



# **The Police Retirement System of St. Louis**

## **GASB 67/68 Report as of September 30, 2023**

**Produced by Cheiron**

**March 2024**

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*Letter Of Transmittal*

March 1, 2024

Board of Trustees  
The Police Retirement System of St. Louis  
2020 Market Street  
St. Louis, Missouri 63101

Dear Members of the Board:

The purpose of this report is to provide accounting and financial disclosure information under GASB 67 for the Police Retirement System of St. Louis and under GASB 68 for the City of St. Louis. This information includes:

- Determination of the discount rate as of September 30, 2023,
- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for the System.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,  
Cheiron



Michael J. Noble, FSA, FCA, EA  
Principal Consulting Actuary



Patrick T. Nelson, FSA, CERA, EA  
Consulting Actuary

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

The purpose of this report is to provide accounting and financial disclosure information under Governmental Accounting Standards Board Statements 67 and 68 for the Police Retirement System of St. Louis (System) and the City of St. Louis. This information includes:

- Determination of the discount rate as of September 30, 2023,
- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for the System.

**Highlights**

The reporting date for the Police Retirement System of St. Louis is September 30, 2023. Measurements as of the reporting date are based on the fair value of assets as of September 30, 2023, and the Total Pension Liability as of the valuation date, October 1, 2022, projected to September 30, 2023. There have been changes in actuarial assumptions since the prior measurement date which had the net effect of increasing the Net Pension Liability. Other than the change in assumptions, there were no significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, based on the revised assumptions.

The table below provides a summary of the key results during this reporting period.

	<b>Summary of Results</b>	
	<b>Measurement Date</b>	
	<b>September 30, 2023</b>	<b>September 30, 2022</b>
Net Pension Liability	\$ 340,523,913	\$ 349,314,122
Deferred Outflows	(51,311,048)	(82,054,624)
Deferred Inflows	<u>9,897,415</u>	<u>25,503,900</u>
Net Impact on Statement of Net Position	\$ 299,110,280	\$ 292,763,398
Pension Expense (\$ Amount)	\$ 44,240,453	\$ 37,837,426
Pension Expense (% of Payroll)	60.66%	48.90%

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

The Net Pension Liability (NPL) decreased approximately \$8.8 million since the prior measurement date, due to both an investment gain and an experience gain. Assumption changes offset some of the decrease to the NPL. The investment gain is recognized over five years, and the actuarial gain and assumption changes are recognized over the average remaining service life, which is two years. Unrecognized amounts are reported as deferred inflows and deferred outflows. As of the end of the reporting year, the System and the City would report a Net Pension Liability of \$340,523,913, Deferred Inflows of \$9,897,415, and Deferred Outflows of \$51,311,048. Consequently, the net impact on the City’s Statement of Net Position due to the System would be \$299,110,280 at the end of the reporting year. In addition, any contributions between the measurement date and the City’s reporting date would be reported as deferred outflows to offset the cash outflow reported.

For the measurement year ending September 30, 2023, the annual pension expense is \$44,240,453 or 60.66% of covered-employee payroll. This amount is not equal to the City’s contribution to the System (\$37,893,571), but instead represents the change in the net impact on the City’s Statement of Net Position plus employer contributions (\$299,110,280 – \$292,763,398 + \$37,893,571). The pension expense for the current year is more than the expense for the prior year. Volatility in pension expense from year to year is to be expected. It will largely be driven by investment gains or losses, but other changes, such as changes in assumptions, can also have a significant impact. A breakdown of the components of the net pension expense is shown in the report.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION II – CERTIFICATION**

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the Police Retirement System of St. Louis and under GASB 68 for the City of St. Louis. This report is for the use of the Police Retirement System, the City of St. Louis, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the System or estimating the price to settle the System’s obligations.

In preparing our report, we relied on information (some oral and some written) supplied by the System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. In accordance with the Actuarial Standard of Practice No. 23, we performed an informal examination of the obvious characteristics of the data for reasonableness and consistency and found the data to be appropriate for Actuarial Valuation purposes.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

The membership data and plan provisions are the same as were described in the October 1, 2022 Actuarial Valuation Report. The actuarial assumptions, except for the blended discount rate described in Section III, are the same as are described in the October 1, 2022 actuarial valuation.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for the Police Retirement System of St. Louis for the purposes described herein and for the use by the Plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Sincerely,  
Cheiron



Michael J. Noble, FSA, FCA, EA  
Principal Consulting Actuary



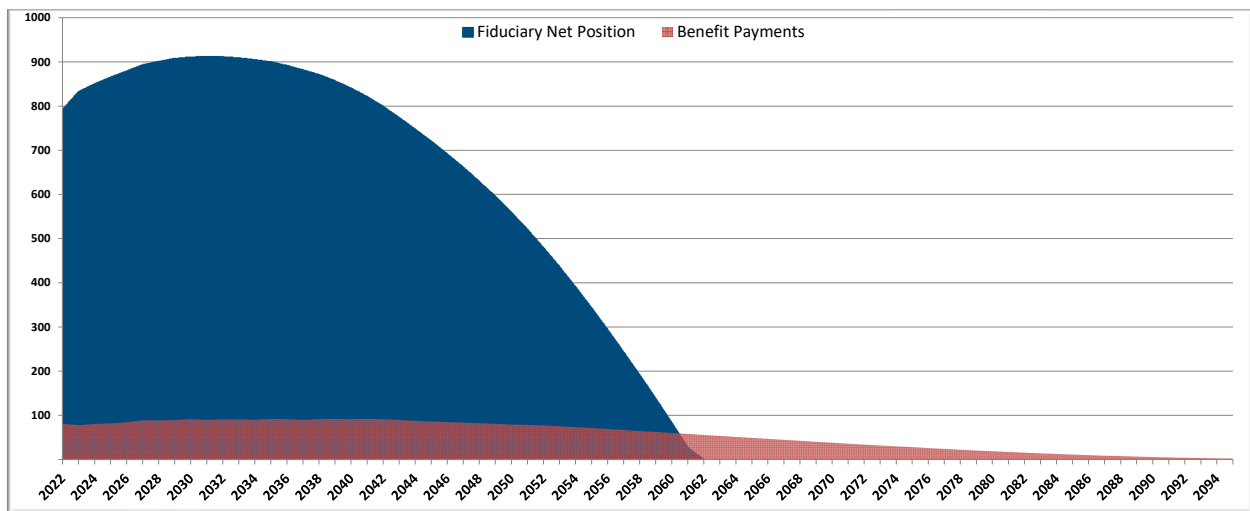
Patrick T. Nelson, FSA, CERA, EA  
Consulting Actuary

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION III – DETERMINATION OF DISCOUNT RATE**

The City’s funding policy is to contribute exactly the Actuarially Determined Contribution annually. This contribution is equal to the employer's normal cost. The employer's normal cost is calculated according to the Aggregate Actuarial Cost Method and is equal to the actuarial present value of future benefits minus the sum of the actuarial value of assets and the present value of future employee contributions, funded over the present value of future salary for current participants.

The discount rate used to measure the Total Pension Liability is 6.44% which is a blend of the assumed long-term expected rate of return of 7.00% on System investments and a municipal bond index rate of 4.09% based on the Bond Buyer GO 20-Year Municipal Bond Index as of September 28, 2023. Following the procedures described in paragraphs 39 - 45 of GASB Statement 67, projections of the System’s fiduciary net position have indicated that it is not expected to be sufficient to make projected benefit payments for current Plan members after 2061. Therefore, the portion of future projected benefit payments after 2061 are discounted at the municipal bond index rate. The results of these projections are shown in the chart below.



This discount rate is intended to be used for accounting and financial reporting but is not appropriate for estimating the price to settle the plan’s liability.

A similar calculation was made as of September 30, 2022 and the fiduciary net position was expected to be sufficient to make projected benefit payments for current members until 2066. Thus using a blend of the assumed long-term expected rate of return of 7.00% on System investments and a municipal bond index rate of 4.02%, this calculation resulted in a blended discount rate of 6.65% as of September 30, 2022.

The projection of cash flows used to determine the discount rate assumed that employer contributions continued to be made in accordance with the contribution policy in effect for the October 1, 2022 actuarial valuation.

Appendix D shows the details of this calculation.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY**

The Total Pension Liability (TPL) at the end of the measurement year, September 30, 2023, is measured as of a valuation date of October 1, 2022 and projected to September 30, 2023. There were no significant events during the projection period of which we are aware. Because the TPL shown in the prior report was measured as of September 30, 2021 and projected to September 30, 2022, as well as being determined using different actuarial assumptions, it will not match the amounts measured as of September 30, 2022 that are shown in this exhibit.

The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure.

<b>Projection of Total Pension Liability from Valuation to Measurement Date</b>			
<b>Discount Rate</b>	<b>5.44%</b>	<b>6.44%</b>	<b>7.44%</b>
<b>Valuation Total Pension Liability, September 30, 2022</b>			
Actives	\$ 270,406,854	\$ 227,655,542	\$ 193,915,386
DROP and Re-entered	196,534,678	177,434,215	161,781,528
Retirees	<u>831,905,883</u>	<u>759,967,475</u>	<u>698,914,093</u>
<b>Total</b>	<b>\$ 1,298,847,415</b>	<b>\$ 1,165,057,232</b>	<b>\$ 1,054,611,007</b>
<b>Service Cost</b>	19,763,585	15,811,970	12,858,171
<b>Benefit Payments</b>	80,762,790	80,762,790	80,762,790
<b>Interest</b>	69,020,092	72,970,899	75,982,321
<b>Total Pension Liability, September 30, 2023</b>	<b>\$ 1,306,868,302</b>	<b>\$ 1,173,077,311</b>	<b>\$ 1,062,688,709</b>



**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION V – NOTE DISCLOSURES**

The table below shows the changes in the Total Pension Liability (TPL), the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability (NPL) during the Measurement Year.

<b>Change in Net Pension Liability</b>			
	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
<b>Balances at September 30, 2022</b>	\$ 1,141,728,762	\$ 792,414,640	\$ 349,314,122
<b>Changes for the year:</b>			
Service cost	15,119,984		15,119,984
Interest	73,777,467		73,777,467
Changes of benefits	0		0
Differences between expected and actual experience	(1,713,550)		(1,713,550)
Changes of assumptions	24,927,438		24,927,438
Contributions - employer		37,893,571	(37,893,571)
Contributions - member		4,512,743	(4,512,743)
Net investment income		79,801,713	(79,801,713)
Benefit payments	(80,762,790)	(80,762,790)	0
Administrative expense		(1,306,479)	1,306,479
<b>Net changes</b>	<u>31,348,549</u>	<u>40,138,758</u>	<u>(8,790,209)</u>
<b>Balances at September 30, 2023</b>	<u>\$ 1,173,077,311</u>	<u>\$ 832,553,398</u>	<u>\$ 340,523,913</u>

During the measurement year, the NPL decreased by approximately \$8.8 million. The service cost and interest cost increased the NPL by approximately \$88.9 million while contributions and investment returns, offset by administrative expenses, decreased the NPL by approximately \$120.9 million.

There were no changes in benefits during the year. There were actuarial experience gains during the year of approximately \$1.7 million. Assumption changes increased the NPL by 24.9 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL, and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table on the next page shows the sensitivity of the NPL to the discount rate.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION V – NOTE DISCLOSURES**

<b>Sensitivity of Net Pension Liability to Changes in Discount Rate</b>			
	<b>1% Decrease 5.44%</b>	<b>Discount Rate 6.44%</b>	<b>1% Increase 7.44%</b>
Total Pension Liability	\$ 1,306,868,302	\$ 1,173,077,311	\$ 1,062,688,709
Plan Fiduciary Net Position	<u>832,553,398</u>	<u>832,553,398</u>	<u>832,553,398</u>
Net Pension Liability	<u>\$ 474,314,904</u>	<u>\$ 340,523,913</u>	<u>\$ 230,135,311</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	63.7%	71.0%	78.3%

A one percent decrease in the discount rate increases the TPL by approximately 11.4% and increases the NPL by approximately 39.3%. A one percent increase in the discount rate decreases the TPL by approximately 9.4% and decreases the NPL by approximately 32.4%.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

The schedules of Required Supplementary Information that show the changes in NPL and related ratios as required by GASB for the past ten years, are shown below.

<b>Schedule of Changes in Net Pension Liability and Related Ratios</b>					
	<b>FYE 2023</b>	<b>FYE 2022</b>	<b>FYE 2021</b>	<b>FYE 2020</b>	<b>FYE 2019</b>
<b><u>Total Pension Liability</u></b>					
Service cost (MOY)	\$ 15,119,984	\$ 16,376,468	\$ 20,487,163	\$ 18,188,606	\$ 15,678,890
Interest (includes interest on service cost)	73,777,467	73,349,139	71,739,532	72,663,853	71,309,613
Changes of benefit terms	0	0	0	0	0
Differences between expected and actual experience	(1,713,550)	(10,523,277)	(16,689,147)	(16,422,842)	22,854,628
Changes of assumptions	24,927,438	(16,598,645)	(5,578,712)	42,292,759	59,418,045
Benefit payments, including refunds of member contributions	(80,762,790)	(77,834,206)	(71,382,914)	(69,963,781)	(68,548,936)
<b>Net change in total pension liability</b>	<b>\$ 31,348,549</b>	<b>\$ (15,230,521)</b>	<b>\$ (1,424,078)</b>	<b>\$ 46,758,595</b>	<b>\$ 100,712,240</b>
<b>Total pension liability - beginning</b>	<b>1,141,728,762</b>	<b>1,156,959,283</b>	<b>1,158,383,361</b>	<b>1,111,624,766</b>	<b>1,010,912,526</b>
<b>Total pension liability - ending</b>	<b>\$ 1,173,077,311</b>	<b>\$ 1,141,728,762</b>	<b>\$ 1,156,959,283</b>	<b>\$ 1,158,383,361</b>	<b>\$ 1,111,624,766</b>
<b><u>Plan fiduciary net position</u></b>					
Contributions - employer	\$ 37,893,571	\$ 37,289,426	\$ 32,839,034	\$ 35,335,830	\$ 35,970,630
Contributions - member	4,512,743	5,172,235	5,898,084	6,169,551	5,228,438
Net investment income	79,801,713	(102,782,788)	167,232,266	43,802,433	17,514,881
Benefit payments, including refunds of member contributions	(80,762,790)	(77,834,206)	(71,382,914)	(69,963,781)	(68,548,936)
Administrative expense	(1,306,479)	(1,242,879)	(1,423,896)	(1,446,227)	(1,572,951)
<b>Net change in plan fiduciary net position</b>	<b>\$ 40,138,758</b>	<b>\$ (139,398,212)</b>	<b>\$ 133,162,574</b>	<b>\$ 13,897,806</b>	<b>\$ (11,407,938)</b>
<b>Plan fiduciary net position - beginning</b>	<b>792,414,640</b>	<b>931,812,852</b>	<b>798,650,278</b>	<b>784,752,472</b>	<b>796,160,410</b>
<b>Plan fiduciary net position - ending</b>	<b>\$ 832,553,398</b>	<b>\$ 792,414,640</b>	<b>\$ 931,812,852</b>	<b>\$ 798,650,278</b>	<b>\$ 784,752,472</b>
<b>Net pension liability - ending</b>	<b>\$ 340,523,913</b>	<b>\$ 349,314,122</b>	<b>\$ 225,146,431</b>	<b>\$ 359,733,083</b>	<b>\$ 326,872,294</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>70.97%</b>	<b>69.40%</b>	<b>80.54%</b>	<b>68.95%</b>	<b>70.60%</b>
<b>Covered payroll</b>	<b>\$ 72,927,859</b>	<b>\$ 77,382,984</b>	<b>\$ 83,068,458</b>	<b>\$ 82,639,813</b>	<b>\$ 82,494,022</b>
<b>Net pension liability as a percentage of covered payroll</b>	<b>466.93%</b>	<b>451.41%</b>	<b>271.04%</b>	<b>435.30%</b>	<b>396.24%</b>
	<b>FYE 2018</b>	<b>FYE 2017</b>	<b>FYE 2016</b>	<b>FYE 2015</b>	<b>FYE 2014</b>
<b><u>Total Pension Liability</u></b>					
Service cost (MOY)	\$ 16,369,318	\$ 17,988,134	\$ 12,617,971	\$ 12,977,679	\$ 12,991,999
Interest (includes interest on service cost)	68,899,130	66,042,714	67,036,489	66,579,275	65,906,383
Changes of benefit terms	0	0	0	0	0
Differences between expected and actual experience	(4,886,531)	3,911,067	(3,684,265)	(2,041,444)	0
Changes of assumptions	(59,545,809)	(55,153,649)	131,846,504	16,248,637	6,650,362
Benefit payments, including refunds of member contributions	(68,576,111)	(63,452,580)	(62,637,432)	(69,533,077)	(60,973,465)
<b>Net change in total pension liability</b>	<b>\$ (47,740,003)</b>	<b>\$ (30,664,314)</b>	<b>\$ 145,179,267</b>	<b>\$ 24,231,070</b>	<b>\$ 24,575,279</b>
<b>Total pension liability - beginning</b>	<b>1,058,652,529</b>	<b>1,089,316,843</b>	<b>944,137,576</b>	<b>919,906,506</b>	<b>895,331,227</b>
<b>Total pension liability - ending</b>	<b>\$ 1,010,912,526</b>	<b>\$ 1,058,652,529</b>	<b>\$ 1,089,316,843</b>	<b>\$ 944,137,576</b>	<b>\$ 919,906,506</b>
<b><u>Plan fiduciary net position</u></b>					
Contributions - employer	\$ 33,104,561	\$ 33,826,528	\$ 30,778,664	\$ 30,600,069	\$ 32,324,823
Contributions - member	5,129,154	4,653,968	4,376,867	4,487,942	4,438,346
Net investment income	51,089,258	93,520,079	52,927,643	(8,325,611)	48,094,636
Benefit payments, including refunds of member contributions	(68,576,111)	(63,452,580)	(62,637,432)	(69,533,077)	(60,973,465)
Administrative expense	(1,165,930)	(1,206,161)	(1,102,866)	(1,125,310)	(1,095,653)
<b>Net change in plan fiduciary net position</b>	<b>\$ 19,580,932</b>	<b>\$ 67,341,834</b>	<b>\$ 24,342,876</b>	<b>\$ (43,895,987)</b>	<b>\$ 22,788,687</b>
<b>Plan fiduciary net position - beginning</b>	<b>776,579,478</b>	<b>709,237,644</b>	<b>684,894,768</b>	<b>728,790,755</b>	<b>706,276,668</b>
<b>Plan fiduciary net position - ending</b>	<b>\$ 796,160,410</b>	<b>\$ 776,579,478</b>	<b>\$ 709,237,644</b>	<b>\$ 684,894,768</b>	<b>\$ 729,065,355</b>
<b>Net pension liability - ending</b>	<b>\$ 214,752,116</b>	<b>\$ 282,073,051</b>	<b>\$ 380,079,199</b>	<b>\$ 259,242,808</b>	<b>\$ 190,841,151</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>78.76%</b>	<b>73.36%</b>	<b>65.11%</b>	<b>72.54%</b>	<b>79.25%</b>
<b>Covered payroll</b>	<b>\$ 76,710,452</b>	<b>\$ 76,141,625</b>	<b>\$ 72,684,487</b>	<b>\$ 72,325,153</b>	<b>\$ 72,151,450</b>
<b>Net pension liability as a percentage of covered payroll</b>	<b>279.95%</b>	<b>370.46%</b>	<b>522.92%</b>	<b>358.44%</b>	<b>264.50%</b>

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

If an Actuarially Determined Contribution is calculated, the following schedule is required. An Actuarially Determined Contribution is a contribution amount determined in accordance with Actuarial Standards of Practice.

<b>Schedule of Employer Contributions</b>					
	<b>FYE 2023</b>	<b>FYE 2022</b>	<b>FYE 2021</b>	<b>FYE 2020</b>	<b>FYE 2019</b>
Actuarially Determined Contribution	\$ 37,893,571	\$ 37,289,426	\$ 32,839,034	\$ 35,335,830	\$ 35,970,630
Contributions in Relation to the Actuarially Determined Contribution	<u>37,893,571</u>	<u>37,289,426</u>	<u>32,839,034</u>	<u>35,335,830</u>	<u>35,970,630</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll	\$ 72,927,859	\$ 77,382,984	\$ 83,068,458	\$ 82,639,813	\$ 82,494,022
Contributions as a Percentage of Covered Payroll	51.96%	48.19%	39.53%	42.76%	43.60%
	<b>FYE 2018</b>	<b>FYE 2017</b>	<b>FYE 2016</b>	<b>FYE 2015</b>	<b>FYE 2014</b>
Actuarially Determined Contribution	\$ 33,104,561	\$ 33,826,528	\$ 30,778,664	\$ 30,600,069	\$ 32,324,823
Contributions in Relation to the Actuarially Determined Contribution	<u>33,104,561</u>	<u>33,826,528</u>	<u>30,778,664</u>	<u>30,600,069</u>	<u>32,324,823</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll	\$ 76,710,452	\$ 76,141,625	\$ 72,684,487	\$ 72,325,153	\$ 72,151,450
Contributions as a Percentage of Covered Payroll	43.16%	44.43%	42.35%	42.31%	44.80%

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

**Notes to Schedule**

Valuation Date	October 1, 2022
Timing	Actuarially determined contribution rates are calculated based on the actuarial valuation at the beginning of the plan year
Key Methods and Assumptions Used to Determine Contribution Rates for 2023:	
Actuarial cost method	Aggregate
Amortization method	N/A
Asset valuation method	5-year smoothed market
Discount rate	7.00% net of investment expenses
Salary increases	Varies by age from 3.00% to 6.25%
Cost-of-living adjustments	2.50% per year
Inflation	2.50% per year
Mortality (Ordinary)	Pub-2010 Safety Employee Below-Median Income Weighted mortality, projected fully generationally with Scale MP-2020
Mortality (Accidental)	0.03% per year for all ages in addition to ordinary mortality
Mortality (Retiree)	Pub-2010 Safety Healthy Retiree Below-Median Income Weighted mortality, projected fully generationally with Scale MP-2020
Mortality (Disabled)	Pub-2010 Safety Disabled Retiree mortality, projected fully generationally with Scale MP-2020
Mortality (Beneficiaries)	Pub-2010 General Retiree Below-Median Income Weighted mortality, projected fully generationally with Scale MP-2020

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

The City of St. Louis was required to implement GASB 68 for its reporting date of June 30, 2015. The schedules in this section are provided for the City of St. Louis for its 2024 reporting.

The impact of experience gains or losses and assumption changes on the TPL are recognized in expense over the average expected remaining service life of all active and inactive members of the System. As of the measurement date, this recognition period was 2.49 years. The value rounded to the nearest year and used in this calculation was 2 years.

The impact of investment gains or losses is recognized over a period of five years.

The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

<b>Schedule of Deferred Inflows and Outflows of Resources</b>		
	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ 0	\$ 4,364,534
Changes in assumptions	12,463,719	5,532,881
Net difference between projected and actual earnings on pension plan investments	38,847,329	0
<b>Total</b>	<b><u>\$ 51,311,048</u></b>	<b><u>\$ 9,897,415</u></b>
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:		
<b>Measurement year ended June 30:</b>		
2024	\$ 11,849,756	
2025	6,492,878	
2026	28,210,480	
2027	(5,139,481)	
2028	0	
Thereafter	0	

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

The table below provides details on the current balances of deferred inflows and outflows of resources along with the recognition of each base for each of the current and following five years, as well as the total for any years thereafter.

Detailed Schedule of Deferred Inflows and Outflows of Resources									
<b>Recognition of Experience (Gains) and Losses</b>									
Experience	Recognition	Total	Remaining Amounts		Recognition Year				
Year	Period	Amount	BOY	EOY	2023	2024	2025	2026	2027
2023	2.00	\$ (1,713,550)	\$ (1,713,550)	\$ (856,775)	\$ (856,775)	\$ (856,775)	\$ 0	\$ 0	\$ 0
2022	3.00	(10,523,277)	(7,015,518)	(3,507,759)	(3,507,759)	(3,507,759)	0	0	0
2021	3.00	(16,689,147)	(5,563,049)	0	(5,563,049)	0	0	0	0
2020	3.00	(16,422,842)	0	0	0	0	0	0	0
Deferred Outflows			\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Deferred Inflows			(14,292,117)	(4,364,534)	(9,927,583)	(4,364,534)	0	0	0
Net Change in Pension Expense			\$ (14,292,117)	\$ (4,364,534)	\$ (9,927,583)	\$ (4,364,534)	\$ 0	\$ 0	\$ 0
<b>Recognition of Assumption Changes</b>									
Experience	Recognition	Total	Remaining Amounts		Recognition Year				
Year	Period	Amount	BOY	EOY	2023	2024	2025	2026	2027
2023	2.00	\$ 24,927,438	\$ 24,927,438	\$ 12,463,719	\$ 12,463,719	\$ 12,463,719	\$ 0	\$ 0	\$ 0
2022	3.00	(16,598,645)	(11,065,763)	(5,532,881)	(5,532,882)	(5,532,881)	0	0	0
2021	3.00	(5,578,712)	(1,859,570)	0	(1,859,570)	0	0	0	0
2020	3.00	42,292,759	0	0	0	0	0	0	0
Deferred Outflows			\$ 24,927,438	\$ 12,463,719	\$ 12,463,719	\$ 12,463,719	\$ 0	\$ 0	\$ 0
Deferred Inflows			(12,925,333)	(5,532,881)	(7,392,452)	(5,532,881)	0	0	0
Net Change in Pension Expense			\$ 12,002,105	\$ 6,930,838	\$ 5,071,267	\$ 6,930,838	\$ 0	\$ 0	\$ 0
<b>Recognition of Investment (Gains) and Losses</b>									
Experience	Recognition	Total	Remaining Amounts		Recognition Year				
Year	Period	Amount	BOY	EOY	2023	2024	2025	2026	2027
2023	5.00	\$ (25,697,413)	\$ (25,697,413)	\$ (20,557,930)	\$ (5,139,483)	\$ (5,139,483)	\$ (5,139,483)	\$ (5,139,483)	\$ (5,139,481)
2022	5.00	166,749,823	133,399,858	100,049,893	33,349,965	33,349,965	33,349,965	33,349,963	0
2021	5.00	(108,588,012)	(65,152,808)	(43,435,206)	(21,717,602)	(21,717,602)	(21,717,604)	0	0
2020	5.00	13,952,852	5,581,142	2,790,572	2,790,570	2,790,572	0	0	0
2019	5.00	41,132,152	8,226,432	0	8,226,432	0	0	0	0
Net Change in Pension Expense			\$ 56,357,211	\$ 38,847,329	\$ 17,509,882	\$ 9,283,452	\$ 6,492,878	\$ 28,210,480	\$ (5,139,481)

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

The annual pension expense recognized by the City of St. Louis can be calculated in two different ways. First, it is the change in the amounts reported on the City’s Statement of Net Position that relate to PRS and are not attributable to employer contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of pension expense.

<b>Calculation of Pension Expense</b>		
	<b>Measurement Year Ending</b>	
	<b>2023</b>	<b>2022</b>
Change in Net Pension Liability	\$ (8,790,209)	\$ 124,167,691
Change in Deferred Outflows	30,743,576	(67,957,037)
Change in Deferred Inflows	(15,606,485)	(55,662,654)
Employer Contributions	<u>37,893,571</u>	<u>37,289,426</u>
<b>Pension Expense</b>	<b>\$ 44,240,453</b>	<b>\$ 37,837,426</b>
<b>Pension Expense as % of Payroll</b>	<b>60.66%</b>	<b>48.90%</b>
<b>Operating Expenses</b>		
Service cost	\$ 15,119,984	\$ 16,376,468
Employee contributions	(4,512,743)	(5,172,235)
Administrative expenses	<u>1,306,479</u>	<u>1,242,879</u>
Total	\$ 11,913,720	\$ 12,447,112
<b>Financing Expenses</b>		
Interest cost	\$ 73,777,467	\$ 73,349,139
Expected return on assets	<u>(54,104,300)</u>	<u>(63,967,035)</u>
Total	\$ 19,673,167	\$ 9,382,104
<b>Changes</b>		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	5,071,267	6,705,134
Recognition of liability gains and losses	(9,927,583)	(14,545,088)
Recognition of investment gains and losses	<u>17,509,882</u>	<u>23,848,164</u>
Total	\$ 12,653,566	\$ 16,008,210
<b>Pension Expense</b>	<b>\$ 44,240,453</b>	<b>\$ 37,837,426</b>



**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

First, there are components referred to as operating expenses. These are items directly attributable to the operation of the System during the measurement year. Service cost less employee contributions represent the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the System for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets.

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses. The total pension expense for the current year is more than that of the prior year, increasing by about \$6.4 million even though the recognition of changes decreased by about \$3.4 million.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Participant Data Reconciliation</b>					
	<b>Actives</b>	<b>DROP</b>	<b>Retirees</b>	<b>Surviving Spouses and Children</b>	<b>Total</b>
<b>Participants as of October 1, 2021</b>	1,143	44	1,433	495	3,115
New Entrants	75				75
Return to Active					0
Nonvested terminations	(99)				(99)
Retired	(67)	(5)	72		0
Entered into DROP	(10)	10			0
Re-Entry from DROP	9	(9)			0
Deaths without beneficiary			(30)	(22)	(52)
Deaths with Beneficiary			(28)	36	8
Disabled	(2)		2		0
Benefits Expired				(6)	(6)
Data Correction					0
Net Change	(94)	(4)	16	8	(74)
<b>Participants as of October 1, 2022</b>	1,049	40	1,449	503	3,041

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

Age	Distribution of Active Participants								Total
	Years of Service								
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 +	
Under 20									0
20 – 24	51 \$48,758								51 \$48,758
25 – 29	128 \$52,128	19 \$58,027							147 \$52,890
30 – 34	77 \$52,879	72 \$61,293	17 \$69,079						166 \$58,187
35 – 39	34 \$53,448	31 \$62,788	100 \$68,972	18 \$71,977	1 \$77,710				184 \$65,403
40 – 44	12 \$52,957	12 \$62,015	51 \$69,713	85 \$72,479	21 \$74,908				181 \$69,993
45 – 49	4 \$54,597	3 \$61,400	19 \$71,120	30 \$72,872	36 \$75,867	3 \$78,079			95 \$72,689
50 – 54	4 \$46,217	2 \$61,671	5 \$69,529	20 \$71,861	54 \$77,221	32 \$79,430			117 \$75,254
55 – 59				2 \$81,117	28 \$77,051	51 \$77,605	2 \$77,086		83 \$77,490
60 – 64				1 \$71,924	7 \$75,642	15 \$82,828	2 \$79,996		25 \$80,153
65 +									0
<b>Total</b>	310 \$51,893	139 \$61,250	192 \$69,405	156 \$72,525	147 \$76,455	101 \$78,973	4 \$78,541	0	1,049 \$65,557

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

Statistics for Active Participants

	Count	Age	Average	
			Service	Compensation
As of October 1, 2022				
Continuing	976	41.1	13.4	\$ 67,016
New	73	28.2	0.5	\$ 46,052
Total	1,049	40.2	12.5	\$ 65,557
As of October 1, 2021				
Continuing	1,083	40.8	13.1	\$ 64,920
New	60	28.6	0.6	\$ 44,142
Total	1,143	40.2	12.4	\$ 63,829

Statistics for DROP Participants

	Count	Age	Service	Compensation	Average	
					DROP Account Balance	Monthly Benefit Amount
As of October 1, 2022	40	52.7	24.0	\$ 77,212	\$122,283	\$ 3,360
As of October 1, 2021	44	52.8	22.8	\$ 74,789	\$ 99,754	\$ 3,101

Statistics for Inactive Participants

	Count	Total Monthly Benefits	Average Monthly Benefits
As of October 1, 2022			
Service Retirees	1,285	\$3,997,442	\$ 3,111
Ordinary Disabilities	17	24,501	1,441
Accidental Disabilities	147	425,700	2,896
Surviving Spouses	457	713,266	1,561
Children	46	32,148	699
Total	1,952	\$5,193,475	\$ 2,661
As of October 1, 2021			
Service Retirees	1,264	\$3,852,826	\$ 3,048
Ordinary Disabilities	19	27,712	1,459
Accidental Disabilities	149	422,361	2,835
Surviving Spouses	449	692,757	1,543
Children	46	29,540	642
Total	1,927	\$5,025,196	\$ 2,608

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

A summary of the actuarial assumptions and methods used to calculate the Total Pension Liability as of September 30, 2023 (except for the discount rate as described in Section III) is provided below, including any assumptions that differ from those used in the October 1, 2022 actuarial valuation.

**A. Actuarial Assumptions**

**1. Mortality Rates:**

Actives, Ordinary: Pub-2010 Safety Employee Below-Median Income Weighted mortality, projected fully generationally with Scale MP-2020

Actives, Accidental: 0.03% per year for all ages in addition to ordinary mortality rates.

Healthy Retirees: Pub-2010 Safety Healthy Retiree Below-Median Income Weighted mortality, projected fully generationally with Scale MP-2020

Disabled Retirees: Pub-2010 Safety Disabled Retiree mortality, projected fully generationally with Scale MP-2020

Beneficiaries: Pub-2010 General Retiree Below-Median Income Weighted mortality, projected fully generationally with Scale MP-2020

**2. Disability:**

10% of disabilities are assumed ordinary and the remaining 90% are accidental disabilities.

Age	Disability (%)
25	0.0256
35	0.5080
45	0.9400
55	1.0000
60	1.0000

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**3. Withdrawal Rates before Retirement:**

Service-related rates based on experience; see the table of sample rates.

Years of Service	Withdrawal (%)	Years of Service	Withdrawal (%)
0	13.0	8	5.0
1	12.0	9	4.0
2	11.0	10	3.5
3	10.0	11	3.0
4	9.0	12	2.5
5	8.0	13	2.0
6	7.0	14	1.5
7	6.0	15+	1.5

**4. DROP Rates:**

Years of Service	DROP Rate (%)
20	40
21	15
22-29	5
30	65

**5. Retirement Rates:**

Years of Service	Retirement Rate (%)
20	14
21	10
22-23	8
24-26	4
27-29	2
30	35

DROP and retirement rates are additive, so at 30 years of service, the chance of either entering DROP or retirement is 100%. All members are assumed to retire by age 65.

**6. Marriage**

75% of male active members are assumed to be married and 50% of female active members. The male spouse is assumed to be 3 years older than the female.

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**7. Children**

Each member is assumed to have 1.5 children at retirement, disability, or death; the child is assumed to be 30 years younger than the member and to receive benefits until he or she is 20 years old.

**8. DROP Participation**

Members participate in DROP based on their completed service; see table for rates

- No disability is assumed while in DROP
- One-third of participants are expected to retire from DROP after four years
- One-third of participants are expected to re-enter the plan after five years in DROP and remain in the plan for two years
- The remaining third of participants are expected to re-enter the plan after five years in DROP and remain in the plan for eight years

**9. Special Advisor and Consultant Benefits**

Assumed to be paid to all eligible members.

**10. Form of Payment**

There are no optional forms of payment; automatic survivor benefits are paid to all members.

**11. Investment Return**

7.00% compounded annually for funding purposes, net of investment expenses.

**12. Salary Increases**

Wage inflation is assumed to be 3.0%. Individual salaries are expected to increase according to the following table which includes wage inflation and promotion.

Service	Salary Increase (%)
0-9	6.25
10-19	3.50
20+	3.00

**13. Cost-of-Living Adjustments**

2.5% per year.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**14. Administrative Expenses**

Prior year actual expenses increased by the assumed inflation rate (2.5%), rounded to the nearest \$1,000.

**15. Interest on Member Contributions**

4% per year

**16. Rationale for actuarial assumptions**

The actuarial assumptions were adopted by the Board of Trustees based upon recommendations made in an actuarial experience study performed by Cheiron covering the years 2015 through 2020 subsequent to the October 1, 2020 valuation. The rationale for such changes is contained in the experience study report presented to the Board on June 23, 2021, and in a discount rate review presented to the Board on September 29, 2021.

**17. Changes in Actuarial Assumptions from the October 1, 2022 actuarial valuation**

None.



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

**B. Actuarial Methods**

**1. Actuarial Value of Assets**

The market value of assets less unrecognized returns in each of the last five years, but no earlier than October 1, 2005. Initial unrecognized return is equal to the difference between the actual market return and expected return on the actuarial value of assets and is recognized over a five-year period. The actuarial value is further adjusted, if necessary, to be within 20% of the market value. The actuarial asset value was initialized at the market value as of October 1, 2005.

**2. Actuarial Cost Method**

For determining contributions, the cost method used in this valuation is the Aggregate Cost method. Under this method, the difference between the present value of future benefits and the actuarial value of assets is allocated as a level percentage over the future salary of the participants.

There is no actuarial accrued liability with this method. For accounting purposes, the actuarial accrued liability is determined under the entry age normal method.

**3. Valuation Software**

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in the assumptions or output of ProVal that would affect this actuarial valuation.

Projections in this valuation were developed using P-scan, our proprietary tool for the intended purpose of developing projections. The projections shown in this presentation cover multiple individual scenarios and the variables are not necessarily correlated. We are not aware of any material inconsistencies, unreasonable output resulting from the aggregation of assumptions, material limitations, or known weaknesses that would affect the projections shown in this presentation.

**4. Changes in Actuarial Methods since the October 1, 2022 actuarial valuation**

None

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

The plan provisions are the same as those summarized in the October 1, 2022 Actuarial Valuation Report.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2023	792,414,640	42,406,314	80,762,790	1,306,479	79,801,713	832,553,398	80,762,790	0
2024	832,553,398	40,061,645	77,961,252	1,252,071	56,931,605	850,333,325	77,961,252	0
2025	850,333,325	38,992,837	80,566,899	1,200,125	58,051,557	865,610,696	80,566,899	0
2026	865,610,696	37,925,914	81,947,051	1,165,635	59,037,960	879,461,883	81,947,051	0
2027	879,461,883	39,336,077	84,175,541	1,124,366	59,980,806	893,478,860	84,175,541	0
2028	893,478,860	36,546,840	88,651,106	1,056,191	60,714,373	901,032,777	88,651,106	0
2029	901,032,777	34,754,645	88,369,507	1,023,533	61,192,294	907,586,677	88,369,507	0
2030	907,586,677	32,536,466	89,370,973	944,039	61,543,021	911,351,153	89,370,973	0
2031	911,351,153	30,661,098	91,077,577	895,583	61,684,953	911,724,044	91,077,577	0
2032	911,724,044	28,991,364	89,970,725	862,352	61,692,831	911,575,161	89,970,725	0
2033	911,575,161	27,410,972	90,668,134	825,150	61,605,314	909,098,163	90,668,134	0
2034	909,098,163	25,978,696	90,793,393	799,865	61,379,203	904,862,804	90,793,393	0
2035	904,862,804	24,695,090	89,698,592	778,559	61,076,964	900,157,708	89,698,592	0
2036	900,157,708	23,320,407	91,490,820	747,952	60,639,693	891,879,035	91,490,820	0
2037	891,879,035	22,053,050	91,312,948	728,802	60,023,358	881,913,693	91,312,948	0
2038	881,913,693	20,580,090	89,915,302	688,092	59,324,594	871,214,984	89,915,302	0
2039	871,214,984	19,356,765	91,054,009	662,138	58,495,304	857,350,906	91,054,009	0
2040	857,350,906	17,851,873	91,581,425	612,742	57,456,591	840,465,204	91,581,425	0
2041	840,465,204	16,399,467	91,165,091	565,344	56,240,573	821,374,809	91,165,091	0
2042	821,374,809	15,137,809	91,831,256	530,062	54,839,127	798,990,426	91,831,256	0
2043	798,990,426	13,544,276	90,959,454	461,834	53,249,734	774,363,148	90,959,454	0
2044	774,363,148	12,121,000	89,762,464	403,643	51,520,041	747,838,082	89,762,464	0
2045	747,838,082	11,005,473	87,483,853	365,273	49,704,626	720,699,055	87,483,853	0
2046	720,699,055	9,923,490	86,448,669	324,976	47,804,670	691,653,570	86,448,669	0
2047	691,653,570	8,902,275	84,605,099	290,446	45,800,970	661,461,270	84,605,099	0
2048	661,461,270	7,864,387	83,282,918	251,552	43,698,629	629,489,817	83,282,918	0
2049	629,489,817	6,829,395	82,094,109	213,093	41,467,244	595,479,254	82,094,109	0
2050	595,479,254	5,743,692	81,005,942	171,364	39,088,025	559,133,665	81,005,942	0
2051	559,133,665	4,664,248	79,230,275	128,196	36,569,275	521,008,718	79,230,275	0
2052	521,008,718	3,637,336	78,535,403	86,701	33,890,531	479,914,480	78,535,403	0

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2053	479,914,480	2,587,144	76,979,490	42,398	31,032,860	436,512,597	76,979,490	0
2054	436,512,597	1,582,330	75,167,802	0	28,023,950	390,951,075	75,167,802	0
2055	390,951,075	1,076,990	73,364,192	0	24,879,314	343,543,187	73,364,192	0
2056	343,543,187	594,144	71,533,869	0	21,607,126	294,210,588	71,533,869	0
2057	294,210,588	117,480	69,042,118	0	18,223,179	243,509,129	69,042,118	0
2058	243,509,129	11,902	66,570,338	0	14,755,493	191,706,186	66,570,338	0
2059	191,706,186	15,262	64,495,294	0	11,200,801	138,426,955	64,495,294	0
2060	138,426,955	6,062	62,304,157	0	7,546,331	83,675,191	62,304,157	0
2061	83,675,191	0	59,946,841	0	3,794,610	27,522,959	59,946,841	0
2062	27,522,959	0	57,717,446	0	0	0	27,522,959	30,194,487
2063	0	0	55,480,850	0	0	0	0	55,480,850
2064	0	0	53,242,790	0	0	0	0	53,242,790
2065	0	0	51,014,232	0	0	0	0	51,014,232
2066	0	0	48,791,493	0	0	0	0	48,791,493
2067	0	0	46,580,385	0	0	0	0	46,580,385
2068	0	0	44,384,430	0	0	0	0	44,384,430
2069	0	0	42,205,634	0	0	0	0	42,205,634
2070	0	0	40,045,227	0	0	0	0	40,045,227
2071	0	0	37,910,707	0	0	0	0	37,910,707
2072	0	0	35,808,048	0	0	0	0	35,808,048
2073	0	0	33,737,468	0	0	0	0	33,737,468
2074	0	0	31,700,743	0	0	0	0	31,700,743
2075	0	0	29,701,646	0	0	0	0	29,701,646
2076	0	0	27,742,085	0	0	0	0	27,742,085
2077	0	0	25,824,784	0	0	0	0	25,824,784
2078	0	0	23,953,204	0	0	0	0	23,953,204
2079	0	0	22,131,252	0	0	0	0	22,131,252
2080	0	0	20,363,261	0	0	0	0	20,363,261
2081	0	0	18,653,520	0	0	0	0	18,653,520
2082	0	0	17,006,409	0	0	0	0	17,006,409

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2083	0	0	15,426,392	0	0	0	0	15,426,392
2084	0	0	13,917,565	0	0	0	0	13,917,565
2085	0	0	12,483,694	0	0	0	0	12,483,694
2086	0	0	11,128,220	0	0	0	0	11,128,220
2087	0	0	9,854,128	0	0	0	0	9,854,128
2088	0	0	8,663,799	0	0	0	0	8,663,799
2089	0	0	7,559,070	0	0	0	0	7,559,070
2090	0	0	6,541,126	0	0	0	0	6,541,126
2091	0	0	5,610,511	0	0	0	0	5,610,511
2092	0	0	4,767,092	0	0	0	0	4,767,092
2093	0	0	4,009,746	0	0	0	0	4,009,746
2094	0	0	3,336,480	0	0	0	0	3,336,480
2095	0	0	2,744,474	0	0	0	0	2,744,474
2096	0	0	2,229,992	0	0	0	0	2,229,992
2097	0	0	1,788,405	0	0	0	0	1,788,405
2098	0	0	1,414,360	0	0	0	0	1,414,360
2099	0	0	1,102,036	0	0	0	0	1,102,036
2100	0	0	845,210	0	0	0	0	845,210
2101	0	0	637,441	0	0	0	0	637,441
2102	0	0	472,267	0	0	0	0	472,267
2103	0	0	343,383	0	0	0	0	343,383
2104	0	0	244,794	0	0	0	0	244,794
2105	0	0	170,963	0	0	0	0	170,963
2106	0	0	116,878	0	0	0	0	116,878
2107	0	0	78,157	0	0	0	0	78,157
2108	0	0	51,089	0	0	0	0	51,089
2109	0	0	32,624	0	0	0	0	32,624
2110	0	0	20,343	0	0	0	0	20,343
2111	0	0	12,386	0	0	0	0	12,386
Discount Rate:							7.00%	4.09%

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2023 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
						Present Value:	\$ 1,133,846,059	\$ 117,495,724
						Total Present Value:		\$ 1,251,341,782
						GASB Discount Rate:		6.44%

**APPENDIX E – GLOSSARY OF TERMS**

**1. Actuarially Determined Contribution**

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

**2. Actuarial Valuation Date**

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

**3. Deferred Inflow of Resources**

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

**4. Deferred Outflow of Resources**

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

**5. Entry Age Actuarial Cost Method**

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

**6. Measurement Date**

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.

**APPENDIX E – GLOSSARY OF TERMS**

**7. Net Pension Liability**

The liability of employers and nonemployer contributing entities for employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

**8. Plan Fiduciary Net Position**

The fair or market value of assets.

**9. Reporting Date**

The last day of the plan or employer's fiscal year.

**10. Service Cost**

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

**11. Total Pension Liability**

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the entry age actuarial cost method. This measurement generally is not appropriate for estimating the cost to settle the Plan's liabilities.





*Classic Values, Innovative Advice*