THE POLICE RETIREMENT SYSTEM OF ST. LOUIS

REPORT ON ELEMENTS OF GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 68 (GASB 68) ACTUARIAL VALUATION

Fiscal Year Ended September 30, 2019

Hochschild, Bloom & Company LLP
Certified Public Accountants
Consultants and Advisors

INDEPENDENT AUDITOR'S REPORT

May 12, 2020

The Board of Trustees
THE POLICE RETIREMENT SYSTEM OF ST. LOUIS

REPORT ON THE SCHEDULES

We have audited the accompanying schedule of changes in net pension liability of **THE POLICE RETIREMENT SYSTEM OF ST. LOUIS** (the System) as of and for the year ended September 30, 2019, and the related notes. We have also audited deferred outflows of resources, deferred inflows of resources, and pension expense included in the accompanying schedules of other pension amounts of the System as of and for the year ended September 30, 2019, and the related notes.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on the schedule of changes in net pension liability and schedules of other pension amounts based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule of changes in net pension liability and schedules of other pension amounts are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of changes in net pension liability and schedules of other pension amounts. The procedures selected depend on the auditor's judgment, including the assessment of the risk of material misstatement of the schedule of changes in net pension liability and schedules of other pension amounts, whether due to fraud or error.

In making those risk assessments, the auditor considers internal control relevant to the System's preparation and fair presentation of the schedule of changes in net pension liability and schedules of other pension amounts in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedule of changes in net pension liability and schedules of other pension amounts.

We have relied on Cheiron's actuarial report titled *GASB 67/68 Report* as of September 30, 2019 for the actuarially determined amounts in these schedules and notes to the schedules. Cheiron provided a certification for this report dated February 4, 2020.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the schedules referred to above present fairly, in all material respects, the City of St. Louis, Missouri (the employer) allocations and net pension liability, total deferred outflows of resources excluding employer specific amounts, total deferred inflows of resources excluding employer specific amounts, and pension expense for the System as of and for the year ended September 30, 2019, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

The supplemental information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of this report. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and actuarial information and records used to prepare the report schedules. Such information has been subjected to the auditing procedures applied in the audits of the report schedules and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and actuarial records used to prepare the report schedules, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental information is fairly stated, in all material respects, in relation to the report schedules.

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, the financial statements of the System as of and for the year ended September 30, 2019, and our report thereon dated February 26, 2020, expressed an unmodified opinion on those financial statements.

Restriction on Use

Our report is intended solely for the information and use of the Board of Trustees, the System's management, the City of St. Louis, and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

Hochschild, Bloom & Company LLP

CERTIFIED PUBLIC ACCOUNTANTS
Chesterfield, Missouri

	For The Year Ended September 30, 2019		
	Total Pension Liability (a)	System's Fiduciary Net Position (b)	Net Pension Liability (a)-(b)
Balance at September 30, 2018	$ 1,010,912,526	796,160,410	214,752,116
Changes for the Year			
Service cost	15,678,890	-	15,678,890
Interest on total pension liability, including service cost	71,309,613	-	71,309,613
Benefit changes	-	-	-
Differences between expected and actual experience	22,854,628	-	22,854,628
Assumption changes	59,418,045	-	59,418,045
Contributions:			
Employer	-	35,970,630	(35,970,630)
Members	-	5,228,438	(5,228,438)
Net investment income	-	17,514,881	(17,514,881)
Benefit payments	(63,865,309)	(63,865,309)	-
Refunds of Members' contributions	(4,683,627)	(4,683,627)	-
Administrative expenses	-	(1,572,951)	1,572,951
Net Changes	100,712,240	(11,407,938)	112,120,178
Balance at September 30, 2019	$ 1,111,624,766	784,752,472	326,872,294

Reconciliation of Net Pension Liability:	
Net pension liability, September 30, 2018	$ 214,752,116
Changes for the year:	
Pension expense	27,100,625
Change in deferred outflows (inflows) of resources	120,990,183
Employer contributions	(35,970,630)
Net Changes	112,120,178
Net Pension Liability, September 30, 2019	$ 326,872,294

See notes to schedules

SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

	September 30 2019
Deferred outflows (inflows) of resources:	
Net difference between projected and actual earnings on pension plan investments	$ 19,463,029
Changes in assumptions	19,763,427
Differences between expected and actual liability experience	13,607,576
Net Deferred Outflows (Inflows) Of Resources, September 30, 2019	$ 52,834,032

	For The Year Ended September 30 2019
Reconciliation of net deferred outflows (inflows) of resources:	
Net deferred outflows (inflows) of resources, September 30, 2018	$ (68,156,151)
Changes in components of deferred outflows (inflows) of resources consist of:	
Difference between projected and actual earnings on pension plan investments	41,132,152
Actuarial assumption changes	59,418,045
Differences between expected and actual liability experience	22,854,628
	123,404,825
Recognition of deferred outflows (inflows)	2,414,642
Change In Deferred Outflows (Inflows) Of Resources	120,990,183
Net Deferred Outflows (Inflows) Of Resources, September 30, 2019	$ 52,834,032

See notes to schedules

SCHEDULE OF PENSION EXPENSE

	For The Year Ended September 30 2019
Pension expense:	
Operating expenses:	
Service cost	$ 15,678,890
Members' contributions	(5,228,438)
Administrative expenses	1,572,951
Total Operating Expenses	12,023,403
Financing expenses:	
Interest on total pension liability, including service cost	71,309,613
Expected return on investment assets	(58,647,033)
Total Financing Expenses	12,662,580
Recognition of deferred outflows (inflows):	
Recognition of investment gains and losses	13,548,725
Recognition of assumption changes	(18,427,137)
Recognition of liability experience gains and losses	7,293,054
Total Recognition Of Deferred Outflows (Inflows)	2,414,642
Pension Expense	$ 27,100,625
Reconciliation of pension expense:	
Change in net pension liability	$ 112,120,178
Change in deferred outflows (inflows) of resources	(120,990,183)
Employer contributions	35,970,630
Pension Expense	$ 27,100,625

See notes to schedules

NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies consistently applied by **THE POLICE RETIREMENT SYSTEM OF ST. LOUIS** (the System) in the preparation of the accompanying schedules are summarized as follows:

1. Reporting Entity

The System administers a single-employer, defined benefit pension plan providing benefits to the City of St. Louis (the City) police officers (Members). As such, the System is included in the City's Comprehensive Annual Financial Report as a Pension Trust Fund. The System and its Board of Trustees are not financially accountable for any other entities or other organizations.

2. Basis of Accounting

The System uses the accrual basis of accounting.

3. Net Pension Liability

Net pension liability represents the actuarially computed liability of the employer for accrued vested benefits provided through a defined benefit pension plan. It is calculated as the total pension liability less the System's fiduciary net position.

4. Use of Estimates in the Preparation of the Schedules

The preparation of the schedules in conformity with accounting principles generally accepted in the United States of America requires management and the System's Actuary to make estimates and assumptions that affect certain amounts and disclosures. Actual results could differ from those estimates.

5. Fair Value Measurements

The System follows guidance issued by accounting principles generally accepted in the United States of America on fair value measurements, which establishes a framework for measuring fair value. This guidance applies whenever fair value is an applicable measurement.

6. Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred outflows of resources represent consumption of net assets by a government employer that is applicable to a future reporting period. In accordance with GASB 68, these include demographic experience losses due to differences between expected and actual actuarial assumptions on the total pension liability, actuarial assumption changes increasing the total pension liability, or investment earnings that are below projected earnings. These outflows will be recognized in future reporting periods.

NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

6. Deferred Outflows of Resources and Deferred Inflows of Resources (Continued)

Deferred inflows of resources represent an acquisition of net assets by a government employer that is applicable to a future reporting period. In accordance with GASB 68, these include experience gains due to differences between expected and actual actuarial assumptions on the total pension liability, actuarial assumption changes reducing the total pension liability, or investment earnings that are greater than projected earnings. These inflows will be recognized in future reporting periods.

The City will need to calculate an additional type of deferred outflows of resources for contributions made to the System subsequent to the measurement date and before the end of the City's reporting period.

The City is solely responsible for its financial statements and, therefore, is responsible for evaluating the information used to recognize and disclose pension amounts in its financial statements. Similarly, the City's auditor is solely responsible for the audit of the City's financial statements and, therefore, is responsible for determining the sufficiency of audit evidence necessary to reduce audit risk to the appropriate level. Nevertheless, the City and their auditor may use the System's report to provide evidence that the pension amounts are not materially misstated.

The impact of the difference between projected and actual investment gains or losses on pension plan investments is recognized over a period of 5 years. During the measurement year, there was an actuarial investment loss of approximately $41 million. Approximately $8.2 million of that loss was recognized in the current year and an identical amount will be recognized in each of the next 4 years. Combined with $13.3 million of unrecognized investment gains from prior years, this results in a deferred outflow of resources of approximately $19.5 million.

The decrease in the blended discount rate assumption caused an increase in the net pension liability during the measurement year and increased the deferred outflows of resources by approximately $59.4 million. Approximately $19.8 million of this amount was recognized in the current year and an identical amount will be recognized in each of the next 2 years. This combined with $19.8 million of net unrecognized assumption changes (a decrease in the net pension liability from prior years) resulted in a deferred outflows of resources of approximately $19.8 million.

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension 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 2.88 years (rounded to 3 years). There was an experience loss of approximately $22.8 million in the current year of which $7.6 million of that loss was recognized in the current year and an identical amount will be recognized in the next 2 years. Combined with $1.6 million of unrecognized experience gain from prior year, this resulted in a deferred outflow of resources of approximately $13.6 million.

NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

6. Deferred Outflows of Resources and Deferred Inflows of Resources (Continued)

Amounts reported as net deferred outflows (inflows) of resources will be recognized in the City's pension expense as follows:

For The Years Ending September 30	Net Outflows (Inflows) From Investment (Gains) And Losses	Net Outflows (Inflows) From Assumption Changes	Net Outflows (Inflows) From Experience Gains	Total Net Outflows (Inflows)
2020	$ 644,373	(42,588)	5,989,366	6,591,151
2021	1,166,993	19,806,015	7,618,210	28,591,218
2022	9,425,231	-	-	9,425,231
2023	8,226,432	-	-	8,226,432
Total	$ 19,463,029	19,763,427	13,607,576	52,834,032

7. Pension Expense

Pension expense represents the economic cost of pensions that an entity recognizes during a reporting period. Pension expense is calculated in two different ways. First, it is calculated as the change in the amounts reported on the City's statement of net position that relate to the System and are not attributable to employer contributions. Therefore, it includes: 1) change in net pension liability, 2) change in deferred outflows (inflows) of resources, and 3) plus employer contributions.

The pension expense can also be calculated by its individual components as shown in the schedule of pension expense. Operating expenses include service cost less employee contributions and administrative expenses, collectively the cost of operating the System for the year. Financing expenses include interest on the total pension liability and interest on service costs, less the expected return on investment assets. The changes component of the pension expense calculation represents the items that drive the volatility in pension expense from year to year. Changes include benefit changes, recognized amounts due to assumption changes, recognized amounts from experience gains or losses on the total pension liability, and recognized amounts of differences in expected and actual investment gains or losses.

Changes in benefits must be enacted by the General Assembly of the State of Missouri. There were no changes in benefits during the year ended September 30, 2019.

NOTE B - ACTUARIAL METHODS AND ASSUMPTIONS

The following are the actuarial methods and assumptions that were used in the measurements of the pension liability:

Actuarial methods:	
Valuation date	October 1, 2019
Timing	Actuarially determined contributions are calculated based on the actuarial valuation at the beginning of the plan year
Actuarial cost method:	
GASB 67 and 68 reporting	Entry Age Normal
Funding requirements	Aggregate, reduced by employee contributions
Amortization method/period	None - Aggregate is funded over the future working lifetime of current participants
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.5%, net of 0.15% administrative expenses
Long-term municipal bond rate	2.66%
Rate of payroll growth	Varies by age 3% to 6.25%, including merit and promotions
Consumer price inflation	2.5%
Mortality (ordinary)	RP-2014 Blue collar projected generationally with MP-2015 with 1.15 adjustment
Mortality (accidental)	0.03% per year for all ages in addition to ordinary mortality
Mortality (disabled)	RP-2014 disabled retiree projected generationally the MP-2015 with 0.9 adjustment male and no adjustment female

The actuarial assumptions were last updated as a result of the experience study performed by Cheiron for the five-year period ending September 30, 2015. The mortality, termination, DROP and retirement, DROP reentry, investment return, salary increase, and administrative expense assumptions were changed since the October 1, 2015 actuarial valuation.

Discount Rate

The discount rate used to calculate the present value of future benefit payments for reporting purposes is based upon the projected plan net position (PNP) using actuarial assumptions about contributions, benefit payments, and long-term rate of return. If the projected PNP is not sufficient to cover projected benefit payments, a blended discount rate is required using both the weighted average of the long-term rate of return and the high grade bond muni-bond rate for periods after the PNP is exhausted. The System currently uses the long-term discount rate of 7.5% and expects assets will be sufficient to cover PNP until 2067. The muni-bond rate used in the valuation was 2.66% and is based on the Bond Buyers General Obligation 20 Year High Grade Rate Municipal Bond Index (AA/Aa or higher). Since the PNP was projected to be insufficient to make all projected benefit payments of current Members, a blended discount rate of 6.69% was used to calculate the present value of future benefit payments.

NOTE B - ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Proposition P

In November 2017, Proposition P was passed by City voters which approved a 0.5% sales tax earmarked for City law enforcement and firefighter needs "public safety". This allowed for pay increases for the City's police officers to take effect during 2018 (a one-time $6 thousand pay increase), which impacted the System's pension liability in the October 1, 2018 actuarial valuation, increasing the September 30, 2019 pension liability by $36.5 million.

NOTE C - SUBSEQUENT EVENT

On March 11, 2020, the World Health Organization declared the outbreak of COVID-19 coronavirus a global pandemic. As a result, economic uncertainties have arisen which could adversely affect the net pension liability. Other financial impacts could also occur though such potential impacts are unknown at this time.

NOTE D - ADDITIONAL FINANCIAL AND ACTUARIAL INFORMATION

Additional financial and actuarial information supporting the preparation of the schedules is included in the System's annual financial report for the year ended September 30, 2019 and the actuarial valuation report as of October 1, 2019. These reports can be obtained at www.stlouisprs.org or from:

Mark Lawson, J.D., Executive Director
The Police Retirement System of St. Louis
2020 Market Street
St. Louis, MO 63103-2210

SUPPLEMENTAL INFORMATION SECTION

SCHEDULES OF CHANGES IN NET PENSION LIABILITY - COMPARATIVE BY YEAR

	For The Years Ended September 30					
	2019	2018	2017	2016	2015	2014
Discount Rate Assumption	6.69 %	7.24	6.67	6.19	7.29	7.48
Total Pension Liability (A)						
Service cost	$ 15,678,890	16,369,318	17,988,134	12,617,971	12,977,679	12,991,999
Interest on total pension liability, including service cost	71,309,613	68,899,130	66,042,714	67,036,489	66,579,275	65,906,383
Benefit changes	-	-	-	-	-	-
Differences between expected and actual experience	22,854,628	(4,886,531)	3,911,067	(3,684,265)	(2,041,444)	- (B)
Assumption changes	59,418,045	(59,545,809)	(55,153,649)	131,846,504 (D)	16,248,637	6,650,362
Benefit payments	(63,865,309)	(63,603,561)	(59,959,184)	(59,673,662)	(67,107,828)	(58,302,794)
Refunds of Members' contributions	(4,683,627)	(4,972,550)	(3,493,396)	(2,963,770)	(2,425,249)	(2,670,671)
Net Change In Total Pension Liability	100,712,240	(47,740,003)	(30,664,314)	145,179,267	24,231,070	24,575,279
Total Pension Liability Beginning	1,010,912,526	1,058,652,529	1,089,316,843	944,137,576	919,906,506	895,331,227
Total Pension Liability Ending (a)	$ 1,111,624,766	1,010,912,526	1,058,652,529	1,089,316,843	944,137,576	919,906,506
System's Fiduciary Net Position						
Contributions - Employer	$ 35,970,630	33,104,561	33,826,528	30,778,664	30,600,069	32,324,823
Contributions - Members	5,228,438	5,129,154	4,653,968	4,376,867	4,487,942	4,438,346
Net investment income (loss)	17,514,881	51,089,258	93,520,079	52,927,643	(8,325,611)	48,094,636
Benefit payments	(63,865,309)	(63,603,561)	(59,959,184)	(59,673,662)	(67,107,828)	(58,302,794)
Refunds of Members' contributions	(4,683,627)	(4,972,550)	(3,493,396)	(2,963,770)	(2,425,249)	(2,670,671)
Administrative expenses	(1,572,951)	(1,165,930)	(1,206,161)	(1,102,866)	(1,125,310)	(1,095,653)
Net Change In System's Fiduciary Net Position	(11,407,938)	19,580,932	67,341,834	24,342,876	(43,895,987)	22,788,687
System's Fiduciary Net Position Beginning	796,160,410	776,579,478	709,237,644	684,894,768	728,790,755 (C)	706,276,668
System's Fiduciary Net Position Ending (b)	$ 784,752,472	796,160,410	776,579,478	709,237,644	684,894,768	729,065,355
Net Pension Liability Ending (a)-(b)	$ 326,872,294	214,752,116	282,073,051	380,079,199	259,242,808	190,841,151

Notes:

(A) The total pension liability as of the end of each measurement year is measured as of the measurement date (October 1) at the beginning of each year and projected to the end of each year.

(B) Because the beginning and ending values are based on the same actuarial valuation (September 30, 2013) and there were no significant events, no liability gains or losses due to experience are reported for the year ended September 30, 2014.

(C) The September 30, 2014 System's fiduciary net position was restated (decreased) by $274,600 from recording the beginning net pension liability resulting from implementing GASB 68 for the System's staff participation in ERS during the year ended September 30, 2015.

(D) The actuarial assumptions were updated based on an actuarial experience review for the period October 1, 2010 through September 30, 2015, and were first effective with the actuarial valuation as of October 1, 2016.

SCHEDULE OF ACTIVITY OF DEFERRED OUTFLOWS (INFLOWS) OF RESOURCES BY SOURCE BY FISCAL YEAR ESTABLISHED

	Amortization Factor In Years	For The Year Ended September 30, 2019 Balance 9/30/2018	Increase (Decrease)	Recognized	Net Change	Balance 9/30/2019	Future Recognition In City's Pension Expenses 2020	2021	2022	2023
Investment (gains) losses										
2015	5	$ 12,904,351	-	(12,904,351)	(12,904,351)	-	-	-	-	-
2016	5	(1,045,235)	-	522,617	522,617	(522,618)	(522,618)	-	-	-
2017	5	(24,774,715)	-	8,258,239	8,258,239	(16,516,476)	(8,258,239)	(8,258,237)	-	-
2018	5	4,795,201	-	(1,198,800)	(1,198,800)	3,596,401	1,198,800	1,198,800	1,198,801	-
2019	5	-	41,132,152	(8,226,430)	32,905,722	32,905,722	8,226,430	8,226,430	8,226,430	8,226,432
		(8,120,398)	41,132,152	(13,548,725)	27,583,427	19,463,029	644,373	1,166,993	9,425,231	8,226,432
Assumption changes										
2017	3	(18,384,549)	-	18,384,549	18,384,549	-	-	-	-	-
2018	3	(39,697,206)	-	19,848,603	19,848,603	(19,848,603)	(19,848,603)	-	-	-
2019	3	-	59,418,045	(19,806,015)	39,612,030	39,612,030	19,806,015	19,806,015	-	-
		(58,081,755)	59,418,045	18,427,137	77,845,182	19,763,427	(42,588)	19,806,015	-	-
Experience (gains) losses										
2017	3	1,303,689	-	(1,303,689)	(1,303,689)	-	-	-	-	-
2018	3	(3,257,687)	-	1,628,844	1,628,844	(1,628,843)	(1,628,843)	-	-	
2019	3	-	22,854,628	(7,618,209)	15,236,419	15,236,419	7,618,209	7,618,210	-	-
		(1,953,998)	22,854,628	(7,293,054)	15,561,574	13,607,576	5,989,366	7,618,210	-	-
Totals		$ (68,156,151)	123,404,825	(2,414,642)	120,990,183	52,834,032	6,591,151	28,591,218	9,425,231	8,226,432

Note: Deferrals are related to future periods with recognition using amortization factors starting with year established:

Investment (gains) losses - 5-year smoothed

Assumption changes - average remaining service lives of current active Members of 2.88 years for 2019 (rounded to the nearest year - 3-year smoothed)

Experience (gains) losses - average remaining service lives of current active Members of 2.88 years for 2019 (rounded to the nearest year - 3-year smoothed)