000, Females
Exhibit A – 25

Indiana Public Retirement System
2019-2024 Experience

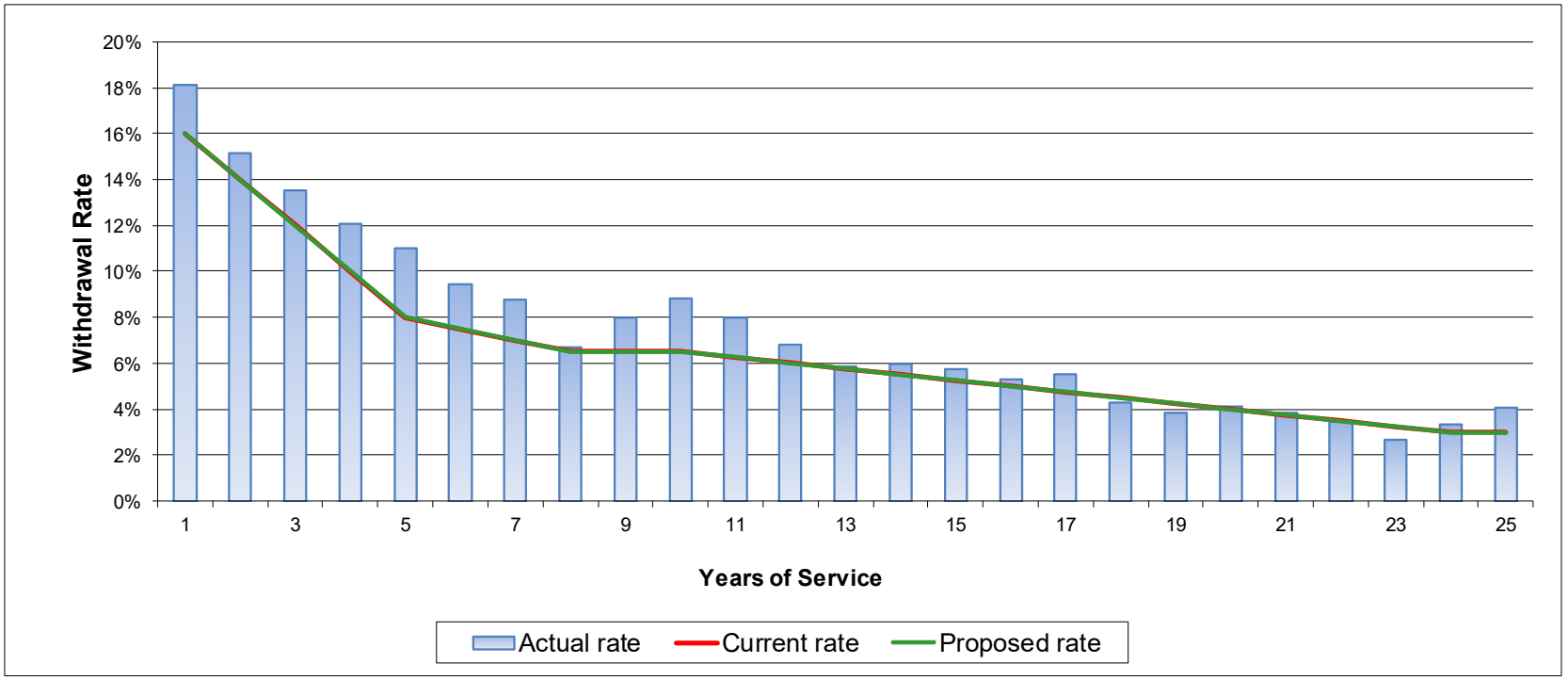


	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	405,320,912	374,076,695	374,076,695
Actual/Expected		108%	108%

Rate Actives Terminate Employment
PERF Political Subdivision – Salary At Least $20,000, Unisex
Exhibit A – 26

Indiana Public Retirement System

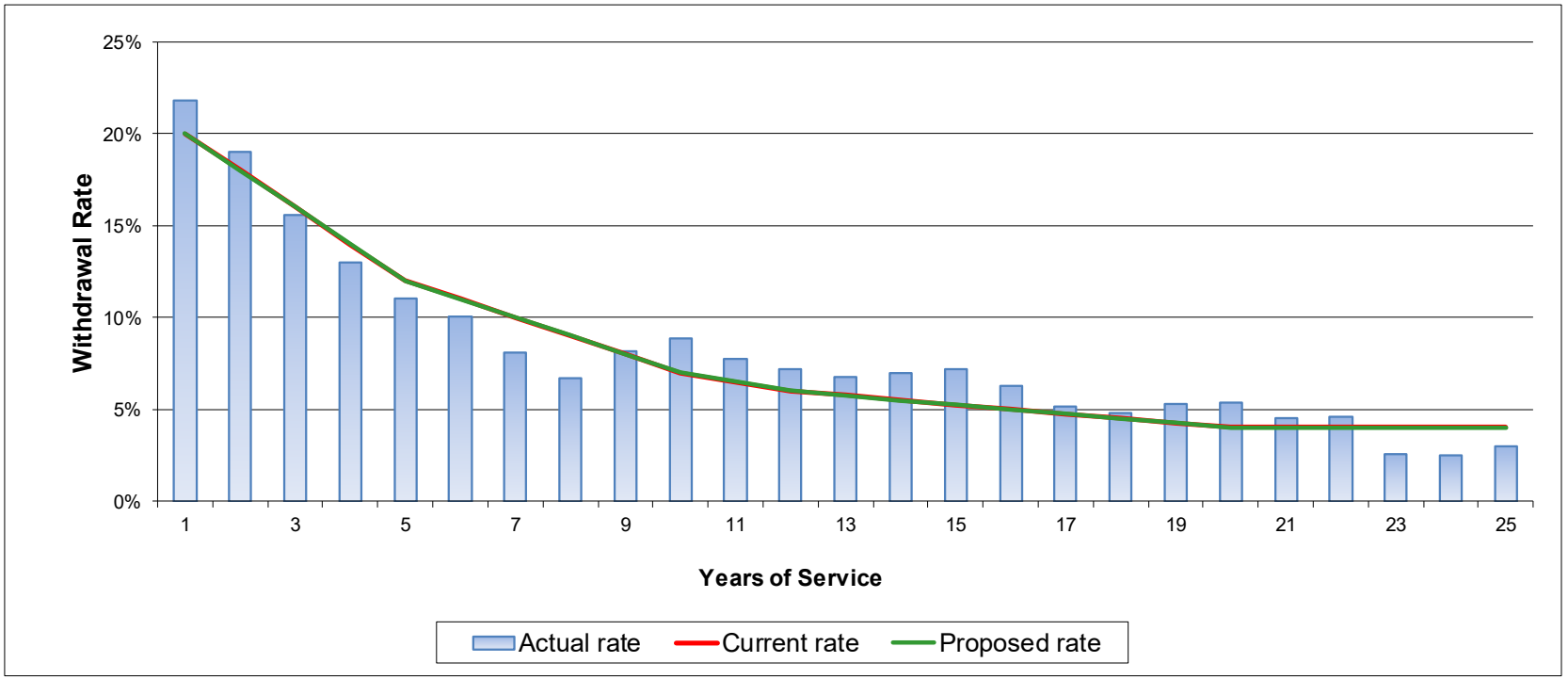
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	6,035	5,201	5,201
Actual/Expected		116%	116%

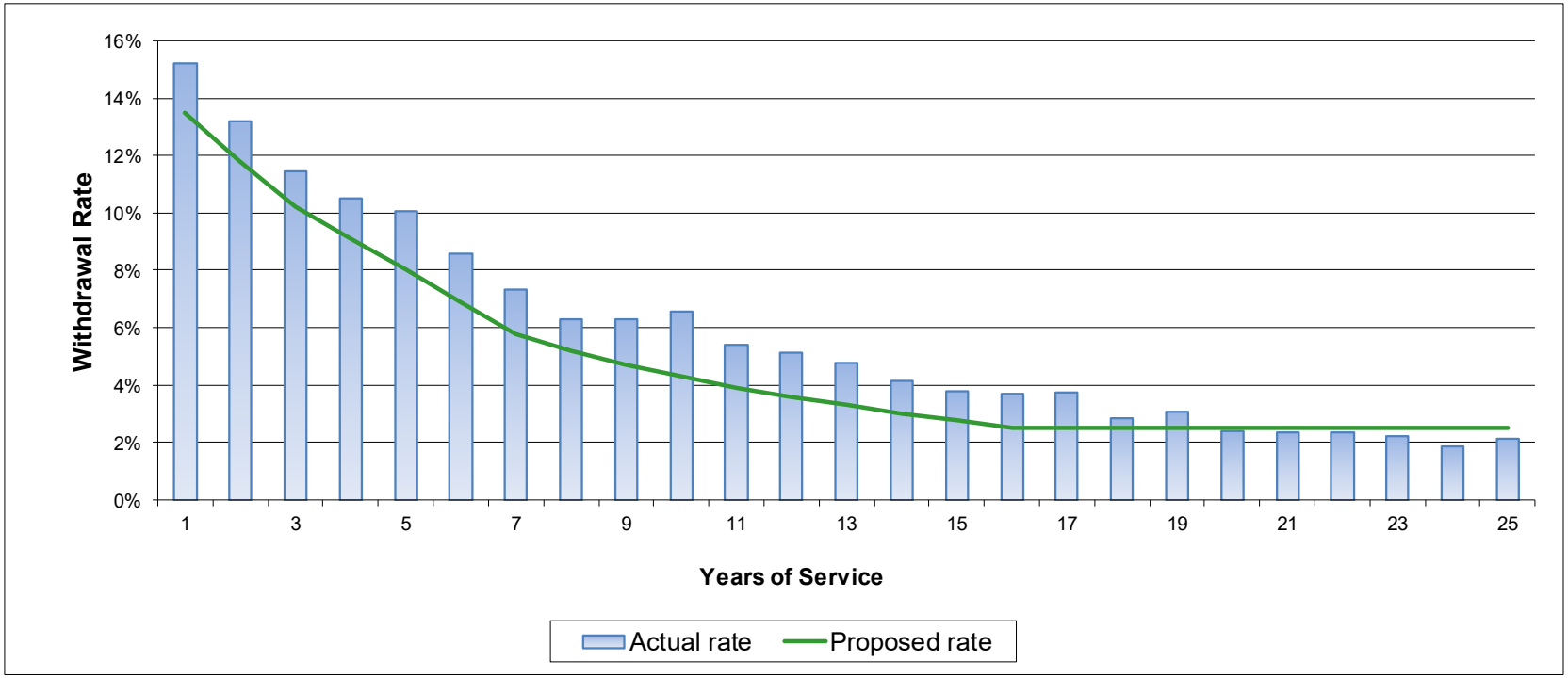
Rate Actives Terminate Employment
PERF State
Exhibit A – 27

Indiana Public Retirement System
2019-2024 Experience



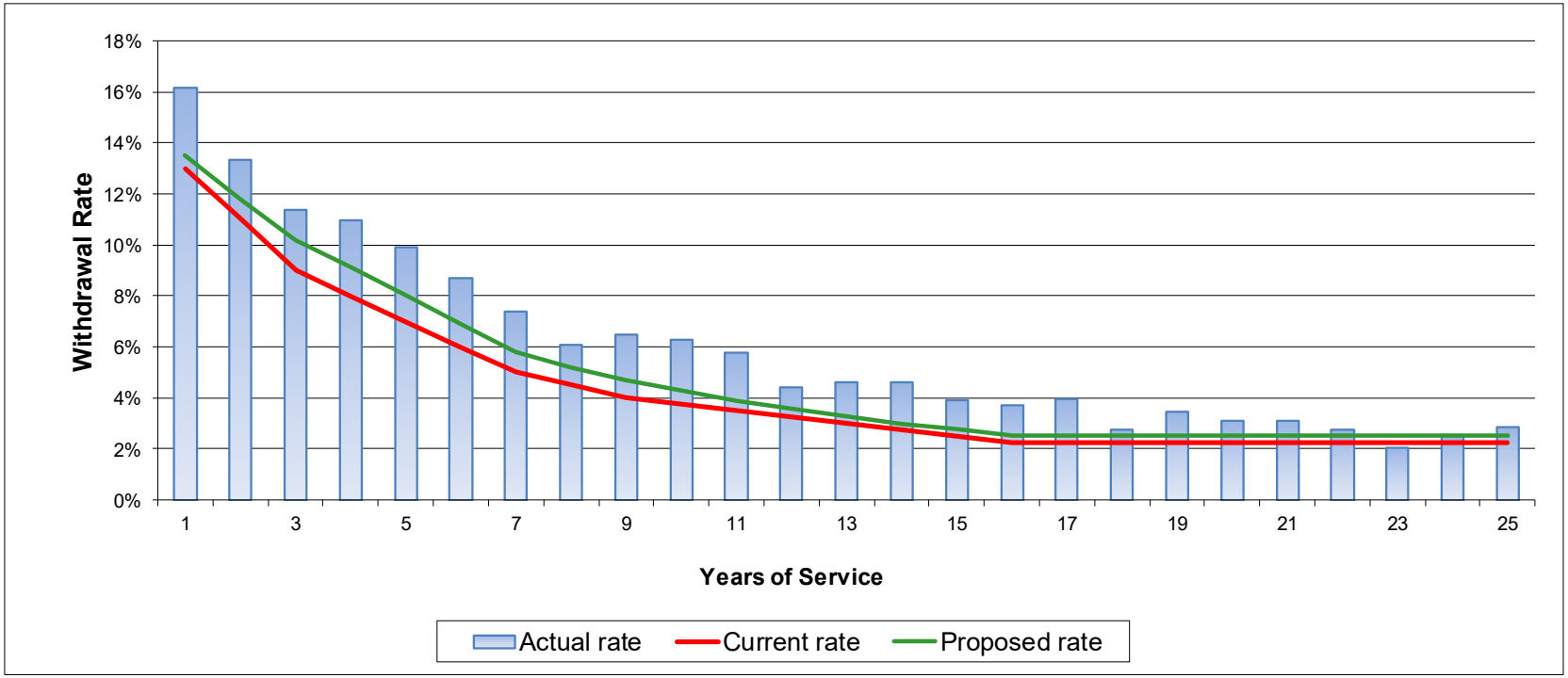
	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	3,012	2,906	2,906
Actual/Expected		104%	104%

Rate Actives Terminate Employment
TRF Unisex
Exhibit A – 28
Indiana Public Retirement System
2019-2024 Experience



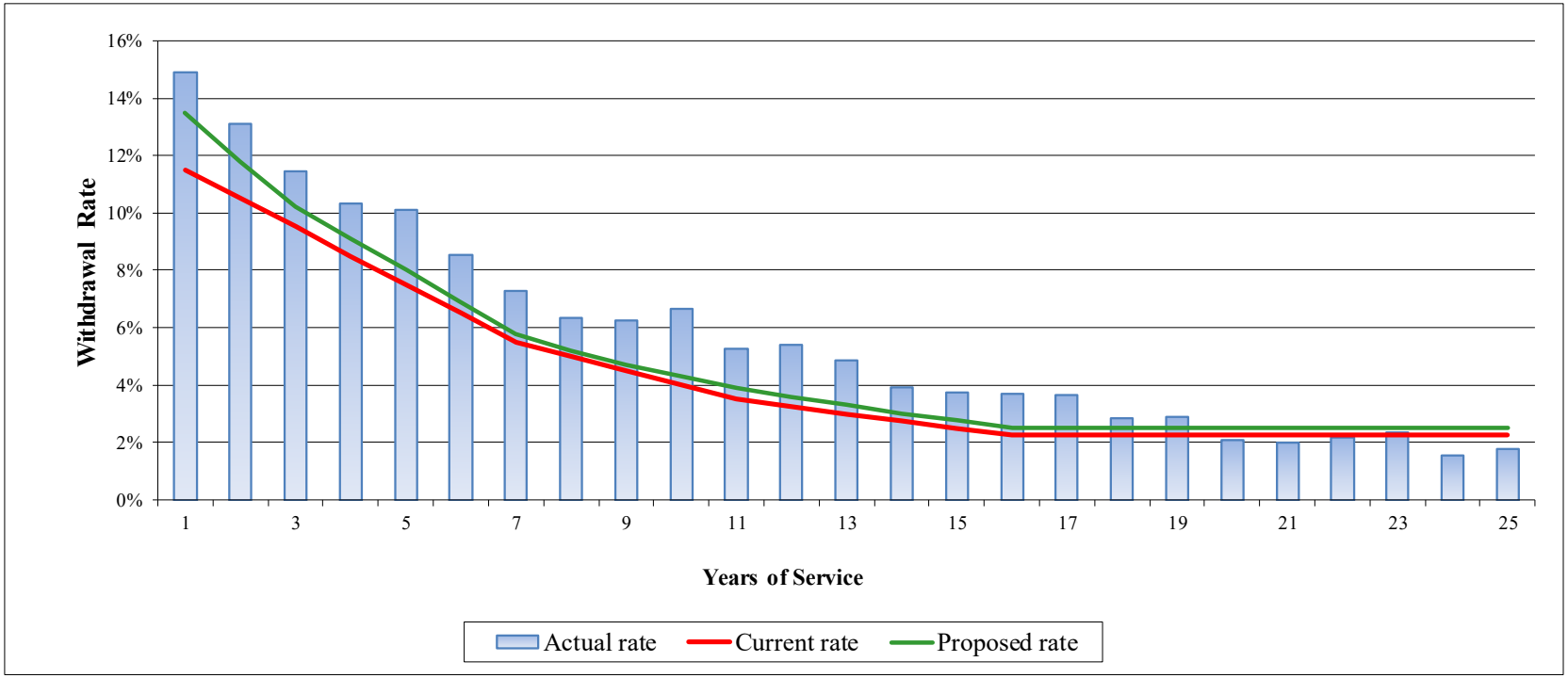
	Actual	Expected - Proposed Assumptions
Weighted Count	6,902	5,597
Actual/Expected		123%

Rate Actives Terminate Employment
TRF Males
Exhibit A – 28A
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	1,990	1,387	1,557
Actual/Expected		143%	128%

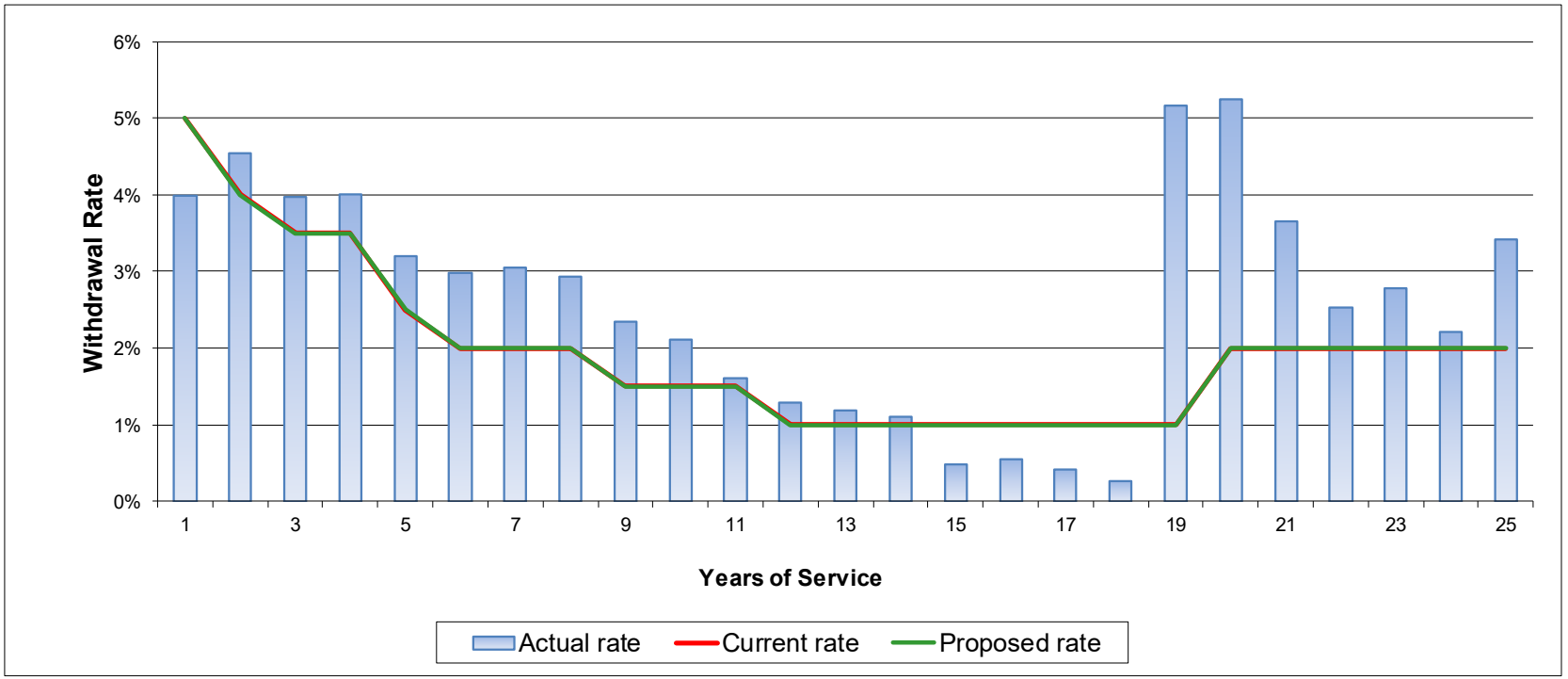
Rate Actives Terminate Employment
TRF Females
Exhibit A – 28B
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	4,912	3,707	4,041
Actual/Expected		133%	122%

Rate Actives Terminate Employment
'77 FUND
Exhibit A – 29

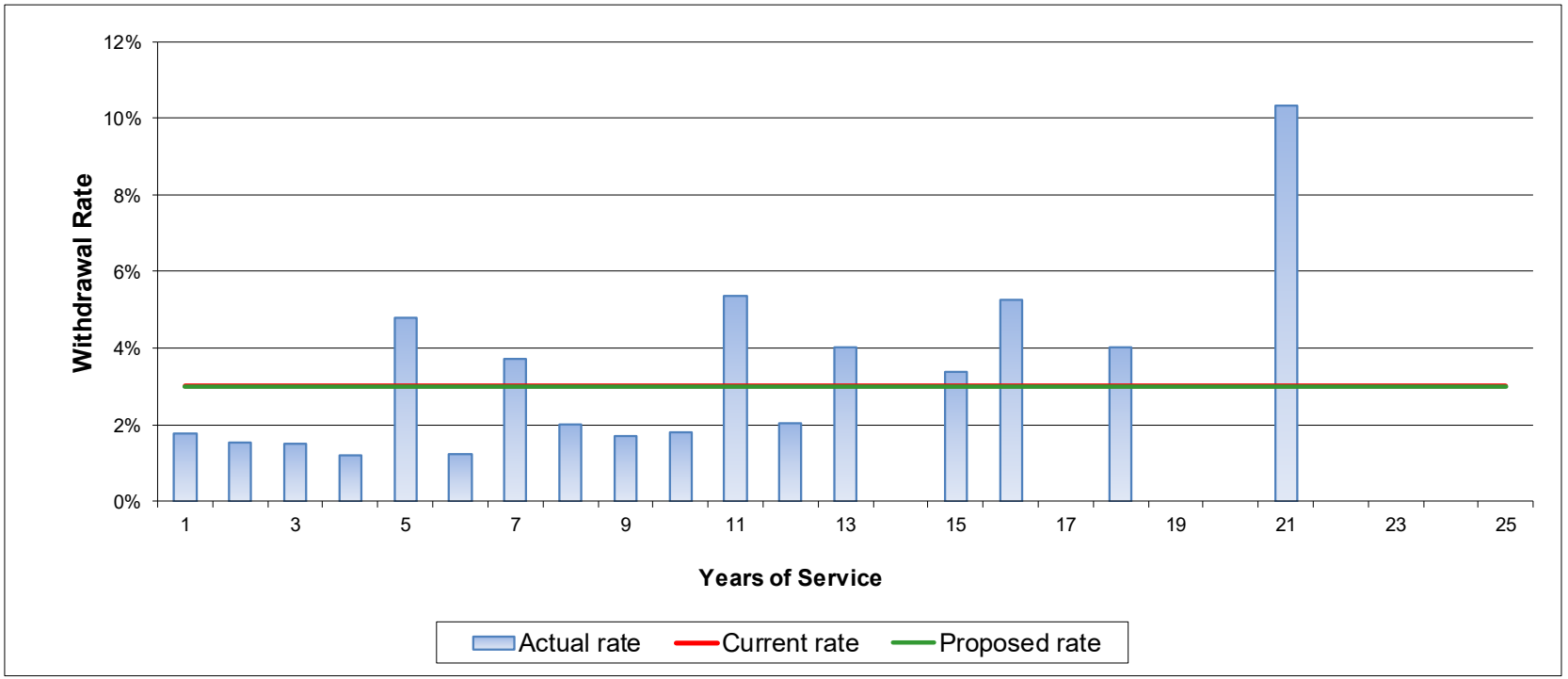
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	741	543	543
Actual/Expected		137%	137%

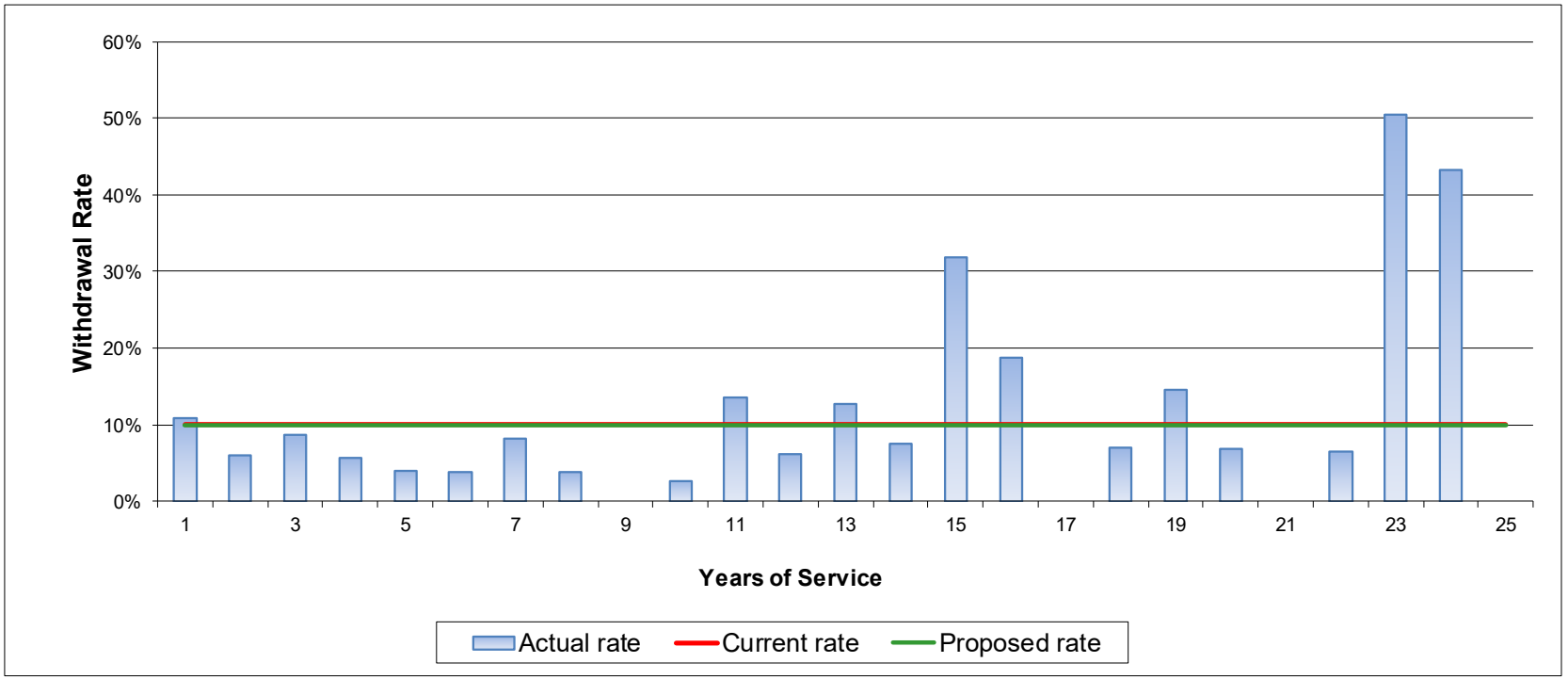
Rate Actives Terminate Employment
JRS
Exhibit A – 30

Indiana Public Retirement System
2019-2024 Experience



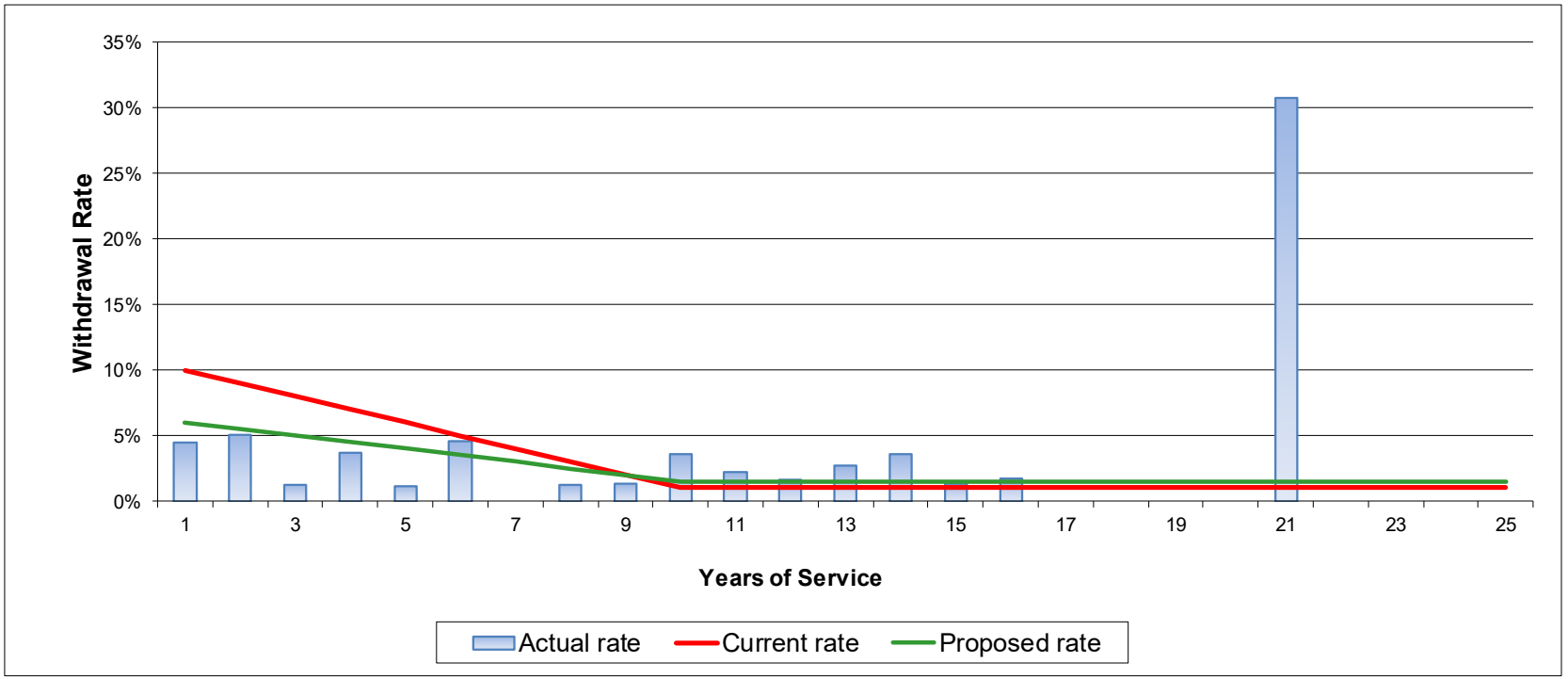
	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	43	51	51
Actual/Expected		84%	84%

Rate Actives Terminate Employment
PARF
Exhibit A – 31
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	74	83	83
Actual/Expected		90%	90%

Rate Actives Terminate Employment
EG&C
Exhibit A – 32
Indiana Public Retirement System
2019-2024 Experience



	Actual	Expected - Current Assumptions	Expected - Proposed Assumptions
Weighted Count	21	19	20
Actual/Expected		108%	107%

Probability of Death – Healthy Retirees

PERF – Males

Data Summary B – 1

Indiana Public Retirement System

2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	166	2	1.400%	0.9	0.518%	0.9	0.518%
56	530	2	0.395%	3.0	0.566%	3.0	0.566%
57	847	13	1.504%	5.2	0.617%	5.2	0.617%
58	1,269	10	0.806%	8.5	0.673%	8.5	0.673%
59	1,690	18	1.090%	12.4	0.734%	12.4	0.734%
60	2,413	35	1.431%	19.3	0.800%	19.3	0.800%
61	3,252	43	1.318%	28.4	0.872%	28.4	0.872%
62	3,899	50	1.288%	37.1	0.951%	37.1	0.951%
63	4,765	70	1.476%	49.5	1.039%	49.5	1.039%
64	5,531	98	1.778%	62.8	1.135%	62.8	1.135%
65	6,436	108	1.680%	79.9	1.241%	79.9	1.241%
66	7,577	127	1.677%	102.9	1.359%	102.9	1.359%
67	8,298	140	1.690%	123.6	1.490%	123.6	1.490%
68	8,706	169	1.944%	142.3	1.635%	142.3	1.635%
69	8,753	187	2.139%	157.6	1.801%	157.6	1.801%
70	8,745	190	2.174%	173.7	1.987%	173.7	1.987%
71	8,838	220	2.492%	194.5	2.201%	194.5	2.201%
72	8,447	236	2.789%	206.6	2.446%	206.6	2.446%
73	7,828	225	2.868%	213.4	2.726%	213.4	2.726%
74	6,967	236	3.382%	212.3	3.048%	212.3	3.048%
75	6,014	215	3.582%	205.5	3.417%	205.5	3.417%
76	5,172	219	4.226%	198.6	3.840%	198.6	3.840%
77	4,486	213	4.748%	194.0	4.324%	194.0	4.324%
78	3,818	182	4.758%	186.2	4.877%	186.2	4.877%
79	3,388	186	5.479%	186.5	5.506%	186.5	5.506%
80	3,056	182	5.953%	189.9	6.213%	189.9	6.213%
81	2,695	181	6.699%	188.8	7.007%	188.8	7.007%
82	2,315	177	7.652%	182.6	7.887%	182.6	7.887%
83	2,005	174	8.678%	177.6	8.857%	177.6	8.857%
84	1,716	164	9.538%	170.2	9.918%	170.2	9.918%
85	1,482	144	9.737%	164.2	11.076%	164.2	11.076%
86	1,239	146	11.749%	152.8	12.334%	152.8	12.334%
87	1,007	127	12.629%	137.8	13.684%	137.8	13.684%
88	857	120	13.952%	129.6	15.120%	129.6	15.120%
89	688	111	16.151%	114.4	16.623%	114.4	16.623%
90	531	96	17.994%	96.6	18.193%	96.6	18.193%
91	428	87	20.361%	84.9	19.816%	84.9	19.816%
92	354	77	21.683%	76.0	21.493%	76.0	21.493%
93	278	65	23.355%	64.4	23.198%	64.4	23.198%
94	210	61	28.896%	52.4	24.938%	52.4	24.938%
95	140	39	28.130%	37.3	26.693%	37.3	26.693%
96	118	40	34.041%	33.9	28.661%	33.9	28.661%
97	69	17	25.250%	21.1	30.652%	21.1	30.652%
98	46	16	34.353%	14.9	32.676%	14.9	32.676%
99	33	18	56.333%	11.3	34.688%	11.3	34.688%
100	11	2	20.711%	3.9	36.665%	3.9	36.665%
	147,112	5,238	3.560%	4,909.4	3.337%	4,909.4	3.337%

Probability of Death – Healthy Retirees

PERF – Females

Data Summary B – 2

Indiana Public Retirement System

2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	126	1	0.662%	0.4	0.314%	0.4	0.314%
56	462	1	0.305%	1.6	0.337%	1.6	0.337%
57	741	2	0.321%	2.7	0.360%	2.7	0.360%
58	1,045	4	0.342%	4.0	0.385%	4.0	0.385%
59	1,490	11	0.768%	6.1	0.412%	6.1	0.412%
60	2,248	16	0.693%	10.0	0.443%	10.0	0.443%
61	3,427	29	0.850%	16.4	0.478%	16.4	0.478%
62	4,349	36	0.818%	22.5	0.517%	22.5	0.517%
63	5,281	48	0.905%	29.5	0.559%	29.5	0.559%
64	6,347	51	0.801%	38.5	0.607%	38.5	0.607%
65	7,848	72	0.911%	51.8	0.660%	51.8	0.660%
66	9,575	81	0.845%	69.0	0.720%	69.0	0.720%
67	10,604	85	0.803%	83.8	0.790%	83.8	0.790%
68	11,126	99	0.892%	96.9	0.871%	96.9	0.871%
69	11,137	144	1.293%	107.4	0.964%	107.4	0.964%
70	11,145	143	1.283%	119.5	1.073%	119.5	1.073%
71	11,278	174	1.541%	135.1	1.198%	135.1	1.198%
72	10,935	192	1.759%	146.8	1.342%	146.8	1.342%
73	10,370	183	1.769%	156.4	1.508%	156.4	1.508%
74	9,548	214	2.237%	162.1	1.697%	162.1	1.697%
75	8,609	208	2.412%	164.6	1.912%	164.6	1.912%
76	7,765	193	2.481%	167.6	2.158%	167.6	2.158%
77	6,980	196	2.809%	170.1	2.438%	170.1	2.438%
78	6,301	192	3.046%	173.7	2.757%	173.7	2.757%
79	5,875	215	3.651%	183.4	3.122%	183.4	3.122%
80	5,333	222	4.163%	188.8	3.541%	188.8	3.541%
81	4,751	212	4.463%	191.0	4.020%	191.0	4.020%
82	4,128	209	5.068%	188.5	4.565%	188.5	4.565%
83	3,595	223	6.215%	186.6	5.190%	186.6	5.190%
84	3,135	221	7.037%	184.9	5.900%	184.9	5.900%
85	2,718	193	7.103%	182.3	6.709%	182.3	6.709%
86	2,336	210	8.972%	178.0	7.621%	178.0	7.621%
87	2,019	191	9.460%	174.4	8.639%	174.4	8.639%
88	1,721	186	10.825%	168.1	9.763%	168.1	9.763%
89	1,500	179	11.926%	164.7	10.979%	164.7	10.979%
90	1,274	192	15.065%	156.2	12.265%	156.2	12.265%
91	1,045	152	14.580%	142.2	13.607%	142.2	13.607%
92	875	140	15.949%	131.2	14.997%	131.2	14.997%
93	717	128	17.789%	117.9	16.443%	117.9	16.443%
94	577	120	20.734%	103.5	17.950%	103.5	17.950%
95	438	105	24.104%	85.5	19.530%	85.5	19.530%
96	346	82	23.806%	73.6	21.264%	73.6	21.264%
97	250	72	28.852%	57.8	23.108%	57.8	23.108%
98	172	48	28.065%	43.1	25.054%	43.1	25.054%
99	125	39	31.582%	33.7	27.081%	33.7	27.081%
100	83	29	35.632%	24.1	29.175%	24.1	29.175%
	201,749	5,743	2.846%	4,896.1	2.427%	4,896.1	2.427%

Probability of Death – Healthy Retirees
TRF – Males
Data Summary B – 3

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	129	1	0.938%	0.3	0.238%	0.3	0.238%
56	398	2	0.386%	1.1	0.266%	1.1	0.266%
57	696	2	0.264%	2.1	0.297%	2.1	0.297%
58	1,032	5	0.490%	3.4	0.331%	3.4	0.331%
59	1,272	4	0.346%	4.7	0.368%	4.7	0.368%
60	1,632	4	0.222%	6.7	0.408%	6.7	0.408%
61	2,037	14	0.693%	9.2	0.453%	9.2	0.453%
62	2,490	14	0.561%	12.4	0.499%	12.4	0.499%
63	3,167	14	0.432%	17.4	0.551%	17.4	0.551%
64	3,787	26	0.675%	23.0	0.607%	23.0	0.607%
65	4,538	19	0.420%	30.3	0.668%	30.3	0.668%
66	5,577	22	0.401%	41.2	0.738%	41.2	0.738%
67	6,509	61	0.938%	53.2	0.817%	53.2	0.817%
68	7,234	88	1.220%	65.6	0.907%	65.6	0.907%
69	8,041	84	1.046%	81.4	1.012%	81.4	1.012%
70	8,591	76	0.889%	97.3	1.133%	97.3	1.133%
71	9,206	95	1.031%	117.2	1.273%	117.2	1.273%
72	9,837	193	1.960%	141.3	1.437%	141.3	1.437%
73	9,932	160	1.613%	161.4	1.625%	161.4	1.625%
74	9,383	161	1.717%	172.8	1.842%	172.8	1.842%
75	8,987	171	1.900%	188.1	2.093%	188.1	2.093%
76	8,457	220	2.607%	201.2	2.379%	201.2	2.379%
77	7,530	213	2.834%	203.7	2.705%	203.7	2.705%
78	6,794	194	2.852%	209.0	3.076%	209.0	3.076%
79	6,273	223	3.554%	219.5	3.499%	219.5	3.499%
80	5,610	224	3.989%	223.3	3.980%	223.3	3.980%
81	4,972	263	5.289%	225.3	4.531%	225.3	4.531%
82	4,407	236	5.360%	227.4	5.160%	227.4	5.160%
83	3,857	244	6.334%	226.6	5.876%	226.6	5.876%
84	3,403	209	6.140%	227.5	6.686%	227.5	6.686%
85	3,020	248	8.195%	229.5	7.600%	229.5	7.600%
86	2,529	208	8.230%	218.1	8.626%	218.1	8.626%
87	2,216	183	8.255%	216.4	9.764%	216.4	9.764%
88	2,021	260	12.872%	222.9	11.029%	222.9	11.029%
89	1,726	214	12.421%	214.3	12.422%	214.3	12.422%
90	1,449	233	16.054%	202.1	13.941%	202.1	13.941%
91	1,159	151	13.008%	180.4	15.566%	180.4	15.566%
92	947	194	20.452%	163.7	17.287%	163.7	17.287%
93	678	158	23.266%	129.2	19.067%	129.2	19.067%
94	498	143	28.780%	104.1	20.893%	104.1	20.893%
95	316	84	26.695%	71.9	22.735%	71.9	22.735%
96	225	75	33.499%	55.7	24.752%	55.7	24.752%
97	154	63	41.073%	41.2	26.779%	41.2	26.779%
98	88	39	44.448%	25.3	28.828%	25.3	28.828%
99	47	20	43.269%	14.4	30.872%	14.4	30.872%
100	30	16	51.685%	10.0	32.897%	10.0	32.897%
	172,879	5,532	3.200%	5,292.7	3.061%	5,292.7	3.061%

Probability of Death – Healthy Retirees
TRF – Females
Data Summary B – 4

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	293	2	0.535%	0.6	0.218%	0.6	0.218%
56	1,083	2	0.178%	2.6	0.240%	2.6	0.240%
57	1,729	2	0.141%	4.5	0.262%	4.5	0.262%
58	2,374	9	0.391%	6.8	0.285%	6.8	0.285%
59	3,199	9	0.282%	9.9	0.308%	9.9	0.308%
60	4,210	20	0.483%	14.0	0.333%	14.0	0.333%
61	5,658	15	0.268%	20.2	0.357%	20.2	0.357%
62	7,023	25	0.363%	26.9	0.382%	26.9	0.382%
63	8,297	39	0.473%	34.0	0.410%	34.0	0.410%
64	9,915	48	0.487%	43.8	0.442%	43.8	0.442%
65	11,880	54	0.451%	56.6	0.476%	56.6	0.476%
66	14,098	49	0.347%	73.0	0.518%	73.0	0.518%
67	16,030	67	0.418%	90.9	0.567%	90.9	0.567%
68	18,193	130	0.713%	114.0	0.626%	114.0	0.626%
69	19,781	110	0.556%	138.1	0.698%	138.1	0.698%
70	20,904	148	0.706%	164.0	0.785%	164.0	0.785%
71	21,340	153	0.717%	189.2	0.887%	189.2	0.887%
72	21,306	212	0.996%	214.8	1.008%	214.8	1.008%
73	19,728	205	1.038%	227.0	1.151%	227.0	1.151%
74	17,688	220	1.246%	232.9	1.317%	232.9	1.317%
75	15,564	210	1.350%	235.2	1.511%	235.2	1.511%
76	13,787	271	1.966%	239.1	1.734%	239.1	1.734%
77	11,631	233	2.005%	231.5	1.990%	231.5	1.990%
78	9,950	215	2.163%	227.3	2.284%	227.3	2.284%
79	8,945	234	2.619%	234.2	2.619%	234.2	2.619%
80	7,858	285	3.630%	235.8	3.001%	235.8	3.001%
81	6,696	234	3.489%	230.1	3.436%	230.1	3.436%
82	5,726	207	3.621%	225.0	3.930%	225.0	3.930%
83	5,113	203	3.962%	229.6	4.490%	229.6	4.490%
84	4,438	248	5.584%	227.3	5.121%	227.3	5.121%
85	3,868	241	6.223%	225.6	5.831%	225.6	5.831%
86	3,314	238	7.191%	219.6	6.628%	219.6	6.628%
87	2,885	259	8.988%	217.0	7.520%	217.0	7.520%
88	2,382	197	8.274%	203.0	8.522%	203.0	8.522%
89	2,128	209	9.838%	205.2	9.643%	205.2	9.643%
90	1,927	239	12.419%	210.1	10.900%	210.1	10.900%
91	1,642	221	13.453%	201.9	12.294%	201.9	12.294%
92	1,337	223	16.661%	184.7	13.816%	184.7	13.816%
93	1,070	191	17.834%	165.4	15.455%	165.4	15.455%
94	841	150	17.776%	144.6	17.190%	144.6	17.190%
95	615	132	21.536%	116.8	19.006%	116.8	19.006%
96	444	110	24.751%	92.9	20.951%	92.9	20.951%
97	313	86	27.631%	71.8	22.960%	71.8	22.960%
98	206	58	27.976%	51.6	25.011%	51.6	25.011%
99	131	34	26.023%	35.5	27.081%	35.5	27.081%
100	95	30	31.629%	27.7	29.175%	27.7	29.175%
	337,637	6,479	1.919%	6,352.1	1.881%	6,352.1	1.881%

Probability of Death – Healthy Retirees
'77 FUND and EG&C – Males
Data Summary B – 5

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
50	53	3	6.132%	0.1	0.236%	0.1	0.236%
51	129	-	0.000%	0.3	0.260%	0.3	0.260%
52	555	2	0.358%	1.6	0.287%	1.6	0.287%
53	1,098	11	0.988%	3.5	0.319%	3.5	0.319%
54	1,300	25	1.888%	4.6	0.357%	4.6	0.357%
55	1,433	2	0.152%	5.7	0.401%	5.7	0.401%
56	1,755	2	0.133%	7.9	0.451%	7.9	0.451%
57	1,909	7	0.359%	9.7	0.510%	9.7	0.510%
58	1,908	12	0.635%	11.0	0.576%	11.0	0.576%
59	2,105	20	0.926%	13.7	0.650%	13.7	0.650%
60	2,231	22	0.989%	16.3	0.731%	16.3	0.731%
61	2,545	9	0.359%	20.9	0.821%	20.9	0.821%
62	2,474	14	0.563%	22.7	0.918%	22.7	0.918%
63	2,611	23	0.868%	26.7	1.022%	26.7	1.022%
64	2,535	23	0.891%	28.7	1.134%	28.7	1.134%
65	2,713	30	1.122%	34.0	1.254%	34.0	1.254%
66	2,609	19	0.738%	36.1	1.386%	36.1	1.386%
67	2,393	35	1.460%	36.6	1.531%	36.6	1.531%
68	1,986	23	1.145%	33.6	1.694%	33.6	1.694%
69	1,635	26	1.577%	30.7	1.876%	30.7	1.876%
70	1,301	32	2.486%	27.1	2.083%	27.1	2.083%
71	1,031	32	3.079%	23.9	2.319%	23.9	2.319%
72	795	25	3.173%	20.6	2.588%	20.6	2.588%
73	622	5	0.819%	18.0	2.895%	18.0	2.895%
74	494	4	0.718%	16.0	3.244%	16.0	3.244%
75	385	11	2.830%	14.0	3.645%	14.0	3.645%
76	324	21	6.609%	13.3	4.102%	13.3	4.102%
77	257	12	4.801%	11.9	4.622%	11.9	4.622%
78	240	16	6.740%	12.5	5.212%	12.5	5.212%
79	244	9	3.791%	14.3	5.877%	14.3	5.877%
80	218	16	7.159%	14.4	6.622%	14.4	6.622%
81	197	8	4.278%	14.7	7.458%	14.7	7.458%
82	202	25	12.461%	17.0	8.387%	17.0	8.387%
83	171	18	10.647%	16.2	9.421%	16.2	9.421%
84	145	28	19.273%	15.3	10.565%	15.3	10.565%
85	98	12	12.392%	11.6	11.836%	11.6	11.836%
86	65	10	15.419%	8.6	13.244%	8.6	13.244%
87	50	8	16.047%	7.4	14.792%	7.4	14.792%
88	28	7	25.729%	4.6	16.384%	4.6	16.384%
89	22	-	0.000%	4.0	17.948%	4.0	17.948%
90	24	7	30.143%	4.8	19.469%	4.8	19.469%
91	17	-	0.000%	3.5	20.942%	3.5	20.942%
92	24	5	22.715%	5.4	22.394%	5.4	22.394%
93	23	8	34.288%	5.5	23.841%	5.5	23.841%
94	12	5	38.931%	3.0	25.330%	3.0	25.330%
95	12	-	0.000%	3.3	26.882%	3.3	26.882%
96	13	1	9.505%	3.8	28.717%	3.8	28.717%
97	12	5	40.069%	3.8	30.652%	3.8	30.652%
98	5	3	64.801%	1.7	32.676%	1.7	32.676%
99	-	-	0.000%	-	34.688%	-	34.688%
100	-	-	0.000%	-	36.665%	-	36.665%
	43,011	643	1.495%	665.0	1.546%	665.0	1.546%

Probability of Death – Healthy Retirees
JRS, PARF and LE DB Males
Data Summary B – 6

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	-	-	0.000%	-	0.390%	-	0.390%
56	-	-	0.000%	-	0.426%	-	0.426%
57	8	-	0.000%	0.0	0.464%	0.0	0.464%
58	13	-	0.000%	0.1	0.506%	0.1	0.506%
59	13	-	0.000%	0.1	0.549%	0.1	0.549%
60	8	-	0.000%	0.0	0.595%	0.0	0.595%
61	21	-	0.000%	0.1	0.642%	0.1	0.642%
62	81	-	0.000%	0.6	0.689%	0.6	0.689%
63	128	-	0.000%	0.9	0.738%	0.9	0.738%
64	200	-	0.000%	1.6	0.789%	1.6	0.789%
65	205	-	0.000%	1.7	0.844%	1.7	0.844%
66	310	3	0.985%	2.8	0.907%	2.8	0.907%
67	346	2	0.592%	3.4	0.979%	3.4	0.979%
68	426	10	2.271%	4.5	1.064%	4.5	1.064%
69	463	24	5.085%	5.4	1.162%	5.4	1.162%
70	499	2	0.490%	6.4	1.277%	6.4	1.277%
71	589	-	0.000%	8.3	1.409%	8.3	1.409%
72	657	12	1.891%	10.3	1.560%	10.3	1.560%
73	758	14	1.879%	13.1	1.733%	13.1	1.733%
74	787	14	1.821%	15.2	1.931%	15.2	1.931%
75	828	27	3.225%	17.9	2.158%	17.9	2.158%
76	736	14	1.933%	17.8	2.417%	17.8	2.417%
77	619	10	1.659%	16.8	2.713%	16.8	2.713%
78	583	21	3.530%	17.8	3.050%	17.8	3.050%
79	497	14	2.911%	17.1	3.434%	17.1	3.434%
80	390	6	1.607%	15.1	3.871%	15.1	3.871%
81	347	17	4.855%	15.2	4.369%	15.2	4.369%
82	286	24	8.249%	14.1	4.934%	14.1	4.934%
83	183	25	13.421%	10.2	5.575%	10.2	5.575%
84	169	22	12.767%	10.6	6.294%	10.6	6.294%
85	172	25	14.517%	12.2	7.098%	12.2	7.098%
86	165	32	19.513%	13.2	7.991%	13.2	7.991%
87	143	8	5.688%	12.8	8.967%	12.8	8.967%
88	128	7	5.698%	12.8	10.036%	12.8	10.036%
89	113	10	9.191%	12.6	11.192%	12.6	11.192%
90	105	37	35.321%	13.0	12.440%	13.0	12.440%
91	55	8	14.100%	7.6	13.775%	7.6	13.775%
92	41	18	42.647%	6.3	15.184%	6.3	15.184%
93	15	1	3.722%	2.5	16.645%	2.5	16.645%
94	22	8	35.879%	4.0	18.157%	4.0	18.157%
95	10	-	0.000%	2.0	19.707%	2.0	19.707%
96	11	3	27.708%	2.3	21.448%	2.3	21.448%
97	-	-	0.000%	-	23.247%	-	23.247%
98	-	-	0.000%	-	25.127%	-	25.127%
99	-	-	0.000%	-	27.066%	-	27.066%
100	-	-	0.000%	-	29.050%	-	29.050%
	11,128	418	3.752%	328.3	2.950%	328.3	2.950%

Probability of Death – In Pay Beneficiaries
All Plans – Males
Data Summary B – 7

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
65	335	12	3.506%	4.7	1.398%	4.7	1.398%
66	394	5	1.178%	5.9	1.487%	5.9	1.487%
67	432	16	3.634%	6.9	1.589%	6.9	1.589%
68	483	14	2.949%	8.2	1.705%	8.2	1.705%
69	515	25	4.771%	9.5	1.838%	9.5	1.838%
70	562	28	4.986%	11.2	1.987%	11.2	1.987%
71	594	17	2.883%	12.8	2.156%	12.8	2.156%
72	649	34	5.209%	15.2	2.346%	15.2	2.346%
73	652	19	2.892%	16.7	2.559%	16.7	2.559%
74	657	30	4.543%	18.4	2.796%	18.4	2.796%
75	641	28	4.340%	19.6	3.061%	19.6	3.061%
76	641	21	3.245%	21.5	3.354%	21.5	3.354%
77	588	34	5.723%	21.6	3.677%	21.6	3.677%
78	543	38	6.935%	21.9	4.038%	21.9	4.038%
79	511	29	5.635%	22.7	4.439%	22.7	4.439%
80	484	35	7.318%	23.7	4.890%	23.7	4.890%
81	471	35	7.434%	25.4	5.397%	25.4	5.397%
82	450	32	7.047%	26.8	5.966%	26.8	5.966%
83	435	52	12.058%	28.7	6.604%	28.7	6.604%
84	387	47	12.087%	28.3	7.314%	28.3	7.314%
85	354	38	10.825%	28.7	8.106%	28.7	8.106%
86	323	49	15.293%	29.1	8.984%	29.1	8.984%
87	280	42	15.088%	27.8	9.947%	27.8	9.947%
88	264	43	16.444%	29.0	11.004%	29.0	11.004%
89	253	50	19.893%	30.8	12.157%	30.8	12.157%
90	185	24	13.080%	25.1	13.527%	25.1	13.527%
91	162	33	20.498%	24.3	14.972%	24.3	14.972%
92	139	35	24.826%	22.9	16.485%	22.9	16.485%
93	98	26	26.808%	17.7	18.044%	17.7	18.044%
94	77	27	34.672%	15.1	19.650%	15.1	19.650%
95	49	12	23.654%	10.4	21.288%	10.4	21.288%
96	40	19	46.748%	9.2	23.121%	9.2	23.121%
97	23	10	42.038%	5.8	25.005%	5.8	25.005%
98	19	8	44.254%	5.1	26.957%	5.1	26.957%
99	14	5	38.876%	3.9	28.952%	3.9	28.952%
100	8	4	52.445%	2.5	30.972%	2.5	30.972%
	12,712	975	7.671%	637.0	5.011%	637.0	5.011%

Probability of Death – In Pay Beneficiaries
All Plans – Females
Data Summary B – 8

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
65	1,147	16	1.357%	11.7	1.019%	11.7	1.019%
66	1,290	21	1.593%	14.0	1.084%	14.0	1.084%
67	1,408	21	1.477%	16.3	1.156%	16.3	1.156%
68	1,476	24	1.624%	18.3	1.241%	18.3	1.241%
69	1,581	42	2.669%	21.2	1.340%	21.2	1.340%
70	1,672	33	1.975%	24.4	1.458%	24.4	1.458%
71	1,849	43	2.348%	29.5	1.595%	29.5	1.595%
72	1,978	58	2.910%	34.6	1.751%	34.6	1.751%
73	2,059	50	2.449%	39.8	1.932%	39.8	1.932%
74	2,080	67	3.203%	44.5	2.137%	44.5	2.137%
75	2,060	59	2.840%	48.9	2.373%	48.9	2.373%
76	2,137	92	4.305%	56.4	2.641%	56.4	2.641%
77	2,127	70	3.302%	62.7	2.948%	62.7	2.948%
78	2,209	77	3.474%	72.9	3.299%	72.9	3.299%
79	2,324	92	3.943%	86.1	3.703%	86.1	3.703%
80	2,313	100	4.322%	96.3	4.165%	96.3	4.165%
81	2,306	109	4.707%	108.3	4.695%	108.3	4.695%
82	2,213	138	6.250%	117.3	5.299%	117.3	5.299%
83	2,089	134	6.405%	125.1	5.989%	125.1	5.989%
84	2,035	167	8.229%	137.8	6.772%	137.8	6.772%
85	1,938	151	7.774%	148.3	7.651%	148.3	7.651%
86	1,806	170	9.395%	155.8	8.627%	155.8	8.627%
87	1,751	208	11.896%	169.7	9.690%	169.7	9.690%
88	1,574	173	10.967%	170.5	10.827%	170.5	10.827%
89	1,488	173	11.638%	179.2	12.039%	179.2	12.039%
90	1,403	193	13.726%	187.0	13.334%	187.0	13.334%
91	1,286	230	17.924%	189.2	14.717%	189.2	14.717%
92	1,080	198	18.333%	174.7	16.186%	174.7	16.186%
93	876	167	19.099%	155.4	17.743%	155.4	17.743%
94	710	156	22.008%	137.7	19.387%	137.7	19.387%
95	541	123	22.795%	114.2	21.115%	114.2	21.115%
96	399	105	26.368%	91.7	22.997%	91.7	22.997%
97	281	77	27.323%	70.1	24.974%	70.1	24.974%
98	192	49	25.338%	52.0	27.019%	52.0	27.019%
99	121	36	30.056%	35.3	29.105%	35.3	29.105%
100	99	33	33.818%	30.9	31.216%	30.9	31.216%
	53,900	3,654	6.780%	3,227.6	5.988%	3,227.6	5.988%

Probability of Death – Disabled Participants
'77 Fund and EG&C Males
Data Summary B – 9

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	294	3	1.178%	6.0	2.056%	6.0	2.056%
56	258	1	0.502%	5.6	2.173%	5.6	2.173%
57	242	3	1.291%	5.5	2.287%	5.5	2.287%
58	256	3	1.076%	6.1	2.396%	6.1	2.396%
59	281	10	3.464%	7.0	2.501%	7.0	2.501%
60	272	-	0.000%	7.1	2.600%	7.1	2.600%
61	284	-	0.000%	7.7	2.696%	7.7	2.696%
62	244	6	2.291%	6.8	2.789%	6.8	2.789%
63	213	-	0.000%	6.1	2.884%	6.1	2.884%
64	212	8	3.584%	6.3	2.979%	6.3	2.979%
65	214	4	1.700%	6.6	3.074%	6.6	3.074%
66	217	6	2.808%	6.9	3.171%	6.9	3.171%
67	213	18	8.372%	7.0	3.273%	7.0	3.273%
68	182	4	2.466%	6.2	3.383%	6.2	3.383%
69	163	7	4.237%	5.7	3.505%	5.7	3.505%
70	148	5	3.053%	5.4	3.640%	5.4	3.640%
71	124	8	6.570%	4.7	3.797%	4.7	3.797%
72	118	6	5.221%	4.7	3.978%	4.7	3.978%
73	112	8	7.079%	4.7	4.186%	4.7	4.186%
74	120	11	9.454%	5.3	4.425%	5.3	4.425%
75	135	7	5.237%	6.3	4.700%	6.3	4.700%
76	113	7	6.603%	5.7	5.011%	5.7	5.011%
77	99	6	6.297%	5.3	5.363%	5.3	5.363%
78	81	5	6.203%	4.7	5.760%	4.7	5.760%
79	49	2	4.428%	3.1	6.206%	3.1	6.206%
80	46	2	4.759%	3.1	6.703%	3.1	6.703%
81	37	2	5.542%	2.7	7.257%	2.7	7.257%
82	31	4	13.302%	2.5	7.863%	2.5	7.863%
83	28	8	26.848%	2.4	8.529%	2.4	8.529%
84	14	5	36.579%	1.3	9.250%	1.3	9.250%
85	9	2	19.312%	0.9	10.027%	0.9	10.027%
	4,809	161	3.358%	159.3	3.313%	159.3	3.313%

Probability of Death - Disabled Participants
All Other Plans - Males
Data Summary B – 10

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	133	4	2.828%	3.8	2.878%	3.8	2.878%
56	151	4	2.935%	4.6	3.043%	4.6	3.043%
57	189	11	5.578%	6.1	3.201%	6.1	3.201%
58	201	5	2.618%	6.7	3.355%	6.7	3.355%
59	220	11	5.152%	7.7	3.501%	7.7	3.501%
60	227	9	4.092%	8.3	3.640%	8.3	3.640%
61	226	10	4.232%	8.5	3.774%	8.5	3.774%
62	215	13	5.826%	8.4	3.904%	8.4	3.904%
63	208	5	2.367%	8.4	4.038%	8.4	4.038%
64	181	13	7.396%	7.5	4.171%	7.5	4.171%
65	148	4	2.684%	6.4	4.303%	6.4	4.303%
66	137	14	10.149%	6.1	4.440%	6.1	4.440%
67	99	5	5.163%	4.6	4.583%	4.6	4.583%
68	83	5	5.561%	3.9	4.736%	3.9	4.736%
69	66	4	6.237%	3.3	4.907%	3.3	4.907%
70	49	3	5.288%	2.5	5.096%	2.5	5.096%
71	52	7	12.926%	2.7	5.316%	2.7	5.316%
72	42	3	6.562%	2.3	5.569%	2.3	5.569%
73	35	2	6.847%	2.1	5.861%	2.1	5.861%
74	31	7	21.178%	1.9	6.195%	1.9	6.195%
75	21	1	2.749%	1.4	6.580%	1.4	6.580%
76	20	2	8.064%	1.4	7.015%	1.4	7.015%
77	14	1	9.698%	1.1	7.508%	1.1	7.508%
78	11	3	26.865%	0.9	8.064%	0.9	8.064%
79	7	0	5.445%	0.6	8.688%	0.6	8.688%
80	9	5	55.552%	0.9	9.385%	0.9	9.385%
81	4	0	7.733%	0.4	10.159%	0.4	10.159%
82	4	1	15.626%	0.5	11.009%	0.5	11.009%
83	3	0	12.313%	0.4	11.940%	0.4	11.940%
84	3	0	6.647%	0.4	12.949%	0.4	12.949%
85	2	-	0.000%	0.3	14.037%	0.3	14.037%
	2,795	152	5.421%	114.1	4.084%	114.1	4.084%

Probability of Death - Disabled Participants
All Other Plans – Females
Data Summary B – 11

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Deaths	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	125	2	1.836%	3.2	2.547%	3.2	2.547%
56	161	4	2.643%	4.3	2.655%	4.3	2.655%
57	193	9	4.434%	5.3	2.748%	5.3	2.748%
58	232	7	2.999%	6.5	2.822%	6.5	2.822%
59	264	13	4.984%	7.6	2.878%	7.6	2.878%
60	274	12	4.510%	8.0	2.919%	8.0	2.919%
61	276	7	2.576%	8.1	2.946%	8.1	2.946%
62	262	7	2.672%	7.8	2.968%	7.8	2.968%
63	247	5	2.087%	7.4	2.990%	7.4	2.990%
64	232	8	3.244%	7.0	3.019%	7.0	3.019%
65	207	5	2.400%	6.3	3.057%	6.3	3.057%
66	188	4	1.976%	5.9	3.113%	5.9	3.113%
67	164	6	3.646%	5.2	3.192%	5.2	3.192%
68	133	4	3.273%	4.4	3.298%	4.4	3.298%
69	104	2	1.675%	3.6	3.436%	3.6	3.436%
70	75	3	3.538%	2.7	3.609%	2.7	3.609%
71	56	2	2.880%	2.2	3.818%	2.2	3.818%
72	45	3	6.665%	1.8	4.066%	1.8	4.066%
73	38	1	2.291%	1.6	4.356%	1.6	4.356%
74	30	2	6.488%	1.4	4.692%	1.4	4.692%
75	25	1	2.628%	1.3	5.077%	1.3	5.077%
76	21	1	4.663%	1.2	5.514%	1.2	5.514%
77	20	1	6.447%	1.2	6.007%	1.2	6.007%
78	16	1	3.822%	1.0	6.559%	1.0	6.559%
79	13	1	3.798%	1.0	7.177%	1.0	7.177%
80	13	2	11.293%	1.1	7.863%	1.1	7.863%
81	11	0	2.391%	1.0	8.621%	1.0	8.621%
82	9	1	9.156%	0.9	9.454%	0.9	9.454%
83	8	1	7.213%	0.8	10.368%	0.8	10.368%
84	7	1	10.151%	0.8	11.363%	0.8	11.363%
85	5	1	20.859%	0.6	12.447%	0.6	12.447%
	3,455	114	3.304%	111.1	3.214%	111.1	3.214%

Probability of Retirement
PERF Early Retirement
Data Summary B – 12
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
50	6,530	289	4.433%	261.2	4.000%	261.2	4.000%
51	7,202	289	4.009%	288.1	4.000%	288.1	4.000%
52	7,844	338	4.308%	313.7	4.000%	313.7	4.000%
53	8,559	374	4.368%	342.3	4.000%	342.3	4.000%
54	9,051	335	3.701%	362.0	4.000%	362.0	4.000%
55	6,460	250	3.867%	323.0	5.000%	323.0	5.000%
56	6,018	314	5.220%	300.9	5.000%	300.9	5.000%
57	5,602	269	4.796%	280.1	5.000%	280.1	5.000%
58	5,364	289	5.395%	268.2	5.000%	268.2	5.000%
59	5,051	261	5.175%	252.6	5.000%	252.6	5.000%
	67,681	3,008	4.445%	2,992.2	4.421%	2,992.2	4.421%

Retirement Rates
PERF Unreduced Retirement
Data Summary B-13
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	4,424	520	11.755%	619.3	14.000%	619.3	14.000%
56	5,247	422	8.040%	524.7	10.000%	524.7	10.000%
57	6,143	480	7.805%	614.3	10.000%	614.3	10.000%
58	7,223	554	7.675%	722.3	10.000%	722.3	10.000%
59	12,992	1,120	8.618%	1,299.2	10.000%	1,299.2	10.000%
60	12,957	1,209	9.328%	1,554.9	12.000%	1,554.9	12.000%
61	12,939	1,541	11.906%	2,070.2	16.000%	2,070.2	16.000%
62	12,491	1,949	15.599%	2,748.1	22.000%	2,748.1	22.000%
63	11,323	1,657	14.638%	2,151.3	19.000%	2,151.3	19.000%
64	10,971	2,470	22.512%	2,633.1	24.000%	2,633.1	24.000%
65	9,194	3,146	34.219%	2,758.3	30.000%	2,758.3	30.000%
66	6,614	2,441	36.907%	1,984.3	30.000%	1,984.3	30.000%
67	4,606	1,444	31.347%	1,381.9	30.000%	1,381.9	30.000%
68	3,493	941	26.940%	1,047.8	30.000%	1,047.8	30.000%
69	2,821	991	35.137%	846.4	30.000%	846.4	30.000%
70	1,982	906	45.726%	594.5	30.000%	594.5	30.000%
71	1,164	386	33.206%	349.1	30.000%	349.1	30.000%
72	847	255	30.090%	254.0	30.000%	254.0	30.000%
73	556	134	24.189%	166.7	30.000%	166.7	30.000%
74	418	124	29.711%	125.5	30.000%	125.5	30.000%
	128,405	22,690	17.671%	24,446.0	19.038%	24,446.0	19.038%

Retirement Rates
TRF – Early Retirement Eligible
Data Summary B-14
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
50	11,897	320	2.687%	237.9	2.000%	237.9	2.000%
51	12,572	316	2.516%	251.4	2.000%	251.4	2.000%
52	13,056	336	2.575%	261.1	2.000%	261.1	2.000%
53	13,418	342	2.549%	268.4	2.000%	268.4	2.000%
54	13,276	362	2.723%	663.8	5.000%	663.8	5.000%
55	6,604	263	3.978%	330.2	5.000%	330.2	5.000%
56	4,781	183	3.837%	239.1	5.000%	239.1	5.000%
57	3,649	172	4.703%	237.2	6.500%	237.2	6.500%
58	2,909	147	5.039%	232.7	8.000%	203.6	7.000%
59	2,394	137	5.725%	287.3	12.000%	167.6	7.000%
	84,556	2,577	3.048%	3,009.1	3.559%	2,860.3	3.383%

Retirement Rates
TRF – Unreduced Retirement
Data Summary B-15
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
55	6,228	719	11.548%	934.1	15.000%	934.1	15.000%
56	7,359	1,082	14.701%	1,103.9	15.000%	1,103.9	15.000%
57	7,638	867	11.345%	1,145.7	15.000%	1,145.7	15.000%
58	7,850	953	12.140%	1,177.5	15.000%	1,177.5	15.000%
59	8,082	1,059	13.098%	1,212.3	15.000%	1,212.3	15.000%
60	10,044	1,524	15.175%	1,506.6	15.000%	1,506.6	15.000%
61	9,224	1,388	15.043%	1,844.8	20.000%	1,844.8	20.000%
62	8,359	1,805	21.593%	2,089.8	25.000%	2,089.8	25.000%
63	7,190	1,662	23.113%	2,157.1	30.000%	1,797.6	25.000%
64	5,895	1,354	22.962%	2,063.3	35.000%	1,768.5	30.000%
65	4,994	1,768	35.396%	1,997.7	40.000%	1,997.7	40.000%
66	3,566	1,475	41.368%	1,426.5	40.000%	1,426.5	40.000%
67	2,414	1,095	45.385%	965.5	40.000%	965.5	40.000%
68	1,536	578	37.646%	614.5	40.000%	614.5	40.000%
69	1,136	380	33.490%	454.3	40.000%	454.3	40.000%
70	878	399	45.429%	351.2	40.000%	351.2	40.000%
71	550	294	53.482%	219.9	40.000%	219.9	40.000%
72	276	135	49.030%	110.4	40.000%	110.4	40.000%
73	135	39	28.968%	54.0	40.000%	54.0	40.000%
74	87	30	34.429%	34.6	40.000%	34.6	40.000%
	93,440	18,606	19.912%	21,463.5	22.970%	20,809.3	22.270%

Retirement Rates
'77 Fund Retirement (Including DROP)
Data Summary B-16

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
50	2,008	77	3.839%	100.4	5.000%	100.4	5.000%
51	2,111	107	5.067%	105.5	5.000%	105.5	5.000%
52	2,314	278	12.030%	347.0	15.000%	347.0	15.000%
53	2,299	576	25.051%	344.9	15.000%	344.9	15.000%
54	1,851	384	20.720%	277.7	15.000%	277.7	15.000%
55	1,604	354	22.081%	240.5	15.000%	240.5	15.000%
56	1,457	303	20.791%	291.5	20.000%	291.5	20.000%
57	1,331	331	24.907%	266.1	20.000%	266.1	20.000%
58	1,004	284	28.332%	200.7	20.000%	200.7	20.000%
59	808	235	29.052%	181.9	22.500%	181.9	22.500%
60	724	220	30.370%	180.9	25.000%	180.9	25.000%
61	502	158	31.403%	125.5	25.000%	125.5	25.000%
62	341	121	35.341%	85.3	25.000%	85.3	25.000%
63	278	113	40.569%	69.4	25.000%	69.4	25.000%
64	175	50	28.350%	43.8	25.000%	43.8	25.000%
65	131	46	35.369%	65.5	50.000%	65.5	50.000%
66	95	37	39.160%	47.3	50.000%	47.3	50.000%
67	67	30	45.720%	33.3	50.000%	33.3	50.000%
68	32	20	60.687%	16.1	50.000%	16.1	50.000%
69	9	4	49.187%	4.6	50.000%	4.6	50.000%
70	7	5	71.260%	6.8	100.000%	6.8	100.000%
	19,146	3,733	19.495%	3,034.7	15.850%	3,034.7	15.850%

Retirement Rates
EG&C Unreduced Retirement
Data Summary B-17
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
50	88	13	14.372%	17.6	20.000%	17.6	20.000%
51	76	7	9.039%	15.3	20.000%	15.3	20.000%
52	73	11	15.209%	14.6	20.000%	14.6	20.000%
53	64	1	2.230%	12.7	20.000%	12.7	20.000%
54	61	5	7.941%	12.3	20.000%	12.3	20.000%
55	44	10	22.836%	11.0	25.000%	11.0	25.000%
56	47	7	14.992%	11.6	25.000%	11.6	25.000%
57	41	6	15.200%	10.3	25.000%	10.3	25.000%
58	38	9	23.182%	9.5	25.000%	9.5	25.000%
59	30	6	18.953%	10.5	35.000%	10.5	35.000%
60	28	6	22.454%	15.6	55.500%	15.6	55.500%
61	18	8	42.616%	11.7	65.000%	11.7	65.000%
62	11	5	45.438%	7.9	75.000%	7.9	75.000%
63	3	-	0.000%	2.4	75.000%	2.4	75.000%
64	17	13	77.316%	12.5	75.000%	12.5	75.000%
65	2	2	100.000%	2.4	100.000%	2.4	100.000%
	641	109	16.971%	178.0	27.756%	178.0	27.756%

Retirement Rates
JRS Unreduced Retirement
Data Summary B-18
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
62	31	3	9.857%	6.1	20.000%	4.6	15.000%
63	69	10	14.258%	13.9	20.000%	10.4	15.000%
64	95	12	12.906%	19.1	20.000%	14.3	15.000%
65	182	28	15.345%	54.5	30.000%	36.3	20.000%
66	182	41	22.374%	54.7	30.000%	36.5	20.000%
67	163	20	12.018%	48.8	30.000%	32.5	20.000%
68	166	15	8.874%	49.8	30.000%	41.5	25.000%
69	158	33	20.952%	47.4	30.000%	39.5	25.000%
70	117	20	16.836%	35.1	30.000%	35.1	30.000%
71	92	4	4.642%	27.6	30.000%	27.6	30.000%
72	94	7	7.902%	28.3	30.000%	28.3	30.000%
73	87	8	9.232%	26.2	30.000%	26.2	30.000%
74	71	13	17.820%	21.4	30.000%	21.4	30.000%
	1,508	214	14.155%	433.0	28.703%	354.3	23.490%

Retirement Rates
PARF Unreduced Retirement
Data Summary B-19
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Retirements	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
62	12	-	0.000%	4.7	40.000%	4.7	40.000%
63	13	7	57.070%	5.1	40.000%	5.1	40.000%
64	10	6	59.371%	4.0	40.000%	4.0	40.000%
65	20	4	21.725%	9.8	50.000%	9.8	50.000%
66	29	6	20.878%	14.5	50.000%	14.5	50.000%
67	17	-	0.000%	8.4	50.000%	8.4	50.000%
68	16	1	9.185%	7.9	50.000%	7.9	50.000%
69	24	6	25.151%	12.0	50.000%	12.0	50.000%
70	15	5	33.824%	15.0	100.000%	15.0	100.000%
	155	36	23.343%	81.4	52.607%	81.4	52.607%

Rate of Disability – Active Lives
PERF and PARF Males
Data Summary B – 20

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Disabilities	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
25	255	-	0.000%	0.0	0.008%	0.0	0.006%
26	327	-	0.000%	0.0	0.009%	0.0	0.006%
27	407	-	0.000%	0.0	0.010%	0.0	0.007%
28	501	-	0.000%	0.1	0.011%	0.0	0.008%
29	610	-	0.000%	0.1	0.012%	0.1	0.009%
30	716	-	0.000%	0.1	0.014%	0.1	0.010%
31	849	-	0.000%	0.1	0.015%	0.1	0.011%
32	965	0	0.009%	0.2	0.017%	0.1	0.013%
33	1,119	-	0.000%	0.2	0.019%	0.2	0.014%
34	1,273	-	0.000%	0.3	0.021%	0.2	0.016%
35	1,433	0	0.004%	0.3	0.024%	0.3	0.018%
36	1,580	-	0.000%	0.4	0.027%	0.3	0.020%
37	1,799	-	0.000%	0.5	0.030%	0.4	0.022%
38	1,981	-	0.000%	0.7	0.033%	0.5	0.025%
39	2,149	-	0.000%	0.8	0.038%	0.6	0.028%
40	2,380	-	0.000%	1.0	0.042%	0.7	0.031%
41	2,528	0	0.005%	1.2	0.047%	0.9	0.035%
42	2,678	-	0.000%	1.4	0.053%	1.1	0.040%
43	2,805	1	0.033%	1.7	0.059%	1.2	0.044%
44	2,895	-	0.000%	1.9	0.066%	1.4	0.050%
45	3,050	1	0.039%	2.4	0.080%	1.8	0.060%
46	3,250	1	0.043%	3.1	0.096%	2.3	0.072%
47	3,507	1	0.021%	3.8	0.107%	2.8	0.080%
48	3,849	3	0.071%	4.6	0.120%	3.5	0.090%
49	4,217	3	0.067%	5.7	0.134%	4.2	0.101%
50	4,500	5	0.114%	7.2	0.160%	5.4	0.120%
51	4,742	5	0.110%	9.1	0.191%	6.8	0.143%
52	4,975	5	0.098%	10.6	0.214%	8.0	0.160%
53	5,074	6	0.110%	12.1	0.239%	9.1	0.180%
54	5,290	7	0.124%	14.2	0.268%	11.9	0.225%
55	5,646	6	0.110%	16.9	0.300%	12.7	0.225%
56	5,860	13	0.227%	17.6	0.300%	13.2	0.225%
57	6,279	11	0.168%	18.8	0.300%	14.1	0.225%
58	6,652	6	0.085%	20.0	0.300%	15.0	0.225%
59	6,975	9	0.128%	20.9	0.300%	15.7	0.225%
60	6,964	10	0.147%	20.9	0.300%	15.7	0.225%
	110,079	92	0.084%	199.0	0.181%	150.5	0.137%

Rate of Disability – Active Lives
PERF and PARF Females
Data Summary B – 21

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Disabilities	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
25	207	-	0.000%	0.0	0.006%	0.0	0.004%
26	284	-	0.000%	0.0	0.007%	0.0	0.005%
27	379	-	0.000%	0.0	0.007%	0.0	0.006%
28	484	-	0.000%	0.0	0.008%	0.0	0.006%
29	595	-	0.000%	0.1	0.009%	0.0	0.007%
30	711	0	0.036%	0.1	0.010%	0.1	0.008%
31	849	-	0.000%	0.1	0.012%	0.1	0.009%
32	983	-	0.000%	0.1	0.013%	0.1	0.010%
33	1,116	-	0.000%	0.2	0.014%	0.1	0.011%
34	1,285	1	0.049%	0.2	0.016%	0.2	0.012%
35	1,474	-	0.000%	0.3	0.018%	0.2	0.014%
36	1,676	-	0.000%	0.3	0.020%	0.3	0.015%
37	1,890	-	0.000%	0.4	0.023%	0.3	0.017%
38	2,111	-	0.000%	0.5	0.026%	0.4	0.019%
39	2,314	0	0.008%	0.7	0.029%	0.5	0.022%
40	2,510	0	0.018%	0.8	0.032%	0.6	0.024%
41	2,722	0	0.012%	1.0	0.036%	0.7	0.027%
42	2,911	1	0.031%	1.2	0.041%	0.9	0.030%
43	3,157	1	0.025%	1.4	0.045%	1.1	0.034%
44	3,369	0	0.007%	1.7	0.051%	1.3	0.038%
45	3,559	1	0.019%	2.2	0.061%	1.6	0.046%
46	3,717	3	0.079%	2.7	0.074%	2.1	0.055%
47	3,896	1	0.031%	3.2	0.083%	2.4	0.062%
48	4,271	1	0.020%	4.0	0.093%	3.0	0.070%
49	4,628	1	0.030%	4.8	0.104%	3.6	0.078%
50	4,997	0	0.003%	6.2	0.124%	4.7	0.093%
51	5,387	3	0.065%	8.0	0.148%	6.0	0.111%
52	5,801	2	0.036%	9.6	0.166%	7.2	0.125%
53	6,147	4	0.071%	11.1	0.181%	8.3	0.136%
54	6,434	7	0.112%	12.9	0.200%	9.7	0.150%
55	6,896	7	0.098%	13.8	0.200%	10.3	0.150%
56	7,099	3	0.041%	14.2	0.200%	10.6	0.150%
57	7,346	7	0.089%	14.7	0.200%	11.0	0.150%
58	7,699	7	0.096%	15.4	0.200%	11.5	0.150%
59	8,050	11	0.139%	16.1	0.200%	12.1	0.150%
60	7,952	16	0.202%	15.9	0.200%	11.9	0.150%
61	7,853	5	0.069%	15.7	0.200%	11.8	0.150%
62	7,608	4	0.053%	15.2	0.200%	11.4	0.150%
	140,369	89	0.063%	195.0	0.139%	146.2	0.104%

Rate of Disability – Active Lives
TRF
Data Summary B – 22
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Disabilities	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
25	510	-	0.000%	0.0	0.005%	0.0	0.004%
26	755	-	0.000%	0.0	0.005%	0.0	0.004%
27	1,010	-	0.000%	0.1	0.005%	0.0	0.004%
28	1,314	-	0.000%	0.1	0.005%	0.1	0.004%
29	1,637	-	0.000%	0.1	0.005%	0.1	0.004%
30	1,987	-	0.000%	0.1	0.005%	0.1	0.004%
31	2,408	-	0.000%	0.1	0.005%	0.1	0.004%
32	2,812	-	0.000%	0.1	0.005%	0.1	0.004%
33	3,223	-	0.000%	0.2	0.005%	0.1	0.004%
34	3,626	-	0.000%	0.2	0.005%	0.1	0.004%
35	4,212	-	0.000%	0.2	0.005%	0.2	0.004%
36	4,861	-	0.000%	0.2	0.005%	0.2	0.004%
37	5,643	1	0.022%	0.3	0.005%	0.2	0.004%
38	6,513	1	0.013%	0.4	0.006%	0.3	0.005%
39	7,352	-	0.000%	0.6	0.008%	0.4	0.006%
40	8,250	-	0.000%	0.7	0.009%	0.6	0.007%
41	9,000	1	0.012%	0.9	0.010%	0.7	0.008%
42	9,797	1	0.006%	1.1	0.011%	0.8	0.009%
43	10,372	-	0.000%	1.2	0.012%	1.0	0.010%
44	10,826	-	0.000%	1.4	0.013%	1.1	0.011%
45	11,190	-	0.000%	1.6	0.014%	1.3	0.012%
46	11,559	-	0.000%	1.8	0.016%	1.4	0.012%
47	11,725	1	0.009%	2.0	0.017%	1.6	0.013%
48	12,311	3	0.023%	2.7	0.022%	2.1	0.017%
49	12,998	2	0.013%	3.5	0.027%	2.8	0.021%
50	13,670	2	0.012%	4.7	0.034%	3.7	0.027%
51	14,048	5	0.035%	6.0	0.043%	4.8	0.034%
52	14,325	6	0.039%	6.9	0.048%	5.5	0.039%
53	14,098	5	0.038%	7.4	0.053%	5.9	0.042%
54	13,560	9	0.065%	7.7	0.057%	6.2	0.046%
55	12,780	2	0.017%	7.8	0.061%	6.3	0.049%
56	11,858	3	0.028%	8.3	0.070%	6.5	0.055%
57	11,249	8	0.068%	7.9	0.070%	6.2	0.055%
58	10,903	1	0.013%	7.6	0.070%	6.0	0.055%
59	10,417	5	0.043%	7.3	0.070%	5.7	0.055%
60	9,560	3	0.031%	6.7	0.070%	5.3	0.055%
	292,361	58	0.020%	97.9	0.033%	77.8	0.027%

Rate of Disability – Active Lives
'77 FUND
Data Summary B – 23

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Disabilities	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
25	104	0	0.241%	0.1	0.100%	0.1	0.100%
26	171	0	0.234%	0.2	0.100%	0.2	0.100%
27	245	0	0.120%	0.2	0.100%	0.2	0.100%
28	334	2	0.498%	0.3	0.100%	0.3	0.100%
29	408	0	0.052%	0.4	0.100%	0.4	0.100%
30	502	1	0.150%	0.5	0.100%	0.5	0.100%
31	580	1	0.166%	0.7	0.120%	0.7	0.120%
32	669	1	0.189%	0.9	0.140%	0.9	0.140%
33	774	2	0.204%	1.2	0.160%	1.2	0.160%
34	876	2	0.174%	1.6	0.180%	1.6	0.180%
35	996	1	0.114%	2.0	0.200%	2.0	0.200%
36	1,134	6	0.485%	2.5	0.220%	2.8	0.250%
37	1,276	7	0.583%	3.1	0.240%	3.8	0.300%
38	1,413	5	0.365%	3.7	0.260%	4.2	0.300%
39	1,522	8	0.526%	4.3	0.280%	4.6	0.300%
40	1,623	10	0.610%	4.9	0.300%	5.7	0.350%
41	1,804	9	0.491%	5.8	0.320%	7.2	0.400%
42	2,010	20	0.980%	6.8	0.340%	9.0	0.450%
43	2,156	17	0.777%	7.8	0.360%	10.8	0.500%
44	2,309	21	0.900%	8.8	0.380%	11.5	0.500%
45	2,499	17	0.677%	10.0	0.400%	12.5	0.500%
46	2,703	17	0.630%	11.4	0.420%	13.5	0.500%
47	2,745	16	0.572%	12.1	0.440%	13.7	0.500%
48	3,029	16	0.535%	13.9	0.460%	15.1	0.500%
49	3,260	17	0.514%	15.6	0.480%	16.3	0.500%
50	3,363	24	0.725%	16.8	0.500%	16.8	0.500%
51	3,410	17	0.489%	17.0	0.500%	17.0	0.500%
52	3,210	14	0.442%	16.1	0.500%	16.1	0.500%
53	2,513	7	0.294%	12.6	0.500%	12.6	0.500%
54	2,137	11	0.520%	10.7	0.500%	10.7	0.500%
55	1,838	4	0.202%	9.2	0.500%	9.2	0.500%
56	1,590	7	0.463%	7.9	0.500%	7.9	0.500%
57	1,268	5	0.426%	6.3	0.500%	6.3	0.500%
58	1,023	-	0.000%	5.1	0.500%	5.1	0.500%
59	868	3	0.308%	4.3	0.500%	4.3	0.500%
60	620	1	0.221%	3.1	0.500%	3.1	0.500%
	56,982	289	0.507%	227.9	0.400%	248.3	0.436%

Rate Actives Terminate Employment
PERF Political Subdivision – Salary < $20,000, Males
Data Summary B – 24

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
20	275,032	179,311	65.196%	93,510.9	34.000%	93,510.9	34.000%
21	558,054	210,388	37.700%	189,738.4	34.000%	189,738.4	34.000%
22	1,249,219	410,027	32.823%	424,734.4	34.000%	424,734.4	34.000%
23	1,935,230	619,494	32.011%	657,978.2	34.000%	657,978.2	34.000%
24	2,133,729	702,215	32.910%	725,467.7	34.000%	725,467.7	34.000%
25	2,638,234	1,089,629	41.301%	896,999.6	34.000%	896,999.6	34.000%
26	3,780,105	1,807,317	47.811%	1,285,235.6	34.000%	1,285,235.6	34.000%
27	2,659,747	781,935	29.399%	904,313.9	34.000%	904,313.9	34.000%
28	4,098,537	1,030,766	25.150%	1,393,502.5	34.000%	1,393,502.5	34.000%
29	4,729,634	1,213,807	25.664%	1,608,075.5	34.000%	1,608,075.5	34.000%
30	5,406,474	1,118,052	20.680%	1,567,877.4	29.000%	1,567,877.4	29.000%
31	4,763,162	1,367,919	28.719%	1,381,317.1	29.000%	1,381,317.1	29.000%
32	5,214,344	1,196,341	22.943%	1,512,159.8	29.000%	1,512,159.8	29.000%
33	5,189,430	1,293,956	24.934%	1,504,934.6	29.000%	1,504,934.6	29.000%
34	4,619,813	1,064,350	23.039%	1,339,745.7	29.000%	1,339,745.7	29.000%
35	5,839,005	1,630,209	27.919%	1,459,751.1	25.000%	1,459,751.1	25.000%
36	6,607,007	1,316,128	19.920%	1,651,751.7	25.000%	1,651,751.7	25.000%
37	8,216,464	1,361,206	16.567%	2,054,116.0	25.000%	2,054,116.0	25.000%
38	8,219,412	2,329,236	28.338%	2,054,853.1	25.000%	2,054,853.1	25.000%
39	10,377,108	2,075,713	20.003%	2,594,276.9	25.000%	2,594,276.9	25.000%
40	7,802,606	1,891,000	24.235%	1,872,625.4	24.000%	1,872,625.4	24.000%
41	7,168,234	1,391,545	19.413%	1,720,376.3	24.000%	1,720,376.3	24.000%
42	9,410,604	1,443,569	15.340%	2,258,544.9	24.000%	2,258,544.9	24.000%
43	9,749,966	1,526,152	15.653%	2,339,992.0	24.000%	2,339,992.0	24.000%
44	13,032,767	1,495,159	11.472%	3,127,864.1	24.000%	3,127,864.1	24.000%
45	13,747,749	1,507,749	10.967%	2,887,027.3	21.000%	2,887,027.3	21.000%
46	14,899,330	2,717,371	18.238%	3,128,859.3	21.000%	3,128,859.3	21.000%
47	14,968,500	3,145,944	21.017%	3,143,385.0	21.000%	3,143,385.0	21.000%
48	14,146,380	2,364,219	16.713%	2,970,739.8	21.000%	2,970,739.8	21.000%
49	8,385,442	820,730	9.788%	1,760,942.8	21.000%	1,760,942.8	21.000%
50	10,734,105	1,892,660	17.632%	1,824,797.8	17.000%	1,824,797.8	17.000%
51	11,039,526	2,105,880	19.076%	1,876,719.3	17.000%	1,876,719.3	17.000%
52	11,851,804	1,846,193	15.577%	2,014,806.7	17.000%	2,014,806.7	17.000%
53	10,686,167	1,590,650	14.885%	1,816,648.4	17.000%	1,816,648.4	17.000%
54	11,774,406	1,865,367	15.843%	2,001,649.0	17.000%	2,001,649.0	17.000%
55	11,146,585	1,843,656	16.540%	1,894,919.4	17.000%	1,894,919.4	17.000%
56	13,583,260	2,651,876	19.523%	2,309,154.2	17.000%	2,309,154.2	17.000%
57	13,285,452	2,213,952	16.664%	2,258,526.8	17.000%	2,258,526.8	17.000%
58	11,114,318	1,038,148	9.341%	1,889,434.1	17.000%	1,889,434.1	17.000%
59	12,817,024	1,662,361	12.970%	2,178,894.0	17.000%	2,178,894.0	17.000%
60	12,480,794	2,065,394	16.549%	2,121,734.9	17.000%	2,121,734.9	17.000%
	332,334,756	61,877,575	18.619%	72,697,982	21.875%	72,697,982	21.875%

Rate Actives Terminate Employment
PERF Political Subdivision – Salary < $20,000, Females
Data Summary B – 25

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Age	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
20	1,891,733	727,791	38.472%	756,693.3	40.000%	756,693.3	40.000%
21	3,994,169	1,777,020	44.490%	1,597,667.5	40.000%	1,597,667.5	40.000%
22	5,873,188	2,317,623	39.461%	2,349,275.2	40.000%	2,349,275.2	40.000%
23	7,768,448	2,518,033	32.414%	2,952,010.1	38.000%	2,952,010.1	38.000%
24	10,358,476	3,264,201	31.512%	3,729,051.4	36.000%	3,729,051.4	36.000%
25	12,902,853	4,816,608	37.330%	4,386,970.1	34.000%	4,386,970.1	34.000%
26	13,079,918	4,227,229	32.318%	4,185,573.7	32.000%	4,185,573.7	32.000%
27	16,162,565	6,196,505	38.339%	4,848,769.5	30.000%	4,848,769.5	30.000%
28	16,661,227	5,156,260	30.948%	4,831,755.7	29.000%	4,831,755.7	29.000%
29	18,924,353	4,284,934	22.642%	5,298,818.9	28.000%	5,298,818.9	28.000%
30	25,151,418	6,315,415	25.110%	6,790,882.9	27.000%	6,790,882.9	27.000%
31	28,184,004	6,310,239	22.389%	7,327,841.1	26.000%	7,327,841.1	26.000%
32	30,608,233	7,326,721	23.937%	7,652,058.3	25.000%	7,652,058.3	25.000%
33	35,357,030	8,203,155	23.201%	8,485,687.1	24.000%	8,485,687.1	24.000%
34	37,756,363	7,465,491	19.773%	8,683,963.4	23.000%	8,683,963.4	23.000%
35	40,664,388	7,469,908	18.370%	8,946,165.3	22.000%	8,946,165.3	22.000%
36	48,235,254	9,599,487	19.901%	10,129,403.3	21.000%	10,129,403.3	21.000%
37	54,213,265	9,093,169	16.773%	10,842,653.0	20.000%	10,842,653.0	20.000%
38	62,829,461	13,081,576	20.821%	11,937,597.7	19.000%	11,937,597.7	19.000%
39	64,875,935	11,541,126	17.790%	11,677,668.4	18.000%	11,677,668.4	18.000%
40	67,135,711	13,235,476	19.715%	11,413,070.8	17.000%	11,413,070.8	17.000%
41	79,099,591	12,772,745	16.148%	12,655,934.6	16.000%	12,655,934.6	16.000%
42	89,078,550	14,519,695	16.300%	13,361,782.5	15.000%	13,361,782.5	15.000%
43	95,930,420	13,767,937	14.352%	13,430,258.8	14.000%	13,430,258.8	14.000%
44	99,322,608	13,947,876	14.043%	12,911,939.0	13.000%	12,911,939.0	13.000%
45	107,585,605	18,227,789	16.943%	12,910,272.6	12.000%	12,910,272.6	12.000%
46	102,737,730	16,515,966	16.076%	12,328,527.6	12.000%	12,328,527.6	12.000%
47	112,719,478	16,411,739	14.560%	13,526,337.4	12.000%	13,526,337.4	12.000%
48	119,927,838	16,971,418	14.151%	14,391,340.5	12.000%	14,391,340.5	12.000%
49	101,161,544	15,064,642	14.892%	12,139,385.3	12.000%	12,139,385.3	12.000%
50	100,140,463	15,064,641	15.044%	12,016,855.5	12.000%	12,016,855.5	12.000%
51	97,331,624	13,319,107	13.684%	11,679,794.9	12.000%	11,679,794.9	12.000%
52	93,774,831	13,447,977	14.341%	11,252,979.7	12.000%	11,252,979.7	12.000%
53	94,868,021	11,077,672	11.677%	11,384,162.5	12.000%	11,384,162.5	12.000%
54	90,670,050	13,866,781	15.294%	10,880,406.0	12.000%	10,880,406.0	12.000%
55	91,659,343	11,241,218	12.264%	10,999,121.1	12.000%	10,999,121.1	12.000%
56	92,574,378	12,367,260	13.359%	11,108,925.3	12.000%	11,108,925.3	12.000%
57	79,526,021	9,672,001	12.162%	9,543,122.6	12.000%	9,543,122.6	12.000%
58	82,755,539	10,345,517	12.501%	9,930,664.7	12.000%	9,930,664.7	12.000%
59	77,754,537	10,936,021	14.065%	9,330,544.4	12.000%	9,330,544.4	12.000%
60	78,923,031	10,854,942	13.754%	9,470,763.7	12.000%	9,470,763.7	12.000%
	2,490,169,193	405,320,912	16.277%	374,076,695.5	15.022%	374,076,695.5	15.022%

Rate Actives Terminate Employment
PERF Political Subdivision – Salary At Least $20,000, Unisex
Data Summary B – 26

Indiana Public Retirement System
2019-2024 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
1	1,107	201	18.115%	177.1	16.000%	177.1	16.000%
2	1,927	292	15.160%	269.8	14.000%	269.8	14.000%
3	2,697	364	13.508%	323.7	12.000%	323.7	12.000%
4	3,420	414	12.091%	342.0	10.000%	342.0	10.000%
5	4,010	441	11.005%	320.8	8.000%	320.8	8.000%
6	4,498	425	9.452%	337.4	7.500%	337.4	7.500%
7	4,899	428	8.742%	342.9	7.000%	342.9	7.000%
8	5,105	342	6.698%	331.8	6.500%	331.8	6.500%
9	4,853	386	7.956%	315.5	6.500%	315.5	6.500%
10	4,850	427	8.811%	315.2	6.500%	315.2	6.500%
11	5,045	402	7.963%	315.3	6.250%	315.3	6.250%
12	5,472	373	6.814%	328.3	6.000%	328.3	6.000%
13	5,889	346	5.880%	338.6	5.750%	338.6	5.750%
14	2,957	177	5.982%	162.6	5.500%	162.6	5.500%
15	3,019	174	5.751%	158.5	5.250%	158.5	5.250%
16	2,840	150	5.298%	142.0	5.000%	142.0	5.000%
17	2,548	141	5.533%	121.1	4.750%	121.1	4.750%
18	2,418	104	4.312%	108.8	4.500%	108.8	4.500%
19	2,416	92	3.827%	102.7	4.250%	102.7	4.250%
20	2,262	93	4.116%	90.5	4.000%	90.5	4.000%
21	2,087	80	3.837%	78.3	3.750%	78.3	3.750%
22	1,905	66	3.455%	66.7	3.500%	66.7	3.500%
23	1,591	43	2.688%	51.7	3.250%	51.7	3.250%
24	1,223	41	3.333%	36.7	3.000%	36.7	3.000%
25	787	32	4.077%	23.6	3.000%	23.6	3.000%
	79,825	6,035	7.560%	5,201.5	6.516%	5,201.5	6.516%

Rate Actives Terminate Employment
PERF State
Data Summary B – 27
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
1	516	113	21.825%	103.1	20.000%	103.1	20.000%
2	869	165	18.978%	156.5	18.000%	156.5	18.000%
3	1,178	184	15.573%	188.5	16.000%	188.5	16.000%
4	1,478	192	13.018%	206.9	14.000%	206.9	14.000%
5	1,670	184	11.049%	200.4	12.000%	200.4	12.000%
6	1,878	188	10.029%	206.6	11.000%	206.6	11.000%
7	2,133	172	8.077%	213.3	10.000%	213.3	10.000%
8	2,322	156	6.698%	209.0	9.000%	209.0	9.000%
9	2,204	180	8.163%	176.3	8.000%	176.3	8.000%
10	2,284	202	8.853%	159.9	7.000%	159.9	7.000%
11	2,493	194	7.768%	162.1	6.500%	162.1	6.500%
12	2,631	190	7.203%	157.9	6.000%	157.9	6.000%
13	2,816	190	6.762%	161.9	5.750%	161.9	5.750%
14	1,641	115	6.999%	90.3	5.500%	90.3	5.500%
15	1,710	122	7.157%	89.8	5.250%	89.8	5.250%
16	1,532	96	6.259%	76.6	5.000%	76.6	5.000%
17	1,259	65	5.143%	59.8	4.750%	59.8	4.750%
18	1,209	58	4.798%	54.4	4.500%	54.4	4.500%
19	1,151	61	5.305%	48.9	4.250%	48.9	4.250%
20	1,093	58	5.339%	43.7	4.000%	43.7	4.000%
21	927	42	4.523%	37.1	4.000%	37.1	4.000%
22	859	39	4.566%	34.4	4.000%	34.4	4.000%
23	706	18	2.571%	28.2	4.000%	28.2	4.000%
24	597	15	2.516%	23.9	4.000%	23.9	4.000%
25	417	12	2.964%	16.7	4.000%	16.7	4.000%
	37,575	3,012	8.016%	2,906.2	7.734%	2,906.2	7.734%

Rate Actives Terminate Employment
TRF Unisex
Data Summary B – 28
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Proposed Expected	Proposed Rate
1	648	98	15.189%	87.5	13.500%
2	1,402	185	13.175%	165.4	11.800%
3	2,097	240	11.436%	213.8	10.200%
4	2,855	300	10.491%	259.8	9.100%
5	3,661	369	10.071%	292.9	8.000%
6	4,345	372	8.567%	299.8	6.900%
7	5,121	375	7.321%	297.0	5.800%
8	5,733	360	6.286%	298.1	5.200%
9	6,022	379	6.298%	283.0	4.700%
10	6,302	412	6.545%	271.0	4.300%
11	6,630	359	5.414%	258.6	3.900%
12	7,187	370	5.153%	258.7	3.600%
13	7,992	383	4.789%	263.8	3.300%
14	7,262	301	4.139%	217.9	3.000%
15	8,116	309	3.803%	227.3	2.800%
16	8,484	312	3.680%	212.1	2.500%
17	8,550	321	3.752%	213.8	2.500%
18	8,672	246	2.839%	216.8	2.500%
19	8,799	270	3.068%	220.0	2.500%
20	8,795	212	2.411%	219.9	2.500%
21	8,698	204	2.349%	217.4	2.500%
22	8,097	191	2.355%	202.4	2.500%
23	7,172	161	2.241%	179.3	2.500%
24	5,556	104	1.875%	138.9	2.500%
25	3,288	70	2.114%	82.2	2.500%
	151,485	6,902	4.556%	5,597.4	3.695%

Rate Actives Terminate Employment
'77 FUND
Data Summary B – 29
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
1	273	11	3.990%	13.7	5.000%	13.7	5.000%
2	509	23	4.548%	20.4	4.000%	20.4	4.000%
3	727	29	3.969%	25.4	3.500%	25.4	3.500%
4	886	35	4.001%	31.0	3.500%	31.0	3.500%
5	1,001	32	3.197%	25.0	2.500%	25.0	2.500%
6	1,045	31	2.977%	20.9	2.000%	20.9	2.000%
7	1,049	32	3.047%	21.0	2.000%	21.0	2.000%
8	989	29	2.924%	19.8	2.000%	19.8	2.000%
9	1,000	23	2.338%	15.0	1.500%	15.0	1.500%
10	994	21	2.112%	14.9	1.500%	14.9	1.500%
11	1,286	21	1.601%	19.3	1.500%	19.3	1.500%
12	1,586	20	1.291%	15.9	1.000%	15.9	1.000%
13	1,886	22	1.178%	18.9	1.000%	18.9	1.000%
14	2,185	24	1.103%	21.9	1.000%	21.9	1.000%
15	2,462	12	0.479%	24.6	1.000%	24.6	1.000%
16	2,492	14	0.551%	24.9	1.000%	24.9	1.000%
17	2,623	11	0.415%	26.2	1.000%	26.2	1.000%
18	2,783	7	0.255%	27.8	1.000%	27.8	1.000%
19	1,913	99	5.173%	19.1	1.000%	19.1	1.000%
20	1,808	95	5.248%	36.2	2.000%	36.2	2.000%
21	1,665	61	3.657%	33.3	2.000%	33.3	2.000%
22	1,343	34	2.526%	26.9	2.000%	26.9	2.000%
23	1,054	29	2.789%	21.1	2.000%	21.1	2.000%
24	676	15	2.204%	13.5	2.000%	13.5	2.000%
25	302	10	3.414%	6.0	2.000%	6.0	2.000%
	34,540	741	2.145%	542.7	1.571%	542.7	1.571%

Rate Actives Terminate Employment
JRS
Data Summary B – 30
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
1	24	0	1.774%	0.7	3.000%	0.7	3.000%
2	51	1	1.548%	1.5	3.000%	1.5	3.000%
3	52	1	1.509%	1.6	3.000%	1.6	3.000%
4	97	1	1.182%	2.9	3.000%	2.9	3.000%
5	102	5	4.780%	3.0	3.000%	3.0	3.000%
6	121	1	1.232%	3.6	3.000%	3.6	3.000%
7	91	3	3.718%	2.7	3.000%	2.7	3.000%
8	123	2	2.016%	3.7	3.000%	3.7	3.000%
9	83	1	1.688%	2.5	3.000%	2.5	3.000%
10	98	2	1.814%	2.9	3.000%	2.9	3.000%
11	93	5	5.377%	2.8	3.000%	2.8	3.000%
12	105	2	2.039%	3.1	3.000%	3.1	3.000%
13	81	3	4.018%	2.4	3.000%	2.4	3.000%
14	101	-	0.000%	3.0	3.000%	3.0	3.000%
15	73	2	3.394%	2.2	3.000%	2.2	3.000%
16	91	5	5.245%	2.7	3.000%	2.7	3.000%
17	54	-	0.000%	1.6	3.000%	1.6	3.000%
18	72	3	4.018%	2.1	3.000%	2.1	3.000%
19	42	-	0.000%	1.3	3.000%	1.3	3.000%
20	42	-	0.000%	1.3	3.000%	1.3	3.000%
21	34	3	10.324%	1.0	3.000%	1.0	3.000%
22	52	-	0.000%	1.5	3.000%	1.5	3.000%
23	-	-	0.000%	-	3.000%	-	3.000%
24	15	-	0.000%	0.4	3.000%	0.4	3.000%
25	-	-	0.000%	-	3.000%	-	3.000%
	1,698	43	2.507%	50.9	3.000%	50.9	3.000%

Rate Actives Terminate Employment
PARF
Data Summary B – 31
Indiana Public Retirement System
2014-2019 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
1	9	1	10.784%	0.9	10.000%	0.9	10.000%
2	18	1	6.055%	1.8	10.000%	1.8	10.000%
3	25	2	8.591%	2.5	10.000%	2.5	10.000%
4	40	2	5.612%	4.0	10.000%	4.0	10.000%
5	33	1	3.960%	3.3	10.000%	3.3	10.000%
6	37	1	3.878%	3.7	10.000%	3.7	10.000%
7	37	3	8.218%	3.7	10.000%	3.7	10.000%
8	48	2	3.853%	4.8	10.000%	4.8	10.000%
9	28	-	0.000%	2.8	10.000%	2.8	10.000%
10	45	1	2.587%	4.5	10.000%	4.5	10.000%
11	49	7	13.568%	4.9	10.000%	4.9	10.000%
12	54	3	6.162%	5.4	10.000%	5.4	10.000%
13	43	5	12.629%	4.3	10.000%	4.3	10.000%
14	45	3	7.416%	4.5	10.000%	4.5	10.000%
15	28	9	31.792%	2.8	10.000%	2.8	10.000%
16	37	7	18.686%	3.7	10.000%	3.7	10.000%
17	28	-	0.000%	2.8	10.000%	2.8	10.000%
18	38	3	7.015%	3.8	10.000%	3.8	10.000%
19	40	6	14.501%	4.0	10.000%	4.0	10.000%
20	48	3	6.893%	4.8	10.000%	4.8	10.000%
21	35	-	0.000%	3.5	10.000%	3.5	10.000%
22	44	3	6.455%	4.4	10.000%	4.4	10.000%
23	11	6	50.543%	1.1	10.000%	1.1	10.000%
24	10	4	43.232%	1.0	10.000%	1.0	10.000%
25	-	-	0.000%	-	10.000%	-	10.000%
	829	74	8.971%	82.9	10.000%	82.9	10.000%

Rate Actives Terminate Employment
EG&C
Data Summary B – 32
Indiana Public Retirement System
2019-2024 Experience (Weighted)

Duration	Exposure	Actual Terminations	Actual Rate	Current Expected	Current Rate	Proposed Expected	Proposed Rate
1	6	0	4.433%	0.6	10.000%	0.3	6.000%
2	8	0	5.066%	0.7	9.000%	0.4	5.500%
3	14	0	1.231%	1.1	8.000%	0.7	5.000%
4	21	1	3.668%	1.5	7.000%	1.0	4.500%
5	27	0	1.119%	1.6	6.000%	1.1	4.000%
6	40	2	4.586%	2.0	5.000%	1.4	3.500%
7	49	-	0.000%	2.0	4.000%	1.5	3.000%
8	55	1	1.243%	1.6	3.000%	1.4	2.500%
9	55	1	1.311%	1.1	2.000%	1.1	2.000%
10	67	2	3.601%	0.7	1.000%	1.0	1.500%
11	80	2	2.189%	0.8	1.000%	1.2	1.500%
12	101	2	1.620%	1.0	1.000%	1.5	1.500%
13	149	4	2.676%	1.5	1.000%	2.2	1.500%
14	58	2	3.541%	0.6	1.000%	0.9	1.500%
15	82	1	1.370%	0.8	1.000%	1.2	1.500%
16	79	1	1.742%	0.8	1.000%	1.2	1.500%
17	53	-	0.000%	0.5	1.000%	0.8	1.500%
18	22	-	0.000%	0.2	1.000%	0.3	1.500%
19	19	-	0.000%	0.2	1.000%	0.3	1.500%
20	7	-	0.000%	0.1	1.000%	0.1	1.500%
21	5	2	30.683%	0.1	1.000%	0.1	1.500%
22	-	-	0.000%	-	1.000%	-	1.500%
23	-	-	0.000%	-	1.000%	-	1.500%
24	-	-	0.000%	-	1.000%	-	1.500%
25	-	-	0.000%	-	1.000%	-	1.500%
	995	21	2.113%	19.4	1.947%	19.6	1.974%

Exhibit C-1: PERF

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. Effective June 30, 2018, the bases are calculated without regards to the COLA provisions. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Surcharge Rate

The Surcharge Rate is based on the same normal cost and amortization method as is being used for the base benefits, effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised beyond a 13th Check payable in Fiscal Year 2025.

3. Asset Valuation Method

Actuarial Value of Assets is equal to a five-year smoothing of gains and losses on the Market Value of Assets subject to a 20% corridor.

4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, year (x+1) is equal to the actual payroll during the year ending June 30, year (x+1), increased with one year of salary scale.

5. Employer Contribution Rates

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed for each employer. The Board considers this information and has ultimate authority in setting the employer contribution rates.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return

6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation

2.00% per year

3. Salary increase

Service	Wage Inflation	Merit	Salary Increase
0	2.65%	6.00%	8.65%
1	2.65%	5.00%	7.65%
2	2.65%	4.00%	6.65%
3	2.65%	3.00%	5.65%
4	2.65%	2.50%	5.15%
5	2.65%	2.00%	4.65%
6	2.65%	1.75%	4.40%
7	2.65%	1.50%	4.15%
8	2.65%	1.25%	3.90%
9	2.65%	1.00%	3.65%
10	2.65%	0.75%	3.40%
11	2.65%	0.50%	3.15%
12	2.65%	0.25%	2.90%
13+	2.65%	0.00%	2.65%

4. Cost-of-Living Adjustment (COLA)

A one-time 13th check was granted and payable by October 1, 2024. Thereafter, it is assumed participants who have commenced benefits prior to July 1, 2025 will receive an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – General Employee table with a 3 year set forward for males and a 1 year set forward for females.

Retirees – General Retiree table with a 3 year set forward for males and a 1 year set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

	Sample Rates	
Age	Male	Female
20	0.004%	0.003%
25	0.008%	0.006%
30	0.014%	0.010%
35	0.024%	0.018%
40	0.042%	0.032%
45	0.080%	0.061%
50	0.160%	0.124%
55+	0.300%	0.200%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
50-54	4%	N/A
55	5%	14%
56-59	5%	10%
60	N/A	12%
61	N/A	16%
62	N/A	22%
63	N/A	19%
64	N/A	24%
65-74	N/A	30%
75+	N/A	100%

Active members: 30% commence benefit immediately (reduced for early retirement, if applicable). 70% defer to earliest unreduced retirement date.

Inactive vested members are assumed to commence their retirement benefit at their earliest normal retirement date.

4. Termination

	State	PSD, Salary >$20K
Service	Unisex	Unisex
0	24.00%	18.00%
1	20.00%	16.00%
2	18.00%	14.00%
3	16.00%	12.00%
4	14.00%	10.00%
5	12.00%	8.00%
6	11.00%	7.50%
7	10.00%	7.00%
8	9.00%	6.50%
9	8.00%	6.50%
10	7.00%	6.50%
11	6.50%	6.25%
12	6.00%	6.00%
13	5.75%	5.75%
14	5.50%	5.50%
15	5.25%	5.25%
16	5.00%	5.00%
17	4.75%	4.75%
18	4.50%	4.50%
19	4.25%	4.25%
20	4.00%	4.00%
21	4.00%	3.75%
22	4.00%	3.50%
23	4.00%	3.25%
24	4.00%	3.00%
25	4.00%	3.00%
26	4.00%	3.00%
27+	1.00%	3.00%

PSD, Salary <$20k		
Age	Male	Female
15-22	34.00%	40.00%
23	34.00%	38.00%
24	34.00%	36.00%
25	34.00%	34.00%
26	34.00%	32.00%
27	34.00%	30.00%
28	34.00%	29.00%
29	34.00%	28.00%
30	29.00%	27.00%
31	29.00%	26.00%
32	29.00%	25.00%
33	29.00%	24.00%
34	29.00%	23.00%
35	25.00%	22.00%
36	25.00%	21.00%
37	25.00%	20.00%
38	25.00%	19.00%
39	25.00%	18.00%
40	24.00%	17.00%
41	24.00%	16.00%
42	24.00%	15.00%
43	24.00%	14.00%
44	24.00%	13.00%
45-49	21.00%	12.00%
50-60	17.00%	12.00%
61+	14.00%	12.00%

Other Assumptions

1. Form of payment	100% of members are assumed to elect the normal form of benefit payment, a single life annuity with a five-year certain period.
2. Marital status	
a. Percent married	80% of male members and 65% of female members are assumed to be married and or to have a dependent beneficiary.
b. Spouse's age	Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.
3. Decrement timing	Decrements are assumed to occur at the beginning of the year.
4. Miscellaneous adjustments	For active members, the Average Annual Compensation was increased by $200 for additional wages received upon termination, such as severance or unused sick leave.
5. Benefit commencement timing	
Active members	If eligible for a reduced early retirement benefit upon termination from employment, 33% commence immediately and 67% defer to earliest unreduced retirement age. If eligible for an unreduced retirement benefit upon termination from employment, 100% commence immediately.
Terminated vested members	100% defer to earliest unreduced retirement age. If currently eligible for an unreduced retirement benefit, 100% commence immediately.

Data Adjustments
Actives and inactives with no date of birth are assumed to be the average age of the member population with their respective status. Additionally, payroll for new hires is annualized, and actives missing a salary are assumed to earn the average active salary amount.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit C-2: TRF

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. COLA Surcharge

The Surcharge Rate is based on the same normal cost and amortization method as is being used for the base benefits, effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised beyond a 13th Check payable in Fiscal Year 2025.

3. Asset Valuation Method

Actuarial Value of Assets is equal to a five-year smoothing of gains and losses on the Market Value of Assets subject to a 20% corridor.

4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, year (x+1) is equal to the actual payroll for the combined TRF ’96 and TRF Pre-’96 plans during the year ending June 30, year (x+1), increased with one year of salary scale.

5. Employer Contribution Rates

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed for each employer. The Board considers this information and has ultimate authority in setting the employer contribution rates.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return

6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation

2.00% per year

3. Salary increase

Service	Wage Inflation	Merit	Salary Increase
0-1	2.65%	9.25%	11.90%
2	2.65%	4.25%	6.90%
3	2.65%	2.75%	5.40%
4-14	2.65%	1.75%	4.40%
15	2.65%	1.50%	4.15%
16	2.65%	1.25%	3.90%
17	2.65%	1.00%	3.65%
18	2.65%	0.75%	3.40%
19	2.65%	0.50%	3.15%
20	2.65%	0.25%	2.90%
21+	2.65%	0.00%	2.65%

4. Cost-of-Living Adjustment (COLA)

A one-time 13th check was granted and payable by October 1, 2024. Thereafter, it is assumed participants who have commenced benefits prior to July 1, 2025 will receive an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Teacher Employee table with a 1 year set forward for males and a 1 year set forward for females.

Retirees – Teacher Retiree table with a 1 year set forward for males and a 1 year set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

Age	Sample Rates
<=36	0.005%
40	0.009%
45	0.014%
50	0.034%
55	0.061%
56-65	0.070%
66+	0.000%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
50-53	2.0%	N/A
54	5.0%	N/A
55-56	5.0%	15%
57	6.5%	15%
58	8.0%	15%
59	12.0%	15%
60	N/A	15%
61	N/A	20%
62	N/A	25%
63	N/A	30%
64	N/A	35%
65-74	N/A	40%
75+	N/A	100%

Active members: 30% commence benefit immediately (reduced for early retirement, if applicable). 70% defer to earliest unreduced retirement date.

Inactive vested members are assumed to commence their retirement benefit at their earliest normal retirement date.

4. Termination

Service	Male	Female
0	15.00%	12.50%
1	13.00%	11.50%
2	11.00%	10.50%
3	9.00%	9.50%
4	8.00%	8.50%
5	7.00%	7.50%
6	6.00%	6.50%
7	5.00%	5.50%
8	4.50%	5.00%
9	4.00%	4.50%
10	3.75%	4.00%
11	3.50%	3.50%
12	3.25%	3.25%
13	3.00%	3.00%
14	2.75%	2.75%
15	2.50%	2.50%
16+	2.25%	2.25%

Other Assumptions

1. Form of payment

100% of members are assumed to elect the normal form of benefit payment (Option A-1), a single life annuity with a five-year certain period.

2. Marital status

a. Percent married

80% of male members and 75% of female members are assumed to be married and or to have a dependent beneficiary.

b. Spouse's age

Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing

Decrements are assumed to occur at the beginning of the year.

4. Miscellaneous adjustments

For active members, the Average Annual Compensation was increased by $200 for additional wages received upon termination, such as severance or unused sick leave.

Data Adjustments
For members reported with no gender, the member is assumed to be female. Additionally, active members missing a salary are assumed to have earned the average salary.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit C-3: '77 Fund

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a closed 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over an open 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different from assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

3. Employer Contribution Rate

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information and has ultimate authority in setting the employer contribution rate.

4. Anticipated Payroll

The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with one year of salary scale.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually (net of administrative and investment expenses)
2. Inflation	2.00% per year
3. Salary increase	2.65% per year
4. Interest on member balances	3.30% per year
5. Cost-of-Living Adjustment (COLA)	1.95% compounded annually. Known COLAs are reflected in the valuation. For benefits paid under the 2017 House Enrolled Act No. 1617, the annual cost-of-living assumption is 2.65%, which is the same as the salary increase assumption for active members.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Safety Employee table with a 3 year set forward for males and no set forward for females.

Retirees – Safety Retiree table with a 3 year set forward for males and no set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table.

2. Disability

Age	Sample Rates
<=30	0.100%
35	0.200%
40	0.300%
45	0.400%
50+	0.500%

Rates for ages 30-50 increase by 0.02% per year.

3. Retirement

Retirement Rate	
Age	Rate
50-51	5.0%
52-55	15.0%
56-58	20.0%
59	22.5%
60-64	25.0%
65-69	50.0%
70+	100.0%

Of those who retire:		
Service	Enter DROP	Commence Immediately
<=20	35%	65%
21	40%	60%
22	45%	55%
23	50%	50%
24-26	55%	45%
27	60%	40%
28	65%	35%
29+	70%	30%

Active members who elect to enter DROP are assumed be in DROP for a period of 5 years, upon which time they take the full lump sum and commence their annuity benefit.

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date (age 50, or current age if greater).

4. Termination

Years of Service	Rate
0	10.0%
1	5.0%
2	4.0%
3-4	3.5%
5	2.5%
6-8	2.0%
9-11	1.5%
12-19	1.0%
20+	2.0%

Other Assumptions

1. Form of payment

Members are assumed to elect either a single life annuity or a 70% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married

80% of male members and 60% of female members are assumed to be married or to have a dependent beneficiary. No members are assumed to have any children for the child death benefit.

b. Spouse's age	Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.
3. Decrement timing	Decrements are assumed to occur at the beginning of the year.
4. Members in DROP	Members who are participating in the DROP are assumed to receive an annuity benefit commencing at the end of their DROP period, as well as a lump sum payment equal to the number of years they were in the DROP times their annual annuity benefit.
5. Active member death	20% are assumed to be in the line of duty and 80% are other than in the line of duty.
6. Active member disability retirement	For members hired after 1989 who become disabled: 59% are assumed to be Class 1, 10% are assumed to be Class 2, 30% are assumed to be Class 3, and 1% are assumed to be a catastrophic disability (HEA 1617). The additional monthly amount determined under IC 36-8-8-13.5(f) based on the degree of impairment is assumed to be 17%. For members hired before 1989 who become disabled: 99% are assumed to be a non-catastrophic disability, and 1% are assumed to be a catastrophic disability (HEA 1617).

TECHNICAL VALUATION PROCEDURES

Other Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit C-4: Judges

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different from assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

3. State Appropriations

Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

4. Anticipated Payroll

The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with the actual pay adjustment as of the valuation date. The proportion of pay attributable to active members with more than 22 years of service is presumed constant.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually (net of administrative and investment expenses)
2. Inflation	2.00% per year
3. Salary increase	2.65% per year beginning July 1, 2024. Actual salary increases on July 1, 2023 (7.80%) and July 1, 2024 (3.00%) are reflected in the valuation.
4. Interest on member balances	3.30% per year
5. Cost-of-Living Adjustment (COLA)	2.65% compounded annually, beginning July 1, 2024. Actual COLA increases at July 1, 2023 (7.80%) and July 1, 2024 (3.00%) are reflected in the valuation.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – General Employee table with a 1 year setback for males and a 1 year setback for females.

Retirees – General Retiree table with a 1 year setback for males and a 1 year setback for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

Age	Sample Rates
20	0.057%
25	0.081%
30	0.105%
35	0.140%
40	0.210%
44-64	0.300%
65+	0.000%

3. Retirement

Age	Eligible for Reduced Benefit	Eligible for Unreduced Benefit
55-61	N/A	20%
62-64	8%	20%
65-74	N/A	30%
75+	N/A	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date.

4. Termination — 3% per year for all members prior to retirement eligibility.

Other Assumptions

1. Form of payment — Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married — 90% of members are assumed to be married or to have a dependent beneficiary.

   b. Spouse's age — Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing — Decrements are assumed to occur at the beginning of the year.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit C-5: PARF

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

3. Anticipated Payroll

The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with the actual pay adjustment as of the valuation date. The proportion of pay attributable to active members with more than 22 years of service is presumed constant.

4. **Employer Contribution Rate**

   Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed for each employer. The Board considers this information when requesting funds from the State.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually (net of administrative and investment expenses)
2. Inflation	2.00% per year
3. Salary increase	2.65% per year beginning July 1, 2024. Actual salary increases on July 1, 2023 (7.80%) and July 1, 2024 (3.00%) are reflected in the in the liability valuation at June 30, 2023.
4. Interest on member balances	3.30% per year
5. Cost-of-Living Adjustment (COLA)	None

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – General Employee table with a 1 year setback for males and a 1 year setback for females.

Retirees – General Retiree table with a 1 year setback for males and a 1 year setback for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

	Sample Rates	
Age	Male	Female
20	0.004%	0.003%
25	0.008%	0.006%
30	0.014%	0.010%
35	0.024%	0.018%
40	0.042%	0.032%
45	0.080%	0.061%
50	0.160%	0.124%
55+	0.300%	0.200%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
55-61	N/A	40%
62-64	20%	40%
65-69	N/A	50%
70+	N/A	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest unreduced eligible retirement date (age 62, or current age if greater).

4. Termination

10% per year for all members prior to retirement eligibility.

Other Assumptions

1. Form of payment

Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status

a. Percent married

90% of participants are assumed either to be married or to have a dependent beneficiary.

b. Spouse's age

Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing

Decrements are assumed to occur at the beginning of the year.

4. PERF benefit commencement timing

For active and inactive vested members, 75% are assumed to commence their benefit at earliest PERF eligibility and 25% are assumed to commence at the assumed PARF commencement.

Elected officials can commence their PERF benefit while active in PARF. Non-elected officials need to terminate their employment prior to commence their PERF benefit.

Data Adjustments

Spouse gender is assumed to be the opposite gender of the member. Additionally, payroll for new hires is annualized.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit C-6: EG&C

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants (active and inactive). Gains and losses occurring from investment experience different from assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. COLA Surcharge

The Surcharge Rate is based on the same normal cost and amortization method as is being used for the base benefits, effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised beyond a 13th Check payable in Fiscal Year 2025.

3. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, year (x+1) is equal to the actual payroll during the year ending June 30, year (x+1), increased with one year of salary scale.

5. Employer Contribution Rate

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information and has ultimate authority in setting the employer contribution rate.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return

6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation

2.00% per year

3. Salary increase

Service	Wage Inflation	Merit	Salary Increase
0	2.65%	2.25%	4.90%
1	2.65%	2.00%	4.65%
2	2.65%	1.75%	4.40%
3	2.65%	1.50%	4.15%
4	2.65%	1.25%	3.90%
5	2.65%	1.00%	3.65%
6	2.65%	0.75%	3.40%
7	2.65%	0.50%	3.15%
8	2.65%	0.25%	2.90%
9+	2.65%	0.00%	2.65%

4. Interest on member balances

3.30% per year

5. Cost-of-Living Adjustment (COLA)

A one-time 13th check was granted and payable by October 1, 2024. Thereafter, it is assumed participants who have commenced benefits prior to July 1, 2025 will receive an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Safety Employee table with a 3 year set forward for males and no set forward for females.

Retirees – Safety Retiree table with a 3 year set forward for males and no set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table.

2. Disability

Age	Sample Rates
<=30	0.100%
35	0.200%
40	0.300%
45	0.400%
50+	0.500%

Rates for ages 30-50 increase by 0.02% per year.

Active members who become disabled are assumed to receive 20% of their salary if they have less than 5 years of service and 40% of their salary if they have 5 or more years of service.

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
45-54	2%	50%
55-58	2%	50%
59	2%	50%
60	N/A	55%
61	N/A	65%
62-64	N/A	75%
65+	N/A	100%

Active members: Of those who retire, 50% enter DROP and the other 50% retire immediately. Those who elect to enter DROP are assumed be in DROP for a period of 5 years, upon which time they take the full lump sum and commence their annuity benefit.

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date (age 45, or current age if greater).

4. Termination

Years of Service	Rate
0-1	10.0%
2	9.0%
3	8.0%
4	7.0%
5	6.0%
6	5.0%
7	4.0%
8	3.0%
9	2.0%
10+	1.0%

Other Assumptions

1. Form of payment	Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.
2. Marital status	
a. Percent married	90% of members are assumed to be married or to have a dependent beneficiary.
b. Spouse's age	Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.
3. Decrement timing	Decrements are assumed to occur at the beginning of the year.
4. Members in DROP	Members who are participating in the DROP are assumed to receive an annuity benefit commencing at the end of their DROP period as well as a lump sum payment equal to the number of years they were in the DROP times their annual annuity benefit. The annuity benefit is estimated based on salary and service at the time the member entered the DROP.
5. Active Member Death	20% are assumed to be in the line of duty and 80% are other than in the line of duty.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit C-7: LE DB

ACTUARIAL METHODS

1. Actuarial Cost Method

Funding:

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date. Since the benefits for all members of the Legislator's Defined Benefit Plan are fixed and no longer increasing with future service credit or future salary increases, applying the Entry Age Normal cost method results in the Actuarial Accrued Liability being equal to the Present Value of Future Benefits (i.e. all benefits are treated as though they are attributable to past service) and the Normal Cost being equal to $0. This is consistent with the actual status of member benefit accruals.

Gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 5-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 5-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

Accounting:

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

Gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants (active and inactive). Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. COLA Funding Amount

The COLA may be funded by either direct State appropriations or by allocation of a portion of the lottery proceeds. For consistency with other funds, a funding amount is shown in this report based on the same normal cost and amortization method as is being used for the base benefits, except than the unfunded SRA liability is amortized over a 5-year period. This is effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised.

3. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

4. State Appropriations

Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually
2. Inflation	2.00% per year
3. Salary increase	2.65% per year
4. Cost-of-Living Adjustment (COLA)	Participants who have commenced benefits prior to July 1, 2025 are assumed an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality	Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019. *Healthy Employees* – General Employee table with a 1 year setback for males and a 1 year setback for females. *Retirees* – General Retiree table with a 1 year setback for males and a 1 year setback for females. *Beneficiaries* – Contingent Survivor table with no set forward for males and a 2 year set forward for females. *Disableds* – General Disabled table with a 140% load.
2. Disability	None
3. Termination	None

4. Retirement

Age	Rate
55	10%
56-57	8%
58-61	2%
62-64	5%
65+	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement age.

Other Assumptions

1. Form of payment — Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married — 90% of members are assumed to be married or to have a dependent beneficiary.

   b. Spouse's age — Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing — Decrements are assumed to occur at the beginning of the year.

4. Administrative expense — Replacement basis. Administrative expenses incurred during the year prior to the valuation date are included in the calculation of funds to be appropriated to the LE DB Fund by the State.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-1: PERF

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. Effective June 30, 2018, the bases are calculated without regards to the COLA provisions. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Surcharge Rate

The Surcharge Rate is based on the same normal cost and amortization method as is being used for the base benefits, effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised beyond a 13th Check payable in Fiscal Year 2025.

3. Asset Valuation Method

Actuarial Value of Assets is equal to a five-year smoothing of gains and losses on the Market Value of Assets subject to a 20% corridor.

4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, year (x+1) is equal to the actual payroll during the year ending June 30, year (x+1), increased with one year of salary scale.

5. Employer Contribution Rates

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information and has ultimate authority in setting the employer contribution rates.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return

6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation

2.00% per year

3. Salary increase

Service	Wage Inflation*	Merit	Salary Increase
0	2.90%/2.65%	6.00%	8.90%/8.65%
1	2.90%/2.65%	5.00%	7.90%/7.65%
2	2.90%/2.65%	4.00%	6.90%/6.65%
3	2.90%/2.65%	3.00%	5.90%/5.65%
4	2.90%/2.65%	2.50%	5.40%/5.15%
5	2.90%/2.65%	2.00%	4.90%/4.65%
6	2.90%/2.65%	1.75%	4.65%/4.40%
7	2.90%/2.65%	1.50%	4.40%/4.15%
8	2.90%/2.65%	1.25%	4.15%/3.90%
9	2.90%/2.65%	1.00%	3.90%/3.65%
10	2.90%/2.65%	0.75%	3.65%/3.40%
11	2.90%/2.65%	0.50%	3.40%/3.15%
12	2.90%/2.65%	0.25%	3.15%/2.90%
13+	2.90%/2.65%	0.00%	2.90%/2.65%

*2.90% for the five-year period ending June 30, 2030 with an ultimate rate of 2.65% thereafter.

4. Cost-of-Living Adjustment (COLA)

A one-time 13th check was granted and payable by October 1, 2024. Thereafter, it is assumed participants who have commenced benefits prior to July 1, 2025 will receive an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – General Employee table with a 3 year set forward for males and a 1 year set forward for females.

Retirees – General Retiree table with a 3 year set forward for males and a 1 year set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

	Sample Rates	
Age	Male	Female
20	0.0033%	0.0031%
25	0.0058%	0.0043%
30	0.0101%	0.0077%
35	0.0179%	0.0137%
40	0.0315%	0.0242%
45	0.0598%	0.0461%
50	0.1203%	0.0934%
55+	0.2250%	0.1500%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
50-54	4%	N/A
55	5%	14%
56-59	5%	10%
60	N/A	12%
61	N/A	16%
62	N/A	22%
63	N/A	19%
64	N/A	24%
65-74	N/A	30%
75+	N/A	100%

Active members: 30% commence benefit immediately (reduced for early retirement, if applicable). 70% defer to earliest unreduced retirement date.

Inactive vested members are assumed to commence their retirement benefit at their earliest normal retirement date.

4. Termination

	State	PSD, Salary >$20K
Service	Unisex	Unisex
0	24.00%	18.00%
1	20.00%	16.00%
2	18.00%	14.00%
3	16.00%	12.00%
4	14.00%	10.00%
5	12.00%	8.00%
6	11.00%	7.50%
7	10.00%	7.00%
8	9.00%	6.50%
9	8.00%	6.50%
10	7.00%	6.50%
11	6.50%	6.25%
12	6.00%	6.00%
13	5.75%	5.75%
14	5.50%	5.50%
15	5.25%	5.25%
16	5.00%	5.00%
17	4.75%	4.75%
18	4.50%	4.50%
19	4.25%	4.25%
20	4.00%	4.00%
21	4.00%	3.75%
22	4.00%	3.50%
23	4.00%	3.25%
24	4.00%	3.00%
25	4.00%	3.00%
26	4.00%	3.00%
27+	1.00%	3.00%

PSD, Salary <$20k		
Age	Male	Female
15-22	34.00%	40.00%
23	34.00%	38.00%
24	34.00%	36.00%
25	34.00%	34.00%
26	34.00%	32.00%
27	34.00%	30.00%
28	34.00%	29.00%
29	34.00%	28.00%
30	29.00%	27.00%
31	29.00%	26.00%
32	29.00%	25.00%
33	29.00%	24.00%
34	29.00%	23.00%
35	25.00%	22.00%
36	25.00%	21.00%
37	25.00%	20.00%
38	25.00%	19.00%
39	25.00%	18.00%
40	24.00%	17.00%
41	24.00%	16.00%
42	24.00%	15.00%
43	24.00%	14.00%
44	24.00%	13.00%
45-49	21.00%	12.00%
50-60	17.00%	12.00%
61+	14.00%	12.00%

Other Assumptions

1. Form of payment	100% of members are assumed to elect the normal form of benefit payment, a single life annuity with a five-year certain period.
2. Marital status	
a. Percent married	80% of male members and 65% of female members are assumed to be married and or to have a dependent beneficiary.
b. Spouse's age	Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.
3. Decrement timing	Decrements are assumed to occur at the middle of the year.
4. Miscellaneous adjustments	For active members, the Average Annual Compensation was increased by $200 for additional wages received upon termination, such as severance or unused sick leave.
5. Benefit commencement timing	
Active members	If eligible for a reduced early retirement benefit upon termination from employment, 33% commence immediately and 67% defer to earliest unreduced retirement age. If eligible for an unreduced retirement benefit upon termination from employment, 100% commence immediately.
Terminated vested members	100% defer to earliest unreduced retirement age. If currently eligible for an unreduced retirement benefit, 100% commence immediately.

Data Adjustments
Actives and inactives with no date of birth are assumed to be the average age of the member population with their respective status. Additionally, payroll for new hires is annualized, and actives missing a salary are assumed to earn the average active salary amount.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-2: TRF

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. COLA Surcharge

The Surcharge Rate is based on the same normal cost and amortization method as is being used for the base benefits, effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised beyond a 13th Check payable in Fiscal Year 2025.

3. Asset Valuation Method

Actuarial Value of Assets is equal to a five-year smoothing of gains and losses on the Market Value of Assets subject to a 20% corridor.

4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, year (x+1) is equal to the actual payroll for the combined TRF '96 and TRF Pre-'96 plans during the year ending June 30, year (x+1), increased with one year of salary scale.

5. Employer Contribution Rates

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information and has ultimate authority in setting the employer contribution rates.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return

6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation

2.00% per year

3. Salary increase

Service	Wage Inflation*	Merit	Salary Increase
0-1	2.90%/2.65%	9.25%	12.15%/11.90%
2	2.90%/2.65%	4.25%	7.15%/6.90%
3	2.90%/2.65%	2.75%	5.65%/5.40%
4-14	2.90%/2.65%	1.75%	4.65%/4.40%
15	2.90%/2.65%	1.50%	4.40%/4.15%
16	2.90%/2.65%	1.25%	4.15%/3.90%
17	2.90%/2.65%	1.00%	3.90%/3.65%
18	2.90%/2.65%	0.75%	3.65%/3.40%
19	2.90%/2.65%	0.50%	3.40%/3.15%
20	2.90%/2.65%	0.25%	3.15%/2.90%
21+	2.90%/2.65%	0.00%	2.90%/2.65%

*2.90% for the five-year period ending June 30, 2030 with an ultimate rate of 2.65% thereafter.

4. Cost-of-Living Adjustment (COLA)

A one-time 13th check was granted and payable by October 1, 2024. Thereafter, it is assumed participants who have commenced benefits prior to July 1, 2025 will receive an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Teacher Employee table with a 1 year set forward for males and a 1 year set forward for females.

Retirees – Teacher Retiree table with a 1 year set forward for males and a 1 year set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

Age	Sample Rates
<=36	0.0040%
40	0.0069%
45	0.0115%
50	0.0274%
55	0.0491%
56-65	0.0550%
66+	0.0000%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
50-53	2.00%	N/A
54	5.00%	N/A
55-56	5.00%	15%
57	6.50%	15%
58	7.00%	15%
59	7.00%	15%
60	N/A	15%
61	N/A	20%
62	N/A	25%
63	N/A	25%
64	N/A	30%
65-74	N/A	40%
75+	N/A	100%

Active members: 30% commence benefit immediately (reduced for early retirement, if applicable). 70% defer to earliest unreduced retirement date.

Inactive vested members are assumed to commence their retirement benefit at their earliest normal retirement date.

4. Termination

Service	Unisex
0	15.10%
1	13.50%
2	11.80%
3	10.20%
4	9.10%
5	8.00%
6	6.90%
7	5.80%
8	5.20%
9	4.70%
10	4.30%
11	3.90%
12	3.60%
13	3.30%
14	3.00%
15	2.80%
16+	2.50%

Other Assumptions

1. Form of payment

100% of members are assumed to elect the normal form of benefit payment (Option A-1), a single life annuity with a five-year certain period.

2. Marital status

a. Percent married

80% of male members and 75% of female members are assumed to be married and or to have a dependent beneficiary.

b. Spouse's age

Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing

Decrements are assumed to occur at the middle of the year.

4. Miscellaneous adjustments

For active members, the Average Annual Compensation was increased by $200 for additional wages received upon termination, such as severance or unused sick leave.

Data Adjustments
For members reported with no gender, the member is assumed to be female. Additionally, active members missing a salary are assumed to have earned the average salary.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-3: '77 Fund

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a closed 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over an open 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different from assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

3. Employer Contribution Rate

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information and has ultimate authority in setting the employer contribution rate.

4. Anticipated Payroll

The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with one year of salary scale.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually (net of administrative and investment expenses)
2. Inflation	2.00% per year
3. Salary increase	2.90% for the five-year period ending June 30, 2030, 2.65% thereafter.
4. Interest on member balances	3.30% per year
5. Cost-of-Living Adjustment (COLA)	1.95% compounded annually. Known COLAs are reflected in the valuation. For benefits paid under the 2017 House Enrolled Act No. 1617, the annual cost-of-living assumption is 2.90% through June 30, 2030 with an ultimate rate of 2.65%, which is the same as the salary increase assumption for active members.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Safety Employee table with a 3 year set forward for males and no set forward for females.

Retirees – Safety Retiree table with a 3 year set forward for males and no set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table.

2. Disability

Age	Sample Rates
<=30	0.100%
35	0.200%
40	0.350%
45	0.500%
50+	0.500%

3. Retirement

Retirement Rate	
Age	Rate
50-51	5.0%
52-55	15.0%
56-58	20.0%
59	22.5%
60-64	25.0%
65-69	50.0%
70+	100.0%

Of those who retire:		
Service	Enter DROP	Commence Immediately
<=20	35%	65%
21	40%	60%
22	45%	55%
23	50%	50%
24-26	55%	45%
27	60%	40%
28	65%	35%
29+	70%	30%

Active members who elect to enter DROP are assumed be in DROP for a period of 5 years, upon which time they take the full lump sum and commence their annuity benefit.

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date (age 50, or current age if greater).

4. Termination

Years of Service	Rate
0	10.0%
1	5.0%
2	4.0%
3-4	3.5%
5	2.5%
6-8	2.0%
9-11	1.5%
12-19	1.0%
20+	2.0%

Other Assumptions

1. Form of payment

Members are assumed to elect either a single life annuity or a 70% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married

80% of male members and 60% of female members are assumed to be married or to have a dependent beneficiary. No members are assumed to have any children for the child death benefit.

b. Spouse's age	Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.
3. Decrement timing	Decrements are assumed to occur at the middle of the year.
4. Members in DROP	Members who are participating in the DROP are assumed to receive an annuity benefit commencing at the end of their DROP period, as well as a lump sum payment equal to the number of years they were in the DROP times their annual annuity benefit.
5. Active member death	20% are assumed to be in the line of duty and 80% are other than in the line of duty.
6. Active member disability retirement	For members hired after 1989 who become disabled: 59% are assumed to be Class 1, 10% are assumed to be Class 2, 30% are assumed to be Class 3, and 1% are assumed to be a catastrophic disability (HEA 1617). The additional monthly amount determined under IC 36-8-8-13.5(f) based on the degree of impairment is assumed to be 17%. For members hired before 1989 who become disabled: 99% are assumed to be a non-catastrophic disability, and 1% are assumed to be a catastrophic disability (HEA 1617).

TECHNICAL VALUATION PROCEDURES

Other Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-4: Judges

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different from assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

3. State Appropriations

Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

4. Anticipated Payroll

The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with the actual pay adjustment as of the valuation date. The proportion of pay attributable to active members with more than 22 years of service is presumed constant.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually (net of administrative and investment expenses)
2. Inflation	2.00% per year
3. Salary increase	2.90% for five-year period ending June 30, 2030, 2.65% thereafter. Actual salary increases on July 1, 2023 (7.80%) and July 1, 2024 (3.00%) are reflected in the valuation.
4. Interest on member balances	3.30% per year
5. Cost-of-Living Adjustment (COLA)	2.90% for five-year period ending June 30, 2030, 2.65% thereafter, compounded annually. Actual COLA increases at July 1, 2023 (7.80%) and July 1, 2024 (3.00%) are reflected in the valuation.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – General Employee table with a 1 year setback for males and a 1 year setback for females.

Retirees – General Retiree table with a 1 year setback for males and a 1 year setback for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

Age	Sample Rates
20	0.0371%
25	0.0526%
30	0.0681%
35	0.0910%
40	0.1362%
44-64	0.1950%
65+	0.0000%

3. Retirement

Age	Eligible for Reduced Benefit	Eligible for Unreduced Benefit
55-61	N/A	15%
62-64	8%	15%
65-67	N/A	20%
68-69	N/A	25%
70-74	N/A	30%
75+	N/A	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date.

4. Termination — 3% per year for all members prior to retirement eligibility.

Other Assumptions

1. Form of payment — Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married — 90% of members are assumed to be married or to have a dependent beneficiary.

   b. Spouse's age — Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing — Decrements are assumed to occur at the middle of the year.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-5: PARF

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

3. Anticipated Payroll

The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with the actual pay adjustment as of the valuation date. The proportion of pay attributable to active members with more than 22 years of service is presumed constant.

4. Employer Contribution Rate

Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually (net of administrative and investment expenses)
2. Inflation	2.00% per year
3. Salary increase	2.90% for five-year period ending June 30, 2030, 2.65% thereafter. Actual salary increases on July 1, 2023 (7.80%) and July 1, 2024 (3.00%) are reflected in the valuation.
4. Interest on member balances	3.30% per year
5. Cost-of-Living Adjustment (COLA)	None

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – General Employee table with a 1 year setback for males and a 1 year setback for females.

Retirees – General Retiree table with a 1 year setback for males and a 1 year setback for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

2. Disability

	Sample Rates	
Age	Male	Female
20	0.0033%	0.0031%
25	0.0058%	0.0043%
30	0.0101%	0.0077%
35	0.0179%	0.0137%
40	0.0315%	0.0242%
45	0.0598%	0.0461%
50	0.1203%	0.0934%
55+	0.2250%	0.1500%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
55-61	N/A	40%
62-64	20%	40%
65-69	N/A	50%
70+	N/A	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest unreduced eligible retirement date (age 62, or current age if greater).

4. Termination

10% per year for all members prior to retirement eligibility.

Other Assumptions

1. Form of payment

Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status

a. Percent married

90% of participants are assumed either to be married or to have a dependent beneficiary.

b. Spouse's age

Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing

Decrements are assumed to occur at the middle of the year.

4. PERF benefit commencement timing

For active and inactive vested members, 75% are assumed to commence their benefit at earliest PERF eligibility and 25% are assumed to commence at the assumed PARF commencement.

Elected officials can commence their PERF benefit while active in PARF. Non-elected officials need to terminate their employment prior to commence their PERF benefit.

Data Adjustments

Spouse gender is assumed to be the opposite gender of the member. Additionally, payroll for new hires is annualized.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-6: EG&C

ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants (active and inactive). Gains and losses occurring from investment experience different from assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. COLA Surcharge

The Surcharge Rate is based on the same normal cost and amortization method as is being used for the base benefits, effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised beyond a 13th Check payable in Fiscal Year 2025.

3. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, year (x+1) is equal to the actual payroll during the year ending June 30, year (x+1), increased with one year of salary scale.

5. Employer Contribution Rate

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information and has ultimate authority in setting the employer contribution rate.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return

6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation

2.00% per year

3. Salary increase

Service	Wage Inflation*	Merit	Salary Increase
0	2.90%/2.65%	2.25%	5.15%/4.90%
1	2.90%/2.65%	2.00%	4.90%/4.65%
2	2.90%/2.65%	1.75%	4.65%/4.40%
3	2.90%/2.65%	1.50%	4.40%/4.15%
4	2.90%/2.65%	1.25%	4.15%/3.90%
5	2.90%/2.65%	1.00%	3.90%/3.65%
6	2.90%/2.65%	0.75%	3.65%/3.40%
7	2.90%/2.65%	0.50%	3.40%/3.15%
8	2.90%/2.65%	0.25%	3.15%/2.90%
9+	2.90%/2.65%	0.00%	2.90%/2.65%

*2.90% for the five-year period ending June 30, 2030 with an ultimate rate of 2.65% thereafter.

4. Interest on member balances

3.30% per year

5. Cost-of-Living Adjustment (COLA)

A one-time 13th check was granted and payable by October 1, 2024. Thereafter, it is assumed participants who have commenced benefits prior to July 1, 2025 will receive an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality

Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Safety Employee table with a 3 year set forward for males and no set forward for females.

Retirees – Safety Retiree table with a 3 year set forward for males and no set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

2. Disability

Disableds – General Disabled table.

Age	Sample Rates
<=30	0.100%
35	0.200%
40	0.350%
45	0.500%
50+	0.500%

Active members who become disabled are assumed to receive 20% of their salary if they have less than 5 years of service and 40% of their salary if they have 5 or more years of service.

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
45-54	2%	50%
55-58	2%	50%
59	2%	50%
60	N/A	55%
61	N/A	65%
62-64	N/A	75%
65+	N/A	100%

Active members: Of those who retire, 50% enter DROP and the other 50% retire immediately. Those who elect to enter DROP are assumed be in DROP for a period of 5 years, upon which time they take the full lump sum and commence their annuity benefit.

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date (age 45, or current age if greater).

4. Termination

Service	Rates
0	6.50%
1	6.00%
2	5.50%
3	5.00%
4	4.50%
5	4.00%
6	3.50%
7	3.00%
8	2.50%
9	2.00%
10+	1.50%

Other Assumptions

1. Form of payment — Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married — 90% of members are assumed to be married or to have a dependent beneficiary.

   b. Spouse's age — Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing — Decrements are assumed to occur at the middle of the year.

4. Members in DROP — Members who are participating in the DROP are assumed to receive an annuity benefit commencing at the end of their DROP period as well as a lump sum payment equal to the number of years they were in the DROP times their annual annuity benefit. The annuity benefit is estimated based on salary and service at the time the member entered the DROP.

5. Active Member Death — 20% are assumed to be in the line of duty and 80% are other than in the line of duty.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Exhibit D-7: LE DB

ACTUARIAL METHODS

1. Actuarial Cost Method

Funding:

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date. Since the benefits for all members of the Legislator's Defined Benefit Plan are fixed and no longer increasing with future service credit or future salary increases, applying the Entry Age Normal cost method results in the Actuarial Accrued Liability being equal to the Present Value of Future Benefits (i.e. all benefits are treated as though they are attributable to past service) and the Normal Cost being equal to $0. This is consistent with the actual status of member benefit accruals.

Gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 5-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 5-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

Accounting:

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

Gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants (active and inactive). Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, year (x) was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, year (x) and June 30, year (x+1). The valuation results from June 30, year (x) were rolled-forward to June 30, year (x+1) to reflect benefit accruals during the year less benefits paid.

2. COLA Funding Amount

The COLA may be funded by either direct State appropriations or by allocation of a portion of the lottery proceeds. For consistency with other funds, a funding amount is shown in this report based on the same normal cost and amortization method as is being used for the base benefits, except than the unfunded SRA liability is amortized over a 5-year period. This is effective with the 2024 valuation which is required by HEA 1004-2024 to begin funding for an inflation-indexed 13th Check and 1% COLA. These benefits have not been granted or promised.

3. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

4. State Appropriations

Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

APPENDIX D – PROPOSED ACTUARIAL ASSUMPTIONS AND METHODS

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment return	6.25% per year, compounded annually
2. Inflation	2.00% per year
3. Cost-of-Living Adjustment (COLA)	Participants who have commenced benefits prior to July 1, 2025 are assumed an annual 13th check indexed with inflation. Participants commencing on or after July 1, 2025 are assumed to receive a 1% COLA.

Demographic Assumptions

1. Mortality	Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019. *Healthy Employees* – General Employee table with a 1 year setback for males and a 1 year setback for females. *Retirees* – General Retiree table with a 1 year setback for males and a 1 year setback for females. *Beneficiaries* – Contingent Survivor table with no set forward for males and a 2 year set forward for females. *Disableds* – General Disabled table with a 140% load.
2. Disability	None
3. Termination	None

4. Retirement

Age	Rate
55	10%
56-57	8%
58-61	2%
62-64	5%
65+	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement age.

Other Assumptions

1. Form of payment — Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status
   a. Percent married — 90% of members are assumed to be married or to have a dependent beneficiary.

   b. Spouse's age — Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.

3. Decrement timing — Decrements are assumed to occur at the middle of the year.

4. Administrative expense — Replacement basis. Administrative expenses incurred during the year prior to the valuation date are included in the calculation of funds to be appropriated to the LE DB Fund by the State.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the middle of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.