

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS

**FINANCIAL STATEMENTS
WITH REQUIRED SUPPLEMENTARY INFORMATION
AND OTHER SUPPLEMENTARY INFORMATION
AND
INDEPENDENT AUDITORS' REPORT
YEARS ENDED SEPTEMBER 30, 2022 AND 2021**

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Independent Auditors' Report

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

Opinion

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 statements of fiduciary net position as of September 30, 2022 and 2021, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

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, 2022 and 2021, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

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 is the responsibility of management and 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 audits 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 audits were conducted for the purpose of forming an opinion on the System's basic financial statements. The other supplementary information on pages 36 - 42 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audits 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 27, 2023

**Employees Retirement System of the City of St. Louis
Management's Discussion and Analysis - Unaudited
Years Ended September 30, 2022 and 2021**

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 years ended September 30, 2022 and 2021. This section should be read in conjunction with the System's financial statements and supplementary information.

FINANCIAL HIGHLIGHTS

The System's investments suffered a loss of 13.5% for the fiscal year as the economy continues to recover from the COVID-19 pandemic. High inflation and rising interest rates by the Federal Reserve dragged down equities and fixed income. Domestic and international equities experienced losses of 20.4% and 26.8%, respectively. Fixed income retreated by 11.5% after a strong FY 2021 marked by low interest rates. Real estate was the only bright spot posting a positive return of 23.3%. Total assets ended the fiscal year at \$761.4 million, a decrease of \$161.3 million.

Pension and retirement benefits increased 2.6% or \$1.94 million to \$76.2 million. The number of retirees and beneficiaries receiving a monthly benefit increased 1.9% to 5,052. Administrative expenses for the fiscal year increased \$510,105 to \$1,429,904 due to expenses of \$459,579 incurred with the development of software interface programs connected with the City of St. Louis' new payroll system.

FINANCIAL STATEMENTS

The financial report of 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 details 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, 2022 and 2021 of \$758.9 million and \$ 923.00 million, respectively, were comprised of cash, investments and receivables. Investments decreased significantly by \$163.2 million or 18% to \$756.3 million in FY 2022 while in FY 2021 the investments showed a substantial increase of \$119.7 million or 15% to \$919.5 million. The major decrease in the value of the investment occurred in the second half of the fiscal year when the financial markets were simultaneously affected by high inflation and rising interest rates.

**Employees Retirement System of the City of St. Louis
Management's Discussion and Analysis - Unaudited
Years Ended September 30, 2022 and 2021**

Receivables increased by \$373,120 and consisted of employer contributions and interest and dividend income at September 30, 2022. Currency exchange contracts ended FY 2022 as a net receivable but showed a slight decline of \$148,251. The System does not participate in a securities lending program with its master custodian, U.S. Bank.

Total liabilities at September 30, 2022 and 2021 were \$917,601 and \$1,072,479, respectively, and consisted of accounts payable, accrued expenses and global lending collateral. The reduction in liabilities is primarily attributed to the decrease of \$204,347 in accrued investment management fees and a small increase of \$62,000 in global lending collateral.

Net assets held in trust for pension benefits decreased by \$ 163.9 million to \$ 758.0 million.

Condensed Statements of Fiduciary Net Position

	<u>2022</u>	<u>September 30 2021</u>	<u>2020</u>	<u>Total Change FY 2022</u>		<u>Total Change FY 2021</u>	
				Amount	Percentage	Amount	Percentage
Assets							
Cash	\$ 272,657	\$ 1,328,823	\$ 897,869	\$ (1,056,166)	(79.5)%	\$ 430,954	48.0 %
Receivables	1,305,234	932,114	849,114	373,120	40.0 %	83,000	9.8 %
Investments	<u>756,264,817</u>	<u>919,489,621</u>	<u>799,745,259</u>	<u>(163,224,804)</u>	<u>(17.8)%</u>	<u>119,744,362</u>	<u>15.0 %</u>
Total Assets	<u>757,842,708</u>	<u>921,750,558</u>	<u>801,492,242</u>	<u>(163,907,850)</u>	<u>(17.8)%</u>	<u>120,258,316</u>	<u>15.0 %</u>
Deferred Outflows of Resources							
Currency exchange	<u>1,061,494</u>	<u>1,209,745</u>	<u>670,573</u>	<u>(148,251)</u>	<u>(12.3)%</u>	<u>539,172</u>	<u>80.4 %</u>
Total Assets and Deferred Outflows	<u>758,904,202</u>	<u>922,960,303</u>	<u>802,162,815</u>	<u>(164,056,101)</u>	<u>(17.8)%</u>	<u>120,797,488</u>	<u>15.1 %</u>
Liabilities							
Accounts payable	587,601	804,479	632,417	(216,878)	(27.0)%	172,062	27.2 %
Global collateral	<u>330,000</u>	<u>268,000</u>	<u>263,920</u>	<u>62,000</u>	<u>23.1 %</u>	<u>4,080</u>	<u>1.5 %</u>
Total Liabilities	<u>917,601</u>	<u>1,072,479</u>	<u>896,337</u>	<u>(154,878)</u>	<u>(14.4)%</u>	<u>176,142</u>	<u>19.7 %</u>
Deferred Inflows of Resources							
Deferred inflows of resources	-	<u>1,098,021</u>	<u>974,801</u>	<u>(1,098,021)</u>	<u>(100.0)%</u>	<u>123,220</u>	<u>12.6 %</u>
Total Liabilities and Deferred Inflows of Resources	<u>917,601</u>	<u>2,170,500</u>	<u>1,871,138</u>	<u>(1,252,899)</u>	<u>(57.7)%</u>	<u>299,362</u>	<u>16.0 %</u>
Net Position Held in Trust for							
Pension Benefits	<u>\$ 757,986,601</u>	<u>\$ 920,789,803</u>	<u>\$ 800,291,677</u>	<u>\$(162,803,202)</u>	<u>(17.7)%</u>	<u>\$ 120,498,126</u>	<u>15.1 %</u>

**Employees Retirement System of the City of St. Louis
Management's Discussion and Analysis - Unaudited
Years Ended September 30, 2022 and 2021**

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 a negative \$123.2 million for FY 2022 contrasted to the FY 2021 number of \$162.7 million. Investment performance posted a positive return only in the first quarter of FY 2022 with a 4.3 % return. Subsequent quarters all suffered downturns with the third quarter (April-June) FY 2022 recording the largest decline of 10.4%. Overall, the System's investments ended for FY 2022 with a 13.5% loss. Investment losses were widespread in FY 2022 marked by significant downturns in domestic and international equities and fixed income. Those three market sectors were strong performers in the prior year. Net investment income included custodial and investment management fees of \$4.8 million and \$5.3 million during FY 2022 and FY 2021, respectively.

Employer contributions increased by \$5.1 million or 15.7% in FY 2022 with a higher employer contribution rate being the primary factor.

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. Retirement benefits totaled \$76.2 million in FY 2022.

Other expenses within retirement benefits include refunds of member contributions and pension service transfer payments to other public plans within the State of Missouri which have a portability agreement with the System.

Service transfer payments were \$36,576 and \$211,970 during FY 2022 and FY 2021, respectively.

There were no contribution refunds in the current fiscal year.

Administrative expenses increased more than 50%, the result of costs associated with the development of software interface programs.

**Employees Retirement System of the City of St. Louis
Management's Discussion and Analysis - Unaudited
Years Ended September 30, 2022 and 2021**

Condensed Statements of Changes in Fiduciary Net Position

	2022	September 30	2020	Total Change FY 2022		Total Change FY 2021	
		2021		Amount	Percentage	Percentage	Percentage
Additions							
Net investment income (loss)	\$(123,234,300)	\$ 162,693,935	\$ 43,257,885	\$ (285,928,235)	(175.7)%	\$ 119,436,050	276.1 %
Employer contributions	37,951,463	32,804,416	30,581,795	5,147,047	15.7 %	2,222,621	7.3 %
Member contributions	103,399	174,691	151,774	(71,292)	(40.8)%	22,917	15.1 %
Total Additions	<u>(85,179,438)</u>	<u>195,673,042</u>	<u>73,991,454</u>	<u>(280,852,480)</u>	<u>(143.5)%</u>	<u>121,681,588</u>	<u>164.5 %</u>
Deductions							
Retirement benefits	76,193,860	74,255,118	70,557,232	1,938,742	2.6 %	3,697,886	5.2 %
Administrative expenses	1,429,904	919,798	920,268	510,106	55.5 %	(470)	(0.1)%
Total Deductions	<u>77,623,764</u>	<u>75,174,916</u>	<u>71,477,500</u>	<u>2,448,848</u>	<u>3.3 %</u>	<u>3,697,416</u>	<u>5.2 %</u>
Changes in Fiduciary Net Position	(162,803,202)	120,498,126	2,513,954	(283,301,328)	(235.1)%	117,984,172	4,693.2 %
Net position held in trust for pension benefits							
Beginning of year	<u>920,789,801</u>	<u>800,291,675</u>	<u>797,777,721</u>	<u>120,498,126</u>	15.1 %	<u>2,513,954</u>	0.3 %
End of year	<u>\$ 757,986,599</u>	<u>\$ 920,789,801</u>	<u>\$ 800,291,675</u>	<u>\$ (162,803,202)</u>	(17.7)%	<u>\$ 120,498,126</u>	15.1 %

SUMMARY

The System's investments earned a -% for FY 2022 as the economic recovery continued after a turbulent prior fiscal year impacted by the COVID-19 pandemic. All asset classes participated with positive returns in the current fiscal year. The System's investments managed to post a positive return for FY 2021 of -% despite the global pandemic causing a loss of -% in the second quarter. The required employer contribution rates recommended by the actuary are currently -% for the City of St. Louis and -% for the other participating employers for the period July 1, 2022 through June 30, 2023. The prior year's contribution rates were -% and -%, respectively. The dual contribution rates are a result of a legal settlement involving the Retirement 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
Years Ended September 30, 2022 and 2021**

REQUESTS FOR INFORMATION

The System's investments loss 13.5% for FY 2022 as high inflation and rising interest rates simultaneously placed downward pressure on market values. Both, equities and fixed income, were negatively affected by the economic environment.

The required employer contribution rates recommended by the actuary are currently 15.44% for the City of St. Louis and 15.36% for the other participating employers for the period July 1, 2022 through June 30, 2023. The prior year's contribution rates were 15.42% and 15.34%, respectively. The dual contribution rates are a result of a legal settlement involving the Retirement 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.

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
Statements of Fiduciary Net Position
September 30, 2022 and 2021

Assets	<u>2022</u>	<u>2021</u>
Cash	\$ 272,657	\$ 1,328,823
Receivables		
Other receivables	339,636	19,787
Accrued interest	<u>965,598</u>	<u>912,327</u>
Total Receivables	<u>1,305,234</u>	<u>932,114</u>
Investments, at fair value		
Temporary cash investments	14,566,660	12,255,848
Fixed income securities	99,882,412	114,541,630
Common stocks	284,451,659	362,081,382
Mutual funds	17,843,880	-
Managed master limited partnerships	-	34,694,758
Managed international equity funds	91,132,215	139,853,161
Real estate funds	123,290,581	108,128,646
Domestic bond funds	22,267,947	35,899,456
Bank loan fund	43,078,260	44,151,927
Managed hedge fund of funds	<u>59,751,203</u>	<u>67,882,813</u>
Total Investments	<u>756,264,817</u>	<u>919,489,621</u>
Total Assets	<u>757,842,708</u>	<u>921,750,558</u>

Deferred Outflows of Resources

Receivable Under Forward Foreign Currency Exchange Contracts	<u>1,061,494</u>	<u>1,209,745</u>
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Liabilities

Accounts payable	587,601	804,479
Other liabilities - securities lending collateral	<u>330,000</u>	<u>268,000</u>
Total Liabilities	<u>917,601</u>	<u>1,072,479</u>

Deferred Inflows of Resources

Advance Contributions Received	<u>-</u>	<u>1,098,021</u>
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Net Position

Net Position Held in Trust for Pension Benefits	<u>\$757,986,601</u>	<u>\$920,789,803</u>
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Employees Retirement System of the City of St. Louis
Statements of Changes in Fiduciary Net Position
Years Ended September 30, 2022 and 2021

	2022	2021
Additions		
Contributions		
Employer contributions	\$ 37,951,463	\$ 32,804,416
Member contributions	<u>103,399</u>	<u>174,691</u>
Total Contributions	<u>38,054,862</u>	<u>32,979,107</u>
Investment income (loss)		
Interest and dividends	8,108,903	7,467,933
Net appreciation (depreciation) in fair value of investments	<u>(125,207,856)</u>	<u>160,556,463</u>
	(117,098,953)	168,024,396
Less investment expenses	<u>6,135,347</u>	<u>5,330,461</u>
Net investment income (loss)	<u>(123,234,300)</u>	<u>162,693,935</u>
Net Additions	<u>(85,179,438)</u>	<u>195,673,042</u>
Deductions		
Retirement benefits	76,193,860	74,255,118
Administrative expenses	<u>1,429,904</u>	<u>919,798</u>
Total Deductions	<u>77,623,764</u>	<u>75,174,916</u>
Net Increase (Decrease) in Net Position	(162,803,202)	120,498,126
Net Position Held in Trust for Pension Benefits, Beginning of Year	<u>920,789,803</u>	<u>800,291,677</u>
Net Position Held in Trust for Pension Benefits, End of Year	<u>\$ 757,986,601</u>	<u>\$ 920,789,803</u>

Employees Retirement System of the City of St. Louis
Notes to Financial Statements
September 30, 2022 and 2021

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, and civilian employees of the Police Department and Police and Firemen'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,:

	2022	2021
Retirees and Beneficiaries		
Currently receiving benefits	5,049	4,956
Terminated employees entitled to but not yet receiving benefits	2,635	2,566
Current employees		
Fully vested	2,773	3,584
Non-vested	1,699	1,158
Total membership	12,156	12,264

Benefits

The System provides 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, 2022 and 2021

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 15.44 percent for the City of St. Louis and 15.36 percent for the other participating employers for the period July 2022 through June 2023. Previously, the contribution rates were 15.42 percent and 15.34 percent for July 2021 through June 2022 and 13.19 percent and 13.11 percent for July 2020 through June 2021. 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 percent of their compensation until the compensation equals the maximum annual taxable earnings under the Federal Social Security Act. Thereafter, employees may contribute 6 percent 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.

Employees Retirement System of the City of St. Louis
Notes to Financial Statements
September 30, 2022 and 2021

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.

Receivables

Receivables consist of pending interest payable on investments held at the end of the year and employer contributions receivable for contributions related to the years ended September 30, 2022 and 2021.

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.

Employees Retirement System of the City of St. Louis
Notes to Financial Statements
September 30, 2022 and 2021

Asset Class	Allocation Targets	Long-Term Expected Real Rate of Return
Large cap	24.00 %	6.90 %
Mid cap	7.50 %	7.27 %
Small cap	7.50 %	8.00 %
International equity	12.00 %	7.24 %
Emerging markets	3.00 %	7.40 %
Bank loans	4.50 %	5.10 %
Fixed income	10.00 %	2.50 %
International fixed income	4.50 %	4.90 %
Core real estate	10.00 %	6.50 %
Infrastructure	5.00 %	7.00 %
Private equity	5.00 %	11.00 %
Hedge funds	3.00 %	5.10 %
Defensive equity	4.00 %	6.10 %
Total/Average	<u>100.00 %</u>	<u>6.54 %</u>

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. Securities traded on national or international exchanges are valued at the latest reported sales price at current exchange rates.

Investment income (loss) 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.

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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.

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 statements of fiduciary net position that relate to receivables under forward foreign currency exchange contracts and deferred inflows that relate to advance contributions received from participating employers.

Subsequent Events

Management has evaluated subsequent events through February 27, 2023, the date the financial statements were available to be issued.

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.

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- 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 statements 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.

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, 2022 and 2021.

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 NAV 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.

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

<u>September 30, 2022</u>	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice Period</u>
SSGA Passive Bond Market Index (NL) Fund	\$ 22,267,947	N/A	Monthly	15 days
Principal Real Estate Group Annuity Contract	123,290,581	N/A	Daily	7 days
Acadian Emerging Markets Mutual Equity Fund II	19,754,310	N/A	Daily	30 days
Silchester International Value Equity Group Trust	38,234,244	N/A	Monthly	5-10 days
Walter Scott Group Trust International Equity Fund	33,143,662	N/A	Daily	10 days
Entrust Capital Diversified Fund	3,911,087	N/A	Quarterly	90 days
Weatherflow Offshore Fund I	55,840,115	N/A	Quarterly	65 days
Pacific Asset Management Bank Loan Fund	<u>43,078,260</u>	N/A	Monthly	5-10 days
Total investments measured at NAV	<u>\$ 339,520,206</u>			

<u>September 30, 2021</u>	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice Period</u>
SSGA Passive Bond Market Index (NL) Fund	\$ 35,899,456	N/A	Monthly	15 days
Principal Real Estate Group Annuity Contract	108,128,646	N/A	Daily	7 days
Acadian Emerging Markets Mutual Equity Fund II	34,162,479	N/A	Daily	30 days
Kabouter International Opportunities Fund II	34,694,758	N/A	Daily	15-30 days
Silchester International Value Equity Group Trust	52,222,532	N/A	Monthly	5-10 days
Walter Scott Group Trust International Equity Fund	53,468,150	N/A	Daily	10 days
Entrust Capital Diversified Fund	5,244,399	N/A	Quarterly	90 days
Weatherflow Offshore Fund I	62,638,414	N/A	Quarterly	65 days
Pacific Asset Management Bank Loan Fund	<u>44,151,927</u>	N/A	Monthly	5-10 days
Total investments measured at NAV	<u>\$ 430,610,761</u>			

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 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.

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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.

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.

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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.

Pacific Asset Management Bank Loan Fund. This fund seeks to provide high current income. 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.

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, 2022, the System had \$1,380,171 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.

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 statements of fiduciary net position.

Concentration of Credit Risk

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 fiduciary net position held in trust for pension benefits at September 30,:

Investments	2022	
	Fair Value	Percentage of Total Net Position
Principal Global Investors - Real Estate Group Annuity Contract	\$123,290,581	16.27 %
Silchester International Advisors - International Value Equity Group Trust	\$ 38,234,244	5.04 %
Weatherlow Offshore Fund I	\$ 55,840,115	7.37 %
Pacific Asset Management Bank Loan Fund	\$ 43,078,260	5.68 %

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Investments	2021	
	Fair Value	Percentage of Total Net Position
Principal Global Investors - Real Estate Group Annuity Contract	\$108,128,646	11.74 %
Silchester International Advisors - International Value Equity Group Trust	\$ 52,222,532	5.67 %
Walter Scott & Partners Limited Group Trust -International Equity Fund	\$ 53,468,150	5.81 %
Weatherlow Offshore Fund I	\$ 62,638,414	6.80 %

Credit Risk of Debt Securities

The System's debt investments as of September 30, 2022 and 2021 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.

As of September 30, 2022 and 2021, 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:

Quality Rating	2022	2021
	Fair Value	Fair Value
Aaa	\$ 41,504,056	\$ 43,569,875
Aa1	91,585	866,193
Aa2	2,784,571	3,692,566
Aa3	2,034,251	2,725,136
A1	8,576,045	8,890,941
A2	7,444,426	9,611,906
A3	5,286,080	5,430,403
Baa1	6,475,404	7,690,230
Baa2	5,469,023	6,371,929
Baa3	2,967,813	4,766,973
Ba1	450,362	696,185
Ba2	744,007	936,767
Ba3	294,476	1,265,167
B1	158,466	335,807
B2	181,173	549,691
B3	238,302	585,333
Not rated	14,950,612	16,499,391
Total	<u>\$ 99,650,652</u>	<u>\$ 114,484,493</u>

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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, 2022 is as follows:

Currency	Cash Equivalents	Equities	Total
Australian Dollar	\$ 52,860	\$ 528,683	\$ 581,543
Brazilian Real	(567)	-	(567)
British Pound Sterling	354,420	988,624	1,343,044
Canadian Dollar	143,952	982,875	1,126,827
Chilean Peso	3,053	-	3,053
Columbian Peso	(1,436)	-	(1,436)
Danish Krone	10,193	51,993	62,186
Dominican Peso	-	129,113	129,113
Euro	154,574	6,801,252	6,955,826
Indonesian Rupiah	(3,751,603)	187,586	(3,564,017)
Japanese Yen	3,981,422	3,815,251	7,796,673
Malaysian Ringgit	(3,570)	-	(3,570)
Mexican Peso	17,450	329,798	347,248
Moroccan Dirham	-	111,632	111,632
New Zealand Dollar	-	187,870	187,870
Norwegian Krone	(8,284)	-	(8,284)
Polish Zloty	54,029	-	54,029
Qatari Rial	-	191,540	191,540
Singapore Dollar	(2,955)	-	(2,955)
South African Rand	43,924	391,345	435,269
Swedish Krona	8,988	93,608	102,596
Swiss Franc	5,044	145,679	150,723
Uzbekistani Som	-	140,000	140,000
	<u>\$ 1,061,494</u>	<u>\$ 15,076,849</u>	16,138,343
Foreign investment denominated in U.S. Dollars			<u>16,784,418</u>
			<u>\$ 32,922,761</u>

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The System's exposure to foreign currency risk in U.S. Dollars as of September 30, 2021 is as follows:

<u>Currency</u>	<u>Cash</u> <u>Equivalents</u>	<u>Equities</u>	<u>Total</u>
Armenian Dram	\$ -	\$ 188,500	\$ 188,500
Australian Dollar	48,435	526,517	574,952
British Pound Sterling	88,480	1,774,117	1,862,597
Canadian Dollar	17,305	1,729,845	1,747,150
Columbian Peso	(872)	-	(872)
Danish Krone	10,158	67,904	78,062
Dominican Peso	-	148,352	148,352
Euro	1,156,158	8,179,987	9,336,145
Indonesian Rupiah	4,283	-	4,283
Japanese Yen	76,547	5,115,294	5,191,841
Mexican Peso	141,613	397,597	539,210
Moroccan Dirham	-	181,495	181,495
New Zealand Dollar	3,091	-	3,091
Norwegian Krone	(892)	-	(892)
Peruvian Nuevo Sol	(2,909)	-	(2,909)
Philippine Peso	-	116,024	116,024
Polish Zloty	66,778	-	66,778
Qatari Rial	-	227,250	227,250
Russian Ruble	879	-	879
Singapore Dollar	(1,746)	-	(1,746)
South African Rand	(412,590)	398,526	(14,064)
Swedish Krona	4,463	131,897	136,360
Swiss Franc	10,564	294,953	305,517
Uzbekistani Som	-	194,532	194,532
	<u>\$ 1,209,745</u>	<u>\$ 19,672,790</u>	20,882,535

Foreign investment denominated in U.S. Dollars	23,934,857
	\$ 44,817,392

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.

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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 rate risk assumed by the System as of September 30,:

	2022	
Manager	Fair Value	Effective Duration
Payden and Rygel	\$ 37,626,331	6.7 years
Allegiant (PNC)	64,686,019	6.1 years
SSGA	22,267,947	6.5 years
Pacific Asset Management	43,078,246	0.35 years
Total	\$ 167,658,543	
	2021	
Manager	Fair Value	Effective Duration
Payden and Rygel	\$ 43,069,791	8.0 years
Allegiant (PNC)	74,494,530	7.5 years
SSGA	35,899,456	6.9 years
Pacific Asset Management	44,151,910	0.26 years
Total	\$ 197,615,687	

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.

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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 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 \$8,427,620 and \$9,968,291 for the years ended September 30, 2022 and 2021, respectively. 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, 2022 and 2021, 2,094 and 2,009 members have elected DROP participation, respectively, and have DROP account balances of \$46,776,903 and \$46,903,374, respectively.

8. Annual Money-Weighted Rate of Return

The annual money-weighted rate of return was (13.4343) percent and 21.0988 percent for the years ended September 30, 2022 and 2021, respectively. The annual money-weighted rate of return expresses investment performance, net of investment expense, and is adjusted for the changing amounts actually invested.

9. Funding Status

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

	2022	2021
Actuarial value of assets	\$ 861,417,992	\$ 867,593,392
Actuarial accrual liability (AAL)	\$ 1,120,390,123	\$ 1,094,688,216
Unfunded AAL (UAAL)	\$ 258,972,131	\$ 227,094,824
Funded ratio	76.9 %	79.3 %
Annual covered payroll	\$ 221,930,584	\$ 223,736,639
UAAL as a percentage of payroll	116.7 %	101.5 %

Employees Retirement System of the City of St. Louis
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Additional information regarding assumptions used in the actuarial valuation is as follows:

	<u>October 1, 2022</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	7.25%
Mortality and death rates	Active: 135% of the Pub-2010 General Employee below-median income mortality table for males and 155% for females projected with generational mortality improvements from 2010 using Scale MP-2019. Healthy: 125% of the Pub-2010 General Retiree below-median income mortality table for males and 120% for females projected with generational mortality improvements from 2010 using Scale MP-2019. Disabled: 120% of the Pub-2010 Non-Safety Disabled Retiree mortality table for males and 110% for females projected with generational mortality improvements from 2010 using Scale MP-2019.
Rate of salary increases	Varies by service, ranging from 2.50% to 4.55%

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	<u>October 1, 2021</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	7.25%
Mortality and death rates	Active: 135% of the Pub-2010 General Employee below-median income mortality table for males and 155% for females projected with generational mortality improvements from 2010 using Scale MP-2019. Healthy: 125% of the Pub-2010 General Retiree below-median income mortality table for males and 120% for females projected with generational mortality improvements from 2010 using Scale MP-2019. Disabled: 120% of the Pub-2010 Non-Safety Disabled Retiree mortality table for males and 110% for females projected with generational mortality improvements from 2010 using Scale MP-2019.
Rate of salary increases	Varies by service, ranging from 2.50% to 4.55%

10. 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, 2022, 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, 2014 through September 30, 2019, performed in 2020. The net pension liability as of September 30, 2022 and 2021 is \$362,403,521 and \$173,898,412, respectively, based on the actuarial valuation. The 2022 valuation was performed as of October 1, 2022, with a measurement date of September 30, 2022 and the 2021 valuation was performed as of October 1, 2021, with a measurement date of September 30, 2021.

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Schedule of Net Pension Liability

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

	<u>2022</u>	<u>2021</u>
Total pension liability	\$ 1,120,390,123	\$ 1,094,688,216
Less: Fiduciary net position	<u>757,986,602</u>	<u>920,789,804</u>
Employers' net pension liability	<u>\$ 362,403,521</u>	<u>\$ 173,898,412</u>
Plan net position as a percentage of total pension liability	67.7 %	84.1 %

Sensitivity of Net Pension Eligibility to Changes in the Discount Rate

The following presents the net pension liability at September 30, 2022 and 2021, calculated using the discount rate of 7.25 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:

<u>September 30, 2022</u>	<u>1% Decrease (6.25%)</u>	<u>Current Discount Rate (7.25%)</u>	<u>1% Increase (8.25%)</u>
Total pension liability	\$ 1,231,954,971	\$ 1,120,390,123	\$ 1,025,392,706
Fiduciary net position	<u>757,986,602</u>	<u>757,986,602</u>	<u>757,986,602</u>
Net pension liability	<u>\$ 473,968,369</u>	<u>\$ 362,403,521</u>	<u>\$ 267,406,104</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	61.5 %	67.7 %	73.9 %
<u>September 30, 2021</u>	<u>1% Decrease (6.25%)</u>	<u>Current Discount Rate (7.25%)</u>	<u>1% Increase (8.25%)</u>
Total pension liability	\$ 1,204,848,853	\$ 1,094,688,216	\$ 1,000,918,073
Fiduciary net position	<u>920,789,804</u>	<u>920,789,804</u>	<u>920,789,804</u>
Net pension liability	<u>\$ 284,059,049</u>	<u>\$ 173,898,412</u>	<u>\$ 80,128,269</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	76.4 %	84.1 %	92.0 %

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 \$77,371,504 and \$37,679,690 for the fiscal years ended September 30, 2022 and 2021, respectively.

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

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability									
Service cost	\$ 12,083,701	\$ 12,446,141	\$ 13,008,418	\$ 12,881,819	\$ 13,342,936	\$ 13,185,412	\$ 13,703,072	\$ 13,067,553	\$ 10,591,910
Interest	77,527,262	76,856,789	74,536,674	73,206,999	72,329,296	71,206,835	69,893,488	73,825,307	72,012,146
Difference between expected and actual experience	12,284,804	(4,485,058)	6,326,499	713,562	(12,970,671)	(4,372,137)	(3,601,576)	(2,701,109)	(3,664,735)
Changes of assumptions	-	-	45,356,360	-	-	-	-	(5,107,330)	-
Benefit payments	(76,193,860)	(74,255,118)	(70,557,233)	(67,890,918)	(66,788,634)	(63,532,834)	(60,972,546)	(59,065,812)	(56,317,073)
Net change in total pension liability	25,701,907	10,562,754	68,670,718	18,911,462	5,912,927	16,487,276	19,022,438	20,018,609	22,622,248
Total pension liability - beginning	1,094,688,216	1,084,125,462	1,015,454,744	996,543,282	990,630,355	974,143,079	955,120,641	935,102,032	912,479,784
Total pension liability - ending	<u>\$ 1,120,390,123</u>	<u>\$ 1,094,688,216</u>	<u>\$ 1,084,125,462</u>	<u>\$ 1,015,454,744</u>	<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>
Plan fiduciary net position									
Employer contributions	\$ 37,951,463	\$ 32,804,416	\$ 30,581,795	\$ 29,629,568	\$ 29,361,102	\$ 29,782,200	\$ 32,127,591	\$ 35,436,141	\$ 36,788,260
Member contributions	103,399	174,691	151,774	147,584	58,201	134,248	10,093	289,810	129,164
Net investment income	(123,234,300)	162,693,938	43,257,887	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	(76,193,860)	(74,255,118)	(70,557,232)	(67,890,918)	(66,788,634)	(63,532,834)	(60,972,546)	(59,065,812)	(56,317,073)
Administrative expense	(1,429,904)	(919,799)	(920,268)	(875,268)	(962,177)	(763,273)	(722,132)	(722,758)	(670,957)
Net change in plan fiduciary net position	(162,803,202)	120,498,128	2,513,956	(29,577,412)	10,439,483	52,014,577	36,903,940	(52,498,501)	50,005,421
Plan fiduciary net position - beginning	920,789,805	800,291,677	797,777,721	827,355,133	816,915,650	764,901,073	727,997,133	780,495,634	730,490,213
Plan fiduciary net position - ending	<u>\$ 757,986,603</u>	<u>\$ 920,789,805</u>	<u>\$ 800,291,677</u>	<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 - ending	<u>\$ 362,403,520</u>	<u>\$ 173,898,411</u>	<u>\$ 283,833,785</u>	<u>\$ 217,677,023</u>	<u>\$ 169,188,149</u>	<u>\$ 173,714,705</u>	<u>\$ 209,242,006</u>	<u>\$ 227,123,508</u>	<u>\$ 154,606,398</u>
Total pension liability	\$ 1,120,390,123	\$ 1,094,688,216	\$ 1,084,125,462	\$ 1,015,454,744	\$ 996,543,282	\$ 990,630,355	\$ 974,143,079	\$ 955,120,641	\$ 935,102,032
Less: Plan fiduciary net position	757,986,603	920,789,805	800,291,677	797,777,721	827,355,133	816,915,650	764,901,073	727,997,133	780,495,634
Net pension liability	<u>\$ 362,403,520</u>	<u>\$ 173,898,411</u>	<u>\$ 283,833,785</u>	<u>\$ 217,677,023</u>	<u>\$ 169,188,149</u>	<u>\$ 173,714,705</u>	<u>\$ 209,242,006</u>	<u>\$ 227,123,508</u>	<u>\$ 154,606,398</u>
Plan fiduciary net position as a percentage of the total pension liability	67.65 %	84.11 %	73.82 %	78.56 %	83.02 %	82.46 %	78.52 %	76.22 %	83.47 %
Covered employee payroll	\$ 246,278,504	\$ 239,764,174	\$ 245,561,257	\$ 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	147.15 %	72.53 %	115.59 %	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>
2022	(13.43)%
2021	21.10 %
2020	5.80 %
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
Schedules of Employer Contributions - Unaudited
September 30, 2022**

Years Ended September 30,	Actuarially Determined Contribution	Contributions Recognized by the Plan	Contributions 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 %
2020	30,122,002	30,581,795	(459,793)	245,561,257	12.45 %
2021	35,133,462	32,804,416	2,329,046	239,764,174	13.68 %
2022	34,501,974	37,951,463	(3,449,489)	246,278,504	15.41 %

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
 Schedules of Employer Contributions - Unaudited
 September 30, 2022**

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.

	September 30, 2022
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	7.25%
Inflation	2.50%
Salary increases	Varies by service, ranging from 2.50% to 4.55%
Mortality (Active)	135% of the Pub-2010 General Employee Below-Median Income Weighted mortality for males and 155% for females projected with generationally mortality improvements from 2010 using Scale MP-2019
Mortality (Healthy)	125% of the Pub-2010 General Retiree Below-Median Income Weighted mortality for males and 120% for females projected with generationally mortality improvements from 2010 using Scale MP-2019
Mortality (Disabled)	120% of the Pub-2010 Non-Safety Disabled Retiree mortality for males and 110% for females projected with generationally mortality improvements from 2010 using Scale MP-2019

Employees Retirement System of the City of St. Louis
Required Supplementary Information
Schedules of Employer Contributions - Unaudited
September 30, 2022

	<u>September 30, 2021</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	7.25%
Inflation	2.50%
Salary increases	3.00% plus merit component based on years of service
Mortality (Active)	135% of the Pub-2010 General Employee Below-Median Income Weighted mortality for males and 155% for females projected with generationally mortality improvements from 2010 using Scale MP-2019
Mortality (Healthy)	125% of the Pub-2010 General Retiree Below-Median Income Weighted mortality for males and 120% for females projected with generationally mortality improvements from 2010 using Scale MP-2019
Mortality (Disabled)	120% of the Pub-2010 Non-Safety Disabled Retiree mortality for males and 110% for females projected with generationally mortality improvements from 2010 using Scale MP-2019

	<u>September 30, 2020</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	7.25%
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
Schedules of Employer Contributions - Unaudited
September 30, 2022**

	<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
Schedules of Employer Contributions - Unaudited
September 30, 2022**

	September 30, 2016
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
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

**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>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Investment Experience	\$(28,097,743)	\$ 8,836,482	\$ (9,292,857)	\$(22,219,993)	\$ (9,504,274)	\$ (3,004,069)	\$ 533,258	\$ (2,743,842)	\$ 17,899,526
Liability Experience	<u>(12,395,698)</u>	<u>4,297,704</u>	<u>(6,489,657)</u>	<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>
Gain (or Loss) During Year from Combined Experience	(40,493,441)	13,134,186	(15,782,514)	(23,092,208)	3,497,282	1,318,502	4,228,936	3,370,347	25,165,417
Non-Recurring Gain (or Loss) Items	-	-	(45,365,360)	-	-	-	-	20,389,054	-
Composite Gain (or Loss) During Year	<u>\$(40,493,441)</u>	<u>\$ 13,134,186</u>	<u>\$(61,147,874)</u>	<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>

Employees Retirement System of the City of St. Louis
Other Supplementary Information
Solvency Test - Aggregate Actuarial Liabilities
September 30, 2022

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		
October 1,	(1)	(2)	(3)	assets	(1)	(2)	(3)
2022	\$ -	\$ 703,096,922	\$ 421,654,051	\$ 867,593,392	100%	100%	38%
2021	-	673,034,165	421,654,051	867,593,392	100%	100%	46%
2020	-	648,506,475	435,618,987	841,450,402	100%	100%	44%
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%

Employees Retirement System of the City of St. Louis
Other Supplementary Information
Schedules of Funding Progress
September 30, 2022

Actuarial Valuation Date October 1,	Actuarial Value of Assets	Actuarial Liability	Unfunded Actuarial Liability	Funded Ratio	Covered Pension Payroll	Percentage of Covered Payroll
2022	\$ 861,417,992	\$ 1,120,390,123	\$ 258,972,131	76.89 %	\$ 221,930,584	116.69 %
2021	867,593,392	1,094,688,216	227,094,824	79.25 %	223,736,639	101.50 %
2020	841,450,402	1,084,125,462	242,675,060	77.62 %	228,162,770	106.36 %
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 %

Employees Retirement System of the City of St. Louis
Other Supplementary Information
Schedule of Actuarial Present Values of Projected Benefit Payments
September 30, 2022

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 7.25%	Unfunded Portion at 2.26%	Using a Single Discount Rate of 7.25%
2023	\$ 757,986,602	\$ 86,250,870	\$ 86,250,870	\$ -	\$ 83,284,625	\$ -	\$ 83,284,625
2024	\$ 761,852,024	\$ 85,283,167	\$ 85,283,167	\$ -	\$ 76,783,406	\$ -	\$ 76,783,406
2025	\$ 768,867,973	\$ 87,156,440	\$ 87,156,440	\$ -	\$ 73,165,480	\$ -	\$ 73,165,480
2026	\$ 775,890,631	\$ 89,034,641	\$ 89,034,641	\$ -	\$ 69,689,678	\$ -	\$ 69,689,678
2027	\$ 782,822,057	\$ 90,353,572	\$ 90,353,572	\$ -	\$ 65,941,295	\$ -	\$ 65,941,295
2028	\$ 792,025,986	\$ 94,469,335	\$ 94,469,335	\$ -	\$ 64,284,416	\$ -	\$ 64,284,416
2029	\$ 797,752,555	\$ 96,124,827	\$ 96,124,827	\$ -	\$ 60,989,225	\$ -	\$ 60,989,225
2030	\$ 802,441,217	\$ 95,575,440	\$ 95,575,440	\$ -	\$ 56,541,399	\$ -	\$ 56,541,399
2031	\$ 808,410,400	\$ 99,146,118	\$ 99,146,118	\$ -	\$ 54,688,833	\$ -	\$ 54,688,833
2032	\$ 811,607,032	\$ 99,954,148	\$ 99,954,148	\$ -	\$ 51,407,497	\$ -	\$ 51,407,497
2033	\$ 814,792,194	\$ 98,783,673	\$ 98,783,673	\$ -	\$ 47,371,104	\$ -	\$ 47,371,104
2034	\$ 820,095,974	\$ 97,832,384	\$ 97,832,384	\$ -	\$ 43,743,515	\$ -	\$ 43,743,515
2035	\$ 827,519,642	\$ 97,435,175	\$ 97,435,175	\$ -	\$ 40,620,897	\$ -	\$ 40,620,897
2036	\$ 836,707,159	\$ 95,476,732	\$ 95,476,732	\$ -	\$ 37,113,677	\$ -	\$ 37,113,677
2037	\$ 824,735,341	\$ 93,830,044	\$ 93,830,044	\$ -	\$ 34,007,997	\$ -	\$ 34,007,997
2038	\$ 814,694,093	\$ 92,244,457	\$ 92,244,457	\$ -	\$ 31,183,252	\$ -	\$ 31,183,252
2039	\$ 806,981,309	\$ 90,544,985	\$ 90,544,985	\$ -	\$ 28,530,471	\$ -	\$ 28,530,471
2040	\$ 801,223,333	\$ 88,845,230	\$ 88,845,230	\$ -	\$ 26,102,455	\$ -	\$ 26,102,455
2041	\$ 794,455,729	\$ 87,464,826	\$ 87,464,826	\$ -	\$ 23,959,810	\$ -	\$ 23,959,810
2042	\$ 781,110,359	\$ 85,087,533	\$ 85,087,533	\$ -	\$ 21,732,944	\$ -	\$ 21,732,944
2043	\$ 770,950,569	\$ 83,040,766	\$ 83,040,766	\$ -	\$ 19,776,375	\$ -	\$ 19,776,375
2044	\$ 757,574,550	\$ 81,812,669	\$ 81,812,669	\$ -	\$ 18,166,807	\$ -	\$ 18,166,807
2045	\$ 739,806,128	\$ 78,601,046	\$ 78,601,046	\$ -	\$ 16,273,803	\$ -	\$ 16,273,803
2046	\$ 720,916,653	\$ 76,141,907	\$ 76,141,907	\$ -	\$ 14,698,979	\$ -	\$ 14,698,979
2047	\$ 700,559,749	\$ 74,862,225	\$ 74,862,225	\$ -	\$ 13,475,003	\$ -	\$ 13,475,003
2048	\$ 674,742,255	\$ 72,073,838	\$ 72,073,838	\$ -	\$ 12,096,131	\$ -	\$ 12,096,131
2049	\$ 649,797,967	\$ 69,298,504	\$ 69,298,504	\$ -	\$ 10,844,147	\$ -	\$ 10,844,147
2050	\$ 625,792,295	\$ 67,603,567	\$ 67,603,567	\$ -	\$ 9,863,790	\$ -	\$ 9,863,790
2051	\$ 601,685,295	\$ 65,110,607	\$ 65,110,607	\$ -	\$ 8,857,857	\$ -	\$ 8,857,857
2052	\$ 578,293,406	\$ 62,740,843	\$ 62,740,843	\$ -	\$ 7,958,477	\$ -	\$ 7,958,477
2053	\$ 555,552,209	\$ 60,551,443	\$ 60,551,443	\$ -	\$ 7,161,547	\$ -	\$ 7,161,547
2054	\$ 533,362,620	\$ 57,888,570	\$ 57,888,570	\$ -	\$ 6,383,779	\$ -	\$ 6,383,779
2055	\$ 512,256,084	\$ 56,414,581	\$ 56,414,581	\$ -	\$ 5,800,682	\$ -	\$ 5,800,682
2056	\$ 491,100,093	\$ 54,090,654	\$ 54,090,654	\$ -	\$ 5,185,763	\$ -	\$ 5,185,763
2057	\$ 470,784,946	\$ 51,177,568	\$ 51,177,568	\$ -	\$ 4,574,807	\$ -	\$ 4,574,807
2058	\$ 451,992,013	\$ 49,588,479	\$ 49,588,479	\$ -	\$ 4,133,107	\$ -	\$ 4,133,107
2059	\$ 433,465,083	\$ 47,130,162	\$ 47,130,162	\$ -	\$ 3,662,667	\$ -	\$ 3,662,667
2060	\$ 416,127,220	\$ 43,912,292	\$ 43,912,292	\$ -	\$ 3,181,906	\$ -	\$ 3,181,906
2061	\$ 400,853,649	\$ 41,770,951	\$ 41,770,951	\$ -	\$ 2,822,138	\$ -	\$ 2,822,138
2062	\$ 386,681,710	\$ 39,257,510	\$ 39,257,510	\$ -	\$ 2,473,030	\$ -	\$ 2,473,030
2063	\$ 374,078,135	\$ 36,870,688	\$ 36,870,688	\$ -	\$ 2,165,661	\$ -	\$ 2,165,661
2064	\$ 363,027,654	\$ 34,589,279	\$ 34,589,279	\$ -	\$ 1,894,321	\$ -	\$ 1,894,321
2065	\$ 353,534,551	\$ 32,538,083	\$ 32,538,083	\$ -	\$ 1,661,524	\$ -	\$ 1,661,524
2066	\$ 345,474,663	\$ 30,533,031	\$ 30,533,031	\$ -	\$ 1,453,742	\$ -	\$ 1,453,742
2067	\$ 338,904,804	\$ 28,610,893	\$ 28,610,893	\$ -	\$ 1,270,140	\$ -	\$ 1,270,140
2068	\$ 333,847,772	\$ 26,749,813	\$ 26,749,813	\$ -	\$ 1,107,245	\$ -	\$ 1,107,245
2069	\$ 330,350,520	\$ 24,950,839	\$ 24,950,839	\$ -	\$ 962,965	\$ -	\$ 962,965
2070	\$ 328,462,195	\$ 23,213,476	\$ 23,213,476	\$ -	\$ 835,350	\$ -	\$ 835,350
2071	\$ 328,235,841	\$ 21,535,817	\$ 21,535,817	\$ -	\$ 722,591	\$ -	\$ 722,591
2072	\$ 329,730,265	\$ 19,922,231	\$ 19,922,231	\$ -	\$ 623,263	\$ -	\$ 623,263

Employees Retirement System of the City of St. Louis
Other Supplementary Information
Schedule of Actuarial Present Values of Projected Benefit Payments (continued)
September 30, 2022

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 7.25%	Unfunded Portion at 2.26%	Using a Single Discount Rate of 7.25%
2073	\$ 333,004,000	\$ 18,373,055	\$ 18,373,055	\$ -	\$ 535,942	\$ -	\$ 535,942
2074	\$ 338,119,399	\$ 16,888,608	\$ 16,888,608	\$ -	\$ 459,339	\$ -	\$ 459,339
2075	\$ 345,142,956	\$ 15,471,315	\$ 15,471,315	\$ -	\$ 392,346	\$ -	\$ 392,346
2076	\$ 354,143,489	\$ 14,121,705	\$ 14,121,705	\$ -	\$ 333,912	\$ -	\$ 333,912
2077	\$ 365,184,231	\$ 12,840,215	\$ 12,840,215	\$ -	\$ 283,087	\$ -	\$ 283,087
2078	\$ 378,373,283	\$ 11,627,450	\$ 11,627,450	\$ -	\$ 239,020	\$ -	\$ 239,020
2079	\$ 393,763,776	\$ 10,483,692	\$ 10,483,692	\$ -	\$ 200,940	\$ -	\$ 200,940
2080	\$ 411,454,573	\$ 9,409,138	\$ 9,409,138	\$ -	\$ 168,153	\$ -	\$ 168,153
2081	\$ 431,540,779	\$ 8,403,592	\$ 8,403,592	\$ -	\$ 140,031	\$ -	\$ 140,031
2082	\$ 454,124,592	\$ 7,466,560	\$ 7,466,560	\$ -	\$ 116,006	\$ -	\$ 116,006
2083	\$ 479,316,139	\$ 6,597,235	\$ 6,597,235	\$ -	\$ 95,571	\$ -	\$ 95,571
2084	\$ 507,234,358	\$ 5,794,754	\$ 5,794,754	\$ -	\$ 78,271	\$ -	\$ 78,271
2085	\$ 538,007,710	\$ 5,057,877	\$ 5,057,877	\$ -	\$ 63,700	\$ -	\$ 63,700
2086	\$ 571,775,252	\$ 4,385,167	\$ 4,385,167	\$ -	\$ 51,494	\$ -	\$ 51,494
2087	\$ 608,687,609	\$ 3,774,796	\$ 3,774,796	\$ -	\$ 41,330	\$ -	\$ 41,330
2088	\$ 648,908,222	\$ 3,224,739	\$ 3,224,739	\$ -	\$ 32,921	\$ -	\$ 32,921
2089	\$ 692,614,478	\$ 2,732,642	\$ 2,732,642	\$ -	\$ 26,011	\$ -	\$ 26,011
2090	\$ 739,999,061	\$ 2,295,751	\$ 2,295,751	\$ -	\$ 20,375	\$ -	\$ 20,375
2091	\$ 791,271,478	\$ 1,910,998	\$ 1,910,998	\$ -	\$ 15,814	\$ -	\$ 15,814
2092	\$ 846,659,601	\$ 1,574,920	\$ 1,574,920	\$ -	\$ 12,152	\$ -	\$ 12,152
2093	\$ 906,411,410	\$ 1,283,933	\$ 1,283,933	\$ -	\$ 9,237	\$ -	\$ 9,237
2094	\$ 970,796,575	\$ 1,034,397	\$ 1,034,397	\$ -	\$ 6,939	\$ -	\$ 6,939
2095	\$ 1,040,108,089	\$ 822,670	\$ 822,670	\$ -	\$ 5,145	\$ -	\$ 5,145
2096	\$ 1,114,663,956	\$ 645,095	\$ 645,095	\$ -	\$ 3,762	\$ -	\$ 3,762
2097	\$ 1,194,809,022	\$ 498,097	\$ 498,097	\$ -	\$ 2,708	\$ -	\$ 2,708
2098	\$ 1,280,916,839	\$ 378,180	\$ 378,180	\$ -	\$ 1,917	\$ -	\$ 1,917
2099	\$ 1,373,391,660	\$ 281,954	\$ 281,954	\$ -	\$ 1,333	\$ -	\$ 1,333
2100	\$ 1,472,670,560	\$ 206,135	\$ 206,135	\$ -	\$ 909	\$ -	\$ 909
2101	\$ 1,579,225,699	\$ 147,573	\$ 147,573	\$ -	\$ 606	\$ -	\$ 606
2102	\$ 1,693,566,733	\$ 103,291	\$ 103,291	\$ -	\$ 396	\$ -	\$ 396
2103	\$ 1,816,243,352	\$ 70,586	\$ 70,586	\$ -	\$ 252	\$ -	\$ 252
2104	\$ 1,947,847,895	\$ 47,029	\$ 47,029	\$ -	\$ 157	\$ -	\$ 157
2105	\$ 2,089,018,164	\$ 30,506	\$ 30,506	\$ -	\$ 95	\$ -	\$ 95
2106	\$ 2,240,440,388	\$ 19,233	\$ 19,233	\$ -	\$ 56	\$ -	\$ 56
2107	\$ 2,402,852,398	\$ 11,770	\$ 11,770	\$ -	\$ 32	\$ -	\$ 32
2108	\$ 2,577,047,008	\$ 6,984	\$ 6,984	\$ -	\$ 18	\$ -	\$ 18
2109	\$ 2,763,875,684	\$ 4,012	\$ 4,012	\$ -	\$ 9	\$ -	\$ 9
2110	\$ 2,964,252,516	\$ 2,228	\$ 2,228	\$ -	\$ 5	\$ -	\$ 5
2111	\$ 3,179,158,516	\$ 1,196	\$ 1,196	\$ -	\$ 2	\$ -	\$ 2
2112	\$ 3,409,646,270	\$ 618	\$ 618	\$ -	\$ 1	\$ -	\$ 1
2113	\$ 3,656,844,985	\$ 310	\$ 310	\$ -	\$ 1	\$ -	\$ 1
2114	\$ 3,921,965,925	\$ 150	\$ 150	\$ -	\$ -	\$ -	\$ -
2115	\$ 4,206,308,300	\$ 69	\$ 69	\$ -	\$ -	\$ -	\$ -
2116	\$ 4,511,265,580	\$ 31	\$ 31	\$ -	\$ -	\$ -	\$ -
2117	\$ 4,838,332,302	\$ 13	\$ 13	\$ -	\$ -	\$ -	\$ -
2118	\$ 5,189,111,381	\$ 6	\$ 6	\$ -	\$ -	\$ -	\$ -
2119	\$ 5,565,321,950	\$ 2	\$ 2	\$ -	\$ -	\$ -	\$ -
2120	\$ 5,968,807,789	\$ 1	\$ 1	\$ -	\$ -	\$ -	\$ -
2121	\$ 6,401,546,352	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Employees Retirement System of the City of St. Louis
Other Supplementary Information
Schedule of Projection of Fiduciary Net Position
September 30, 2022

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2023	\$ 757,986,602	\$ 37,806,969	\$ 86,250,870	\$ 887,722	\$ 53,197,045	\$ 761,852,024
2024	\$ 761,852,024	\$ 39,489,726	\$ 85,283,167	\$ 766,610	\$ 53,576,000	\$ 768,867,973
2025	\$ 768,867,973	\$ 40,789,870	\$ 87,156,440	\$ 678,166	\$ 54,067,394	\$ 775,890,631
2026	\$ 775,890,631	\$ 42,013,288	\$ 89,034,641	\$ 603,111	\$ 54,555,889	\$ 782,822,057
2027	\$ 782,822,057	\$ 44,975,199	\$ 90,353,572	\$ 536,986	\$ 55,119,289	\$ 792,025,986
2028	\$ 792,025,986	\$ 45,030,574	\$ 94,469,335	\$ 478,706	\$ 55,644,036	\$ 797,752,555
2029	\$ 797,752,555	\$ 45,232,990	\$ 96,124,827	\$ 428,739	\$ 56,009,239	\$ 802,441,217
2030	\$ 802,441,217	\$ 45,547,833	\$ 95,575,440	\$ 384,725	\$ 56,381,515	\$ 808,410,400
2031	\$ 808,410,400	\$ 45,986,062	\$ 99,146,118	\$ 347,358	\$ 56,704,047	\$ 811,607,032
2032	\$ 811,607,032	\$ 46,527,090	\$ 99,954,148	\$ 315,218	\$ 56,927,438	\$ 814,792,194
2033	\$ 814,792,194	\$ 47,151,105	\$ 98,783,673	\$ 286,934	\$ 57,223,282	\$ 820,095,974
2034	\$ 820,095,974	\$ 47,850,519	\$ 97,832,384	\$ 261,953	\$ 57,667,486	\$ 827,519,642
2035	\$ 827,519,642	\$ 48,614,333	\$ 97,435,175	\$ 239,495	\$ 58,247,853	\$ 836,707,159
2036	\$ 836,707,159	\$ 25,560,645	\$ 95,476,732	\$ 219,082	\$ 58,163,352	\$ 824,735,341
2037	\$ 824,735,341	\$ 26,857,368	\$ 93,830,044	\$ 199,496	\$ 57,400,924	\$ 814,964,093
2038	\$ 814,964,093	\$ 27,665,847	\$ 92,244,457	\$ 182,552	\$ 56,778,379	\$ 806,981,309
2039	\$ 806,981,309	\$ 28,658,108	\$ 90,544,985	\$ 167,144	\$ 56,296,044	\$ 801,223,333
2040	\$ 801,223,333	\$ 26,370,870	\$ 88,845,230	\$ 151,469	\$ 55,858,225	\$ 794,455,729
2041	\$ 794,455,729	\$ 19,099,125	\$ 87,464,826	\$ 137,902	\$ 55,158,233	\$ 781,110,359
2042	\$ 781,110,359	\$ 20,718,946	\$ 85,087,533	\$ 124,726	\$ 54,333,523	\$ 770,950,569
2043	\$ 770,950,569	\$ 16,263,547	\$ 83,040,766	\$ 110,460	\$ 53,511,661	\$ 757,574,550
2044	\$ 757,574,550	\$ 11,716,925	\$ 81,812,669	\$ 96,870	\$ 52,424,192	\$ 739,806,128
2045	\$ 739,806,128	\$ 8,654,813	\$ 78,601,046	\$ 84,972	\$ 51,141,730	\$ 720,916,653
2046	\$ 720,916,653	\$ 6,089,816	\$ 76,141,907	\$ 73,687	\$ 49,768,875	\$ 700,559,749
2047	\$ 700,559,749	\$ 952,672	\$ 74,862,225	\$ 63,902	\$ 48,155,961	\$ 674,742,255
2048	\$ 674,742,255	\$ 804,948	\$ 72,073,838	\$ 53,993	\$ 46,378,595	\$ 649,797,967
2049	\$ 649,797,967	\$ 673,393	\$ 69,298,504	\$ 45,169	\$ 44,664,608	\$ 625,792,295
2050	\$ 625,792,295	\$ 553,099	\$ 67,603,567	\$ 37,100	\$ 42,980,567	\$ 601,685,295
2051	\$ 601,685,295	\$ 430,056	\$ 65,110,607	\$ 28,847	\$ 41,317,510	\$ 578,293,406
2052	\$ 578,293,406	\$ 318,725	\$ 62,740,843	\$ 21,379	\$ 39,702,299	\$ 555,552,209
2053	\$ 555,552,209	\$ 249,345	\$ 60,551,443	\$ 16,725	\$ 38,129,234	\$ 533,362,620
2054	\$ 533,362,620	\$ 181,119	\$ 57,888,570	\$ 12,149	\$ 36,613,063	\$ 512,256,084
2055	\$ 512,256,084	\$ 133,801	\$ 56,414,581	\$ 8,975	\$ 35,133,764	\$ 491,100,093
2056	\$ 491,100,093	\$ 100,637	\$ 54,090,654	\$ 6,750	\$ 33,681,621	\$ 470,784,946
2057	\$ 470,784,946	\$ 78,098	\$ 51,177,568	\$ 5,239	\$ 32,311,776	\$ 451,992,013
2058	\$ 451,992,013	\$ 60,301	\$ 49,588,479	\$ 4,045	\$ 31,005,293	\$ 433,465,083
2059	\$ 433,465,083	\$ 46,222	\$ 47,130,162	\$ 3,100	\$ 29,749,178	\$ 416,127,220
2060	\$ 416,127,220	\$ 34,639	\$ 43,912,292	\$ 2,323	\$ 28,606,405	\$ 400,853,649
2061	\$ 400,853,649	\$ 25,696	\$ 41,770,951	\$ 1,724	\$ 27,575,039	\$ 386,681,710
2062	\$ 386,681,710	\$ 18,317	\$ 39,257,510	\$ 1,229	\$ 26,636,847	\$ 374,078,135
2063	\$ 374,078,135	\$ 13,166	\$ 36,870,688	\$ 883	\$ 25,807,925	\$ 363,027,654
2064	\$ 363,027,654	\$ 8,895	\$ 34,589,279	\$ 597	\$ 25,087,877	\$ 353,534,551
2065	\$ 353,534,551	\$ 6,013	\$ 32,538,083	\$ 403	\$ 24,472,586	\$ 345,474,663
2066	\$ 345,474,663	\$ 3,846	\$ 30,533,031	\$ 258	\$ 23,959,584	\$ 338,904,804
2067	\$ 338,904,804	\$ 2,341	\$ 28,610,893	\$ 157	\$ 23,551,677	\$ 333,847,772
2068	\$ 333,847,772	\$ 1,359	\$ 26,749,813	\$ 91	\$ 23,251,294	\$ 330,350,520
2069	\$ 330,350,520	\$ 770	\$ 24,950,839	\$ 52	\$ 23,061,795	\$ 328,462,195
2070	\$ 328,462,195	\$ 393	\$ 23,213,476	\$ 26	\$ 22,986,757	\$ 328,235,841
2071	\$ 328,235,841	\$ 162	\$ 21,535,817	\$ 11	\$ 23,030,089	\$ 329,730,265
2072	\$ 329,730,265	\$ 70	\$ 19,922,231	\$ 5	\$ 23,195,901	\$ 333,004,000

Employees Retirement System of the City of St. Louis
Other Supplementary Information
Schedule of Projection of Fiduciary Net Position (continued)
September 30, 2022

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2073	\$ 333,004,000	\$ 36	\$ 18,373,055	\$ 2	\$ 23,488,421	\$ 338,119,399
2074	\$ 338,119,399	\$ 9	\$ 16,888,608	\$ 1	\$ 23,912,156	\$ 345,142,956
2075	\$ 345,142,956	\$ 7	\$ 15,471,315	\$ -	\$ 24,471,842	\$ 354,143,489
2076	\$ 354,143,489	\$ -	\$ 14,121,705	\$ -	\$ 25,172,448	\$ 365,194,231
2077	\$ 365,194,231	\$ -	\$ 12,840,215	\$ -	\$ 26,019,268	\$ 378,373,283
2078	\$ 378,373,283	\$ -	\$ 11,627,450	\$ -	\$ 27,017,943	\$ 393,763,776
2079	\$ 393,763,776	\$ -	\$ 10,483,692	\$ -	\$ 28,174,489	\$ 411,454,573
2080	\$ 411,454,573	\$ -	\$ 9,409,138	\$ -	\$ 29,495,343	\$ 431,540,779
2081	\$ 431,540,779	\$ -	\$ 8,403,592	\$ -	\$ 30,987,406	\$ 454,124,592
2082	\$ 454,124,592	\$ -	\$ 7,466,560	\$ -	\$ 32,658,106	\$ 479,316,139
2083	\$ 479,316,139	\$ -	\$ 6,597,235	\$ -	\$ 34,515,455	\$ 507,234,358
2084	\$ 507,234,358	\$ -	\$ 5,794,754	\$ -	\$ 36,568,106	\$ 538,007,710
2085	\$ 538,007,710	\$ -	\$ 5,057,877	\$ -	\$ 38,825,419	\$ 571,775,252
2086	\$ 571,775,252	\$ -	\$ 4,385,167	\$ -	\$ 41,297,525	\$ 608,687,609
2087	\$ 608,687,609	\$ -	\$ 3,774,796	\$ -	\$ 43,995,409	\$ 648,908,222
2088	\$ 648,908,222	\$ -	\$ 3,224,739	\$ -	\$ 46,930,995	\$ 692,614,478
2089	\$ 692,614,478	\$ -	\$ 2,732,642	\$ -	\$ 50,117,225	\$ 739,999,061
2090	\$ 739,999,061	\$ -	\$ 2,295,751	\$ -	\$ 53,568,167	\$ 791,271,478
2091	\$ 791,271,478	\$ -	\$ 1,910,998	\$ -	\$ 57,299,121	\$ 846,659,601
2092	\$ 846,659,601	\$ -	\$ 1,574,920	\$ -	\$ 61,326,729	\$ 906,411,410
2093	\$ 906,411,410	\$ -	\$ 1,283,933	\$ -	\$ 65,669,099	\$ 970,796,575
2094	\$ 970,796,575	\$ -	\$ 1,034,397	\$ -	\$ 70,345,911	\$ 1,040,108,089
2095	\$ 1,040,108,089	\$ -	\$ 822,670	\$ -	\$ 75,378,536	\$ 1,114,663,956
2096	\$ 1,114,663,956	\$ -	\$ 645,095	\$ -	\$ 80,790,161	\$ 1,194,809,022
2097	\$ 1,194,809,022	\$ -	\$ 498,097	\$ -	\$ 86,605,914	\$ 1,280,916,839
2098	\$ 1,280,916,839	\$ -	\$ 378,180	\$ -	\$ 92,853,002	\$ 1,373,391,660
2099	\$ 1,373,391,660	\$ -	\$ 281,954	\$ -	\$ 99,560,853	\$ 1,472,670,560
2100	\$ 1,472,670,560	\$ -	\$ 206,135	\$ -	\$ 106,761,274	\$ 1,579,225,699
2101	\$ 1,579,225,699	\$ -	\$ 147,573	\$ -	\$ 114,488,607	\$ 1,693,566,733
2102	\$ 1,693,566,733	\$ -	\$ 103,291	\$ -	\$ 122,779,909	\$ 1,816,243,352
2103	\$ 1,816,243,352	\$ -	\$ 70,586	\$ -	\$ 131,675,129	\$ 1,947,847,895
2104	\$ 1,947,847,895	\$ -	\$ 47,029	\$ -	\$ 141,217,297	\$ 2,089,018,164
2105	\$ 2,089,018,164	\$ -	\$ 30,506	\$ -	\$ 151,452,730	\$ 2,240,440,388
2106	\$ 2,240,440,388	\$ -	\$ 19,233	\$ -	\$ 162,431,243	\$ 2,402,852,398
2107	\$ 2,402,852,398	\$ -	\$ 11,770	\$ -	\$ 174,206,380	\$ 2,577,047,008
2108	\$ 2,577,047,008	\$ -	\$ 6,984	\$ -	\$ 186,835,659	\$ 2,763,875,684
2109	\$ 2,763,875,684	\$ -	\$ 4,012	\$ -	\$ 200,380,844	\$ 2,964,252,516
2110	\$ 2,964,252,516	\$ -	\$ 2,228	\$ -	\$ 214,908,228	\$ 3,179,158,516
2111	\$ 3,179,158,516	\$ -	\$ 1,196	\$ -	\$ 230,488,950	\$ 3,409,646,270
2112	\$ 3,409,646,270	\$ -	\$ 618	\$ -	\$ 247,199,333	\$ 3,656,844,985
2113	\$ 3,656,844,985	\$ -	\$ 310	\$ -	\$ 265,121,250	\$ 3,921,965,925
2114	\$ 3,921,965,925	\$ -	\$ 150	\$ -	\$ 284,342,524	\$ 4,206,308,300
2115	\$ 4,206,308,300	\$ -	\$ 69	\$ -	\$ 304,957,349	\$ 4,511,265,580
2116	\$ 4,511,265,580	\$ -	\$ 31	\$ -	\$ 327,066,753	\$ 4,838,332,302
2117	\$ 4,838,332,302	\$ -	\$ 13	\$ -	\$ 350,779,091	\$ 5,189,111,381
2118	\$ 5,189,111,381	\$ -	\$ 6	\$ -	\$ 376,210,575	\$ 5,565,321,950
2119	\$ 5,565,321,950	\$ -	\$ 2	\$ -	\$ 403,485,841	\$ 5,968,807,789
2120	\$ 5,968,807,789	\$ -	\$ 1	\$ -	\$ 432,738,565	\$ 6,401,546,352
2121	\$ 6,401,546,352	\$ -	\$ -	\$ -	\$ 464,112,111	\$ 6,865,658,463