



The Police Retirement System of St. Louis

GASB 67/68 Report as of September 30, 2024

Produced by Cheiron February 2025

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Letter Of Transmittal

February 26, 2025

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, 2024,
- 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

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, 2024,
- 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, 2024. Measurements as of the reporting date are based on the fair value of assets as of September 30, 2024, and the Total Pension Liability as of the valuation date, October 1, 2023, projected to September 30, 2024. 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.

| Summary of Results | | | | | | | | | | | |
|---|------------------|----------------|---------------------------|--------------|--|--|--|--|--|--|--|
| | Measurement Date | | | | | | | | | | |
| | Sept | ember 30, 2024 | September 30, 2023 | | | | | | | | |
| Net Pension Liability | \$ | 245,703,332 | \$ | 340,523,913 | | | | | | | |
| Deferred Outflows | | (7,967,641) | | (51,311,048) | | | | | | | |
| Deferred Inflows | | 48,453,612 | | 9,897,415 | | | | | | | |
| Net Impact on Statement of Net Position | \$ | 286,189,303 | \$ | 299,110,280 | | | | | | | |
| Pension Expense (\$ Amount) | \$ | 27,267,964 | \$ | 44,240,453 | | | | | | | |
| Pension Expense (% of Payroll) | | 37.64% | | 60.66% | | | | | | | |



SECTION I – BOARD SUMMARY

The Net Pension Liability (NPL) decreased approximately \$94.8 million since the prior measurement date, due to both an investment gain and assumption changes. Experience losses offset some of the decrease to the NPL. The investment gain is recognized over five years, while the actuarial loss 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 \$245,703,332, Deferred Inflows of \$48,453,612, and Deferred Outflows of \$7,967,641. Consequently, the net impact on the City's Statement of Net Position due to the System would be \$286,189,303 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, 2024, the annual pension expense is \$27,267,964 or 37.64% of covered-employee payroll. This amount is not equal to the City's contribution to the System (\$40,188,941), but instead represents the change in the net impact on the City's Statement of Net Position plus employer contributions (\$286,189,303 – \$299,110,280 + \$40,188,941). The pension expense for the current year is less 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.



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, *Data Quality*, 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, 2023 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, 2023 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.

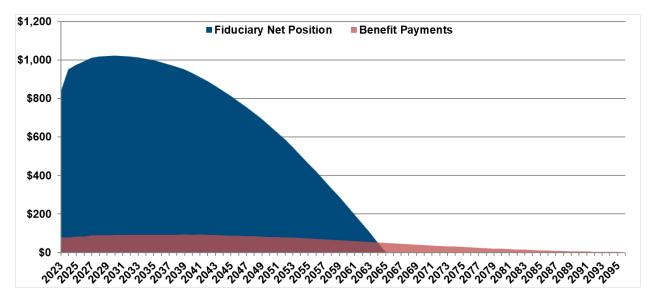
This report was prepared for the Police Retirement System of St. Louis for the purposes described herein and for the use by the Plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron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



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 6.49% 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 3.82% based on the Bond Buyer GO 20-Year Municipal Bond Index as of September 26, 2024. 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 2065. Therefore, the portion of future projected benefit payments after 2065 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, 2023 and the fiduciary net position was expected to be sufficient to make projected benefit payments for current members until 2061. 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 4.09%, this calculation resulted in a blended discount rate of 6.44% as of September 30, 2023.

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, 2023 actuarial valuation.

Appendix D shows the details of this calculation.



SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the end of the measurement year, September 30, 2024, is measured as of a valuation date of October 1, 2023 and projected to September 30, 2024. 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, 2022 and projected to September 30, 2023, as well as being determined using different actuarial assumptions, it will not match the amounts measured as of September 30, 2023 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.

| Projection of Total Pension Li | iabilit | y from Valuat | tion | to Measurem | ent | Date |
|--|---------|---------------|------|---------------|-----|---------------|
| Discount Rate | | 5.49% | | 6.49% | | 7.49% |
| Valuation Total Pension Liability, September | 30, 202 | 23 | | | | |
| Actives | \$ | 288,262,485 | \$ | 243,468,996 | \$ | 208,025,167 |
| DROP and Re-entered | | 182,326,663 | | 163,962,765 | | 148,889,356 |
| Retirees | | 847,544,059 | | 774,414,914 | | 712,334,010 |
| Total | \$ | 1,318,133,208 | \$ | 1,181,846,676 | \$ | 1,069,248,534 |
| Service Cost | | 19,794,204 | | 15,849,549 | | 12,897,154 |
| Benefit Payments | | 76,849,480 | | 76,849,480 | | 76,849,480 |
| Interest | | 70,820,271 | | 74,753,516 | | 77,734,942 |
| Total Pension Liability, September 30, 2024 | \$ | 1,331,898,203 | \$ | 1,195,600,261 | \$ | 1,083,031,150 |



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.

| | | 1 | Incre | ase (Decrease) | |
|--|----|-----------------------------------|-------|-------------------------------------|---------------------------------------|
| | , | Fotal Pension Liability (a) | | an Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
| Balances at September 30, 2023 | \$ | 1,173,077,311 | \$ | 832,553,398 | \$ 340,523,913 |
| Changes for the year: | | | | | |
| Service cost | | 16,020,419 | | | 16,020,419 |
| Interest | | 73,618,042 | | | 73,618,042 |
| Changes of benefits | | | | | 0 |
| Differences between expected and actual experience | | 15,935,283 | | | 15,935,283 |
| Changes of assumptions | | (6,201,314) | | | (6,201,314) |
| Contributions - employer | | | | 40,188,941 | (40,188,941) |
| Contributions - member | | | | 4,930,601 | (4,930,601) |
| Net investment income | | | | 150,774,484 | (150,774,484) |
| Benefit payments | | (76,849,480) | | (76,849,480) | 0 |
| Administrative expense | | | | (1,701,015) | 1,701,015 |
| Net changes | | 22,522,950 | | 117,343,531 | (94,820,581) |
| Balances at September 30, 2024 | \$ | 1,195,600,261 | \$ | 949,896,929 | \$ 245,703,332 |

During the measurement year, the NPL decreased by approximately \$94.8 million. The service cost and interest cost increased the NPL by approximately \$89.6 million while contributions and investment returns, offset by administrative expenses, decreased the NPL by approximately \$194.2 million.

There were no changes in benefits during the year. There were actuarial experience losses during the year of approximately \$15.9 million. Assumption changes decreased the NPL by \$6.2 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.



SECTION V – NOTE DISCLOSURES

| | | 1% Decrease 5.49% | | Discount Rate 6.49% | | 1% Increase 7.49% |
|---|-----------------|---|-----------------|---|-----------------|---|
| Total Pension Liability Plan Fiduciary Net Position Net Pension Liability | \$ <u>\$</u> | 1,331,898,203 949,896,929 382,001,274 | \$ <u>\$</u> | 1,195,600,261 949,896,929 245,703,332 | \$ <u>\$</u> | 1,083,031,150 949,896,929 133,134,221 |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | | 71.3% | | 79.4% | | 87.7% |

A one percent decrease in the discount rate increases the TPL by approximately 11.4% and increases the NPL by approximately 55.5%. A one percent increase in the discount rate decreases the TPL by approximately 9.4% and decreases the NPL by approximately 45.8%.



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.

| Schedule of Cha | ınge | s in Net Pens | ion | Liability and | R | elated Ratios | | | | |
|---|----------------|--|-----------------------|---|-----------------------|---|----------------------|---|----------------|--|
| | | FYE 2024 | | FYE 2023 | | FYE 2022 | | FYE 2021 | | FYE 2020 |
| Total Pension Liability | | | | | | | | | | |
| Service cost (MOY) | \$ | 16,020,419 | \$ | 15,119,984 | \$ | 16,376,468 | \$ | 20,487,163 | \$ | 18,188,606 |
| Interest (includes interest on service cost) | | 73,618,042 | | 73,777,467 | | 73,349,139 | | 71,739,532 | | 72,663,853 |
| Changes of benefit terms | | 0 | | 0 | | 0 | | 0 | | 0 |
| Differences between expected and actual experience | | 15,935,283 | | (1,713,550) | | (10,523,277) | | (16,689,147) | | (16,422,842) |
| Changes of assumptions | | (6,201,314) | | 24,927,438 | | (16,598,645) | | (5,578,712) | | 42,292,759 |
| Benefit payments, including refunds of member contributions | | (76,849,480) | _ | (80,762,790) | _ | (77,834,206) | | (71,382,914) | _ | (69,963,781) |
| Net change in total pension liability | \$ | 22,522,950 | \$ | 31,348,549 | 3 | (15,230,521) | \$ | (1,424,078) | 3 | 46,758,595 |
| Total pension liability - beginning | | 1,173,077,311 | _ | 1,141,728,762 | _ | 1,156,959,283 | _ | 1,158,383,361 | _ | 1,111,624,766 |
| Total pension liability - ending | \$ | 1,195,600,261 | \$ | 1,173,077,311 | \$ | 1,141,728,762 | \$ | 1,156,959,283 | \$ | 1,158,383,361 |
| Plan fiduciary net position | | | | | | | | | | |
| Contributions - employer | \$ | 40,188,941 | \$ | 37,893,571 | \$ | 37,289,426 | \$ | 32,839,034 | \$ | 35,335,830 |
| Contributions - member | | 4,930,601 | | 4,512,743 | | 5,172,235 | | 5,898,084 | | 6,169,551 |
| Net investment income | | 150,774,484 | | 79,801,713 | | (102,782,788) | | 167,232,266 | | 43,802,433 |
| Benefit payments, including refunds of member contributions | | (76,849,480) | | (80,762,790) | | (77,834,206) | | (71,382,914) | | (69,963,781) |
| Administrative expense | | (1,701,015) | _ | (1,306,479) | _ | (1,242,879) | _ | (1,423,896) | _ | (1,446,227) |
| Net change in plan fiduciary net position | \$ | 117,343,531 | \$ | 40,138,758 | \$ | (139,398,212) | \$ | 133,162,574 | \$ | 13,897,806 |
| Plan fiduciary net position - beginning | | 832,553,398 | _ | 792,414,640 | _ | 931,812,852 | _ | 798,650,278 | | 784,752,472 |
| Plan fiduciary net position - ending | \$ | 949,896,929 | \$ | 832,553,398 | \$ | 792,414,640 | \$ | 931,812,852 | \$ | 798,650,278 |
| Net pension liability - ending | \$ | 245,703,332 | \$ | 340,523,913 | \$ | 349,314,122 | \$ | 225,146,431 | \$ | 359,733,083 |
| Plan fiduciary net position as a percentage of the total pension liability | - | 79.45% | | 70.97% | | 69.40% | | 80.54% | | 68.95% |
| Covered payroll | \$ | 72,437,531 | \$ | 72,927,859 | \$ | 77,382,984 | \$ | 83,068,458 | \$ | 82,639,813 |
| Net pension liability as a percentage of covered payroll | | 339.19% | | 466.93% | | 451.41% | | 271.04% | | 435.30% |
| | | FYE 2019 | | FYE 2018 | | FYE 2017 | | FYE 2016 | | FYE 2015 |
| Total Pension Liability | | | | | | | | | | |
| Service cost (MOY) | \$ | 15,678,890 | \$ | 16,369,318 | \$ | 17,988,134 | \$ | 12,617,971 | \$ | 12,977,679 |
| Interest (includes interest on service cost) | | 71,309,613 | | 68,899,130 | | 66,042,714 | | 67,036,489 | | 66,579,275 |
| Changes of benefit terms | | 0 | | 0 | | 0 | | 0 | | 0 |
| Differences between expected and actual experience | | 22,854,628 | | (4,886,531) | | 3,911,067 | | (3,684,265) | | (2,041,444 |
| Changes of assumptions | | 59,418,045 | | (59,545,809) | | (55,153,649) | | 131,846,504 | | 16,248,637 |
| Benefit payments, including refunds of member contributions | | (68,548,936) | _ | (68,576,111) | _ | (63,452,580) | _ | (62,637,432) | _ | (69,533,077 |
| Net change in total pension liability | \$ | 100,712,240 | \$ | (47,740,003) | \$ | (30,664,314) | \$ | 145,179,267 | \$ | 24,231,070 |
| Total pancion liability baginning | | 1,010,912,526 | | 1,058,652,529 | _ | 1,089,316,843 | _ | 944,137,576 | | 919,906,506 |
| Total pension liability - beginning | _ | 1,010,712,520 | _ | , , | | | • | 1,089,316,843 | \$ | 944,137,576 |
| Total pension liability - beginning Total pension liability - ending | \$ | 1,111,624,766 | \$ | 1,010,912,526 | \$ | 1,058,652,529 | \$ | | _ | |
| | \$ | | \$ | | \$ | 1,058,652,529 | 3 | | | |
| Total pension liability - ending | <u>\$</u> | | | | | 1,058,652,529 33,826,528 | | 30,778,664 | \$ | 30,600,069 |
| Total pension liability - ending Plan fiduciary net position | <u>\$</u> | 1,111,624,766 | | 1,010,912,526 | | | | 30,778,664 4,376,867 | \$ | , , , |
| Total pension liability - ending Plan fiduciary net position Contributions - employer | \$ | 1,111,624,766 35,970,630 | | 1,010,912,526 33,104,561 | | 33,826,528 | | | \$ | 4,487,942 |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member | \$ | 35,970,630 5,228,438 | | 33,104,561 5,129,154 | | 33,826,528 4,653,968 | | 4,376,867 | \$ | 4,487,942 (8,325,611 |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income | \$ | 35,970,630 5,228,438 17,514,881 | | 1,010,912,526 33,104,561 5,129,154 51,089,258 | | 33,826,528 4,653,968 93,520,079 | | 4,376,867 52,927,643 | \$ | 4,487,942 (8,325,611) (69,533,077) |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income Benefit payments, including refunds of member contributions | \$ \$ \$ | 35,970,630 5,228,438 17,514,881 (68,548,936) | \$ | 33,104,561 5,129,154 51,089,258 (68,576,111) | \$ | 33,826,528 4,653,968 93,520,079 (63,452,580) | \$ | 4,376,867 52,927,643 (62,637,432) | | 4,487,942 (8,325,611) (69,533,077 (1,125,310) |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income Benefit payments, including refunds of member contributions Administrative expense | | 35,970,630 5,228,438 17,514,881 (68,548,936) (1,572,951) | \$ | 1,010,912,526 33,104,561 5,129,154 51,089,258 (68,576,111) (1,165,930) 19,580,932 | \$ | 33,826,528 4,653,968 93,520,079 (63,452,580) (1,206,161) | \$ | 4,376,867 52,927,643 (62,637,432) (1,102,866) 24,342,876 | | / / |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income Benefit payments, including refunds of member contributions Administrative expense Net change in plan fiduciary net position | | 1,111,624,766 35,970,630 5,228,438 17,514,881 (68,548,936) (1,572,951) (11,407,938) | \$ | 33,104,561 5,129,154 51,089,258 (68,576,111) (1,165,930) | \$ | 33,826,528 4,653,968 93,520,079 (63,452,580) (1,206,161) 67,341,834 | \$ | 4,376,867 52,927,643 (62,637,432) (1,102,866) | | 4,487,942 (8,325,611) (69,533,077) (1,125,310) (43,895,987) |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income Benefit payments, including refunds of member contributions Administrative expense Net change in plan fiduciary net position Plan fiduciary net position - beginning | \$ | 1,111,624,766 35,970,630 5,228,438 17,514,881 (68,548,936) (1,572,951) (11,407,938) 796,160,410 | \$ \$ | 1,010,912,526 33,104,561 5,129,154 51,089,258 (68,576,111) (1,165,930) 19,580,932 776,579,478 | \$ \$ | 33,826,528 4,653,968 93,520,079 (63,452,580) (1,206,161) 67,341,834 709,237,644 | \$ | 4,376,867 52,927,643 (62,637,432) (1,102,866) 24,342,876 684,894,768 | \$ | 4,487,942 (8,325,611) (69,533,077) (1,125,310) (43,895,987) 728,790,755 |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income Benefit payments, including refunds of member contributions Administrative expense Net change in plan fiduciary net position Plan fiduciary net position - beginning Plan fiduciary net position - ending | \$ | 1,111,624,766 35,970,630 5,228,438 17,514,881 (68,548,936) (1,572,951) (11,407,938) 796,160,410 784,752,472 | \$ \$ <u>\$</u> | 1,010,912,526 33,104,561 5,129,154 51,089,258 (68,576,111) (1,165,930) 19,580,932 776,579,478 796,160,410 | \$ \$ <u>\$</u> | 33,826,528 4,653,968 93,520,079 (63,452,580) (1,206,161) 67,341,834 709,237,644 776,579,478 | \$ \$ \$ | 4,376,867 52,927,643 (62,637,432) (1,102,866) 24,342,876 684,894,768 709,237,644 | \$ \$ | 4,487,942 (8,325,611 (69,533,077 (1,125,310 (43,895,987 728,790,755 684,894,768 259,242,808 |
| Total pension liability - ending Plan fiduciary net position Contributions - employer Contributions - member Net investment income Benefit payments, including refunds of member contributions Administrative expense Net change in plan fiduciary net position Plan fiduciary net position - beginning Plan fiduciary net position - ending Net pension liability - ending Plan fiduciary net position as a percentage of the total | \$ | 1,111,624,766 35,970,630 5,228,438 17,514,881 (68,548,936) (1,572,951) (11,407,938) 796,160,410 784,752,472 326,872,294 | \$ \$ \$ | 1,010,912,526 33,104,561 5,129,154 51,089,258 (68,576,111) (1,165,930) 19,580,932 776,579,478 796,160,410 214,752,116 | \$ \$ \$ | 33,826,528 4,653,968 93,520,079 (63,452,580) (1,206,161) 67,341,834 709,237,644 776,579,478 282,073,051 | \$ \$ \$ \$ | 4,376,867 52,927,643 (62,637,432) (1,102,866) 24,342,876 684,894,768 709,237,644 380,079,199 | \$ \$ \$ | 4,487,942 (8,325,611) (69,533,077) (1,125,310) (43,895,987) 728,790,755 684,894,768 |



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.

| So | chedule of En | ıployer Cont | tributions | | |
|--|---------------------------------|---------------------------------|---------------------------------|-----------------------------|-----------------------------|
| | FYE 2024 | FYE 2023 | FYE 2022 | FYE 2021 | FYE 2020 |
| Actuarially Determined Contribution Contributions in Relation to the Actuarially Determined Contribution | \$ 40,188,941 40,188,941 | \$ 37,893,571 37,893,571 | \$ 37,289,426 37,289,426 | \$ 32,839,034 32,839,034 | \$ 35,335,830 35,335,830 |
| Contribution Deficiency/(Excess) Covered Payroll Contributions as a Percentage of Covered Payroll | \$ 0 \$ 72,437,531 55.48% | \$ 0 \$ 72,927,859 51.96% | \$ 0 \$ 77,382,984 48.19% | \$ 0 \$ 83,068,458 | \$ 0 \$ 82,639,813 |
| | FYE 2019 | FYE 2018 | FYE 2017 | FYE 2016 | FYE 2015 |
| Actuarially Determined Contribution Contributions in Relation to the Actuarially Determined Contribution | \$ 35,970,630 35,970,630 | \$ 33,104,561 33,104,561 | \$ 33,826,528 33,826,528 | \$ 30,778,664 30,778,664 | \$ 30,600,069 |
| Contribution Deficiency/(Excess) Covered Payroll Contributions as a Percentage of | \$ 0 \$ 82,494,022 43.60% | \$ 0 \$ 76,710,452 43,16% | \$ 0 \$ 76,141,625 | \$ 0 \$ 72,684,487 | \$ 0 \$ 72,325,153 |
| Covered Payroll | 43.00% | 45.10% | 44.4370 | 42.33% | 42.3170 |



SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION

Notes to Schedule

Valuation Date October 1, 2023

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 2024:

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



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 2025 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 2.23 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.

| Schedule of Deferred Inflows | s and | Outflows of | Resou | irces | | | | | | | |
|---|-------|--------------------------------------|-------|-------------------------------------|--|--|--|--|--|--|--|
| | | Deferred Outflows of Resources | 1 | Deferred Inflows of Resources | | | | | | | |
| Differences between expected and actual | | | | | | | | | | | |
| experience | \$ | 7,967,641 | \$ | 0 | | | | | | | |
| Changes in assumptions | | 0 | | 3,100,657 | | | | | | | |
| Net difference between projected and actual | | | | | | | | | | | |
| earnings on pension plan investments | | 0 | | 45,352,955 | | | | | | | |
| Total | \$ | 7,967,641 | \$ | 48,453,612 | | | | | | | |
| Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows: | | | | | | | | | | | |
| Measurement year ended June 30 | | (5.000.046) | | | | | | | | | |
| 2025 | * | (7,369,346) | | | | | | | | | |
| 2026 | | 9,481,272 | | | | | | | | | |
| 2027 | | (23,868,689) | | | | | | | | | |
| 2028 | | (18,729,208) | | | | | | | | | |

2029 Thereafter

0



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 | Sc | hedule of I |)ei | ferred Inf | lov | ws and Ou | tf | lows of Re | eso | urces | | | | | |
|-----------------|-----------------|-----------------|-----|--------------|-------------------|--------------|-----|--------------|----|--------------|-----|--------------|----|--------------|-----|-------------|---|
| Recognition of | Experience (C | Gains) and Los | ses | | | | | | | | | | | | | | |
| Experience | Recognition | Total | | Remaining | A | mounts | | | | R | eco | gnition Ye | ar | | | | |
| Year | Period | Amount | | BOY | | EOY | | 2024 | | 2025 | | 2026 | | 2027 | | 2028 | |
| 2024 | 2.00 | \$ 15,935,283 | \$ | 15,935,283 | \$ | 7,967,641 | \$ | 7,967,642 | \$ | | \$ | 0 | 9 | 5 0 | \$ | | 0 |
| 2023 | 2.00 | (1,713,550) | | (856,775) | | 0 | | (856,775) | | 0 | | 0 | | 0 | | | 0 |
| 2022 | 3.00 | (10,523,277) | | (3,507,759) | | 0 | | (3,507,759) | | 0 | | 0 | | 0 | | | 0 |
| Deferred Outflo | ows | | \$ | 15,935,283 | \$ | 7,967,641 | \$ | 7,967,642 | \$ | 7,967,641 | \$ | 0 | 9 | 0 | \$ | | 0 |
| Deferred Inflov | vs | | | (4,364,534) | | 0 | | (4,364,534) | | 0 | | 0 | | 0 | | | 0 |
| Net Change in | Pension Expens | se | \$ | 11,570,749 | \$ | 7,967,641 | \$ | 3,603,108 | \$ | 7,967,641 | \$ | 0 | 9 | 6 0 | \$ | | 0 |
| Recognition of | | 0 | | | | | | | | | | | | | | | |
| Experience | Recognition | Total | | Remaining | Remaining Amounts | | | | | | eco | ognition Ye | ar | • | | | |
| <u>Year</u> | Period | Amount | | BOY | | EOY | | <u>2024</u> | | <u>2025</u> | | <u>2026</u> | | <u>2027</u> | | <u>2028</u> | |
| 2024 | 2.00 | \$ (6,201,314) | \$ | (6,201,314) | \$ | (3,100,657) | \$ | (3,100,657) | \$ | (3,100,657) | \$ | 0 | 9 | 0 | \$ | | 0 |
| 2023 | 2.00 | 24,927,438 | | 12,463,719 | | 0 | | 12,463,719 | | 0 | | 0 | | 0 | | | 0 |
| 2022 | 3.00 | (16,598,645) | _ | (5,532,881) | _ | 0 | _ | (5,532,881) | _ | 0 | _ | 0 | | 0 | _ | | 0 |
| Deferred Outflo | | | \$ | 12,463,719 | \$ | 0 | \$ | 12,463,719 | \$ | | \$ | 0 | 9 | | \$ | | 0 |
| Deferred Inflov | | | _ | (11,734,195) | _ | (3,100,657) | _ | (8,633,538) | _ | (3,100,657) | _ | 0 | | 0 | _ | | 0 |
| Net Change in | Pension Expens | se | \$ | 729,524 | \$ | (3,100,657) | \$ | 3,830,181 | \$ | (3,100,657) | \$ | 0 | 9 | 0 | \$ | | 0 |
| Recognition of | Investment (C | Gains) and Los | ses | 1 | | | | | | | | | | | | | |
| Experience | Recognition | Total | | Remaining | A | mounts | | | | R | eco | ognition Ye | ar | • | | | |
| <u>Year</u> | Period | Amount | | BOY | | EOY | | <u>2024</u> | | <u>2025</u> | | <u>2026</u> | | <u>2027</u> | | <u>2028</u> | |
| 2024 | 5.00 | \$ (93,646,040) | \$ | (93,646,040) | \$ (| (74,916,832) | \$ | (18,729,208) | \$ | (18,729,208) | \$ | (18,729,208) | | (18,729,208) | \$(| 18,729,20 | 8 |
| 2023 | 5.00 | (25,697,413) | | (20,557,930) | (| (15,418,447) | | (5,139,483) | | (5,139,483) | | (5,139,483) |) | (5,139,481) | | | 0 |
| 2022 | 5.00 | 166,749,823 | | 100,049,893 | | 66,699,928 | | 33,349,965 | | 33,349,965 | | 33,349,963 | | 0 | | | 0 |
| 2021 | 5.00 | (108,588,012) | | (43,435,206) | (| (21,717,604) | | (21,717,602) | | (21,717,604) | | 0 | | 0 | | | 0 |
| 2020 | 5.00 | 13,952,852 | _ | 2,790,572 | _ | 0 | _ | 2,790,572 | _ | 0 | _ | 0 | - | 0 | | | 0 |
| Net Change in I | Pension Expense | e | \$ | (54,798,711) | \$(| (45,352,955) | \$ | (9,445,756) | \$ | (12,236,330) | \$ | 9,481,272 | 9 | (23,868,689) | \$(| 18,729,20 | 8 |



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.

| Calculation of Pe | ension | Expense | | |
|--|--------|---------------------|-----|------------------|
| | | Measurement 2024 | Yea | r Ending 2023 |
| Change in Net Pension Liability | \$ | (94,820,581) | \$ | (8,790,209) |
| Change in Deferred Outflows | | 43,343,407 | | 30,743,576 |
| Change in Deferred Inflows | | 38,556,197 | | (15,606,485) |
| Employer Contributions | | 40,188,941 | | 37,893,571 |
| Pension Expense | \$ | 27,267,964 | \$ | 44,240,453 |
| Pension Expense as % of Payroll | | 37.64% | | 60.66% |
| Operating Expenses | | | | |
| Service cost | \$ | 16,020,419 | \$ | 15,119,984 |
| Employee contributions | | (4,930,601) | | (4,512,743) |
| Administrative expenses | | 1,701,015 | | 1,306,479 |
| Total | \$ | 12,790,833 | \$ | 11,913,720 |
| Financing Expenses | | | | |
| Interest cost | \$ | 73,618,042 | \$ | 73,777,467 |
| Expected return on assets | | (57,128,444) | | (54,104,300) |
| Total | \$ | 16,489,598 | \$ | 19,673,167 |
| Changes | | | | |
| Benefit changes | \$ | 0 | \$ | 0 |
| Recognition of assumption changes | | 3,830,181 | | 5,071,267 |
| Recognition of liability gains and losses | | 3,603,108 | | (9,927,583) |
| Recognition of investment gains and losses | | (9,445,756) | | 17,509,882 |
| Total | \$ | (2,012,467) | \$ | 12,653,566 |
| Pension Expense | \$ | 27,267,964 | \$ | 44,240,453 |



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 less than that of the prior year, decreasing by about \$17.0 million with the recognition of changes making up about \$14.7 million of the total decrease.



APPENDIX A – MEMBERSHIP INFORMATION

| Part | icipant D | ata Recor | ciliation | | |
|------------------------------------|-----------|-----------|-----------|--------------------------------|-------|
| | Actives | DROP | Retirees | Surviving Spouses and Children | Total |
| Participants as of October 1, 2022 | 1,049 | 40 | 1,449 | 503 | 3,041 |
| New Entrants | 32 | | | | 32 |
| Return to Active | | | | | 0 |
| Nonvested terminations | (98) | | | | (98) |
| Retired | (53) | (4) | 57 | | 0 |
| Entered into DROP | (7) | 7 | | | 0 |
| Re-Entry from DROP | 12 | (12) | | | 0 |
| Deaths without beneficiary | | | (19) | (30) | (49) |
| Deaths with Beneficiary | | (1) | (25) | 44 | 18 |
| Disabled | (2) | (1) | 3 | | 0 |
| Benefits Expired | | | | (8) | (8) |
| Data Correction | | | | | 0 |
| Net Change | (116) | (11) | 16 | 6 | (105) |
| Participants as of October 1, 2023 | 933 | 29 | 1,465 | 509 | 2,936 |



APPENDIX A – MEMBERSHIP INFORMATION

| | Distribution of Active Participants Years of Service | | | | | | | | | | | | | |
|----------|--|----------|----------|----------|----------|----------|----------|------|----------|--|--|--|--|--|
| Age | 0 - 4 | 5-9 | 10 – 14 | 15 – 19 | 20 - 24 | 25 – 29 | 30 - 34 | 35 + | Total | | | | | |
| Under 20 | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | |
| 20 - 24 | 34 | | | | | | | | 34 | | | | | |
| | \$53,050 | | | | | | | | \$53,050 | | | | | |
| 25 - 29 | 101 | 25 | | | | | | | 126 | | | | | |
| | \$57,675 | \$61,817 | | | | | | | \$58,497 | | | | | |
| 30 - 34 | 54 | 73 | 8 | | | | | | 135 | | | | | |
| | \$57,996 | \$67,032 | \$75,704 | | | | | | \$63,931 | | | | | |
| 35 - 39 | 29 | 40 | 58 | 33 | 1 | | | | 161 | | | | | |
| | \$57,644 | \$68,533 | \$76,140 | \$80,290 | \$76,180 | | | | \$71,769 | | | | | |
| 40 - 44 | 9 | 11 | 28 | 102 | 21 | | | | 171 | | | | | |
| | \$61,865 | \$68,237 | \$75,691 | \$80,408 | \$83,319 | | | | \$78,234 | | | | | |
| 45 - 49 | 2 | 5 | 10 | 32 | 39 | 5 | | | 93 | | | | | |
| | \$67,185 | \$65,316 | \$79,578 | \$79,789 | \$84,340 | \$89,521 | | | \$81,149 | | | | | |
| 50 - 54 | 2 | 3 | 3 | 16 | 43 | 37 | 1 | | 105 | | | | | |
| | \$59,171 | \$71,127 | \$76,253 | \$79,531 | \$85,255 | \$89,514 | \$97,916 | | \$84,846 | | | | | |
| 55 – 59 | 1 | | | 2 | 29 | 39 | 7 | | 78 | | | | | |
| | \$175,161 | | | \$88,777 | \$86,976 | \$88,670 | \$84,701 | | \$88,796 | | | | | |
| 60 - 64 | | | | | 7 | 19 | 4 | | 30 | | | | | |
| | | | | | \$87,394 | \$90,300 | \$89,238 | | \$89,480 | | | | | |
| 65 + | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | |
| Total | 232 | 157 | 107 | 185 | 140 | 100 | 12 | 0 | 933 | | | | | |
| | \$57,832 | \$66,692 | \$76,314 | \$80,295 | \$85,108 | \$89,335 | \$87,314 | | \$73,745 | | | | | |



APPENDIX A – MEMBERSHIP INFORMATION

Statistics for Active Participants

| | | Average | | | | | |
|-----------------------|-------|---------|---------|----|------------|--|--|
| | Count | Age | Service | Co | mpensation | | |
| As of October 1, 2023 | | | | | | | |
| Continuing | 898 | 41.4 | 13.9 | \$ | 74,429 | | |
| New | 35 | 30.9 | 1.0 | \$ | 56,203 | | |
| Total | 933 | 41.0 | 13.4 | \$ | 73,745 | | |
| 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 | | |

Statistics for DROP Participants

| | | | Average | | | | | |
|-----------------------|-------|------|---------|-----|------------|-----------|----------|--|
| | | | | | | DROP | Monthly | |
| | | | | | | Account | Benefit | |
| | Count | Age | Service | Con | npensation | Balance | Amount | |
| As of October 1, 2023 | 29 | 52.2 | 23.8 | \$ | 88,642 | \$110,621 | \$ 3,417 | |
| As of October 1, 2022 | 40 | 52.7 | 24.0 | \$ | 77,212 | \$122,283 | \$ 3,360 | |

Statistics for Inactive Participants

| | Count | Total Monthly Benefits | M | verage onthly enefits |
|-------------------------|-------|---------------------------|----|-----------------------------|
| As of October 1, 2023 | | | | |
| Service Retirees | 1,301 | \$4,143,551 | \$ | 3,185 |
| Ordinary Disabilities | 17 | 26,842 | | 1,579 |
| Accidental Disabilities | 147 | 432,878 | | 2,945 |
| Surviving Spouses | 453 | 727,926 | | 1,607 |
| Children | 56 | 40,061 | | 715 |
| Total | 1,974 | \$5,371,258 | \$ | 2,721 |
| 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 |



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, 2024 (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, 2023 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 |



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 (%) |
|---------------------|----------------|
| 0 | 13.0 |
| 1 | 12.0 |
| 2 | 11.0 |
| 3 | 10.0 |
| 4 | 9.0 |
| 5 | 8.0 |
| 6 | 7.0 |
| 7 | 6.0 |

| Years of Service | Withdrawal (%) |
|---------------------|-------------------|
| 8 | 5.0 |
| 9 | 4.0 |
| 10 | 3.5 |
| 11 | 3.0 |
| 12 | 2.5 |
| 13 | 2.0 |
| 14 | 1.5 |
| 15+ | 1.5 |

4. DROP Rates:

| | DROP |
|------------------|-----------------|
| Years of Service | 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.



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, 2023 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, 2023 actuarial valuation

None



APPENDIX C – SUMMARY OF PLAN PROVISIONS

The plan provisions are the same as those summarized in the October 1, 2023 Actuarial Valuation Report.



| | Projected Beginning Fiduciary Net | Projected Total | Projected Benefit | Projected Administrative | Projected Investment | Projected Ending Fiduciary Net | "Funded" Portion of Benefit | "Unfunded" Portion of |
|------|---|--------------------|----------------------|-----------------------------|-------------------------|-----------------------------------|-----------------------------------|--------------------------|
| FYE | Position | Contributions | Payments | Expense | Earnings | Position | Payments | Benefit Payments |
| 2024 | 832,553,398 | 45,119,542 | 76,849,480 | 1,701,015 | 150,774,484 | 949,896,929 | 76,849,480 | 0 |
| 2025 | 949,896,929 | 39,199,296 | 78,881,392 | 1,624,168 | 65,071,517 | 973,662,182 | 78,881,392 | 0 |
| 2026 | 973,662,182 | 35,777,273 | 81,782,098 | 1,571,379 | 66,519,349 | 992,605,328 | 81,782,098 | 0 |
| 2027 | 992,605,328 | 34,791,782 | 83,562,754 | 1,503,289 | 67,752,534 | 1,010,083,601 | 83,562,754 | 0 |
| 2028 | 1,010,083,601 | 29,719,670 | 88,905,796 | 1,406,557 | 68,620,976 | 1,018,111,894 | 88,905,796 | 0 |
| 2029 | 1,018,111,894 | 25,640,342 | 90,581,725 | 1,349,301 | 68,986,900 | 1,020,808,109 | 90,581,725 | 0 |
| 2030 | 1,020,808,109 | 23,391,280 | 89,630,706 | 1,231,185 | 69,135,036 | 1,022,472,534 | 89,630,706 | 0 |
| 2031 | 1,022,472,534 | 21,804,270 | 90,898,463 | 1,166,230 | 69,155,554 | 1,021,367,665 | 90,898,463 | 0 |
| 2032 | 1,021,367,665 | 20,554,399 | 92,121,991 | 1,124,305 | 68,994,551 | 1,017,670,320 | 92,121,991 | 0 |
| 2033 | 1,017,670,320 | 19,271,178 | 92,162,796 | 1,064,178 | 68,692,248 | 1,012,406,772 | 92,162,796 | 0 |
| 2034 | 1,012,406,772 | 18,207,138 | 91,877,002 | 1,023,216 | 68,298,431 | 1,006,012,123 | 91,877,002 | 0 |
| 2035 | 1,006,012,123 | 17,359,164 | 91,216,315 | 997,585 | 67,845,244 | 999,002,632 | 91,216,315 | 0 |
| 2036 | 999,002,632 | 16,305,821 | 92,640,858 | 950,181 | 67,270,951 | 988,988,365 | 92,640,858 | 0 |
| 2037 | 988,988,365 | 15,376,453 | 92,505,369 | 920,136 | 66,543,670 | 977,482,982 | 92,505,369 | 0 |
| 2038 | 977,482,982 | 14,290,654 | 91,163,658 | 864,289 | 65,749,021 | 965,494,709 | 91,163,658 | 0 |
| 2039 | 965,494,709 | 13,377,648 | 92,632,408 | 825,677 | 64,829,219 | 950,243,492 | 92,632,408 | 0 |
| 2040 | 950,243,492 | 12,225,273 | 93,271,671 | 763,654 | 63,702,121 | 932,135,561 | 93,271,671 | 0 |
| 2041 | 932,135,561 | 11,067,441 | 92,536,224 | 698,049 | 62,422,289 | 912,391,018 | 92,536,224 | 0 |
| 2042 | 912,391,018 | 10,158,363 | 93,146,945 | 656,629 | 60,989,303 | 889,735,111 | 93,146,945 | 0 |
| 2043 | 889,735,111 | 9,197,510 | 92,135,443 | 609,173 | 59,406,765 | 865,594,770 | 92,135,443 | 0 |
| 2044 | 865,594,770 | 8,087,825 | 91,321,646 | 537,057 | 57,709,242 | 839,533,135 | 91,321,646 | 0 |
| 2045 | 839,533,135 | 7,099,285 | 89,214,531 | 474,894 | 55,925,554 | 812,868,549 | 89,214,531 | 0 |
| 2046 | 812,868,549 | 6,256,357 | 88,174,422 | 422,824 | 54,067,610 | 784,595,270 | 88,174,422 | 0 |
| 2047 | 784,595,270 | 5,482,417 | 86,462,114 | 381,221 | 52,122,199 | 755,356,551 | 86,462,114 | 0 |
| 2048 | 755,356,551 | 4,699,198 | 85,211,077 | 335,692 | 50,093,152 | 724,602,132 | 85,211,077 | 0 |
| 2049 | 724,602,132 | 3,922,242 | 83,672,442 | 291,076 | 47,968,086 | 692,528,942 | 83,672,442 | 0 |
| 2050 | 692,528,942 | 3,126,040 | 82,494,687 | 243,706 | 45,737,721 | 658,654,311 | 82,494,687 | 0 |
| 2051 | 658,654,311 | 2,286,272 | 80,952,820 | 192,612 | 43,392,412 | 623,187,562 | 80,952,820 | 0 |
| 2052 | 623,187,562 | 1,500,004 | 79,941,518 | 147,032 | 40,919,051 | 585,518,068 | 79,941,518 | 0 |
| 2053 | 585,518,068 | 959,950 | 78,495,129 | 96,961 | 38,315,095 | 546,201,023 | 78,495,129 | 0 |



| | Projected Beginning Fiduciary Net | Projected Total | Projected Benefit | Projected Administrative | Projected Investment | Projected Ending Fiduciary Net | "Funded" Portion of Benefit | "Unfunded" Portion of |
|------|---|--------------------|----------------------|-----------------------------|-------------------------|-----------------------------------|-----------------------------------|--------------------------|
| FYE | Position | Contributions | Payments | Expense | Earnings | Position | Payments | Benefit Payments |
| 2054 | 546,201,023 | 490,923 | 76,748,619 | 47,908 | 35,608,545 | 505,503,965 | 76,748,619 | 0 |
| 2055 | 505,503,965 | 58,324 | 74,667,299 | 0 | 32,818,129 | 463,713,118 | 74,667,299 | 0 |
| 2056 | 463,713,118 | 49,897 | 72,892,304 | 0 | 29,953,554 | 420,824,265 | 72,892,304 | 0 |
| 2057 | 420,824,265 | 26,066 | 70,916,436 | 0 | 27,018,500 | 376,952,395 | 70,916,436 | 0 |
| 2058 | 376,952,395 | 9,605 | 68,192,662 | 0 | 24,040,622 | 332,809,961 | 68,192,662 | 0 |
| 2059 | 332,809,961 | 13,315 | 65,882,590 | 0 | 21,030,264 | 287,970,949 | 65,882,590 | 0 |
| 2060 | 287,970,949 | 11,075 | 63,693,648 | 0 | 17,966,774 | 242,255,150 | 63,693,648 | 0 |
| 2061 | 242,255,150 | 4,055 | 61,416,458 | 0 | 14,844,780 | 195,687,527 | 61,416,458 | 0 |
| 2062 | 195,687,527 | 0 | 59,043,733 | 0 | 11,666,548 | 148,310,342 | 59,043,733 | 0 |
| 2063 | 148,310,342 | 0 | 56,756,437 | 0 | 8,428,846 | 99,982,751 | 56,756,437 | 0 |
| 2064 | 99,982,751 | 0 | 54,466,220 | 0 | 5,124,717 | 50,641,248 | 54,466,220 | 0 |
| 2065 | 50,641,248 | 0 | 52,181,128 | 0 | 1,749,437 | 209,557 | 50,641,248 | 1,539,880 |
| 2066 | 209,557 | 0 | 49,901,370 | 0 | 0 | 0 | 209,557 | 49,691,812 |
| 2067 | 0 | 0 | 47,631,879 | 0 | 0 | 0 | 0 | 47,631,879 |
| 2068 | 0 | 0 | 45,376,795 | 0 | 0 | 0 | 0 | 45,376,795 |
| 2069 | 0 | 0 | 43,141,524 | 0 | 0 | 0 | 0 | 43,141,524 |
| 2070 | 0 | 0 | 40,926,420 | 0 | 0 | 0 | 0 | 40,926,420 |
| 2071 | 0 | 0 | 38,733,203 | 0 | 0 | 0 | 0 | 38,733,203 |
| 2072 | 0 | 0 | 36,571,888 | 0 | 0 | 0 | 0 | 36,571,888 |
| 2073 | 0 | 0 | 34,445,720 | 0 | 0 | 0 | 0 | 34,445,720 |
| 2074 | 0 | 0 | 32,356,417 | 0 | 0 | 0 | 0 | 32,356,417 |
| 2075 | 0 | 0 | 30,307,009 | 0 | 0 | 0 | 0 | 30,307,009 |
| 2076 | 0 | 0 | 28,301,366 | 0 | 0 | 0 | 0 | 28,301,366 |
| 2077 | 0 | 0 | 26,342,350 | 0 | 0 | 0 | 0 | 26,342,350 |
| 2078 | 0 | 0 | 24,433,479 | 0 | 0 | 0 | 0 | 24,433,479 |
| 2079 | 0 | 0 | 22,578,473 | 0 | 0 | 0 | 0 | 22,578,473 |
| 2080 | 0 | 0 | 20,781,438 | 0 | 0 | 0 | 0 | 20,781,438 |
| 2081 | 0 | 0 | 19,046,431 | 0 | 0 | 0 | 0 | 19,046,431 |
| 2082 | 0 | 0 | 17,377,324 | 0 | 0 | 0 | 0 | 17,377,324 |
| 2083 | 0 | 0 | 15,778,133 | 0 | 0 | 0 | 0 | 15,778,133 |



| 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 |
|------|---|-------------------------------------|----------------------------------|--|-------------------------------------|---|---|--|
| 2084 | 0 | 0 | 14,252,507 | 0 | 0 | 0 | 0 | 14,252,507 |
| 2085 | 0 | 0 | 12,803,619 | 0 | 0 | 0 | 0 | 12,803,619 |
| 2086 | 0 | 0 | 11,434,416 | 0 | 0 | 0 | 0 | 11,434,416 |
| 2087 | 0 | 0 | 10,147,319 | 0 | 0 | 0 | 0 | 10,147,319 |
| 2088 | 0 | 0 | 8,944,178 | 0 | 0 | 0 | 0 | 8,944,178 |
| 2089 | 0 | 0 | 7,826,470 | 0 | 0 | 0 | 0 | 7,826,470 |
| 2090 | 0 | 0 | 6,794,972 | 0 | 0 | 0 | 0 | 6,794,972 |
| 2091 | 0 | 0 | 5,849,955 | 0 | 0 | 0 | 0 | 5,849,955 |
| 2092 | 0 | 0 | 4,991,213 | 0 | 0 | 0 | 0 | 4,991,213 |
| 2093 | 0 | 0 | 4,217,648 | 0 | 0 | 0 | 0 | 4,217,648 |
| 2094 | 0 | 0 | 3,527,425 | 0 | 0 | 0 | 0 | 3,527,425 |
| 2095 | 0 | 0 | 2,917,946 | 0 | 0 | 0 | 0 | 2,917,946 |
| 2096 | 0 | 0 | 2,385,742 | 0 | 0 | 0 | 0 | 2,385,742 |
| 2097 | 0 | 0 | 1,926,518 | 0 | 0 | 0 | 0 | 1,926,518 |
| 2098 | 0 | 0 | 1,535,222 | 0 | 0 | 0 | 0 | 1,535,222 |
| 2099 | 0 | 0 | 1,206,307 | 0 | 0 | 0 | 0 | 1,206,307 |
| 2100 | 0 | 0 | 933,818 | 0 | 0 | 0 | 0 | 933,818 |
| 2101 | 0 | 0 | 711,547 | 0 | 0 | 0 | 0 | 711,547 |
| 2102 | 0 | 0 | 533,203 | 0 | 0 | 0 | 0 | 533,203 |
| 2103 | 0 | 0 | 392,608 | 0 | 0 | 0 | 0 | 392,608 |
| 2104 | 0 | 0 | 283,829 | 0 | 0 | 0 | 0 | 283,829 |
| 2105 | 0 | 0 | 201,328 | 0 | 0 | 0 | 0 | 201,328 |
| 2106 | 0 | 0 | 140,058 | 0 | 0 | 0 | 0 | 140,058 |
| 2107 | 0 | 0 | 95,523 | 0 | 0 | 0 | 0 | 95,523 |
| 2108 | 0 | 0 | 63,851 | 0 | 0 | 0 | 0 | 63,851 |
| 2109 | 0 | 0 | 41,822 | 0 | 0 | 0 | 0 | 41,822 |
| 2110 | 0 | 0 | 26,842 | 0 | 0 | 0 | 0 | 26,842 |
| 2111 | 0 | 0 | 16,886 | 0 | 0 | 0 | 0 | 16,886 |
| 2112 | 0 | 0 | 10,416 | 0 | 0 | 0 | 0 | 10,416 |
| | | | | | | Discount Rate: | 7.00% | 3.82% |



| 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: | \$1,154,309,661 | \$ 99,422,870 |
| | | | | | | Total Present Value: GASB Discount Rate: | | \$ 1,253,732,531 6.49% |



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