

State of Rhode Island
Employees' Retirement System

FISCAL YEAR ENDED JUNE 30, 2018



Dennis E. Hoyle, CPA, Auditor General

Office of the Auditor General

General Assembly

State of Rhode Island and Providence Plantations



Office of the Auditor General

State of Rhode Island and Providence Plantations - General Assembly

Dennis E. Hoyle, CPA - Auditor General

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December 21, 2018

JOINT COMMITTEE ON LEGISLATIVE SERVICES:

SPEAKER Nicholas A. Mattiello, Chairman

Senator Dominick J. Ruggerio

Senator Dennis L. Algieri

Representative K. Joseph Shekarchi

Representative Blake A. Filippi

We have completed our audit of the financial statements of the Employees' Retirement System of the State of Rhode Island for the fiscal year ended June 30, 2018 in accordance with Section 36-8-19 of the Rhode Island General Laws.

Our report is contained herein as outlined in the Table of Contents.

Sincerely,

Dennis E. Hoyle, CPA
Auditor General

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

FISCAL YEAR ENDED JUNE 30, 2018

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INDEPENDENT AUDITOR'S REPORT

JOINT COMMITTEE ON LEGISLATIVE SERVICES, GENERAL ASSEMBLY
STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS:

RETIREMENT BOARD OF THE EMPLOYEES' RETIREMENT SYSTEM OF THE
STATE OF RHODE ISLAND:

Report on the Financial Statements

We have audited the accompanying financial statements of the plans which comprise the Employees' Retirement System of the State of Rhode Island (the System) as of June 30, 2018 and for the year then ended, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Joint Committee on Legislative Services, General Assembly
Retirement Board of the Employees' Retirement System

Opinions

In our opinion, the financial statements of the plans referred to above present fairly, in all material respects, the financial position of the plans within the System as of June 30, 2018, and the changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matters

As described in Note 1, the financial statements of the System present only the pension trust funds of the State of Rhode Island and Providence Plantations (the State) and do not purport to, and do not present fairly the financial position of the State, as of June 30, 2018 and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

The fair values of certain investments (hedge funds, private equity, real estate, certain infrastructure, and the crisis protection class - trend following investments) representing 27% of assets within the pooled investment trust, have been estimated by management in the absence of readily determinable fair values. Management's estimates are based on information provided by the fund managers or general partners.

As described in Note 3, the System changed its method of presentation for investment management expenses which were previously reported on a net of fees basis and are now presented on a gross fee basis.

As described in Note 8, the plan fiduciary net position for the RIJRFT plan represents only 3.8% of the total pension liability of that plan at the June 30, 2018 measurement date. Employer contributions were significantly less than actuarially determined amounts. Additional employer contributions will be required to provide benefits to plan members.

Our opinions are not modified with respect to these matters.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 4 through 11 and other required supplementary information as listed in the table of contents and pages 53 through 71 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Joint Committee on Legislative Services, General Assembly
Retirement Board of the Employees' Retirement System

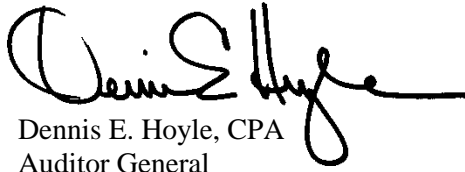
Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The supplementary information, such as the Schedules of Investment, Administrative, and Consultant Expenses, is presented for purposes of additional analysis and is not a required part of the basic financial statements.

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

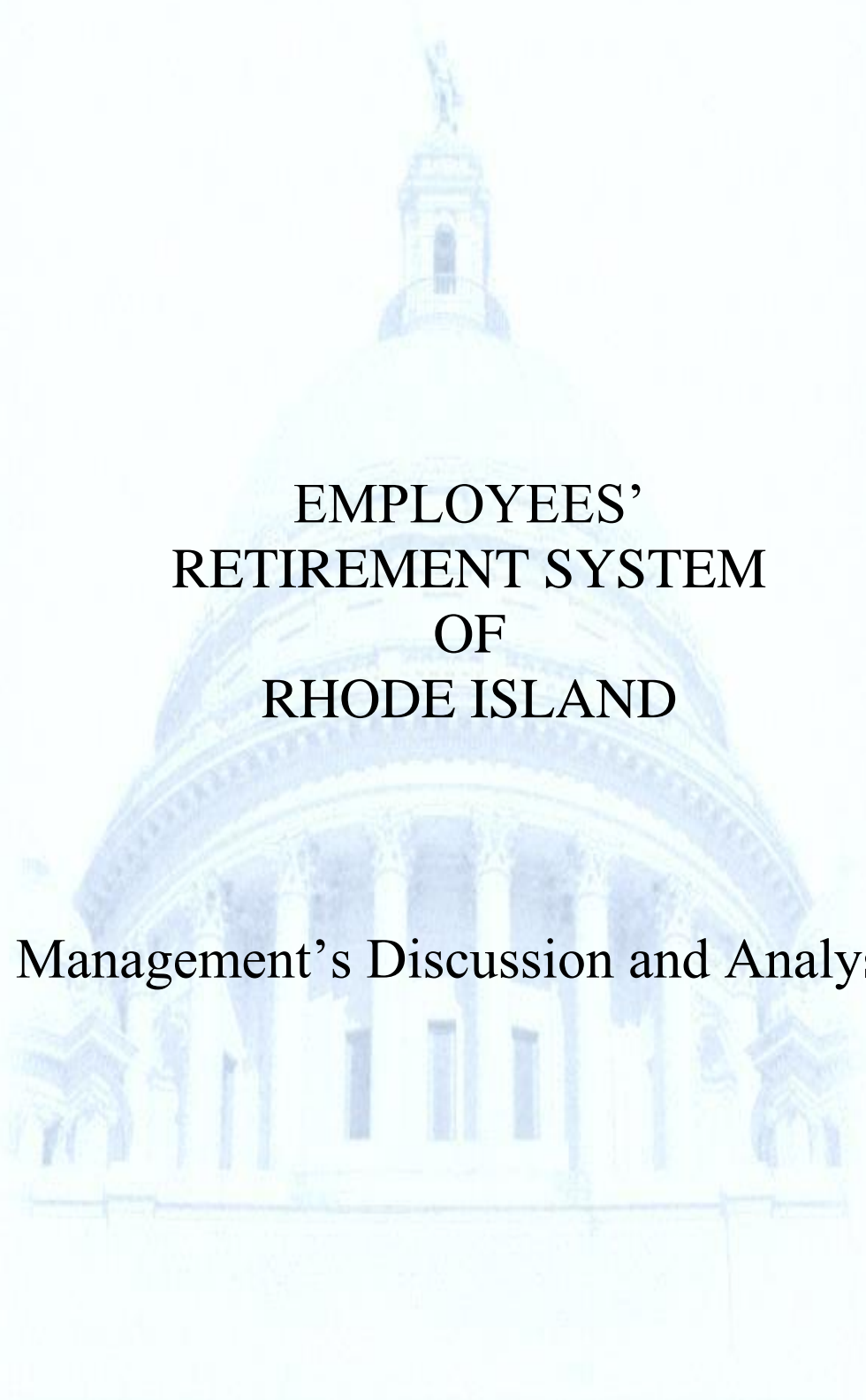
Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have issued a report dated December 20, 2018 on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.



Dennis E. Hoyle, CPA
Auditor General

December 20, 2018



EMPLOYEES'
RETIREMENT SYSTEM
OF
RHODE ISLAND

Management's Discussion and Analysis

Management's Discussion and Analysis

Management of the Employees' Retirement System of the State of Rhode Island (the System) provides this Management's Discussion and Analysis of their financial performance for the readers of the System's financial statements. This narrative provides an overview of the System's financial activity for the fiscal year ended June 30, 2018. This analysis is to be considered in conjunction with the financial statements to provide an objective analysis of the System's financial activities based on the status of the System and issues currently facing management.

Understanding the Employees' Retirement System Financial Statements

The System administers seven defined benefit pension plans for state employees, teachers, teachers' survivors, state police, judges, and employees of participating municipalities. State employees and teachers are combined into one cost-sharing plan while teachers' survivors, state police, judges appointed after December 31, 1989, active judges appointed before January 1, 1990, and municipal employees each have separate plans. The System also administers a defined contribution plan for certain state employees, teachers, and employees of participating municipalities.

The *Statements of Fiduciary Net Position* provide a snapshot of the financial position of the System at June 30, 2018. The *Statements of Changes in Fiduciary Net Position* summarize the additions and deductions that occurred during the fiscal year.

The *Notes to the Financial Statements* provide additional information essential to a full understanding of the financial statements.

The *Required Supplementary Information* consists of schedules and related notes, which over time will be built to present 10 years of historical data. These schedules present each plan's net pension liability (asset) and changes in the net pension liability (asset) between years. A schedule of investment returns presents the annual money-weighted return for each defined benefit plan. A schedule of contributions is presented for each plan, which details required and actual contributions to the plan including covered payroll information.

Financial Highlights for the Fiscal Year Ended June 30, 2018

- ❑ The System's fiduciary net position increased by \$424.5 million from \$8.8 billion at June 30, 2017 to \$9.2 billion at June 30, 2018.
- ❑ Total pension benefits paid to members from the defined benefit plans were \$953 million, an insignificant difference when compared to the fiscal year ended June 30, 2017.
- ❑ Contributions to all defined benefit plans from both employers and employees at June 30, 2018 were \$595 million, a decrease of \$15 million or 2.4% compared to the fiscal year ended June 30, 2017.
- ❑ Total employee and employer contributions into the System's defined contribution plan were \$119.8 million at June 30, 2018, an increase of \$3.4 million.
- ❑ Total distributions paid to members from the defined contribution plan were \$16.2 million.
- ❑ The net income from investing activities within the defined benefit plans (Pooled Investment Trust) was \$633.2 million for the fiscal year ended June 30, 2018. Investment gains within the defined contribution plan totaled \$61.4 million.

Management's Discussion and Analysis

Financial Analysis

The System provides retirement and disability benefits from the defined benefit plan to State employees, public school teachers, participating municipal general and public safety employees, state police officers and judges. The ability to provide these benefits are funded through member and employer contributions and investment income. The fiduciary net position is available to satisfy the financial obligations to members, retirees, and beneficiaries.

The total net position restricted for pensions at June 30, 2018 increased to \$9.2 billion when compared to \$8.8 billion at June 30, 2017.

The following tables illustrate the condensed Net Position and Condensed Changes in Net Position for ERSRI for the fiscal years ended June 30, 2018 and June 30, 2017.

Assets, Liabilities and Fiduciary Net Position – All Plans (in millions)		
	<u>June 30, 2018</u>	<u>June 30, 2017</u>
Assets:		
Cash and cash equivalents	\$ 4.6	\$ 14.4
Investments	9,186.4	8,758.5
Contribution and other receivables	<u>59.9</u>	<u>55.2</u>
Total assets	<u>9,250.9</u>	<u>8,828.1</u>
Liabilities:		
Accounts payable	<u>5.2</u>	<u>6.9</u>
Total liabilities	<u>5.2</u>	<u>6.9</u>
Fiduciary Net Position:	<u>\$ 9,245.7</u>	<u>\$ 8,821.2</u>

Total assets increased by \$424.5 million, or 4.8%, for the fiscal year ending June 30, 2018 when compared to fiscal year ending June 30, 2017. Cash and cash equivalents at June 30, 2018 decreased \$9.8 million when compared to fiscal year ending June 30, 2017. At the end of the prior fiscal year ERSRI received distributions from privately-held investments that were held in a short-term cash position, due to the timing of the distribution, until they could be reinvested. The balance at June 30, 2018 to maintain a cash reserve to meet monthly capital requirements is consistent with the historical cash position of ERSRI. The increase in the total fiduciary net position can primarily be attributed to higher investment earnings. The increase of \$427.9 million, or 4.9%, of investments can be attributed to an increase in the global markets and the allocation policy of the portfolio. Contributions and other receivables increased \$4.7 million, or 8.5%, due to a increase in the amounts due from employers at June 30, 2018.

Total liabilities decreased \$1.7 million, or -24.6%, for the fiscal year ending June 30, 2018 due to the timing of what was owed to vendors and a decrease in the amounts due to other plans within ERSRI.

Management's Discussion and Analysis

Summary of Changes in Fiduciary Net Position – All Plans (in millions)		
	Year Ended June 30, 2018	Year Ended June 30, 2017
Additions:		
Contributions	\$ 715.4	\$ 726.6
Net investment gain	694.6	942.3
Service credit transfers	<u>17.6</u>	<u>7.4</u>
Total Additions	<u>1,427.6</u>	<u>1,676.3</u>
Deductions:		
Benefits and distributions	969.3	965.6
Refunds of contributions	6.4	7.5
Administrative expenses	9.8	9.5
Service credit transfers	<u>17.6</u>	<u>7.4</u>
Total Deductions	<u>1,003.1</u>	<u>990.0</u>
Increase in Net Position:	424.5	686.3
Fiduciary Net Position:		
Beginning of year	<u>8,821.2</u>	<u>8,134.9</u>
End of year	<u>\$ 9,245.7</u>	<u>\$ 8,821.2</u>

Additions to Net Position

The revenues required to fund retirement and disability benefits for the defined benefit plans are accumulated from the contributions from employees and employers, as well as investment earnings. Employee and employer contribution revenue at June 30, 2018 was \$496.1 million for the defined benefit plan, a decrease of less than 1% when compared to \$497.8 million at June 30, 2017. Employee and employer contributions to the defined contribution plan was \$119.8 million at June 30, 2018, an increase of 2.9% when compared to \$116.4 million at June 30, 2017.

The State of Rhode Island's contributions for their portion of teachers' retirement at June 30, 2018 was \$98.1 million for the defined benefit plan, an increase of 1.6% when compared to \$96.5 million at June 30, 2017.

Contributions from employees and employers (except for the RIJRFT and SPRFT) are based on covered payroll. During fiscal year 2018 the covered payroll for each trust, with the exception of the SPRBT, experienced an increase when compared to fiscal 2017. Also, contribution rates for the members are prescribed in Rhode Island General Law and fixed by statute. The employer contributions are actuarially determined through annual funding valuations and are adjusted accordingly to meet the financial obligations of each Trust.

ERSRI recognized \$694.6 million in net investment gains at June 30, 2018. Improvement in the financial markets is the primary factor for the increase in the Net Position. The investment portfolio for the defined benefit plan recognized a net return of 8.03% at June 30, 2018.

Management's Discussion and Analysis

Deductions from Net Position

ERSRI was established to administer the funds of each Trust in order to provide lifetime retirement, survivor, and disability benefits to its membership. The primary categories that reduce the net position are benefit payments and distributions, refunds of contributions to members exiting the System, and the administrative expenses to operate ERSRI.

Benefits and distributions to members from the defined benefit plan at June 30, 2018 were \$953 million, an insignificant difference of less than 1% when compared to benefits at June 30, 2017. There was a moderate cost-of-living increase to eligible retirees, an increase in the number of retirees, and an increase in benefits resulting from higher average salaries of new retirees.

Distributions to members from the defined contribution plan at June 30, 2018 were \$16.2 million, an increase of 31.7% when compared to \$12.3 million at June 30, 2017. The increase is the result of the increased number of retirees eligible to elect distributions from this plan. The plan was created on July 1, 2012 for eligible members that did not have 20 years of service credit at June 30, 2012. Distributions are expected to increase as this plan matures and becomes a more significant portion of a member's retirement portfolio within ERSRI.

Refunds of contributions from the defined benefit plan at June 30, 2018 were \$6.4 million, a decrease of 14.7% when compared to \$7.5 million at June 30, 2017. The decrease in refunds is the result of a decrease in the number and dollar value of refund requests from terminated members.

Administrative expenses for both the defined benefit and defined contribution plans at June 30, 2018 were \$9.8 million, an increase of 3.2% when compared to \$9.5 million at June 30, 2017. The increase in fiscal year 2018 can be attributed to costs associated with the upgrade of the ERSRI line-of-business system, professional services, and facilities charges. Details of administrative expenses are listed in the *Schedule of Administrative Expenses* in the Supplementary Information section of this report.

Investments

The State Investment Commission (SIC) establishes long-term asset allocation policy, selects managers, and monitors investment performance of the plan. An asset allocation study is conducted every two to four years to identify an optimal diversified investment portfolio that maximizes return within an acceptable level of risk. As long-term investors, the SIC has committed to the strategic asset allocation that has been developed as part of a comprehensive asset allocation study. The asset allocation study incorporates return expectations, risks and correlations associated with each asset class, as well as the unique profile and objectives of the System.

The SIC seeks to achieve the targeted investment return set by the Retirement Board, while minimizing risk and satisfying the plan's need for steady cash flows. As a mature defined benefit plan where distributions exceed contributions, the System has to balance its short-term cash flow requirements with the much longer time horizon of its total obligations. Diversification across asset classes that respond differently to different market environments is a key tool used by the SIC to seek strong long-term returns. The allocation of assets among stocks, bonds, and alternative investments can have a significant impact on risk-adjusted investment performance.

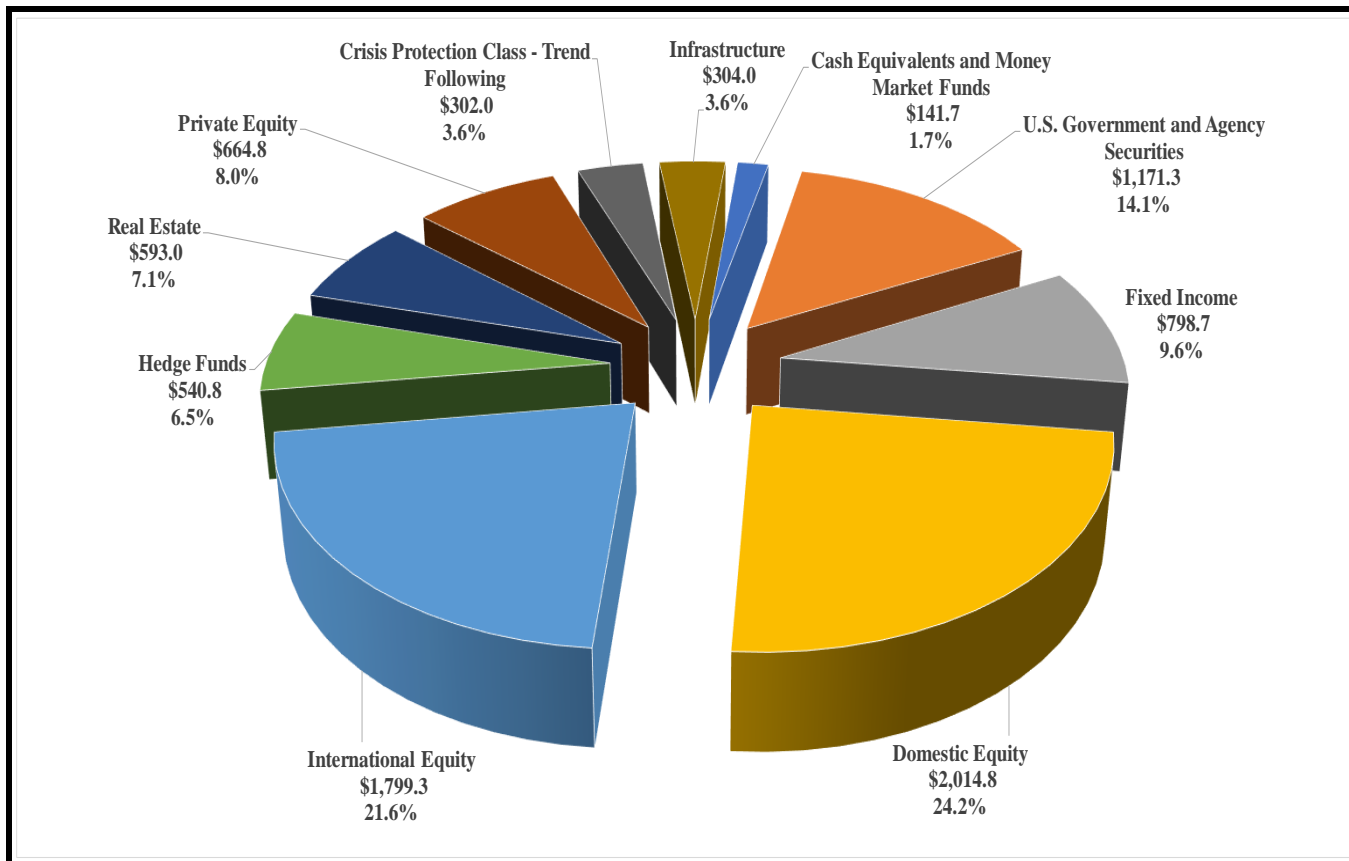
In June 2016, a new asset allocation study was carried out. Based on the study, significant changes were made to the current investment strategy. The study reframed the asset allocation, moving away from traditional classifications of asset classes and towards a more function-based asset allocation. The new

Management's Discussion and Analysis

“Back to Basics” strategy was designed to improve investment performance, protect the fund in the event of a crisis, and save taxpayers millions compared to the previous strategy. The changes were led by leading pension and investment experts in the United States. Among the highlights of the “Back to Basics” strategy is a significant reduction (approximately 50%) in the use of hedge funds. The study proposed a larger allocation to private assets (equity, credit, real estate and infrastructure) and for a dedicated allocation towards “income-based” strategies. During FY 2018 initiatives were taken to implement this strategy. As proceeds from the liquidated hedge funds were received, the new Crisis Protection asset class was fully implemented. In addition, strategic asset class definitions were refined, including the Private assets, and the new increased allocation to private assets continued.

Rhode Island maintains one of the most comprehensive expense disclosure policies in the nation. Since 2015, Rhode Island only invests with fund managers who agree to have their performance and expenses published regularly, a policy that has become a leading practice replicated by other states. In 2017, The Rhode Island General Assembly codified the disclosure policy in statute. While some investment managers selected prior to 2015 are grandfathered from the individualized reporting requirement, the Treasurer’s office has requested that they voluntarily allow disclosure, which many have agreed to do. In addition to displaying the fees and expenses charged by each fund individually, these financial statements include a comprehensive total of all manager fees and expenses paid out of the pension system by asset class. These totals reflect fees and expenses paid to every fund, including those grandfathered funds that declined to allow individualized disclosure.

Pooled Investment Trust – Asset Allocation - June 30, 2018
(in millions)



Having adopted the asset class targets of the most recent allocation study, the State Investment Commission may tactically adjust these targets based on market conditions and opportunities, as well as any timing required for prudent implementation. The SIC engages external investment managers to manage

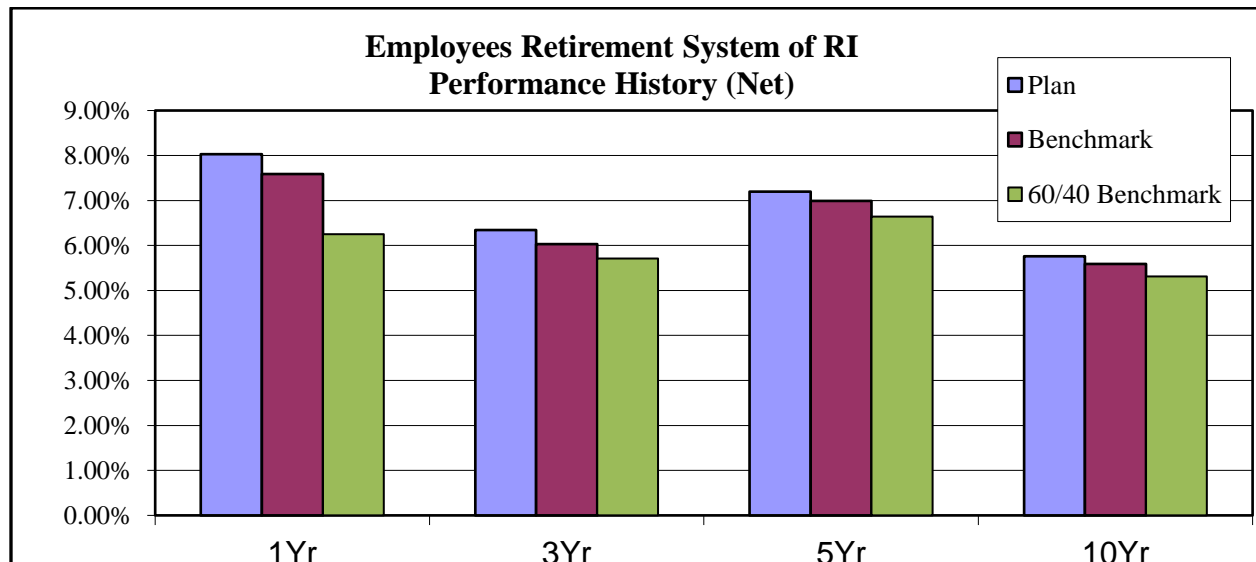
Management's Discussion and Analysis

portions of the portfolio, and performance is measured in relation to benchmarks adopted for each asset category. A composite benchmark, based on weighted asset allocations, is used to measure overall manager performance. Asset allocation performance is assessed by comparing returns to a basic allocation of 60% global equities/40% domestic bonds. The SIC assesses asset classes and managers over suitably long time frames, and on the basis of expected future returns.

For the defined contribution plan (401A), the SIC has selected a menu of investment options, which are made available to participants. The options include, but are not limited to, target-date retirement funds corresponding to an employee's anticipated retirement date. Approximately 91% of defined contribution plan assets are invested in target-date retirement funds.

Investment Performance

The System's one-year, time-weighted net rate of return was 8.03% which was above the composite benchmark (7.53%) and the 60/40 basic allocation's (6.25%) return. The three-year average was 6.34%, which was 33bps above the 6.01% benchmark return and 63bps better than the 60/40 benchmark's 5.71% return. The five-year average was 7.20%, which exceeded the 6.98% benchmark return by 22 bps and was 56bps better than the 60/40 at 6.64%.



The composite benchmark is weighted based on asset allocation targets. It is currently comprised:

- 40.0% MSCI All Country World Net Index
- 11.0% ILPA All Funds Index 1Q Lag
- 11.5% Barclays Aggregate
- 6.5% HFRI Fund of Funds Composite Index
- 3.0% Bank of America Merrill Lynch 3-month US Treasury Bill
- 4.0% NFI-ODCE Index
- 1.0% Barclays US Treasury Inflation Notes: 1-10 Year Index
- 3.5% custom loan and high yield index – 50.0% Bank of America Merrill Lynch US High Yield, 50.0% Credit Suisse Leveraged Loan Index
- 2.5% NFI-ODCE Index 1Q Lag + 2.5%
- 1.5% ILPA/Cambridge Distressed Securities Index
- 3.0% S&P LSTA Leveraged Loan Index + 3%
- 4.0% Credit Suisse Managed Futures (18% Vol) Liquid Index
- 4.0% Barclays Long Duration US Treasury Index
- 2.0% CPI 1 month lag + 4%
- 1.0% Bloomberg Barclays Commodity Total Return Index
- 1.5% Alerian Master Limited Partnerships Total Return Index

The composite benchmark for each of the years shown in the chart reflects the asset allocation targets in place for that fiscal year and the related indices used to measure performance.

The 60% global equity/40% bonds benchmark is 60% MSCI All-Country World and 40% Barclays Aggregate.

Management's Discussion and Analysis

Additional Investment Performance Reporting

The investment performance discussed in the previous section is the time-weighted return, as reported by the System's investment custodian for the Pooled Investment Trust as a whole. In accordance with implementation of GASB Statement No. 67, investment performance is also measured on a money-weighted return basis for each defined benefit retirement plan. The money-weighted returns for each defined benefit plan are disclosed in the notes to the financial statements and the required supplementary information section. The money-weighted return reflects each individual plan's specific cash inflows and outflows, as well as the overall portfolio returns.

The System's actuarial investment return assumption is 7.0% for all plans except the Judicial Retirement Fund Trust which uses a 4.0% investment return assumption. This return expectation is adopted by the Retirement Board on recommendation by the plan's actuary. It is based on a thirty-year horizon. The actuarial value of assets is determined based on a five-year smoothing methodology.

Fiscal 2018 investment returns within the defined contribution plan(401A) ranged from -0.53% to +16.51% depending on investment options that plan members chose from the available options.

Net Pension Liability (Asset) of the Plans within the System

Independent actuarial valuations of the System are conducted each year. Due to the implementation of Governmental Accounting Standards Board (GASB) Statement No. 67 – *Financial Reporting for Pension Plans*, the System presents the accounting measures of the net pension liability (asset) for each of the defined benefit plans. Calculation of the net pension liability (asset) of the plans is performed by the actuary in accordance with GASB requirements. The total pension liability and net pension liability are based on actuarial valuations performed as of June 30, 2017, rolled-forward to June 30, 2018 using generally accepted actuarial principles from the valuation date to the plan's fiscal year end.

This accounting measure of the net pension liability (asset) of each plan is different from the actuarial valuations performed for funding purposes and the determination of annual contributions to each of the defined benefit plans. One of the principal differences is that the accounting measure of the net pension liability at June 30, 2018 utilizes each plan's fiduciary net position, which reflects the fair value of investments at that date. For funding purposes, the actuarial valuation uses the actuarial value of assets, which reflects a five-year smoothed asset valuation.

The measurement of the net pension liabilities for all defined benefit plans, except for the RIJRFT, utilized the System's investment return assumption of 7.0%. The RIJRFT utilized Fidelity's 20-Year Municipal GO AA Bond Index rate of 3.62%. The calculation of the net pension liability (asset) was measured as of June 30, 2018

The Teachers' Survivors Benefit plan was over-funded with a fiduciary net position equal to 137.4% of the plan's total pension liability at June 30, 2018. The fiduciary net position of the ERS plan covering state employees and teachers was equal to 52.5% and 54.3% respectively of the total pension liability measure for each of those employee groups. The fiduciary net position of the State Police and JRBT plans was equal to 83.6% and 92.8% respectively of the total pension liability measure for each of those employee groups. The fiduciary net position of the RIJRFT plan covering a small group of judges was equal to 3.8% of the total pension liability for that plan due to the recent formation of the plan and the State (employer) using a mostly pay-as-you-go funding approach. The fiduciary net position of the agent MERS plans covering general employees and police and fire personnel was equal to 79.6% and 76.2% respectively of the total pension liability measure for those employee groups. The fiduciary net position of a new plan created July 1, 2016 for retired state police hired before July 1, 1987 was 9.5% of the total pension liability. Prior to creation of the trust, the State followed a pay-as-you-go rather than an advance funded approach.

Management's Discussion and Analysis

All employers participating in the System's plans contributed 100% of their annual actuarially determined contribution during fiscal 2018, except for the State not providing the full employer contribution for the Rhode Island Judicial Retirement Fund Trust.

Future Contribution Rates

The fiscal 2019 employer contribution rates are based upon the actuarial valuations performed for funding purposes at June 30, 2016. The employer contribution rates for fiscal 2019 are 26.28% for State employees (reflecting an additional 0.53% to fund the impact of a retirement incentive program offered to certain state employees), 23.51% for Teachers, 20.28% for Judges, and 14.74% for State Police. For the Rhode Island Judicial Retirement Fund Trust and Non-Contributing State Police Retirement Fund Trust, the actuarially determined employer contribution is \$1,240,501 and \$16,546,020, respectively, for fiscal 2019.

Contacting the System's Management

This discussion and analysis presentation is designed to provide a general overview of the System's financial activity. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Employees' Retirement System, 50 Service Avenue, Warwick, RI, 02886.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
Statements of Fiduciary Net Position
June 30, 2018

	Defined Benefit Plans						Defined Contribution Plan	Memorandum Total	
	ERS	TSB	MERS	SPRBT	JRBT	RIJRFT			SPRFT
Assets									
Cash and cash equivalents (Note 4)	\$ 1,511,136	\$ 969,942	\$ 1,049,124	\$ 53,846	\$ 686,917	\$ 184,563	\$ 100,983	\$ -	\$ 4,556,511
Receivables									
Contributions	28,290,083	14,880	3,817,149	48,583	28,080	-	-	-	32,198,775
Due from State for teachers	19,302,971	-	-	-	-	-	-	-	19,302,971
Other	1,527,867	2,539	245,230	2,606	-	33,251	-	-	1,811,493
Total receivables	49,120,921	17,419	4,062,379	51,189	28,080	33,251	-	-	53,313,239
Prepaid assets (Note 3)	3,489,267	159,283	745,136	56,738	29,005	135	8,841	-	4,488,405
Due from other plans	1,522,394	-	554,318	-	-	-	-	-	2,076,712
Investments at fair value									
Equity in pooled trust (Note 5)	6,219,834,949	326,618,311	1,555,945,701	138,603,526	72,715,269	588,440	16,152,103	-	8,330,458,299
Defined contribution plan investments (Note 6)	-	-	-	-	-	-	-	856,009,867	856,009,867
Total investments	6,219,834,949	326,618,311	1,555,945,701	138,603,526	72,715,269	588,440	16,152,103	856,009,867	9,186,468,166
Total Assets	6,275,478,667	327,764,955	1,562,356,658	138,765,299	73,459,271	806,389	16,261,927	856,009,867	9,250,903,033
Liabilities									
Accounts payable	2,730,255	(28,284)	377,525	31,330	15,377	143	3,598	-	3,129,944
Due to other plans	554,318	-	1,522,394	-	-	-	-	-	2,076,712
Total Liabilities	3,284,573	(28,284)	1,899,919	31,330	15,377	143	3,598	-	5,206,656
Net position restricted for pensions	\$ 6,272,194,094	\$ 327,793,239	\$ 1,560,456,739	\$ 138,733,969	\$ 73,443,894	\$ 806,246	\$ 16,258,329	\$ 856,009,867	\$ 9,245,696,377

The accompanying notes are an integral part of this financial statement.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
Statements of Changes in Fiduciary Net Position - Fiscal Year Ended June 30, 2018

	Defined Benefit Plans							Defined Contribution Plan	Memorandum Total
	ERS	TSB	MERS	SPRBT	JRBT	RJRFT	SPRFT		
Additions									
Contributions (Note 7)									
Member contributions	\$ 89,903,432	\$ 744,035	\$ 17,709,035	\$ 2,007,867	\$ 1,142,163	\$ 116,757		\$ 92,018,737	\$ 203,642,026
Employer contributions	315,176,351	744,035	47,003,638	2,797,003	2,057,529	399,012	16,387,092	27,828,956	412,393,616
State contribution for teachers (Note 7c)	98,120,835	-	-	-	-	-	-	-	98,120,835
Supplemental employer contributions (Note 7d)	1,058,820	-	-	-	-	-	-	-	1,058,820
Service credit transfer payments	14,456,756		3,114,275						17,571,031
Interest on service credits purchased	81,455	-	16,143	2,002	-	-		-	99,600
Total contributions	518,797,649	1,488,070	67,843,091	4,806,872	3,199,692	515,769	16,387,092	119,847,693	732,885,928
Investment Income									
Net appreciation in fair value of investments	459,222,538	23,755,716	112,986,091	9,972,862	5,208,393	42,148	1,101,447	60,293,462	672,582,657
Interest	47,258,028	2,456,085	11,687,384	1,031,354	539,147	4,363	127,241	-	63,103,602
Dividends	27,605,928	1,434,333	6,827,815	603,795	315,657	2,554	70,094	1,137,953	37,998,129
	534,086,494	27,646,134	131,501,290	11,608,011	6,063,197	49,065	1,298,782	61,431,415	773,684,388
Less investment expense (Note 3)	(59,058,526)	(3,093,794)	(14,735,384)	(1,309,599)	(686,434)	(5,555)	(161,844)	-	(79,051,136)
Net investment income	475,027,968	24,552,340	116,765,906	10,298,412	5,376,763	43,510	1,136,938	61,431,415	694,633,252
Miscellaneous revenue	22,217		147	245	-	-		11,500	34,109
Total Additions	993,847,834	26,040,410	184,609,144	15,105,529	8,576,455	559,279	17,524,030	181,290,608	1,427,553,289
Deductions									
Retirement benefits	816,851,265	9,602,181	96,822,308	5,933,726	2,833,077	399,015	17,273,412	-	949,714,984
Death benefits	2,778,667	-	702,000	-	-	-	-	-	3,480,667
Distributions	-	-	-	-	-	-	-	16,181,976	16,181,976
Refund of contributions	4,678,432	275,135	1,207,726	90,127	123,329	-	-	-	6,374,749
Service credit transfer payments	13,424,486	-	4,146,545						17,571,031
Administrative expense (Note 9)	6,407,239	330,288	1,566,863	136,371	71,270	646	5,304	1,232,204	9,750,185
Total Deductions	844,140,089	10,207,604	104,445,442	6,160,224	3,027,676	399,661	17,278,716	17,414,180	1,003,073,592
Net Increase	149,707,745	15,832,806	80,163,702	8,945,305	5,548,779	159,618	245,314	163,876,428	424,479,697
Net position restricted for pensions									
Beginning of year	6,122,486,349	311,960,433	1,480,293,037	129,788,664	67,895,115	646,628	16,013,015	692,133,439	8,821,216,680
End of year	\$ 6,272,194,094	\$ 327,793,239	\$ 1,560,456,739	\$ 138,733,969	\$ 73,443,894	\$ 806,246	\$ 16,258,329	\$ 856,009,867	\$ 9,245,696,377

The accompanying notes are an integral part of this financial statement.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

1. System Description and Governance

The Employees' Retirement System of the State of Rhode Island (the System) acts as a common investment and administrative agent for pension benefits to be provided through seven defined benefit retirement plans and one defined contribution plan as listed below:

<i>Plan Name</i>	<i>Type of Plan</i>
Employees' Retirement System (ERS)	Cost-sharing multiple-employer defined benefit plan
Teachers' Survivors Benefits (TSB)	Cost-sharing multiple-employer defined benefit plan
Municipal Employees' Retirement System (MERS)	Agent multiple-employer defined benefit plan
State Police Retirement Benefits Trust (SPRBT)	Single-employer defined benefit plan
Judicial Retirement Benefits Trust (JRBT)	Single-employer defined benefit plan
RI Judicial Retirement Fund Trust (RIJRFT)	Single-employer defined benefit plan
RI State Police Retirement Fund Trust (SPRFT)	Single-employer defined benefit plan
Rhode Island Defined Contribution Plan	Defined contribution plan

Each plan's assets are accounted for separately and may be used only for the payment of benefits to the members of that plan, in accordance with the terms of that plan.

The System's financial statements are included as Pension Trust Funds within the Fiduciary Funds in the Comprehensive Annual Financial Report of the State of Rhode Island and Providence Plantations. The accompanying financial statements are not intended to present the financial position and results of operations of the State.

The System is administered by the State of Rhode Island Retirement Board which was authorized, created and established in the Office of the General Treasurer as an independent retirement board to hold and administer, in trust, the funds of the retirement system. The fifteen members of the retirement board are: the general treasurer or his or her designee who shall be a subordinate within the general treasurer's office; the director of administration or his or her designee who shall be a subordinate within the department of administration; a representative of the budget office or his or her designee from within the budget office, who shall be appointed by the director of administration; the president of the league of cities and towns or his or her designee; two (2) active state employee members of the retirement system or officials from state employee unions to be elected by active state employees; two (2) active teacher members of the retirement system or officials from a teachers union to be elected by active teachers; one active municipal employee member of the retirement system or an official from a municipal employees union to be elected by active municipal employees; two (2) retired members of the retirement system to be elected by retired members of the system; and four (4) public members, all of whom shall be competent by training or experience in the field of finance, accounting or pensions; two (2) of the public members shall be appointed by the governor, one of whom shall serve an initial term of three (3) years and one of whom shall serve an initial term of four (4) years and until his or her successor is appointed and qualified; and two (2) of the public members shall be appointed by the general treasurer, one of whom shall serve an initial term of three (3) years and one of whom shall serve an initial term of four (4) years and until his or her successor is appointed and qualified. Thereafter, the term of these four (4) public members shall be for four (4) years or until their successors are appointed and qualified by the Senate.

The System's purpose is to provide retirement benefits to state employees, public school teachers, certain general and public safety municipal employees, state police officers, and judges.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

1. System Description and Governance (continued)

A summary of membership by plan follows:

	<i>Retirees and beneficiaries</i>	<i>Terminated plan members entitled to but not yet receiving benefits</i>	<i>Active Vested</i>	<i>Active Non-vested</i>	<i>Total by Plan</i>
Actuarial valuation as of June 30, 2017					
ERS					
State Employees	11,078	3,384	8,302	2,850	25,614
Teachers	11,211	3,501	11,076	2,234	28,022
TSB	573	3,789	7,121	-	11,483
MERS					
General Employees	4,636	2,849	4,211	1,769	13,465
Public Safety	801	206	1,172	349	2,528
SPRBT	71	47	26	206	350
JRBT	20	-	15	40	75
RIJRFT	2	-	5	-	7
SPRFT	269	-	-	-	269
Total by type	28,661	13,776	31,928	7,448	81,813

The defined contribution plan at June 30, 2018 included 160 employers and 36,009 plan participants.

2. Plan Membership and Benefit Provisions

Membership and benefit provisions are outlined in the Rhode Island General Laws and are subject to modification by the General Assembly. Modifications to pension benefit and eligibility provisions have been made in recent years as well as the comprehensive pension reform provisions contained in the Rhode Island Retirement Security Act enacted on November 18, 2011 and effective July 1, 2012. Legal challenges to those pension reforms were settled with the final settlement approved by the Court on July 8, 2015. The General Assembly amended the various sections of the General Laws containing those benefit provisions consistent with the terms of the settlement agreement. Those provisions are generally effective beginning July 1, 2015. The benefit provisions for each of the plans as outlined below were those in effect for fiscal 2015. Reference is made in each section to a summary of benefit and contribution provisions that will be in effect for future years.

Accordingly, specific member retirement benefit and eligibility provisions vary depending upon a number of factors including years of service, age, and vesting provisions.

The ERS was established and placed under the management of the Retirement Board for the purpose of providing retirement allowances for employees of the State of Rhode Island under the provisions of chapters 8 to 10, inclusive, of Title 36, and public school teachers under the provisions of chapters 15 to 17, inclusive, of Title 16 of the Rhode Island General Laws.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

2. Plan Membership and Benefit Provisions (continued)

EMPLOYEES' RETIREMENT SYSTEM (ERS)

Plan members - The plan covers most State employees other than certain personnel at the State colleges and university (principally faculty and administrative personnel). The plan also covers teachers, including superintendents, principals, school nurses, and certain other school officials in the public schools in the cities and towns. Membership in the plan is mandatory for all covered state employees and teachers. Elected officials may become members on an optional basis and legislators may participate if elected to office prior to January 1, 1995.

Certain employees of the Rhode Island Airport Corporation (hired before July 1, 1993), the Rhode Island Commerce Corporation (active contributing members and employees of the Department of Economic Development before October 31, 1995 who elected to continue membership) and, the Narragansett Bay Water Quality District Commission (members of a collective bargaining unit) are also covered and have the same benefits as State employees.

Plan vesting provisions – after five years of service.

Retirement eligibility and plan benefits – are summarized in the following table:

Schedule		Retirement Eligibility	Benefit accrual rates	Maximum benefit
(A)	Completed 10 years of service on or before July 1, 2005 and eligible to retire as of September 30, 2009	Age 60 with 10 years of service or after 28 years of service at any age	Effective until June 30, 2012: 1.7% for each of first ten years 1.9% for each of next ten years 3.0% for each of next fourteen years 2% for the 35 th year Effective July 1, 2012: 1.0% per year through June 30, 2015. Effective July 1, 2015, for members with 20 years of service as of July 1, 2012: 2% per year	80% of final average earnings (3 consecutive highest years)
(AB)	Completed 10 years of service on or before July 1, 2005 but ineligible to retire as of September 30, 2009	Minimum retirement age of 62 and ten years of service with a downward adjustment of the minimum retirement age based on the years of service credit as of September 30, 2009	Effective until June 30, 2012: Same accrual rates as (A) above to September 30, 2009 and then Schedule B rates (below) thereafter Effective July 1, 2012: 1.0% per year through June 30, 2015. Effective July 1, 2015, for members with 20 years of service as of July 1, 2012: 2% per year	80% of final average earnings (5 consecutive highest years)
(B)	Less than 10 years of service before July 1, 2005 and eligible to retire as of September 30, 2009	Age 65 with 10 years of service or after 29 years of service and age 59	Effective until June 30, 2012: 1.6% for each of first ten years 1.8% for each of next ten years 2.0% for each of next five years 2.25% for each of next five years 2.5% for each of next seven years 2.25% for the 38 th year Effective July 1, 2012: 1.0% per year	75% of final average earnings (5 consecutive highest years)

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

2. Plan Membership and Benefit Provisions (continued)

(B1)	Less than 10 years of service before July 1, 2005 and ineligible to retire as of September 30, 2009	Age 65 with ten years of service, or age 62 with at least 29 years of service with a downward adjustment of the minimum retirement age based on the years of service credit as of September 30, 2009	Same as Schedule B	75% of final average earnings (5 consecutive highest years)
(B2)	Less than 5 years of service as of July 1, 2012	Social Security Retirement Age and 5 years of contributory service	1.6% for each of first ten years Effective July 1, 2012: 1.0% per year	75% of final average earnings (5 consecutive highest years)

Effective July 1, 2015 general employees with more than 20 years of service at July 1, 2012 increased their employee contribution rates to 11% and will participate solely in the defined benefit plan. Members will receive a benefit accrual of 2% per year based on the three or five-year average compensation.

Effective July 1, 2015 employees are eligible to retire upon the attainment of: age 65 with 30 years of service, 64 with 31 years of service, 63 with 32 years of service, or 62 with 33 years of service. Members may retire earlier if their RIRSA date is earlier or are eligible under a transition rule.

State correctional officers may retire at age 50 with 20 years of service. However, if not eligible to retire as of September 30, 2009, the minimum retirement age was modified to 55 with 25 years of service credit for correctional officers and registered nurses at the Department of Behavioral Healthcare, Developmental Disabilities, and Hospitals.

The plan provides for survivor's benefits for service-connected death and certain lump sum death benefits.

Joint and survivor options are available to members. For members with 10 years of service as of July 1, 2005, the Service Retirement Allowance (SRA) Plus option provides for the payment of a larger benefit before the attainment of age sixty-two (62) and a reduced amount thereafter. The reduced amount is equal to the benefit before age sixty-two (62), including cost-of-living increases, minus the member's estimated social security benefit payable at age sixty-two (62).

Vested members that have 10 or more years of contributing service credit on June 30, 2012, may choose to retire at a retirement eligibility date that was calculated as of September 30, 2009, if the member continues to work and make retirement contributions until that date. If the member chooses this option, their retirement benefits will be calculated using the benefit that they have accrued as of June 30, 2012 - members will accumulate no additional defined benefits after this date, but the benefit will be paid without any actuarial reduction.

State employees and public school teachers may retire with a reduced pension benefit if they have 20 years of service credit and they are within five years of their retirement date as prescribed in the Rhode Island Retirement Security Act (RIRSA). The actuarially reduced benefit will be calculated based on how close the member is to their RIRSA eligibility date.

2. Plan Membership and Benefit Provisions (continued)

Cost of Living Adjustments – The Cost of Living Adjustment (COLA) has been suspended until the collective ERS, SPRBT and JRBT plans reach a funded status of 80%. The COLA provision will be reviewed in a four-year interval while the plans are less than 80% funded. When the collective funding level of a plan exceeds 80%, eligible retirees may receive a COLA annually effective on their date of retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5% (5-year return – 5.0%, with a max of 4%) and 50% calculated using the increase in the CPI-U from the prior September 30 (max of 3%) for a total maximum COLA of 3.5%.

The benefit adjustments are provided to all retirees entitled to receive a benefit adjustment as of June 30, 2012 under the law then in effect, and for all other retirees, the benefit adjustments shall commence upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. For members (and their beneficiaries) retiring after June 30, 2015, the annual benefit adjustment provided in any calendar year is equal to the lesser of either the member's retirement allowance or the first \$26,291 (indexed as of January 1, 2018) of retirement allowance multiplied by the percentage resulting from the COLA calculation as outlined in the preceding paragraph. The retirement amount subject to the COLA calculation is indexed annually in the same percentage as the COLA determination and is run annually regardless of the collective funding status.

For members and/or beneficiaries of members who retired on or before June 30, 2015 the current indexed amount of \$26,291 is replaced with \$31,549 (indexed as of January 1, 2018) until the funded ratio of the ERS, SPRBT and JRBT, calculated by the system's actuary on an aggregate basis, exceeds eighty percent (80%). At such time, the benefit adjustments will then be provided on the lower amount (currently indexed at \$26,291).

Disability retirement provisions - the plan also provides nonservice-connected disability benefits after five years of service and service-connected disability pensions with no minimum service requirement. Effective for applications filed after September 30, 2009, accidental disability will be available at 66 2/3% for members who are permanently and totally disabled as determined by the Retirement Board. If the disability is determined to be partial and the member is able to work in other jobs, the benefit will be limited to 50%. Disability benefits are subject to annual review by the Retirement Board.

Other plan provisions - Service credit purchases, excluding contribution refund paybacks and military service, requested after June 16, 2009 are calculated at full actuarial cost.

TEACHERS' SURVIVORS BENEFITS (TSB)

Plan members – the TSB covers all teachers in 24 school districts who do not participate in Social Security.

Plan vesting provisions – Survivors are eligible for benefits if the member has made contributions for at least six months prior to death or retirement.

Eligibility and plan benefits - the plan provides a survivor benefit to public school teachers in lieu of Social Security since not all school districts participate in the plan. The cost of the benefits provided by the plan are two percent (2%) of the member's annual salary up to but not exceeding an annual salary of \$11,500; one-half (1/2) of the cost is contributed by the member by deductions from his or her salary, and the other half (1/2) is contributed and paid by the respective school district by which the member is employed. These contributions are in addition to the contributions required for regular pension benefits.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

2. Plan Membership and Benefit Provisions (continued)

Spouse, parents, family and children's benefits are payable following the death of a member. A spouse shall be entitled to benefits upon attaining the age of sixty (60) years. Children's benefits are payable to the child, including a stepchild or adopted child of a deceased member if the child is unmarried and under the age of eighteen (18) years or twenty-three (23) years and a full-time student, and was dependent upon the member at the time of the member's death. Family benefits are provided if at the time of the member's death the surviving spouse has in his or her care a child of the deceased member entitled to child benefits. Parents' benefits are payable to the parent or parents of a deceased member if the member did not leave a widow, widower, or child who could ever qualify for monthly benefits on the member's wages and the parent has reached the age of 60 years, has not remarried, and received support from the member. In January, a yearly cost-of-living adjustment for spouse's benefits is paid and based on the annual social security adjustment.

The TSB plan provides benefits based on the highest salary at the time of retirement of the teacher. Benefits are payable in accordance with the following table:

<u>Highest Annual Salary</u>	<u>Basic Monthly Spouse's or Domestic Partner's Benefit</u>
\$17,000 or less	\$ 825
\$17,001 to \$25,000	\$ 963
\$25,001 to \$33,000	\$ 1,100
\$33,001 to \$40,000	\$ 1,238
\$40,001 and over	\$ 1,375

Benefits payable to children and families are equal to the spousal benefit multiplied by the percentage below:

Parent and 1 Child	Parent and 2 or more Children	One Child Alone	Two Children Alone	Three or more Children Alone	Dependent Parent
150%	175%	75%	150%	175%	100%

Cost of Living Adjustments – current eligible members' beneficiaries of the TSB receive the same COLA granted to members of Social Security. There was a 2.0% increase as of January 1, 2018.

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM (MERS)

The MERS was established under the Rhode Island General Laws and placed under the management of the Retirement Board to provide retirement allowances to employees of municipalities, housing authorities, water and sewer districts, and municipal police and fire persons that have elected to participate.

Plan members – A summary of participating employers is listed below:

Municipalities, housing authorities, water and sewer districts	69
Municipal police and fire departments	<u>48</u>
Total participating units as of the actuarial valuation at June 30, 2017	<u>117</u>

Plan vesting provisions – after five years of service.

2. Plan Membership and Benefit Provisions (continued)

Retirement eligibility and plan benefits – For general employees prior to June 30, 2012 the plan provided retirement benefits equal to 2% of a member's final average salary multiplied by the number of years of total service up to a maximum of 75%. Such benefits are available to members at least age 58 with 10 years of service or after 30 years of service at any age. Benefits accrued at June 30, 2012 are protected under the Rhode Island Retirement Security Act until it is exceeded by the member's full years of service credit, including service after June 30, 2012, multiplied by the average of five consecutive years of compensation. Effective July 1, 2012 the retirement age mirrors the Social Security Normal Retirement Age not to exceed age 67. Members will receive a benefit accrual of 1.0% per year based on the five-year average compensation.

Effective July 1, 2015 general employees with more than 20 years of service at July 1, 2012 will increase their employee contribution rates to 8.25% (9.25% for units with a cost of living adjustment provision) and will participate solely in the defined benefit plan. Members will receive a benefit accrual of 2% per year based on the three or five-year average compensation.

Effective July 1, 2015 general employees are eligible to retire upon the attainment of: age 65 with 30 years of service, 64 with 31 years of service, 63 with 32 years of service, or 62 with 33 years of service. Members may retire earlier if their RIRSA date is earlier or are eligible under a transition rule.

Joint and survivor options are available. For members with 10 years of service as of July 1, 2005, the Service Retirement Allowance (SRA) Plus option provides for the payment of a larger benefit before the attainment of age sixty-two (62) and a reduced amount thereafter. The reduced amount is equal to the benefit before age sixty-two (62), including cost-of-living increases, minus the member's estimated social security benefit payable at age sixty-two (62).

Prior to June 30, 2012, police and fire personnel may retire at age 55 if they have 10 years of service or after 25 years of service at any age. An option may be elected to provide a 20-year service pension with a benefit equal to 2.5% for each year of service up to a maximum of 75% for police and fire personnel. Benefits are based on the average of the highest three consecutive years' earnings, exclusive of overtime.

From June 30, 2012 to June 30, 2015, retirement age for police and fire personnel is 55 years old with 25 years of total service or for members with five years of service but less than 25 years of service the new retirement age will mirror the Social Security Normal Retirement Age not to exceed 67. Police officers or firefighters, that are at least 45 years old, have 10 or more years of contributing service and are eligible to retire prior to age 52 under the law in effect on June 30, 2012, may retire at age 52. Effective July 1, 2015, police and fire personnel may retire at age 50 with 25 years of service, or any age with 27 years of service. MERS police and fire personnel will contribute 9.00% (10.00% for units with a cost of living adjustment).

As of June 30, 2012, members will continue to have a frozen benefit accrual of 2.0% per year for a standard 25 year with any age and out plan; 2.5% for a standard 20 year with any age and out plan. Effective July 1, 2012 the optional 20 and 25 year with retirement at any age plans have been eliminated. The benefit accrual for all plans will be 2.0% per year based on the five-year average compensation, exclusive of overtime. Police and fire employees may retire with a reduced pension benefit if they have 20 years of service and are within five years of their retirement eligibility. The actuarially reduced benefit will be calculated based on how close the member is to the eligibility date that is prescribed in the Rhode Island Retirement Security Act.

The plan also provides survivor's benefits; and certain lump sum death benefits.

2. Plan Membership and Benefit Provisions (continued)

Cost of Living Adjustments – An optional cost-of-living provision may be elected for police and fire personnel and general employees. The Cost of Living Adjustment (COLA) has been suspended for any unit whose funding level is less than 80%. The COLA provision will be reviewed in a four-year interval while the plans are less than 80% funded. When the funding level of a plan exceeds 80% funded eligible retirees may receive a COLA annually effective on the date of their retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5% (5-year return – 5.0%, with a max of 4%) and 50% calculated using the increase in the CPI-U from the prior September 30 (max of 3%) for a total maximum COLA of 3.5%.

The benefit adjustments are provided to all retirees entitled to receive a benefit adjustment as of June 30, 2012 under the law then in effect, and for all other retirees the benefit adjustments shall commence upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. For police and fire employees that retired under the provisions of § 45-21.2-5(b)(1)(A), the benefit adjustment provided shall commence on the later of the third anniversary of the date of retirement or the date on which the retiree reaches age fifty-five (55); or for police and fire employees retiring under the provisions of §45-21.2-5(b)(1)(B), the benefit adjustment shall commence on the later of the third anniversary of the date of retirement or the date on which the retiree reaches age fifty (50). For all present and former employees, active and retired members, and beneficiaries receiving any retirement, disability or death allowance or benefit of any kind, the annual benefit adjustment provided in any calendar year is equal to the lesser of either the member's retirement allowance or the first \$26,291 (indexed as of January 1, 2018) of retirement allowance, multiplied by the percentage resulting from the COLA calculation as outlined in the preceding paragraph. The retirement amount subject to the COLA calculation is indexed annually in the same percentage as the COLA determination and is run annually regardless of the collective funding status.

For members and/or beneficiaries of members who retired on or before June 30, 2015, the indexed amount of \$26,291 is replaced with \$31,549 (indexed as of January 1, 2018) until the municipal plan's funded ratio, calculated by the system's actuary, exceeds eighty percent (80%). At such time, the benefit adjustments will then be provided on the lower amount (currently indexed at \$26,291).

The actual COLA paid to retirees effective January 1, 2018 within MERS units that had achieved an 80% funding status was 1.51%. Retirees within 52 MERS units received the COLA.

Disability retirement provisions - The plan also provides nonservice-connected disability benefits after 5 years of service; service-connected disability pensions with no minimum service requirement.

STATE POLICE RETIREMENT BENEFITS TRUST (SPRBT)

The State Police Retirement Benefits Trust was established under Rhode Island General Law Section 42-28-22.1 and was placed under the management of the Retirement Board for the purpose of providing retirement allowances to State Police.

Plan members – the plan covers all State Police and Superintendents hired after July 1, 1987.

Retirement eligibility and plan benefits – Prior to June 30, 2012 the plan generally provides retirement benefits equal to 50% of final salary after 20 years of service, plus 3.0% of final salary times service in excess of 20 years through 25 years to a maximum of 65% of final salary. Such benefits are available to members after 20 years of service regardless of age. The Superintendent of the State Police will receive 50% of his/her final salary and may retire after attainment of age 60 and 10 years of service.

2. Plan Membership and Benefit Provisions (continued)

The General Laws were amended such that any member of the state police, other than the superintendent, who is hired on or after July 1, 2007 and who has served for twenty-five (25) years shall be entitled to a retirement allowance of 50% of the final salary. In addition, any member may serve up to a maximum of 30 years, and shall be allowed an additional amount equal to 3.0% for each completed year served after 25 years to a maximum retirement allowance not to exceed 65% of the final salary.

Benefits are based on the final base salary earned at retirement including longevity increment, holiday pay, clothing allowance and up to 400 overtime hours.

Effective July 1, 2012 state police officers are eligible to retire once they have accrued a retirement benefit equal to 50% of their whole salary, with mandatory retirement once they have accrued a retirement benefit equal to 65% of their whole salary. State police officers will earn a 2% accrual rate for each year of contributing service. Benefits will be calculated on the average of the highest five consecutive years of salary, including up to 400 hours of mandatory overtime service. Benefits accrued as of June 30, 2012 will be protected under the Rhode Island Retirement Security Act.

Cost of Living Adjustments – The Cost of Living Adjustment (COLA) has been suspended until the collective ERS, SPRBT and JRBT plans reach a funded status of 80%. The COLA provision will be reviewed in a four-year interval while the plans are less than 80% funded. When the collective funding level of a plan exceeds 80%, eligible retirees may receive a COLA annually effective on their date of retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5% (5-year return – 5.0%, with a max of 4%) and 50% calculated using the increase in the CPI-U from the prior September 30 (max of 3%) for a total maximum COLA of 3.5%.

The benefit adjustments are provided to all retirees entitled to receive a benefit adjustment as of June 30, 2012 under the law then in effect, and for all other retirees, the benefit adjustments shall commence upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. For members (and their beneficiaries) retiring after June 30, 2015, the annual benefit adjustment provided in any calendar year is equal to the lesser of either the member's retirement allowance or the first \$26,291 (indexed as of January 1, 2018) of retirement allowance multiplied by the percentage resulting from the COLA calculation as outlined in the preceding paragraph. The retirement amount subject to the COLA calculation is indexed annually in the same percentage as the COLA determination and is run annually regardless of the collective funding status.

For members and/or beneficiaries of members who retired on or before June 30, 2015 the current indexed amount of \$26,291 is replaced with \$31,549 (indexed as of January 1, 2018) until the funded ratio of the ERS, SPRBT and JRBT, calculated by the system's actuary on an aggregate basis, exceeds eighty percent (80%). At such time, the benefit adjustments will then be provided on the lower amount (currently indexed at \$26,291).

Disability retirement provisions - the plan provides nonservice-connected disability benefits after 10 years of service and service-connected disability pensions with no minimum service requirement.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

2. Plan Membership and Benefit Provisions (continued)

JUDICIAL RETIREMENT BENEFITS TRUST (JRBT)

The Judicial Retirement Benefits Trust was established under Rhode Island General Laws 8-8.2-7; 8-3-16; 8-8-10.1; 28-30-18.1; and was placed under the management of the Retirement Board for the purpose of providing retirement allowances to Justices of the Traffic Tribunal, Supreme, Superior, Family, District and Workers Compensation courts.

Plan members – the plan covers all Judges appointed after December 31, 1989.

Retirement eligibility and plan benefits – are summarized in the following table:

Judges appointed	Retirement benefit
<i>After:</i> December 31, 1989 but before July 2, 1997	75% of the final salary at the time of retirement after 20 years of service, or 10 years of service and attainment of age 65. Judges retiring after 20 years of service after age 65 or 15 years of service after age 70 receive full retirement benefits, which is the final salary at time of retirement.
<i>After:</i> July 2, 1997 but before January 1, 2009	Same as above except, salary is the average highest three (3) consecutive years of compensation rather than final salary.
<i>After:</i> January 1, 2009 but before July 1, 2009	Judges with 20 years of service after age 65 or judges with 15 years of service after age 70 will receive 90% of the average of the highest three consecutive years of compensation. Judges appointed on or after January 1, 2009 with 10 years of service and age 65 or 20 years of service at any age are entitled to a reduced benefit of 70% of the average highest three consecutive years of compensation. Judges designating a survivor benefit with 20 years of service and age 65 or 15 years of service and age 70 receive a reduced benefit equal to 80% of the average highest three consecutive years of compensation. Judges designating a survivor benefit with 10 years of service after age 65 or 20 years of service at any age receive a reduced benefit equal to 60% of the average highest three consecutive years of compensation.
<i>After:</i> July 1, 2009	Judges with 20 years of service after age 65 or with 15 years of service after age 70 will receive 80% of the average of the highest five consecutive years of compensation. Judges with 10 years of service and age 65 or 20 years of service at any age are entitled to a reduced benefit of 65% of the average highest five consecutive years of compensation. Judges designating a survivor benefit with 20 years of service and age 65 or 15 years of service and age 70 receive a reduced benefit equal to 70% of average highest five consecutive years of compensation. Judges designating a survivor benefit with 10 years of service after age 65 or 20 years of service at any age receive a reduced benefit equal to 55% of average highest five consecutive years of compensation.

Certain survivor benefits are also provided to judges who are plan members, which is 50% of the benefit amount payable to the judicial member.

2. Plan Membership and Benefit Provisions (continued)

Cost of Living Adjustments – The Cost of Living Adjustment (COLA) has been suspended until the collective ERS, SPRBT and JRBT plans reach a funded status of 80%. The COLA provision will be reviewed in a four-year interval while the plans are less than 80% funded. When the collective funding level of a plan exceeds 80%, eligible retirees may receive a COLA annually effective on their date of retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5% (5-year return – 5.0%, with a max of 4%) and 50% calculated using the increase in the CPI-U from the prior September 30 (max of 3%) for a total maximum COLA of 3.5%.

The benefit adjustments are provided to all retirees entitled to receive a benefit adjustment as of June 30, 2012 under the law then in effect, and for all other retirees, the benefit adjustments shall commence upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. For members (and their beneficiaries) retiring after June 30, 2015, the annual benefit adjustment provided in any calendar year is equal to the lesser of either the member's retirement allowance or the first \$26,291 (indexed as of January 1, 2018) of retirement allowance multiplied by the percentage resulting from the COLA calculation as outlined in the preceding paragraph. The retirement amount subject to the COLA calculation is indexed annually in the same percentage as the COLA determination and is run annually regardless of the collective funding status.

For members and/or beneficiaries of members who retired on or before June 30, 2015 the current indexed amount of \$26,291 is replaced with \$31,549 (indexed as of January 1, 2018) until the funded ratio of the ERS, SPRBT and JRBT, calculated by the system's actuary on an aggregate basis, exceeds eighty percent (80%). At such time, the benefit adjustments will then be provided on the lower amount (currently indexed at \$26,291).

STATE OF RHODE ISLAND JUDICIAL RETIREMENT FUND TRUST (RIJRFT)

Effective July 1, 2012 and pursuant to Rhode Island General Law section 8-3-16, the retirement board established a trust to collect proceeds for the purpose of paying retirement benefits to participating judges or their beneficiaries.

Plan members – the plan covers seven (7) judges appointed prior to January 1, 1990. These members are active judges (as of June 30, 2012) appointed prior to January 1, 1990 that do not participate in the Judicial Retirement Benefit Trust. Prior to creating the trust, benefits for these members were intended to be funded on a pay-as-you-go basis. To the extent assets in the trust are insufficient to fund member benefits, the State would also fund retirement benefits on a pay-as-you-go basis as it does for sixty-five (65) retired judges and surviving beneficiaries that were not members of either judicial plan. The employee contribution rate is 12% of salary (except for members of the Supreme Court who contribute 8.75%).

Retirement eligibility and plan benefits – The plan generally provides retirement benefits for members who have served as a justice of the supreme court, the superior court, the family court, the district court, for 20 years (or a combination of service in various courts) and has reached the age of 65 years, or has served 15 years, and reached the age of 70 years may retire from regular service and receive a benefit equal to the annual salary the justice was receiving at the time of their retirement. Members of the traffic tribunal who served as a justice for 20 years, or has served for 10 years and reached age 65 years may retire from regular service and receive a benefit equal to 75% of the annual salary at the time of retirement. However, any traffic tribunal judge who has served 20 years and has reached age 65 years, or has served

2. Plan Membership and Benefit Provisions (continued)

for 15 years and reached age 70 years may retire from active service and receive a benefit equal to annual salary the justice was receiving at the time of their retirement.

Cost of Living Adjustments – The Cost of Living Adjustment (COLA) has been suspended until the collective ERS, SPRBT and JRBT plans reach a funded status of 80%. The COLA provision will be reviewed in a four-year interval while the plans are less than 80% funded. When the collective funding level of a plan exceeds 80%, eligible retirees may receive a COLA annually effective on their date of retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5% (5-year return – 5.0%, with a max of 4%) and 50% calculated using the increase in the CPI-U from the prior September 30 (max of 3%) for a total maximum COLA of 3.5%.

The benefit adjustments are provided to all retirees entitled to receive a benefit adjustment as of June 30, 2012 under the law then in effect, and for all other retirees, the benefit adjustments shall commence upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. For members (and their beneficiaries) retiring after June 30, 2015, the annual benefit adjustment provided in any calendar year is equal to the lesser of either the member's retirement allowance or the first \$26,291 (indexed as of January 1, 2018) of retirement allowance multiplied by the percentage resulting from the COLA calculation as outlined in the preceding paragraph. The retirement amount subject to the COLA calculation is indexed annually in the same percentage as the COLA determination and is run annually regardless of the collective funding status.

For members and/or beneficiaries of members who retired on or before June 30, 2015 the current indexed amount of \$26,291 is replaced with \$31,549 (indexed as of January 1, 2018) until the funded ratio of the ERS, SPRBT and JRBT, calculated by the system's actuary on an aggregate basis, exceeds eighty percent (80%). At such time, the benefit adjustments will then be provided on the lower amount (currently indexed at \$26,291).

STATE OF RHODE ISLAND STATE POLICE RETIREMENT FUND TRUST (SPRFT)

Effective June 8, 2016 and pursuant to Rhode Island General Law section 42-28-22.1, the retirement board established a trust to collect proceeds for the purpose of paying retirement benefits to participating members of the state police initially hired on or before July 1, 1987, or their beneficiaries.

The trust was established to reduce the amount of the unfunded liability attributable to the retirement benefits for members of the state police hired on or before July 1, 1987. The trust was funded with monies obtained from the Department of Justice's Equitable Sharing Program, resulting from a settlement in which \$45 million of such settlement was allocated for use by the state police. Pursuant to Rhode Island General Law section 42-28-22.2, the State shall deposit contributions for the members of the state police initially hired on or before July 1, 1987 to be held in trust. The trust was established with a \$15 million supplemental contribution (from funds available to the State from the Department of Justice's Equitable Sharing Program) that was deposited in fiscal 2017. Taking into account the initial supplemental contribution, as certified by the State's actuary, the unfunded actuarial liability will be amortized over an 18 year period. The State will make annual contributions into the trust for this funding period, or until the unfunded accrued liability is fully amortized. This trust is a closed plan because there are no longer any active members.

2. Plan Membership and Benefit Provisions (continued)

Plan members – the plan covers members of the state police hired on or before July 1, 1987. Prior to creating the trust, benefits for these members were intended to be funded on a pay-as-you-go basis.

Retirement eligibility and plan benefits – The plan generally provides retirement benefits equal to 50% of final salary after 20 years of service, members that retired after July 1, 1972 could earn an additional 3.0% of final salary times service in excess of 20 years through 25 years to a maximum of 65% of final salary. Such benefits are available to members after 20 years of service regardless of age.

Cost of Living Adjustments – The Cost of Living Adjustment (COLA) has been suspended until the collective ERS, SPRBT and JRBT plans reach a funded status of 80%. The COLA provision will be reviewed in a four-year interval while the plans are less than 80% funded. When the collective funding level of a plan exceeds 80%, eligible retirees may receive a COLA annually effective on their date of retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5% (5-year return – 5.0%, with a max of 4%) and 50% calculated using the increase in the CPI-U from the prior September 30 (max of 3%) for a total maximum COLA of 3.5%.

The benefit adjustments are provided to all retirees entitled to receive a benefit adjustment as of June 30, 2012 under the law then in effect, and for all other retirees, the benefit adjustments shall commence upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. For members (and their beneficiaries) retiring after June 30, 2015, the annual benefit adjustment provided in any calendar year is equal to the lesser of either the member's retirement allowance or the first \$26,291 (indexed as of January 1, 2018) of retirement allowance multiplied by the percentage resulting from the COLA calculation as outlined in the preceding paragraph. The retirement amount subject to the COLA calculation is indexed annually in the same percentage as the COLA determination and is run annually regardless of the collective funding status.

For members and/or beneficiaries of members who retired on or before June 30, 2015 the current indexed amount of \$26,291 is replaced with \$31,549 (indexed as of January 1, 2018) until the funded ratio of the ERS, SPRBT and JRBT, calculated by the system's actuary on an aggregate basis, exceeds eighty percent (80%). At such time, the benefit adjustments will then be provided on the lower amount (currently indexed at \$26,291).

DEFINED CONTRIBUTION PLAN

The State of Rhode Island Defined Contribution Retirement Plan (the "Plan") is a defined contribution (money purchase) plan that operates under Section 401(a) of the Internal Revenue Code. The Plan was established under Rhode Island General Law section 36-10.3-2 and was placed under the management of the Retirement Board. The Retirement Board is the Plan administrator and Plan trustee. The law authorizes the State Investment Commission to select the appropriate third-party administrator for the Plan and to adopt Plan, trust, and/or custodial documents subject to certain guidelines outlined in the statute. The State Investment Commission is responsible for implementing the investment policy of the Plan and selecting the investment options available to members. TIAA-CREF serves as record keeper for the Plan and Plan assets are held by J.P. Morgan as investment custodian.

2. Plan Membership and Benefit Provisions (continued)

Plan members – The plan covers members of the defined benefit plan within the Employees' Retirement System of Rhode Island with less than 20 years of service as of June 30, 2012, excluding legislators, correction officers, judges, state police, and MERS general police and fire employees who participate in Social Security. For covered employees, participation in the defined contribution plan is mandatory.

Plan vesting provisions – The total amount contributed by the member, including associated investment gains and losses, shall immediately vest in the member's account and is non-forfeitable. The total amount contributed by the employer, including associated investment gains and losses, vests with the member and is non-forfeitable upon completion of three (3) years of contributory service. Service credit under ERS or MERS prior to July 1, 2012 is credited to the member for vesting purposes.

Member accounts – Each member's account is credited with the member and employer's contribution and an allocation of the plan's earnings. Allocations are based on a relationship of the member's account balance in each investment fund to the total of all account balances in that fund. The retirement benefit to which a member is entitled is the benefit that can be provided from the member's account.

Forfeitures – Non-vested employer contributions are forfeited upon termination of employment. Such forfeitures can be used by employers to offset future remittances to the plan.

Contributions – The plan's benefits are funded by contributions from the participants and the employer, as specified in Rhode Island General Law 36-10.3-4 and 36-10.3-5.

Eligible state employees and teachers and MERS general employees that participate in Social Security contribute 5% of the member's compensation. Teachers and MERS general employees not covered by Social Security must contribute 7% of their compensation.

Employers contribute to these member's individual accounts an amount equal to 1% to 1.5% of the member's compensation depending upon years of service for those participating in Social Security. For eligible members who do not participate in Social Security, the employers contribute an amount equal to 3.0% to 3.5% depending upon years of service.

Investment options – Member and employer contributions may be invested in a variety of investment options broadly diversified with distinct risk and return characteristics. The investment options provide opportunities to diversify across the risk-return spectrum with a range of investment choices within varied asset classes.

The investment programs are managed by TIAA-CREF and have various investment strategies.

Retirement benefits – Benefits may be paid to a member after severance from employment, death, Plan termination, or upon a deemed severance from employment for participants performing qualified military service. At a minimum, retirement benefits must begin no later than April 1 of the calendar year following the year in which you attain age 70 ½ or terminate employment, if later. Members have the option to receive benefit payments in the form of a Single Life Annuity, Two Life Annuity, Lump Sum Benefit, or Installments. These payments are subject to any restrictions in the investment vehicles.

3. Summary of Significant Accounting Policies

These financial statements were prepared in accordance with accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Board (GASB). The Governmental Accounting Standards Board (GASB) is responsible for establishing generally accepted accounting principles for defined benefit and defined contribution plans established and administered by governmental entities.

Basis of Accounting - The financial statements of the System are prepared on the accrual basis of accounting. Under this method, revenues are recorded when earned and expenses are recorded when incurred.

Cash and Cash Equivalents - Cash represents cash held in trust in a financial institution. Cash equivalents are highly liquid investments with a maturity of three months or less at the time of purchase.

Investments - Investment transactions are recorded on a trade date basis. Gains or losses on foreign currency exchange contracts are included in income consistent with changes in the underlying exchange rates. Dividend income is recorded on the ex-dividend date.

Method Used to Value Investments - Investments are recorded in the financial statements 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.

Short-term investments are generally carried at cost or amortized cost, which approximates fair value.

The fair value of fixed income securities and domestic and international equity securities is generally based on published market prices and quotations from national security exchanges and securities pricing services.

Commingled funds include institutional domestic equity index and international equity index funds. The fair value of these commingled funds is based on the reported net asset value (NAV) based upon the fair value of the underlying securities or assets held in the fund.

Derivative investments (e.g., futures contracts and credit default swaps) are valued at the settlement price established each day by the board of trade or exchange on which they are traded.

The System also trades in foreign exchange contracts to manage exposure to foreign currency risks. Such contracts are used to purchase and sell foreign currency at a guaranteed future price. The change in the estimated fair value of these contracts, which reflects current foreign exchange rates, is included in the determination of the fair value of the System's investments.

Other investments that are not traded on a national security exchange (primarily private equity, real estate, hedge funds, infrastructure investments, and Crisis Protection Class – Trend Following) are valued based on the reported Net Asset Value (NAV) by the fund manager or general partner. Publicly traded investments held by the partnerships are valued based on quoted market prices. If not publicly traded, the fair value is determined by the general partner following U.S. generally accepted accounting principles. Financial Accounting Standards Board ASC Topic 820, *Fair Value Measurements and Disclosures*, requires the limited partnership general partners for these investment types to value non-publicly traded assets at current fair value, taking into consideration the financial performance of the issuer, cash flow analysis, recent sales prices, market comparable transactions, a new round of financing, a change in economic conditions, and other pertinent information.

3. Summary of Significant Accounting Policies (continued)

Hedge funds, private equity, real estate, infrastructure and crisis protection class – trend following investments represented 6.5%, 8.0%, 7.1%, 1.8%, and 3.6% respectively of the total reported fair value of all ERSRI investments at June 30, 2018.

Investment expenses – Investment expenses include investment consultant fees, custodial fees, direct investment expenses paid to managers, and certain indirect expenses allocated by managers to fund or partnership investors. Certain Office of the General Treasurer expenses associated with oversight of the pooled investment trust are also allocated and included as investment expenses. When indirect investment expenses for certain types of investments (e.g., hedge funds, private equity, real estate, infrastructure, and crisis protection class), are not reported separately to System management and the investment custodian, additional information is obtained to allow reporting of the System's share of such indirect investment expenses on a gross fee basis.

The System changed its method of reporting investment expenses in fiscal 2018 from reporting certain investment income and related expenses on a net of fees basis to reporting all material investment expenses on a gross fee basis to enhance transparency of all investment related expenses. The change had no effect on net position of the defined benefit plans participating in the pooled investment trust.

Net investment income within the defined contribution plan is reported on a net-of-fees basis.

Contributions - Plan member contributions for the defined benefit plans are recognized in the period in which the wages, subject to required contributions, are earned for the performance of duties for covered employment. Employer contributions to each defined benefit plan are recognized when due and the employer has made a formal commitment to provide the contributions.

Plan member and employer contributions for the defined contribution plan are contributed to the member's individual account in the plan as a defined percentage of the member's compensation paid during the plan year ending June 30.

Benefits - Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

Prepaid Assets – These assets represent the amounts paid to a vendor pursuant to a contract to design, transition, and implement new line-of-business, general ledger accounting system, and payroll administration systems. Under the new system development and operations contract, the vendor will supply and operate the system for the contract period. Consequently, no capital asset related to the new system are recognized or depreciated. The amounts paid before the system became operational have been accounted for as prepaid assets items in prior years. Beginning in fiscal year 2017, when system operations fully commenced, that prepaid amount is amortized ratably over the remaining contract period.

Memorandum Total Columns - Total columns on the financial statements are captioned “memorandum only” to indicate that they are presented only to facilitate financial analysis. Data in these columns are not comparable to a consolidation. Inter-fund eliminations have not been made in the aggregation of this data.

Use of Estimates – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingencies. These estimates are subject to a certain amount of uncertainty in the near term, which could result in changes in the values reported for those assets in the statements of fiduciary net position. Because of the

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

3. Summary of Significant Accounting Policies (continued)

inherent uncertainty in the valuation of privately held securities, the fair value may differ from the values that would have been used if a ready market for such securities existed, and the difference can be material. Estimates also affect the reported amounts of income/additions and expenses/deductions during the reporting period. Actual results could differ from these estimates.

4. Cash Deposits and Cash Equivalents

At June 30, 2018, the carrying amounts of the plans' cash deposits are listed below:

Cash Deposits	ERS/TSB	MERS	SPRBT	JRBT	RIJRFT	SPRFT	Total
Book Balance	\$ 2,481,078	\$ 1,049,124	\$ 53,846	\$ 686,917	\$ 184,563	\$ 100,983	\$ 4,556,511
Bank Balance	\$ 2,578,464	\$ 1,064,317	\$ 53,846	\$ 686,917	\$ 184,563	\$ 100,983	\$ 4,669,090

The bank and book balances represent the plans' deposits in short-term trust accounts, which include demand deposit accounts and interest-bearing, collateralized bank deposit accounts. The bank balances, include interest-bearing collateralized bank deposits and are either federally insured or collateralized (102%) with U.S. Treasury, agencies, and federal home loan bank letters of credit held by a third party custodian.

In accordance with Rhode Island General Law Chapter 35-10.1, depository institutions holding deposits of the State, its agencies or governmental subdivisions of the State shall, at a minimum, insure or pledge eligible collateral equal to one hundred percent of time deposits with maturities greater than sixty days. Any of these institutions that do not meet minimum capital standards prescribed by federal regulators shall insure or pledge eligible collateral equal to one hundred percent of deposits, regardless of maturity. None of the System's deposits were required to be collateralized at June 30, 2018 (excluding the collateralized interest-bearing deposits). However, the State Investment Commission has adopted a collateralization requirement for institutions holding the State's deposits. Financial institutions are required to pledge collateral equal to 102% of the deposit amounts that are not insured by federal depository insurance. Unless FHLB letters of credit are used as collateral, in which case those are required at 100%.

The General Treasurer makes certain short-term investments on a daily basis. Rhode Island General Law Section 35-10-11 (b)(3) requires that all investments shall be made in securities as would be acquired by prudent persons of discretion and intelligence who are seeking a reasonable income and the preservation of capital.

5. Investments – Pooled Investment Trust

(a). General

The custodian bank holds assets of the System in a Pooled Investment Trust and each plan holds units in the trust. The number of units held by each plan is a function of each plans' respective contributions to, or withdrawals from, the trust.

Investment policy - The State Investment Commission (SIC) oversees all investments made by the State of Rhode Island, including those made for the System's Pooled Investment Trust. The establishment of the SIC, its legal authority and investment powers are outlined in Chapter 35-10 of the Rhode Island General Laws.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

The SIC has adopted a Defined Benefit Investment Policy Statement which includes specific asset allocation targets and asset class policies. The most recent policy statement was adopted by the SIC on June 27, 2018 and may be amended by a majority vote of SIC members. The SIC's asset allocation policy seeks to achieve the assumed rate of return adopted by the System over the long-term while reducing risk through the prudent diversification of the portfolio across various asset classes.

The following was the SIC's adopted asset allocation policy targets as of June 30, 2018:

Asset Class	Target Asset Allocation
<i>GROWTH</i>	
Global Equity	40.0%
Private Growth	15.0%
<i>INCOME</i>	8.0%
<i>STABILITY</i>	
Crisis Protection Class	8.0%
Inflation Protection	8.0%
Volatility Protection	21.0%
Total	100.0%

Consistent with a target asset allocation model adopted by the State Investment Commission (SIC), the System directs its separate-account investment managers to maintain, within the mandate specified by the SIC, diversified portfolios by sector, credit rating and issuer using the prudent person standard, which is the standard of care employed solely in the interest of the participants and beneficiaries of the funds and for the exclusive purpose of providing benefits to participants and defraying reasonable expenses of administering the funds.

Specific manager performance objectives are outlined and generally stated in relation to a benchmark or relevant index. These guidelines also include prohibited investments, limitations on maximum exposure to a single industry or single issuer, a minimum number of holdings within the manager's portfolio and, for fixed income managers, minimum credit quality ratings and duration/maturity targets.

Investment expense is allocated to each plan based on the plan's units in the Pooled Investment Trust at the end of each month.

The following table presents the fair value of investments by type that are held within the Pooled Investment Trust for the defined benefit plans at June 30, 2018:

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

<u>Investment Type</u>	<u>Fair Value</u>
Cash and Cash Equivalents:	
US Cash	\$ 4,558,508
Commercial Paper	39,954,074
Repurchase Agreements	21,300,000
Non-US Cash	6,830,392
Money Market Mutual Funds	109,460,241
US Government Securities	897,273,498
US Government Agency Securities	274,245,506
Non-US Government Securities	4,162,181
Collateralized Mortgage Obligations	11,310,671
Corporate Bonds	496,934,899
Term Loans	286,239,366
Commingled Funds - Domestic Equity	1,307,512,229
Commingled Funds - International Equity	1,300,805,657
Domestic Equity Securities	707,264,758
International Equity Securities	498,525,713
Private Equity	664,803,143
Real Estate	593,000,787
Hedge Funds	540,853,644
Crisis Protection Class - Trend Following - Limited partnerships	302,006,176
Infrastructure	304,028,083
Derivatives:	
Futures	458,319
Credit Default Swaps	231,252
Investments at Fair Value	\$ 8,371,759,098
Investment receivable	885,054,759
Investment payable	(926,355,558)
Total Pooled Investment Trust	\$ 8,330,458,299

Repurchase agreements included as cash equivalent investments are collateralized with U.S. Government Securities equal to or exceeding 102% of the agreement amount. Such collateral is held by a third-party agent.

(b) Fair value hierarchy

The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels:

Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date.

Level 2 inputs are other than quoted prices included within Level 1—that are observable for an asset or liability, either directly or indirectly.

Level 3 includes unobservable inputs for an asset or liability.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs. If the fair value of an asset or a liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

Investments and Derivative Instruments Measured at Fair Value

Investments at Fair Value	Fair Value June 30, 2018	Quoted Prices in Active Market for Identical Assets (level 1)	Significant Other Observable Inputs (level 2)	Significant Unobservable Inputs (level 3)
<u>Equity Investments</u>				
Global Equity	\$ 1,205,790,471	\$ 1,205,790,471	\$	\$
Infrastructure-publicly traded	154,003,176	154,003,176		
	1,359,793,647	1,359,793,647	-	-
<u>Fixed Income</u>				
US Government Securities	897,273,498	897,273,498		
US Government Agency Securities	274,245,506		274,245,506	
Non - US Government Securities	4,162,181			4,162,181
Corporate Bonds	496,934,899		496,934,899	
Collateralized Mortgage Obligations	11,310,671		11,310,671	
Term loans	286,239,366			286,239,366
	1,970,166,121	897,273,498	782,491,076	290,401,547
<u>Derivative Investments</u>				
Equity and Fixed Income Index Futures	458,319	458,319		
Other Derivatives	231,252		231,252	
	689,571	458,319	231,252	
Repurchase Agreements	21,300,000		21,300,000	
Commercial Paper	39,954,074		39,954,074	
Total Investment at Fair Value Level	\$ 3,391,903,413	\$ 2,257,525,464	\$ 843,976,402	\$ 290,401,547
<u>Investments Measured at Net Asset Value (NAV)</u>				
Money Market Mutual Funds	\$ 109,460,241			
Commingled Funds - Domestic Equity	1,307,512,229			
Commingled Funds - International Equity	1,300,805,657			
Hedge Funds	540,853,644			
Private Equity	664,803,143			
Real Estate	593,000,787			
Private Infrastructure	150,024,907			
Crisis Protection Class - Trend Following	302,006,176			
	4,968,466,784			
<u>Cash and Cash Equivalents</u>				
US Cash	4,558,508			
Non US Cash	6,830,392			
	11,388,900			
<u>Net Investment Payable</u>	(41,300,798)			
Total Pooled Investment Trust	\$ 8,330,458,299			

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Term loans classified in Level 3 are valued using consensus pricing.

Derivative instruments classified in Level 2 of the fair value hierarchy are valued using a market approach that considers benchmark interest rates and foreign exchange rates.

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) is presented on the following table.

	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Redemption (if currently eligible)</u>	<u>Redemption Notice Period</u>
Money Market Mutual Funds(1)	\$ 109,460,241	-	daily	none
Commingled Funds - Domestic Equity (2)	1,307,512,229	-	daily	none
Commingled Funds - International Equity (2)	1,300,805,657	-	bi-monthly	see note below
Hedge Funds (3)	540,853,644	-	see note below	see note below
Private Equity (4)	664,803,143	552,784,000	see note below	see note below
Real Estate (5)	593,000,787	63,505,541	see note below	see note below
Infrastructure Investments (6)	150,024,907	98,109,000	see note below	see note below
Crisis Protection Class - Trend Following (7)	302,006,176	-	see note below	see note below
	<u>\$ 4,968,466,784</u>	<u>\$ 714,398,541</u>		

- (1) **Money market mutual funds** - these investments are used as temporary cash management investments for amounts pending investment or for amounts liquidated from investments pending distribution for pension benefits. The fair value of these money market funds reflects the net asset value reported by the fund administrator which is a stable \$1 per unit. The underlying investments which are short-term cash equivalent type investments are generally carried at amortized cost which approximates fair value. There are no withdrawal limitations for the money market mutual funds.
- (2) **Commingled funds** – consist of one domestic and three international equity index funds which are intended to replicate the performance of a specific index; e.g., Russell 3000. The fair values of the investments in this type have been determined using the NAV per share of the investments as reported by the commingled fund manager which reflects the exchange pricing of the equity holdings within each fund. The international equity commingled funds may only be redeemed at scheduled intervals twice per month. There are no withdrawal limitations for the domestic equity index fund.
- (3) **Hedge funds** – this portfolio is comprised of 9 (7 active and 2 in liquidation) limited partnerships divided into two sub-categories: global equity and absolute return. Global equity funds are designed to benefit from the stock market with considerably less risk. They own stakes in companies they expect to outperform and also sell short stocks that they expect to underperform. Absolute return hedge funds employ strategies that seek to generate long-term returns and mitigate risk, regardless of broader market moves. The funds invest across asset classes, including government bonds, other fixed income securities, equity indexes, commodities, and currencies.

The fair values of the investments in this type have been determined using the NAV per share of the investments as reported by the general partner at June 30, 2018. Of the underlying holdings within the hedge funds approximately 69% were valued based on Tier 1 inputs (unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted investments).

5. Investments – Pooled Investment Trust (continued)

The system's investments in hedge funds are generally subject to “lock-up” provisions that limit (subject to certain exceptions) the ability to withdraw amounts previously invested for a period of one to three years after the initial investment. At June 30, 2018, investments totaling approximately \$1.5 million are subject to these withdrawal limitation provisions. The remainder of hedge fund assets is available for redemption on a month-end, quarter-end, semi-annual or annual basis, and is subject to notice periods which vary by fund and range from 2 days to 75 days.

As part of an overall change in asset allocation during fiscal 2017, the State Investment Commission opted to reduce its investment in hedge funds. Approximately, \$236 million was received during fiscal 2018 from the System's liquidation of certain hedge funds. At June 30, 2018, approximately \$1.5 million is pending and expected to be received during fiscal 2019. Cash will be distributed as investments are sold.

- (4) **Private equity** – these 86 limited partnership funds provide the portfolio exposure to private companies through equity and/or debt investments. Private equity fund managers invest in private companies with the goal of enhancing their value over the long-term.

The fair values of the investments in this type have been determined using the NAV per share of the investments as reported by the general partner at June 30, 2018.

Private equity – the investments cannot be redeemed. The nature of these investments provides for distributions through the liquidation of the underlying assets or net operating cash flows.

- (5) **Real Estate** – these 16 limited partnerships investments are comprised of two different private real estate equity components, Core and Non-Core, which generally refer to the relative levels of risk in the underlying assets. Core investments include existing, substantially leased, income-producing properties located principally in economically diversified metropolitan areas. Non-Core investments represent those properties and/or investment strategies that require specialized acquisition and management expertise and skill to mitigate the business and leasing risks that may be associated with individual investments. Non-Core investments, which may be referred to as Value Added and Opportunistic investments, are expected to be held for shorter periods, have greater volatility compared to Core investments, and as such, are expected to provide yields higher than those associated with Core investments.

These funds acquire, manage and sell physical properties, including office, retail, apartment, and industrial buildings as well as more niche property types, such as student housing, self-storage and hotels. The primary goals of this asset class are to provide current income, risk-adjusted total returns, and diversification.

The fair values of the investments in this type have been determined using the NAV per share of the investments as reported by the general partner at June 30, 2018.

With the exception of five core open-end funds which allow for quarterly redemptions, the investments cannot be redeemed. The nature of these investments provides for distributions through the liquidation of the underlying assets or net operating cash flows.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

- (6) **Infrastructure** – These four funds provide inflation-protection and current income to the portfolio through investments in facilities and services required for an economy to function including electricity production and distribution, pipelines, sewers and waste management, airports, roads, bridges, ports, railroads, telephone and cable networks, and hospitals. The fair values of the investments in this type have been determined using the NAV per share of the investments as reported by the general partner at June 30, 2018.

With the exception of one open-end core fund which allows for quarterly liquidity, the investments cannot be redeemed. The nature of these investments provides for distributions through the liquidation of the underlying assets or net operating cash flows.

- (7) **Crisis Protection Class – Trend Following** – These three funds were created as limited liability companies with the Employees' Retirement System of the State of Rhode Island as the sole member. The investment managers' principal investment objectives for the companies include:

- providing diversified exposure to market trends across asset classes, geographies and time horizons to generate sizable profits during the periods when growth-risk exposed assets decline significantly;
- generating significant medium-term capital growth independent of overall movements in traditional stock and bond markets within a rigorous risk management framework; and
- outperforming the Credit Suisse Liquid Alternative Beta Managed Futures Index (CLABT18 Index) over a 5-year period.

The fair values of the investments in this type have been determined using the NAV per share of the investments as reported by the general partner at June 30, 2018. As the Employees' Retirement System of the State of Rhode Island is the sole member, the limited liability company could be liquidated at its option. The nature of these investments provides for distributions through the liquidation of the underlying assets or net operating cash flows.

(c) Rate of Return

For the year ended June 30, 2018, the annual money-weighted returns on investments within each of the plans, net of investment expense, are shown in the following table. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

	ERS	TSB	MERS	SPRBT	JRBT	RIJRFT	SPRFT
Money-weighted rate of return – year ended June 30, 2018	7.85%	7.85%	7.87%	7.83%	7.76%	6.45%	6.91%

(d) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Duration is a measure of a debt security's sensitivity to fair value changes arising from changes in the level of interest rates. It is the weighted average maturity of a bond's cash flows.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

The State Investment Commission has adopted a Defined Benefit Investment Policy Statement which includes specific asset allocation targets and asset class policies. While the policy statement includes guidelines governing interest rate risk for certain asset classes, fixed income managers are given specific guidelines regarding duration and investment maturity based on their specific investment objective. These guidelines reflect the manager's strategy and the System's overall asset allocation targets and related objectives.

The System manages its exposure to interest rate risk by comparing each fixed income manager portfolio's effective duration against a predetermined benchmark index based on that manager's mandate. The fixed income indices currently used by the System are:

- Barclays US Aggregate Index
- Barclays US Treasury Inflation Notes - 1-10 Year Index
- Liquid Credit Custom BM: 50% BofA US High Yield Index + 50% Credit Suisse Leveraged Loan Index
- Long Duration BM: Barclays Long Duration US Treasury Index

At June 30, 2018, no fixed income manager was outside of their policy guidelines.

The following table shows the System's fixed income investments by type, fair value and the effective duration at June 30, 2018:

<u>Investment Type</u>	<u>Fair Value (in thousands)</u>	<u>Effective Duration</u>
US Government Securities	\$ 897,273	8.91
US Government Agency Securities	274,246	5.06
Non-US Government Securities	4,162	0.11
Collateralized Mortgage Obligations	11,311	1.54
Corporate Bonds	496,935	4.35
Term Loans	<u>286,239</u>	0.25
Total Fixed Income	<u>\$ 1,970,166</u>	5.65

The System had investments at June 30, 2018 totaling \$109 million in money market mutual funds including \$251 thousand in the Ocean State Investment Pool Trust (OSIP), an investment pool established by the State General Treasurer.

OSIP has met the criteria outlined in GASB Statement No. 79 – *Certain External Investment Pools and Pool Participants* to permit election to report its investments at amortized cost which approximates fair value. OSIP transacts with its participants at a stable net asset value (NAV) per share. Investments reported at the NAV are not subject to the leveling categorization as described above. There are no participant withdrawal limitations. The OSIP is not rated and the weighted average maturity of investments held in the pool, by policy, is not to exceed 60 days. OSIP issues a publicly available financial report that can be obtained by writing to the Office of the General Treasurer, Finance Department, 50 Service Avenue - 2nd Floor, Warwick, RI 02886.

5. Investments – Pooled Investment Trust (continued)

The System's remaining money market mutual fund investments consisted of a short-term money market mutual fund that is not rated and held investments with a weighted average maturity of 73 days at June 30, 2018. The fund, by policy, holds only high-grade, highly liquid cash equivalent-type investments.

The System's investment in commercial paper totaling \$39,954,074 at June 30, 2018 had maturities ranging from 6 to 202 days.

The System invests in various mortgage-backed securities, such as collateralized mortgage obligations (CMO), interest-only and principal-only strips. They are reported in U.S. Government Agency Securities and Collateralized Mortgage Obligations in the table above. CMO's are bonds that are collateralized by whole loan mortgages, mortgage pass-through securities or stripped mortgage-backed securities. Income is derived from payments and prepayments of principal and interest generated from collateral mortgages. Cash flows are distributed to different investment classes or tranches in accordance with the CMO's established payment order. Some CMO tranches have more stable cash flows relative to changes in interest rates while others are significantly sensitive to interest rate fluctuations.

The System may invest in interest-only and principal-only strips in part to hedge against a rise in interest rates. Interest-only strips are based on cash flows from interest payments on underlying mortgages. Therefore, they are sensitive to pre-payments by mortgagees, which may result from a decline in interest rates. Principal-only strips receive principal cash flows from the underlying mortgages. In periods of rising interest rates, homeowners tend to make fewer mortgage prepayments.

(e) Credit Risk

The State Investment Commission has adopted a Defined Benefit Investment Policy Statement which includes specific asset allocation targets and asset class policies. While the policy statement includes guidelines governing credit risk for certain asset classes, fixed income managers are given specific guidelines regarding credit quality based on their specific investment objective. These guidelines reflect the manager's strategy and the System's overall asset allocation targets and related objectives.

The System manages exposure to credit risk generally by instructing fixed income managers to adhere to an overall target weighted average credit quality for their portfolios and by establishing limits on the percentage of the portfolios that are invested in non-investment grade securities. The System's exposure to credit risk as of June 30, 2018 is as follows:

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

Rating	Collateralized Mortgage Obligations	US Government Agency Obligations	Corporate Bonds	Non-US Government Obligations	Term Loans
Aaa	\$ 10,020,684	\$ 271,692,024	\$ 16,199,983	\$	\$ 20,778,978
Aa			38,668,143		4,785,292
A			127,270,532		5,307,876
Baa		2,553,482	227,934,193		11,206,037
Ba			46,261,820		92,509,126
B			25,189,624		109,846,298
Caa			7,248,494		5,917,917
Ca					
C					
D					
Not Rated	1,289,987		8,162,110	4,162,181	35,887,842
Fair Value	\$ 11,310,671	\$ 274,245,506	\$ 496,934,899	\$ 4,162,181	\$ 286,239,366

Investments in commercial paper totaling \$39,954,074 at June 30, 2018 were all rated P1.

Ratings provided by Moody's Investors Service

(f) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of investments in a single issuer. There is no single issuer exposure within the System's pooled investment trust that comprises 5% of the overall portfolio.

(g) Custodial Credit Risk

For an investment, custodial credit risk is the risk that, in the event of the failure of a counterparty, the System will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. At June 30, 2018, all securities were registered in the name of the System (or in the nominee name of its custodial agent) and were held in the possession of the System's custodial bank, Bank of New York Mellon.

(h) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. Portfolios are diversified to limit foreign currency and security risk. The System may enter into foreign currency exchange contracts to minimize the short-term impact of foreign currency fluctuations on foreign investments.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

The System's exposure to foreign currency risk at June 30, 2018, was as follows:

Currency	Comingled Funds	Equities	Private Equity	Foreign Cash	Derivatives	Term Loans	Corporate Bonds	Total
Australian Dollar	\$ 54,022,333	\$ 30,102,539		\$ 457,069	\$ (3,214)		\$	\$ 84,578,727
Brazilian Real	25,120,122							25,120,122
Canadian Dollar	94,979,200	47,739,741	3,474,499	306,587	(3,782)			146,496,245
Chilean Peso	4,544,358							4,544,358
Chinese Yuan	185,228							185,228
Colombian Peso	2,181,220							2,181,220
Czech Republic Koruna	786,339							786,339
Danish Krone	11,944,899	3,935,040		85,133				15,965,072
Egyptian Pound	540,685							540,685
Euro Currency	251,053,363	130,558,254	44,452,933	2,777,876	32,531	748,356	220,028	429,843,341
Great Britain Pound	139,319,713	84,975,934		1,014,314	4,545			225,314,506
Hong Kong Dollar	125,135,004	11,670,766		361,131	(13)			137,166,888
Hungarian Forint	1,207,052							1,207,052
Indian Rupee	37,481,799							37,481,799
Indonesia Rupiah	8,141,234							8,141,234
Israeli Shekel	2,075,448			49,697				2,125,145
Japanese Yen	186,560,638	116,475,121		1,022,130	32,325			304,090,214
Malaysian Ringgit	10,177,614							10,177,614
Mexican Peso	12,566,819							12,566,819
New Taiwan Dollar	49,839,043							49,839,043
New Zealand Dollar	1,646,951	1,409,762		56,803				3,113,516
Norwegian Krone	5,700,195	11,131,647		150,755				16,982,597
Pakistani Rupee	290,256							290,256
Peruvian Nouveau Sol	6							6
Philippine Peso	3,968,292							3,968,292
Polish Zloty	4,711,713							4,711,713
Qatari Real	3,476,066							3,476,066
Russian Ruble	10,247,668							10,247,668
Singapore Dollar	10,549,748	11,703,621		231,504				22,484,873
Swedish Krona	19,764,653	13,079,851		212,414	266			33,057,184
Swiss Franc	57,944,651	35,743,437		104,979				93,793,067
South African Rand	29,352,323							29,352,323
South Korean Won	62,890,174							62,890,174
Thailand Baht	9,272,487							9,272,487
Turkish Lira	2,942,785							2,942,785
United Arab Emirates Dirham	2,419,533							2,419,533
Total	\$ 1,243,039,613	\$ 498,525,713	\$ 47,927,432	\$ 6,830,392	\$ 62,658	\$ 748,356	\$ 220,028	\$ 1,797,354,192
United States	57,766,044							
Grand Total	\$ 1,300,805,657							

In addition to the foreign currency exposure highlighted in the foregoing table, certain hedge fund investments may have foreign currency exposure.

(i) Derivatives and Other Similar Investments

Certain of the System's investment managers are allowed to invest in derivative type transactions consistent with the terms and limitations governing their investment objective and related contract specifications. Derivatives and other similar investments are financial contracts whose value depends on one or more underlying assets, reference rates, or financial indices.

The System's derivative investments include forward foreign currency transactions, futures contracts, options, rights, and warrants. The System enters into these transactions to enhance performance, rebalance the portfolio consistent with overall asset allocation targets, gain or reduce exposure to a specific market, or mitigate specific risks.

5. Investments – Pooled Investment Trust (continued)

Forward foreign currency contracts – The System enters into foreign currency exchange contracts to minimize the short-term impact of foreign currency fluctuations on foreign investments. A currency forward is a contractual agreement to pay or receive specific amounts of foreign currency at a future date in exchange for another currency at an agreed upon exchange rate. If not offset by a corresponding position with the opposite currency exposure, these contracts involve risk in excess of the amount reflected in the System's Statements of Fiduciary Net Position. The face or contract amount in U.S. dollars reflects the total exposure the System has in currency contracts. The U.S. dollar value of forward foreign currency contracts is determined using forward currency exchange rates supplied by a quotation service. Losses may arise due to changes in the value of the foreign currency or if the counterparty does not perform under the contract.

Futures contracts – The System uses futures to manage its exposure to the domestic and international equity, money market, and bond markets and the fluctuations in interest rates and currency values. Futures are also used to obtain target market exposures in a cost-effective manner and to narrow the gap between the System's actual cash exposures and the target policy exposures. Using futures contracts in this fashion is designed to reduce (or hedge) the risk of the actual plan portfolio deviating from the policy portfolio more efficiently than by using cash securities. The program is only used to manage intended exposures and asset allocation rebalancing.

Buying futures tends to increase the System's exposure to the underlying instrument. Selling futures tends to decrease the System's exposure to the underlying instrument or hedge other System investments. Losses may arise due to movements in the underlying or reference markets.

Credit Default Swaps – A credit manager may use credit default swaps in the portfolio to either obtain exposure to the high yield market efficiently (i.e. by selling protection) at a similar or better price than what can be obtained in cash bonds, or to hedge the credit risk of the portfolio (i.e. buying protection).

Through commingled funds, the System also indirectly holds derivative type instruments, primarily equity index futures.

The System invests in mortgage-backed securities, which are included in the categories described as collateralized mortgage obligations and U.S. Government Agency Securities. These securities are based on the cash flows from interest and principal payments by the underlying mortgages. As a result, they are sensitive to prepayments by mortgagees, which are likely in declining interest rate environments, thereby reducing the value of these securities.

Additional information regarding interest rate risks for these investments is included in Note 5(d) *Interest Rate Risk*.

The System may sell a security in anticipation of a decline in the fair value of that security or to lessen the portfolio allocation of an asset class. Short sales may increase the risk of loss to the System when the price of a security underlying the short sale increases and the System is obligated to deliver the security in order to cover the position.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

5. Investments – Pooled Investment Trust (continued)

The following summarize the System's exposure to specific derivative investments at June 30, 2018.

<u>Investment Derivative Instruments</u>	<u>Change in fair value included in investment income</u>	<u>Fair Value at June 30, 2018</u>	<u>Notional Amount</u>
Fixed income futures - long	\$ 665,930	\$ 560,874	\$ 48,047,547
Fixed income futures -short	(77,867)	(77,867)	(11,361,719)
Equity index futures - long	(210,668)	(364,673)	13,209,330
Equity index futures - short	127,910	339,985	(14,776,119)
Credit default swaps	<u>(460,406)</u>	<u>231,252</u>	
Total	\$ 44,899	\$ 689,571	
Foreign currency forward contracts:			
Pending payable (liability)		\$ 139,523	
Pending receivable (asset)		<u>(54,055)</u>	
		<u>\$ 85,468</u>	

The System is exposed to counterparty risk on foreign currency contracts that are in asset positions. The aggregate fair value of derivative instruments in asset positions at June 30, 2018 was \$85,468. This represents the maximum loss that would be recognized if all counterparties failed to perform as contracted. Risk is mitigated by using a continuous linked settlement process.

The System executes (through its investment managers) derivative instruments with various counterparties. The credit ratings of these counterparties were Baa2 (Moody's) or better, one counterparty was not rated by Moody's but is rated A+ by Standard and Poor's.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

6. Other Investments – Defined Contribution Plan

The State Investment Commission selected various investment options for defined contribution plan participants with the overall objective of offering low-cost, strategic, and long-term oriented investment products. Plan participants can choose one or more of the various options and can change options at any time. Plan participants who do not elect a specific option default to a target date retirement fund consistent with their anticipated Social Security retirement eligibility date.

Investment Type	Fair Value	% of Total	Duration (years)
Annuities			
TIAA Stable Value	\$ 10,996,695	1.28%	
TIAA Real Estate - variable annuity		0.00%	
Total	\$ 10,996,695	1.28%	
Fixed Income Funds			
Pimco Real Return Institutional Class	5,495,982	0.64%	7.07
Vanguard Total Bond Market Index Admiral	5,906,180	0.69%	6.10
Total	\$ 11,402,162	1.33%	
Target Retirement Funds			
Vanguard Target Retirement 2015 Trust I	40,105,064	4.69%	
Vanguard Target Retirement 2020 Trust I	94,343,182	11.02%	
Vanguard Target Retirement 2025 Trust I	115,103,002	13.45%	
Vanguard Target Retirement 2030 Trust I	123,509,242	14.43%	
Vanguard Target Retirement 2035 Trust I	133,929,914	15.65%	
Vanguard Target Retirement 2040 Trust I	108,074,778	12.63%	
Vanguard Target Retirement 2045 Trust I	81,326,678	9.50%	
Vanguard Target Retirement 2050 Trust I	47,542,338	5.55%	
Vanguard Target Retirement 2055 Trust I	18,336,625	2.14%	
Vanguard Target Retirement 2060 Trust I	2,319,254	0.27%	
Vanguard Target Retirement 2065 Trust I	79,693	0.01%	
Vanguard Target Retirement Income Trust I	11,223,427	1.31%	
Total	\$ 775,893,197	90.64%	
Equity Mutual Funds			
Vanguard Social Index Inv	1,899,129	0.22%	
Schwab International Index Fund	6,280,718	0.73%	
Vanguard Institutional Index Fund	24,827,213	2.90%	
Vanguard Emerging Markets Stock Index Fund Admiral	4,678,051	0.55%	
Vanguard Mid-Cap Index Institutional	9,976,759	1.17%	
Vanguard Small Cap Index Institutional	10,055,943	1.17%	
Total	\$ 57,717,813	6.74%	
Total	\$ 856,009,867	100.00%	

The majority (99%) of investments held by participants in the defined contribution plan are target date retirement funds and equity index or fixed income mutual funds. The target retirement date funds provide for diversified portfolios of equities and bonds that become progressively more conservative as the fund's associated target retirement date approaches. Equity index mutual funds replicate the price and yield performance of a particular index.

6. Other Investments – Defined Contribution Plan (continued)

The target retirement date and equity and fixed income mutual funds are priced daily based on the traded prices of the underlying securities held within the funds. There are no withdrawal limitations for these mutual funds. These funds are classified as Level 1 investments (quoted prices in active markets for identical assets) within the fair value hierarchy. Annuities are reported at contract value, which approximates fair value. Annuities held by participants within the defined contribution plan are classified as Level 3 investments (significant unobservable inputs) within the fair value hierarchy.

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. At June 30, 2018, all assets and securities were registered in the name of TIAA-CREF as the Defined Contribution Plan's record keeper for the benefit of plan members and were held in the possession of TIAA-CREF's custodian, J.P. Morgan Bank.

The majority of the defined contribution plan investment options are mutual funds that invest in diversified portfolios of securities including equity and fixed-income investments. For investment options that are solely fixed income, weighted-average maturity or duration have been disclosed as a measure of interest rate risk.

Fixed income mutual funds and variable annuity accounts are subject to interest rate, inflation and credit risks. Target-date retirement mutual funds share the risks associated with the types of securities held by each of the underlying funds in which they invest including equity and fixed income funds. Mutual funds may have exposure to foreign currency risk through investment in non-US denominated securities.

7. Contributions

Contribution requirements for plan members and employers are established pursuant to Rhode Island General Laws. With the exception of the RIJRFT plan, employers are required to contribute at an actuarially determined rate or a fixed dollar amount for the defined benefit plans. Employer contributions for the defined contribution plan are prescribed by statute. Plan member contributions for the defined benefit and defined contribution plans are fixed by statute. Member and employer contribution rates are subject to amendment by the General Assembly.

(a). Funding Policy

The funding policies, as set forth in Rhode Island General Law, Section 36-10-2 and 45-21-42 provide for actuarially determined periodic contributions to the plans. The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial liability. The valuation is prepared on the projected benefit basis, under which the present value, at the assumed rate of return (currently 7.0 percent for all plans except the RIJRFT which utilizes a 4.0% assumed rate of return), of each participant's expected benefit payable at retirement or death is determined, based on age, service, gender and compensation.

The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the rate of contribution which, if applied to the compensation of each individual member during the entire period of anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. This method is commonly referred to as the Individual Entry Age Actuarial Cost Method.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

7. Contributions (continued)

The unfunded actuarial accrued liability (UAAL) is amortized as a level percent of payroll over a closed period. For underfunded plans, the period is 25 years as measured from June 30, 2010, or 21 years as of the current valuation date for any existing UAAL. Beginning with the June 30, 2014 actuarial valuation, new experience gains and losses for underfunded plans are amortized over individual closed periods of 20 years using the process of “laddering”.

Overfunded plans will have an amortization rate calculated using a single base amortized over an open period of 20 years.

(b). Contribution rates

Employer contribution rates for fiscal 2018 for all defined benefit plans were developed based on actuarial valuations performed as of June 30, 2015. Employee contribution rates are statutorily determined.

Rhode Island Judicial Retirement Fund Trust plan is not currently advance funded. Employees make contributions to the plan; however, there are no employer contributions. This plan is for a closed group of individuals and the amortization payment has been calculated based on level-dollar amortization over 17 years from June 30, 2013.

State of Rhode Island State Police Retirement Fund Trust is a closed group of individuals and the annual contributions of \$16,387,092 into the Trust have been calculated based on a level-dollar amortization over 18 years from June 30, 2016.

The table below displays the defined benefit plan contribution rates for the year ended June 30, 2018:

Plan	Employee	Employer
ERS		
State Employees	3.75% Members with more than 20 yrs of service at July 1, 2012 – 11%	24.87%
Teachers		
<i>LEA funded</i>	3.75% Members with more than 20 yrs of service at July 1, 2012 – 11%	13.24%
<i>State funded</i>		9.89%
TSB	2% of the member’s annual salary up to but not exceeding \$11,500	2% of the member’s annual salary up to but not exceeding \$11,500
MERS		
General Employees	1.00% (additional 1% with a cost-of-living adjustment)	69 Municipalities, housing authorities, water and sewer districts contributed various actuarially determined rates.
Public Safety	9.00% (additional 1% with a cost-of-living adjustment)	48 Municipal police and fire departments contributed various actuarially determined rates.
SPRBT	8.75%	12.22%
JRBT	12.00% (8.75% supreme court judges)	21.13%
RIJRFT	12.00% (8.75% supreme court judges)	\$1,322,171 (Note 1)
SPRFT	N/A	\$16,387,092
Note 1 – The State of Rhode Island is not currently funding this plan on an advance funding basis – full actuarially determined employer contributions have not been made to the plan.		

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

7. Contributions (continued)

The table below displays the defined contribution plan contribution rates for the year ended June 30, 2018:

Plan	Employee	Employer
Defined Contribution Plan	Eligible state employees, teachers, and MERS general employees participating in social security – 5%	1% to 1.5% based on years of service
	Teachers and MERS general employees not covered by social security – 7%	3% to 3.5% based on years of service
	MERS police and fire employees not covered by social security – 3%	3%

Effective July 1, 2015, members of the defined contribution plan who had 20 or more years of service as of July 1, 2012, remained as plan participants but no longer contributed to the plan (both employee and employer contributions).

(c). Contributions from Nonemployer Contributing Entity

Within the ERS plan, the State of Rhode Island, as a nonemployer contributing entity, makes a contribution for teachers employed by local educational agencies. This is considered a special funding situation wherein the State, by statute, has assumed responsibility to fund approximately 40% of the annual required employer contribution for teachers.

(d). Supplemental Contributions

The General Laws (Section 36-10-2(e) 1 and 2) also require, in addition to the contributions provided for by the funding policy, for each fiscal year in which the actuarially determined state contribution rate for state employees and teachers, including state contributions to the defined contribution plan, is lower than that for the prior fiscal year, the governor shall include an appropriation to that system equivalent to twenty percent (20%) of the rate reduction to be applied to the actuarial accrued liability. The amounts to be appropriated shall be included in the annual appropriation bill and shall be paid by the general treasurer into the retirement system. The retirement system's actuary shall not adjust the computation of the annual required contribution for the year in which supplemental contributions are received; such contributions once made may be treated as reducing the actuarial liability remaining for amortization in the next following actuarial valuation to be performed. For fiscal 2018, \$598,086 was contributed to the System in accordance with this provision of the General Laws.

The Retirement Security Act provides for additional contributions to the System based on 5.5% of the value of contracts where the services performed by the contractor were previously performed by state employees. A supplemental contribution of \$460,734 was paid to the System pursuant to Section 42-149-3.1 of the General Laws.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

8. Net Pension Liability (Asset) of the Participating Employers

The components of the net pension liability of the employers participating in the various plans of the System at June 30, 2018 were as follows:

Plan	Total pension liability	Plan fiduciary net position	Employers' net pension liability (asset)	Plan fiduciary net position as a % of the total pension liability
ERS				
State employees	\$ 4,741,437,331	\$ 2,490,633,173	\$ 2,250,804,158	52.5%
Teachers	6,958,809,084	3,781,560,920	3,177,248,164	54.3%
TSB	238,563,945	327,793,239	(89,229,294)	137.4%
SPRBT	165,924,523	138,733,969	27,190,554	83.6%
JRBT	79,156,493	73,443,894	5,712,599	92.8%
RIJRFT	20,946,569	806,246	20,140,323	3.8%
SPRFT	170,396,029	16,258,330	154,137,699	9.5%
MERS				
General employees	1,268,619,484	1,009,462,206	259,157,278	79.6%
Police and fire	723,420,754	550,994,533	172,426,221	76.2%

a. Actuarial assumptions

The total pension liability for all defined benefit plans was determined by actuarial valuations performed as of June 30, 2017 and rolled forward to June 30, 2018, except the valuations for RIJRFT and SPRFT were performed biennially, therefore, the total pension liability for these two plans are based on valuations performed as of June 30, 2016.

The actuarial assumptions used in the calculation of the total pension liability at the June 30, 2018 measurement date were consistent with the 2017 Actuarial Experience Investigation Study for the six-year period ended June 30, 2016 as approved by the System's Board on May 15, 2017.

The following table summarizes the actuarial assumptions applied to all periods included in the measurement.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

8. Net Pension Liability (Asset) of the Participating Employers (continued)

Summary of Actuarial Assumptions								
Used in the June 30, 2018 measurement date valuations to determine the Net Pension Liability								
	ERS		MERS	SPRBT	JRBT	RIJRFT	TSB	SPRFT
	State Employees	Teachers						
Valuation Date	June 30, 2017 valuation rolled forward to the June 30, 2018 measurement date except for RIJRFT and SPRFT which were based on valuations performed as of June 30, 2016.							
Actuarial Cost Method	Entry Age Normal - the Individual Entry Age Actuarial Cost methodology is used.							
Amortization Method	Level Percent of Payroll – Closed					Level Dollar	Level Dollar	Level Dollar
Actuarial Assumptions								
Investment Rate of Return	7.0%	7.0%	7.00%	7.0%	7.0%	3.62%	7.00%	7.00%
Projected Salary Increases	3.25% to 6.25%	3.0% to 13.0%	<u>General Employees</u> 3.25% to 7.50% <u>Police & Fire Employees</u> 4.00% to 14.00%	3.75% to 11.75%	3.50%	3.50%	3.5% to 13.0%	
Inflation	2.5%							
Mortality	Variants of the RP-2014 mortality tables - for the improvement scale, update to the ultimate rates of the MP-2016 projection scale.							

Cost of Living Adjustments – The Cost of Living Adjustment (COLA) has been suspended until the collective ERS, SPRBT, and JRBT plans reach a funded status of 80%. The COLA provision can be reviewed in a four-year interval. When the collective funding level of the plans exceeds 80%, eligible retirees may receive a COLA annually effective on their date of retirement plus one month.

The COLA calculation is represented by the following formula: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5.0% (5 yr return – 5.0%, with a max of 4%) and 50% calculated using a previous year's CPI-U (max of 3%) for a total maximum COLA of 3.5%. This COLA is calculated on the first \$26,291, effective January 1, 2018, and indexed as of that date as well. The indexing formula is run annually regardless of funding level each year. The COLA will be delayed until the later of the Social Security Retirement Age or three years after retirement.

For the TSB plan, a 2.75% COLA is assumed. For all other plans, a COLA of 2.15% is assumed.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

8. Net Pension Liability (Asset) of the Participating Employers (continued)

The long-term expected rate of return best-estimate on pension plan investments was determined by the actuary using a building-block method. The actuary started by calculating best-estimate future expected real rates of return (expected returns net of pension plan investment expense and inflation) for each major asset class, based on a collective summary of capital market expectations from 34 sources. The June 30, 2018 expected arithmetic returns over the long-term (20 years) by asset class are summarized in the following table:

Asset Class	Target Asset Allocation	Long-Term Expected Arithmetic Real Rate of Return
GROWTH		
Global Equity		
US Equity	20.80%	6.43%
International Developed Equity	14.40%	6.72%
Emerging Markets Equity	4.80%	8.90%
Sub-total	40.00%	
Private Growth		
Private Equity	11.30%	9.08%
Non-Core Real Estate	2.20%	5.03%
Opportunistic Private Credit	1.50%	9.08%
Sub-total	15.00%	
INCOME		
High Yield Infrastructure	1.00%	3.81%
REITS	1.00%	5.03%
Liquid Credit	2.80%	3.81%
Private Credit	3.20%	3.81%
Sub-total	8.00%	
STABILITY		
Crisis Protection Class		
Treasury Duration	4.00%	0.61%
Systematic Trend	4.00%	4.00%
Sub-total	8.00%	
Inflation Protection		
Core Real Estate	3.60%	5.03%
Private Infrastructure	2.40%	5.61%
TIPs	1.00%	1.75%
Natural Resources	1.00%	3.81%
Sub-total	8.00%	
Volatility Protection		
IG Fixed Income	11.50%	2.14%
Absolute Return	6.50%	4.00%
Cash	3.00%	0.61%
Sub-total	21.00%	
Total	100.00%	

These return assumptions are then weighted by the target asset allocation percentage, factoring in correlation effects, to develop the overall long-term expected rate of return best-estimate on an arithmetic basis.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

8. Net Pension Liability (Asset) of the Participating Employers (continued)

b. Discount rate

The discount rate used to measure the total pension liability of the plans was 7.0 percent for all but the RIJRFT plan. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from the employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

For the RIJRFT plan, the State has not opted to make actuarially determined employer contributions and based on those assumptions, the pension plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current plan members. Consequently, for the RIJRFT plan, the municipal bond index rate, based on fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" (3.62% at June 30, 2018) was applied to all periods of projected benefit payments to determine the total pension liability.

c. Sensitivity of the net pension liability (asset) to changes in the discount rate

The following presents the net pension liability (asset) of the employers calculated using the discount rate of 7.0 percent (for all plans except the RIJRFT), as well as what the employers' net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate. The RIJRFT plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current plan members and consequently the municipal bond index rate of 3.62% at June 30, 2018 was used in the determination of the net pension liability for that plan with a similar +/-1% sensitivity analysis.

	1.00% Decrease (6.0%)	Current Discount Rate (7.0%)	1.00% Increase (8.00%)
ERS - State employees	\$ 2,810,415,531	\$ 2,250,804,158	\$ 1,833,984,062
ERS - Teachers	\$ 3,997,522,369	\$ 3,177,248,164	\$ 2,566,288,980
TSB	\$ (61,920,545)	\$ (89,229,294)	\$ (109,561,010)
SPRBT	\$ 46,103,903	\$ 27,190,554	\$ 13,109,005
JRBT	\$ 14,749,587	\$ 5,712,599	\$ (1,016,103)
SPRFT	\$ 174,846,228	\$ 154,137,699	\$ 138,707,879
MERS - General Employees	\$ 406,746,055	\$ 259,157,278	\$ 149,247,035
MERS - Police and Fire	\$ 254,949,158	\$ 172,426,221	\$ 110,984,844
	1.00% Decrease (2.62%)	Municipal Bond Index Discount Rate (3.62%)	1.00% Increase (4.62%)
RIJRFT	\$ 22,475,424	\$ 20,140,323	\$ 18,402,826

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND

Notes to the Financial Statements - Fiscal Year Ended June 30, 2018

9. Administrative Expenses

Pursuant to General Law section 36-8-10.1, administrative costs of the System are financed through investment earnings up to a maximum of 0.175% of the average total investments before lending activities as reported in the annual report of the Auditor General for the next preceding five (5) fiscal years. Such amounts are transferred to a restricted receipt account within the State's general fund. Any unencumbered funds on June 30 of any fiscal year are credited to the plans in the same proportion as their contributions to the restricted receipt account.

Administrative expenses allocated to the System include personnel costs for employees of the Office of the General Treasurer who, in whole or in part, are involved in administering the System. The personnel costs allocated to the System include the employer share of actuarially determined contributions to the defined benefit pension plan (Employees' Retirement System Plan for State Employees) and the defined benefit post-employment health care plan, a cost sharing multiple employer plan administered through the Rhode Island State Employees' and Electing Teachers OPEB System (OPEB System). Required contributions to the defined contribution pension plan are also included in the allocated personnel costs. The State does not include any proportionate share of the net pension liability or net OPEB liability for cost-sharing pension and OPEB plans in the fiduciary funds of the State. The long-term pension and OPEB liabilities are reflected in the governmental activities of the State's government-wide financial statements.

The employer cost for employees participating in the State Employees' System defined benefit pension plan was 24.87% of covered payroll for fiscal 2018. Employer contribution to the defined benefit pension plan, included as administrative costs for the years ended June 30, 2018, 2017 and 2016 were \$900,172, \$841,590, and \$731,812, respectively, which represents 100% of the annual required contributions. The employer cost for employees participating in the System's defined contribution pension plan was 1% to 1.5% of covered payroll based on years of service for fiscal 2018. Effective July 1, 2015, members of the defined contribution plan who had 20 or more years of service as of July 1, 2012, remained as plan participants but no longer contributed to the plan (both employee and employer contributions). Employer contributions to the defined contribution pension plan, included as administrative costs for the years ended June 30, 2018, 2017 and 2016 were \$32,798, \$30,794, and \$28,627, respectively, which represents 100% of the annual required contributions.

The employer cost for employees participating in the State Employees' OPEB plan was 5.98% of covered payroll for fiscal 2018. Employer contribution to the OPEB plan, included as administrative costs for the years ended June 30, 2018, 2017 and 2016 were \$223,763, \$204,768, and \$186,988 respectively, which represents 100% of the annual required contributions.

The OPEB system issues a stand-alone, publicly available financial report that includes the financial statements and required supplementary information including descriptions of benefit provisions and information about the measurement of the net OPEB liability. A copy of the report can be obtained from the Office of Accounts and Control, One Capitol Hill, Providence, RI 02903.

Administrative expenses of the System, financed as previously described, include \$1,590,067 of expenses related to oversight of the System's investment portfolio. Consistent with generally accepted accounting principles, these expenses have been included with investment expenses on the accompanying financial statements.

For fiscal year 2018, the administrative costs of the defined contribution plan were financed solely by participant fees. Fees paid to TIAA-CREF via participant fees for fiscal year ended June 30, 2018 were \$1,324,863, excluding plan transfers. From these participant fees, \$205,917 was transferred to the State of Rhode Island to fund the fiscal 2018 operating expenses of the Office of the General Treasurer related to the administration of the defined contribution plan.

10. Commitments

The State Investment Commission has committed to fund certain private equity, real estate, and infrastructure investment managers at a predetermined subscription amount. Outstanding unfunded investment commitments at June 30, 2018 totaled \$714.4 million. These commitments will be funded through cash available within the pooled investment trust generated through investment income and/or liquidation of other investments.

The system's investments in hedge funds are generally subject to "lock-up" provisions that limit (subject to certain exceptions) the ability to withdraw amounts previously invested for a period of one to three years after the initial investment. Hedge fund assets are available for redemption either on a month end or quarter end basis, and are subject to notice periods which vary by fund and range from 2 days to 90 days. At June 30, 2018 \$1.5 million was in liquidation.

The System is committed under a ten-year development and operating agreement to design, transition, and implement new line-of-business, general ledger accounting system, and payroll administration systems. The contract requires monthly payments through fiscal 2025. Total payments over the contract period are estimated at \$22 million.

11. Related Parties

The State Investment Commission, which sets investment policy and oversees the investments of the System, created three limited liability companies to account for assets invested by managers within its Crisis Protection Class – Trend Following. The Employees' Retirement System of the State of Rhode Island is the sole equity member in each of the limited liability companies. The System's investment in the limited liability companies is reported at the net asset value of the limited liability company based on independently audited financial statements as of and for the year ended June 30.

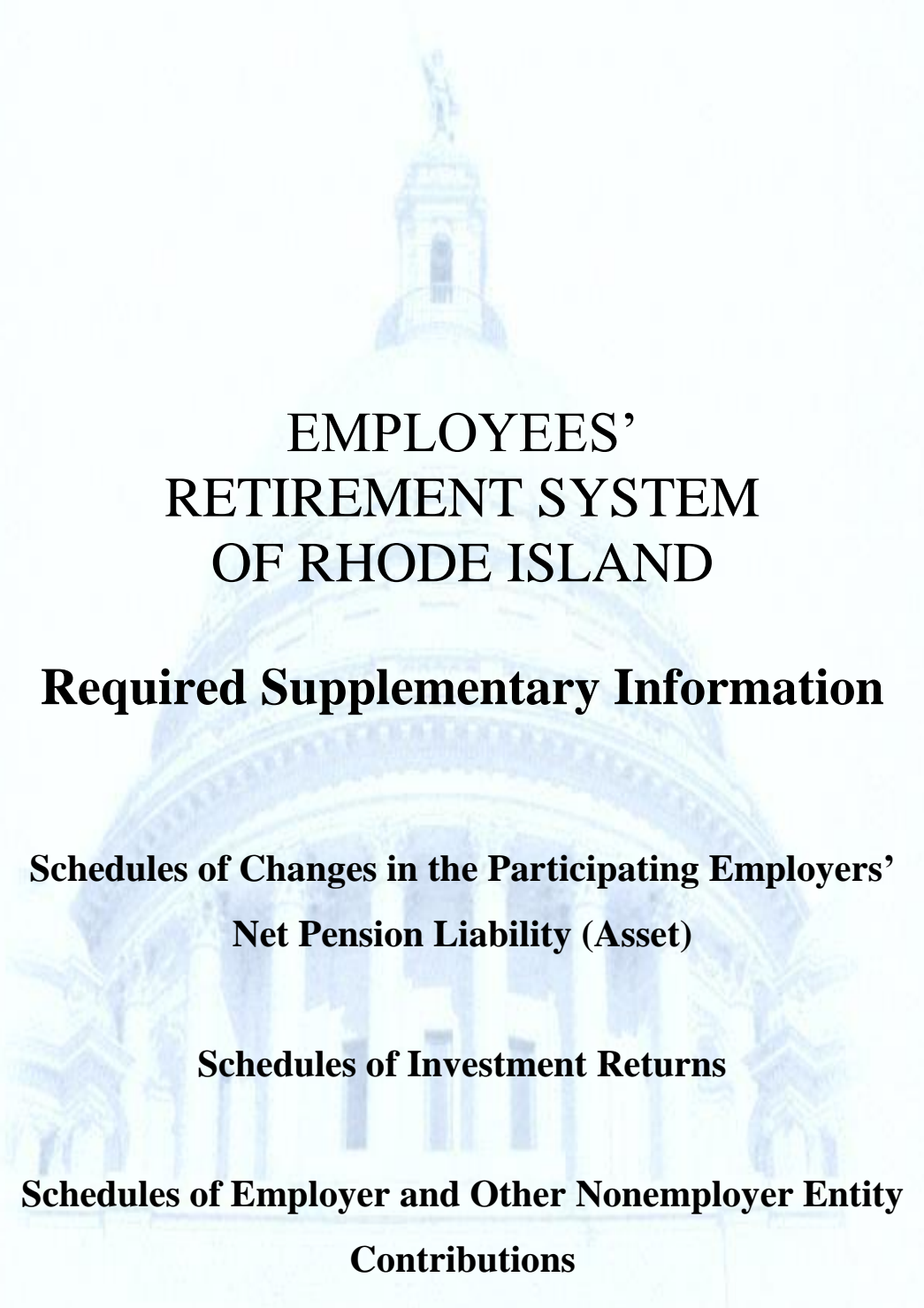
12. Contingencies

Legal Challenges to Pension Reform - The 2009, 2010 and 2011 legislative pension reforms resulted in numerous lawsuits against the State brought by current and retired employees, as well as their unions. Of these lawsuits, only one remains pending as described below.

In September 2014, a case challenging RIRSA was commenced by the Rhode Island State Troopers Association and Rhode Island State Troopers Association ex rel. Kevin M. Grace and Ernest E. Adams in Superior Court. The State has answered the complaint in that action, which remains pending. In August 2018, the Plaintiffs filed a motion to amend their Complaint. A hearing on that motion has not been set. There is no trial date set. The State intends to vigorously defend this lawsuit.

13. Subsequent events

The System has evaluated subsequent events through December 20, 2018, the date the statements were available to be issued.



**EMPLOYEES'
RETIREMENT SYSTEM
OF RHODE ISLAND**

Required Supplementary Information

**Schedules of Changes in the Participating Employers'
Net Pension Liability (Asset)**

Schedules of Investment Returns

**Schedules of Employer and Other Nonemployer Entity
Contributions**

Notes to Required Supplementary Information

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability
Employees' Retirement System Plan

	2018		2017		2016		2015		2014	
	State Employees	Teachers	State Employees	Teachers	State Employees	Teachers	State Employees	Teachers	State Employees	Teachers
Total Pension Liability										
Service Cost	\$ 61,430,436	\$ 82,924,148	\$ 58,715,260	\$ 79,219,202	\$ 59,017,905	\$ 78,445,027	\$ 58,003,597	\$ 73,780,964	\$ 56,795,525	\$ 73,917,744
Interest	317,996,827	464,922,181	320,346,656	471,638,608	320,857,388	471,001,292	312,489,666	457,901,918	309,695,399	454,525,784
Benefit Changes	-	-	-	-	-	-	102,727,033	148,006,628		
Differences between expected and actual experience	18,658,150	54,088,887	(6,891,246)	(29,762,014)	(48,986,533)	\$ (50,843,400)	(28,729,479)	(20,696,669)		
Changes of assumptions	-	-	235,517,482	318,950,799			-	-	(23,761,746)	(98,423,775)
Benefit payments	(337,489,367)	(486,818,998)	(337,555,977)	(490,517,793)	(337,538,418)	(490,467,141)	(329,318,255)	(482,865,966)	(330,357,881)	(483,854,062)
Net change in Total Pension Liability	\$ 60,596,046	\$ 115,116,218	\$ 270,132,175	\$ 349,528,802	\$ (6,649,658)	\$ 8,135,778	\$ 115,172,562	\$ 176,126,875.0	\$ 12,371,297.0	\$ (53,834,309.0)
Total pension liability - beginning	4,680,841,285	6,843,692,866	4,410,709,110	6,494,164,064	4,417,358,768	6,486,028,286	4,302,186,206	6,309,901,411	4,289,814,909	6,363,735,720
Total pension liability - ending	\$ 4,741,437,331	\$ 6,958,809,084	\$ 4,680,841,285	\$ 6,843,692,866	\$ 4,410,709,110	\$ 6,494,164,064	\$ 4,417,358,768	\$ 6,486,028,286	\$ 4,302,186,206	\$ 6,309,901,411
Plan Fiduciary Net Position										
Employer contributions	\$ 174,374,155	\$ 239,092,095	\$ 176,093,310	\$ 233,828,518	\$ 159,534,421	\$ 225,569,556	\$ 155,901,921	\$ 217,902,736	\$ 151,660,705	\$ 197,869,704
Employee contributions	39,996,527	49,906,906	41,537,793	50,071,218	41,021,592	49,502,952	28,477,668	36,470,893	28,105,658	36,306,239
Net investment income	188,629,584	286,398,383	259,237,475	394,975,442	(3,122,838)	(4,788,264)	57,417,358	88,131,991	340,085,721	522,960,223
Benefit payments	(337,489,367)	(486,818,998)	(337,555,977)	(490,517,793)	(337,538,418)	(490,467,141)	(329,318,255)	(482,865,966)	(330,357,881)	(483,854,062)
Transfers of member contributions									303,014	(290,471)
Administrative expenses	(2,544,260)	(3,862,978)	(2,533,747)	(3,860,429)	(2,259,017)	(3,463,764)	(2,394,922)	(3,676,564)	(2,234,676)	(3,436,330)
Transfers to affiliated systems	1,456,519	(424,248)	680,142	390,872	(252,093)	252,093	(107,668)	145,179		
Other	124,217	869,209	180,663	926,185	132,016	955,508	673,125	1,016,295	182,841	129,791
Net change in fiduciary net position	\$ 64,547,375	\$ 85,160,369	\$ 137,639,659	\$ 185,814,013	\$ (142,484,337)	\$ (222,439,060)	\$ (89,350,773)	\$ (142,875,436)	\$ 187,745,382	\$ 269,685,094
Plan Fiduciary net position - beginning	\$ 2,426,085,798	\$ 3,696,400,551	\$ 2,288,446,139	\$ 3,510,586,538	\$ 2,430,930,476	\$ 3,733,025,598	\$ 2,520,281,249	\$ 3,875,901,034	\$ 2,332,535,867	\$ 3,606,215,939
Plan Fiduciary net position - ending	\$ 2,490,633,173	\$ 3,781,560,920	\$ 2,426,085,798	\$ 3,696,400,551	\$ 2,288,446,139	\$ 3,510,586,538	\$ 2,430,930,476	\$ 3,733,025,598	\$ 2,520,281,249	\$ 3,875,901,033
Net Pension Liability	\$ 2,250,804,158	\$ 3,177,248,164	\$ 2,254,755,487	\$ 3,147,292,315	\$ 2,122,262,971	\$ 2,983,577,526	\$ 1,986,428,292	\$ 2,753,002,688	\$ 1,781,904,957	\$ 2,434,000,378
Plan Fiduciary Net Position as a percentage of the total pension liability	52.5%	54.3%	51.8%	54.0%	51.9%	54.1%	55.0%	57.6%	58.6%	61.4%
Covered payroll	\$ 691,006,031	\$ 1,031,394,874	\$ 683,530,388	\$ 1,010,449,004	\$ 671,420,995	\$ 980,562,840	\$ 669,787,489	\$ 966,985,115	\$ 653,573,357	\$ 951,322,312
Net pension liability as a percentage of covered employee payroll	325.7%	308.1%	329.9%	311.5%	316.1%	304.3%	296.6%	284.7%	272.6%	255.9%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability (Asset)
Teachers' Survivors Benefits Plan

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 1,729,578	\$ 2,154,632	\$ 2,151,235	\$ 2,134,663	\$ 2,193,930
Interest	15,761,211	15,439,481	14,803,900	12,500,416	11,958,890
Benefit Changes	-	19,564,182		-	-
Differences between expected and actual experience	1,716,443	(23,870,746)		24,212,282	-
Changes of assumptions	-	15,500,130		-	-
Benefit payments	(9,877,314)	(8,672,172)	(8,292,668)	(7,992,381)	(7,622,990)
Net change in Total Pension Liability	9,329,918	20,115,507	8,662,467	30,854,980	6,529,830
Total pension liability - beginning	229,234,027	209,118,520	200,456,053	169,601,073	163,071,243
Total pension liability - ending	\$ 238,563,945	\$ 229,234,027	\$ 209,118,520	\$ 200,456,053	\$ 169,601,073
Plan Fiduciary Net Position					
Employer contributions	\$ 744,035	\$ 589,883	\$ 642,276	\$ 603,388	\$ 609,168
Employee contributions	744,035	589,883	642,276	603,388	609,168
Net investment income	24,552,338	33,277,060	(51,004)	6,951,465	39,657,338
Benefit payments	(9,877,314)	(8,672,172)	(8,292,668)	(7,992,381)	(7,622,990)
Administrative expenses	(330,288)	(309,283)	(267,475)	(276,010)	(260,585)
Other	-	5	(1)		
Net change in fiduciary net position	\$ 15,832,806	\$ 25,475,376	\$ (7,326,596)	\$ (110,150)	\$ 32,992,099
Plan Fiduciary net position - beginning	\$ 311,960,433	\$ 286,485,057	\$ 293,811,653	\$ 293,921,803	\$ 260,929,704
Plan Fiduciary net position - ending	\$ 327,793,239	\$ 311,960,433	\$ 286,485,057	\$ 293,811,653	\$ 293,921,803
Net Pension Liability (Asset)	\$ (89,229,294)	\$ (82,726,406)	\$ (77,366,537)	\$ (93,355,600)	\$ (124,320,730)
Plan Fiduciary Net Position as a percentage of the total pension liability (asset)	137.4%	136.1%	137.0%	146.6%	173.3%
Covered payroll	\$ 557,928,457	\$ 538,657,952	\$ 581,414,779	\$ 561,753,409	\$ 563,134,080
Net pension liability (asset) as a percentage of covered employee payroll	-16.0%	-15.4%	-13.3%	-16.6%	-22.1%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability
State Police Retirement Benefits Trust Plan

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 4,999,127	\$ 4,497,800	\$ 4,316,597	\$ 4,198,214	\$ 5,121,964
Interest	10,763,319	9,392,637	9,057,956	8,540,146	7,767,937
Benefit Changes	-	-	-	1,169,580	-
Differences between expected and actual experience	1,911,865	10,693,999	(4,139,122)	(3,522,114)	-
Changes of assumptions	-	9,274,363	-	-	(364,277)
Benefit payments	(6,023,853)	(5,141,978)	(4,585,258)	(2,496,511)	(1,767,304)
Net change in Total Pension Liability	11,650,458	28,716,821	4,650,173	7,889,315	10,758,320
Total pension liability - beginning	154,274,067	125,557,246	120,907,073	113,017,758	102,259,438
Total pension liability - ending	\$ 165,924,525	\$ 154,274,067	\$ 125,557,246	\$ 120,907,073	\$ 113,017,758
Plan Fiduciary Net Position					
Employer contributions	\$ 2,797,003	\$ 2,980,219	\$ 4,004,656	\$ 3,432,359	\$ 3,330,889
Employee contributions	1,994,057	2,059,884	2,034,676	1,731,585	2,033,664
Net investment income	10,298,412	13,694,012	58,578	2,655,869	14,124,238
Benefit payments	(6,023,853)	(5,141,978)	(4,585,258)	(2,496,511)	(1,767,304)
Administrative expenses	(136,371)	(125,445)	(102,053)	(99,782)	(83,318)
Other	16,057	5,390	390	3,694	5,421
Net change in fiduciary net position	\$ 8,945,305	\$ 13,472,082	\$ 1,410,989	\$ 5,227,214	\$ 17,643,590
Plan Fiduciary net position - beginning	\$ 129,788,664	\$ 116,316,582	\$ 114,905,593	\$ 109,678,379	\$ 92,034,791
Plan Fiduciary net position - ending	\$ 138,733,969	\$ 129,788,664	\$ 116,316,582	\$ 114,905,593	\$ 109,678,381
Net Pension Liability	\$ 27,190,556	\$ 24,485,403	\$ 9,240,664	\$ 6,001,480	\$ 3,339,377
Plan Fiduciary Net Position as a percentage of the total pension liability	83.6%	84.1%	92.6%	95.0%	97.0%
Covered payroll	\$ 22,589,818	\$ 22,727,638	\$ 20,984,917	\$ 19,700,678	\$ 23,051,144
Net pension liability as a percentage of covered employee payroll	120.4%	107.7%	44.0%	30.5%	14.5%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability
Judicial Retirement Benefits Trust Plan

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 3,214,534	\$ 3,000,728	\$ 2,858,682	\$ 3,024,124	\$ 3,001,985
Interest	5,302,975	5,031,124	4,743,701	4,540,604	4,133,613
Benefit Changes	-	-	-	252,965	-
Differences between expected and actual experience	(2,032,334)	(1,788,628)	(1,205,744)	(2,857,295)	-
Changes of assumptions	-	5,173,300	-	-	(671,723)
Benefit payments	(2,956,407)	(2,740,166)	(2,530,567)	(1,808,864)	(1,631,368)
Net change in Total Pension Liability	3,528,768	8,676,358	3,866,072	3,151,534	4,832,507
Total pension liability - beginning	75,627,725	66,951,367	63,085,295	59,933,761	55,101,254
Total pension liability - ending	\$ 79,156,493	\$ 75,627,725	\$ 66,951,367	\$ 63,085,295	\$ 59,933,761
Plan Fiduciary Net Position					
Employer contributions	2,057,529	2,057,159	\$ 2,410,039	\$ 2,709,397	\$ 2,543,510
Employee contributions	1,142,163	1,117,518	1,052,902	1,120,609	1,092,790
Net investment income	5,376,764	7,107,208	28,787	1,367,527	7,220,592
Benefit payments	(2,956,407)	(2,740,166)	(2,530,567)	(1,808,864)	(1,631,368)
Administrative expenses	(71,270)	(65,088)	(52,548)	(51,039)	(42,538)
Other	-	(1)	(1)		
Net change in fiduciary net position	\$ 5,548,779	\$ 7,476,630	\$ 908,612	\$ 3,337,630	\$ 9,182,986
Plan Fiduciary net position - beginning	\$ 67,895,115	\$ 60,418,485	\$ 59,509,873	\$ 56,172,243	\$ 46,989,257
Plan Fiduciary net position - ending	\$ 73,443,894	\$ 67,895,115	\$ 60,418,485	\$ 59,509,873	\$ 56,172,243
Net Pension Liability	\$ 5,712,599	\$ 7,732,610	\$ 6,532,882	\$ 3,575,422	\$ 3,761,518
Plan Fiduciary Net Position as a percentage of the total pension liability	92.8%	89.8%	90.2%	94.3%	93.7%
Covered payroll	\$ 9,653,254	\$ 9,532,174	\$ 8,981,094	\$ 9,570,014	\$ 9,314,258
Net pension liability as a percentage of covered employee payroll	59.2%	81.1%	72.7%	37.4%	40.4%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability
Rhode Island Judicial Retirement Fund Trust Plan

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 293,825	\$ 349,593	\$ 466,046	\$ 416,208	\$ 497,532
Interest	725,852	615,782	719,311	673,131	709,876
Benefit Changes	-	-	-	-	-
Differences between expected and actual experience	-	(1,090,142)		(642,370)	1,617,560
Changes of assumptions	(115,788)	(665,634)	1,865,123	858,970	(1,159,812)
Benefit payments	(399,016)	(399,015)	(231,176)	-	-
Net change in Total Pension Liability	504,873	(1,189,416)	2,819,304	1,305,939	1,665,156
Total pension liability - beginning	20,441,696	21,631,112	18,811,808	17,505,869	15,840,713
Total pension liability - ending	\$ 20,946,569	\$ 20,441,696	\$ 21,631,112	\$ 18,811,808	\$ 17,505,869
Plan Fiduciary Net Position					
Employer contributions	\$ 399,012	\$ 332,340	\$ 140,141	\$ -	\$ -
Employee contributions	116,757	116,667	135,454	158,718	153,145
Net investment income	43,511	63,669	3,869	9,094	12,045
Benefit payments	(399,016)	(399,015)	(231,176)	-	-
Administrative expenses	(646)	(558)	(361)	(239)	(77)
Other		-	1		
Net change in fiduciary net position	\$ 159,618	\$ 113,103	\$ 47,928	\$ 167,573	\$ 165,113
Plan Fiduciary net position - beginning	\$ 646,628	\$ 533,525	\$ 485,597	\$ 318,024	\$ 152,910
Plan Fiduciary net position - ending	\$ 806,246	\$ 646,628	\$ 533,525	\$ 485,597	\$ 318,023
Net Pension Liability	\$ 20,140,323	\$ 19,795,068	\$ 21,097,587	\$ 18,326,211	\$ 17,187,846
Plan Fiduciary Net Position as a percentage of the total pension liability	3.8%	3.2%	2.5%	2.6%	1.8%
Covered payroll	\$ 1,020,224	\$ 988,110	\$ 963,703	\$ 1,320,875	\$ 1,276,208
Net pension liability as a percentage of covered employee payroll	1974.1%	2003.3%	2189.2%	1387.4%	1346.8%

See notes to required supplementary information.

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EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability
Rhode Island State Police Retirement Fund Trust Plan

	2018	2017
Total Pension Liability		
Service Cost	\$ -	\$ -
Interest	11,712,422	12,588,781
Benefit Changes		-
Differences between expected and actual experience		-
Changes of assumptions		4,213,754
Benefit payments	(17,273,412)	(17,391,853)
Net change in Total Pension Liability	<u>(5,560,990)</u>	<u>(589,318)</u>
Total pension liability - beginning	175,957,019	176,546,337
Total pension liability - ending	<u>\$ 170,396,029</u>	<u>\$ 175,957,019</u>
Plan Fiduciary Net Position		
Employer contributions	16,387,092	31,566,076
Employee contributions	-	-
Net investment income	1,136,938	1,838,792
Benefit payments	(17,273,412)	(17,391,853)
Administrative expenses	(5,304)	-
Other	1	-
Net change in fiduciary net position	<u>\$ 245,315</u>	<u>\$ 16,013,015</u>
Plan Fiduciary net position - beginning	16,013,015	-
Plan Fiduciary net position - ending	<u>\$ 16,258,330</u>	<u>\$ 16,013,015</u>
Net Pension Liability	<u>\$ 154,137,699</u>	<u>\$ 159,944,004</u>
Plan Fiduciary Net Position as a percentage of the total pension liability	9.5%	9.1%
Covered payroll	<u>-</u>	<u>-</u>
Net pension liability as a percentage of covered employee payroll	<u>-</u>	<u>-</u>

See notes to required supplementary information.

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EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Changes in the Participating Employers' Net Pension Liability (Asset)
Municipal Employees' Retirement System Plan

	2018		2017		2016		2015		2014	
	General employees	Police & Fire	General employees	Police & Fire	General employees	Police & Fire	General employees	Police & Fire	General employees	Police & Fire
Total Pension Liability										
Service Cost	\$ 22,575,669	\$ 21,676,077	\$ 21,557,479	\$ 18,945,916	\$ 20,993,576	\$ 17,716,756	\$ 20,454,038	\$ 15,802,260	\$ 20,534,252	\$ 15,425,188
Interest	84,784,807	47,530,413	83,854,464	44,876,752	82,527,045	42,922,588	79,553,219	39,209,010	77,208,696	36,969,722
Benefit Changes	-	-	-	-	-	-	18,678,454	20,243,581	-	-
Differences between expected and actual experience	(2,694,614)	(557,654)	(1,116,817)	6,573,580	(14,594,497)	(9,510,635)	(10,829,976)	(2,598,079)	-	-
Changes of assumptions	-	-	60,394,231	35,347,395	-	-	-	-	893,569	(4,665,819)
Benefit payments	(71,940,154)	(26,791,879)	(72,152,762)	(26,127,177)	(70,865,501)	(25,248,345)	(66,083,440)	(22,950,990)	(66,801,709)	(22,501,480)
Net change in Total Pension Liability	32,725,708	41,856,957	92,536,595	79,616,466	18,060,623	25,880,364	41,772,295	49,705,782	31,834,808	25,227,611
Total pension liability - beginning	1,235,893,776	681,563,797	1,143,357,181	601,947,331	1,125,296,558	576,066,967	1,083,524,263	526,361,185	1,051,689,455	501,133,574
Total pension liability - ending	\$1,268,619,484	\$ 723,420,754	\$ 1,235,893,776	\$ 681,563,797	\$ 1,143,357,181	\$ 601,947,331	\$ 1,125,296,558	\$ 576,066,967	\$ 1,083,524,263	\$ 526,361,185
Plan Fiduciary Net Position										
Employer contributions	\$ 30,183,815	\$ 16,819,840	\$ 31,686,825	\$ 16,855,985	\$ 30,300,536	\$ 16,296,479	\$ 28,763,340	\$ 15,588,547	\$ 26,704,092	\$ 11,193,028
Employee contributions	7,208,167	10,500,868	7,332,568	10,079,595	7,244,745	9,561,530	4,368,524	7,223,947	4,333,503	6,979,451
Net investment income	75,536,071	41,229,835	103,015,529	54,186,494	24,225	(156,872)	21,923,799	10,703,150	126,156,827	59,474,454
Benefit payments	(71,940,154)	(26,791,879)	(72,152,762)	(26,127,177)	(70,865,501)	(25,248,345)	(66,083,440)	(22,950,990)	(66,801,709)	(22,501,480)
Transfers of member contributions	-	-	-	-	-	-	-	-	(85,962)	73,422
Administrative expenses	(1,005,573)	(561,290)	(973,249)	(511,933)	(1,178,758)	(427,823)	(878,056)	(425,478)	(789,990)	(372,429)
Transfers to affiliated systems	(559,793)	(472,477)	(272,164)	(798,852)	312,940	(312,936)	(48,286)	10,774	-	-
Other	(7,392)	23,666	26,504	69,347	34,888	66,307	262,213	21,917	62,117	23,960
Net change in fiduciary net position	\$ 39,415,141	\$ 40,748,563	\$ 68,663,251	\$ 53,753,459	\$ (34,126,925)	\$ (221,660)	\$ (11,691,906)	\$ 10,171,867	\$ 89,578,878	\$ 54,870,406
Plan Fiduciary net position - beginning	970,047,065	510,245,970	901,383,814	456,492,511	\$ 935,510,739	\$ 456,714,171	\$ 947,202,645	\$ 446,542,304	\$ 857,623,766	\$ 391,671,897
Plan Fiduciary net position - ending	\$1,009,462,206	\$ 550,994,533	\$ 970,047,065	\$ 510,245,970	\$ 901,383,814	\$ 456,492,511	\$ 935,510,739	\$ 456,714,171	\$ 947,202,644	\$ 446,542,303
Net Pension Liability (Asset)	\$ 259,157,278	\$ 172,426,221	\$ 265,846,711	\$ 171,317,827	\$ 241,973,367	\$ 145,454,820	\$ 189,785,819	\$ 119,352,796	\$ 136,321,619	\$ 79,818,882
Plan Fiduciary Net Position as a percentage of the total pension liability	79.6%	76.2%	78.5%	74.9%	78.8%	75.8%	83.1%	79.3%	87.4%	84.8%
Covered payroll	\$ 249,731,376	\$ 105,827,416	\$ 244,466,993	\$ 102,020,230	\$ 233,474,157	\$ 96,737,235	\$ 228,189,238	\$ 91,293,039	\$ 223,124,242	\$ 88,783,926
Net pension liability (asset) as a percentage of covered employee payroll	103.8%	162.9%	108.7%	167.9%	103.6%	150.4%	83.2%	130.7%	61.1%	89.9%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Investment Returns

Annual Money-Weighted Rate of Return, Net of Investment Expense

	<u>ERS</u>	<u>TSB</u>	<u>MERS</u>	<u>SPRBT</u>	<u>JRBT</u>	<u>RIJRFT</u>	<u>SPRFT</u>
Fiscal Year Ended June 30, 2018	7.85%	7.85%	7.87%	7.83%	7.76%	6.45%	6.91%
Fiscal Year Ended June 30, 2017	12.34%	11.66%	12.17%	11.87%	11.87%	11.46%	9.79%
Fiscal Year Ended June 30, 2016	-0.78%	-0.15%	-0.57%	-0.07%	-0.03%	-1.72%	-
Fiscal Year Ended June 30, 2015	2.06%	2.25%	2.22%	2.28%	2.27%	2.28%	-
Fiscal Year Ended June 30, 2014	15.32%	15.25%	15.12%	14.99%	14.99%	5.61%	-

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The SPRFT trust plan was created in fiscal 2017.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
Employees' Retirement System Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
State employees					
2018	\$ 174,374,155	\$ 174,374,155	-	\$ 691,006,031	25.23%
2017	176,093,310	176,093,310	-	683,530,388	25.76%
2016	159,534,421	159,534,421	-	671,420,995	23.76%
2015	155,901,921	155,901,921	-	669,787,489	23.28%
2014	151,077,142	151,077,142	-	653,573,357	23.12%
Teachers					
2018	\$ 239,092,095	\$ 239,092,095 *	-	\$ 1,031,394,874	23.18%
2017	233,828,517	233,828,517 *	-	1,010,449,004	23.14%
2016	225,569,556	225,569,556 *	-	980,562,840	23.00%
2015	217,902,736	217,902,736 *	-	966,985,115	22.53%
2014	197,869,704	197,869,704 *	-	951,322,312	20.80%

See notes to required supplementary information.

** includes contributions by the State of Rhode Island as the nonemployer contributing entity.*

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EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
Teachers' Survivors Benefits Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2018	-	\$ 744,035	\$ (744,035)	\$ 557,928,457	0.13%
2017	-	589,883	(589,883)	538,657,952	0.11%
2016	-	642,276	(642,276)	581,414,779	0.11%
2015	-	603,388	(603,388)	561,753,409	0.11%
2014	-	609,618	(609,618)	563,134,080	0.11%

See notes to required supplementary information.

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EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
State Police Retirement Benefits Trust Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2018	\$ 2,797,003	\$ 2,797,003	-	\$ 22,589,818	12.38%
2017	2,980,219	2,980,219	-	22,727,638	13.11%
2016	4,004,656	4,004,656	-	20,984,917	19.08%
2015	3,432,359	3,432,359	-	19,700,678	17.42%
2014	3,330,889	3,330,889	-	23,051,144	14.45%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
Judicial Retirement Benefits Trust Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2018	\$ 2,057,529	\$ 2,057,529	\$ -	\$ 9,653,254	21.31%
2017	2,057,159	2,057,159	-	9,532,174	21.58%
2016	2,410,039	2,410,039	-	8,981,094	26.83%
2015	2,709,397	2,709,397	-	9,570,014	28.31%
2014	2,543,510	2,543,510	-	9,314,258	27.31%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
Rhode Island Judicial Retirement Fund Trust Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2018	\$ 1,322,172	\$ 399,012	\$ 923,160	\$ 1,020,224	39.11%
2017	1,240,501	332,340	908,161	988,161	33.63%
2016	1,200,000	140,141	1,059,859	963,703	14.54%
2015	1,623,061	-	1,623,061	1,320,875	0.00%
2014	1,695,434	-	1,695,434	1,276,208	0.00%

See notes to required supplementary information.

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EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
Rhode Island State Police Retirement Fund Trust Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2018	\$ 16,387,092	\$ 16,387,092	-	n/a	n/a
2017	16,387,092	16,566,076	(178,984)	n/a	n/a

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

The SPRFT trust plan was created in fiscal 2017.

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND
REQUIRED SUPPLEMENTARY INFORMATION
Schedules of Employer and Other Nonemployer Entity Contributions
Municipal Employees' Retirement System Plan

Plan	Actuarially Determined Contribution	Contributions in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
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General Employees

2018	\$ 30,183,815	\$ 30,183,815	-	\$ 249,731,376	12.09%
2017	31,686,825	31,686,825	-	244,466,993	12.96%
2016	30,300,536	30,300,536	-	233,474,157	12.98%
2015	28,763,340	28,763,340	-	228,189,238	12.61%
2014	26,704,094	26,704,094	-	223,124,242	11.76%

Police and Fire

2018	\$ 16,819,840	\$ 16,819,840	-	\$ 105,827,416	15.89%
2017	16,855,985	16,855,985	-	102,020,230	16.52%
2016	16,296,479	16,296,479	-	96,737,235	16.85%
2015	15,588,547	15,588,547	-	91,293,039	17.08%
2014	11,193,028	11,193,028	-	88,783,926	12.89%

See notes to required supplementary information.

Schedule is intended to show information for 10 years - additional years will be displayed as they become available.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND
Notes to Required Supplementary Information - Fiscal Year Ended June 30, 2018

The schedules are intended to present ten years of data. Additional years of data will be presented as they become available.

1. Actuarial methods and assumptions used to calculate the net pension liability (asset) of the participating employers

The actuarial methods and assumptions used to calculate the net pension liability (asset) of the participating employers are described in Note 8 to the financial statements.

The following information is presented about factors that significantly affect trends in the amounts reported between years.

June 30, 2018 measurement date –

There were no changes in actuarial methods or assumptions reflected in the calculation of the net pension liability (asset) of the plans as of the June 30, 2018 measurement date compared to the June 30, 2017 measurement date except for the changes in assumptions for the RIJRFRT plan due to use of the municipal bond index rate of 3.62% instead of the plan's assumed investment rate of return of 4.0%.

June 30, 2017 measurement date –

As part of the 2017 Actuarial Experience Investigation Study for the six-year period ending June 30, 2016 as approved by the System Board on May 15, 2017, certain assumptions were modified and reflected in the determination of the net pension liability (asset) at the June 30, 2017 measurement date. The following summarizes the more significant changes in assumptions:

- Decreased the general inflation assumption from 2.75% to 2.50%;
- Decreased the nominal investment return assumption from 7.50% to 7.00%;
- Decreased the general wage growth assumption from 3.25% to 3.00%;
- Decreased salary increase assumptions; and
- Updated the post-retirement mortality tables to variants of the RP-2014 table. For the improvement scale, update to the ultimate rates of the MP-2016 projection scale.

Additionally, the municipal bond index rate, based on fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" (3.56% at June 30, 2017) was applied to all periods of projected benefit payments to determine the total pension liability instead of the plan's assumed investment rate of return of 4.0%.

June 30, 2016 measurement date –

There were no changes in actuarial methods or assumptions reflected in the calculation of the net pension liability (asset) of the plans as of the June 30, 2016 measurement date compared to the June 30, 2015 measurement date except for the changes in assumptions for the RIJRFRT plan due to use of the municipal bond index rate of 2.85% instead of the plan's assumed investment rate of return of 4.0%.

1. Actuarial methods and assumptions used to calculate the net pension liability (asset) of the participating employers (continued)

June 30, 2015 measurement date –

There were no changes in actuarial methods or assumptions reflected in the calculation of the net pension liability (asset) of the plans as of the June 30, 2015 measurement date compared to the June 30, 2014 measurement date except for the changes in assumptions for the RIJRFRT plan due to use of the municipal bond index rate of 3.8% instead of the plan's assumed investment rate of return of 4.0%.

Benefit changes are reflected in the calculation of the net pension liability at the June 30, 2015 measurement date. The following is a summary of those benefit changes that resulted from the settlement of the pension litigation and the subsequent enactment of those settlement provisions by the General Assembly.

- Employees with more than 20 years of service at July 1, 2012 will increase their employee contribution rates to 11% for state employees and municipal general employees will contribute 8.25% (9.25% for units with a COLA provision) and participate solely in the defined benefit plan going forward – service credit accruals will increase from 1% to 2% per year.
- Members are eligible to retire upon the attainment of: age 65 with 30 years of service, 64 with 31 years of service, 63 with 32 years of service, or 62 with 33 years of service. Members may retire earlier if their RIRSA date is earlier or are eligible under a transition rule.
- MERS public safety employees may retire at age 50 with 25 years of service, or any age with 27 years of service. MERS public safety employees will contribute 9.00% (10.00% for units with a COLA provision)
- Employees with more than 10 but less than 20 years of service at July 1, 2012 will receive an increased employer contribution to the defined contribution plan. Also, members who earn less than \$35,000 per year will not be required to pay the administrative fees to the defined contribution plan.
- Members who retired from a COLA eligible plan before July 1, 2012 will received a one-time cost of living adjustment of 2% of the first \$25,000 paid as soon as administratively possible.
- Retirees as of June 30, 2015 will receive two \$500 stipends; the interim cost of living increases will occur at 4 year rather than 5 year intervals.
- The COLA formula was adjusted to: 50% of the COLA is calculated by taking the previous 5-year average investment return, less 5.5% (5yr Return - 5.5%, with a max of 4%) and 50% calculated using previous year's CPI-U (max of 3%) for a total max COLA of 3.5%. This COLA is calculated on the first \$25,855, effective 01/01/16, and indexed as of that date as well. (The indexing formula is run annually regardless of funding level each year.)
- Minor adjustments were made to the actuarial reduction for employees choosing to retire early.

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND
Notes to Required Supplementary Information - Fiscal Year Ended June 30, 2018

2. Actuarially determined contributions

Actuarially determined contributions are calculated as of June 30, three years prior to the fiscal year in which the contributions are reported. For example, the contribution rates for fiscal 2018 for the plans were based on valuations performed as of June 30, 2015.

Contributions for teachers within the ERS plan include \$98,120,835, \$96,542,150, \$87,997,637, \$84,943,801 and \$76,700,915 of nonemployer entity contributions made by the State of Rhode Island for fiscal years 2018, 2017, 2016, 2015, and 2014, respectively.

Contributions for the TSB plan are required by statute as outlined in the General Laws of Rhode Island. Due to the funded status of the plan, there was no actuarially determined contribution required to the plan in years 2014 through 2018.

Summary of Actuarial Methods and Assumptions Used to determine Fiscal 2018 contribution rates							
	ERS		MERS	SPRBT	JRBT	RIJRFT	SPRFT
	<i>State Employees</i>	<i>Teachers</i>					
Valuation Date	June 30, 2015 for all plans except for RIJRFT and SPRFT which were based on June 30, 2016 valuation.						
Actuarial Cost Method	Entry Age Normal - the Individual Entry Age Actuarial Cost methodology is used.						
Amortization Method	Level Percent of Payroll – Closed				Level Dollar	Level Dollar	
Equivalent Single Remaining Amortization Period	20 years				16 years	15 years	
Asset Valuation Method	5 Year Smoothed Market						Market value
Actuarial Assumptions							
Investment Rate of Return	7.5%	7.5%	7.5%	7.5%	7.5%	4.0%	7.5%
Projected Salary Increases	3.5% to 6.5%	3.5% to 13.5%	<i>General Employees</i> 3.50% to 7.50% <i>Police & Fire Employees</i> 4.0% to 14.0%	3.75% to 8.0%	3.50%	3.50%	3.75% to 13.5%
Mortality	<ul style="list-style-type: none"> • Male Employees, MERS General and MERS P&F: 115% of RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA from 2000. • Female Employees, MERS General and MERS P&F: 95% of RP-2000 Combined Healthy for Females with White Collar adjustments, projected with Scale AA from 2000. 						
		Male and female teachers: 97% and 92%, respectively of rates in a GRS table based on male and female teacher experience, projected with Scale AA from 2000.					
Inflation	2.75%						

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND
Notes to Required Supplementary Information - Fiscal Year Ended June 30, 2018

2. Actuarially determined contributions (continued)

The required contribution for the newly created (fiscal 2017) State Police Retirement Fund Trust (SPRFT), a plan covering a closed group of retired individuals, was calculated based on a level-dollar amortization over 18 years from June 30, 2016.

Cost of Living Adjustments

For the MERS plan, a 2% COLA is assumed after January 1, 2014. For all plans other than TSB, a COLA of 2% is assumed only every five years until the plans achieve an 80% collective funded status in accordance with the law.

COLA provisions were modified with the enactment of the new RISA provisions in July 2015 – these provisions are effective in the actuarial valuations prepared for funding purposes beginning June 30, 2015.

For the TSB plan, an annual 2.75% COLA is assumed – the actual COLA in any year is based on the COLA provided for federal Social Security recipients.

Supplemental contributions

Certain supplemental contributions required by the General Laws were made to the ERS plan as more fully explained in Note 7 (d) to the financial statements. The following table reconciles the ERS plan employer contributions in the Schedule of Changes in the Participating Employers' Net Pension Liability and amounts included in the financial statements for the ERS plan.

	<u>State Employees</u>	<u>Teachers</u>	<u>Total ERS Plan</u>
Employer Contributions included in the Schedules of Changes in the Participating Employers' Net Pension Liability	\$ 174,374,155	\$ 239,092,095	\$ 413,466,250
Other contribution related additions included in financial reporting amounts	32,626	857,130	889,756
Employer contributions reported on ERS Plan Fiscal 2018 financial statements	<u>\$ 174,406,781</u>	<u>\$ 239,949,225</u>	<u>\$ 414,356,006</u>
Per ERSRI fiscal 2018 financial statements			
			Employer Contributions \$ 315,176,351
			State Contributions for Teachers 98,120,835
			Supplemental employer contributions 1,058,820
			<u>Total Employer Contributions \$ 414,356,006</u>

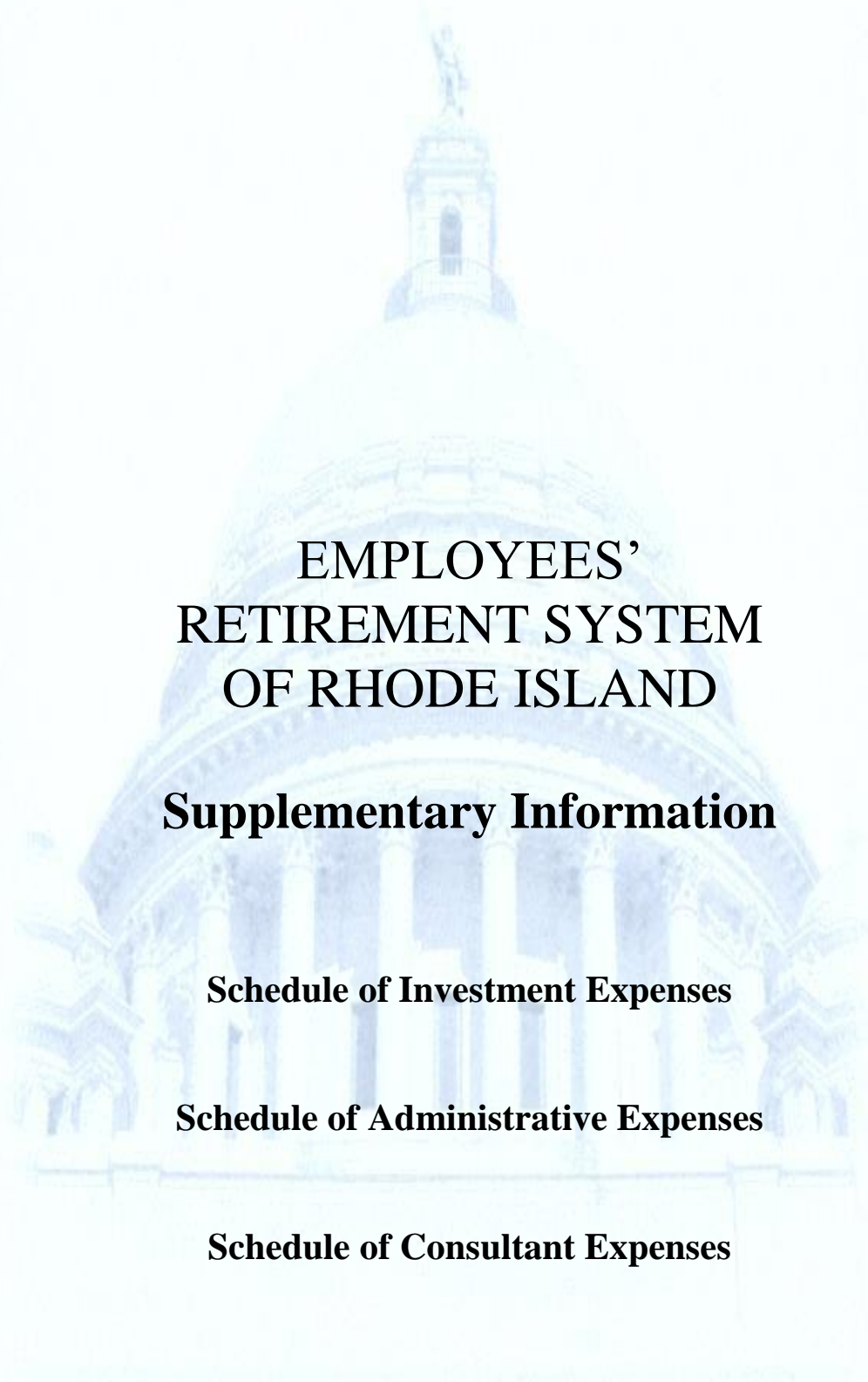
3. Covered payroll

Covered payroll, as included in required supplementary information schedules, includes projected annualized payroll amounts for employees beginning employment during the fiscal year. Consequently, the covered payroll amounts included in the required supplementary information schedules may differ from the actual fiscal year payroll base to which the actuarially determined contribution rate was applied. Additionally, the contribution amount as a percentage of covered payroll may differ from the Board approved contribution rate expressed as a percentage of payroll.

4. Schedules of Investment Returns

The annual money-weighted returns on investments within each of the plans, net of investment expense, are shown in the required supplementary information schedule. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

The schedules are intended to present ten years of data. Additional years of data will be presented as they become available.



**EMPLOYEES'
RETIREMENT SYSTEM
OF RHODE ISLAND**

Supplementary Information

Schedule of Investment Expenses

Schedule of Administrative Expenses

Schedule of Consultant Expenses

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND

Schedule of Investment Expenses

Fiscal Year Ended June 30, 2018

INVESTMENT MANAGEMENT FEES BY STRATEGY AND ASSET CLASS

TOTAL GROWTH

Global Equity

State Street Global Advisors - Russell 3000 Commingled Fund	\$	160,923	
Shott Capital/Hamilton Lane		14,472	
State Street Global Advisors - QVM Tilt		506,766	
State Street Global Advisors - MSCI EAFE -Commingled Fund		254,499	
State Street Global Advisors - MSCI CAD - Commingled Fund		31,983	
State Street Global Advisors - MSCI Emerging Markets - Commingled Fund		386,196	

Private Growth

Private Equity		20,896,883	
Non-Core Real Estate		10,454,667	
Opportunistic Private Credit		1,261,571	\$ 33,967,960

INCOME

Harvest - High Yield Infrastructure		1,090,353	
PIMCO - Liquid Credit		364,059	
WAMCO - Liquid Credit		445,272	
Private Credit		2,927,057	4,826,741

STABILITY

Crisis Protection Class

WAMCO - Treasury Long Duration		93,975	
Mackay Shields - Treasury Long Duration		99,556	
Systematic Trend Following (CPC LLC)		2,028,092	

Inflation Protection

Core Real Estate		3,908,217	
Private Infrastructure		6,471,177	
Brown Brothers Harriman - TIPS		268,413	

Volatility Protection

Pyramis - Investment Grade Fixed Income		624,987	
Mackay Shields - Investment Grade Fixed Income		601,844	
Absolute Return Hedge Funds		22,062,509	
Payden & Rygel		295,292	36,454,062

OTHER

Russell Overlay			293,438
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Subtotal - Investment Management Fees by Strategy and Asset Class

75,542,201

PROFESSIONAL FEES

Legal		166,861	
BNY Mellon - Custodial		496,489	
Cliffwater		441,667	
PCA		186,667	
NEPC		122,681	
Aberdeen		231,009	
PCA Infrastructure		68,750	
PCA Real Estate		125,000	
<i>Subtotal - Professional Fees</i>			1,839,124

OPERATING EXPENSES

Investment Administration - Office of the General Treasurer	\$	1,590,067	
Other Expenses		79,744	
<i>Subtotal - Operating Expenses</i>			1,669,811

TOTAL INVESTMENT EXPENSES

\$ 79,051,136

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND

Schedule of Administrative Expenses

Fiscal Year Ended June 30, 2018

DEFINED BENEFIT PLANS

Personnel Expenses

Salaries and wages	\$ 2,765,355
Benefits	1,611,802
Total personnel expenses	<u>4,377,157</u>

Purchased Services - Consultant Expenses

Disability determination	271,439
Legal	381,055
Actuary	329,389
Information technology services	2,514,554
Stenographic services	5,779
Office equipment	29,349
Other professional services	12,321
Total purchased services	<u>3,543,887</u>

Operating Expenses

Communications	158,094
Office and supplies	181,898
Printing and advertising	21,945
Travel	19,815
Occupancy	134,688
Insurance	72,987
Other	7,510
Total operating expenses	<u>596,937</u>

Subtotal administrative expenses - defined benefit plans	<u>\$ 8,517,981</u>
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DEFINED CONTRIBUTION PLANS

Plan Administrative Expenses - TIAA-CREF	<u>\$ 1,232,204</u>
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TOTAL ADMINISTRATIVE EXPENSES -- ALL PLANS	<u><u>\$ 9,750,185</u></u>
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EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND

Schedule of Consultant Expenses

Fiscal Year Ended June 30, 2018

Disability Determination Services

Medical exam fees - various physicians	\$	271,439
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Legal

Adler Pollock & Sheehan P.C.	\$	88,675	
Hinckley, Allen, & Snyder LLP		38,885	
Schechtman Halperin Savage LLP		232,370	
Hearing officers - various		21,125	381,055

Actuary

Gabriel Roeder Smith & Co.			329,389
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Information Technology Services

ACOM Solutions, Inc.		970	
Carousel Industries		25,768	
Konica Minolta Business Solutions USA		414	
Morneau Shepell *		2,319,545	
Stonewall Solutions, Inc.		152,640	
Socrata, Inc.		12,738	
Symantec Corporation		2,480	2,514,554

Stenographic Services

Allied Court Reporters Inc.			5,779
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Office Equipment

ACOM Solutions, Inc.		166	
Apple, Inc.		1,106	
Carousel Industries		1,565	
Konica Minolta Business Solutions USA		7,163	
Park Place Technologies		19,350	29,349

Other Professional Services

Pension Benefit Information		11,500	
State of Rhode Island		330	
Translator services		491	12,321

Total purchased services - consultant expenses	\$	3,543,887
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* Amount for this vendor reflected as expense during fiscal year - see note 3 to the financial statements.



Office of the Auditor General

State of Rhode Island and Providence Plantations - General Assembly
Dennis E. Hoyle, CPA - Auditor General

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**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED
IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

Joint Committee on Legislative Services, General Assembly
State of Rhode Island and Providence Plantations:

Retirement Board of the Employees' Retirement System of the State of Rhode Island:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the plans within the Employees' Retirement System of Rhode Island (System) as of and for the year ended June 30, 2018 and the related notes to the financial statements, which collectively comprise the System's basic financial statements, and have issued our report thereon dated December 20, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. We did identify a deficiency in internal control, identified as Finding 2018-01 in the accompanying schedule of findings and responses that we consider to be a significant deficiency.

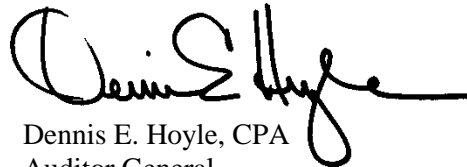
Joint Committee on Legislative Services, General Assembly
Retirement Board of the Employees' Retirement System of the State of Rhode Island:

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Dennis E. Hoyle, CPA
Auditor General

December 20, 2018

Schedule of Findings and Responses

Finding 2018-01

significant deficiency - new finding

CONTROLS OVER RECOGNITION OF INVESTMENT EXPENSES WITHIN THE POOLED INVESTMENT TRUST

In fiscal 2018, the System changed its accounting policy for recognizing investment expenses from recording certain investment income on a net-of fees basis to recording all material investment expenses on a gross basis. This change resulted in a more complete disclosure of expenses and therefore a material increase in investment expenses presented on the System's annual financial statements (an increase of approximately \$60 million compared to fiscal 2017).

The System's investment custodian records all investment transactions including investment income and related expenses. Investment expenses include investment consultant fees, custodial fees, direct investment expenses paid to managers, and certain indirect expenses allocated by managers to fund or partnership investors. For certain investment types such as hedge funds, private equity, real estate, infrastructure, and crisis protection class, indirect expenses are reported to the System and its custodian on a net of fees basis. Supplemental information and adjustment is required to consistently record these indirect expenses on a gross fee basis.

During fiscal 2018, the System directed its custodian to account for investment expenses consistent with its newly adopted policy. We found that controls to ensure accurate and consistent reporting of investment expenses require enhancement at both the custodian and System management level. Significant analysis and adjustment was required to include the appropriate investment expense amounts in the System's fiscal 2018 financial statements (however, our independent auditor's report on the System's fiscal 2018 financial statements was unmodified).

As described above, for certain investment types, supplemental information from the fund or partnership is required to allow recording of the allocated share of the System's indirect expenses. For many of these investment types, such supplemental information is available on a quarterly basis while hedge funds report monthly. To address a call for increased transparency, some private equity firms utilize a standard reporting template (developed by the Institutional Limited Partners Association or ILPA) which details allocable indirect expenses. Only approximately 30% of the System's private equity partnerships utilize the standard template. When available, use of the ILPA template increases the standardization of recording investment income and expenses for these alternative investment types.

The custodian utilizes the ILPA form when available and other supplemental reporting provided by the funds or partnerships when it is not. Recording such activity requires interpretation and manual entry to adjust the investment income and expenses consistent with the System's policy and direction. The System did not implement the policy at the start of the fiscal year and accordingly retroactive adjustment was required for data previously recorded. Further, data was sometimes recorded using the first available data from the fund or partnership which then needed additional adjustment when more complete data (e.g., ILPA form) was available. In some instances, the custodian made errors in the recording of the transactions. This resulted in a significantly increased volume of activity within the custodian's system due to the initial recording, subsequent adjustments, and then final correcting adjustments. The processes employed by the investment custodian to record alternative investment activity are more custom services and are less subject to the overall custodian internal control processes which are standardized and tested periodically for reliability.

Schedule of Findings and Responses

The System needs to improve routine monitoring controls to ensure the consistency and reliability of reported investment income and expenses by the custodian. Subsequent to the close of the fiscal year, the System's investment staff analyzed custodian posted activity and proposed adjustments to accurately reflect investment income and expense amounts; however, further enhancements are needed to its processes to monitor investment activity recorded by the custodian.

The process to record certain hedge fund expenses is largely performed off-line by System investment staff and then provided to the custodian for recording. This process should also be subject to enhanced monitoring efforts.

The System needs to comprehensively evaluate and re-communicate all instructions to the investment custodian for the recording of alternative investment income and expenses. The custodian should provide updated descriptions of its processes and controls to ensure accurate reporting of investment activity for alternative investments.

The System also needs to formalize its monitoring processes to ensure that the custodian is reliably and accurately recording investment income for alternative investments. Certain custodian reporting functionalities need to be enhanced to facilitate timely review of the recorded activity. Additional investment accounting resources may be required to enhance these investment monitoring capabilities. Alternatively, the System could explore outsourcing certain of the monitoring and review of recorded investment income and expense for alternative investments.

Overall, the System's change in accounting policy was well intentioned to meet a desire for enhanced transparency for total investment related expenses. However, the process requires enhanced control procedures to ensure the reliability of amounts reported by the custodian which ultimately become the basis for amounts reported in the System's annual financial statements.

RECOMMENDATIONS

- | | |
|----------|--|
| 2018-01a | Evaluate comprehensively and re-communicate instructions to the System's investment custodian regarding the recording of investment income and expense for alternative investments. |
| 2018-01b | Implement a comprehensive monitoring process within the Office of the General Treasurer to ensure investment income and expense for alternative investments is recorded by the investment custodian consistent with the System's requirements on a timely basis. |
| 2018-01c | Explore out-sourced options to monitor and quality-control review the recording of investment income and expenses transactions for alternative investments. |
| 2018-01d | Develop custom reports from the custodian to facilitate the monitoring and review process for alternative investment transactions. |

Auditee Views and planned corrective actions:

The Employees Retirement System of Rhode Island (ERSRI) and The Office of the General Treasurer are committed to the highest level of transparency in expense reporting, and during FY18 implemented a process that enhances expense reporting. Under the Equity expense reporting methodology, expenses of the indirect nature, which were typically reported only as part of the Net

Schedule of Findings and Responses

Asset Value, are now fully disclosed. (The prior process only recorded expenses when paid through Capital calls.)

This level of disclosure places ERSRI at the leading edge of public pension transparency efforts. Implementing new processes always comes with challenges, and because many public pension plans do not commit to this level of disclosure, ERSRI and its custodian had to develop new protocols and procedures for their respective investment accounting teams. Invariably, the first year of implementation for any new process affords the opportunity to improve in subsequent years.

It is important to note that the focus of the finding is limited to the financial reporting controls over the recording of investment income and expenses. To be clear, the auditors found the System's financial statements were fairly stated and the auditors' opinion on them is unmodified.

This response discusses controls and establishment of procedures for such control as it relates to the Equity expense reporting methodology.

Prior to the launch of the new reporting methodology ERSRI and BNY management held several meetings to establish criteria and protocols to be used in the process. ERSRI requested that the following sources of information be used to disclose expenses as follows: 1) ILPA statements were the preferred and most detailed method for reporting Expenses and Carry and Expenses and 2) Manager monthly/quarterly statements to be used when ILPA statements unavailable.

These changes had a substantial impact on BNY's processes and began after the start of the fiscal year. Because the process began after the beginning of the fiscal year, items booked under the cash method had to be reversed, and all expenses had to be booked again directly from the statements.

This caused some recording issues and made ERSRI staff review more cumbersome. This also resulted in a delay in recording activity related to expenses which delayed the staff's ability to complete its review of the reports.

In the second year of the Equity reporting methodology both the ERSRI System and BNY are committed to further improving the process, ensuring the timeliness of reporting and simplifying the audit process as detailed below.

Bank of New York:

ERSRI staff has had several follow-up discussions with BNY which will enhance their processes and control for FY19 and beyond. Per those discussions BNY has committed to the following:

- 1. Recording of expenses and expenses will revert to the BNY Private Asset team from a centralized group to improve the speed and accuracy of recording.*
- 2. BNY has established a written procedure for their methodology for recording of expenses and expenses by each individual partnership which will be maintained and updated for any new partnerships.*
- 3. Two custom reports have been established for ease of understanding of timing and recording of expenses, and verification that the NAV is in agreement with each partnership's valuation.*

Schedule of Findings and Responses

ERSRI:

The System has also reviewed its internal procedures and identified the following enhancements:

- 1. Timely reviews of all activity will be performed by the System ensuring that the reported NAV's are in agreement with the Partnership valuations, and that the posted expenses reflect fairly the systems obligations on a quarterly basis.*
- 2. Multiple ESRSI staff will also review and sign off on the reconciliation of monthly values currently performed by our custodian and consultant.*
- 3. The system will conduct a quarterly review of said processes of the custodian and report to the Treasurer's Chief of Staff for quality assurance purposes.*
- 4. The system will consider enhancing the review process by working with an outside vendor to perform quality control, additional review.*

Copies of the referenced procedures and the custom report samples have been provided to the auditor.