

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS**

**FINANCIAL STATEMENTS  
WITH REQUIRED SUPPLEMENTARY INFORMATION  
AND OTHER SUPPLEMENTARY INFORMATION  
AND  
INDEPENDENT AUDITORS' REPORT  
YEAR ENDED SEPTEMBER 30, 2019**

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## **Independent Auditors' Report**

The Board of Trustees  
Employees Retirement System of the City of St. Louis  
St. Louis, Missouri

We have audited the accompanying financial statements of Employees Retirement System of the City of St. Louis (the "System"), a Pension Trust Fund of the City of St. Louis, Missouri, which comprise the statement of fiduciary net position as of September 30, 2019, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements.

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these financial statements 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 financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on these financial statements 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 financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, 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 financial statements 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 financial statements.

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 financial statements referred to above present fairly, in all material respects, the fiduciary net position of Employees Retirement System of the City of St. Louis as of September 30, 2019, and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

### ***Other Matters***

#### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis and the other required supplementary information, as listed in the Table of Contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### ***Other Supplementary Information***

Our audit was conducted for the purpose of forming an opinion on the System's basic financial statements. The other supplementary information on pages 30 - 36 is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The other supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

 Anders Minkler Huber & Helms LLP

February 24, 2020  
(except for Note 2, as to  
which the date is March 25, 2020)

**Employees Retirement System of the City of St. Louis  
Management's Discussion and Analysis - Unaudited  
Year Ended September 30, 2019**

The following Management's Discussion and Analysis for the Employees Retirement System of the City of St. Louis ("the System") provides an overview of the System's financial activities for the fiscal year ended September 30, 2019. This section should be read in conjunction with the the System's financial statements and supplementary information.

**FINANCIAL HIGHLIGHTS**

The System's investments earned 1.7% during FY 2019. The market experienced a sharp downturn in the first quarter and the System posted a (-8.5%) overall return. The market recovered in the next three quarters allowing the System to record an 11.2% return during that time frame. Domestic and international equities were the key components in both the downturn and recovery. Domestic equities returned (-15.2%), 18.1%, and 0.2% for the first quarter, the last three quarters and overall annual, respectively. International equities showed performance of (-10.7%), 9.2%, and (-2.5%) for the same time periods. Real estate continued its steady run with a 7.0% return. Energy master limited partnerships continued to struggle and the positions were liquidated during the fiscal year. The System's net assets after deductions decreased by \$29.6 million to \$797.8 million.

Pension and retirement benefits increased by 1.65% or \$1.1 million to \$67.9 million. The number of retirees and beneficiaries receiving a monthly benefit increased by 1.2% to 4,789. Administrative expenses decreased by \$86,909 to \$875,268 in the fiscal year.

**FINANCIAL STATEMENTS**

The financial report of the the System consists of two financial statements: the Statement of Fiduciary Net Position, and the Statement of Changes in Fiduciary Net Position. The Statement of Fiduciary Net Position provides the detail of the System's assets and related liabilities other than benefit obligations. The net position of the System reflects the resources available for future benefit payments. The Statement of Changes in Fiduciary Net Position provides the details of the System's activity during the year that lead to the change in the plan's net position from the prior year.

In addition to the financial statements, the financial report contains the notes to the financial statements and supplementary information. These provide additional information for use in analyzing the financial statements and actuarial information related to the funded status of the System.

**FINANCIAL ANALYSIS**

Total assets and deferred outflows at September 30, 2019 of \$798.4 million were comprised of cash, investments and receivables. Investments decreased by nearly \$30.0 million or 3.6% to \$796.8 million. Receivables increased by \$52,235 and consisted of employer contributions and interest and dividend income. Currency exchange contracts ended both FY 2019 and FY 2018 as a net receivable and increased by \$471,355. The System does not participate in a securities lending program with its master custodian, U.S. Bank.

**Employees Retirement System of the City of St. Louis  
Management's Discussion and Analysis - Unaudited  
Year Ended September 30, 2019**

Total liabilities at September 30, 2019 were \$647,856 and consisted of accounts payable and accrued expenses. The net decrease in liabilities of \$211,017 is attributed to reduced accrued investment expenses.

Net assets held in trust for pension benefits decreased by \$29.6 million to \$797.8 million.

**Condensed Statements of Fiduciary Net Position**

	September 30		Total Change	
	2019	2018	Amount	Percentage
<b>Assets</b>				
Cash	\$ 59,712	\$ 386,227	\$ (326,515)	(84.5)%
Receivables	899,167	846,933	52,234	6.2 %
Investments	<u>796,763,057</u>	<u>826,748,560</u>	<u>(29,985,503)</u>	(3.6)%
Total Assets	<u>797,721,936</u>	<u>827,981,720</u>	<u>\$(30,259,784)</u>	(3.7)%
<b>Deferred Outflows of Resources</b>				
Currency Exchange	<u>703,641</u>	<u>232,286</u>	<u>471,355</u>	202.9 %
Total Assets and Deferred Outflows	<u>798,425,577</u>	<u>828,214,006</u>	<u>(29,788,429)</u>	(3.6)%
<b>Liabilities</b>				
Accounts payable	<u>647,856</u>	<u>858,873</u>	<u>(211,017)</u>	(24.6)%
Total Liabilities	<u>647,856</u>	<u>858,873</u>	<u>(211,017)</u>	(24.6)%
<b>Net Position Held in Trust for Pension Benefits</b>				
	<u>\$ 797,777,721</u>	<u>\$ 827,355,133</u>	<u>\$(29,577,412)</u>	(3.6)%

**REVENUES – ADDITIONS TO FIDUCIARY NET POSITION**

The assets needed to finance retirement benefits are accumulated through the receipt of employer contributions, member purchases of creditable service and earnings on investments. Net investment income was \$9.4 million for FY 2019. Investment performance deteriorated in the first quarter and posted (-8.5%) return. Investments recovered in the next three quarters with an 11.2% return. Overall, the System's investments ended the fiscal year with a 1.7% return. Domestic and international equities were key drivers in both economic scenarios. Net investment income included custodial and investment management fees of \$5.0 million.

Employer contributions held steady in the \$29 million range by increasing only \$268,466 or 0.9% in FY 2019, as the reduction in the recommended employer contribution rate was offset by an increase in pension wages. Member contributions were comprised entirely of purchase of creditable service by active members.

**Employees Retirement System of the City of St. Louis  
Management's Discussion and Analysis - Unaudited  
Year Ended September 30, 2019**

**EXPENSES – DEDUCTIONS FROM FIDUCIARY NET POSITION**

The major expenses of the System include the payment of pension benefits to retirees and beneficiaries and administrative expenses. Other expenses within retirement benefits include refunds of member contributions and pension service transfer payments to other public plans within the State of which have a portability agreement with the System. Service transfer payments were \$96,453 and there were no contribution refunds in FY 2019. Administrative expenses decreased \$86,909 in FY 2019 largely due to the one-time charge in FY 2018 relating to the *Tribune* bankruptcy legal settlement.

**Condensed Statements of Changes in Fiduciary Net Position**

	September 30		Total Change	
	2019	2018	Amount	Percentage
<b>Additions</b>				
Net investment income	\$ 9,411,622	\$ 48,770,991	\$ (39,359,369)	(80.7)%
Employer contributions	29,629,568	29,361,102	268,466	0.9 %
Member contributions	147,584	58,201	89,383	153.6 %
Total Additions	<u>39,188,774</u>	<u>78,190,294</u>	<u>(39,001,520)</u>	(49.9)%
<b>Deductions</b>				
Retirement benefits	67,890,918	66,788,634	1,102,284	1.7 %
Administrative expenses	<u>875,268</u>	<u>962,177</u>	<u>(86,909)</u>	(9.0)%
Total Deductions	<u>68,766,186</u>	<u>67,750,811</u>	<u>1,015,375</u>	1.5 %
Changes in Fiduciary Net Position	(29,577,412)	10,439,483	(40,016,895)	(383.3)%
Net position held in trust for pension benefits				
Beginning of year	<u>827,355,133</u>	<u>816,915,647</u>	<u>10,439,486</u>	1.3 %
End of year	<u>\$ 797,777,721</u>	<u>\$ 827,355,133</u>	<u>\$ (29,577,412)</u>	(3.6)%

**SUMMARY**

The System's investments managed to post a small positive return for FY 2019. However, rising interest rates and prospects of a global economic slowdown resulted in a first quarter loss in excess of 8%. As economic conditions improved in the next three quarters, the System's investments returned over 11% and ended the fiscal year slightly under 2%. The required employer contribution rates recommended by the actuary are currently 12.26% for the City of St. Louis and 12.18% for the other participating employers for the period July 1, 2019 through June 30, 2020. The prior year's contribution rates were 12.36% and 12.27%, respectively. The dual contribution rates are a result of a legal settlement involving the System, the City of St. Louis and the other participating employers.

The System remains in a position to meet its current pension obligations, as confirmed by the recent actuarial valuation.

The System is a qualified governmental plan under Section 401(a) of the Internal Revenue Code.

**Employees Retirement System of the City of St. Louis  
Management's Discussion and Analysis - Unaudited  
Year Ended September 30, 2019**

**REQUESTS FOR INFORMATION**

This financial report is designed to provide the Board of Trustees, our members and other users of our financial report with a general overview of the System's finances and to demonstrate the System's accountability for its funds. If you have any questions about this report or need additional financial information, contact:

The Employees Retirement System of the City of St. Louis  
1114 Market Street, Suite 900  
St. Louis, MO 63101



**Employees Retirement System of the City of St. Louis**  
**Statement of Fiduciary Net Position**  
**September 30, 2019**

**Assets**

Cash	\$ 59,712
Receivables	
Employer receivable	67,475
Accrued interest	654,469
Accrued dividends	<u>177,223</u>
Total Receivables	<u>899,167</u>
Investments, at fair value	
Temporary cash investments	9,819,140
Fixed income securities	111,844,773
Common stocks	216,696,469
Managed master limited partnerships	31,296,804
Managed international equity funds	181,604,022
Real estate funds	95,225,746
Domestic bond funds	89,403,040
Managed hedge fund of funds	<u>60,873,063</u>
Total Investments	<u>796,763,057</u>
Total Assets	797,721,936

**Deferred Outflows of Resources**

Receivable Under Forward Foreign Currency Exchange Contracts	703,641
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**Liabilities**

Accounts Payable	<u>647,856</u>
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**Net Position**

Net Position Held in Trust for Pension Benefits	<u>\$797,777,721</u>
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**Employees Retirement System of the City of St. Louis**  
**Statement of Changes in Fiduciary Net Position**  
**Year Ended September 30, 2019**

Additions	
Contributions	
Employer contributions	\$ 29,629,568
Member contributions	<u>147,584</u>
Total Contributions	<u>29,777,152</u>
Investment income	
Interest and dividends	9,686,379
Net appreciation in fair value of investments	<u>4,714,476</u>
	14,400,855
Less investment expenses	<u>4,989,233</u>
Net investment income	<u>9,411,622</u>
Net Additions	<u>39,188,774</u>
Deductions	
Retirement benefits	67,890,918
Administrative expenses	<u>875,268</u>
Total Deductions	<u>68,766,186</u>
Net Decrease in Net Position	(29,577,412)
Net Position Held in Trust for Pension Benefits, Beginning of Year	<u>827,355,133</u>
Net Position Held in Trust for Pension Benefits, End of Year	<u><u>\$797,777,721</u></u>

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

**1. Description of System**

The following description of the Employees Retirement System of the City of St. Louis (the "System") is provided for general information purposes only. Participants should refer to the *Employees Retirement System Handbook* for a more complete description of the System's provisions.

**General**

The System is a cost-sharing, multiple-employer, defined benefit public employees' retirement system for all non-uniformed employees of the City of St. Louis and certain other public entities funded by or providing services to residents of the City of St. Louis. These additional employee groups covered by the System are the employees of the St. Louis Public Library, the Art Museum of St. Louis, the St. Louis Zoological Park, the City of St. Louis Water Division, the Airport Authority, the City Mental Health Board, the Metropolitan Taxicab Commission, Tower Grove Park, the System, and civilian employees of the police department and police and fireman's retirement systems. The System became operative April 1, 1960 by municipal ordinance establishing the System under the authority of Senate Bill No. 329 of the 70th General Assembly of the State of Missouri. Responsibility for operation and administration of the System is vested in its Board of Trustees. The Board of Trustees consists of the Comptroller of the City of St. Louis, two members appointed by the Mayor of the City of St. Louis, two members elected by the membership of the System, and one member elected by the retired members of the System.

**Membership**

Membership consisted of the following at September 30, 2019:

Retirees and Beneficiaries	
Currently receiving benefits	4,782
Terminated employees entitled to but not yet receiving benefits	2,561
Current employees	
Fully vested	3,587
Non-vested	<u>1,557</u>
Total membership	<u><u>12,487</u></u>

**Benefits**

The System provides for defined benefit payments for retirement, death, or disability to eligible employees or their beneficiaries based upon creditable service, final average compensation, and a benefit compensation base. Benefits vest to employees covered by the System after the employee has attained five years creditable service.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

Employees retire with full retirement benefits after the age of 65 or if an employee's age and creditable service combined equal or exceed 85 years. Employees may retire and receive a reduced benefit after age 60 with five years of creditable service, age 55 with at least 20 years of creditable service, or any age with 30 years of creditable service.

The monthly pension benefits of all retirees or their beneficiaries are adjusted according to the changes in the Consumer Price Index of the U.S. Department of Labor. Increases are limited each year, with total increases to retirees or their beneficiaries limited to 25 percent.

### **Contributions**

Employer contribution rates are established annually by the Board of Trustees based on an actuarial study. The required employer contribution rate recommended by the actuary is currently 12.26 percent for the City of St. Louis and 12.18 percent for the other participating employers for the period July 2019 through June 2020. The dual contribution rates are a result of a legal settlement involving the System, the City of St. Louis and the other participating employers.

Employees who became members of the System prior to October 14, 1977 and continued to make contributions may make voluntary contributions to the System equal to 3% of their compensation until the compensation equals the maximum annual taxable earnings under the Federal Social Security Act. Thereafter, employees may contribute 6% of their compensation for the remainder of the calendar year.

### **Funding Policy**

The System's funding policy provides for periodic employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate assets to pay benefits when due. If contributions are necessary, level percentage of payroll employer contribution rates are determined using the entry age normal actuarial cost method.

## **2. Summary of Significant Accounting Policies**

### **Basis of Presentation and Accounting**

The financial statements of the System have been prepared in accordance with the criteria established by the Governmental Accounting Standards Board ("GASB"), which is the source of authoritative accounting principles generally accepted in the United States of America ("GAAP"), as applied to governmental units. The System's financial statements are prepared using the accrual basis of accounting.

### **Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

**Receivables**

Receivables consist of pending interest and dividends payable on investments held at the end of the year and employer contributions receivable for contributions related to the year ended September 30, 2019.

**Investment Policy**

The System's policy in regards to the allocation of invested assets is established and may be amended by the System's Board of Trustees. Investments are managed on a total return basis with a long-term objective of maintaining a fully funded status for the benefits provided through the pension plan.

The long-term expected rate of return on pension plan investments was determined using the building-block method in which best-estimate ranges of expected future real rates of return (expected return, net of investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table.

Even though history provides a valuable perspective for setting the investment return assumption, the System relies primarily on an approach which builds upon the last capital market assumption. Specifically, the System uses Marquette Associates, Inc. capital market assumptions in analyzing the System's asset allocation. The table below is based on simulated capital market returns (generated in 1,000 Monte Carlo simulations), and presents average annualized 10 year return of all the simulations performed

Asset Class	Allocation Targets	Long-Term Expected Real Rate of Return
Large cap	25.00 %	7.27 %
Mid cap	7.50 %	7.60 %
Small cap	7.50 %	7.90 %
International large cap	12.00 %	7.47 %
Emerging markets	3.00 %	8.10 %
Bank loans	5.00 %	6.10 %
Fixed income	10.00 %	3.30 %
International fixed income	5.00 %	5.80 %
Core real estate	10.00 %	6.60 %
Infrastructure	5.00 %	7.50 %
Private equity	5.00 %	10.80 %
Hedge funds	5.00 %	6.70 %
Total/Average	<u>100.00 %</u>	<u>7.68 %</u>

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

**Investment Valuation and Income Recognition**

Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 3 for discussion of fair value measurements. Short-term investments are reported at cost, which approximates fair value. Securities traded on national or international exchanges are valued at the latest reported sales price at current exchange rates.

Investment income includes: realized gains (losses), unrealized appreciation (depreciation), dividends, interest, and other investment income. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

**Derivatives**

The System currently retains Payden & Rygel Investment Counsel as a global fixed income investment manager. The System permits Payden & Rygel to utilize financial derivative instruments such as forwards, futures, and options. The use of these financial derivatives is defensive in nature; that is, used only to manage duration and foreign currency exposure and bond exposure. The System's investment policy requires that open currency exposure shall not exceed 10 percent of the global fixed income portfolio.

The System utilizes forward contract hedging to reduce the volatility in foreign currencies. Hedging techniques are traditionally used to limit exposure to price fluctuations. Management recognizes that fluctuations in foreign currencies could have a negative effect on the System's financial statements. Accordingly, the System entered into forward contracts in order to hedge this exposure.

**Investment Expenses**

Investment expenses consist of investment manager, investment advisor, and custodial bank fees.

**Fair Value Measurements**

The System follows guidance issued by the GASB on fair value measurements, which establishes a framework for measuring fair value, clarifies the definition of fair value within that framework, and expands disclosures about the use of fair value measurements. This guidance applies whenever fair value is the applicable measurement. The three general valuation techniques used to measure fair value are the market approach, cost approach, and income approach.

**Furniture and Equipment**

Acquisitions of furniture and equipment are charged to administrative expense.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

**Deferred Outflows and Inflows of Resources**

In addition to assets and liabilities, the statements of fiduciary net position will sometimes include separate sections for deferred outflows and inflows of resources. These separate financial statement elements represent the use or acquisition of net position that applies to a future period or periods and will not be recognized as an outflow or inflow of resources until then. The System has deferred outflows in the statement of fiduciary net position that relate to receivables under forward foreign currency exchange contracts.

**Subsequent Events**

Management has evaluated subsequent events through February 24, 2020, the date the financial statements were available to be issued. Regarding Note 2 to the financial statements, the System has evaluated subsequent events through March 25, 2020.

**3. Fair Value Measurements**

The framework for measuring fair value establishes a fair value hierarchy which prioritizes the inputs to valuation techniques used to measure fair value into Levels 1, 2, and 3. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described as follows:

- Level 1     Inputs to the valuation methodology are unadjusted quoted prices for identical instruments in active markets.
  
- Level 2     Inputs to the valuation methodology include quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in inactive markets, inputs other than quoted prices that are observable for the instrument, or inputs that are derived principally from or corroborated by observable market data by correlation or other means.
  
- Level 3     Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

Investments that are measured at fair value using the net asset value ("NAV") per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

The fair value amounts presented in the tables are intended to permit reconciliation of the fair value hierarchy to the line items presented in the statement of fiduciary net position. The instrument's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques maximize the use of relevant observable inputs and minimize the use of unobservable inputs.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

Carrying amounts of certain financial instruments such as cash, receivables, and accounts payable approximate fair value due to their short maturities or because the terms are similar to market terms. There have been no changes in the methodologies used at September 30, 2019.

Following is a description of the valuation methodologies used for investments measured at fair value.

- Level 1     Investments consist of fixed income and equity securities. These investments are valued using the closing price reported on the active market on which the individual securities are traded.
  
- Level 2     Investments consist of fixed income securities and foreign exchange contracts. Fixed income securities are valued using pricing models maximizing the use of observable inputs for similar securities. This includes basing value on yields currently available on comparable securities of issuers with similar credit ratings. Foreign exchange contracts are valued using a market approach that considers foreign exchange rates.

Investments also consist of co-mingled funds and pooled separate accounts. These securities are valued at the NAV based on shares held by the System at year-end. The NAV is used as a practical expedient to estimate fair value.

The preceding methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the System believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.



**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

The following table presents the fair value measurements of instruments recognized in the accompanying statement of fiduciary net position measured at fair value on a recurring basis and the level within the fair value hierarchy in which the fair value measurements are categorized at September 30, 2019:

	Total	Fair Value Measurements		
		Level 1	Level 2	Level 3
Fixed income securities				
U.S. Government securities	\$ 38,948,605	\$ -	\$ 38,948,605	\$ -
Corporate bonds	33,710,451	-	33,710,451	-
Temporary cash investments	9,819,140	9,819,140	-	-
International bonds and securities	39,185,717	4,943,774	34,241,943	-
Equity securities				
Common stocks	216,696,469	216,696,469	-	-
Total investments in fair value hierarchy	338,360,382	\$ 231,459,383	\$ 106,900,999	\$ -
Investments measured at NAV				
Loomis High Yield Conservative Trust B	41,215,442			
SSGA Passive Bond Market Index (NL) Fund	48,187,598			
Principal Real Estate Group Annuity Contract	95,225,746			
Acadian Emerging Markets Mutual Equity Fund II	51,996,123			
Kabouter International Opportunities Fund II	31,296,804			
Silchester International Value Equity Group Trust	83,247,937			
Walter Scott Group Trust International Equity Fund	46,359,962			
Entrust Capital Diversified Fund	15,686,644			
Weatherflow Offshore Fund I	45,186,419			
	<u>\$ 796,763,057</u>			
Investment derivative instruments				
Foreign exchange contracts	\$ 703,641	\$ -	\$ 703,641	\$ -

Investments measured at fair value based on NAV per share practical expedient as of September 30, 2019 are as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Loomis High Yield Conservative Trust B	\$ 41,215,442	N/A	Daily	Daily
SSGA Passive Bond Market Index (NL) Fund	48,187,598	N/A	Monthly	15 days
Principal Real Estate Group Annuity Contract	95,225,746	N/A	Daily	7 days
Acadian Emerging Markets Mutual Equity Fund II	51,996,123	N/A	Daily	30 days
Kabouter International Opportunities Fund II	31,296,804	N/A	Daily	15-30 days
Silchester International Value Equity Group Trust	83,247,937	N/A	Monthly	5-10 days
Walter Scott Group Trust International Equity Fund	46,359,962	N/A	Daily	10 days
Entrust Capital Diversified Fund	15,686,644	N/A	Quarterly	90 days
Weatherflow Offshore Fund I	45,186,419	N/A	Quarterly	65 days
Total investments measured at NAV	<u>\$ 458,402,675</u>			

*Loomis High Yield Conservative Trust (B)*. The fund may invest up to 100% of its market value in fixed income securities of any credit quality, including lower rated fixed income securities and up to 20% of its market value in non-U.S. currencies. The fund may also invest in fixed income securities of any maturity. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments.

**Employees Retirement System of the City of St. Louis**  
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*State Street Global Advisors Passive Bond Market Index (NL) Fund.* The investment objective of the fund is to approximate as closely as practicable, before expenses, the performance of the Barclays U.S. Aggregate Bond Index over the long term. The fund attempts to achieve its investment objective by investing in other collective investment funds, each an underlying fund, managed by the trustee, which have characteristics consistent with the fund's overall investment objective. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments.

*Principal Global Investors Real Estate Group Annuity Contract.* Is a pooled separate account for investment and reinvestment in owned real estate, such as office buildings, industrial buildings, shopping centers, retail stores and similar property in accordance with applicable law. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments as reported by the fund manager. The fund reserves the right to defer payments that would exceed the amount of cash and other liquid assets held by the fund, reduced by amounts committed to purchase properties or needed for operating expenses. The fund will not defer requested payments for longer than three years.

*Acadian Emerging Markets Mutual Equity Fund II.* The fund's objective is to seek long-term capital appreciation by investing primarily in common stocks of emerging markets issuers. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments.

*Kabouter International Opportunities Fund II.* The primary purpose of the fund is to provide diversification while still providing the opportunity for capital appreciation. A low correlation between stocks, bonds, hedge funds, and real estate creates reduced portfolio volatility. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments.

*Silchester International Value Equity Group Trust.* The trust principally invests in a diversified portfolio of equity securities of companies ordinarily incorporated in any country other than the United States. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments. The trust may delay payment if the investment manager determines that such delay is reasonably necessary to prevent such redemption from having a material adverse impact on the group trust and/or the remaining participating trusts.

**Employees Retirement System of the City of St. Louis**  
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*Walter Scott Group Trust International Equity Fund.* The investment manager is authorized to allocate the assets without limitation among geographic regions and individual countries (other than the United States) based on its analysis of global economic, political and financial conditions. Not more than 5% of the fund's assets shall be invested in stocks domiciled or listed on exchanges in countries not included in the MSCI World index other than Canada, the republic of South Africa and Chinese stocks listed on the Hong Kong exchange. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments. Under certain circumstances (including the inability of a fund to liquidate positions or the default or delay in payments due to a fund from brokers, banks, or other persons), a fund may delay payment to an investor requesting redemption of the proportionate part of the NAV of the units being redeemed which represents sums which are the subject of such default or delay, or the fund may distribute property in kind as determined by the investment manager in payment of a redemption of units.

*Entrust Capital Diversified Fund.* The fund seeks to achieve above-average rates of return and long-term capital growth. The Fund seeks to achieve this objective by employing a multi-manager approach, maintaining investments through private investment entities and/or separately managed accounts with a broadly diversified group of investment management professionals specializing in alternative investment strategies. The Fund does not follow a rigid asset allocation policy but seeks diversification through a combination of managers trading a range of strategies, including but not limited to, hedging, distressed securities, arbitrage, and special situations. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments.

*Weatherflow Offshore Fund I.* The fund's investment objective is to achieve long-term returns commensurate with long term returns from a portfolio investment in the general equity markets, while experiencing volatility more like that of a portfolio invested in the general debt markets. The fund seeks to achieve this objective by investing predominantly in interests in portfolio funds - i.e., limited partnerships and similar pooled invested vehicles often referred to as "hedge funds" - managed by portfolio managers. The fair values of the investments in this fund have been determined using the NAV per share (or its equivalent) of the underlying investments.

#### **4. Risks and Uncertainties**

##### **Custodial Credit Risk**

Financial instruments that potentially subject the System to concentrations of custodial credit and market risk consist principally of cash and investments. The System places its temporary cash investments with major financial institutions. At September 30, 2019, the System had approximately \$948,358 in cash on deposit at US Bank. This balance was insured by the Federal Deposit Insurance Corporation ("FDIC") for \$250,000. The remaining balances are collateralized by securities held by the pledging financial institution's trust department in the System's name.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

The System invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, foreign currency, regulatory and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term, and such changes could materially affect the amounts reported in the statement of fiduciary net position.

**Concentration of Credit Risk**

At September 30, 2019, the System had the following concentrations, defined as investments (other than those issued or guaranteed by the U.S. Government) in any one organization that represent 5% or more of net position held in trust for pension benefits:

Investments	Fair Value	Percentage of Total Net Position
Acadian Asset Management - Emerging Markets Mutual Equity Fund II	\$ 51,996,123	6.52 %
Loomis High Yield Conservative Trust B	\$ 41,215,442	5.17 %
Principal Global Investors - Real Estate Group Annuity Contract	\$ 95,225,746	11.94 %
Silchester International Advisors - International Value Equity Group Trust	\$ 83,247,937	10.43 %
Walter Scott & Partners Limited Group Trust -International Equity Fund	\$ 46,359,962	5.81 %
Weatherlow Offshore Fund I	\$ 45,186,419	5.66 %
SSGA Passive Bond Market Index NL Fund	\$ 48,187,598	6.04 %

**Credit Risk of Debt Securities**

The System's debt investments as of September 30, 2019 were rated by Moody's Investor Services ("Moody's") and the ratings are presented using the Moody's rating scale. The System's policy to limit credit risk is that the overall portfolio credit rating shall be A or better and the credit rating of fixed income securities shall be Baa or better. Non-rated issues are allowed as long as the quality is sufficient to maintain the overall average rating noted.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

As of September 30, 2019, the System held the following fixed income investments with respective Moody's quality ratings or equivalent rating. Foreign investments not considered to have credit risk such as stocks and cash equivalents are not included in the following:

<u>Quality Rating</u>	<u>Fair Value</u>
Aaa	\$ 46,367,085
Aa1	1,178,855
Aa2	4,795,020
Aa3	421,631
A1	8,950,832
A2	7,219,267
A3	6,997,311
Baa1	7,489,414
Baa2	6,487,808
Baa3	4,718,449
Ba1	647,456
Ba2	712,466
Ba3	235,844
B1	220,783
B2	373,543
Not rated	<u>14,009,293</u>
Total	<u>\$ 110,825,057</u>

**Employees Retirement System of the City of St. Louis**  
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**Foreign Currency Risk**

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The System does not have a formal policy to limit foreign currency risk. The System's exposure to foreign currency risk in U.S. Dollars as of September 30, 2019 is as follows:

<u>Currency</u>	<u>Cash</u> <u>Equivalents</u>	<u>Equities</u>	<u>Total</u>
Australian Dollar	\$ 8,948	\$ 535,137	\$ 544,085
Brazilian Real	(5,711)	-	(5,711)
British Pound Sterling	169,645	2,203,291	2,372,936
Canadian Dollar	97,230	988,838	1,086,068
Danish Krone	7,392	67,553	74,945
Euro	339,894	8,517,734	8,857,628
Japanese Yen	35,071	6,115,558	6,150,629
Mexican Peso	27,502	100,998	128,500
Norwegian Krone	(5,295)	-	(5,295)
Polish Zloty	12,880	51,936	64,816
Swedish Krona	9,092	-	9,092
Swiss Franc	6,237	170,887	177,124
Thai Baht	756	-	756
	<u>\$ 703,641</u>	<u>\$ 18,751,932</u>	19,455,573
Foreign investment denominated in U.S. Dollars			<u>20,585,122</u>
			<u>\$ 40,040,695</u>

**Interest Rate Risk**

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The System's fixed income investments are managed in accordance with policies established by the Board that are specific as to the degree of interest rate risk that can be taken. The System's policies established by the Board manage the interest rate risk within the portfolio using various methods, including effective duration, option adjusted duration, average maturity, and segmented time distribution, which reflects total fair value of investments maturing during a given time period. The System does not have a specific investment policy on interest rate risk. However, the effective duration of any fixed income portfolio cannot exceed 120% of the effective duration of the manager's broad market benchmark.

**Employees Retirement System of the City of St. Louis**  
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Duration is a measure of a debt instrument's exposure to a change in interest rates and the related sensitivity of market price to parallel shifts in the yield curve. It uses the present value of cash flows, weighted for those cash flows as a percentage of the instruments' full price. The following schedule provides a summary of interest risk assumed by the System as of September 30, 2019:

<u>Investment</u>	<u>Fair Value</u>	<u>Effective Duration</u>
Payden and Rygel	\$ 40,506,612	8.3 years
Allegiant (PNC)	73,200,534	7.0 years
SSGA	48,187,598	6.3 years
Loomis	41,215,442	5.1 years
Total	<u>\$ 203,110,186</u>	

**5. Tax Status of Plan**

The Internal Revenue Service has determined and informed the System by a letter dated June 12, 2014, that the System and amendments are designed in accordance with the applicable sections of the Internal Revenue Code ("IRC"). Management believes that the System is designed and is currently being operated in compliance with the applicable requirements of the IRC and therefore believes that the System is qualified and tax exempt.

**6. Plan Termination**

The System is administered in accordance with the provisions of the Revised Code of the City of St. Louis. There are currently no plans to terminate the System.

**7. Deferred Retirement Option Plan**

On June 8, 2000, the Mayor of the City of St. Louis approved an ordinance passed by the Board of Alderman, authorizing a Deferred Retirement Option Plan ("DROP"), which became effective January 1, 2001. This plan allows for members to work for an additional 5 years after reaching retirement age and defer receipt of their retirement allowance. The calculation of average salary for retirement benefits will not include the additional years of service after normal retirement age. The amount that would have been received as retirement benefit is put in a special DROP account monthly. Total DROP expense was \$8,578,601 for the year ended September 30, 2019. The DROP account will not be adjusted for cost of living increases.

The DROP account earns interest at the actuarial valuation rate of return and at the 10-year U.S. Treasury Bond yield as of each September 30, for DROP participants enrolling February 1, 2003 and thereafter.

After a member completely terminates employment, the member can withdraw amounts from the DROP account in a lump sum or according to a deferred retirement payment plan. At September 30, 2019 approximately 779 members have elected DROP participation and have DROP account balances of \$49,129,176.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

**8. Commitments and Contingencies**

During the year ended September 30, 2017, the System, the members of its Board of Trustees and the City of St. Louis were served with an Amended Petition by a city employee, who alleges that in December 1988 the System's Board of Trustees wrongfully adopted a resolution determining that certain City of St. Louis elected positions could no longer be a member of the System. The plaintiff asserts the Board resolution violates a state statute which would allow certain elected positions to receive pension benefits from both the statewide and local plans. Subsequent to the original filing of the petition, another plaintiff joined the suit. The petitioners are seeking payment of the pension benefits believed due to them. The System has made a claim for indemnification and defense from its fiduciary insurer and engaged an attorney (with the permission of its fiduciary insurer) to vigorously defend the System and the members of its Board of Trustees. It is important to note that the System did not receive any employer contributions attributable to the petitioners' compensation after the date of the resolution of the Board of Trustees and the System filed a counterclaim against the City of St. Louis averring that in the event the System is liable to the petitioners, the City of St. Louis owes the System the employer contributions (plus interest) attributable to the petitioners' compensation while serving the City in the elected positions by the City. On February 22, 2019, the court ruled in favor of the System on all claims made by the petitioners, however, this case is still open to appeal.

**9. Annual Money-Weighted Rate of Return**

The annual money-weighted rate of return was 1.5121 percent for the year ended September 30, 2019. The annual money-weighted rate of return expresses investment performance, net of investment expense, and adjusted for the changing amounts actually invested.

**10. Funding Status**

The funded status as of October 1, 2019, which is the most recent actuarial date is as follows:

Actuarial value of assets	\$ 830,686,015
Actuarial accrual liability (AAL)	\$ 1,015,454,744
Unfunded AAL (UAAL)	\$ 184,768,729
Funded ratio	81.8 %
Annual covered payroll	\$ 228,673,586
UAAL as a percentage of payroll	80.8 %



**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

Additional information regarding assumptions used in the actuarial valuation is as follows:

	<u>October 1, 2019</u>
Timing	Actuarially determined contribution rates are calculated based on the actuarial valuation at the beginning of the plan year.
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Fixed 20 year period as of October 1, 2015 as a level percentage of payroll
Inflation rate	2.50%
Asset valuation method	5 year smoothing
Discount rate	7.50%
Mortality and death rates	Healthy: RP-2000 Healthy Mortality 3-year set-forward with generational projections using Scale AA Disabled: RP-2000 Disabled Mortality 3-year set-forward with generational projections using Scale AA
Rate of salary increases	Varies by service, ranging from 3.00% to 4.25%

**11. Employers' Net Pension Liability**

The components of the net pension liability (the System's liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of September 30, 2019, are shown in the *Schedule of Net Pension Liability* below.

Actuarial valuation of an ongoing plan involves estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and future salary increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The last experience study was for the period October 1, 2009 through September 30, 2014, performed in 2015. The net pension liability as of September 30, 2019 is \$217,677,023, based on the actuarial valuation. The 2019 valuation was performed as of October 1, 2018, with a measurement date of September 30, 2019.

**Employees Retirement System of the City of St. Louis**  
**Notes to Financial Statements**  
**September 30, 2019**

**Schedule of Net Pension Liability**

The components of the net pension liability of all participating employers at September 30, 2019 are as follows:

Total pension liability	\$ 1,015,454,744
Less: Fiduciary net position	<u>797,777,721</u>
Employers' net pension liability	<u>\$ 217,677,023</u>
Plan net position as a percentage of total pension liability	78.6 %

**Sensitivity of Net Pension Eligibility to Changes in the Discount Rate**

The following presents the net pension liability at September 30, 2019, calculated using the discount rate of 7.50 percent as well as what the net pension liability would have been if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease <u>(6.50%)</u>	Current Discount Rate <u>(7.50%)</u>	1% Increase <u>(8.50%)</u>
Total pension liability	\$ 1,114,244,773	\$ 1,015,454,744	\$ 930,812,452
Fiduciary net position	797,777,721	797,777,721	797,777,721
Net pension liability	<u>\$ 316,467,052</u>	<u>\$ 217,677,023</u>	<u>\$ 133,034,731</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	71.6 %	78.6 %	85.7 %

The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the current funding policy. Based on those assumptions, the System's fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members.

Under GASB Statement No. 68, employers participating in the plan would recognize a total pension expense of \$42,591,857 for the fiscal year ended September 30, 2019.

**Employees Retirement System of the City of St. Louis**  
**Required Supplementary Information**  
**Schedules of Changes of Employer Net Pension Liability - Unaudited**  
**Years Ended September 30,**

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total pension liability						
Service cost	\$ 12,881,819	\$ 13,342,936	\$ 13,185,412	\$ 13,703,072	\$ 13,067,553	\$ 10,591,910
Interest	73,206,999	72,329,296	71,206,835	69,893,488	73,825,307	72,012,146
Difference between expected and actual experience	713,562	(12,970,671)	(4,372,137)	(3,601,576)	(2,701,109)	(3,664,735)
Changes of assumptions	-	-	-	-	(5,107,330)	-
Benefit payments	<u>(67,890,918)</u>	<u>(66,788,634)</u>	<u>(63,532,834)</u>	<u>(60,972,546)</u>	<u>(59,065,812)</u>	<u>(56,317,073)</u>
Net change in total pension liability	18,911,462	5,912,927	16,487,276	19,022,438	20,018,609	22,622,248
Total pension liability - beginning	<u>996,543,282</u>	<u>990,630,355</u>	<u>974,143,079</u>	<u>955,120,641</u>	<u>935,102,032</u>	<u>912,479,784</u>
Total pension liability - ending	<u><u>\$1,015,454,744</u></u>	<u><u>\$ 996,543,282</u></u>	<u><u>\$ 990,630,355</u></u>	<u><u>\$ 974,143,079</u></u>	<u><u>\$ 955,120,641</u></u>	<u><u>\$ 935,102,032</u></u>
Plan fiduciary net position						
Employer contributions	\$ 29,629,568	\$ 29,361,102	\$ 29,782,200	\$ 32,127,591	\$ 35,436,141	\$ 36,788,260
Member contributions	147,584	58,201	134,248	10,093	289,810	129,164
Net investment income	9,411,622	48,770,991	86,394,236	66,460,934	(28,435,882)	70,076,027
Benefit payments including refunds of employee contributions	(67,890,918)	(66,788,634)	(63,532,834)	(60,972,546)	(59,065,812)	(56,317,073)
Administrative expense	<u>(875,268)</u>	<u>(962,177)</u>	<u>(763,273)</u>	<u>(722,132)</u>	<u>(722,758)</u>	<u>(670,957)</u>
Net change in plan fiduciary net position	(29,577,412)	10,439,483	52,014,577	36,903,940	(52,498,501)	50,005,421
Plan fiduciary net position - beginning	<u>827,355,133</u>	<u>816,915,650</u>	<u>764,901,073</u>	<u>727,997,133</u>	<u>780,495,634</u>	<u>730,490,213</u>
Plan fiduciary net position - ending	<u><u>\$ 797,777,721</u></u>	<u><u>\$ 827,355,133</u></u>	<u><u>\$ 816,915,650</u></u>	<u><u>\$ 764,901,073</u></u>	<u><u>\$ 727,997,133</u></u>	<u><u>\$ 780,495,634</u></u>
Net pension liability - ending	<u><u>\$ 217,677,023</u></u>	<u><u>\$ 169,188,149</u></u>	<u><u>\$ 173,714,705</u></u>	<u><u>\$ 209,242,006</u></u>	<u><u>\$ 227,123,508</u></u>	<u><u>\$ 154,606,398</u></u>
Total pension liability	\$1,015,454,744	\$ 996,543,282	\$ 990,630,355	\$ 974,143,079	\$ 955,120,641	\$ 935,102,032
Less: Plan fiduciary net position	<u>797,777,721</u>	<u>827,355,133</u>	<u>816,915,650</u>	<u>764,901,073</u>	<u>727,997,133</u>	<u>780,495,634</u>
Net pension liability	<u><u>\$ 217,677,023</u></u>	<u><u>\$ 169,188,149</u></u>	<u><u>\$ 173,714,705</u></u>	<u><u>\$ 209,242,006</u></u>	<u><u>\$ 227,123,508</u></u>	<u><u>\$ 154,606,398</u></u>
Plan fiduciary net position as a percentage of the total pension liability	78.56 %	83.02 %	82.46 %	78.52 %	76.22 %	83.47 %
Covered employee payroll	\$ 240,731,698	\$ 239,956,558	\$ 239,583,848	\$ 237,354,364	\$ 238,385,100	\$ 237,794,875
Net pension liability as a percentage of covered employee payroll	90.42 %	70.51 %	72.51 %	88.16 %	95.28 %	65.02 %

\*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

**Employees Retirement System of the City of St. Louis**  
**Required Supplementary Information**  
**Schedules of Annual Money-Weighted Rate of Return on Investments - Unaudited**  
**Years Ended September 30,**

The System began tracking the annual money-weighted rate of return during the fiscal year ended September 30, 2014. The annual money-weighted rate of return for future years will appear in the following schedule as they occur. The goal is to provide a full 10-year history as the information becomes available.

<u>Years Ended September 30,</u>	<u>Annual money-weighted rate of return, net of investment expense</u>
2019	1.51 %
2018	6.48 %
2017	11.90 %
2016	9.45 %
2015	(3.79)%
2014	9.71 %

**Employees Retirement System of the City of St. Louis  
Required Supplementary Information  
Schedule of Employer Contributions - Unaudited  
September 30, 2019**

Years Ended September 30.	Actuarially Determined Contribution	Contributions Recognized by the Plan	Contribution s Deficiency (Excess)	Covered Payroll	Contributions Recognized by the Plan as a Percentage of Covered Payroll
2014	\$ 34,060,798	\$ 36,788,260	\$ (2,727,462)	\$237,794,875	15.47 %
2015	31,605,493	35,436,141	(3,830,648)	238,385,100	14.87 %
2016	28,534,042	32,127,591	(3,593,549)	237,354,364	13.54 %
2017	27,684,090	29,782,200	(2,098,110)	239,583,848	12.43 %
2018	28,061,249	29,361,102	(1,299,853)	239,956,558	12.24 %
2019	27,958,439	29,629,568	(1,671,129)	240,731,698	12.31 %

The actuarial determined contribution is determined from the prior year census; therefore the contributions are recognized one year in arrears.

\*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

**Employees Retirement System of the City of St. Louis  
Required Supplementary Information  
Schedule of Employer Contributions - Unaudited  
September 30, 2019**

**Actuary Methods and Assumptions**

The actuarially determined contribution rates in the schedule of the System's contributions are calculated based on the actuarial valuation at the beginning of the plan year. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule.

	<u>September 30, 2019</u>
Actuarial cost method	Entry age normal cost method
Asset valuation method	5 year smoothing
Amortization method	Fixed 20-year period as of October 1, 2015 as a level percentage of payroll. Future gains and losses and changes in actuarial assumptions will be amortized in layers over separate 20 year periods.
Discount rate	7.50%
Inflation	2.50%
Salary increases	3.00% plus merit component based on years of service
Mortality	Healthy: RP-2000 Healthy Mortality 3-year set-forward with generational projections using Scale AA Disabled: RP-2000 Disabled Mortality 3-year set-forward with generational projections using Scale AA
	<u>September 30, 2018</u>
Actuarial cost method	Entry age normal cost method
Asset valuation method	5 year smoothing
Amortization method	Layered 20-year amortization of unfunded liability
Discount rate	7.50%
Inflation	2.50%
Salary increases	3.00% plus merit component based on years of service
Mortality	Healthy: RP-2000 Healthy Mortality 3-year set-forward with generational projections using Scale AA Disabled: RP-2000 Disabled Mortality 3-year set-forward with generational projections using Scale AA
	<u>September 30, 2017</u>
Actuarial cost method	Entry age normal cost method
Asset valuation method	5 year smoothing
Amortization method	Layered 20-year amortization of unfunded liability
Discount rate	7.50%
Inflation	2.50%
Salary increases	3.00% plus merit component based on years of service
Mortality	Healthy: RP-2000 Healthy Mortality 3-year set-forward with generational projections using Scale AA Disabled: RP-2000 Disabled Mortality 3-year set-forward with generational projections using Scale AA

**Employees Retirement System of the City of St. Louis  
Required Supplementary Information  
Schedule of Employer Contributions - Unaudited  
September 30, 2019**

September 30, 2016

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Actuarial cost method	Entry age normal cost method
Asset valuation method	5 year smoothing
Amortization method	Layered 20-year amortization of unfunded liability
Discount rate	7.50%
Inflation	2.50%
Salary increases	3.00% plus merit component based on years of service
Mortality	Healthy: RP-2000 Healthy Mortality 3-year set-forward with generational projections using Scale AA Disabled: RP-2000 Disabled Mortality 3-year set-forward with generational projections using Scale AA

September 30, 2015

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Actuarial cost method	Projected unit credit method
Asset valuation method	5 year smoothing
Amortization method	Rolling 30-year level dollar amortization of unfunded liability
Discount rate	8.00%
Inflation	3.125%
Salary increases	3.50% plus merit component based on years of service
Mortality	Healthy: 1994 Group Annuity Mortality Table Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table

September 30, 2014

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Actuarial cost method	Projected unit credit method
Asset valuation method	5 year smoothing
Amortization method	Rolling 30-year level dollar amortization of unfunded liability
Discount rate	8.00%
Inflation	3.125%
Salary increases	Varies by age from 3.50% to 7.017%
Mortality	Healthy: 1994 Group Annuity Mortality Table Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table

**Employees Retirement System of the City of St. Louis  
Other Supplementary Information  
Analysis of Financial Experience  
Years Ended September 30,**

**Gain and Loss in Unfunded Actuarial Liability During the Years Ended September 30 Resulting from Differences Between Assumed Experience and Actual Experience**

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>
Investment Experience	\$ (22,219,993)	\$ (9,504,274)	\$ (3,004,069)	\$ 533,258	\$ (2,743,842)	\$ 17,899,526	\$ (87,586)
Liability Experience	<u>(872,215)</u>	<u>13,001,556</u>	<u>4,322,571</u>	<u>3,695,678</u>	<u>6,114,189</u>	<u>7,265,891</u>	<u>8,391,763</u>
Gain (or Loss) During Year from Combined Experience	(23,092,208)	3,497,282	1,318,502	4,228,936	3,370,347	25,165,417	8,304,177
Non-Recurring Gain (or Loss) Items	-	-	-	-	20,389,054	-	-
Composite Gain (or Loss) During Year	<u>\$ (23,092,208)</u>	<u>\$ 3,497,282</u>	<u>\$ 1,318,502</u>	<u>\$ 4,228,936</u>	<u>\$ 23,759,401</u>	<u>\$ 25,165,417</u>	<u>\$ 8,304,177</u>



**Employees Retirement System of the City of St. Louis**  
**Other Supplementary Information**  
**Solvency Test - Aggregate Actuarial Liabilities**  
**September 30, 2019**

Valuation date	Active member contributions	Retirees & beneficiaries	Active member employer financed contributions	Actuarial value of reported assets	Portion of actuarial liabilities covered by reported assets		
	(1)	(2)	(3)		(1)	(2)	(3)
October 1, 2019	\$ -	\$ 589,148,288	\$ 426,306,456	\$ 830,686,015	100%	100%	57%
2018	-	563,779,679	432,763,603	831,005,302	100%	100%	62%
2017	-	540,747,179	449,883,176	818,839,562	100%	100%	62%
2016	-	517,161,890	456,981,189	797,664,391	100%	100%	61%
2015	-	501,123,197	453,997,444	770,006,025	100%	100%	59%
2014	-	494,664,459	417,314,687	737,967,928	100%	100%	58%
2013	-	475,937,321	413,511,258	685,397,323	100%	100%	51%
2012	-	460,581,077	406,310,985	653,001,852	100%	100%	47%
2011	-	411,520,555	400,242,766	661,932,240	100%	100%	55%
2010	-	419,717,802	400,951,838	671,608,995	100%	100%	63%

**Employees Retirement System of the City of St. Louis**  
**Other Supplementary Information**  
**Schedule of Funding Progress**  
**September 30, 2019**

Actuarial Valuation Date October 1,	Actuarial Value of Assets	Actuarial Liability	Unfunded Actuarial Liability	Funded Ratio	Covered Pension Payroll	Percentage of Covered Payroll
2019	\$ 830,686,015	\$ 1,015,454,744	\$ 184,768,729	81.80 %	\$ 228,673,586	80.80 %
2018	831,005,302	996,543,282	165,537,980	83.39 %	228,447,481	72.46 %
2017	818,839,562	990,630,355	171,790,793	82.66 %	227,253,901	75.59 %
2016	797,664,391	974,143,079	176,478,688	81.88 %	226,907,701	77.78 %
2015	770,006,025	955,120,641	185,114,616	80.62 %	228,422,585	81.04 %
2014	737,967,928	911,979,146	174,011,218	80.92 %	227,039,143	76.64 %
2013	685,397,323	889,448,579	204,051,256	77.06 %	224,623,445	90.84 %
2012	653,001,852	866,890,445	213,888,593	75.33 %	224,822,252	95.14 %
2011	661,932,240	841,763,321	179,831,081	78.64 %	223,060,719	80.62 %
2010	671,608,995	820,669,641	149,060,646	81.84 %	232,451,661	64.13 %

**Employees Retirement System of the City of St. Louis**  
**Other Supplementary Information**  
**Schedule of Actuarial Present Values of Projected Benefit Payments**  
**September 30, 2019**

Fiscal Years Ending 9/30	Benefit Payments				Present Value of Benefit Payments		
	Beginning Fiduciary Net Position	Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.50%	Unfunded Portion at 2.66%	Using a Single Discount Rate of 7.50%
2019	\$ 797,777,721	\$ 76,499,651	\$ 76,499,651	\$ -	\$ 73,782,815	\$ -	\$ 73,782,815
2020	\$ 811,139,690	\$ 77,005,577	\$ 77,005,577	\$ -	\$ 69,089,091	\$ -	\$ 69,089,091
2021	\$ 824,181,661	\$ 78,199,254	\$ 78,199,254	\$ -	\$ 65,265,167	\$ -	\$ 65,265,167
2022	\$ 836,691,413	\$ 80,172,465	\$ 80,172,465	\$ -	\$ 62,243,731	\$ -	\$ 62,243,731
2023	\$ 848,578,720	\$ 81,277,692	\$ 81,277,692	\$ -	\$ 58,699,347	\$ -	\$ 58,699,347
2024	\$ 860,670,884	\$ 86,370,062	\$ 86,370,062	\$ -	\$ 58,025,204	\$ -	\$ 58,025,204
2025	\$ 868,127,105	\$ 89,053,568	\$ 89,053,568	\$ -	\$ 55,653,990	\$ -	\$ 55,653,990
2026	\$ 873,255,363	\$ 93,874,906	\$ 93,874,906	\$ -	\$ 54,574,031	\$ -	\$ 54,574,031
2027	\$ 873,753,105	\$ 95,979,855	\$ 95,979,855	\$ -	\$ 51,904,874	\$ -	\$ 51,904,874
2028	\$ 872,214,244	\$ 95,016,025	\$ 95,016,025	\$ -	\$ 47,798,740	\$ -	\$ 47,798,740
2029	\$ 871,821,690	\$ 93,937,103	\$ 93,937,103	\$ -	\$ 43,959,049	\$ -	\$ 43,959,049
2030	\$ 872,868,728	\$ 93,184,046	\$ 93,184,046	\$ -	\$ 40,564,322	\$ -	\$ 40,564,322
2031	\$ 875,194,140	\$ 92,600,873	\$ 92,600,873	\$ -	\$ 37,498,101	\$ -	\$ 37,498,101
2032	\$ 878,776,850	\$ 91,243,591	\$ 91,243,591	\$ -	\$ 34,370,678	\$ -	\$ 34,370,678
2033	\$ 884,594,939	\$ 90,415,918	\$ 90,415,918	\$ -	\$ 31,682,698	\$ -	\$ 31,682,698
2034	\$ 892,282,702	\$ 88,805,646	\$ 88,805,646	\$ -	\$ 28,947,388	\$ -	\$ 28,947,388
2035	\$ 902,852,337	\$ 87,267,623	\$ 87,267,623	\$ -	\$ 26,461,441	\$ -	\$ 26,461,441
2036	\$ 890,225,824	\$ 85,239,178	\$ 85,239,178	\$ -	\$ 24,043,137	\$ -	\$ 24,043,137
2037	\$ 879,773,936	\$ 84,635,478	\$ 84,635,478	\$ -	\$ 22,207,305	\$ -	\$ 22,207,305
2038	\$ 869,591,359	\$ 82,046,302	\$ 82,046,302	\$ -	\$ 20,025,988	\$ -	\$ 20,025,988
2039	\$ 861,957,673	\$ 80,820,716	\$ 80,820,716	\$ -	\$ 18,350,554	\$ -	\$ 18,350,554
2040	\$ 851,969,660	\$ 78,963,328	\$ 78,963,328	\$ -	\$ 16,677,981	\$ -	\$ 16,677,981
2041	\$ 842,180,078	\$ 76,883,532	\$ 76,883,532	\$ -	\$ 15,105,771	\$ -	\$ 15,105,771
2042	\$ 832,509,036	\$ 75,020,594	\$ 75,020,594	\$ -	\$ 13,711,393	\$ -	\$ 13,711,393
2043	\$ 821,902,890	\$ 73,352,955	\$ 73,352,955	\$ -	\$ 12,471,257	\$ -	\$ 12,471,257
2044	\$ 810,492,511	\$ 71,029,368	\$ 71,029,368	\$ -	\$ 11,233,682	\$ -	\$ 11,233,682
2045	\$ 800,439,592	\$ 68,914,116	\$ 68,914,116	\$ -	\$ 10,138,738	\$ -	\$ 10,138,738
2046	\$ 791,632,697	\$ 67,122,735	\$ 67,122,735	\$ -	\$ 9,186,221	\$ -	\$ 9,186,221
2047	\$ 783,843,393	\$ 64,694,709	\$ 64,694,709	\$ -	\$ 8,236,212	\$ -	\$ 8,236,212
2048	\$ 777,828,968	\$ 63,088,143	\$ 63,088,143	\$ -	\$ 7,471,332	\$ -	\$ 7,471,332
2049	\$ 772,874,906	\$ 61,355,389	\$ 61,355,389	\$ -	\$ 6,759,188	\$ -	\$ 6,759,188
2050	\$ 769,226,763	\$ 59,222,116	\$ 59,222,116	\$ -	\$ 6,069,002	\$ -	\$ 6,069,002
2051	\$ 767,406,283	\$ 57,641,055	\$ 57,641,055	\$ -	\$ 5,494,863	\$ -	\$ 5,494,863
2052	\$ 767,019,942	\$ 55,855,782	\$ 55,855,782	\$ -	\$ 4,953,185	\$ -	\$ 4,953,185
2053	\$ 768,433,727	\$ 53,688,897	\$ 53,688,897	\$ -	\$ 4,428,865	\$ -	\$ 4,428,865
2054	\$ 772,202,780	\$ 52,159,616	\$ 52,159,616	\$ -	\$ 4,002,524	\$ -	\$ 4,002,524
2055	\$ 777,848,817	\$ 49,174,588	\$ 49,174,588	\$ -	\$ 3,510,199	\$ -	\$ 3,510,199
2056	\$ 787,047,569	\$ 46,764,611	\$ 46,764,611	\$ -	\$ 3,105,274	\$ -	\$ 3,105,274
2057	\$ 799,477,040	\$ 43,734,922	\$ 43,734,922	\$ -	\$ 2,701,485	\$ -	\$ 2,701,485
2058	\$ 816,041,559	\$ 40,781,725	\$ 40,781,725	\$ -	\$ 2,343,318	\$ -	\$ 2,343,318
2059	\$ 836,985,534	\$ 38,368,935	\$ 38,368,935	\$ -	\$ 2,050,864	\$ -	\$ 2,050,864
2060	\$ 862,086,146	\$ 36,178,672	\$ 36,178,672	\$ -	\$ 1,798,877	\$ -	\$ 1,798,877
2061	\$ 891,435,658	\$ 34,064,432	\$ 34,064,432	\$ -	\$ 1,575,583	\$ -	\$ 1,575,583
2062	\$ 925,286,857	\$ 32,008,382	\$ 32,008,382	\$ -	\$ 1,377,195	\$ -	\$ 1,377,195
2063	\$ 963,930,686	\$ 30,006,137	\$ 30,006,137	\$ -	\$ 1,200,974	\$ -	\$ 1,200,974
2064	\$ 1,007,685,126	\$ 28,055,543	\$ 28,055,543	\$ -	\$ 1,044,560	\$ -	\$ 1,044,560
2065	\$ 1,056,895,095	\$ 26,152,720	\$ 26,152,720	\$ -	\$ 905,781	\$ -	\$ 905,781
2066	\$ 1,111,936,333	\$ 24,294,825	\$ 24,294,825	\$ -	\$ 782,730	\$ -	\$ 782,730
2067	\$ 1,173,216,807	\$ 22,485,001	\$ 22,485,001	\$ -	\$ 673,880	\$ -	\$ 673,880
2068	\$ 1,241,172,971	\$ 20,727,846	\$ 20,727,846	\$ -	\$ 577,877	\$ -	\$ 577,877

**Employees Retirement System of the City of St. Louis**  
**Other Supplementary Information**  
**Schedule of Actuarial Present Values of Projected Benefit Payments (continued)**  
**September 30, 2019**

Fiscal Years Ending 9/30	Beginning Fiduciary Net Position	Benefit Payments			Present Value of Benefit Payments		
		Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.50%	Unfunded Portion at 2.66%	Using a Single Discount Rate of 7.50%
2069	\$ 1,316,270,425	\$ 19,027,448	\$ 19,027,448	\$ -	\$ 493,461	\$ -	\$ 493,461
2070	\$ 1,399,006,773	\$ 17,390,422	\$ 17,390,422	\$ -	\$ 419,541	\$ -	\$ 419,541
2071	\$ 1,489,911,468	\$ 15,820,502	\$ 15,820,502	\$ -	\$ 355,039	\$ -	\$ 355,039
2072	\$ 1,589,551,343	\$ 14,318,971	\$ 14,318,971	\$ -	\$ 298,923	\$ -	\$ 298,923
2073	\$ 1,698,536,101	\$ 12,888,492	\$ 12,888,492	\$ -	\$ 250,288	\$ -	\$ 250,288
2074	\$ 1,817,520,209	\$ 11,532,337	\$ 11,532,337	\$ -	\$ 208,328	\$ -	\$ 208,328
2075	\$ 1,947,205,756	\$ 10,253,630	\$ 10,253,630	\$ -	\$ 172,306	\$ -	\$ 172,306
2076	\$ 2,088,346,321	\$ 9,053,632	\$ 9,053,632	\$ -	\$ 141,526	\$ -	\$ 141,526
2077	\$ 2,241,752,942	\$ 7,933,787	\$ 7,933,787	\$ -	\$ 115,368	\$ -	\$ 115,368
2078	\$ 2,408,298,406	\$ 6,897,026	\$ 6,897,026	\$ -	\$ 93,295	\$ -	\$ 93,295
2079	\$ 2,588,920,505	\$ 5,945,241	\$ 5,945,241	\$ -	\$ 74,810	\$ -	\$ 74,810
2080	\$ 2,784,628,197	\$ 5,077,512	\$ 5,077,512	\$ -	\$ 59,433	\$ -	\$ 59,433
2081	\$ 2,996,510,103	\$ 4,293,351	\$ 4,293,351	\$ -	\$ 46,748	\$ -	\$ 46,748
2082	\$ 3,225,740,269	\$ 3,592,936	\$ 3,592,936	\$ -	\$ 36,393	\$ -	\$ 36,393
2083	\$ 3,473,584,127	\$ 2,973,919	\$ 2,973,919	\$ -	\$ 28,021	\$ -	\$ 28,021
2084	\$ 3,741,408,275	\$ 2,432,878	\$ 2,432,878	\$ -	\$ 21,324	\$ -	\$ 21,324
2085	\$ 4,030,689,490	\$ 1,966,339	\$ 1,966,339	\$ -	\$ 16,032	\$ -	\$ 16,032
2086	\$ 4,343,023,375	\$ 1,569,924	\$ 1,569,924	\$ -	\$ 11,907	\$ -	\$ 11,907
2087	\$ 4,680,134,579	\$ 1,237,539	\$ 1,237,539	\$ -	\$ 8,731	\$ -	\$ 8,731
2088	\$ 5,043,888,657	\$ 962,801	\$ 962,801	\$ -	\$ 6,319	\$ -	\$ 6,319
2089	\$ 5,436,303,362	\$ 739,088	\$ 739,088	\$ -	\$ 4,512	\$ -	\$ 4,512
2090	\$ 5,859,560,772	\$ 559,907	\$ 559,907	\$ -	\$ 3,180	\$ -	\$ 3,180
2091	\$ 6,316,019,965	\$ 418,407	\$ 418,407	\$ -	\$ 2,210	\$ -	\$ 2,210
2092	\$ 6,808,231,208	\$ 308,243	\$ 308,243	\$ -	\$ 1,515	\$ -	\$ 1,515
2093	\$ 7,338,950,334	\$ 223,894	\$ 223,894	\$ -	\$ 1,024	\$ -	\$ 1,024
2094	\$ 7,911,153,913	\$ 160,282	\$ 160,282	\$ -	\$ 682	\$ -	\$ 682
2095	\$ 8,528,056,010	\$ 112,982	\$ 112,982	\$ -	\$ 447	\$ -	\$ 447
2096	\$ 9,193,126,021	\$ 78,424	\$ 78,424	\$ -	\$ 289	\$ -	\$ 289
2097	\$ 9,910,107,695	\$ 53,593	\$ 53,593	\$ -	\$ 183	\$ -	\$ 183
2098	\$ 10,683,039,953	\$ 36,061	\$ 36,061	\$ -	\$ 115	\$ -	\$ 115
2099	\$ 11,516,279,293	\$ 23,912	\$ 23,912	\$ -	\$ 71	\$ -	\$ 71
2100	\$ 12,414,524,027	\$ 15,650	\$ 15,650	\$ -	\$ 43	\$ -	\$ 43
2101	\$ 13,382,840,507	\$ 10,102	\$ 10,102	\$ -	\$ 26	\$ -	\$ 26
2102	\$ 14,426,691,484	\$ 6,429	\$ 6,429	\$ -	\$ 15	\$ -	\$ 15
2103	\$ 15,551,966,685	\$ 4,035	\$ 4,035	\$ -	\$ 9	\$ -	\$ 9
2104	\$ 16,765,015,859	\$ 2,499	\$ 2,499	\$ -	\$ 5	\$ -	\$ 5
2105	\$ 18,072,684,478	\$ 1,527	\$ 1,527	\$ -	\$ 3	\$ -	\$ 3
2106	\$ 19,482,352,268	\$ 920	\$ 920	\$ -	\$ 2	\$ -	\$ 2
2107	\$ 21,001,974,781	\$ 547	\$ 547	\$ -	\$ 1	\$ -	\$ 1
2108	\$ 22,640,128,241	\$ 320	\$ 320	\$ -	\$ -	\$ -	\$ -
2109	\$ 24,406,057,908	\$ 182	\$ 182	\$ -	\$ -	\$ -	\$ -
2110	\$ 26,309,730,234	\$ 101	\$ 101	\$ -	\$ -	\$ -	\$ -
2111	\$ 28,361,889,086	\$ 54	\$ 54	\$ -	\$ -	\$ -	\$ -
2112	\$ 30,574,116,378	\$ 25	\$ 25	\$ -	\$ -	\$ -	\$ -
2113	\$ 32,958,897,429	\$ 11	\$ 11	\$ -	\$ -	\$ -	\$ -
2114	\$ 35,529,691,417	\$ 4	\$ 4	\$ -	\$ -	\$ -	\$ -
2115	\$ 38,301,007,343	\$ 2	\$ 2	\$ -	\$ -	\$ -	\$ -
2116	\$ 41,288,485,914	\$ 1	\$ 1	\$ -	\$ -	\$ -	\$ -
2117	\$ 44,508,987,814	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Employees Retirement System of the City of St. Louis**  
**Other Supplementary Information**  
**Schedule of Projection of Fiduciary Net Position**  
**September 30, 2019**

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2019	\$ 797,777,721	\$ 30,122,000	\$ 76,499,651	\$ 686,021	\$ 60,425,640	\$ 811,139,689
2020	\$ 811,139,689	\$ 29,320,440	\$ 77,005,576	\$ 690,558	\$ 61,417,665	\$ 824,181,659
2021	\$ 824,181,659	\$ 29,032,440	\$ 78,199,254	\$ 701,262	\$ 62,377,828	\$ 836,691,411
2022	\$ 836,691,411	\$ 29,484,045	\$ 80,172,465	\$ 718,957	\$ 63,294,683	\$ 848,578,717
2023	\$ 848,578,717	\$ 29,903,454	\$ 81,277,691	\$ 728,868	\$ 64,195,269	\$ 860,670,880
2024	\$ 860,670,880	\$ 29,667,991	\$ 86,370,062	\$ 774,535	\$ 64,932,826	\$ 868,127,100
2025	\$ 868,127,100	\$ 29,573,252	\$ 89,053,568	\$ 798,600	\$ 65,407,173	\$ 873,255,358
2026	\$ 873,255,358	\$ 29,592,718	\$ 93,874,906	\$ 841,836	\$ 65,621,766	\$ 873,753,100
2027	\$ 873,753,100	\$ 29,717,610	\$ 95,979,855	\$ 860,712	\$ 65,584,095	\$ 872,214,238
2028	\$ 872,214,238	\$ 29,964,802	\$ 95,016,025	\$ 852,069	\$ 65,510,737	\$ 871,821,683
2029	\$ 871,821,683	\$ 30,292,227	\$ 93,937,103	\$ 842,393	\$ 65,534,306	\$ 872,868,721
2030	\$ 872,868,721	\$ 30,685,015	\$ 93,184,046	\$ 835,640	\$ 65,660,082	\$ 875,194,132
2031	\$ 875,194,132	\$ 31,132,874	\$ 92,600,873	\$ 830,411	\$ 65,881,120	\$ 878,776,842
2032	\$ 878,776,842	\$ 31,647,257	\$ 91,243,591	\$ 818,239	\$ 66,232,662	\$ 884,594,930
2033	\$ 884,594,930	\$ 32,175,839	\$ 90,415,917	\$ 810,817	\$ 66,738,657	\$ 892,282,692
2034	\$ 892,282,692	\$ 32,749,236	\$ 88,805,645	\$ 796,376	\$ 67,422,420	\$ 902,852,327
2035	\$ 902,852,327	\$ 8,062,176	\$ 87,267,622	\$ 782,584	\$ 67,361,516	\$ 890,225,812
2036	\$ 890,225,812	\$ 9,058,584	\$ 85,239,178	\$ 764,394	\$ 66,493,099	\$ 879,773,924
2037	\$ 879,773,924	\$ 9,494,054	\$ 84,635,478	\$ 758,980	\$ 65,717,826	\$ 869,591,346
2038	\$ 869,591,346	\$ 10,101,572	\$ 82,046,302	\$ 735,761	\$ 65,046,803	\$ 861,957,659
2039	\$ 861,957,659	\$ 7,170,925	\$ 80,820,716	\$ 724,770	\$ 64,386,547	\$ 851,969,645
2040	\$ 851,969,645	\$ 6,238,349	\$ 78,963,328	\$ 708,114	\$ 63,643,510	\$ 842,180,062
2041	\$ 842,180,062	\$ 4,989,517	\$ 76,883,532	\$ 689,463	\$ 62,912,436	\$ 832,509,019
2042	\$ 832,509,019	\$ 2,935,771	\$ 75,020,594	\$ 672,757	\$ 62,151,432	\$ 821,902,871
2043	\$ 821,902,871	\$ 1,275,374	\$ 73,352,954	\$ 657,802	\$ 61,325,002	\$ 810,492,491
2044	\$ 810,492,491	\$ 1,095,585	\$ 71,029,368	\$ 636,965	\$ 60,517,828	\$ 800,439,570
2045	\$ 800,439,570	\$ 916,689	\$ 68,914,116	\$ 617,996	\$ 59,808,526	\$ 791,632,674
2046	\$ 791,632,674	\$ 750,950	\$ 67,122,735	\$ 601,932	\$ 59,184,413	\$ 783,843,369
2047	\$ 783,843,369	\$ 595,783	\$ 64,694,709	\$ 580,158	\$ 58,664,657	\$ 777,828,942
2048	\$ 777,828,942	\$ 447,926	\$ 63,088,143	\$ 565,751	\$ 58,251,905	\$ 772,874,878
2049	\$ 772,874,878	\$ 329,593	\$ 61,355,389	\$ 550,213	\$ 57,927,863	\$ 769,226,733
2050	\$ 769,226,733	\$ 211,557	\$ 59,222,116	\$ 531,082	\$ 57,721,158	\$ 767,406,250
2051	\$ 767,406,250	\$ 134,363	\$ 57,641,055	\$ 516,904	\$ 57,637,253	\$ 767,019,907
2052	\$ 767,019,907	\$ 95,881	\$ 55,855,781	\$ 500,894	\$ 57,674,577	\$ 768,433,689
2053	\$ 768,433,689	\$ 71,814	\$ 53,688,897	\$ 481,462	\$ 57,867,596	\$ 772,202,740
2054	\$ 772,202,740	\$ 53,471	\$ 52,159,616	\$ 467,748	\$ 58,219,927	\$ 777,848,774
2055	\$ 777,848,774	\$ 39,286	\$ 49,174,588	\$ 440,980	\$ 58,775,030	\$ 787,047,522
2056	\$ 787,047,522	\$ 28,284	\$ 46,764,611	\$ 419,368	\$ 59,585,163	\$ 799,476,990
2057	\$ 799,476,990	\$ 20,301	\$ 43,734,922	\$ 392,199	\$ 60,671,335	\$ 816,041,505
2058	\$ 816,041,505	\$ 14,251	\$ 40,781,725	\$ 365,716	\$ 62,077,161	\$ 836,985,476
2059	\$ 836,985,476	\$ 9,839	\$ 38,368,935	\$ 344,079	\$ 63,803,782	\$ 862,086,084
2060	\$ 862,086,084	\$ 6,544	\$ 36,178,671	\$ 324,437	\$ 65,846,072	\$ 891,435,591
2061	\$ 891,435,591	\$ 4,225	\$ 34,064,432	\$ 305,477	\$ 68,216,877	\$ 925,286,785
2062	\$ 925,286,785	\$ 2,650	\$ 32,008,382	\$ 287,039	\$ 70,936,596	\$ 963,930,609
2063	\$ 963,930,609	\$ 1,572	\$ 30,006,137	\$ 269,084	\$ 74,028,082	\$ 1,007,685,043
2064	\$ 1,007,685,043	\$ 882	\$ 28,055,543	\$ 251,592	\$ 77,516,216	\$ 1,056,895,006
2065	\$ 1,056,895,006	\$ 433	\$ 26,152,720	\$ 234,528	\$ 81,428,045	\$ 1,111,936,236
2066	\$ 1,111,936,236	\$ 172	\$ 24,294,825	\$ 217,867	\$ 85,792,986	\$ 1,173,216,702
2067	\$ 1,173,216,702	\$ 57	\$ 22,485,001	\$ 201,637	\$ 90,642,738	\$ 1,241,172,859
2068	\$ 1,241,172,859	\$ 9	\$ 20,727,846	\$ 185,880	\$ 96,011,161	\$ 1,316,270,304

**Employees Retirement System of the City of St. Louis**  
**Other Supplementary Information**  
**Schedule of Projection of Fiduciary Net Position (continued)**  
**September 30, 2019**

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2069	\$ 1,316,270,304	\$ 2	\$ 19,027,447	\$ 170,631	\$ 101,934,416	\$ 1,399,006,643
2070	\$ 1,399,006,643	\$ -	\$ 17,390,422	\$ 155,951	\$ 108,451,057	\$ 1,489,911,327
2071	\$ 1,489,911,327	\$ -	\$ 15,820,502	\$ 141,872	\$ 115,602,239	\$ 1,589,551,192
2072	\$ 1,589,551,192	\$ -	\$ 14,318,971	\$ 128,407	\$ 123,432,124	\$ 1,698,535,938
2073	\$ 1,698,535,938	\$ -	\$ 12,888,492	\$ 115,579	\$ 131,988,166	\$ 1,817,520,033
2074	\$ 1,817,520,033	\$ -	\$ 11,532,337	\$ 103,418	\$ 141,321,288	\$ 1,947,205,566
2075	\$ 1,947,205,566	\$ -	\$ 10,253,630	\$ 91,951	\$ 151,486,132	\$ 2,088,346,117
2076	\$ 2,088,346,117	\$ -	\$ 9,053,632	\$ 81,190	\$ 162,541,428	\$ 2,241,752,722
2077	\$ 2,241,752,722	\$ -	\$ 7,933,787	\$ 71,147	\$ 174,550,381	\$ 2,408,298,169
2078	\$ 2,408,298,169	\$ -	\$ 6,897,026	\$ 61,850	\$ 187,580,956	\$ 2,588,920,249
2079	\$ 2,588,920,249	\$ -	\$ 5,945,241	\$ 53,315	\$ 201,706,228	\$ 2,784,627,921
2080	\$ 2,784,627,921	\$ -	\$ 5,077,512	\$ 45,533	\$ 217,004,930	\$ 2,996,509,806
2081	\$ 2,996,509,806	\$ -	\$ 4,293,351	\$ 38,501	\$ 233,561,994	\$ 3,225,739,948
2082	\$ 3,225,739,948	\$ -	\$ 3,592,936	\$ 32,220	\$ 251,468,989	\$ 3,473,583,782
2083	\$ 3,473,583,782	\$ -	\$ 2,973,919	\$ 26,669	\$ 270,824,709	\$ 3,741,407,903
2084	\$ 3,741,407,903	\$ -	\$ 2,432,878	\$ 21,817	\$ 291,735,881	\$ 4,030,689,088
2085	\$ 4,030,689,088	\$ -	\$ 1,966,339	\$ 17,633	\$ 314,317,827	\$ 4,343,022,942
2086	\$ 4,343,022,942	\$ -	\$ 1,569,924	\$ 14,079	\$ 338,695,173	\$ 4,680,134,113
2087	\$ 4,680,134,113	\$ -	\$ 1,237,539	\$ 11,098	\$ 365,002,678	\$ 5,043,888,154
2088	\$ 5,043,888,154	\$ -	\$ 962,801	\$ 8,634	\$ 393,386,101	\$ 5,436,302,820
2089	\$ 5,436,302,820	\$ -	\$ 739,088	\$ 6,628	\$ 424,003,083	\$ 5,859,560,187
2090	\$ 5,859,560,187	\$ -	\$ 559,907	\$ 5,021	\$ 457,024,076	\$ 6,316,019,335
2091	\$ 6,316,019,335	\$ -	\$ 418,407	\$ 3,752	\$ 492,633,353	\$ 6,808,230,529
2092	\$ 6,808,230,529	\$ -	\$ 308,243	\$ 2,764	\$ 531,030,080	\$ 7,338,949,602
2093	\$ 7,338,949,602	\$ -	\$ 223,894	\$ 2,008	\$ 572,429,424	\$ 7,911,153,124
2094	\$ 7,911,153,124	\$ -	\$ 160,282	\$ 1,437	\$ 617,063,755	\$ 8,528,055,160
2095	\$ 8,528,055,160	\$ -	\$ 112,982	\$ 1,013	\$ 665,183,940	\$ 9,193,125,104
2096	\$ 9,193,125,104	\$ -	\$ 78,424	\$ 703	\$ 717,060,730	\$ 9,910,106,707
2097	\$ 9,910,106,707	\$ -	\$ 53,593	\$ 481	\$ 772,986,254	\$ 10,683,038,888
2098	\$ 10,683,038,888	\$ -	\$ 36,061	\$ 323	\$ 833,275,641	\$ 11,516,278,144
2099	\$ 11,516,278,144	\$ -	\$ 23,912	\$ 214	\$ 898,268,772	\$ 12,414,522,789
2100	\$ 12,414,522,789	\$ -	\$ 15,650	\$ 140	\$ 968,332,173	\$ 13,382,839,172
2101	\$ 13,382,839,172	\$ -	\$ 10,102	\$ 91	\$ 1,043,861,065	\$ 14,426,690,044
2102	\$ 14,426,690,044	\$ -	\$ 6,429	\$ 58	\$ 1,125,281,575	\$ 15,551,965,133
2103	\$ 15,551,965,133	\$ -	\$ 4,035	\$ 36	\$ 1,213,053,125	\$ 16,765,014,186
2104	\$ 16,765,014,186	\$ -	\$ 2,499	\$ 22	\$ 1,307,671,010	\$ 18,072,682,675
2105	\$ 18,072,682,675	\$ -	\$ 1,527	\$ 14	\$ 1,409,669,190	\$ 19,482,350,324
2106	\$ 19,482,350,324	\$ -	\$ 920	\$ 8	\$ 1,519,623,290	\$ 21,001,972,686
2107	\$ 21,001,972,686	\$ -	\$ 547	\$ 5	\$ 1,638,153,848	\$ 22,640,125,982
2108	\$ 22,640,125,982	\$ -	\$ 320	\$ 3	\$ 1,765,929,814	\$ 24,406,055,473
2109	\$ 24,406,055,473	\$ -	\$ 182	\$ 2	\$ 1,903,672,320	\$ 26,309,727,609
2110	\$ 26,309,727,609	\$ -	\$ 101	\$ 1	\$ 2,052,158,750	\$ 28,361,886,256
2111	\$ 28,361,886,256	\$ -	\$ 54	\$ -	\$ 2,212,227,126	\$ 30,574,113,328
2112	\$ 30,574,113,328	\$ -	\$ 25	\$ -	\$ 2,384,780,839	\$ 32,958,894,141
2113	\$ 32,958,894,141	\$ -	\$ 11	\$ -	\$ 2,570,793,743	\$ 35,529,687,872
2114	\$ 35,529,687,872	\$ -	\$ 4	\$ -	\$ 2,771,315,654	\$ 38,301,003,522
2115	\$ 38,301,003,522	\$ -	\$ 2	\$ -	\$ 2,987,478,275	\$ 41,288,481,795
2116	\$ 41,288,481,795	\$ -	\$ 1	\$ -	\$ 3,220,501,580	\$ 44,508,983,374
2117	\$ 44,508,983,374	\$ -	\$ -	\$ -	\$ 3,471,700,703	\$ 47,980,684,077