



Commission on Government Forecasting and Accountability

PENSION IMPACT NOTE *103RD General Assembly*

BILL NO: **HB 4099**

January 4, 2024

SPONSOR (S): Kifowit – Reick

SYSTEM: Downstate Police & Firefighters, SERS

FISCAL IMPACT

The Commission has contracted with the actuarial firm of Foster & Foster to evaluate the fiscal impact of HB 4099. The full actuarial study is attached at the end of this impact note in Appendix I. Foster & Foster has assessed the impact of the Tier 2 COLA and retirement age enhancement in this bill upon the police and fire pension funds for the following cities: Aurora, Edwardsville, Effingham, Peoria, and Rockford. Please see Tables 1 and 2 on the following page for a summary of the increase in the normal cost associated with the aforementioned Tier 2 benefit increases.

SUBJECT MATTER: HB 4099 amends the Downstate Police and Fire articles of the Pension Code. The bill reduces the Tier 2 retirement age from 60 to 55 with 20 years of service for an unreduced annuity. In addition, the bill lowers the eligibility age for annual cost-of-living increases in retirement to age 55 (currently the latter of age 60 or the first anniversary of retirement). HB 4099 also amends the State Employees' Article of the Pension Code to lower the Tier 2 retirement age for Security Employees in the Departments of Corrections and Juvenile Justice from 60 to 55 with 20 years of service, and permits Security Employees of the Department of Human Services to participate in the Alternative Formula with the same age-and-service parameters.

Tables 1 & 2 below summarize the increase in the Normal Cost for the enhanced Tier 2 benefits for selected Downstate Police and Fire Pension Funds. HB 4099 would reduce the Tier 2 retirement age from 60 to 55 with 20 years of service for an unreduced annuity, and lower the eligibility age for annual cost-of-living increases in retirement to age 55 (currently the latter of age 60 or the first anniversary of retirement). The actuaries assumed that all active employees were in Tier 2 for purposes of presenting an apples-to-apples comparison of current law vs. HB 4099, and also for presenting a truer sense of the long-term cost of the benefit enhancements. Please see Appendix I at the end of this impact note for the full actuarial study. At CGFA’s request, the actuaries performed a year-by-year normal cost comparison of current law vs. HB 4099 through 2040 under the current statutory funding framework for the Aurora and Effingham police and fire pension funds; this projection can be found in the full study in Appendix I.

Table 1

Article 3 (Police) Funds				
City	Current Benefits	Enhanced Benefits	Impact	% Increase
Aurora	\$ 6,421,663	\$ 7,296,797	\$ 875,134	13.6%
Edwardsville	\$ 941,242	\$ 1,028,836	\$ 87,594	9.3%
Effingham	\$ 436,879	\$ 475,928	\$ 39,049	8.9%
Peoria	\$ 3,948,164	\$ 4,401,229	\$ 453,065	11.5%
Rockford	\$ 5,000,446	\$ 5,571,790	\$ 571,344	11.4%
Totals	\$ 16,748,394	\$ 18,774,580	\$ 2,026,186	12.1%

Table 2

Article 4 (Fire) Funds				
City	Current Benefits	Enhanced Benefits	Impact	% Increase
Aurora	\$ 4,580,188	\$ 5,150,321	\$ 570,133	12.4%
Edwardsville	\$ 631,972	\$ 696,357	\$ 64,385	10.2%
Effingham	\$ 361,854	\$ 386,874	\$ 25,020	6.9%
Peoria	\$ 3,336,515	\$ 3,728,437	\$ 391,922	11.7%
Rockford	\$ 4,832,336	\$ 5,357,325	\$ 524,989	10.9%
Totals	\$ 13,742,865	\$ 15,319,314	\$ 1,576,449	11.5%

COMMENT:

Reduction in Tier 2 Retirement Age for Downstate Police Officers and Firefighters

Currently, Tier 2 Downstate Police Officers and Firefighters may retire with an unreduced annuity at age 55 with 10 years of service credit, or at age 50 with 10 years of service credit, with their pensions reduced by one-half of 1% for each month under age 55. Under HB 4099, a Tier 2 Downstate Police officer or Firefighter may retire with an unreduced annuity at age 50

with 20 years of service credit. Tier 2 Downstate Police Officers and Firefighters with at least 10 but less than 20 years of service credit would still see a reduction in pension equal to half of 1% for each month under age 55. The bill does not state that any retired Tier 2 public safety personnel would be entitled to a recalculation of benefits due to this change.

Reduction in Tier 2 COLA Eligibility Age for Downstate Police Officers and Firefighters

Under current law, pensions for Tier 2 Downstate Police Officers and Firefighters are increased on the January 1 occurring either on or after age 60 or the first anniversary of the pension start date, whichever is later. Each annual increase is equal to 3% or half of the annual unadjusted percentage increase (not less than zero) in the CPI-U, whichever is less. These increases are not compounded. HB 4099 changes the minimum age of eligibility for annual increases from age 60 to age 55. The bill does not state that any retired Tier 2 public safety personnel would be entitled to a recalculation of benefits due to this change.

Reduction in the SERS Alternative Formula Retirement Age for Tier 2 Security Employees in the Departments of Corrections and Juvenile Justice; Alt. Formula Participation for Security Employees in the Department of Human Services

Under current law, Tier 2 Security Employees of the Departments of Corrections and Juvenile Justice participate in the SERS Alternative Formula, under which they may retire at age 60 with 20 years of service credit. HB 4099 allows these Tier 2 employees to retire at age 55 with 20 years of service. In addition, the bill allows Tier 2 Security Employees in the Department of Human Services to participate in the Alternative Formula, with the aforementioned age-and-service eligibility of 55 with 20 years of service credit.

SERS has estimated that the following Tier 2 headcount would be impacted by this change:

- 6,650 security employees of the Department of Corrections;
- 263 security employees of the Department of Juvenile Justice; and
- 800 security employees in the Department of Human Services.

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December 14, 2023

Mr. Clayton Klenke, Executive Director
Illinois Commission on Government Forecasting and Accountability
T. 217.785.3122
E. ClaytonK@ilga.gov

Re: Cost Impact of Tier 2 Enhancements on Article 3 and 4 Illinois Pension Funds

Dear Mr. Klenke,

We have estimated the impact of Illinois House Bill 4099 on the selected Article 3 and 4 Illinois Pension Funds. This pending legislation includes the following revisions to the Tier 2 benefits provided by Article 3 and 4:

- Members who are at least 50 years old and have 20 or more years of creditable service could retire with an unreduced annuity.
- The age of eligibility for the annual COLA would change to the later of the January 1st after reaching age 55 or the first anniversary of the pension's start date.

The cost of these changes was evaluated on the following five funds:

- Aurora
- Edwardsville
- Effingham
- Peoria
- Rockford

To evaluate the impact, we analyzed the benefit revisions two ways. First, we took the current blend of active Tier 1 vs. Tier 2 participants in each fund and determined what the change in the statutory minimum required contribution would be as of the latest actuarial valuation date. This shows the immediate impact of the legislation. The results are shown in Exhibit A, as attached. Next, we assumed that the entire active population was in Tier 2. While this was still evaluated at the latest actuarial valuation date, this provided an estimate of the long-term impact of the legislation once all of the Tier 1 participants become inactive and are replaced by Tier 2 active participants. The results of this analysis are shown in Exhibit B.

In addition, we performed a projection on the following two funds to exam the normal cost impact through 2040:

- Aurora
- Effingham

For the projection, we started with the participant data and Tier 1 and 2 blend as provided in the 2022 valuation data. We then assumed that active exits from the fund (due to retirement, termination, disability, etc.) would be replaced by Tier 2 participants with a similar new hire profile to recent experience in each fund, maintaining a stable active headcount. The results of this analysis are shown in Exhibit C.

Assumptions and Methods

The assumptions and methods employed for the purpose of this measurement were consistent with the assumptions that the Firefighters’ Pension Investment Fund (FPIF) and the Illinois Police Officers’ Pension Investment Fund (IPOPIF) will be using for the 2022 actuarial valuation reports. These are based on an experience study issued in December 2021 by Foster & Foster and approved by the FPIF Board for the Fire funds and an experience study issued in March 2022 by Foster & Foster and approved by the IPOPIF Board for the Police funds, with an agreed upon interest rate that was later settled in September 2022. When the plan changes are considered, we did revise the retirement rates for Tier 2 to match those for Tier 1 if a participant retires with 20 years of service. A summary of the assumptions for both Article 3 and Article 4 funds is attached.

In addition for the normal cost projections, we assumed the following profiles for new entrants that would replace those exiting the fund as we project the population in the future. We assumed that each fund would maintain the same active headcount as presented in the 2022 valuations:

	Aurora		Effingham	
	Fire	Police	Fire	Police
Age at Hire	27	26	32	29
Salary ¹	97,500	73,100	65,100	58,800
% Male	95%	85%	95%	95%

¹The starting salary is adjusted annually by inflation for new hires in future years.

Data

In conducting this analysis, we have relied on personnel data supplied to us by the Illinois Department of Insurance with permission from the FPIF and IPOPIF to employ the data for purposes other than in the issuance of reports on behalf of the FPIF and IPOPIF. The effective date of the data varies by sample fund and is noted in the attached exhibit. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness.

Discussion of Risk and Third-Party Software

These calculations were determined for the purpose of estimating the cost impact of this proposed legislation. Use of the results for other purposes may not be applicable and produce significantly different results. Future actuarial measurements may differ significantly from the current measurements presented in this letter for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position. Measurement of the impact of potential deviation from the actuarial assumptions is outside the scope of this assessment, however, it is important to note that the estimate provided is produced at a single point in time and subject to the demographics as they exist on the valuation date and the actuarial assumptions used to determine the cost impact.

In performing the analysis, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models to generate the costs. All internally developed models are reviewed as part of the process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.


Statement of Actuarial Opinion


The undersigned are familiar with the immediate and long-term aspects of pension calculations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. To the best of our knowledge, the results are complete and accurate, and in our opinion, the techniques and assumptions used are reasonable.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the Article 3 and 4 funds included in this analysis, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of these funds. Thus, there is no relationship existing that might affect our capacity to prepare and certify this estimate of the cost impact of the proposed legislation.

Respectfully submitted,

Foster & Foster, Inc.

By: 
Jason L. Franken, FSA, EA, MAAA

By: 
Heidi E. Andorfer, FSA, EA, MAAA

Impact of Enhanced Tier 2 Retirement Age Based on HB 4099

Article 3 Police Pension Funds

	Aurora	Edwardsville	Effingham	Peoria	Rockford
Exhibit A: Current Tier Blend					
Statutory Minimum Required Contribution					
Enhanced Tier 2 Benefits	16,287,661	1,680,863	649,493	12,680,935	15,106,731
Current Benefits	<u>16,014,682</u>	<u>1,645,078</u>	<u>622,951</u>	<u>12,511,961</u>	<u>14,848,255</u>
Impact	272,979	35,785	26,542	168,974	258,476
% Increase	1.7%	2.2%	4.3%	1.4%	1.7%
Total Actuarial Accrued Liability (AL)					
Enhanced Tier 2 Benefits	471,905,956	43,109,915	26,772,300	356,654,864	406,728,575
Current Benefits	<u>471,037,535</u>	<u>42,979,601</u>	<u>26,689,168</u>	<u>356,132,358</u>	<u>405,796,415</u>
Impact	868,421	130,314	83,132	522,506	932,160
% Increase	0.2%	0.3%	0.3%	0.1%	0.2%
Normal Cost (NC), Including Expense Load					
Enhanced Tier 2 Benefits	9,875,670	1,276,304	542,391	5,535,559	6,927,735
Current Benefits	<u>9,662,378</u>	<u>1,249,822</u>	<u>521,783</u>	<u>5,402,497</u>	<u>6,733,327</u>
Impact	213,292	26,482	20,608	133,062	194,408
% Increase	2.2%	2.1%	3.9%	2.5%	2.9%
Statistics					
% of Inactive AL / Total AL	66.7%	54.8%	79.1%	77.5%	73.9%
% of Active Headcount / Total Headcount	50.0%	62.9%	48.2%	36.6%	43.2%
% of Active Tier 2 AL / Total Active AL	4.2%	6.3%	16.8%	6.1%	7.2%
% of Active Tier 2 NC / Total Active NC	19.5%	23.0%	51.6%	24.4%	25.1%
% of Active Tier 2 Heads / Total Active Heads	42.0%	40.9%	70.4%	48.5%	47.1%
Exhibit B: All Actives Tier 2					
Normal Cost (NC), Including Expense Load					
Enhanced Tier 2 Benefits	7,296,797	1,028,836	475,928	4,401,229	5,571,790
Current Benefits	<u>6,421,663</u>	<u>941,242</u>	<u>436,879</u>	<u>3,948,164</u>	<u>5,000,446</u>
Impact	875,134	87,594	39,049	453,065	571,344
% Increase	13.6%	9.3%	8.9%	11.5%	11.4%
Assumptions and Methods					
Interest Rate	6.800%	6.800%	6.800%	6.800%	6.800%
Valuation Date	1/1/2022	5/1/2022	5/1/2022	1/1/2022	1/1/2022

**Normal Cost Projection
Under House Bill 4099**

Exhibit C

Year	Aurora Police					Effingham Police				
	Current	HB 4099	Increase	PV of Increase	as %	Current	HB 4099	Increase	PV of Increase	as %
2022	8,869,775	9,065,571	195,796	195,796	2.2%	478,981	497,899	18,918	18,918	3.9%
2023	8,909,349	9,138,472	229,123	214,535	2.6%	486,672	508,413	21,741	20,357	4.5%
2024	8,934,086	9,200,709	266,623	233,752	3.0%	500,005	524,692	24,687	21,643	4.9%
2025	8,976,192	9,283,557	307,365	252,314	3.4%	517,235	544,970	27,735	22,767	5.4%
2026	8,975,579	9,326,423	350,844	269,668	3.9%	537,301	568,180	30,879	23,734	5.7%
2027	8,922,823	9,322,418	399,595	287,583	4.5%	559,965	594,117	34,152	24,579	6.1%
2028	8,883,723	9,336,386	452,663	305,033	5.1%	581,417	618,971	37,554	25,306	6.5%
2029	8,869,202	9,377,936	508,734	320,990	5.7%	598,617	639,890	41,273	26,042	6.9%
2030	8,833,326	9,401,901	568,575	335,906	6.4%	616,242	661,603	45,361	26,799	7.4%
2031	8,800,277	9,433,855	633,578	350,476	7.2%	638,528	688,166	49,638	27,458	7.8%
2032	8,776,244	9,478,750	702,506	363,863	8.0%	654,022	708,073	54,051	27,996	8.3%
2033	8,732,094	9,504,723	772,629	374,703	8.8%	666,745	725,636	58,891	28,560	8.8%
2034	8,711,913	9,554,768	842,855	382,735	9.7%	683,374	742,582	59,208	26,886	8.7%
2035	8,732,210	9,641,629	909,419	386,668	10.4%	703,952	763,222	59,270	25,200	8.4%
2036	8,788,176	9,760,381	972,205	387,044	11.1%	727,391	787,535	60,144	23,944	8.3%
2037	8,884,268	9,910,258	1,025,990	382,450	11.5%	741,271	800,825	59,554	22,199	8.0%
2038	9,002,483	10,078,737	1,076,254	375,643	12.0%	750,622	808,029	57,407	20,037	7.6%
2039	9,147,829	10,283,894	1,136,065	371,272	12.4%	763,500	819,730	56,230	18,376	7.4%
2040	9,355,668	10,507,886	1,152,218	352,575	12.3%	778,894	829,667	50,773	15,536	6.5%
Total				6,143,005					446,339	

¹ Note, the valuation date for Aurora Police was 1/1/2022 and for Effingham Police was 5/1/2022.

ACTUARIAL ASSUMPTIONS AND METHODS
Illinois Police Officer's Pension Investment Funds

Interest Rate	6.80% per year compounded annually, net of investment related expenses.
Mortality Rate	<p>Active Lives: PubS-2010 Employee mortality, unadjusted, with generational improvements with most recent projection scale (currently Scale MP-2021). 10% of active deaths are assumed to be in the line of duty.</p> <p>Inactive Lives: PubS-2010 Healthy Retiree mortality, adjusted by a factor of 1.15 for male retirees and unadjusted for female retirees, with generational improvements with most recent projection scale (currently Scale MP-2021).</p> <p>Beneficiaries: PubS-2010 Survivor mortality, unadjusted for male beneficiaries and adjusted by a factor of 1.15 for female beneficiaries, with generational improvements with most recent projection scale (currently Scale MP-2021).</p> <p>Disabled Lives: PubS-2010 Disabled mortality, adjusted by a factor of 1.08 for male disabled members and unadjusted for female disabled members, with generational improvements with most recent projection scale (currently Scale MP-2021).</p> <p>The mortality assumptions sufficiently accommodate anticipated future mortality improvements.</p>
Retirement Age	See table at end of this section. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.
Disability Rate	See table at end of this section. 60% of the disabilities are assumed to be in the line of duty. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.
Termination Rate	See table at end of this section. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.

Salary Increases

See table below. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.

Salary Scale	
Service	Rate
0	11.00%
1	9.50%
2	8.00%
3	7.50%
4	7.00%
5	6.00%
6	5.00%
7 - 11	4.00%
12 - 29	3.75%
30+	3.50%

Inflation

2.50%.

Cost-of-Living Adjustment

Tier 1: 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.

Tier 2: 1.25% per year after the later of attainment of age 60 or first anniversary of retirement.

Marital Status

80% of Members are assumed to be married.

Spouse's Age

Males are assumed to be three years older than females.

Funding Method

Projected Unit Credit Cost Method.

Actuarial Asset Method

Investment gains and losses are smoothed over a 5-year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return.

Funding Policy Amortization Method

The UAAL is amortized according to a Level Percentage of Payroll method over a period ending in 2040. The initial amortization amount is 90% of the Accrued Liability less the Actuarial Value of Assets.

Payroll Growth

3.00% per year.

Administrative Expenses

Administrative expenses will be estimated as 2% of the fund's total normal cost.

Decrement Tables

<u>% Terminating During the Year</u>		<u>% Becoming Disabled During the Year</u>		<u>% Retiring During the Year (Tier 1)</u>		<u>% Retiring During the Year (Tier 2)</u>	
<u>Service</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
0	13.00%	20	0.000%	50 - 54	20%	50 - 54	5%
1	8.00%	25	0.029%	55 - 62	25%	55	40%
2	7.00%	30	0.133%	63	33%	56 - 62	25%
3	6.00%	35	0.247%	64	40%	63	33%
4	5.00%	40	0.399%	65 - 69	55%	64	40%
5	4.50%	45	0.561%	70+	100%	65 - 69	55%
6	4.00%	50	0.675%			70+	100%
7	3.50%	55	0.855%				
8	3.00%	60	1.093%				
9	2.50%						
10	2.25%						
11	2.00%						
12	1.75%						
13	1.50%						
14+	1.25%						

Note, for Tier 2 participants with 20 years of service at retirement, the Tier 1 rates apply when the plan changes under consideration are calculated.

Impact of Enhanced Tier 2 Retirement Age Based on HB 4099

Article 4 Firefighters' Pension Funds

	Aurora	Edwardsville	Effingham	Peoria	Rockford
Exhibit A: Current Tier Blend					
Statutory Minimum Required Contribution					
Enhanced Tier 2 Benefits	13,474,666	1,236,868	702,651	12,563,277	17,728,320
Current Benefits	<u>13,217,630</u>	<u>1,209,051</u>	<u>695,396</u>	<u>12,439,009</u>	<u>17,526,473</u>
Impact	257,036	27,817	7,255	124,268	201,847
% Increase	1.9%	2.3%	1.0%	1.0%	1.2%
Total Actuarial Accrued Liability (AL)					
Enhanced Tier 2 Benefits	370,921,200	28,598,505	18,952,673	310,562,163	389,871,625
Current Benefits	<u>370,085,078</u>	<u>28,496,093</u>	<u>18,924,648</u>	<u>310,106,644</u>	<u>389,189,177</u>
Impact	836,122	102,412	28,025	455,519	682,448
% Increase	0.2%	0.4%	0.1%	0.1%	0.2%
Normal Cost (NC), Including Expense Load					
Enhanced Tier 2 Benefits	7,392,405	875,760	489,712	4,953,443	6,899,332
Current Benefits	<u>7,195,536</u>	<u>855,582</u>	<u>484,547</u>	<u>4,861,955</u>	<u>6,746,594</u>
Impact	196,869	20,178	5,165	91,488	152,738
% Increase	2.7%	2.4%	1.1%	1.9%	2.3%
Statistics					
% of Inactive AL / Total AL	69.4%	62.3%	67.9%	74.5%	73.9%
% of Active Headcount / Total Headcount	47.6%	53.6%	48.6%	39.6%	43.2%
% of Active Tier 2 AL / Total Active AL	5.7%	8.5%	6.3%	5.3%	6.5%
% of Active Tier 2 NC / Total Active NC	22.6%	23.6%	18.2%	18.3%	22.5%
% of Active Tier 2 Heads / Total Active Heads	47.5%	40.0%	23.5%	38.8%	41.4%
Exhibit B: All Actives Tier 2					
Normal Cost (NC), Including Expense Load					
Enhanced Tier 2 Benefits	5,150,321	696,357	386,874	3,728,437	5,357,325
Current Benefits	<u>4,580,188</u>	<u>631,972</u>	<u>361,854</u>	<u>3,336,515</u>	<u>4,832,336</u>
Impact	570,133	64,385	25,020	391,922	524,989
% Increase	12.4%	10.2%	6.9%	11.7%	10.9%
Assumptions and Methods					
Interest Rate	7.125%	7.125%	7.125%	7.125%	7.125%
Valuation Date	1/1/2022	5/1/2022	5/1/2022	1/1/2022	1/1/2022

**Normal Cost Projection
Under House Bill 4099**

Exhibit C

Year	Aurora Fire					Effingham Fire				
	Current	HB 4099	Increase	PV of Increase	as %	Current	HB 4099	Increase	PV of Increase	as %
2022	6,585,248	6,765,420	180,172	180,172	2.7%	443,450	448,177	4,727	4,727	1.1%
2023	6,602,424	6,807,757	205,333	191,676	3.1%	459,970	465,540	5,570	5,200	1.2%
2024	6,566,090	6,799,784	233,694	203,641	3.6%	477,685	484,147	6,462	5,631	1.4%
2025	6,480,598	6,745,688	265,090	215,636	4.1%	488,241	495,730	7,489	6,092	1.5%
2026	6,372,270	6,671,982	299,712	227,584	4.7%	491,932	500,912	8,980	6,819	1.8%
2027	6,265,878	6,602,665	336,787	238,727	5.4%	487,281	498,131	10,850	7,691	2.2%
2028	6,162,695	6,538,809	376,114	248,871	6.1%	484,122	497,343	13,221	8,748	2.7%
2029	6,085,552	6,503,587	418,035	258,212	6.9%	483,064	498,630	15,566	9,615	3.2%
2030	6,036,686	6,495,648	458,962	264,637	7.6%	483,543	501,550	18,007	10,383	3.7%
2031	6,021,019	6,518,980	497,961	268,027	8.3%	482,007	502,578	20,571	11,072	4.3%
2032	6,035,047	6,572,451	537,404	270,018	8.9%	481,933	505,336	23,403	11,759	4.9%
2033	6,070,548	6,642,326	571,778	268,181	9.4%	485,249	511,559	26,310	12,340	5.4%
2034	6,122,067	6,722,140	600,073	262,733	9.8%	491,205	518,858	27,653	12,107	5.6%
2035	6,169,094	6,797,215	628,121	256,722	10.2%	499,018	526,320	27,302	11,159	5.5%
2036	6,214,165	6,868,793	654,628	249,760	10.5%	510,698	537,254	26,556	10,132	5.2%
2037	6,273,708	6,939,257	665,549	237,038	10.6%	525,952	551,601	25,649	9,135	4.9%
2038	6,339,979	7,018,689	678,710	225,648	10.7%	545,003	569,633	24,630	8,189	4.5%
2039	6,424,998	7,090,806	665,808	206,635	10.4%	557,442	585,240	27,798	8,627	5.0%
2040	6,524,668	7,160,621	635,953	184,243	9.7%	568,437	602,979	34,542	10,007	6.1%
Total				4,458,159				355,286		

¹ Note, the valuation date for Aurora Fire was 1/1/2022 and for Effingham Fire was 5/1/2022.

ACTUARIAL ASSUMPTIONS AND METHODS
Firefighters' Pension Investment Funds

Interest Rate	7.125% per year compounded annually, net of investment related expenses.
Mortality Rate	<p><i>Active Lives:</i> PubS-2010 Employee mortality, unadjusted, with generational improvements with most recent projection scale (currently Scale MP-2021). 20% of active deaths are assumed to be in the line of duty.</p> <p><i>Inactive Lives:</i> PubS-2010 Healthy Retiree mortality, adjusted by a factor of 1.081 for male retirees and unadjusted for female retirees, with generational improvements with most recent projection scale (currently Scale MP-2021).</p> <p><i>Beneficiaries:</i> PubS-2010 Survivor mortality, unadjusted for male beneficiaries and adjusted by a factor of 1.098 for female beneficiaries, with generational improvements with most recent projection scale (currently Scale MP-2021).</p> <p><i>Disabled Lives:</i> PubS-2010 Disabled mortality, adjusted by a factor of 1.178 for male disabled members and unadjusted for female disabled members, with generational improvements with most recent projection scale (currently Scale MP-2021).</p> <p>The mortality assumptions sufficiently accommodate anticipated future mortality improvements.</p>
Retirement Age	See table at the end of this section. This is based on a 2021 experience study performed for the Illinois Firefighters' Pension Investment Fund.
Disability Rate	See table at the end of this section. 80% of the disabilities are assumed to be in the line of duty. This is based on a 2021 experience study performed for the Illinois Firefighters' Pension Investment Fund.
Termination Rate	See table at the end of this section. This is based on a 2021 experience study performed for the Illinois Firefighters' Pension Investment Fund.

Salary Increases

See table below. This is based on a 2021 experience study performed for the Illinois Firefighters' Pension Investment Fund.

Salary Scale	
Service	Rate
0	12.50%
1	10.50%
2	9.50%
3	8.50%
4	7.50%
5	6.50%
6	5.00%
7	4.50%
8+	4.00%

Inflation

2.25%.

Cost-of-Living Adjustment

Tier 1: 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.

Tier 2: 1.125% per year after the later of attainment of age 60 or first anniversary of retirement.

Marital Status

80% of Members are assumed to be married.

Spouse's Age

Males are assumed to be three years older than females.

Funding Method

Projected Unit Credit Cost Method.

Actuarial Asset Method

Investment gains and losses are smoothed over a 5-year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return.

Funding Policy Amortization Method

The UAAL is amortized according to a Level Percentage of Payroll method over a period ending in 2040. The initial amortization amount is 90% of the Accrued Liability less the Actuarial Value of Assets.

Payroll Growth

2.75% per year.

Administrative Expenses

Administrative expenses will be estimated as 2% of the fund's total normal cost.

Decrement Tables

% Terminating During the Year		% Becoming Disabled During the Year		% Retiring During the Year (Tier 1)		% Retiring During the Year (Tier 2)	
Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	10.00%	20	0.010%	50-51	12%	50-54	3%
25	8.00%	25	0.016%	52-53	15%	55	30%
30	4.00%	30	0.068%	54-55	20%	56-59	20%
35	2.50%	35	0.220%	56-59	20%	60-62	25%
40	1.20%	40	0.420%	60-62	25%	63-64	33%
45+	1.00%	45	0.650%	63-64	33%	65-69	50%
		50	0.900%	65-69	50%	70+	100%
		55	1.240%	70+	100%		
		60	1.580%				

Note, for Tier 2 participants with 20 years of service at retirement, the Tier 1 rates apply when the plan changes under consideration are calculated.