



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

**GASB 67/68 Report  
as of September 30, 2020**

**Produced by Cheiron**

**February 2021**

## TABLE OF CONTENTS

<i>Section</i>	<i>Page</i>
Letter of Transmittal .....	i
Section I Board Summary .....	1
Section II Certification .....	3
Section III Determination of Discount Rate .....	4
Section IV Projection of Total Pension Liability .....	5
Section V Note Disclosures .....	6
Section VI Required Supplementary Information.....	8
Section VII Employer Reporting Amounts .....	10
 <i>Appendices</i>	
Appendix A Membership Information .....	13
Appendix B Actuarial Assumptions and Methods .....	17
Appendix C Summary of Plan Provisions.....	22
Appendix D Determination of Discount Rate .....	23
Appendix E Glossary of Terms.....	27

**LETTER OF TRANSMITTAL**

February 24, 2021

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, 2020,
- 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



Stephen T. McElhaney, FSA, FCA, EA  
Principal Consulting Actuary



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



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

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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, 2020,
- 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, 2020. Measurements as of the reporting date are based on the fair value of assets as of September 30, 2020, and the Total Pension Liability as of the valuation date, October 1, 2019, projected to September 30, 2020. There has been a change in the blended discount rate since the prior measurement date which increased the Net Pension Liability. Other than the change in the blended discount rate, 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.

Whereas there remains a lot of uncertainty during the COVID-19 pandemic, we continue to monitor developments and the impact it may have on the System. Actual experience, both demographic and economic, will be reflected in subsequent valuations as experience emerges.

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

	Measurement Date	
	September 30, 2020	September 30, 2019
Net Pension Liability	\$ 359,733,083	\$ 326,872,294
Deferred Outflows	(85,600,336)	(74,311,478)
Deferred Inflows	10,948,561	21,477,446
Net Impact on Statement of Net Position	\$ 285,081,308	\$ 274,038,262
Pension Expense (\$ Amount)	\$ 46,378,876	\$ 27,100,625
Pension Expense (% of Payroll)	56.12%	32.85%

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

The Net Pension Liability (NPL) increased approximately \$32.9 million since the prior measurement date, primarily due to a decrease in the discount rate assumption and an investment loss. An actuarial gain offset a portion of the increased NPL. The investment loss is recognized over five years, and the actuarial loss and assumption changes are recognized over the average remaining service life, which is three 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 \$359,733,083, Deferred Inflows of \$10,948,561, and Deferred Outflows of \$85,600,336. Consequently, the net impact on the City’s Statement of Net Position due to the System would be \$285,081,308 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, 2020, the annual pension expense is \$46,378,876 or 56.12% of covered-employee payroll. This amount is not equal to the City’s contribution to the System (\$35,335,830), but instead represents the change in the net impact on the City’s Statement of Net Position plus employer contributions (\$285,081,308 – \$274,038,262 + \$35,335,830). The pension expense is greater 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, 2020 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, 2019 Actuarial Valuation Report. The actuarial assumptions, except for the blended discount rate described in Section III, are the same as were described in the October 1, 2019 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 any other user.

Sincerely,  
Cheiron



Stephen T. McElhaney, FSA, FCA, EA  
Principal Consulting Actuary



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



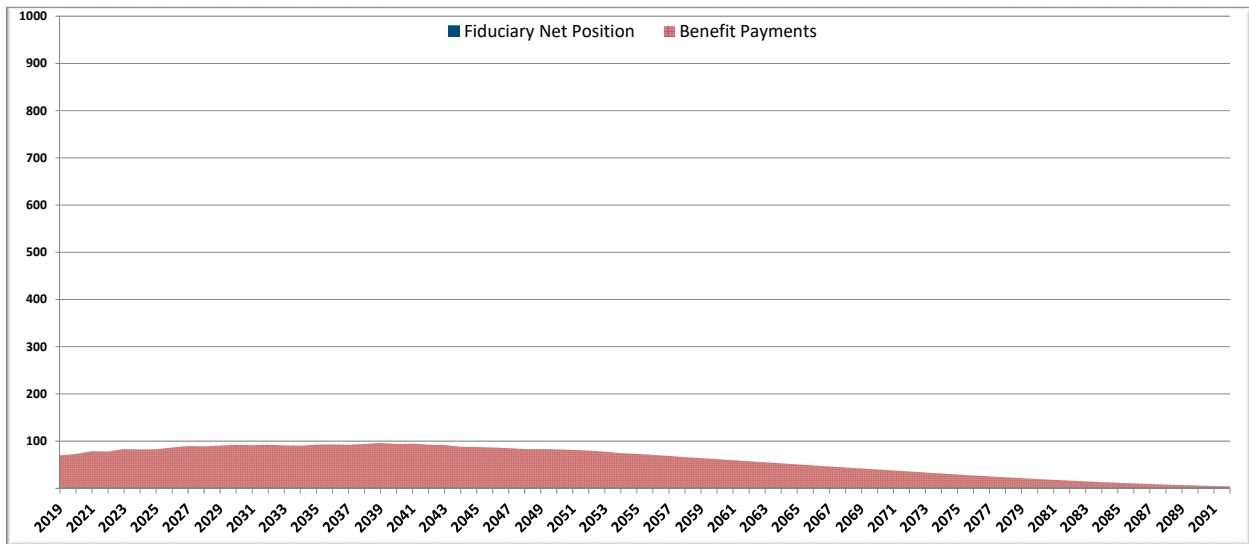
Michael J. Noble, FSA, FCA, EA  
Principal Consulting Actuary

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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 was 6.33% which is a blend of the assumed long-term expected rate of return of 7.50% on System investments and a municipal bond index rate of 2.21% based on the Bond Buyer GO 20-Year Municipal Bond Index as of September 24, 2020. 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 2066. Therefore the portion of future projected benefit payments after 2066 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, 2019 using a blend of the assumed long-term expected rate of return of 7.50% on System investments and a municipal bond index rate of 2.66%. This calculation resulted in a blended discount rate of 6.69%.

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 July 1, 2019 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, 2020 MEASUREMENT DATE**

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

The Total Pension Liability (TPL) at the end of the measurement year, September 30, 2020, is measured as of a valuation date of October 1, 2019 and projected to September 30, 2020. 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, 2018 and projected to September 30, 2019, as well as being determined using different actuarial assumptions, it will not match the amounts measured as of September 30, 2019 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>5.33%</b>	<b>6.33%</b>	<b>7.33%</b>
<b>Valuation Total Pension Liability, September 30, 2019</b>			
Actives	\$ 270,595,464	\$ 227,843,281	\$ 194,176,851
DROP and Re-entered	237,230,159	212,605,444	192,555,558
Retirees	764,036,324	697,787,134	641,532,835
<b>Total</b>	<b>\$ 1,271,861,947</b>	<b>\$ 1,138,235,859</b>	<b>\$ 1,028,265,244</b>
<b>Service Cost</b>	24,514,410	19,629,588	15,957,672
<b>Benefit Payments</b>	69,963,781	69,963,781	69,963,781
<b>Interest</b>	66,594,739	70,481,695	73,427,518
<b>Total Pension Liability, September 30, 2020</b>	<b>\$ 1,293,007,315</b>	<b>\$ 1,158,383,361</b>	<b>\$ 1,047,686,653</b>



**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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.

	Change in Net Pension Liability		
	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
<b>Balances at September 30, 2019</b>	\$ 1,111,624,766	\$ 784,752,472	\$ 326,872,294
<b>Changes for the year:</b>			
Service cost	18,188,606		18,188,606
Interest	72,663,853		72,663,853
Changes of benefits	0		0
Differences between expected and actual experience	(16,422,842)		(16,422,842)
Changes of assumptions	42,292,759		42,292,759
Contributions - employer		35,335,830	(35,335,830)
Contributions - member		6,169,551	(6,169,551)
Net investment income		43,802,433	(43,802,433)
Benefit payments	(69,963,781)	(69,963,781)	0
Administrative expense		(1,446,227)	1,446,227
<b>Net changes</b>	<u>46,758,595</u>	<u>13,897,806</u>	<u>32,860,789</u>
<b>Balances at September 30, 2020</b>	<u>\$ 1,158,383,361</u>	<u>\$ 798,650,278</u>	<u>\$ 359,733,083</u>

During the measurement year, the NPL increased by approximately \$32.9 million. The service cost and interest cost increased the NPL by approximately \$90.9 million while contributions and investment returns offset by administrative expenses decreased the NPL by approximately \$83.9 million.

There were no changes in benefits during the year. There were actuarial experience gains during the year of approximately \$16.4 million. Assumption changes increased the NPL by \$42.3 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, 2020 MEASUREMENT DATE**

**SECTION V – NOTE DISCLOSURES**

<b>Sensitivity of Net Pension Liability to Changes in Discount Rate</b>			
	<b>1% Decrease 5.33%</b>	<b>Discount Rate 6.33%</b>	<b>1% Increase 7.33%</b>
Total Pension Liability	\$ 1,293,007,315	\$ 1,158,383,361	\$ 1,047,686,653
Plan Fiduciary Net Position	<u>798,650,278</u>	<u>798,650,278</u>	<u>798,650,278</u>
Net Pension Liability	<u>\$ 494,357,037</u>	<u>\$ 359,733,083</u>	<u>\$ 249,036,375</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	61.8%	68.9%	76.2%

A one percent decrease in the discount rate increases the TPL by approximately 11.6% and increases the NPL by approximately 37.4%. A one percent increase in the discount rate decreases the TPL by approximately 9.6% and decreases the NPL by approximately 30.8%.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 67 and eventually will build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB for the seven years since implementation.

<b>Schedule of Changes in Net Pension Liability and Related Ratios</b>							
	<b>FYE 2020</b>	<b>FYE 2019</b>	<b>FYE 2018</b>	<b>FYE 2017</b>	<b>FYE 2016</b>	<b>FYE 2015</b>	<b>FYE 2014</b>
<b>Total Pension Liability</b>							
Service cost (MOY)	\$ 18,188,606	\$ 15,678,890	\$ 16,369,318	\$ 17,988,134	\$ 12,617,971	\$ 12,977,679	\$ 12,991,999
Interest (includes interest on service cost)	72,663,853	71,309,613	68,899,130	66,042,714	67,036,489	66,579,275	65,906,383
Changes of benefit terms	0	0	0	0	0	0	0
Differences between expected and actual experience	(16,422,842)	22,854,628	(4,886,531)	3,911,067	(3,684,265)	(2,041,444)	0
Changes of assumptions	42,292,759	59,418,045	(59,545,809)	(55,153,649)	131,846,504	16,248,637	6,650,362
Benefit payments, including refunds of member contributions	(69,963,781)	(68,548,936)	(68,576,111)	(63,452,580)	(62,637,432)	(69,533,077)	(60,973,465)
<b>Net change in total pension liability</b>	<b>\$ 46,758,595</b>	<b>\$ 100,712,240</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>1,111,624,766</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>895,331,227</b>
<b>Total pension liability - ending</b>	<b>\$ 1,158,383,361</b>	<b>\$ 1,111,624,766</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>Plan fiduciary net position</b>							
Contributions - employer	\$ 35,335,830	\$ 35,970,630	\$ 33,104,561	\$ 33,826,528	\$ 30,778,664	\$ 30,600,069	\$ 32,324,823
Contributions - member	6,169,551	5,228,438	5,129,154	4,653,968	4,376,867	4,487,942	4,438,346
Net investment income	43,802,433	17,514,881	51,089,258	93,520,079	52,927,643	(8,325,611)	48,094,636
Benefit payments, including refunds of member contributions	(69,963,781)	(68,548,936)	(68,576,111)	(63,452,580)	(62,637,432)	(69,533,077)	(60,973,465)
Administrative expense	(1,446,227)	(1,572,951)	(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>\$ 13,897,806</b>	<b>\$ (11,407,938)</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>784,752,472</b>	<b>796,160,410</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>\$ 798,650,278</b>	<b>\$ 784,752,472</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>\$ 359,733,083</b>	<b>\$ 326,872,294</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>	68.95%	70.60%	78.76%	73.36%	65.11%	72.54%	79.25%
<b>Covered payroll</b>	\$ 82,639,813	\$ 82,494,022	\$ 76,710,452	\$ 76,141,625	\$ 72,684,487	\$ 72,325,153	\$ 72,151,450
<b>Net pension liability as a percentage of covered payroll</b>	435.30%	396.24%	279.95%	370.46%	522.92%	358.44%	264.50%

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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.

Schedule of Employer Contributions							
	FYE 2020	FYE 2019	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014
Actuarially Determined Contribution	\$ 35,335,830	\$ 35,970,630	\$ 33,104,561	\$ 33,826,528	\$ 30,778,664	\$ 30,600,069	\$ 32,324,823
Contributions in Relation to the Actuarially Determined Contribution	35,335,830	35,970,630	33,104,561	33,826,528	30,778,664	30,600,069	32,324,823
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll	\$ 82,639,813	\$ 82,494,022	\$ 76,710,452	\$ 76,141,625	\$ 72,684,487	\$ 72,325,153	\$ 72,151,450
Contributions as a Percentage of Covered Payroll	42.76%	43.60%	43.16%	44.43%	42.35%	42.31%	44.80%

**Notes to Schedule**

Valuation Date                                      October 1, 2019  
 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 2020:**

Actuarial cost method	Aggregate
Amortization method	N/A
Asset valuation method	5-year smoothed market
Discount rate	7.50% 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)	RP-2014 Blue Collar Healthy Annuitant Table projected fully generationally with Scale MP-2015
Mortality (Accidental)	0.03% per year for all ages in addition to ordinary mortality
Mortality (Retiree)	RP-2014 Blue Collar Healthy Annuitant Table, with a 1.15 adjustment to base tables for males and females, projected fully generationally with Scale MP-2015
Mortality (Disabled)	RP-2014 Disabled Annuitant Table, with 0.90 adjustment to the base table for males and no adjustment to the base table for females, projected fully generationally with Scale MP-2015

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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 2021 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 2.98 years. The value rounded to the nearest year and used in this calculation was 3 years.

During the year, there was an experience gain of approximately \$16.4 million. Approximately \$5.5 million of that gain was recognized as a reduction in pension expense in the current year and an identical amount will be recognized in each of the next two years, resulting in a deferred inflow of resources as of September 30, 2020 of approximately \$10.9 million. Unrecognized net experience losses from prior periods were approximately \$13.6 million of which \$6.0 million was recognized as an increase in pension expense in the current year. The combination of unrecognized experience gains this year and unrecognized net experience losses from prior periods result in a deferred outflow of resources as of September 30, 2020 of approximately \$7.6 million and a deferred inflow of resources of \$10.9 million.

Assumption changes since the last measurement date increased the TPL approximately \$42.3 million. Approximately \$14.1 million of that increase was recognized as an increase in pension expense in the current year and an identical amount will be recognized in each of the next two years, resulting in a deferred outflow of resources as of September 30, 2020 of approximately \$28.2 million. Unrecognized amounts due to assumption changes from prior periods were an increase to the TPL of approximately \$39.6 million of which approximately \$19.8 million was recognized as an increase in pension expense for the current year and a decrease of \$19.8 million, all of which was recognized as a reduction in pension expense in the current year. The combination of unrecognized assumption changes this year and unrecognized assumption changes from prior periods results in a deferred outflow of resources as of September 30, 2020 of approximately \$48.0 million and a deferred inflow of resources of \$0.0 million.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of approximately \$14.0 million. Approximately \$2.8 million of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized net investment losses from prior periods were approximately \$19.5 million and the recognition of these prior gains and losses resulted in \$0.6 million being recognized as an increase in pension expense in the current year. The combination of unrecognized investment losses this year and unrecognized net investment losses from prior periods results in a deferred outflow of resources as of September 30, 2020 of approximately \$30.0 million.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

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>		
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 7,618,210	\$ 10,948,561
Changes in assumptions	48,001,188	0
Net difference between projected and actual earnings on pension plan investments	29,980,938	0
<b>Total</b>	<b><u>\$ 85,600,336</u></b>	<b><u>\$ 10,948,561</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>		
2021	\$ 40,005,093	
2022	20,839,108	
2023	11,017,002	
2024	2,790,572	
2025	0	
Thereafter	0	

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.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS**  
**GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

<b>Calculation of Pension Expense</b>		
	<b>Measurement Year Ending</b>	
	<b>2020</b>	<b>2019</b>
Change in Net Pension Liability	\$ 32,860,789	\$ 112,120,178
Change in Deferred Outflows	(11,288,858)	(73,007,789)
Change in Deferred Inflows	(10,528,885)	(47,982,394)
Employer Contributions	<u>35,335,830</u>	<u>35,970,630</u>
<b>Pension Expense</b>	<b>\$ 46,378,876</b>	<b>\$ 27,100,625</b>
<b>Pension Expense as % of Payroll</b>	<b>56.12%</b>	<b>32.85%</b>
<b>Operating Expenses</b>		
Service cost	\$ 18,188,606	\$ 15,678,890
Employee contributions	(6,169,551)	(5,228,438)
Administrative expenses	<u>1,446,227</u>	<u>1,572,951</u>
Total	\$ 13,465,282	\$ 12,023,403
<b>Financing Expenses</b>		
Interest cost	\$ 72,663,853	\$ 71,309,613
Expected return on assets	<u>(57,755,285)</u>	<u>(58,647,033)</u>
Total	\$ 14,908,568	\$ 12,662,580
<b>Changes</b>		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	14,054,998	(18,427,137)
Recognition of liability gains and losses	515,085	7,293,054
Recognition of investment gains and losses	<u>3,434,943</u>	<u>13,548,725</u>
Total	\$ 18,005,026	\$ 2,414,642
<b>Pension Expense</b>	<b>\$ 46,378,876</b>	<b>\$ 27,100,625</b>

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 is greater than that of the prior year, increasing by about \$19.3 million. The recognition of changes increased by about \$15.6 million, representing about 80% of the total increase in pension expense.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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, 2018</b>	<b>1,138</b>	<b>123</b>	<b>1,441</b>	<b>479</b>	<b>3,181</b>
New Entrants	106				106
Return to Active					0
Nonvested terminations	(42)				(42)
Retired	(27)	(15)	42		0
Entered into DROP	(15)	15			0
Re-Entry from DROP	41	(41)			0
Deaths without beneficiary		(2)	(13)	(27)	(42)
Deaths with Beneficiary	(1)		(31)	33	1
Disabled	(5)		5		0
Benefits Expired				(1)	(1)
Data Correction					0
Net Change	57	(43)	3	5	22
<b>Participants as of October 1, 2019</b>	<b>1,195</b>	<b>80</b>	<b>1,444</b>	<b>484</b>	<b>3,203</b>



**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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									<b>0</b>
20 – 24	66 \$47,290								<b>66 \$47,290</b>
25 – 29	165 \$49,839	28 \$56,232							<b>193 \$50,766</b>
30 – 34	73 \$51,587	76 \$60,939	39 \$66,490						<b>188 \$58,459</b>
35 – 39	38 \$50,002	32 \$61,200	141 \$67,493	21 \$68,830					<b>232 \$63,881</b>
40 – 44	13 \$51,983	16 \$59,560	49 \$67,407	83 \$69,570	9 \$72,034				<b>170 \$66,790</b>
45 – 49	7 50,545	4 \$63,768	17 \$68,103	31 \$69,339	53 \$73,837	4 \$73,993			<b>116 \$70,047</b>
50 – 54	2 \$40,014		4 \$65,318	16 \$67,159	70 \$76,281	25 \$77,222	3 \$78,154		<b>120 \$74,338</b>
55 – 59				4 \$69,418	38 \$74,333	44 \$76,342	2 \$85,936		<b>88 \$75,378</b>
60 – 64		1 \$64,435	2 \$66,953	1 \$83,305	3 \$78,223	5 \$75,318	8 \$91,908	2 \$77,152	<b>22 \$81,022</b>
65 +									<b>0</b>
<b>Total</b>	<b>364 \$49,781</b>	<b>157 \$60,106</b>	<b>252 \$67,323</b>	<b>156 \$69,261</b>	<b>173 \$74,917</b>	<b>78 \$76,438</b>	<b>13 \$87,815</b>	<b>2 \$77,152</b>	<b>1,195 \$63,218</b>

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

Statistics for Active Participants

	Count	Average		
		Age	Service	Compensation
As of October 1, 2019				
Continuing	1,089	40.4	12.8	\$ 64,972
New	106	29.6	0.5	45,203
Total	1,195	39.4	11.7	63,218
As of October 1, 2018				
Continuing	1,031	40.4	13.0	\$ 65,540
New	107	27.6	0.5	43,274
Total	1,138	39.3	11.8	63,447

Statistics for DROP Participants

	Count	Average				DRO Account Balance	Monthly Benefit Amount
		Age	Service	Compensation			
As of October 1, 2019	80	51.3	21.5	\$ 73,521	\$ 86,369	\$ 2,584	
As of October 1, 2018	123	51.0	20.6	\$ 73,834	\$ 89,956	\$ 2,329	

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

Statistics for Inactive Participants

	<b>Count</b>	<b>Total Monthly Benefits</b>	<b>Average Monthly Benefits</b>
<b>As of October 1, 2019</b>			
Service Retirees	1,278	\$3,727,111	\$ 2,916
Ordinary Disabilities	21	28,124	1,339
Accidental Disabilities	145	393,560	2,714
Surviving Spouses	437	643,153	1,472
Children	47	27,410	583
<b>Total</b>	<b>1,928</b>	<b>\$4,819,358</b>	<b>\$ 2,500</b>
<b>As of October 1, 2018</b>			
Service Retirees	1,276	\$3,679,665	\$ 2,884
Ordinary Disabilities	22	29,662	1,348
Accidental Disabilities	143	371,855	2,600
Surviving Spouses	431	617,563	1,433
Children	48	28,546	595
<b>Total</b>	<b>1,920</b>	<b>\$4,727,291</b>	<b>\$ 2,462</b>

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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, 2020 (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, 2019 actuarial valuation.

**A. Actuarial Assumptions**

**1. Mortality Rates:**

- Healthy Retirees: RP-2014 Blue Collar Healthy Annuitant Table, with a 1.15 adjustment to base tables for males and females, and fully generational mortality improvements using Scale MP-2015
- Disabled Retirees: RP-2014 Disabled Annuitant Table, with 0.90 adjustment to the base table for males and no adjustment to the base table for females, and fully generational mortality improvements using Scale MP-2015
- Actives, Ordinary: RP-2014 Blue Collar Healthy Annuitant Table, with no adjustment to base tables for males and females, and fully generational mortality improvements using Scale MP-2015
- Actives, Accidental: 0.0003 per year for all ages in addition to ordinary mortality rates.

**2. Disability:**

CCA 1985 Unisex Class 4 table; see the table of sample rates  
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	2.2880
60	3.4340

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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 (%)
1-4	6.00
5-9	4.00
10-18	1.00
19+	0.00

**4. DROP Rates:**

Years of Service	DROP Rate (%)
20	60
21	30
22-27	5
28	5
29	5
30	80

**5. Retirement Rates:**

Years of Service	Retirement Rate (%)
20-21	12
22-24	6
25	5
26-29	2
30	20

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 25% of female active members. The male spouse is assumed to be 3 years older than the female.

**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.

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**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**

7.50% compounded annually for funding purposes.

**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.

**14. 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

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**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 2010 through 2015 subsequent to the October 1, 2015 valuation.

**17. Changes in Actuarial Assumptions from the October 1, 2019 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, 2019 actuarial valuation**

None



**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

The plan provisions are the same as those summarized in the October 1, 2019 actuarial valuation report.

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

<b>FYE</b>	<b>Projected Beginning Fiduciary Net Position</b>	<b>Projected Total Contributions</b>	<b>Projected Benefit Payments</b>	<b>Projected Administrative Expense</b>	<b>Projected Investment Earnings</b>	<b>Projected Ending Fiduciary Net Position</b>	<b>"Funded" Portion of Benefit Payments</b>	<b>"Unfunded" Portion of Benefit Payments</b>
2020	784,752,472	41,505,381	69,963,781	1,446,227	43,802,433	798,650,278	69,963,781	0
2021	798,650,278	37,118,594	72,555,977	1,414,732	58,541,800	820,339,962	72,555,977	0
2022	820,339,962	36,596,586	78,656,565	1,403,910	59,925,067	836,801,140	78,656,565	0
2023	836,801,140	36,779,414	78,142,607	1,378,024	61,186,266	855,246,189	78,142,607	0
2024	855,246,189	36,441,069	83,318,481	1,322,898	62,368,629	869,414,508	83,318,481	0
2025	869,414,508	35,313,734	82,631,041	1,277,181	63,416,739	884,236,758	82,631,041	0
2026	884,236,758	34,473,800	82,997,444	1,262,222	64,484,538	898,935,430	82,997,444	0
2027	898,935,430	33,600,350	86,578,372	1,248,596	65,423,421	910,132,234	86,578,372	0
2028	910,132,234	31,708,939	89,494,817	1,173,038	66,088,928	917,262,246	89,494,817	0
2029	917,262,246	30,705,611	89,025,079	1,149,942	66,604,882	924,397,719	89,025,079	0
2030	924,397,719	28,688,998	90,777,821	1,061,510	67,004,503	928,251,889	90,777,821	0
2031	928,251,889	27,160,469	92,273,453	1,008,336	67,184,168	929,314,738	92,273,453	0
2032	929,314,738	25,942,225	91,278,997	973,876	67,256,910	930,261,000	91,278,997	0
2033	930,261,000	24,938,925	92,260,653	941,080	67,255,997	929,254,189	92,260,653	0
2034	929,254,189	24,068,332	90,996,553	922,148	67,195,673	928,599,493	90,996,553	0
2035	928,599,493	23,450,404	90,457,894	911,526	67,144,043	927,824,521	90,457,894	0
2036	927,824,521	22,374,283	92,799,938	874,331	66,961,426	923,485,962	92,799,938	0
2037	923,485,962	21,532,318	93,072,086	860,566	66,595,517	917,681,145	93,072,086	0
2038	917,681,145	20,006,313	92,202,238	802,268	66,138,141	910,821,093	92,202,238	0
2039	910,821,093	18,604,392	94,106,564	749,417	65,503,841	900,073,345	94,106,564	0
2040	900,073,345	16,222,995	96,245,959	624,778	64,535,884	883,961,488	96,245,959	0
2041	883,961,488	13,928,474	94,190,859	504,457	63,323,109	866,517,754	94,190,859	0
2042	866,517,754	12,795,687	94,833,239	451,962	61,951,397	845,979,637	94,833,239	0
2043	845,979,637	11,837,505	92,855,726	408,397	60,450,176	825,003,195	92,855,726	0
2044	825,003,195	10,955,924	91,751,740	364,861	58,886,736	802,729,254	91,751,740	0
2045	802,729,254	10,105,957	88,424,293	320,703	57,309,042	781,399,256	88,424,293	0
2046	781,399,256	9,190,769	87,652,716	272,016	55,705,797	758,371,090	87,652,716	0
2047	758,371,090	8,146,342	86,662,493	225,001	53,978,420	733,608,358	86,662,493	0
2048	733,608,358	7,016,415	85,268,116	171,994	52,132,904	707,317,566	85,268,116	0
2049	707,317,566	5,923,779	83,289,610	117,449	50,195,723	680,030,010	83,289,610	0

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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
2050	680,030,010	4,824,565	83,120,774	58,890	48,117,054	649,791,964	83,120,774	0
2051	649,791,964	3,699,801	82,093,139	0	45,847,793	617,246,420	82,093,139	0
2052	617,246,420	3,295,973	81,935,890	0	43,397,797	582,004,300	81,935,890	0
2053	582,004,300	2,872,838	80,425,627	0	40,794,668	545,246,179	80,425,627	0
2054	545,246,179	2,474,356	77,133,747	0	38,144,350	508,731,139	77,133,747	0
2055	508,731,139	2,155,084	74,738,389	0	35,482,168	471,630,001	74,738,389	0
2056	471,630,001	1,854,115	72,889,066	0	32,756,596	433,351,646	72,889,066	0
2057	433,351,646	1,547,571	70,881,284	0	29,948,363	393,966,296	70,881,284	0
2058	393,966,296	1,249,517	68,575,773	0	27,068,380	353,708,419	68,575,773	0
2059	353,708,419	967,530	66,425,949	0	24,117,817	312,367,817	66,425,949	0
2060	312,367,817	690,730	64,244,645	0	21,087,400	269,901,302	64,244,645	0
2061	269,901,302	418,691	62,038,707	0	17,973,621	226,254,907	62,038,707	0
2062	226,254,907	151,001	59,817,131	0	14,772,088	181,360,865	59,817,131	0
2063	181,360,865	0	57,593,791	0	11,481,342	135,248,417	57,593,791	0
2064	135,248,417	0	55,359,398	0	8,105,184	87,994,203	55,359,398	0
2065	87,994,203	0	53,115,285	0	4,643,751	39,522,668	53,115,285	0
2066	39,522,668	0	50,852,821	0	1,091,694	0	39,522,668	11,330,152
2067	0	0	48,580,922	0	0	0	0	48,580,922
2068	0	0	46,324,841	0	0	0	0	46,324,841
2069	0	0	44,093,419	0	0	0	0	44,093,419
2070	0	0	41,886,942	0	0	0	0	41,886,942
2071	0	0	39,707,178	0	0	0	0	39,707,178
2072	0	0	37,558,177	0	0	0	0	37,558,177
2073	0	0	35,440,795	0	0	0	0	35,440,795
2074	0	0	33,356,000	0	0	0	0	33,356,000
2075	0	0	31,304,660	0	0	0	0	31,304,660
2076	0	0	29,288,274	0	0	0	0	29,288,274
2077	0	0	27,309,132	0	0	0	0	27,309,132
2078	0	0	25,370,052	0	0	0	0	25,370,052
2079	0	0	23,474,134	0	0	0	0	23,474,134

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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
2080	0	0	21,625,200	0	0	0	0	21,625,200
2081	0	0	19,827,954	0	0	0	0	19,827,954
2082	0	0	18,087,345	0	0	0	0	18,087,345
2083	0	0	16,409,193	0	0	0	0	16,409,193
2084	0	0	14,799,658	0	0	0	0	14,799,658
2085	0	0	13,264,734	0	0	0	0	13,264,734
2086	0	0	11,810,324	0	0	0	0	11,810,324
2087	0	0	10,441,373	0	0	0	0	10,441,373
2088	0	0	9,161,888	0	0	0	0	9,161,888
2089	0	0	7,974,943	0	0	0	0	7,974,943
2090	0	0	6,882,504	0	0	0	0	6,882,504
2091	0	0	5,885,081	0	0	0	0	5,885,081
2092	0	0	4,981,992	0	0	0	0	4,981,992
2093	0	0	4,171,801	0	0	0	0	4,171,801
2094	0	0	3,452,149	0	0	0	0	3,452,149
2095	0	0	2,820,034	0	0	0	0	2,820,034
2096	0	0	2,271,587	0	0	0	0	2,271,587
2097	0	0	1,802,056	0	0	0	0	1,802,056
2098	0	0	1,406,110	0	0	0	0	1,406,110
2099	0	0	1,077,790	0	0	0	0	1,077,790
2100	0	0	810,509	0	0	0	0	810,509
2101	0	0	597,166	0	0	0	0	597,166
2102	0	0	430,451	0	0	0	0	430,451
2103	0	0	303,130	0	0	0	0	303,130
2104	0	0	208,240	0	0	0	0	208,240
2105	0	0	139,329	0	0	0	0	139,329
2106	0	0	90,643	0	0	0	0	90,643
2107	0	0	57,239	0	0	0	0	57,239
2108	0	0	35,030	0	0	0	0	35,030
Discount Rate:							7.50%	2.21%

**THE POLICE RETIREMENT SYSTEM OF ST. LOUIS  
GASB 67 AND 68 REPORTING FOR SEPTEMBER 30, 2020 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:	\$ 1,079,800,429	\$ 191,858,311
						Total Present Value:		\$ 1,271,658,740
						GASB Discount Rate:		6.33%

**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*