# Maine Public Employees Retirement System

Comprehensive Annual Financial Report
For the Fiscal Year Ended June 30, 2018

2018

Maine PERS

MainePERS is a component unit of the State of Maine.

# Maine Public Employees Retirement System

**A Component Unit of the State of Maine**

**P.O. Box 349, Augusta, Maine 04332-0349**

# Comprehensive Annual Financial Report

## For the fiscal year ended June 30, 2018

This report has been produced as required by 5 M.R.S.A. §17102 (10), which states that the Maine Public Employees Retirement System must publish an annual report showing "the fiscal transactions of the retirement system for the fiscal year and the assets and liabilities of the retirement system at the end of the fiscal year; and the actuary's report on the actuarial valuation of the financial condition of the retirement system for the fiscal year."

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This report was prepared by the Financial, Administrative and Investment staff of the Maine Public Employees Retirement System. Costs for producing this report were paid from the operating budget of the Maine Public Employees Retirement System. This CAFR is printed and also made available online. We respect the environment by printing on recycled paper and using soy-based inks—for a cleaner, healthier planet.


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Public Pension Coordinating Council

***Recognition Award for Funding***
***2018***

Presented to

Maine Public Employees Retirement System

In recognition of meeting professional standards for
plan funding as
set forth in the Public Pension Standards.

*Presented by the Public Pension Coordinating Council, a confederation of*

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H Winkle
Program Administrator

# TABLE OF CONTENTS



*Continued on next page*

# TABLE OF CONTENTS *(concluded)*

# INTRODUCTORY SECTION

*Maine State Berry: Blueberry*

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Sandra J. Ma heson, *Executive Director*



# LETTER OF TRANSMITTAL

December 21, 2018

In accordance with the requirements of 5 M.R.S.A. §17102, I am pleased to present the Comprehensive Annual Financial Report ("CAFR" or "Annual Report") of the Maine Public Employees Retirement System ("MainePERS" or the "System") for the fiscal year ended June 30, 2018. This CAFR, taken as a whole, provides information on all aspects of the System. It is written to conform to Governmental Accounting Standards Board (GASB) requirements. Management of the System takes full responsibility for the accuracy, completeness and fairness of the representations made in this report.

Berry, Dunn, McNeil & Parker, LLC, has issued an unqualified opinion on the MainePERS' financial statements for the year ended June 30, 2018. The independent auditor's report is located at the front of the financial section.

Management's discussion and analysis (MD&A) immediately follows the independent auditor's report and provides a narrative introduction, overview and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

## FUNDING OF SYSTEM PROGRAMS

The System administers seven retirement programs, often referred to as "plans." In addition, the System operates a Group Life Insurance Program (GLI) providing life insurance coverage for both active employees and for retirees, and a program of defined contribution retirement plans under sections 401(a), 403(b) and 457(b) of the Internal Revenue Code, collectively referred to as MaineSTART. The System also manages the Retiree Health Insurance Post Employment Investment Trust on behalf of the State of Maine. The Trust is an irrevocable trust established for the purpose of accumulating assets to provide funding for the State's liability for retiree health benefits. Assets for the purpose of providing funding for the liability for retiree health and other post-employment benefits (OPEB) for the System's employees are held in the MainePERS OPEB Trust, also administered by the System.

The System's defined benefit retirement programs are the dominant element in its financial activities and position. The four major programs are the State Employee and Teacher Retirement Program, the Judicial Retirement Program, the Legislative Retirement Program and the Participating Local District (PLD) Consolidated Retirement Plan. In addition, the System continues to administer twelve closed single-employer plans on behalf of participating local districts who at the time of consolidation, opted not to join the PLD Consolidated Plan. These plans are collectively referred to as the PLD Agent Plan.

The System also administers two pay-as-you-go retirement programs, one for judges who retired prior to the establishment of the Judicial Retirement Program in 1984 and the other for former governors and their surviving spouses. The programs are funded each biennium by a direct appropriation from the Legislature and, in the case of the active governor, by employee contributions required by statute.

The basic defined benefit retirement plan funding equation provides that, over the long term, contributions plus investment earnings must be equal to benefit obligations. While investment market performance affects plan funding levels and funding requirements, it does not affect benefit obligations.

The return on invested contributions has historically supplied a significant amount of the benefit funding resources of defined benefit plans. In periods when the investment markets provide lower returns than expected, the resulting funding shortfall has historically been supplemented by a combination of increased employer contributions and investment market returns in other periods that exceeded expectations. For this reason, the performance of the investment markets is a significant factor affecting the financial activities or position of the System, and the effects of market performance flow through to contributions made by participating employers. The recent two-decade low-interest environment has increased the sensitivity of the trust fund to market fluctuations as more of the trust fund income is earned from equities.

As with all actuarially-funded defined benefit plans, the System uses actuarial methods and procedures that integrate short-term market behavior with the long-term time horizon of the plan. One of these methods is "smoothing" of investment results which moderates the volatility of employer contribution requirements.

The interplay of liabilities (i.e., the obligation to pay benefits) and assets (i.e., contributions and investment earnings on contributions) can be observed in changes in the programs' actuarial funded ratios over time. The funded ratio of the State Employee and Teacher Retirement Program had improved steadily from 1990 through 2008. Substantial investment losses in fiscal years 2008 and 2009 reduced the funding ratio. Fiscal years 2010 and 2011 experienced strong investment returns, and in combination with changes to plan provisions, the funding ratio again improved. Subsequent market gains and losses resulted in a funding ratio of 82.2 percent as of the end of fiscal year 2015. Low investment returns in fiscal years 2014 and 2015 reduced the funding ratio to 80.4 percent as of June 30, 2016, and subsequent gains increased it to 80.9 percent as of June 30, 2017 as investment returns increased. As of June 30, 2018 the funding ratio was 81.4 percent, due largely to investment returns exceeding the expected rate of return.

The funded ratio of the Judicial Retirement Program has in recent years remained close to 100 percent. The funded ratio as of June 30, 2013 was 97.5 percent. In fiscal year 2014, the funded ratio of the plan increased to 101.6 percent and as of June 30, 2015 the funded ratio was 96.9 percent. The funded ratio of this plan increased again as of June 30, 2016 to 100.9 percent; at June 30, 2017, the funded ratio rose to 102.7 percent. As of June 30, 2018 the funding ratio remained strong at 102.4 percent.

The funded ratio of the Legislative Retirement Program has been above 100 percent for many years, and continues this year due primarily to member turnover in the Plan. As of June 30, 2018, the funded ratio was 146.3 percent, compared to 145.9 percent at June 30, 2017 and 148.5 percent at June 30, 2016.

The funded ratio of the Participating Local District Consolidated Retirement Plan was 89.5 percent as of June 30, 2018. This compares to 86.5 percent as of June 30, 2017 and 86.1 percent as of June 30, 2016. Information concerning the funded status of the non-consolidated participating local district plans administered by the System is available by contacting the System.

Information regarding overall funding progress appears in the MD&A beginning on page 21. More information on the funding levels of all of the System's retirement programs can be obtained from the System.

The System's defined contribution plans, collectively called MaineSTART, provide an important supplement for our defined benefit participants and a valuable alternative for other participants. MaineSTART offers a family of funds from Vanguard designed to be low cost and easy for participants to manage. The investment strategy for these assets is determined by each participant.

The Group Life Insurance Program is funded by premiums paid by its participants and the employers of those participants, and by investment returns on the Group Life Insurance Program assets. The investment strategy for these assets is a similar strategy to the strategy employed for the defined benefit programs' assets.

The Retiree Health Insurance Post Employment Investment Trust is funded through direct appropriations from the State of Maine.

**INVESTMENTS**

The basis of the investment policy is the mix of investment types in which assets are invested and the allocation of assets among asset classes. The System's Board of Trustees (Board) is responsible for establishing the policy that is the framework for investment of the programs' assets. The Board employs in-house investment professionals and outside investment consultants to advise it on investment matters, including policy.

The defined benefit program had a return of 10.3% while the group life insurance program had a return of 9% for fiscal year 2018. Total value of the defined benefit portfolio increased to $14.5 billion at June 30, 2018 from $13.6 billion at June 30, 2017. This increase in the total value of the portfolio is due to high earnings that substantially exceeded the negative cash flow experienced by the mature defined benefit programs.

The current target asset allocation was last modified in September 2017 to increase investments in alternative strategies such as private equity, private credit, infrastructure, real estate, natural resources and risk diversifiers.

The Board's choice of asset classes reflects its assessment of expected investment returns and the nature, level and management of risk. The defined benefit programs' assets perform two functions; they collateralize the benefits owed to participants, and they provide investment earnings. All benefit payments must eventually be funded from a combination of contributions and investment earnings.

**HIGHLIGHTS OF THE PAST YEAR**

A significant focus of our work this past year centered on the PLD Consolidated Plan in an effort to protect the core benefit for members and at the same time, develop a contribution rate methodology that shares risk between both the employer and the member. This effort required an enormous amount of communication and outreach to stakeholders, gathering input and explaining all the options and the costs associated with each. Ultimately, plan changes designed to protect the plan and control contribution rate volatility were adopted and now implementation of those changes is underway.

We are pleased to report that during this past year, we have designed and implemented the Employer Reporting and Assistance Program in an effort to provide support and assistance to our participating employers in their work with us. The program is designed with several goals in mind, including assisting employers with enrolling members, supporting employers in reporting weekly and monthly payroll information, and identifying areas where additional supports might be beneficial including training and education, or improving the employer experience with our employer reporting portal.

In the fall of 2017, MainePERS sold its main office building and adjacent land and became tenants while a new building is being constructed. The new headquarters, located only a mile from the existing building, will provide more modern, efficient office space for staff and will be equipped in such a way as to provide flexibility in operations in the future. We expect to move to the new location in January of 2019.

**ACKNOWLEDGEMENTS**

We are pleased to acknowledge that for the fourteenth consecutive year, the System was awarded the Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association ("GFOA"). In order to be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized Comprehensive Annual Financial Report ("CAFR"), with contents that meet or exceed program standards. We are pleased that we are recognized for handling and accounting for retirement funds in a manner that conforms to generally accepted accounting practices and all applicable legal requirements. We fully expect to be in compliance with all of the Certificate of Achievement program requirements into the future. This 2018 CAFR will also be submitted to the GFOA.

The System, through its management staff, is responsible for establishing and maintaining an internal control structure that is designed to provide reasonable assurance that assets are protected from theft, fraud, or misuse and that financial recordkeeping is transparent, complete and accurate. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management. Management believes that the existing internal controls accomplish these objectives. Management is also responsible for the completeness, accuracy and fair presentation of financial information and for all disclosures. This responsibility notably encompasses the System's financial statements themselves, including the amounts therein that, necessarily, are based on estimates and judgments.

The preparation of this report has been a collaborative effort of Executive Management, the Accounting and Finance Department, the Investment Department and the Communications Department. The System takes responsibility for all of the information contained in the report and confidently presents it as a basis for the many decisions of the Board of Trustees, staff, and others who will rely on it.

I am joined in transmitting this Comprehensive Annual Financial Report to all of our constituencies by the System's Director of Finance.

Respectfully submitted,

Sandra J. Matheson

Sandra J. Matheson

Executive Director

Sherry Tripp Vandrell

Director of Finance

# Appendix A to Letter of Transmittal

## OVERVIEW OF THE SYSTEM

The Maine Public Employees Retirement System (MainePERS) is an independent public agency of the State of Maine that traces its history to 1942. By the authority granted to it by the Maine Legislature, the System administers seven defined benefit retirement programs that cover State employees, the State's public school teachers, judges, legislators, and employees of the 316 municipalities and other public entities, called "participating local districts" (PLDs) that have chosen to provide retirement plans to their employees through MainePERS. The System is also responsible for the payment of retirement and survivors' benefits to former governors and their surviving spouses and to former judges who retired prior to the establishment of the Judicial Retirement Program in 1984 and their surviving spouses. In addition, the System administers a Group Life Insurance Program that provides or makes available life insurance benefits for active and retired State employees and teachers, judges, and legislators as well as employees of those PLDs who have chosen to offer the Group Life Insurance Program. The System also administers defined contribution plans for eligible employers who choose to participate in the plans.

### Board of Trustees

Responsibility for the operation of the Maine Public Employees Retirement System rests with the System's Board of Trustees, which is comprised of eight members. State law specifies the Board's composition. With the exception of the State Treasurer, each trustee is subject to the legislative confirmation process. Three trustees are System members, one of whom is proposed and elected by the Maine Education Association, one of whom is proposed and elected by the Maine State Employees Association, and one of whom is a PLD member appointed by the governing body of the Maine Municipal Association. Four other trustees are appointed by the Governor. Of these, one must be selected by the Governor from a list of nominees submitted by the Maine Retired Teachers Association and one must be a MainePERS retiree selected from a list of nominees submitted by State and/or PLD retirees. The remaining two appointees are direct gubernatorial appointments, both of whom must be qualified through training or experience in investments, accounting, banking, insurance or as actuaries. All appointed trustees are required to have "a working knowledge of retirement policy and legal issues and a general knowledge and understanding of banking, finance, and investment practices." The eighth trustee is the State Treasurer, who serves ex-officio. All trustee terms are three years, except for the two-year term of the State Treasurer. The Board annually elects its chair and vice chair from among its members.

The MainePERS Trustees serve as Trustees of the State and Teacher, Judicial and Legislative Retirement Programs as well as for the PLD Consolidated Program, the Group Life Insurance Programs, the Defined Contribution Plans, and the Retiree Health Insurance Post-Employment Benefits Investment Trust.

The Board contracts for the services of an actuary to prepare annual valuations of the assets and liabilities of each of the retirement programs administered by the System. The actuary also provides information and recommendations as to sound and appropriate actuarial assumptions, which are utilized, together with valuation information, to determine the programs' funding requirements. The System's actuary in fiscal years 2017 and 2018 was Cheiron, Inc.

The Board's management of MainePERS investments is embodied in its investment policy. The policy states the Board's underlying investment objectives, sets out the investment strategies intended to realize the objectives, and establishes guidelines and criteria for implementation of the strategies. The Board has engaged Cambridge Associates to advise it on the investment policy and the administration of the investment program.

The Board is the final administrative decision maker in matters involving the rights, credits, and benefits of members. It has established an administrative appeals process for the making of such decisions; in this process relevant factual information and legal requirements are identified and analyzed by independent Hearing Officers who serve under contract. In decisions on disability retirement appeals, statutorily established medical boards and individual medical advisors provide recommendations as to the medical aspects of disability. The Board's final administrative decisions are appealable to the Maine Superior Court.

### Administration

The Office of the Executive Director has administrative responsibility for all aspects of the System and its operations. The Executive Director oversees all actuarial work and investments, and has administrative responsibility for the internal audit function. Actuarial work is carried out with the assistance of an actuary; investment operations are carried out with the assistance of the System's Chief Investment Officer and staff, one or more investment consultants, investment managers and other appropriate advisors. In addition, the Office performs the executive functions of the System and has day-to-day responsibility for legal and legislative matters, appeals, federal, state, and local governmental relations, planning, organizational development, accounting and financial reporting, and numerous special projects.

## Appendix A to Letter of Transmittal

The Department of Service Programs administers the service and disability retirement programs, MaineSTART defined contribution plans, employer programs, survivor benefit and group life insurance programs. The Department is the System's primary contact for members, participating employers, and benefit recipients.

The Department of Administration is responsible for most administrative and support functions, including information technology supports, communications, facilities, and human resources.

The System's primary responsibility is the administration of defined benefit and defined contribution retirement plans. Retirement and related benefits provided by MainePERS include:

- service retirement benefits, that provide retirement income to qualified members;
- disability retirement benefits, that provide income to a member who becomes disabled under Maine law while the member is in service and before the member retires; and
- death benefits that are paid to a member's designated beneficiaries.

Administration of these programs includes financial administration, investments, recordkeeping of members' work and compensation data, and provision of retirement-related services to members, employers, and retirees.

The System also administers the MaineSTART defined contribution retirement plans that are established under sections 401(a), 403(b), and 457(b) of the Internal Revenue Code. These plans are presently available to employees of those employers in the PLD Consolidated Plan that have adopted one or more of the plans.

The System itself and all of its programs are established by and operate within the scope of Maine statutes. The operation of the System's defined benefit retirement plans is also governed by provisions of the Maine Constitution, not all of which apply to all of the plans.

**Membership and Contributions**

State employees and teachers are covered under the Maine Public Employees Retirement System's State Employee and Teacher Retirement Program. State employees are required by law to become members of MainePERS when hired. There is an exception to this rule for elected and appointed officials, for whom membership is optional. Public school teachers, other than substitute teachers, for whom membership is also optional, must also become members of MainePERS when hired. PLD employees become members of MainePERS when they are hired if their employer participates as a PLD in MainePERS at that time and if they meet the membership eligibility requirements in effect when they are hired. For some PLD employees, membership is optional. These employees include those employed by their PLD before the PLD joined MainePERS, those whose employers provide Social Security or a qualified replacement plan under federal law, elected and appointed officials, and chief administrative officers.

The Legislative Retirement Program, also administered by MainePERS, was established to provide a retirement program for those serving in the Maine Legislature. Except as provided otherwise by statute, membership in the Maine Legislative Retirement Program is mandatory for legislators entering service on or after December 3, 1986.

The Judicial Retirement Program was established to provide a retirement program for Maine's judges. Membership in the Judicial Retirement Program is a condition of employment for all judges serving on or after December 1, 1984.

All members of the System contribute a percentage of their compensation to the System; employers may opt to contribute all or a portion of that percentage on behalf of their employees. Each employer also contributes to the System an amount for the normal costs of the programs that is a percentage of total wages paid to members who are employees of that employer.

Prior to July 1, 2013 the State paid the normal cost employer contributions and unfunded actuarial liability contributions on behalf of all State employee and teacher members. As of July 1, 2013, teacher employers began paying the normal cost employer contributions on behalf of those teacher members they employed while the state continued to pay toward the unfunded actuarial liability associated with teacher members. The employer contribution percentages are actuarially determined by plan and vary from year to year.

Employer normal cost contributions, along with current member contributions, support benefits currently being earned by active members. The State’s unfunded actuarial accrued liability (UAAL) contribution is a payment on the amortized debt that represents the liability for benefits in excess of the amount supported by assets of the System. The Maine Constitution requires that the UAAL established as of June 30, 1996 be fully funded in not more than 31 years from July 1, 1997. The amortization period at the end of FY 2018 is 10 years, requiring full payment of the UAAL by the end of FY 2028.

## Appendix A to Letter of Transmittal

The System also administers pay-as-you-go retirement programs for former judges who retired prior to the establishment of the Judicial Retirement Program in 1984 and their surviving spouses and former governors and their surviving spouses. The programs are funded each biennium by a direct appropriation from the Legislature and, in the case of the active governor, by employee contributions required by statute.

The Group Life Insurance Program is provided or made available to all eligible State employees, public school teachers, and employees of those PLDs who elect to offer this coverage to their employees, as well as to members of the Legislative and Judicial Retirement Programs. Basic coverage for the employee is equal to the employee's annual base compensation rounded up to the next $1,000; supplemental coverage for the employee and coverage for dependents are also available.

Further details regarding program and plan provisions can be found elsewhere in this report and in the actuarial valuation for each program.

**Financial Reporting**

Total operating expenses for staff and all other costs of operations are allocated among each of the Programs administered by the System. The System's administrative budget is approved annually by the Board of Trustees, and is reported to the Legislature.

The System's financial statements have been prepared in accordance with generally accepted accounting principles applied on a consistent basis, in accordance with the standards and requirements of the Governmental Accounting Standards Board (GASB). The financial statements are presented in accordance with GASB Statement No. 34, Basic Financial Statements - Management's Discussion and Analysis for State and Local Governments, GASB Statement No. 67, Financial Reporting for Pension Plans, and, with respect to the Group Life Insurance Program, GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. Financial information presented throughout this Report is consistent with the financial statements. The financial statements are prepared on the accrual basis of accounting.

The System has an Internal Audit program, staffed by one internal auditor. This program focuses on a plan of internal controls and efficiencies in all of the departments at the System. The internal auditor presents audit reports to both management and the Finance and Audit Committee of the Board of Trustees.

The independent auditor, Berry Dunn, has conducted an audit of the financial statements in accordance with, as stated in its audit report, generally accepted auditing standards and including those tests and procedures Berry Dunn deemed necessary to express its opinion in its audit report.

The auditors have unrestricted access to the Board and the Board's Finance and Audit Committee to discuss the audit and their findings with respect to the integrity of the System's financial reporting and adequacy of the System's internal controls.

The System reports five defined benefit pension plans including two multiple-employer cost sharing plans (the State Employee and Teacher Plan and the PLD Consolidated Plan), two single employer plans (the Judicial and Legislative Plans) and an agent multiple employer plan which is an aggregation of single employer plans of those PLDs that elected not to join the consolidated cost sharing plan. Separate actuarial valuations are performed for each of the retirement programs that the System administers; contributions, inflows, and benefits payments are separately tracked and recorded, and separate trust fund balances are attributed to each such program. The System also reports the Group Life Insurance Program for active employees and two multiple-employer cost sharing Other Post-Employment Benefit (OPEB) plans providing life insurance coverage in retirement for state employees and teachers as well as for employees of those PLDs that participate in the life insurance program. In addition, the System reports the MaineSTART Defined Contribution plans as well as the Retiree Health Insurance Trust Fund. The System's financial statements, notes thereto and required supplementary information are prepared accordingly.

# BOARD OF TRUSTEES, MANAGEMENT STAFF, and PRINCIPAL PROFESSIONAL CONSULTANTS
June 30, 2018



## SENIOR ADMINISTRATIVE STAFF

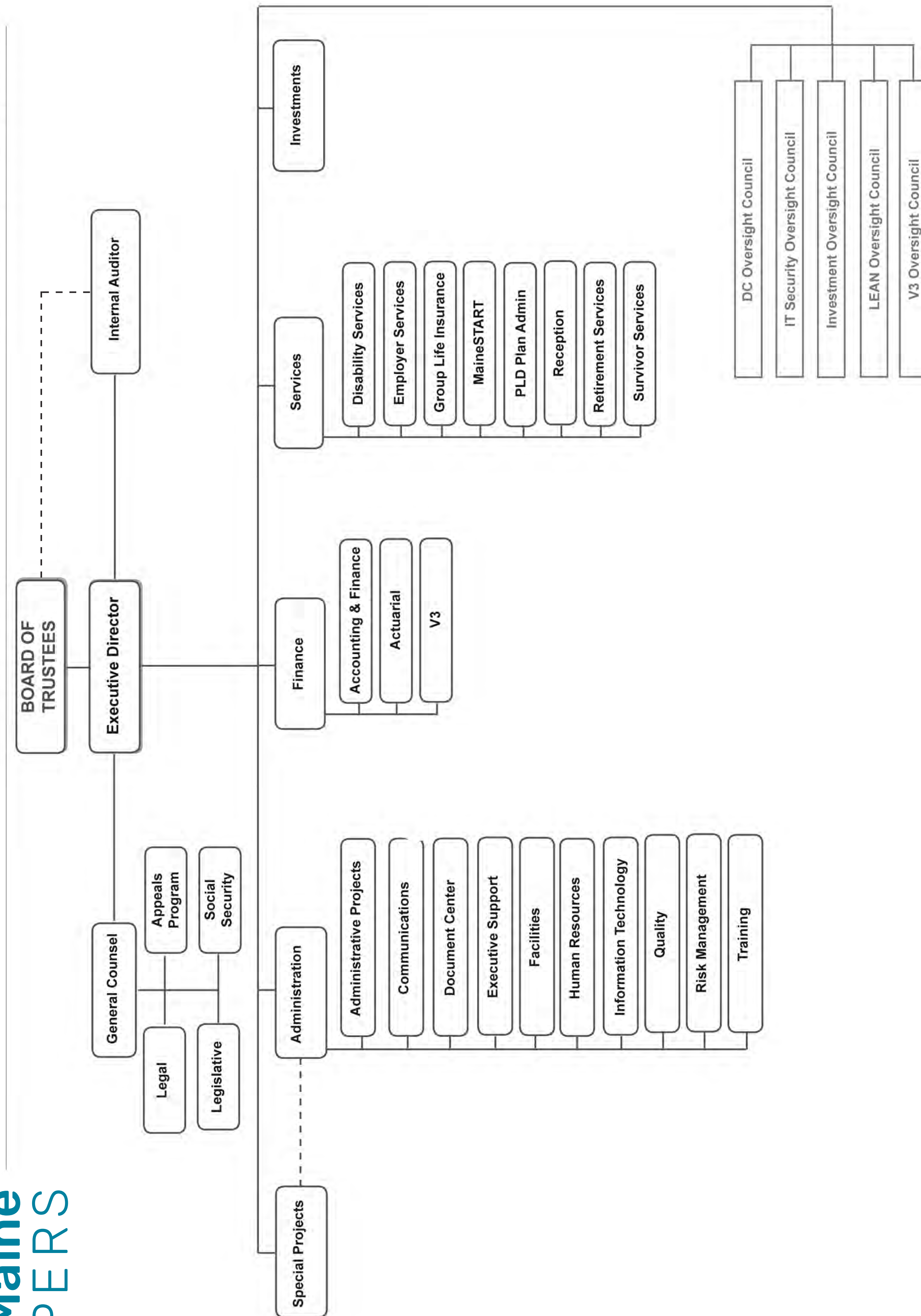
| | |
|---|---|
| Sandra J. Matheson | Executive Director |
| Michael J. Colleran | General Counsel |
| Andrew H. Sawyer, CFA, CAIA | Chief Investment Officer |
| Rebecca A. Grant | Deputy Executive Director |
| James Dusch | Deputy Executive Director |
| Sherry Tripp Vandrell, CMA, CGFM | Director of Finance |
| Valerie E. Scott | Associate Deputy Director |

## PRINCIPAL PROFESSIONAL CONSULTANTS

| | |
|---|---|
| Actuary: | Cheiron, Inc. |
| Investment Consultant: | Cambridge Associates |
| Auditors: | BerryDunn |
| Internal Auditor: | Randal L. Lloyd |

**See page 82 for a list of professional investment management firms. Information regarding commissions paid can be found on page 89.**

# Organizational Chart by Function




October 2018

# 2018 Legislative Update

## LEGISLATION ENACTED DURING THE 128th SECOND REGULAR and SECOND SPECIAL SESSIONS

### An Act to Authorize the Maine Public Employees Retirement System to Procure and Offer Long-term Disability Insurance

PL 2017, c. 378 [L.D. 176]
Effective Date: August 1, 2018

This law authorizes MainePERS to contract with an insurance company to offer long-term disability insurance (LTDI) to members through their employers. It allows the board to adopt rules to implement LTDI and requires two reports to the Legislature, one by January 31, 2019 and the other by January 31, 2020, regarding the status of any LTDI program that is implemented.

### An Act to Align the Criteria Used by the Maine Public Employees Retirement System in Determining Veterans' Disability Claims with the Criteria Used by the United States Department of Veterans Affairs

PL 2017, c. 384 [L.D. 521]
Effective Date: August 1, 2018

This law changes disability retirement benefit eligibility for veterans who receive federal service-connected disability benefits. Under this law, a veteran who is a MainePERS member and who has been awarded a service-connected disability based on a determination of individual unemployability is presumed to be disabled under the laws that govern the MainePERS disability program. The presumption may be rebutted based on evidence not considered by the federal program. This law applies to disability retirement benefit applications filed on or after October 1, 2018.

### An Act to Amend the Retirement Laws Pertaining to Participating Local Districts

PL 2017, c. 392 [L.D. 247]
Effective Date: April 18, 2018

This bill pertains to the PLD Consolidated Plan. It makes clear that the following plan provisions are as set out in the rule (i.e., Chapter 803) that governs that plan: 1) inclusion of unused vacation/sick leave; 2) retire-rehire; 3) employer contributions; 4) cost-of-living adjustments; 5) early retirement reductions; and 6) withdrawal liability payments.

### An Act to Amend the Laws Governing Retirement Benefits for Capitol Police Officers

PL 2017, c. 439 [L.D. 1653]
Effective Date: December 13, 2018

This law provides retroactive coverage in the 1998 Special Plan for Capitol Police Officers employed in that position on July 1, 2002 or hired thereafter, and employed as of the effective date of the law. This change is effective upon receipt of the funds necessary to pay the associated unfunded actuarial liability cost, as set forth in the enacted law.

*continued on next page*

# 2018 Legislative Update

*(concluded)*

**An Act Making Certain Appropriations and Allocations and Changing Certain Provisions of the Law Necessary to the Proper Operations of State Government**

PL 2017, c. 460 [L.D. 925]
Effective Date: July 9, 2018

This law is the Supplemental State budget, and Part K is the only section relevant to MainePERS. That Part sets forth how retirement benefits for certain correctional facility employees are to be computed if retirement results from the closure of a facility. Specifically, Part K permits eligible employees, as defined in the bill, to retire without a reduction for retiring before normal retirement age, contingent upon the funding of this benefit being received by MainePERS.

**An Act to Correct Errors and Inconsistencies in the Laws of Maine**

PL 2017, c. 475 [L.D. 1894]
Effective Date: September 12, 2018

This law is the errors and inconsistencies bill that makes corrections to previously enacted laws. Section 6 is the only MainePERS-related section, and corrects a cross-referencing error that was made in the System's omnibus bill last session.

**Resolve, To Continue a Review of the State Employee and Teacher Retirement Plan**

Resolve, c. 57 [L.D. 1907]
Effective Date: May 2, 2018

This Resolve authorizes the working group to continue to evaluate and design plan options for state employees and teachers. The working group is required to submit its final report to the Legislature no later than December 1, 2019.

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# FINANCIAL SECTION

*Maine State Flower: White Pine Cone and Tassel*

BerryDunn

## INDEPENDENT AUDITOR'S REPORT

Board of Trustees of
Maine Public Employees Retirement System

**Report on the Financial Statements**

We have audited the accompanying statement of fiduciary net position of Maine Public Employees Retirement System (the System), a component unit of the State of Maine, as of June 30, 2018 and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, which collectively comprise the System's basic financial statements.

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

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; 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 an opinion on these financial statements based on our audit. We conducted our audit in accordance with U.S. generally accepted auditing standards 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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 opinion.

***Opinion***

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2018, and the changes in its fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

Board of Trustees of
Maine Public Employees Retirement System

***Other Matters***

*Required Supplementary Information*

U.S. generally accepted accounting principles require that Management's Discussion and Analysis and the required supplementary information as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the 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 U.S. generally accepted auditing, 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.

*Additional Supplementary Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements. The accompanying additional supplementary information as listed in the table of contents is presented for the purpose of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the 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 U.S generally accepted auditing standards. In our opinion, the additional supplementary information is fairly stated in all material respects in relation to the basic financial statements as a whole.

The introductory, investment, actuarial and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

***Report on Summarized Comparative Information***

We have previously audited the System's June 30, 2017 basic financial statements and we expressed an unmodified opinion on those statements in our report dated October 31, 2017. In our opinion, the summarized comparative informat on presented herein as of and for the year ended June 30, 2017 is consistent, in all material respects, with the audited financial statements from which it has been derived.

**Other Reporting Required by *Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated October 31, 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 grant agreements and other matters. The purpose of that report is solely 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 effectiveness of the System's internal control over financ al 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.

Berry Dunn McNeil & Parker, LLC

Manchester, New Hampshire
October 31, 2018

# MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
## June 30, 2018 Financial Report

**Introduction**

This Management's Discussion and Analysis (MD&A) is prepared by the management staff of the Maine Public Employees Retirement System (MainePERS or the System) for the purpose of providing an overview of the System's financial statements.

**Financial Reporting Structure**

The System's financial statements are prepared on an accrual basis of accounting in accordance with Governmental Accounting Standards Board (GASB) pronouncements. The accrual basis of accounting requires the recognition and recording of financial transactions and other related events when they occur and not just in conjunction with the inflows and outflows of cash and other resources.

The funds managed by the System are held in trust and consistent with state and federal law can only be used for the payment of pension and related benefits to its members or, in the case of the Retiree Health Insurance Trust Fund, for the payment of retiree health insurance premiums for eligible retirees of the State of Maine. The System's Board of Trustees, as fiduciary, establishes the System's investment policies and oversees their overall implementation.

The System reports five defined benefit retirement plans consisting of the State Employee and Teacher Plan, a multiple-employer cost sharing plan with a special funding situation; the Judicial Plan, a single employer plan; the Legislative Plan, a single employer plan; the PLD Consolidated Plan, a multiple-employer cost sharing plan; and the PLD Agent Plan, an agent multiple-employer plan. The System also reports a Group Life Insurance Plan covering active state employees (including judges and legislators), teachers, and participating employees of the PLD Plan as well as two multiple-employer cost sharing OPEB plans providing life insurance coverage in retirement for retired state employees and teachers and eligible retirees of the PLD Plans. In addition, the System reports certain defined contribution plans, the MainePERS OPEB Trust, and the Retiree Health Insurance Trust Fund.

**Basic Financial Statements**

The Statement of Fiduciary Net Position reports the balance of Fiduciary Net Position restricted for future benefits as of the fiscal year end, with summarized values reported as of the previous fiscal year end. The Statement of Changes in Fiduciary Net Position reports the net change in Fiduciary Net Position for the fiscal year, with summarized values reported for the previous fiscal year. The System reports each as separate funds and in separate columns in the financial statements. Condensed versions of both statements are included in the following section.

The Schedules of Changes in the Plan's Net Pension Liability and Related Ratios (Required Supplementary Information) present the total pension liability and information indicating the source of changes in the liability for each defined benefit retirement plan administered by the System. In addition, the Schedules show summary information regarding each Plan's net position for the years presented. The Schedules also present each Plan's net pension liability as a percentage of the covered payroll.

The Schedules of Employer Contributions (Required Supplementary Information) present the actuarially determined contributions for each defined benefit plan and compares them to actual employer contributions for the period presented. They also provide the actual contributions as a percentage of covered payroll for each year.

The Schedule of Investment Returns (Required Supplementary Information) presents the annual money-weighted rate of return, net of investment expenses, for all of the defined benefit plans for each year presented.

The Schedules of Changes in the Plan's Net OPEB Liability and Related Ratios for the Group Life Insurance Plans (Required Supplementary Information) present the total OPEB liability and information indicating the source of changes in the liability for each OPEB plan administered by the System. In addition, the Schedules show summary information regarding each Plan's net position for the years presented. The Schedules also present each Plan's net OPEB liability as a percentage of the covered payroll.

The Schedules of Employer Contributions for the Group Life Insurance Plans (Required Supplementary Information) present the actuarially determined contributions for each OPEB plan and compare them to actual employer contributions for the periods presented. They also provide the actual contributions as a percentage of covered payroll for each year.

The Schedule of Investment Returns (Required Supplementary Information) presents the annual money-weighted rate of return, net of investment expenses, for all of the OPEB plans for each year presented.

# MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
## June 30, 2018 Financial Report
*(continued)*

**Financial Highlights and Analysis**

The following are the Condensed Comparative Statements of Fiduciary Net Position and Condensed Comparative Statements of Changes in Fiduciary Net Position for the System for the fiscal years ended June 30, 2018, 2017, and 2016:

**Condensed Comparative Statements of Fiduciary Net Position**
*(Dollar Values Expressed in Millions)*

| | June 30, 2018 | | June 30, 2017 | | June 30, 2016 | |
|---|---|---|---|---|---|---|
| Cash and Receivables | $ | 68.8 | $ | 76.6 | $ | 65.8 |
| Investments at Fair Value | | 14,952.4 | | 13,950.8 | | 12,716.4 |
| Collateral on Loaned Securities | | 208.0 | | 19.5 | | 108.4 |
| Other Assets | | 6.0 | | 7.5 | | 7.4 |
| **Total Assets** | **$** | **15,235.2** | **$** | **14,054.4** | **$** | **12,898.0** |
| Investment Management Fees Payable | $ | 16.3 | $ | 15.2 | $ | 10.7 |
| Obiligations Under Securities Lending Activities | | 208.0 | | 19.5 | | 108.4 |
| Other Liabilities | | 14.1 | | 14.8 | | 14.5 |
| **Total Liabilities** | **$** | **238.4** | **$** | **49.5** | **$** | **133.6** |
| **Fiduciary Net Position - Held in Trust** | **$** | **14,996.8** | **$** | **14,004.9** | **$** | **12,764.4** |

**Condensed Comparative Statements of Changes in Fiduciary Net Position**
*(Dollar Values Expressed in Millions)*

| | June 30, 2018 | | June 30, 2017 | | June 30, 2016 | |
|---|---|---|---|---|---|---|
| ADDITIONS: | | | | | | |
| Member Contributions | $ | 196.8 | $ | 194.1 | $ | 175.8 |
| Employer Contributions | | 278.0 | | 274.2 | | 262.5 |
| Non-Employer Contributing Entities Contributions | | 132.9 | | 119.7 | | 112.4 |
| Total Investment Income | | 1,383.8 | | 1,613.3 | | 54.6 |
| Transfers from Other Plans | | 0.4 | | 0.3 | | 6.6 |
| **Total Additions** | **$** | **1,991.9** | **$** | **2,201.6** | **$** | **611.9** |
| DEDUCTIONS: | | | | | | |
| Benefits Paid | $ | 959.3 | $ | 921.5 | $ | 879.9 |
| Other | | 40.7 | | 39.6 | | 43.1 |
| **Total Deductions** | **$** | **1,000.0** | **$** | **961.1** | **$** | **923.0** |
| **Net Increase (Decrease)** | **$** | **991.9** | **$** | **1,240.5** | **$** | **(311.1)** |
| **Fiduciary Net Position - Held in Trust, Beginning of Year** | **$** | **14,004.9** | **$** | **12,764.4** | **$** | **13,075.5** |
| **Fiduciary Net Position - Held in Trust, End of Year** | **$** | **14,996.8** | **$** | **14,004.9** | **$** | **12,764.4** |

*Fiduciary Net Position*

The Fiduciary Net Position of the System increased in fiscal year 2018 by $991.9 million (7.1%) from the prior year Fiduciary Net Position. While lower than in 2017, investment returns were strong and contributed to the increase. Investment income was $1,383.8 million in fiscal year 2018 compared to $1,613.3 million in fiscal year 2017.

# MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
## June 30, 2018 Financial Report
*(continued)*

Comparatively, the Fiduciary Net Position of the System increased in fiscal year 2017 by $1,240.5 million (9.7%) from the prior year Fiduciary Net Position. Investment income was significantly higher than in the prior year due to strong returns on public equities and alternative assets. Investment income was $1,613.3 million in fiscal year 2017 compared to $54.6 million in fiscal year 2016.

*Assets*

Investments at Fair Value increased by $1,001.6 million (7.2%) in fiscal year 2018. This increase in Investments at Fair Value combined with an increase of $188.5 million in collateral on loaned securities and a decrease in cash and receivables of $7.8 million contributed to an increase in total assets of $1,180.8 million during the fiscal year. The System records the collateral on loaned securities due to its securities lending activity as an asset and corresponding liability. The increase of $188.5 million in collateral on loaned securities arose due to increased market values and higher utilization rates for the domestic equity account. Non-cash collateral is not recorded in total assets on the System's financial statements.

Comparatively, Investments at Fair Value increased by $1,234.4 million (9.7%) in fiscal year 2017. This increase in Investments at Fair Value combined with a decrease of $88.9 million in collateral on loaned securities and an increase in cash and receivables of $10.8 million contributed to an increase in total assets of $1,156.4 million during the fiscal year. The decrease of $89 million in collateral on loaned securities arose due to the timing of a portfolio restructure in the domestic equity account.

There were $2.5 million in pending sales at June 30, 2018. There were no outstanding trades at June 30, 2017 or June 30, 2016.

*Liabilities*

The System's custodian records an investment purchase or sale between the time it enters into a trade and the time that trade is settled. On June 30, 2018, total loans outstanding in the securities lending program were $208 million. On June 30, 2017 and 2016, the total loans outstanding in the securities lending program were $19.5 million and $108.4 million, respectively.

*Additions to Fiduciary Net Position*

Additions to Fiduciary Net Position during fiscal year 2018 totaled $1,991.9 million compared to additions of $2,201.6 million to Fiduciary Net Position in fiscal year 2017. This was largely due to the fact that investment income, net of fees and other deductions, decreased by $229.5 million. The decrease in investment income relative to fiscal year 2017 is primarily attributable to public equity and alternative market returns.

Additions to Fiduciary Net Position during fiscal year 2017 totaled $2,201.6 million compared to additions of $611.9 million to Fiduciary Net Position in fiscal year 2016. This was largely due to the fact that investment income, net of fees and other deductions, increased by $1,558.7 million. The increase in investment income is primarily attributable to public equity and alternative market returns.

The State's contributions on behalf of State employees totaled $156.5 million, $163.0 million, and $144.1 million for fiscal years 2018, 2017, and 2016, respectively. The State's contributions on behalf of teachers totaled $129.4 million, $116.4 million, and $112.5 million, for fiscal years 2018, 2017, and 2016, respectively. The State's contribution on behalf of judges totaled $1.2 million, $1.1 million, and $1.1 million for fiscal years 2018, 2017, and 2016, respectively. Based on the funding methodology used and considering the funded status of the Legislative Plan, no employer contribution was required in fiscal years 2018, 2017 or 2016.

The balance of employer contributions reported is from local school district employers and Participating Local District (PLD) employers. Local school district employers pay the normal cost contribution on behalf of public school teachers. The normal cost rate as a percentage of earnable compensation for fiscal year 2018 was 3.97%; for fiscal years 2017 and 2016 the normal cost rate was 3.36%. The range of employer contributions in the PLD Consolidated Plan as a percent of earnable compensation in fiscal year 2018 was 3.9% to 15.7%; for fiscal year 2017 the range was 4.6% to 14.2%; and for fiscal year 2016 the range was 4.4% to 14%. Historically, the PLD Consolidated Plan's funded status and established funding approach resulted in employers of the PLD Consolidated Plan paying less than what the true normal cost would otherwise require. The employer rates have been incrementally increased over the past several years to reach a contribution rate closer to true normal cost.

Member and employer data, contribution and benefit data for the 12 non-consolidated PLDs are specific to each PLD and are obtainable from the System.

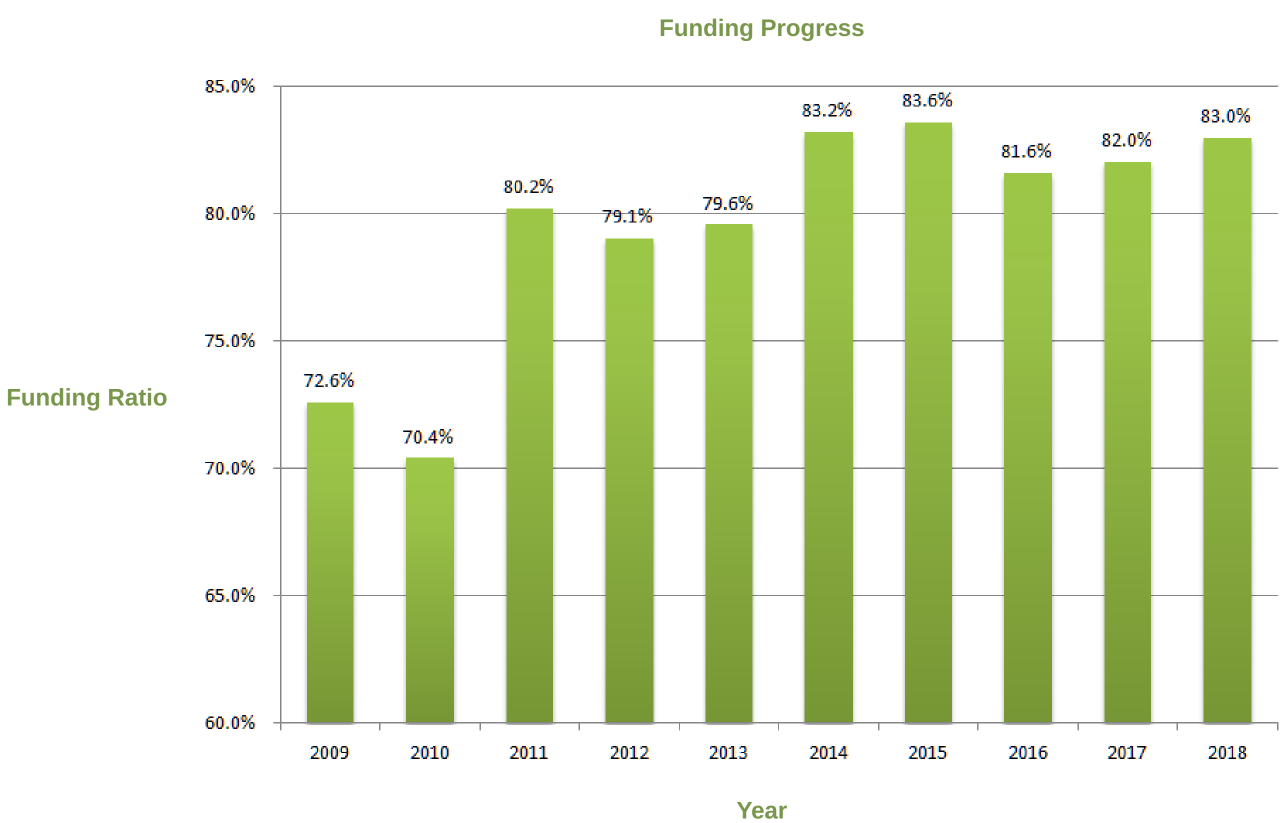
# MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
## June 30, 2018 Financial Report
*(continued)*

*Deductions from Fiduciary Net Position*

Total deductions from Fiduciary Net Position restricted for benefits during fiscal year 2018 increased by $38.9 million (4%). The fiscal year 2018 increase was due in part to an increase in the number of recipients receiving benefits, as well as the increased cost of benefits paid and refunds and withdrawals of contributions. Benefit payments in fiscal year 2018 exceeded contributions by $351.6 million. Contributions totaled $607.7 million, and benefit payments totaled $959.3 million.

Comparatively, total deductions from Fiduciary Net Position restricted for benefits during fiscal year 2017 increased by $38.1 million (4.1%). The fiscal year 2017 increase was due in part to an increase in the number of recipients receiving benefits, as well as the increased cost of benefits paid and refunds and withdrawals of contributions. Benefit payments in fiscal year 2017 exceeded contributions by $333.5 million. Contributions totaled $588 million, and benefit payments totaled $921.5 million.

**System Funding Status – Aggregate**

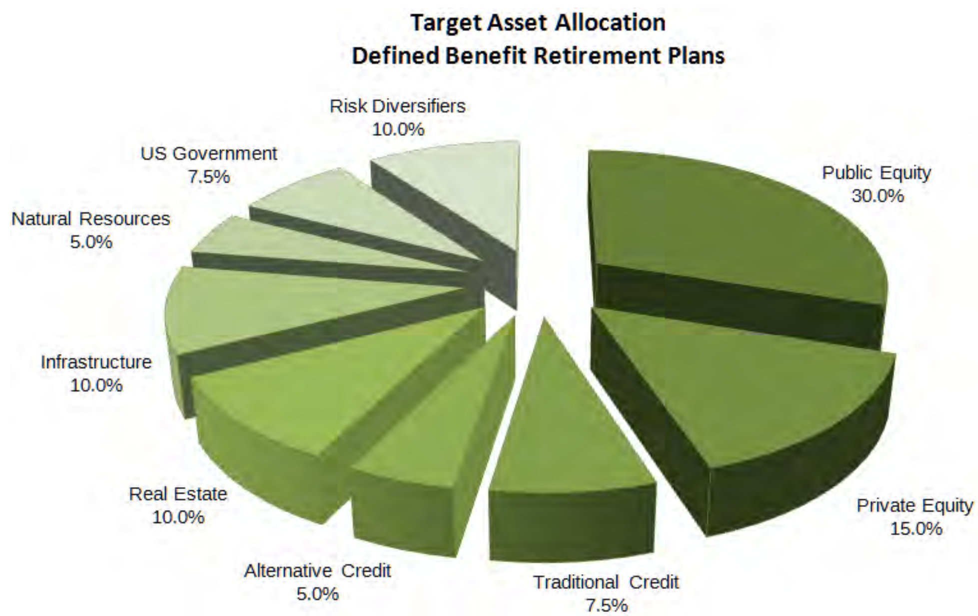



At June 30, 2018, the State Employee and Teacher, Judicial, Legislative and PLD defined benefit plans were actuarially funded at 83%, an increase from the actuarial funding level of 82% at June 30, 2017. As illustrated in the chart, the actuarial funded ratio of the System was 72.6% at June 30, 2009. This was followed by a significant decline in 2010 to 70.4%. In 2010, investment markets and returns improved over 2009, although not enough to offset the prior years' investment declines. Significant improvement in investment returns in 2011, combined with a decrease in the overall unfunded liabilities of the plan resulting from changes in plan benefit structure and changes in assumptions adopted following the completion of an experience study in 2011, pushed the funding level to 80.2% for this year. Modest investment returns, combined with increased deductions from the plan for benefits, contributed to the decrease in 2012. The increase in the funded ratio for 2013 and 2014 is attributable in part to strong investment returns during those years, in addition to changes in plan provisions and increased contribution rates. Lower investment returns combined with increased contribution rates in 2015 contributed to keeping the funding ratio level. The decrease in funding level in 2016 is attributable, in large part, to low investment returns due to the low return environment, combined with an increase in the overall liabilities of the plans resulting from changes in assumptions adopted following the completion of an experience study in 2016. The modest increases in 2017 and 2018 are attributable, in large part, to investment returns during those years.

# MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
## June 30, 2018 Financial Report
*(continued)*

**Investments**

The assets of all the defined benefit retirement plans that the System administers are commingled for investment purposes.




The System's investment portfolio for the defined benefit retirement plans is invested across nine asset classes: public equity, private equity, traditional credit, alternative credit, real estate, infrastructure, natural resources, US Government, and risk diversifiers. Publicly traded derivative securities are used in some portfolios to emulate one or more of the asset classes. The investment policy established by the System's Board of Trustees (the Board) in 2012 and as amended in December 2017 assigned strategic target allocations for these asset classes, as shown in the above chart.

Investments of the Group Life Insurance Plans and the Retiree Health Insurance Trust are invested separately from the assets of the defined benefit retirement plans. The target allocations for these assets are public equity (70%), real estate (5%), traditional credit (15%), and US Government (10%).

All of the assets invested by the System are in portfolios managed by professional investment management firms. These managers act as fiduciaries and invest the assets assigned to them in accordance with the Board's investment policy and their separate contractual arrangements. At June 30, 2018, total fair value of assets in these portfolios (together with the amounts otherwise managed) was $15 billion. The total fair value of assets as of June 30, 2017 and June 30, 2016, respectively, was $14 billion and $12.7 billion. The investment return, net of all fees, for the fiscal year ended June 30, 2018 was 10.3%. The investment return for the fiscal years ended June 30, 2017 and June 30, 2016, respectively, was 12.5% and 0.6%. Investment returns in fiscal year 2018 were lower than in fiscal year 2017, due primarily to Public Equity and Alternative market returns. Over the five, ten and thirty year periods ended June 30, 2018, the average annual investment return for the total fund was 8.2%, 6.3%, and 8.2%, respectively.

**System Membership – Aggregate**

The following membership counts for all of the defined benefit plans are derived from actuarial valuation data:

| | 2018 | 2017 | % Change |
|---|---|---|---|
| Current active participants: | | | |
| Vested and nonvested | 51,522 | 51,298 | 0.4% |
| Terminated participants | | | |
| Vested | 10,414 | 10,379 | 0.3% |
| Inactives Due Refunds | 46,963 | 45,850 | 2.4% |
| Retirees and beneficiaries receiving benefits | 45,287 | 44,310 | 2.2% |
| **Total Membership** | **154,186** | **151,837** | **1.5%** |

# MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
## June 30, 2018 Financial Report
*(concluded)*

The number of active State employees at June 30, 2018 in the State Employee and Teacher plan was 12,447, a decrease of 236 from June 30, 2017. The number of Teachers at June 30, 2018 was 27,396, an increase of 243 from June 30, 2017. Membership for judges was 62, a decrease of 1 from the previous year. Membership for Legislators was 185, which represents no change from June 30, 2017. Total active membership in the PLD Consolidated Plan and the 12 non-consolidated plans at June 30, 2018 was 11,432, an increase of 218 from June 30, 2017.

### Group Life Insurance Plan

The Group Life Insurance Plans provide life insurance coverage for eligible members of the defined benefit plans administered by the System. Eligible members include State, teacher and those PLD employees whose employers have elected to participate in the program, and whose positions are eligible for coverage. Eligible employees who elect coverage receive life insurance coverage while actively employed and may carry coverage into retirement. The following summarized data, stated in millions, is derived from actuarial valuation data for the Group Life Insurance Plan with respect to benefits in retirement:

| | 2018 | 2017 | % Change |
|---|---|---|---|
| Total OPEB Liability | $ 232.3 | $ 215.5 | 7.8% |
| Plan Net Position | 110.1 | 102.0 | 7.9% |
| **Net OPEB Liability** | **$ 122.2** | **$ 113.5** | **7.7%** |

### Defined Contribution Plans

The Section 401(a), Section 457 and Section 403(b) Plans administered by the System's Board of Trustees are defined contribution plans. These plans are provided as supplemental plans to the basic retirement benefits of employees of PLDs that elect to participate in the Defined Contribution Plans. Contributions may be made to the Plans subject to plan and Internal Revenue Code limitations. Investments in the Defined Contribution Plans are individually directed and controlled by plan participants.

### Retiree Health Insurance Trust Fund

The Maine State Legislature established the Retiree Health Insurance Post Employment Investment Trust (the Fund) as an irrevocable trust for the sole purpose of holding and investing funds appropriated or otherwise provided to the Fund for the purpose of accumulating assets to provide funding to the State's unfunded liability obligations for retiree health benefits. The Trustees of the System were named Trustees of the Investment Trust Fund. At June 30, 2018, the Fiduciary Net Position Held in Trust for the Fund was $256,860,318.

### Currently Known Facts, Decisions, or Conditions

The 128th Legislature of the State of Maine enacted a Constitutional Resolution (L.D. 723), *Resolution Proposing an Amendment to the Constitution of Maine to Reduce Volatility in State Pension Funding Requirements Caused by the Financial Markets.* This Resolution proposed to amend the Constitution of Maine to change the period over which experience losses in each of the State sponsored plans are amortized from 10 years to 20 years. This proposal was approved by voters in the statewide election ballot in November 2017 and became part of the Constitution in January of 2018.

The System's Board of Trustees adopted changes in the methodology for calculating contributions rates for the PLD Plan effective for rates beginning with fiscal year 2020. This new methodology introduces a level of risk sharing between the employers and members in the plan while at the same time providing for reduced volatility in those rates by implementing caps on those rates. More information about this newly adopted methodology can be found in the valuation report for the PLD Plan, available on the System's website.

### Requests for Information

Questions concerning this Management's Discussion and Analysis, other parts of the System's financial statements or the System's financial activities should be directed to Maine Public Employees Retirement System, Sherry Tripp Vandrell, Director of Finance, at PO Box 349, Augusta, Maine 04332 or at (207) 512-3100 or toll-free at (800) 451-9800.

## STATEMENT OF FIDUCIARY NET POSITION
## June 30, 2018
## With Summarized Information as of June 30, 2017

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan |
|---|---|---|---|---|---|
| Assets: | | | | | |
| Cash and cash equivalents (note 3) | $ 27,547,295 | $ 298,177 | $ 45,720 | $ 3,272,098 | $ 108,907 |
| Investments at fair value (note 3): | | | | | |
| Common equity securities | 1,801,220,695 | 11,029,797 | 1,976,294 | 436,079,691 | 5,737,119 |
| Common/collective trusts | 5,219,248,309 | 31,960,131 | 5,726,544 | 1,263,592,072 | 16,623,975 |
| Mutual funds | – | – | – | – | – |
| Partnerships | 4,576,701,631 | 28,025,489 | 5,021,544 | 1,108,030,036 | 14,577,382 |
| Total investments | 11,597,170,635 | 71,015,417 | 12,724,382 | 2,807,701,799 | 36,938,476 |
| Receivables: | | | | | |
| Contributions and premiums (notes 6 and 7) | 20,498,490 | – | – | 8,359,012 | 50,166 |
| Accrued interest and dividends | 1,934,652 | 11,847 | 2,123 | 468,384 | 6,162 |
| Due from brokers for securities sold | 2,023,030 | 12,388 | 2,220 | 489,781 | 6,444 |
| Total receivables | 24,456,172 | 24,235 | 4,343 | 9,317,177 | 62,772 |
| Collateral on loaned securities (note 5) | 166,090,889 | 1,017,060 | 182,234 | 40,210,988 | 529,021 |
| Capital assets, net of accumulated depreciation | 4,784,620 | 29,299 | 5,250 | 1,158,367 | 15,240 |
| Total assets | 11,820,049,611 | 72,384,188 | 12,961,929 | 2,861,660,429 | 37,654,416 |
| Liabilities: | | | | | |
| Accounts payable | 5,441,150 | 33,319 | 5,970 | 1,317,315 | 17,331 |
| Due to brokers for securities purchased | – | – | – | – | – |
| Other liabilities | 3,301,711 | 20,218 | 3,623 | 799,352 | 10,516 |
| Accrued investment management fees | 13,023,090 | 79,751 | 14,281 | 3,152,919 | 41,487 |
| Obligations under securities lending activities (note 5) | 166,090,889 | 1,017,060 | 182,234 | 40,210,988 | 529,021 |
| Total liabilities | 187,856,840 | 1,150,348 | 206,108 | 45,480,574 | 598,355 |
| Fiduciary net position – held in trust | $11,632,192,771 | $ 71,233,840 | $ 12,755,821 | $ 2,816,179,855 | $ 37,056,061 |

The accompanying notes are an integral part of these financial statements.

# STATEMENT OF FIDUCIARY NET POSITION
## June 30, 2018
## With Summarized Information as of June 30, 2017

| Group Life Insurance Plan Active | Group Life Insurance Plan Retired SET | Group Life Insurance Plan Retired PLD | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust Fund | 2018 Total | 2017 Summarized |
|---|---|---|---|---|---|---|---|
| $ 338,959 | $ 676,152 | $ 125,155 | $ 5,141 | $ – | $ – | $ 32,417,604 | $ 25,064,677 |
| – | – | – | – | – | – | 2,256,043,596 | 2,803,727,386 |
| 9,708,287 | 94,807,348 | 15,909,308 | 37,962,561 | 13,624,292 | 254,884,977 | 6,964,047,804 | 6,802,126,877 |
| – | – | – | – | – | – | – | 289,082,747 |
| – | – | – | – | – | – | 5,732,356,082 | 4,055,848,239 |
| 9,708,287 | 94,807,348 | 15,909,308 | 37,962,561 | 13,624,292 | 254,884,977 | 14,952,447,482 | 13,950,785,249 |
| 394,689 | – | 13,809 | 1,293 | – | 2,000,000 | 31,317,459 | 48,388,544 |
| – | – | – | – | – | – | 2,423,168 | 2,790,982 |
| – | – | – | – | – | – | 2,533,863 | 351,245 |
| 394,689 | – | 13,809 | 1,293 | – | 2,000,000 | 36,274,490 | 51,530,771 |
| – | – | – | – | – | – | 208,030,192 | 19,543,906 |
| – | – | – | – | – | – | 5,992,776 | 7,472,527 |
| 10,441,935 | 95,483,500 | 16,048,272 | 37,968,995 | 13,624,292 | 256,884,977 | 15,235,162,544 | 14,054,397,130 |
| 434 | 4,238 | 711 | – | – | – | 6,820,468 | 7,660,527 |
| – | – | – | – | – | – | – | 23,030 |
| 785,832 | 1,185,755 | 224,479 | 8,054 | 833,950 | 6,480 | 7,179,970 | 7,070,455 |
| 704 | 6,878 | 1,154 | – | 1,020 | 18,179 | 16,339,463 | 15,207,564 |
| – | – | – | – | – | – | 208,030,192 | 19,543,906 |
| 786,970 | 1,196,871 | 226,344 | 8,054 | 834,970 | 24,659 | 238,370,093 | 49,505,482 |
| $9,654,965 | $ 94,286,629 | $ 15,821,928 | $ 37,960,941 | $ 12,789,322 | $ 256,860,318 | $ 14,996,792,451 | $ 14,004,891,648 |

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
### Year Ended June 30, 2018
### With Summarized Information for the Year Ended June 30, 2017

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan |
|---|---|---|---|---|---|
| Additions: | | | | | |
| Investment income: | | | | | |
| From investing activities: | | | | | |
| Net appreciation in the fair value of plan investments | $ 1,098,029,726 | $ 6,731,122 | $ 1,198,275 | $ 264,487,276 | $ 3,545,442 |
| Interest | 2,216,563 | 13,577 | 2,430 | 535,884 | 7,087 |
| Dividends | 57,446,461 | 351,774 | 63,030 | 13,907,921 | 182,974 |
| Less: investment expenses | (80,941,472) | (496,159) | (88,453) | (19,492,131) | (261,466) |
| Net income from investing activities | 1,076,751,278 | 6,600,314 | 1,175,282 | 259,438,950 | 3,474,037 |
| From securities lending activities: | | | | | |
| Securities lending income | 744,631 | 4,560 | 817 | 180,277 | 2,372 |
| Borrower rebates refunded | 443,306 | 2,715 | 486 | 107,325 | 1,412 |
| Management fees | (111,661) | (684) | (123) | (27,033) | (356) |
| Net income from securities lending activities | 1,076,276 | 6,591 | 1,180 | 260,569 | 3,428 |
| Total investment income | 1,077,827,554 | 6,606,905 | 1,176,462 | 259,699,519 | 3,477,465 |
| Contributions and premiums (notes 6 and 7): | | | | | |
| Members | 140,844,880 | 603,875 | 153,881 | 48,050,202 | 68,609 |
| Employers | 211,251,144 | 1,179,328 | – | 56,092,662 | 594,730 |
| Non-employer contributing entities | 129,421,735 | – | – | – | – |
| Transfers from other plans | – | – | – | – | – |
| Total contributions and premiums | 481,517,759 | 1,783,203 | 153,881 | 104,142,864 | 663,339 |
| Total additions | 1,559,345,313 | 8,390,108 | 1,330,343 | 363,842,383 | 4,140,804 |
| Deductions: | | | | | |
| Benefits paid | 792,397,468 | 3,804,709 | 427,063 | 147,516,358 | 2,788,425 |
| Refunds and withdrawals | 17,984,302 | – | 32,682 | 4,571,527 | – |
| Transfers to other plans | – | – | – | 386,621 | – |
| Claims processing expenses (note 7) | – | – | – | – | – |
| Administrative expenses | 10,076,242 | 61,708 | 11,002 | 2,411,666 | 33,056 |
| Total deductions | 820,458,012 | 3,866,417 | 470,747 | 154,886,172 | 2,821,481 |
| Net increase in fiduciary net position | 738,887,301 | 4,523,691 | 859,596 | 208,956,211 | 1,319,323 |
| Fiduciary net position – held in trust, beginning of year | 10,893,305,470 | 66,710,149 | 11,896,225 | 2,607,223,644 | 35,736,738 |
| Fiduciary net position – held in trust, end of year | $11,632,192,771 | $ 71,233,840 | $ 12,755,821 | $ 2,816,179,855 | $ 37,056,061 |

The accompanying notes are an integral part of these financial statements.

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
### Year Ended June 30, 2018
### With Summarized Information for the Year Ended June 30, 2017

| Group Life Insurance Plan Active | Group Life Insurance Plan Retired SET | Group Life Insurance Plan Retired PLD | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust Fund | 2018 Total | 2017 Summarized |
|---|---|---|---|---|---|---|---|
| $ 759,906 | $ 7,861,158 | $ 1,342,884 | $ 2,848,810 | $ 1,088,571 | $ 21,343,495 | $ 1,409,236,665 | $ 1,631,012,685 |
| 595 | 6,129 | 1,039 | 14 | – | – | 2,783,318 | 663,044 |
| – | – | – | – | – | – | 71,952,160 | 74,276,865 |
| (6,042) | (62,449) | (10,599) | (47,189) | (8,869) | (72,259) | (101,487,088) | (93,795,000) |
| 754,459 | 7,804,838 | 1,333,324 | 2,801,635 | 1,079,702 | 21,271,236 | 1,382,485,055 | 1,612,157,594 |
| – | – | – | – | – | – | 932,657 | 568,031 |
| – | – | – | – | – | – | 555,244 | 743,944 |
| – | – | – | – | – | – | (139,857) | (196,728) |
| – | – | – | – | – | – | 1,348,044 | 1,115,247 |
| 754,459 | 7,804,838 | 1,333,324 | 2,801,635 | 1,079,702 | 21,271,236 | 1,383,833,099 | 1,613,272,841 |
| 3,865,718 | – | – | 3,256,015 | – | – | 196,843,180 | 194,091,727 |
| 1,041,734 | 4,179,453 | 1,069,640 | 587,906 | 5,943 | 2,000,000 | 278,002,540 | 274,185,370 |
| – | 3,459,000 | – | – | – | – | 132,880,735 | 119,685,496 |
| – | – | – | 386,621 | – | – | 386,621 | 330,304 |
| 4,907,452 | 7,638,453 | 1,069,640 | 4,230,542 | 5,943 | 2,000,000 | 608,113,076 | 588,292,897 |
| 5,661,911 | 15,443,291 | 2,402,964 | 7,032,177 | 1,085,645 | 23,271,236 | 1,991,946,175 | 2,201,565,738 |
| 4,162,727 | 6,579,719 | 1,410,216 | – | 259,584 | – | 959,346,269 | 921,512,854 |
| – | – | – | 2,774,078 | – | – | 25,362,589 | 25,768,417 |
| – | – | – | – | – | – | 386,621 | 330,304 |
| 66,641 | 690,089 | 120,130 | 109,420 | – | – | 986,280 | 1,060,341 |
| 73,496 | 769,718 | 133,624 | 386,621 | – | 6,480 | 13,963,613 | 12,429,091 |
| 4,302,864 | 8,039,526 | 1,663,970 | 3,270,119 | 259,584 | 6,480 | 1,000,045,372 | 961,101,007 |
| 1,359,047 | 7,403,765 | 738,994 | 3,762,058 | 826,061 | 23,264,756 | 991,900,803 | 1,240,464,731 |
| 8,295,918 | 86,882,864 | 15,082,934 | 34,198,883 | 11,963,261 | 233,595,562 | 14,004,891,648 | 12,764,426,917 |
| $ 9,654,965 | $ 94,286,629 | $ 15,821,928 | $ 37,960,941 | $ 12,789,322 | $ 256,860,318 | $ 14,996,792,451 | $ 14,004,891,648 |

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017

## 1. Overview of the Maine Public Employees Retirement System Benefit Plans

*Background*

The Maine Public Employees Retirement System (the System or MainePERS), which is a component unit of the State of Maine, is the administrator of a public employee retirement system established and administered under the Laws of the State of Maine. The System was formerly named the Maine State Retirement System. The System provides pension, disability, and death benefits to its members, which include employees of the State, public school teachers (as defined by Maine law) and employees of 317 local municipalities and other public entities (participating local districts, or PLDs) in Maine, each of which contracts for participation in the System under provisions of the relevant statutes.

Individual PLDs are permitted by law to withdraw from participation in the System. Withdrawal precludes the PLD's nonmember employees, if any, and its employees hired subsequent to withdrawal from membership in the System. Depending on the circumstances and requirements of the PLD's participation under the System, a withdrawn PLD may have continuing funding obligations after withdrawal with respect to its employees who are active members at the time of withdrawal and who continue to be members thereafter, to its terminated vested employee members, and to its former employee members who are retired at the time of withdrawal.

*Board of Trustees*

The System's Board of Trustees is comprised of eight members. State law specifies the composition of the Board, whose members are confirmed by the Legislature. Three trustees are System members, one of whom is proposed and elected by the Maine Education Association, one of whom is proposed and elected by the Maine State Employees Association, and one of whom is an active or retired PLD member appointed by the governing body of the Maine Municipal Association. Four other trustees are appointed by the Governor. Of these, one must be selected by the Governor from a list of nominees submitted by the Maine Retired Teachers Association and one must be a MainePERS retiree selected from a list of nominees submitted by State and/or PLD retirees. The remaining two appointees are direct gubernatorial appointments, both of whom must be qualified through training or experience in investments, accounting, banking or insurance or as actuaries. All appointed trustees are required to have "a working knowledge of retirement policy and legal issues and a general knowledge and understanding of banking, finance, and investment practices." The eighth trustee is the State Treasurer, who serves ex-officio. All trustee terms are three years, except for the two-year term of the State Treasurer. The Board annually elects its chair and vice chair from among its members.

*Defined Benefit Plans*

Pension funds managed by the System are constitutionally restricted and held in trust for the payment of pension and related benefits. The System's Board of Trustees (the Board), in its fiduciary capacity, establishes the System's investment policies and oversees their overall implementation. The System administers five defined benefit pension plans including the State Employee and Teacher Plan which includes the Governors' Plan, the Judicial Plan, the Legislative Plan, the PLD Consolidated Plan, and the PLD Agent Plan. The System maintains separate reserves and accounts and performs separate annual actuarial valuations for each pension plan. Additional information regarding each plan can be found in Note 6 of this report.

*Group Life Insurance Plans*

The Group Life Insurance Plans (the Plans) were established by the State Legislature to provide group life insurance benefits, during active service as well as in retirement, to State employees, Teachers, members of the Judiciary and the Legislature, as well as Elected and Appointed Officers of the State, that are eligible for membership in the System. Group Life Insurance benefits are also provided to the employees of PLDs that elect to participate in the Plans. Generally, benefit plan provisions can only be amended through statutory change. Employees are eligible for coverage under the Plans, subject to their membership in one or more of the aforementioned eligible employment classes and any other conditions of eligibility that the Board may prescribe by rule or decision.

Group Life Insurance funds managed by the System are held in trust for the payment of benefits to participants and/or their beneficiaries. The System's Board of Trustees, in its fiduciary capacity, establishes the System's investment policies and oversees their overall implementation. The System maintains separate reserves and accounts for both active and retiree coverage and biennial actuarial valuations are performed for each plan within the program. In those years where a full actuarial valuation is not completed, a roll-forward of plan liabilities from the previous valuation to the current fiscal year end with expected benefit payments and accruals is conducted. The liabilities for fiscal year ended June 30, 2018 were calculated as part of a full actuarial valuation.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

*Defined Contribution Plans*

The Section 401(a), Section 457 and Section 403(b) Plans, administered by the System's Board of Trustees with funds held in trust, are defined contribution plans. These plans are available as supplemental plans to the basic retirement benefits of employees of PLDs that elect to participate in the Defined Contribution Plans. Contributions may be made to the Plans by plan participants subject to plan and Internal Revenue Code limitations. At June 30, 2018, participation in the defined contribution plans was as follows:

| | 401(a) Plan | 457 Plan | 403(b) Plan |
|---|---|---|---|
| Employers | 9 | 70 | 1 |
| Participants | 77 | 633 | 374 |

Investments in the Defined Contribution Plans are individually directed and controlled by plan participants. Benefits for deferred compensation, employer contributions, and earnings on the accounts are not recognized by Plan participants for income tax purposes until actually paid to the participant or beneficiary.

*MainePERS OPEB Trust*

The MainePERS OPEB Trust is an irrevocable trust established for the purpose of accumulating assets to provide funding for retiree health benefits and life insurance in retirement for qualified individuals who retire from MainePERS. The Trustees of the System were named Trustees of the MainePERS OPEB Trust. Contributions are made to the Trust on an annual basis in the amount equal to the actuarially determined contribution amount.

*Retiree Health Insurance Trust Fund*

The Maine State Legislature established the Retiree Health Insurance Post Employment Investment Trust (Investment Trust Fund) as an irrevocable trust formed solely to hold and invest funds appropriated or otherwise provided to the Investment Trust Fund for the purpose of accumulating assets to provide funding to the State's unfunded liability obligations for retiree health benefits. The Trustees of the System were named Trustees of the Investment Trust Fund.

**2. Summary of Significant Accounting Policies**

*Basis of Accounting*

The System's financial statements are prepared using the accrual basis of accounting.

*Comparative Summarized Information*

The financial statements include certain prior-year summarized comparative information in total but not by fund. Such information does not include sufficient detail to constitute a presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended June 30, 2017, from which the summarized information was derived.

*Use of Estimates*

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (US GAAP) requires management to make significant estimates and assumptions. These estimates affect the reported amounts of fiduciary net position at the date of the financial statements, the actuarial information included in the required supplementary information as of the actuarial information date, the changes in fiduciary net position during the reporting period and, when applicable, the disclosure of contingent assets and liabilities at the date of the financial statements, as reported in the notes to the financial statements. Actual results could differ from those estimates.

*Revenue Recognition*

Pension contributions and group life insurance premiums, as well as contributions to the Retiree Health Insurance Trust, are recognized as additions in the period when they become due pursuant to formal commitments or statutory or contractual requirements. Contributions to Defined Contribution Plans are recognized in the period they are contributed.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

Investment income includes net appreciation or depreciation in the fair value of investments, interest and dividend income, foreign currency transaction gains and losses, and securities lending income, less investment expenses, which include investment management and custodial fees and all other significant investment related costs. Dividends include income returns from partnerships. Investment income is recognized when earned and investment expenses are recorded when incurred.

*Benefits Paid and Refunds and Withdrawals*

Pension and group life insurance benefits and contributions and premium refunds and withdrawals to the System's members and beneficiaries are recognized as deductions when due and payable in accordance with the terms of the statutes. In addition, an estimate is made for group life insurance death benefits incurred before year end but not reported to the System until after year end. These are reflected as other liabilities. Distributions from Defined Contribution Plans and the Retiree Health Insurance Trust are recognized in the period the disbursement is made.

*Investments*

Investments are reported at fair value. Debt and equity securities that are traded on recognized exchanges are valued at the last sales price and the current exchange rates on the reporting date. Other regularly traded securities, including derivatives, are valued by the System's custodians through a variety of external sources. Investments that do not have an established market are reported at estimated fair value. The fair value of shares in common/collective trusts is based on unit values reported by the funds. The fair value of other investments, including private market partnerships, is based on third-party appraisals and valuations provided by the sponsor of the partnerships. Management reviews and approves all such appraisals and valuations prepared by other parties. Investment purchases and sales are recorded as of their trade date. Proceeds related to securities sold not yet purchased are carried as a liability and are adjusted to the fair value of the securities.

Assets of the defined benefit pension plans are pooled for investment purposes and are allocated to each plan based on each plan's fiduciary net position, as are investment expenses and administrative expenses. Assets of the Group Life Insurance Plans are pooled for investment purposes and are allocated to each plan based on each plan's fiduciary net position, as are investment expenses and administrative expenses. Other assets managed by the System are invested separately from the assets of the defined benefit pension plans and the Group Life Insurance Plans.

*Due to/from Brokers*

Amounts due to/from brokers for securities purchased or sold consist of trades not yet settled.

*Cash and Cash Equivalents*

The System considers all highly liquid debt instruments that have a maturity of 90 days or less when purchased to be cash equivalents.

*Capital Assets*

All capital assets with a unit cost of $5,000 or greater are capitalized and reported in the accompanying financial statements. Purchased capital assets are valued at cost where historical records exist. Where necessary, for real estate, estimates of original cost are derived from historical real estate appraisals, historical real estate tax valuation records, and relevant accounting information derived from the records.

Capital asset costs include the purchase price or construction cost, plus those costs necessary to place the asset in its intended location and condition for use.

Depreciation is calculated using the straight-line method with estimated useful lives of 3 to 40 years.

*Administrative Expenses*

The cost of administering each of the plans managed by the System is financed primarily by investment income.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

*Risks and Uncertainties*

The System makes investments in accordance with the Board of Trustees' investment policy in a combination of equities, fixed income securities, infrastructure, private equity, real estate, derivative financial instruments, other investment securities and mutual funds and common/collective trusts holding such investments. The investment policy specifically prohibits investment managers from using derivative financial instruments to introduce leverage without specific prior approval by the Board. Investment securities and securities underlying certain investments are exposed to various risks, such as interest rate risk, market risk, custodial credit risk and credit risk. Investments in the Defined Contribution Plans are individually directed and controlled by plan participants. Due to the level of risk associated with certain investment securities and the level of uncertainty related to changes in the value of investment securities, changes in the values of investment securities are likely to occur in the near term and it is at least possible that such changes could materially affect the amounts reported in the statement of fiduciary net position and the statement of changes in fiduciary net position.

*Defined Benefit Contributions*

Contributions to the Defined Benefit Plans from employers and non-employer contributing entities are established by an actuarial valuation on the basis of actuarial assumptions related to economic indicators (e.g., interest rates, inflation rates), and member and retiree compensation and demographics. By law, the assumptions are adopted by the Board of Trustees based on recommendation of the System's actuary. The System is also required by Maine law to perform an actuarial experience study whenever the Board of Trustees, on recommendation of its actuary, determines such a study to be necessary for actuarial soundness or prudent administration.

*New Accounting Pronouncements*

The System adopted Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* for the year ended June 30, 2018. This statement establishes requirements for governments providing postemployment benefits other than pensions to recognize their long-term obligation for those benefits. Adopting this statement had no material impact on the System's financial reporting.

The System adopted GASB Statement No. 85, *Omnibus 2017* for the year ended June 30, 2018. This statement establishes accounting and financial reporting requirements for blending component units, goodwill, fair value measurement, and postemployment benefits. Adopting this statement had no material impact on the System's financial reporting.

The System adopted GASB Statement No. 87, *Leases* for the year ended June 30, 2018. This statement establishes a single model for lease accounting for governments based on the principal that a lease is a financing of the right to use an underlying asset. Adopting this statement had no material impact on the System's financial reporting.

**3. Cash and Cash Equivalents and Investments**

The Board of Trustees is responsible for identifying the System's investment objective and establishing an investment policy to meet that objective. The Board relies on staff and consultants with appropriate expertise to establish investment policy, monitor compliance with that policy, and determine whether the investment objective has been met. The Board established the strategic asset allocation as part of its overall investment policy. The policy identifies the following investment classes and targets for all defined benefit pension plan assets: public equities (30%), private equities (15%), traditional credit (7.5%), alternative credit (5%), real estate (10%), infrastructure (10%), natural resources (5%), US Government (7.5%), and risk diversifiers (10%). For the group life insurance plan assets, the policy identifies four investment classes and targets: public equities (70%), real estate (5%), traditional credit (15%), and US Government (10%).

Custodial credit risk is the risk that in the event of a financial institution failure, the System's deposits may not be returned to it. The System has no formal policy for custodial credit risk. Cash and cash-like securities are held at two institutions: Bangor Savings Bank and JP Morgan. Cash balances at Bangor Savings Bank are insured by the Federal Deposit Insurance Corporation (FDIC) up to $250,000. Bangor Savings Bank mitigates custodial credit risk through use of securities repurchase arrangements.

Cash equivalents at JP Morgan are invested in the JP Morgan Prime Money Market Fund. The JP Morgan Prime Money Market fund is composed of short term debt securities held in a collective fund for the benefit of the System and other investors. All securities purchased in the JP Morgan Prime Money Market must either be payable on demand or have a maturity not exceeding eighteen months from the time of purchase.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

The System's cash and investments are not exposed to custodial credit risk (a) because the underlying investments are registered in the name of the System and held by the System's custodian or (b) because their existence is not evidenced by securities that exist in physical or book entry form.

These amounts are disclosed in the financial statements at June 30 as follows:

| | 2018 | 2017 |
|---|---|---|
| Cash and Cash Equivalents | $ 32,417,604 | $ 25,064,677 |
| Investments | 14,952,447,482 | 13,950,785,249 |
| Total Fair Value | $ 14,984,865,086 | $ 13,975,849,926 |

Credit risk is the risk an issuer or other counterparty to an investment will not fulfill its obligations to the System. The System has no formal policy on credit risk. The following table summarizes the System's aggregate fixed income portfolio credit ratings at June 30:

| Moody's Quality Rating | 2018 | 2017 |
|---|---|---|
| Aaa | $ 2,035,877,181 | $ 2,215,353,977 |
| Aa1 | - | 289,083 |
| Aa2 | 116,319,937 | 133,831,771 |
| A | 310,557,536 | 330,747,375 |
| Baa1 | - | 373,495,374 |
| Baa2 | 320,018,966 | 27,376,136 |
| Total Credit Risk Debt | $ 2,782,773,620 (1) | $ 3,081,093,716 (2) |

(1) Includes direct investments in debt securities held by the System as well as debt securities underlying investments in common/collective trusts. In 2018, all amounts are from common/collective trusts.

(2) Includes direct investments in debt securities held by the System as well as debt securities underlying investments in common/collective trusts and mutual funds. In 2017, the amount included from common/collective trusts is $3,053,428,497; the amount included from mutual funds is $27,665,219.

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of investment in a single issue. The System's investment policy places no limit on the amount the System may invest in any one issuer.

There were no individual investments that constitute 5% or more of fiduciary net positon for the defined benefit pension plans administered by the System as of June 30, 2018. At June 30, 2017 individual investments that constitute 5% or more of fiduciary net position were as follows:

| | |
|---|---|
| Pooled fixed income funds: | |
| BlackRock 0-5 Year TIPS | $ 1,020,258,202 |

There were no individual investments that constitute 5% or more of fiduciary net positon for the other post-employment benefit plans administered by the System as of June 30, 2018.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The System has no formal investment policy related to managing interest rate risk. All of the System's fixed income portfolios are managed in accordance with contractual guidelines. Contractual guidelines generally specify a range of effective duration for the portfolio. Duration is widely used in the management of fixed income portfolios as a measure of a debt investment's exposure to fair value changes arising from changing interest rates. The System's interest rate risk is closely aligned with the Barclays Capital Aggregate Index. The following table details the System's interest rate risk for its debt investments at June 30, 2018, using the segmented time distribution method. Maturities are based on the weighted average maturities of underlying investments in the common/collective trusts.

| | | Maturities as of June 30, 2018 | | | |
|---|---|---|---|---|---|
| Investment Type | Fair Value | Less than 1 Year | 1 to 6 Years | 6 to 10 Years | 10+ Years |
| Common/ Collective Trusts | $ 2,782,773,620 | $ 202,057,193 | $ 1,762,427,930 | $ 590,852,409 | $ 227,436,088 |
| Total | $ 2,782,773,620 | $ 202,057,193 | $ 1,762,427,930 | $ 590,852,409 | $ 227,436,088 |

Foreign currency risk is the risk that changes in exchange rates will adversely impact the recorded fair value of an investment. The System does not have a formal investment policy limiting the amount of foreign currency exposure of its investments. The System's currency exposures reside primarily in the System's international equity investments. The System may hedge a portfolio's foreign currency exposure with currency forward contracts depending on their views of the currency relative to the dollar. All of the System's portfolios are managed in accordance with contractual guidelines. The System has nearly eliminated all direct exposure to foreign currency by using index funds which means the System owns units of U.S. dollar denominated commingled funds rather than conducting transactions directly in foreign currency. The System is still indirectly exposed to all the foreign currencies within the index.

## NOTES TO FINANCIAL STATEMENTS
### June 30, 2018 and 2017 *continued*

The System's direct and indirect exposure to foreign currency risk in U.S. dollars as of June 30, 2018 is highlighted in the following table:

| Currency | | Total |
|---|---|---|
| Australian Dollar | $ | 110,385,042 |
| Brazilian Real | | 33,859,363 |
| British Pound Sterling | | 351,093,951 |
| Canadian Dollar | | 153,898,031 |
| Chilean Peso | | 6,421,888 |
| Chinese Yuan | | 2,075,357 |
| Chinese Yuan Renminbi | | 8,893 |
| Colombian Peso | | 2,786,652 |
| Czech Koruna | | 1,101,755 |
| Danish Krone | | 27,206,606 |
| Egyptian Pound | | 978,913 |
| Euro | | 918,505,903 |
| Hong Kong Dollar | | 192,695,866 |
| Hungarian Forint | | 1,693,074 |
| India Rupee | | 50,278,374 |
| Indonesian Rupiah | | 11,048,686 |
| Israel Shekels | | 4,421,549 |
| Japanese Yen | | 380,730,025 |
| Malaysian Ringgit | | 13,566,035 |
| Mexican Peso | | 16,983,309 |
| New Zealand Dollar | | 3,326,675 |
| Norwegian Krone | | 11,764,722 |
| Pakistani Rupee | | 410,298 |
| Peruvian Sol | | 18 |
| Phillippine Peso | | 5,497,941 |
| Polish Zloty | | 6,391,121 |
| Qatar Riyal | | 4,454,023 |
| Russian Ruble | | 17,455,159 |
| Singapore Dollar | | 20,145,294 |
| South African Rand | | 37,442,539 |
| South Korean Won | | 85,038,389 |
| Swedish Krona | | 41,764,603 |
| Swiss Franc | | 125,417,474 |
| Thaiwan Dollar | | 68,168,697 |
| Thai Baht | | 12,518,218 |
| Turkish Lira | | 4,382,491 |
| United Arab Emirates Dirham | | 3,178,423 |
| **Total** | $ | **2,727,095,357** |

The System has entered into contracts to invest in partnerships with a focus on private equity, infrastructure, and real estate investment strategies. As of June 30, 2018, the value of these investments is approximately $5.7 billion and the remaining funding commitment is approximately $3.0 billion.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

For the year ended June 30, 2018, the annual money-weighted rate of return on all defined benefit plan investments, net of investment expenses, was 10.3%. For the year ended June 30, 2018, the annual money-weighted rate of return on all other post-employment benefit (OPEB) plan investments, net of investment expense, was 9.0%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested, based on monthly calculations.

The System categorizes its fair value measurements within the fair value hierarchy established by US GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets. Level 2 inputs are other significant observable inputs. Level 3 inputs are unobservable inputs. The System has the following recurring fair value measurements at June 30:

| | | Fair Value Measurements Using | | |
|---|---|---|---|---|
| | June 30, 2018 | Level 1 | Level 2 | Level 3 |
| Investments by fair value level | | | | |
| Common Equity Securities | $ 2,256,043,596 | $ 2,256,043,596 | $ - | $ - |
| Common/Collective Trusts | 6,964,047,804 | - | 6,964,047,804 | - |
| Collateral from loaned securities | 208,030,192 | - | 208,030,192 | - |
| Total investments by fair value level | 9,428,121,592 | $ 2,256,043,596 | $ 7,172,077,996 | $ - |
| Investments measured at net asset value (NAV) | | | | |
| Alternative Credit | 278,210,721 | | | |
| Infrastructure | 1,564,947,292 | | | |
| Natural Resources | 607,863,422 | | | |
| Private Equity | 1,978,985,874 | | | |
| Real Estate [1] | 1,302,348,773 | | | |
| Total investments measured at NAV | 5,732,356,082 | | | |
| Total investments measured at fair value | $ 15,160,477,674 | | | |

[1] Includes common/collective trust funds containing real estate.

| | | Fair Value Measurements Using | | |
|---|---|---|---|---|
| | June 30, 2017 | Level 1 | Level 2 | Level 3 |
| Investments by fair value level | | | | |
| Common Equity Securities | $ 2,803,727,386 | $ 2,803,727,386 | $ - | $ - |
| Common/Collective Trusts | 6,802,126,877 | - | 6,802,126,877 | - |
| Mutual Funds | 289,082,747 | 289,082,747 | - | - |
| Collateral from loaned securities | 19,543,906 | - | 19,543,906 | - |
| Total investments by fair value level | 9,914,480,916 | $ 3,092,810,133 | $ 6,821,670,783 | $ - |
| Investments measured at NAV | | | | |
| Alternative Credit | 132,641,219 | | | |
| Infrastructure | 1,112,730,413 | | | |
| Natural Resources | 477,507,847 | | | |
| Private Equity | 1,079,017,398 | | | |
| Real Estate [1] | 1,253,951,362 | | | |
| Total investments measured at NAV | 4,055,848,239 | | | |
| Total investments measured at fair value | $ 13,970,329,155 | | | |

[1] Includes common/collective trust funds containing real estate.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

*Equity and Fixed Income Securities*

Equity and fixed income securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. The mutual funds classified in Level 1 of the fair value hierarchy are valued based on their holdings of equity and fixed income securities which are valued using prices quoted in active markets for those securities.

*Common Collective Trusts*

Units of collective investment funds, including short-term investment funds, are valued based on the unit value determined for each fund on the valuation date. Valuation of each fund is determined each day the Fund is open for contributions and redemptions and, for financial reporting purposes, on the report date should the reporting period end on a date the Fund is not open. Unit values are determined by dividing each Fund's investments at fair value by the number of units outstanding on the valuation date.

*Investments Measured at NAV*

Alternative investments are generally reported at the NAV obtained from statements provided by the investment managers and assessed by the System as reasonable.

NAVs determined by investment managers generally consider variables including operating results, projected cash flows, recent sales prices and other pertinent information, and may reflect discounts for the illiquid nature of certain investments held. Due to the inherent uncertainties in valuation, the estimated fair values in NAV calculations may differ significantly from values that would have been used had a ready market existed.

The fair value method for investments measured at NAV per share (or its equivalent) is presented in the following tables:

| | June 30, 2018 | | | |
|---|---|---|---|---|
| Investments Measured at NAV | | Fair Value | | Unfunded Commitments |
| Alternative Credit (1) | $ | 278,210,721 | $ | 252,161,727 |
| Infrastructure funds (2) | | 1,564,947,292 | | 946,994,873 |
| Natural Resources (3) | | 607,863,422 | | 239,087,927 |
| Private Equity (4) | | 1,978,985,874 | | 1,268,429,828 |
| Real estate funds (5) | | 1,302,348,773 | | 324,025,018 |
| Total investments measured at NAV | $ | 5,732,356,082 | $ | 3,030,699,373 |

| | June 30, 2017 | | | |
|---|---|---|---|---|
| Investments Measured at NAV | | Fair Value | | Unfunded Commitments |
| Alternative Credit (1) | $ | 132,641,219 | $ | 46,519,372 |
| Infrastructure funds (2) | | 1,112,730,413 | | 366,746,623 |
| Natural Resources (3) | | 477,507,847 | | 294,627,100 |
| Private Equity (4) | | 1,079,017,398 | | 2,096,240,305 |
| Real estate funds (5) | | 1,253,951,362 | | 343,425,348 |
| Total investments measured at NAV | $ | 4,055,848,239 | $ | 3,147,558,748 |

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

(1) Alternative Credit funds are funds that invest primarily in debt instruments issued by non-investment grade and unrated entities. Alternative credit investments are expected to pay or accrue periodic interest and to return principal at maturity. The fair values in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Alternative Credit funds are typically structured as partnerships with fixed lifetimes. A typical structure is a 7-year fund life, where the fund can call capital for investments for 3 years, and then will return capital as loans mature throughout the life of the fund. These funds typically have no provisions for redemptions, though the System's interests could be sold on a secondary market.

(2) Infrastructure funds are funds that invest primarily in infrastructure assets such as roads, ports, pipelines, and airports, primarily in the US and Europe. The fair values in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These funds are generally not available for redemption, and distributions are received as underlying investments within the funds are liquidated, which on average can occur over a span of 10 or more years.

(3) Natural Resource funds are funds that invest primarily in assets and businesses related to natural resources such as farming, timber, and mining. The fair values in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These funds are generally not available for redemption, and distributions are received as underlying investments within the funds are liquidated, which on average can occur over a span of 10 or more years.

(4) Private Equity funds are funds that invest primarily in debt and equity securities of private businesses. The fair values in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These funds are generally not available for redemption, and distributions are received as underlying investments within the funds are liquidated, which on average can occur over a span of 10 or more years.

(5) Real Estate funds are funds that invest primarily in commercial real estate and real estate debt. The fair values in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. The majority of these investments (85% of dollar value) are available for redemption, subject to the timing of asset disposition. The remaining funds are generally not available for redemption, and distributions are received as underlying investments within the funds are liquidated, which on average can occur over a span of 10 or more years.

### 4. Derivative Securities

Derivative financial instruments are financial contracts whose value depends on the value of one or more underlying assets, reference rates or financial indices. They include futures, forwards, options, and swap contracts. In addition, some traditional securities can have derivative-like characteristics, e.g., asset-backed securities, including collateralized mortgage obligations, which are sensitive to changes in interest rates and to prepayments.

The System may be a party, both directly and indirectly, to various derivative financial investments that are used in the normal course of investing to enhance expected returns on investments, to manage the risk of exposure to changes in value of investments due to fluctuations in market conditions, and to gain passive exposure to markets. In addition to normal market risks these investments may involve, to varying degrees, elements of interest rate risk, credit risk, leverage risk, counterparty risk, and custodial credit risk.

Leverage risk may be created with derivatives. Financial leverage generally involves borrowing and then reinvesting the proceeds with the hope of earning a higher rate of return than the borrowing costs. With derivative instruments economic leverage may be effectively created without any explicit borrowing. Leveraged investments may be more volatile than if an investment had not been leveraged. Leveraging tends to exaggerate the effect of any increase or decrease in the value of an underlying investment. In a leveraged transaction an amount more than the initial investment may be lost. The System's investment policy requires specific Board approval of any investment strategy that involves the use of direct financial leverage.

Counterparty risk is the risk that the counterparty to a derivative transaction is unwilling or unable to deliver on their obligations to the System.

The System manages leverage risk and counterparty risk on a manager by manager basis by establishing guidelines with each manager. The manager is customarily allowed to invest within these predetermined guidelines.

The System's managers may also invest in swaps. Interest rate swaps are used to adjust interest rate and yield curve exposures and substitute for physical securities. Long swap positions increase exposure to long term rates; short positions decrease exposure. Credit default swaps are used to manage credit exposure. Purchased credit default swaps decrease credit exposure, while written credit default swaps increase exposure. Total return swaps are a means to gain exposure to an index.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

The System may also hold investments in futures and options, which are used to manage various risks within the portfolio. A financial futures contract is an agreement between two parties to buy or sell units of a particular index or a certain amount of a security at a set price on a future date. The System may purchase and sell financial futures contracts to hedge against the effect of changes in the values of securities it owns or expects to purchase.

In addition to the derivative financial instruments directly held, the System may have indirect exposure to risk through its ownership interests in commingled investment funds, which use, hold or write derivative financial instruments. There also may be indirect exposure in the securities lending programs in which the System participates, in which some collateral pools may include derivatives (note 5). Where derivatives are held in those funds/pools, risks and risk management are as described above.

The System did not have any direct derivative investments as of June 30, 2018 or 2017 or during the years then ended.

**5. Securities Lending**

The System has entered into agreements with its master custodian to lend to broker-dealers and other entities any type of security held in the System's portfolio and held with the master custodian. Securities are loaned against collateral that may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned against collateral generally valued at 102% of the market value of the securities plus any accrued interest. Non-U.S. securities are loaned against collateral valued at 105% of the market value of the securities plus any accrued interest.

Noncash collateral cannot be pledged or sold unless the borrower defaults. As a result, those securities are excluded from both assets and liabilities.

All securities loans can be terminated on demand by either the lender or the borrower. The average term of the System's loans was approximately 1 day and 6 days as of June 30, 2018 and 2017, respectively.

Cash collateral is invested in a short-term investment account which had an interest sensitivity of 22 and 11 days as of June 30, 2018 and 2017, respectively. Cash collateral may also be invested separately in "term loans," in which case the investments match the loan term. These loans can be terminated on demand by either lender or borrower.

During fiscal years 2018 and 2017, there were no violations of legal or contractual provisions, and no borrower or lending agent default losses identified to the System by the securities lending agent. Securities lending earnings are credited to the System on approximately the fifteenth day of the following month.

Custodial credit risk is the risk that in the event of the insolvency of a borrower, and the master custodian has failed to live up to its contractual responsibilities relating to the lending of those securities, the System's securities are not returned to it. The master custodian's responsibilities include performing appropriate borrower and collateral investment credit analyses, demanding adequate types and levels of collateral, and complying with applicable Department of Labor and Federal Financial Institutions Examination Council regulations concerning securities lending. At June 30, 2018 and 2017, all of the collateral for securities lending is subject to custodial credit risk.

Because of the program's collateralization of loans, generally at 102% (or more), plus accrued interest for fixed income securities, the System believes that there is no material credit risk.

Some of the System's assets are held in common/collective trusts and are subject to similar agreements arranged by those trusts. The income from those arrangements and the associated collateral are not included in the securities lending amounts reported.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

Aggregate securities on loan by asset class are as follows:

| | 2018 | 2017 |
|---|---|---|
| Domestic equity securities on loan | $ 271,974,045 | $ 65,665,101 |
| Aggregate securities lending collateral: | | |
| Short-term investment collateral pool | $ 208,030,192 | $ 19,543,906 |
| Noncash collateral (debt and equity securities, at fair value) | 70,114,884 | 47,655,294 |
| Total collateral | $ 278,145,076 | $ 67,199,200 |
| Collateral ratio | 102 3% | 102 3% |

**6. Defined Benefit Plans**

*State Employee and Teacher Plan*

The State Employee and Teacher Plan administered by MainePERS is a multiple-employer cost sharing plan with a special funding situation. As of June 30, 2018 there were 236 employers, including the State of Maine, participating in the plan. The State of Maine is also a non-employer contributing entity in that the State pays the unfunded actuarial liability on behalf of teachers, while school districts contribute the normal cost, calculated actuarially, for their teacher members.

Plan membership counts for the State Employee and Teacher Plan at June 30 are as follows:

| | 2018 | 2017 |
|---|---|---|
| Current participants: | | |
| Vested and non-vested | 39,843 | 39,836 |
| Terminated participants: | | |
| Vested | 7,965 | 8,010 |
| Inactive due refunds | 39,074 | 38,463 |
| Retirees and beneficiaries receiving benefits | 35,601 | 34,870 |
| | 122,483 | 121,179 |

*Judicial Plan*

The Judicial Plan administered by MainePERS is a single-employer plan offered by the State of Maine.

Plan membership counts for the Judicial Plan at June 30 are as follows:

| | 2018 | 2017 |
|---|---|---|
| Current participants: | | |
| Vested and non-vested | 62 | 63 |
| Terminated participants: | | |
| Vested | 3 | 2 |
| Inactive due refunds | 1 | 1 |
| Retirees and beneficiaries receiving benefits | 75 | 75 |
| | 141 | 141 |

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

*Legislative Plan*

The Legislative Plan administered by MainePERS is a single-employer plan offered by the State of Maine.

Plan membership counts for the Legislative Plan at June 30 are as follows:

| | 2018 | 2017 |
|---|---|---|
| Current participants: | | |
| Vested and non-vested | 185 | 185 |
| Terminated participants: | | |
| Vested | 113 | 120 |
| Inactive due refunds | 107 | 110 |
| Retirees and beneficiaries receiving benefits | 185 | 185 |
| | 590 | 600 |

*PLD Consolidated Plan*

The PLD Consolidated Plan administered by MainePERS is a multiple-employer cost sharing plan. Eligible employers (districts) are defined in Maine statute. As of June 30, 2018 there were 304 employers participating in the plan.

Plan membership counts for the PLD Consolidated Plan at June 30 are as follows:

| | 2018 | 2017 |
|---|---|---|
| Current participants: | | |
| Vested and non-vested | 11,416 | 11,195 |
| Terminated participants: | | |
| Vested | 2,319 | 2,234 |
| Inactive due refunds | 7,779 | 7,274 |
| Retirees and beneficiaries receiving benefits | 9,256 | 9,006 |
| | 30,770 | 29,709 |

*PLD Agent Plan*

The PLD Agent Plan administered by MainePERS is an agent multiple-employer plan for financial reporting purposes. This plan is an aggregation of single employer plans that were open when the PLD Consolidated Plan began. Under the legislation that created the consolidated plan, single employers could either join the consolidated plan whereby the single employer plan would end, or they could opt to not join the plan and continue to maintain their single employer plan as a closed plan until there were no further liabilities for pension, at which time the single employer plan would be dissolved. As of June 30, 2018 there were 12 employers in the plan.

Plan membership counts for the PLD Agent Plan at June 30 are as follows:

| | 2018 | 2017 |
|---|---|---|
| Current participants: | | |
| Vested and non-vested | 16 | 19 |
| Terminated participants: | | |
| Vested | 14 | 13 |
| Inactive due refunds | 2 | 2 |
| Retirees and beneficiaries receiving benefits | 170 | 174 |
| | 202 | 208 |

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

*Benefits*

Benefit terms are established in Maine statute; in the case of the PLD Consolidated Plan, an advisory group, also established by Maine statute, reviews the terms of the plan and periodically makes recommendations to the Legislature to amend the terms. The System's retirement programs provide defined retirement benefits based on members' average final compensation and service credit earned as of retirement. Vesting (i.e., eligibility for benefits upon reaching qualification) occurs upon the earning of five years of service credit (effective October 1, 1999, the prior ten year requirement was reduced by legislative action to five years for State employees and teachers; separate legislation enacted the same reduced requirement for judges, legislators, and employees of PLDs). In some cases, vesting occurs on the earning of one year of service credit immediately preceding retirement at or after normal retirement age. Normal retirement age for State employees and teachers, judges and legislative members is age 60, 62 or 65. The normal retirement age is determined by whether a member had met certain creditable service requirements on specific dates, as established by statute. For PLD members, normal retirement age is 60 or 65. The monthly benefit of members who retire before normal retirement age by virtue of having at least 25 years of service credit is reduced by a statutorily prescribed factor for each year of age that a member is below her/his normal retirement age at retirement. The System also provides disability and death benefits which are established by statute for State employee and teacher members and by contract with other participating employers under applicable statutory provisions.

Upon termination of membership, members' accumulated employee contributions are refundable with interest, credited in accordance with statute. Withdrawal of accumulated contributions results in forfeiture of all benefits and membership rights. The annual rate of interest credited to members' accounts is set by the System's Board of Trustees and is currently 2.4%.

*Funding Policy*

The Maine Constitution, Maine statutes and the System's funding policy provide for periodic employer contributions in addition to the normal cost contributions for the State Employee and Teacher Plan. These are actuarially determined amounts that, based on certain actuarial assumptions, are sufficient to fully fund, on an actuarial basis, the State Employee and Teacher Retirement Plan by the year 2028 (Unfunded Actuarial Accrued Liability (UAAL) payments). Level percentage of payroll employer contribution rates are determined using the entry age normal actuarial funding method. The System also uses the level percentage of payroll method to amortize the unfunded liability of the State Employee and Teacher Retirement Plan. For participating employers in the PLD Agent Plan, the level percentage of payroll method is also used.

*Net Pension Liability – State Employee and Teacher Plan*

The components of the net pension liability of the State of Maine and participating teacher employers, stated in millions of dollars as of June 30, 2018, were as follows:

| | |
|---|---|
| Total pension liability | $ 14,031.2 |
| Plan fiduciary net position | 11,632.2 |
| Net pension liability | $ 2,399.0 |
| Plan fiduciary net position as a percentage of the total pension liability | 82.9% |

*Net Pension Liability – Judicial Plan*

The components of the net pension asset of the State of Maine for the Judicial Plan, stated in millions of dollars as of June 30, 2018, were as follows:

| | |
|---|---|
| Total pension liability | $ 68.3 |
| Plan fiduciary net position | 71.2 |
| Net pension (asset) | $ (2.9) |
| Plan fiduciary net position as a percentage of the total pension liability | 104.3% |

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

*Net Pension Liability – Legislative Plan*

The components of the net pension asset of the State of Maine for the Legislative Plan, stated in millions of dollars as of June 30, 2018, were as follows:

| | |
|---|---|
| Total pension liability | $ 8.6 |
| Plan fiduciary net position | 12.8 |
| Net pension (asset) | $ (4.2) |
| Plan fiduciary net position as a percentage of the total pension liability | 149.0% |

*Net Pension Liability – PLD Consolidated Plan*

The components of the net pension liability of the PLD Consolidated Plan participating employers, stated in millions of dollars as of June 30, 2018, were as follows:

| | |
|---|---|
| Total pension liability | $ 3,089.9 |
| Plan fiduciary net position | 2,816.2 |
| Net pension liability | $ 273.7 |
| Plan fiduciary net position as a percentage of the total pension liability | 91.1% |

*Actuarial Methods and Assumptions*

Actuarial valuations of ongoing plans involve estimates of the values of reported amounts and assumptions about the probability of occurrence of events far into the future. Assumptions in an actuarial valuation typically include projections concerning future employment, mortality, and inflation. Actuarially determined contributions are subject to continual periodic revision as actual results are compared to past expectations and new estimates are made concerning the future. The Schedules of Changes in Net Pension Liabilities and Related Ratios, presented as Required Supplementary Information immediately following the Notes to Financial Statements, present multi-year trend information about whether the fiduciary net position of the plan is increasing or decreasing over time relative to the total pension liability of the plan.

Projections of benefits for financial reporting purposes are based on the provisions of the plans in effect at the time of each valuation and the historical pattern of sharing of costs between the employer and plan members. Actuarial methods and assumptions include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the funding methodologies.

The expected value of assets takes the prior year's actuarial value of assets and adjusts it for contributions, benefit payments, and expected interest earnings at the assumed rate for each plan. One-third of the difference between this expected value of assets and the actual market value of assets is added to or subtracted from the expected value to provide the actuarial value of assets.

Costs are developed using the entry age normal cost method (based on a level percentage of covered payroll).

The initial unfunded actuarial pension liability of the State Employee and Teacher Program is amortized on a level percentage of payroll on a closed basis. The remaining amortization period as of June 30, 2018 was 10 years. All other gains, losses, and changes are amortized over twenty-year periods beginning on the date as of which they occur. The net pension liability of the Judicial and Legislative Plans is amortized on an open basis over a period of ten years. The net pension liability of the PLD Consolidated Plan is amortized on a level percentage of payroll using a method where a separate twenty-year closed period is established annually for the gain or loss for that year. The amortization period can have a significant impact on contribution rates developed through the annual valuation process.

The total pension liability was determined by an actuarial valuation as of June 30, 2018, using the following actuarial assumptions, applied to all periods included in the measurement period. These same assumptions were used in the actuarial valuation as of June 30, 2017, unless otherwise noted.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan |
|---|---|---|---|---|
| Investment Rate of Return | Per annum, compounded annually:<br>6.75% for June 30, 2018<br>and 6.875% for June 30, 2017 | | | |
| Inflation Rate | 2.75% | | | |
| Annual Salary Increases, including Inflation | State employees, 2.75% - 8.75%;<br>Teachers, 2.75% - 14.50% | 2.75% | 2.75% | 2.75% - 9.00% |
| Cost of Living Benefit Increases | 2.20% | | | 1.91% for June 30, 2018 and<br>2.20% for June 30, 2017 |
| Mortality Rates | For active members and non-disabled retirees of the State employees and teachers, legislative, judicial, and PLD plans, the RP2014 Total Dataset Healthy Annuitant Mortality Table, for males and females, is used. For all recipients of disability benefits, the RP2014 Total Dataset Disabled Annuitant Mortality Table, for males and females, is used. | | | |

The actuarial assumptions used in the June 30, 2018 and June 30, 2017 actuarial valuations were based on the results of an actuarial experience study for the period of June 30, 2012 to June 30, 2015.

The long-term expected rate of return on Defined Benefit Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major class of assets. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2018 are summarized in the following table:

| Asset Class | Long-Term Expected Real Rate of Return |
|---|---|
| Public equities | 6.0% |
| US Government | 2.3 |
| Private equity | 7.6 |
| Real assets | |
| Real estate | 5.2 |
| Infrastructure | 5.3 |
| Natural resources | 5.0 |
| Traditional Credit | 3.0 |
| Alternative Credit | 4.2 |
| Diversifiers | 5.9 |

*Discount Rate*

The discount rate used to measure the total pension liability for each of the Defined Benefit Plans was 6.75%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer and non-employer entity contributions will be made at contractually required rates, actuarially determined. Based on these assumptions, the fiduciary net position for each of the Defined Benefit Plans was projected to be available to make all projected future benefit payments to current plan members. Therefore, the long-term expected rate of return on investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following table presents the net pension liability for the State Employee and Teacher Plan, Judicial Plan, Legislative Plan, and PLD Consolidated Plan calculated using the discount rate of 6.75%, as well as what the net pension liability would be if it were calculated using a discount rate of one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

| | 1% Decrease (5.75%) | Current Rate (6.75%) | 1% Increase (7.75%) |
|---|---|---|---|
| Net Pension Liability/(Asset): | | | |
| State Employee and Teacher Plan | $ 4,118,391,649 | $ 2,399,008,162 | $ 963,017,602 |
| Judicial Plan | 3,241,765 | (2,941,916) | (8,316,508) |
| Legislative Plan | (3,338,833) | (4,195,871) | (4,939,812) |
| PLD Consolidated Plan | 645,021,221 | 273,677,365 | (73,427,244) |

Sensitivity of the net pension liability to changes in the discount rate for individual single employer plans making up the PLD Agent Plan can be found in each Plan's annual actuarial report, available by contacting the System.

*Contributions*

Retirement benefits are funded by contributions from members and employers and by earnings from investments. Disability and death benefits are funded by employer normal cost contributions and by investment earnings. Member and employer normal cost contributions are each a percentage of applicable member compensation. Member contribution rates are defined by law or MainePERS' Board rule and depend on the terms of the plan under which a member is covered. Employers' contributions are determined by actuarial valuations.

Included in the Employer and Non-employer Contributing Entities Contributions reported in the statement of changes in fiduciary net position are contributions received from the State of Maine on behalf of state employees and teachers in the total amount of $287.1 million and $279.4 million, and for judges in the total amount of $1.2 million and $1.1 million, for the years ended June 30, 2018 and 2017, respectively. There were no contributions due from the State of Maine on behalf of legislators in 2018 or 2017.

Retirement contribution rates for all employee members are set by law. Employer normal cost retirement contribution rates as applied to State employee members' and teacher members' compensation are the actuarially determined rates. The UAAL rate as applied to State employee members' compensation is first established through the annual valuation process as an amount that will meet the required UAAL payment amount; it is then adjusted in the State's budget process to take into account differences in salary growth projections of the State Budget Office. This adjusted rate, expressed as a percentage of payroll, is the actual rate paid by the State as payment of the required UAAL payment amount for State employees. For teachers, the actuarially determined UAAL amount is paid in twelve equal monthly installments. PLD employer contribution rates are the actuarially determined rates. The rates in effect in 2018 and 2017 are as follows:

Contribution Rates[(1)] (effective July 1 through June 30 of each fiscal year)

| | 2018 | 2017 |
|---|---|---|
| State: | | |
| Employees[(2)] | 7.65 – 8.65% | 7.65 – 8.65% |
| Employer[(2)] | 23.48 – 47.73% | 21.99 – 42.18% |
| Teachers: | | |
| Employees | 7.65% | 7.65% |
| Employer | 3.97% | 3.36% |
| Non-employer entity | 11.08% | 10.02% |
| Judges: | | |
| Employees | 7.65% | 7.65% |
| Employer | 14.94% | 14.98% |
| Legislative: | | |
| Employees | 7.65% | 7.65% |
| Employer | 0.00% | 0.00% |
| Participating local districts: | | |
| Employees[(2)] | 4.0 – 9.0% | 4.0 – 9.0% |
| Employers[(2)] | 3.9 – 15.7% | 4.6 – 14.2% |

(1) Employer Contribution Rates include normal cost and UAAL required payment, expressed as a percentage of payroll.

(2) Employer and Employee retirement contribution rates vary depending on specific terms of plan benefits for certain classes of employees or, in the case of PLDs, on benefit plan options selected by a particular PLD. The contributions of withdrawn entities that do not have active employees but continue to have other liabilities are set in dollar amounts, not as rates.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

**7. Group Life Insurance Program**

*Plan Description*

The Group Life Insurance Program administered by MainePERS is comprised of two multiple-employer cost-sharing defined benefit OPEB plans in addition to a multiple-employer cost-sharing plan providing life insurance benefits to active employees. Group Life Insurance Program coverage for active employees is available to eligible participants and includes basic insurance consisting of life insurance and accidental death and dismemberment insurance in the amount equal to the participant's annual base compensation rounded up to the next $1,000. Additional supplemental insurance coverage is available to those participants who elect basic coverage. Participants may also elect to insure the life of a dependent not otherwise insured under the basic and supplemental insurance provisions of the program.

*Group Life Insurance Plan for Retired State Employees and Teachers*

The Group Life Insurance Plan for Retired State Employees and Teachers is a multiple-employer cost sharing plan with a special funding situation. As of June 30, 2018 there were 220 employers, including the State of Maine, participating in the plan. The State of Maine is also a non-employer contributing entity in that the State pays contributions for retired public school teachers in the plan.

Plan membership counts for the Group Life Insurance Plan for Retired State Employees and Teachers as of the valuation date are as follows:

| | 2018 | 2017 |
|---|---|---|
| Retired State Employees | 8,768 | 8,538 |
| Retired Teachers | 7,437 | 7,003 |
| Active State Employees | 11,362 | 11,763 |
| Active Teachers | 14,592 | 14,045 |
| | 42,159 | 41,349 |

*Group Life Insurance Plan for Retired PLD Employees*

The Group Life Insurance Plan for Retired PLD employees is a multiple-employer cost sharing plan. As of June 30, 2018 there were 138 employers participating in the plan.

Plan membership counts for the Group Life Insurance Plan for Retired PLD Employees as of the valuation date are as follows:

| | 2018 | 2017 |
|---|---|---|
| Retired PLD Employees | 2,850 | 2,671 |
| Active PLD Employees | 5,495 | 5,416 |
| | 8,345 | 8,087 |

*Benefits*

The Group Life Insurance Plans provide basic group life insurance benefits, during retirement, to retirees who participated in the group life insurance plan prior to retirement for a minimum of 10 years (the 10-year participation requirement does not apply to recipients of disability retirement benefits).

The level of coverage in retirement is initially set to an amount equal to the retiree's average final compensation. The initial amount of basic life is then subsequently reduced at the rate of 15% per year to the greater of 40% of the initial amount or $2,500.

*Funding Policy*

Premium rates are those determined by the System's Board of Trustees to be actuarially sufficient to pay anticipated claims. For state employee, judicial and legislative employment classes, the premiums for retiree life insurance coverage are factored

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *continued*

into the premiums paid for basic coverage while participants are active members. Premiums for basic life insurance coverage for retired teachers are paid by the State of Maine as the total dollar amount of each year's annual required contribution. PLD employers with retired PLD employees are required to remit a premium of $0.46 per $1,000 of coverage per month during the post-employment retired period.

*Net OPEB Liability – State Employee and Teacher Plan*

The components of the net OPEB liability of the State of Maine and participating teacher employers, stated in millions of dollars as of June 30, 2018, were as follows:

| | |
|---|---|
| Total OPEB liability | $ 196.3 |
| Plan fiduciary net position | 94.3 |
| Net OPEB liability | $ 102 0 |
| Plan fiduciary net position as a percentage of the total OPEB liability | 48.0% |

*Net OPEB Liability – PLD Plan*

The components of the net OPEB liability of the PLD Plan participating employers, stated in millions of dollars as of June 30, 2018, were as follows:

| | |
|---|---|
| Total OPEB liability | $ 36.0 |
| Plan fiduciary net position | 15.8 |
| Net OPEB liability | $ 20.2 |
| Plan fiduciary net position as a percentage of the total OPEB liability | 43.9% |

Actuarial valuations of ongoing plans involve estimates of the values of reported amounts and assumptions about the probability of occurrence of events far into the future. Assumptions in an actuarial valuation typically include projections concerning future employment, mortality, and inflation. Actuarially determined contribution requirements are subject to continual periodic revision as actual results are compared to past expectations and new estimates are made concerning the future. The Schedule of Historical OPEB Information, presented as Required Supplementary Information immediately following the Notes to Financial Statements, will present multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

*Actuarial Methods and Assumptions*

Projections of benefits for financial reporting purposes are based on the provisions of the plan in effect at the time of each valuation and the historical pattern of sharing of premium costs between the employer and plan members. Actuarial methods and assumptions include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the funding methodologies.

Costs are developed using the individual entry age normal cost method based on a level percentage of payroll.

## NOTES TO FINANCIAL STATEMENTS
**June 30, 2018 and 2017** *continued*

Significant actuarial assumptions employed by the actuary for funding purposes as of June 30, 2018 and are displayed in the table below. The valuation date is June 30, 2018. These same assumptions were used as of June 30, 2017 unless otherwise noted.

| | State employees, including judges and legislators | Teachers | PLD employees |
|---|---|---|---|
| Investment Rate of Return | Per annum, compounded annually: 6.75% for June 30, 2018; 6.875% for June 30, 2017 | | |
| Inflation Rate | 2.75% | | |
| Annual Salary Increases, including Inflation | 2.75% - 8.75% | 2.75% - 14.50% | 2.75% - 9.00% |
| Mortality Rates | For active members and non-disabled retirees of the State employees and teachers, legislative, judicial, and PLD plans, the RP2014 Total Dataset Healthy Annuitant Mortality Table, for males and females, is used. For all recipients of disability benefits, the RP2014 Total Dataset Disabled Annuitant Mortality Table, for males and females, is used. | | |
| Participation Rate for Future Retirees | 100% of those currently enrolled | | |
| Conversion Charges | Apply to the cost of active group life insurance, not retiree group life insurance | | |
| Form of Benefit Payment | Lump sum | | |

The unfunded actuarial accrued liability is being amortized as a level percentage of payroll over a 30-year period on a closed basis. As of June 30, 2018, there were 19 years remaining in the amortization schedule for state employees and teachers, and 12 years remaining for PLD employees.

The actuarial assumptions used in the June 30, 2018 and June 30, 2017 actuarial valuations were based on the results of an actuarial experience study conducted for the period of June 30, 2012 to June 30, 2015.

The long-term expected rate of return on OPEB Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major class of assets. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of long-term real rates of return for each major asset class included in the target asset allocation as of June 30, 2018 are summarized in the following table:

| Asset Class | Long-Term Expected Real Rate of Return |
|---|---|
| Public equity | 6.0% |
| Real estate | 5.2 |
| Traditional credit | 3.0 |
| US Government securities | 2.3 |

*Discount Rate*

The discount rate used to measure the total OPEB liability for the State Employee and Teacher Plan was 6.75%. The projection of cash flows used to determine the discount rate assumed that employer and non-employer entity contributions will be made at contractually required rates, actuarially determined. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments to current plan members. Therefore, the long-term expected rate of return on investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

The discount rate used to measure the total OPEB liability for the PLD Plan was 5.13% which is a blend of the assumed long-term expected rate of return of 6.75% and a municipal bond index rate of 3.87%, based on the Bond Buyer GO 20-Year Municipal Bond Index as of June 30, 2018. Projections of the Plan's fiduciary net position indicate that it is not expected to be

## NOTES TO FINANCIAL STATEMENTS
### June 30, 2018 and 2017 *continued*

sufficient to make projected benefit payments for current members beyond 2047. Therefore, the portion of future projected benefit payments after 2047 are discounted at the municipal bond index rate. The projection of cash flows used to determine the discount rate assumed that employer and non-employer entity contributions will be made at contractually required rates, actuarially determined.

*Sensitivity of the net OPEB liability to changes in the discount rate*

The following table presents the net OPEB liability for the State Employee and Teacher Plan calculated using the discount rate of 6.75%, as well as what the net OPEB liability would be if it were calculated using a discount rate of one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

| | 1% Decrease (5.75%) | Current Rate (6.75%) | 1% Increase (7.75%) |
|---|---|---|---|
| Net OPEB Liability | $ 130,842,952 | $ 101,976,274 | $ 78,522,347 |

The following table presents the net OPEB liability for the PLD Plan calculated using the discount rate of 5.13%, as well as what the net OPEB liability would be if it were calculated using a discount rate of one percentage point lower (4.13%) or one percentage point higher (6.13%) than the current rate:

| | 1% Decrease (4.13%) | Current Rate (5.13%) | 1% Increase (6.13%) |
|---|---|---|---|
| Net OPEB Liability | $ 26,688,521 | $ 20,200,977 | $ 15,085,995 |

*Premiums*

The basic life benefits for participants are funded by the State, school districts, PLDs and individuals. Participants pay additional premiums for supplemental and dependent insurance based upon the coverage selected.

Maine statute requires the System's Board of Trustees to establish on a regular basis the premium rates for participants in the Group Life Insurance Plan. The premium rates are determined to be actuarially sufficient to pay anticipated claims and cover administrative costs. The State of Maine remits premiums at a single rate that supports basic coverage for active and retired state employees (including Legislative and Judicial employees). This rate is $.76 per month for every $1,000 of coverage. The State remits premiums for retired teachers at a rate of $.33 per month for every $1,000 of coverage. As per individual collective bargaining agreements between employers and employees, individual school districts or teachers themselves pay premiums at the rate of $.11 per month for every $1,000 of coverage while active, and employees of participating local districts or the district itself pay premiums of $.46 per month for every $1,000 in coverage for employees while active and retired. Employees' premiums are usually deducted from employees' compensation and remitted to the System.

Included in the Employer and Non-employer Contributions and Premiums in the statement of changes in fiduciary net position are group life insurance premiums received from the State of Maine on behalf of active and retired state employees, retired teachers, legislators, and judges in the total amount of $8.7 and $8.0 million, respectively, for the years ended June 30, 2018 and 2017.

*Benefits*

Upon service retirement, only basic life insurance in an amount equal to the retiree's average final compensation will continue at no cost to the participant as long as the retiree participated in the group life insurance plan prior to retirement for a minimum of 10 years.

If a participant becomes eligible for disability retirement, the amount of basic insurance in force at the time of such retirement will be continued until normal retirement age, after which the amount will be reduced at the same rate as for a service retiree. The 10-year participation requirement does not apply to recipients of disability retirement benefits.

Under the Accidental Death and Dismemberment provisions of the plan, no legal action can be brought to recover under any benefit after 3 years from the deadline for filing claims. The deadline for filing claims under the Accidental Death and Dismemberment provisions of the plan is 90 days after the date of the loss giving rise to the claim.

# NOTES TO FINANCIAL STATEMENTS
## June 30, 2018 and 2017 *concluded*

*Claims Processing Expenses*

All benefits are processed and paid by a third-party administrator (TPA). The fees incurred for services performed by the TPA totaled $876,860 and $962,517 for the years ended June 30, 2018 and 2017, respectively, and are listed as claims processing expenses in the basic financial statements.

**8. Statutory and Constitutional Requirements**

An amendment to the Maine constitution approved in November 1995 requires the State of Maine to fund the unfunded actuarial liability of the State Employee and Teacher Retirement Plan existing on June 30, 1996, over a period not to exceed 31 years beginning July 1, 1997, and not later than June 30, 2028. The amendment prohibits the creation of new unfunded liabilities in that Plan except those arising from experience losses, which under the 1995 amendment must be funded over a period of not more than ten years. An amendment approved in November 2017 extends the period from ten years to twenty years.

**9. The System's Employee Benefits**

*Defined Benefit Plan*

The System, as the employer of its staff, is a PLD in the PLD Consolidated Plan. As such, the System's employees are required by statute to contribute 8.0% of their annual covered salaries. The System is required to contribute at the contribution rate established by the Board of Trustees under the actuarial valuation of the PLD Consolidated Plan. The contribution rate was 9.6% of annual covered payroll for 2018 and 9.5% of annual covered payroll for 2017.

The employer contributions on behalf of its employees, equal to the required contribution, were $642,178 and $617,448 for 2018 and 2017, respectively. The actuarial assumptions used in the PLD Consolidated Plan valuation are described in the actuarial assumptions and methods footnote to the required supplementary information.

The System's contributions to the PLD Consolidated Plan are treated as administrative costs of the Plan and are funded as a component of normal cost and included in the contribution rates paid by all employers in each of the plans administered by the System. Accordingly, the System does not reflect a portion of the collective net pension liability or related deferred inflows and outflows of resources related to pension obligations in the System's basic financial statements.

*Group Life Insurance Plan*

The System, as the employer of its staff, is a PLD in the Group Life Insurance Plan. The System pays the premiums for Basic only coverage for all active employees. Employees who elect additional coverage under the Supplemental and/or Dependent provisions have the additional required premiums withheld from their pay in order to fund such coverage.

The System was required to pay premiums for Basic coverage at the rate of $0.46 per $1,000 of coverage for the 2018 and 2017 fiscal years. The total premiums the System paid on behalf of its active employees, equal to the required contributions, were $27,604 and $33,609 for 2018 and 2017, respectively.

*Other Post-Employment Benefits*

The System provides OPEB to its retirees in the form of health insurance coverage and group life insurance coverage. The System's annual OPEB costs are actuarially determined based on the parameters of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.*

The total contributions for retiree health insurance coverage, equal to the actuarially determined contributions, were $0 for 2018 and 2017. The OPEB liability for this plan is immaterial and the Plan's assets exceed its actuarial liability at June 30, 2018 and 2017. The actuarial liability is calculated using assumptions similar to those used for the System's defined benefit plan.

The total contributions for retiree group life insurance coverage, equal to the actuarially determined contributions, were $5,943 and $6,768 for 2018 and 2017. The OPEB liability for this plan is immaterial.

**10. Risk Management**

The System carries insurance to cover its exposure to various risks of loss. There were no uninsured losses during the last three years.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## STATE EMPLOYEE AND TEACHER PLAN
June 30, 2018 (UNAUDITED)

### SCHEDULE OF CHANGES IN THE PLAN'S NET PENSION LIABILITY AND RELATED RATIOS
LAST TEN FISCAL YEARS *

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| **Total pension liability** | | | | | |
| Service cost | $ 215,826,380 | $ 213,047,075 | $ 203,297,053 | $ 191,528,649 | $ 186,376,754 |
| Interest | 914,535,911 | 886,834,221 | 882,785,134 | 861,682,508 | 842,229,062 |
| Changes of benefit terms | - | - | - | 9,778,106 | - |
| Differences between expected and actual experience | 34,151,279 | 95,207,531 | 81,506,700 | (44,287,643) | (17,694,276) |
| Changes of assumptions | 191,998,939 | - | 30,436,605 | - | 167,650,573 |
| Benefit payments, including refunds of member contributions | (810,211,176) | (780,157,263) | (744,357,598) | (722,573,349) | (689,053,212) |
| Net change in total pension liability | 546,301,333 | 414,931,564 | 453,667,894 | 296,128,271 | 489,508,901 |
| Total pension liability, beginning | 13,484,886,512 | 13,069,954,948 | 12,616,287,054 | 12,320,158,783 | 11,830,649,882 |
| Total pension liability, ending (a) | $ 14,031,187,845 | $ 13,484,886,512 | $ 13,069,954,948 | $ 12,616,287,054 | $ 12,320,158,783 |
| **Plan fiduciary net position** | | | | | |
| Contributions - member | $ 140,844,880 | $ 139,464,284 | $ 125,523,986 | $ 123,528,807 | $ 121,033,152 |
| Contributions - employer | 211,251,144 | 211,037,365 | 199,212,719 | 173,935,492 | 162,920,147 |
| Contributions - non-employer | 129,421,735 | 116,080,164 | 112,477,836 | 147,283,716 | 142,303,104 |
| Net investment income | 1,077,827,554 | 1,256,043,735 | 40,540,758 | 191,829,057 | 1,517,432,345 |
| Benefit payments, including refunds of member contributions | (810,381,770) | (780,325,980) | (744,523,743) | (722,724,258) | (689,191,030) |
| Administrative expenses | (10,076,242) | (9,216,027) | (8,649,030) | (9,386,695) | (8,246,740) |
| Other | - | (124,178) | (6,342,010) | - | - |
| Net change in fiduciary net position | 738,887,301 | 932,959,363 | (281,759,484) | (95,533,881) | 1,246,250,978 |
| Plan fiduciary net position, beginning | 10,893,305,470 | 9,960,346,107 | 10,242,105,591 | 10,337,639,472 | 9,091,388,494 |
| Plan fiduciary net position, ending (b) | $ 11,632,192,771 | $ 10,893,305,470 | $ 9,960,346,107 | $ 10,242,105,591 | $ 10,337,639,472 |
| Plan's net pension liability, ending (a)-(b) | $ 2,398,995,074 | $ 2,591,581,042 | $ 3,109,608,841 | $ 2,374,181,463 | $ 1,982,519,311 |
| Plan fiduciary net position as a percentage of the total pension liability | 82.90% | 80.78% | 76.21% | 81.18% | 83.91% |
| Covered payroll | $ 1,808,274,919 | $ 1,860,294,435 | $ 1,816,435,084 | $ 1,699,160,889 | $ 1,676,857,294 |
| Plan net pension liability as a percentage of covered payroll | 132.67% | 139.31% | 171.19% | 139.73% | 118.23% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## JUDICIAL PLAN
June 30, 2018 (UNAUDITED)

### SCHEDULE OF CHANGES IN THE PLAN'S NET PENSION LIABILITY AND RELATED RATIOS
### LAST TEN FISCAL YEARS *

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| **Total pension liability** | | | | | |
| Service cost | $ 1,487,383 | $ 1,465,977 | $ 1,396,704 | $ 1,605,751 | $ 1,530,119 |
| Interest | 4,442,404 | 4,358,175 | 4,154,433 | 3,863,455 | 3,773,959 |
| Changes of benefit terms | - | - | 2,016,584 | 27,931 | - |
| Differences between expected and actual experience | 468,895 | (893,352) | (1,745,956) | 2,237,833 | (324,891) |
| Changes of assumptions | 697,807 | - | 2,489,800 | - | 426,150 |
| Benefit payments, including refunds of member contributions | (3,804,709) | (3,651,927) | (3,501,911) | (3,383,995) | (3,219,480) |
| Net change in total pension liability | 3,291,780 | 1,278,873 | 4,809,654 | 4,350,975 | 2,185,857 |
| Total pension liability, beginning | 65,000,144 | 63,721,271 | 58,911,617 | 54,560,642 | 52,374,785 |
| Total pension liability, ending (a) | $ 68,291,924 | $ 65,000,144 | $ 63,721,271 | $ 58,911,617 | $ 54,560,642 |
| **Plan fiduciary net position** | | | | | |
| Contributions - member | $ 603,875 | $ 584,451 | $ 549,845 | $ 549,691 | $ 528,192 |
| Contributions - employer | 1,179,328 | 1,144,445 | 1,077,545 | 979,281 | 932,223 |
| Contributions - non-employer | - | - | - | - | - |
| Net investment income | 6,606,904 | 7,799,507 | 129,372 | 1,055,346 | 8,416,042 |
| Benefit payments, including refunds of member contributions | (3,804,709) | (3,651,927) | (3,501,911) | (3,383,995) | (3,219,480) |
| Administrative expenses | (61,708) | (56,436) | (47,577) | (49,399) | (41,681) |
| Other | - | - | 6,342,010 | - | - |
| Net change in fiduciary net position | 4,523,691 | 5,820,040 | 4,549,284 | (849,076) | 6,615,296 |
| Plan fiduciary net position, beginning | 66,710,149 | 60,890,109 | 56,340,825 | 57,189,901 | 50,574,605 |
| Plan fiduciary net position, ending (b) | $ 71,233,840 | $ 66,710,149 | $ 60,890,109 | $ 56,340,825 | $ 57,189,901 |
| Plan's net pension liability, ending (a)-(b) | $ (2,941,916) | $ (1,710,005) | $ 2,831,162 | $ 2,570,792 | $ (2,629,259) |
| Plan fiduciary net position as a percentage of the total pension liability | 104.31% | 102.63% | 95.56% | 95.64% | 104.82% |
| Covered payroll | $ 7,893,792 | $ 7,639,818 | $ 7,188,426 | $ 7,185,501 | $ 6,742,444 |
| Plan net pension liability as a percentage of covered payroll | -37.27% | -22.38% | 39.39% | 35.78% | -39.00% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## LEGISLATIVE PLAN
June 30, 2018 (UNAUDITED)

### SCHEDULE OF CHANGES IN THE PLAN'S NET PENSION LIABILITY AND RELATED RATIOS
LAST TEN FISCAL YEARS *

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| **Total pension liability** | | | | | |
| Service cost | $ 282,199 | $ 264,807 | $ 411,624 | $ 451,393 | $ 400,072 |
| Interest | 565,088 | 530,313 | 547,268 | 544,526 | 510,813 |
| Changes of benefit terms | - | - | - | 4,418 | - |
| Differences between expected and actual experience | (90,816) | 157,775 | (245,867) | (508,125) | (46,483) |
| Changes of assumptions | 99,915 | - | (146,529) | - | 85,783 |
| Benefit payments, including refunds of member contributions | (459,746) | (469,043) | (445,331) | (439,112) | (317,606) |
| Net change in total pension liability | 396,640 | 483,852 | 121,165 | 53,100 | 632,579 |
| Total pension liability, beginning | 8,163,310 | 7,679,458 | 7,558,293 | 7,505,193 | 6,872,614 |
| Total pension liability, ending (a) | $ 8,559,950 | $ 8,163,310 | $ 7,679,458 | $ 7,558,293 | $ 7,505,193 |
| **Plan fiduciary net position** | | | | | |
| Contributions - member | $ 153,881 | $ 202,388 | $ 137,893 | $ 193,356 | $ 139,501 |
| Contributions - employer | - | - | - | 4,418 | 3,857 |
| Contributions - non-employer | - | - | - | - | - |
| Net investment income | 1,176,463 | 1,366,222 | 47,890 | 206,454 | 1,622,296 |
| Benefit payments, including refunds of member contributions | (459,746) | (469,043) | (445,331) | (439,112) | (317,606) |
| Administrative expenses | (11,002) | (10,003) | (9,353) | (9,584) | (7,975) |
| Other | - | - | - | - | - |
| Net change in fiduciary net position | 859,596 | 1,089,564 | (268,901) | (44,468) | 1,440,073 |
| Plan fiduciary net position, beginning | 11,896,225 | 10,806,661 | 11,075,562 | 11,120,030 | 9,679,957 |
| Plan fiduciary net position, ending (b) | $ 12,755,821 | $ 11,896,225 | $ 10,806,661 | $ 11,075,562 | $ 11,120,030 |
| Plan's net pension liability, ending (a)-(b) | $ (4,195,871) | $ (3,732,915) | $ (3,127,203) | $ (3,517,269) | $ (3,614,837) |
| Plan fiduciary net position as a percentage of the total pension liability | 149.02% | 145.73% | 140.72% | 146.54% | 148.16% |
| Covered payroll | $ 2,710,694 | $ 2,651,195 | $ 2,590,011 | $ 2,527,525 | $ 2,534,740 |
| Plan net pension liability as a percentage of covered payroll | -154.79% | -140.80% | -120.74% | -139.16% | -142.61% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## PLD CONSOLIDATED PLAN
June 30, 2018 (UNAUDITED)

### SCHEDULE OF CHANGES IN THE PLAN'S NET PENSION LIABILITY AND RELATED RATIOS
LAST TEN FISCAL YEARS *

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| **Total pension liability** | | | | | |
| Service cost | $ 76,190,510 | $ 76,271,766 | $ 74,208,414 | $ 75,805,492 | $ 72,651,025 |
| Interest | 207,492,397 | 198,972,490 | 192,774,429 | 187,928,506 | 178,293,576 |
| Changes of benefit terms | (106,123,366) | - | - | - | - |
| Differences between expected and actual experience | 1,285,303 | (2,160,603) | (9,142,757) | (54,634,906) | 19,939,857 |
| Changes of assumptions | 46,439,540 | - | 50,884,219 | 37,593,598 | - |
| Benefit payments, including refunds of member contributions | (152,087,885) | (146,163,566) | (139,919,680) | (135,414,526) | (127,161,357) |
| Net change in total pension liability | 73,196,499 | 126,920,087 | 168,804,625 | 111,278,164 | 143,723,101 |
| Total pension liability, beginning | 3,016,660,721 | 2,889,740,634 | 2,720,936,009 | 2,609,657,845 | 2,465,934,744 |
| Total pension liability, ending (a) | $ 3,089,857,220 | $ 3,016,660,721 | $ 2,889,740,634 | $ 2,720,936,009 | $ 2,609,657,845 |
| **Plan fiduciary net position** | | | | | |
| Contributions - member | $ 48,050,202 | $ 46,080,851 | $ 40,861,405 | $ 37,202,921 | $ 33,210,510 |
| Contributions - employer | 56,092,662 | 51,387,011 | 47,624,182 | 43,366,730 | 32,706,160 |
| Refund of IUUAL account balances | - | - | - | (43,000,526) | - |
| Net investment income | 259,699,519 | 299,780,948 | 10,200,342 | 46,075,304 | 361,125,177 |
| Benefit payments, including refunds of member contributions | (152,087,885) | (146,163,566) | (139,919,680) | (135,414,526) | (127,161,358) |
| Administrative expenses | (2,411,666) | (2,209,324) | (2,028,294) | (2,117,266) | (1,779,304) |
| Other | (386,621) | (62,201) | (217,338) | - | - |
| Net change in fiduciary net position | 208,956,211 | 248,813,719 | (43,479,383) | (53,887,363) | 298,101,185 |
| Plan fiduciary net position, beginning | 2,607,223,644 | 2,358,409,925 | 2,401,889,308 | 2,455,776,671 | 2,157,675,486 |
| Plan fiduciary net position, ending (b) | $ 2,816,179,855 | $ 2,607,223,644 | $ 2,358,409,925 | $ 2,401,889,308 | $ 2,455,776,671 |
| Plan's net pension liability, ending (a)-(b) | $ 273,677,365 | $ 409,437,077 | $ 531,330,709 | $ 319,046,701 | $ 153,881,174 |
| Plan fiduciary net position as a percentage of the total pension liability | 91.14% | 86.43% | 81.61% | 88.27% | 94.10% |
| Covered payroll | $ 561,126,768 | $ 542,572,528 | $ 521,870,235 | $ 497,616,846 | $ 460,029,637 |
| Plan net pension liability as a percentage of covered payroll | 48.77% | 75.46% | 101.81% | 64.11% | 33.45% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## STATE EMPLOYEE AND TEACHER PLAN

June 30, 2018
(UNAUDITED)

SCHEDULE OF EMPLOYER CONTRIBUTIONS
*Last Ten Fiscal Years*

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| Actuarially determined contribution | $ 326,386,148 | $ 312,751,835 | $ 301,891,511 | $ 302,028,725 | $ 304,328,386 | $ 263,533,204 | $ 252,019,252 | $ 327,087,524 | $ 317,030,874 | $ 318,844,303 |
| Contributions in relation to the actuarially determined contribution | 326,386,148 | 312,751,835 | 301,891,511 | 302,028,725 | 304,328,386 | 263,533,204 | 252,019,252 | 332,956,361 | 328,246,031 | 318,844,303 |
| Contribution deficiency (excess) | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ (5,868,837) | $ (11,215,157) | $ - |
| Covered payroll | $ 1,808,274,919 | $ 1,860,294,435 | $ 1,816,435,084 | $ 1,699,160,889 | $ 1,676,857,294 | $ 1,672,857,294 | $ 1,718,449,172 | $ 1,643,389,735 | $ 1,672,252,868 | $ 1,699,885,710 |
| Contributions as a percentage of covered payroll | 18.05% | 16.81% | 16.62% | 17.78% | 18.15% | 15.75% | 14.67% | 20.26% | 19.63% | 18.76% |

See notes to historical pension and OPEB information.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## JUDICIAL PLAN

June 30, 2018
(UNAUDITED)

### SCHEDULE OF EMPLOYER CONTRIBUTIONS
*Last Ten Fiscal Years*

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| Actuarially determined contribution | $ 1,179,328 | $ 1,144,445 | $ 1,077,545 | $ 951,351 | $ 932,223 | $ 841,397 | $ 810,721 | $ 987,261 | $ 961,083 | $ 1,267,869 |
| Contributions in relation to the actuarially determined contribution | 1,179,328 | 1,144,445 | 1,077,545 | 951,351 | 932,223 | 841,397 | 810,721 | 987,261 | 961,083 | 1,267,869 |
| Contribution deficiency (excess) | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Covered payroll | $ 7,893,762 | $ 7,639,818 | $ 7,188,426 | $ 7,185,501 | $ 6,742,444 | $ 6,742,444 | $ 6,790,274 | $ 6,790,233 | $ 6,956,364 | $ 6,718,453 |
| Contributions as a percentage of covered payroll | 14.94% | 14.98% | 14.99% | 13.24% | 13.83% | 12.48% | 11.94% | 14.54% | 13.82% | 18.87% |

See notes to historical pension and OPEB information.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## LEGISLATIVE PLAN

June 30, 2018
(UNAUDITED)

### SCHEDULE OF EMPLOYER CONTRIBUTIONS
*Last Ten Fiscal Years*

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| Actuarially determined contribution | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Contributions in relation to the actuarially determined contribution | - | - | - | - | - | - | - | - | - | - |
| Contribution deficiency (excess) | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Covered-employee payroll | $ 2,710,694 | $ 2,651,195 | $ 2,590,011 | $ 2,527,525 | $ 2,534,740 | $ 2,534,740 | $ 2,424,480 | $ 2,395,694 | $ 2,384,083 | $ 2,326,785 |
| Contributions as a percentage of covered payroll | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

See notes to historical pension and OPEB information.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## PLD CONSOLIDATED PLAN

June 30, 2018
(UNAUDITED)

SCHEDULE OF EMPLOYER CONTRIBUTIONS
*Last Ten Fiscal Years*

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| Actuarially determined contribution | $ 55,551,550 | $ 51,387,011 | $ 46,968,321 | $ 40,302,580 | $ 35,263,952 | $ 29,704,314 | $ 25,056,574 | $ 19,995,608 | $ 15,384,689 | $ 14,701,513 |
| Contributions in relation to the actuarially determined contribution | 55,551,550 | 51,387,011 | 46,968,321 | 40,302,580 | 35,263,952 | 29,704,314 | 25,372,687 | 19,995,608 | 15,384,689 | 14,701,513 |
| Contribution deficiency (excess) | $ - | $ - | $ - | $ - | $ - | $ - | $ (316,113) | $ - | $ - | $ - |
| Covered payroll | $ 561,126,768 | $ 542,572,528 | $ 521,870,235 | $ 497,616,846 | $ 460,029,637 | $ 458,424,764 | $ 474,828,262 | $ 435,012,940 | $ 395,747,663 | $ 380,541,135 |
| Contributions as a percentage of covered payroll | 9.90% | 9.47% | 9.00% | 8.10% | 7.67% | 6.48% | 5.34% | 4.60% | 3.89% | 3.86% |

See notes to historical pension and OPEB information.

See accompanying independent auditors' report.

## REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL PENSION INFORMATION
## ALL DEFINED BENEFIT PLANS

June 30, 2018
(UNAUDITED)

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| Annual money-weighted rate of return, net of investment expenses | 10.30% | 12.49% | 0.48% | 1.98% | 16.66% |

See notes to historical pension information.

* Retroactive information is not required to be presented. This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTAL SCHEDULES

## SCHEDULE OF HISTORICAL OPEB INFORMATION
## STATE EMPLOYEE AND TEACHER PLAN

June 30, 2018
(UNAUDITED)

SCHEDULE OF CHANGES IN THE PLAN'S NET OPEB LIABILITY AND RELATED RATIOS

*Last Ten Fiscal Years **

| | 2018 | 2017 |
|---|---|---|
| **Total OPEB liability** | | |
| Service cost | $ 2,122,079 | $ 2,065,283 |
| Interest | 12,531,082 | 12,014,739 |
| Changes of benefit terms | - | - |
| Differences between expected and actual experience | 1,957,220 | - |
| Changes of assumptions | 3,199,639 | - |
| Benefit payments, including refunds of member contributions | (7,269,810) | (6,003,967) |
| Net change in total OPEB liability | 12,540,210 | 8,076,055 |
| Total OPEB liability, beginning | 183,722,693 | 175,646,638 |
| Total OPEB liability, ending (a) | $ 196,262,903 | $ 183,722,693 |
| **Plan fiduciary net position for retirees** | | |
| Contributions - member | $ - | $ - |
| Contributions - employer | 7,638,453 | 6,921,228 |
| Net investment income | 7,804,839 | 9,885,897 |
| Benefit payments, including refunds of member contributions | (7,269,810) | (6,003,967) |
| Administrative expenses | (769,717) | (1,335,745) |
| Other | - | - |
| Net change in fiduciary net position for retirees | 7,403,765 | 9,467,413 |
| Plan fiduciary net position for retirees, beginning | 86,882,864 | 77,415,451 |
| Plan fiduciary net position for retirees, ending (b) | $ 94,286,629 | $ 86,882,864 |
| Net OPEB liability, ending (a)-(b) | $ 101,976,274 | $ 96,839,829 |
| Plan fiduciary net position for retirees as a percentage of the total OPEB liability | 48.04% | 47.29% |
| Covered payroll | $ 1,343,668,500 | $ 1,277,009,000 |
| Net OPEB liability as a percentage of covered payroll | 7.59% | 7.58% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTARY SCHEDULES

## SCHEDULE OF HISTORICAL OPEB INFORMATION
## PLD CONSOLIDATED PLAN

June 30, 2018
(UNAUDITED)

SCHEDULE OF CHANGES IN THE PLAN'S NET OPEB LIABILITY AND RELATED RATIOS

*Last Ten Fiscal Years **

| | 2018 | 2017 |
|---|---|---|
| **Total OPEB liability** | | |
| Service cost | $ 442,863 | $ 619,735 |
| Interest | 1,706,200 | 1,616,253 |
| Changes of benefit terms | - | - |
| Differences between expected and actual experience | 2,045,678 | - |
| Changes of assumptions | 1,554,074 | (5,591,242) |
| Benefit payments, including refunds of member contributions | (1,530,346) | (1,394,586) |
| Net change in total OPEB liability | 4,218,469 | (4,749,840) |
| Total OPEB liability, beginning | 31,804,436 | 36,554,276 |
| Total OPEB liability, ending (a) | $ 36,022,905 | $ 31,804,436 |
| **Plan fiduciary net position for retirees** | | |
| Contributions - member | $ - | $ - |
| Contributions - employer | 1,069,640 | 1,037,124 |
| Net investment income | 1,333,324 | 1,738,914 |
| Benefit payments, including refunds of member contributions | (1,530,346) | (1,394,586) |
| Administrative expenses | (133,624) | (238,856) |
| Other | - | - |
| Net change in fiduciary net position for retirees | 738,994 | 1,142,596 |
| Plan fiduciary net position for retirees, beginning | 15,082,934 | 13,940,338 |
| Plan fiduciary net position for retirees, ending (b) | $ 15,821,928 | $ 15,082,934 |
| Net OPEB liability, ending (a)-(b) | $ 20,200,977 | $ 16,721,502 |
| Plan fiduciary net position for retirees as a percentage of the total OPEB liability | 43.92% | 47.42% |
| Covered payroll | $ 276,287,000 | $ 260,552,680 |
| Net OPEB liability as a percentage of covered payroll | 7.31% | 6.42% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTARY SCHEDULES

## SCHEDULE OF HISTORICAL OPEB INFORMATION
## STATE EMPLOYEE AND TEACHER PLAN

June 30, 2018
(UNAUDITED)

SCHEDULE OF EMPLOYER CONTRIBUTIONS
*Last Ten Fiscal Years**

| | 2018 | 2017 |
|---|---|---|
| Actuarially determined contribution | $ 8,805,704 | $ 8,239,903 |
| Contributions in relation to the actuarially determined contribution | 7,638,453 | 6,921,228 |
| Contribution deficiency (excess) | $ 1,167,251 | $ 1,318,675 |
| Covered payroll | $ 1,343,668,500 | $ 1,277,009,000 |
| Contributions as a percentage of covered payroll | 0.57% | 0.54% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTARY INFORMATION

## SCHEDULE OF HISTORICAL OPEB INFORMATION
## PLD PLAN

June 30, 2018
(UNAUDITED)

SCHEDULE OF EMPLOYER CONTRIBUTIONS
*Last Ten Fiscal Years*

| | 2018 | 2017 |
|---|---|---|
| Actuarially determined contribution | $ 1,252,650 | $ 1,146,324 |
| Contributions in relation to the actuarially determined contribution | 1,069,640 | 1,037,124 |
| Contribution deficiency (excess) | $ 183,010 | $ 109,200 |
| Covered payroll | $ 276,287,000 | $ 260,552,680 |
| Contributions as a percentage of covered payroll | 0.39% | 0.40% |

See notes to historical pension and OPEB information.

* This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# REQUIRED SUPPLEMENTARY INFORMATION

## SCHEDULE OF HISTORICAL OPEB INFORMATION
## ALL OPEB PLANS

June 30, 2018
(UNAUDITED)

SCHEDULE OF INVESTMENT RETURNS
*Last Ten Fiscal Years **

| | 2018 | 2017 |
|---|---|---|
| Annual money-weighted rate of return, net of investment expenses | 9.00% | 12.88% |

See notes to historical OPEB information.

* Retroactive information is not required to be presented. This information will be presented each year until 10 years of such information is available.

See accompanying independent auditors' report.

# NOTES TO HISTORICAL PENSION AND OPEB INFORMATION
June 30, 2018
(UNAUDITED)

**1. Basis of Presentation**

The schedule of investment returns for pension plans applies to the State Employee and Teacher Plan, the Judicial Plan, the Legislative Plan, the PLD Consolidated Plan, and the PLD Agent Plans, as investments of these plans are commingled. Assets in the Group Life Insurance Plans, including assets to provide life insurance benefits to active employees, are commingled for investment purposes but separately from the pension plan assets.

**2. Actuarial Methods and Assumptions – Defined Benefit Plans**

The information in the historical pension information was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation date, June 30, 2018, is as follows:

*Actuarial Cost Method*

The Entry Age Normal actuarial funding method is used to determine costs. Under this funding method, the total employer contribution rate consists of two elements, the normal cost rate and the unfunded actuarial liability rate.

The individual entry age normal method is used to determine liabilities. Under the individual entry age normal method, a normal cost rate is calculated for each employee. This rate is determined by taking the value, as of age at entry into the plan, of the member's projected future benefits, and dividing it by the value, also as of the member's entry age, of his expected future salary. The normal cost for each employee is the product of his pay and his normal cost rate. The normal cost for the group is the sum of the normal costs for all members.

Experience gains and losses, i.e., decreases or increases in liabilities and/or in assets when actual experience differs from the actuarial assumptions, affect the unfunded actuarial accrued liability.

*Asset Valuation Method*

An actuarial value of assets is used for determining employer contributions. The use of an actuarial value of assets for this purpose helps mitigate volatility in contribution rates that might otherwise occur due to fluctuations in market conditions. The specific technique adopted in this valuation recognizes in a given year one-third of the investment return that is different from the actuarial assumption for investment return.

*Amortization*

The net pension liability of the State Employee and Teacher Retirement Program is amortized on a level percentage of payroll over the amortization period then in effect under statutory and constitutional requirements (Note 6 to the Financial Statements). The net pension liabilities of the Legislative Plan and the Judicial Plan are amortized on a level percentage of payroll over open ten year periods.

The net pension liability of the PLD Consolidated Plan is amortized on a level percentage of payroll using a method where a separate twenty-year closed period is established annually for the gain or loss for that year.

# NOTES TO HISTORICAL PENSION AND OPEB INFORMATION
June 30, 2018
(UNAUDITED)

Significant actuarial assumptions employed by the actuary for funding purposes as of June 30 for each year indicated are as follows:

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan |
|---|---|---|---|---|
| Investment Rate of Return | Per annum, compounded annually: 6.75% for June 30, 2018; 6.875% for June 30, 2017 and June 30, 2016; 7.125% for June 30, 2015 and June 30, 2014 | | | Per annum, compounded annually: 6.75% for June 30, 2018; 6.875% for June 30, 2017 and June 30, 2016; 7.125% for June 30, 2015; 7.25% for June 30, 2014 |
| Inflation Rate | 2.75% for June 30, 2018, June 30, 2017, and June 30, 2016; 3.50% for June 30, 2015 and June 30, 2014 | | | |
| Annual Salary Increases, including Inflation | For the periods ended June 30, 2018; June 30, 2017; and June 30, 2016: | | | |
| | State employees, 2.75% - 8.75%; Teachers, 2.75% - 14.50% | 2.75% | 2.75% | 2.75% - 9.00% |
| | For the periods ended June 30, 2015 and June 30, 2014: | | | |
| | State employees, 3.50% - 10.50%; Teachers, 3.50% - 13.50% | 3.50% | 3.50% | 3.50% - 9.50% |
| Cost of Living Benefit Increases | 2.20% for June 30, 2018, June 30, 2017 and June 30, 2016; 2.55% for June 30, 2015 and June 30, 2014 | | | 1.91% for June 30, 2018; 2.20% for June 30, 2017 and June 30, 2016; 2.55% for June 30, 2015 and 3.12% for June 30, 2014 |
| Mortality Rates | For the periods ended June 30, 2018; June 30, 2017; and June 30, 2016: | | | |
| | For active members and non-disabled retirees of the State employees and teachers, legislative, judicial, and PLD plans, the RP2014 Total Dataset Healthy Annuitant Mortality Table, for males and females, is used. For all recipients of disability benefits, the RP2014 Total Dataset Disabled Annuitant Mortality Table, for males and females, is used. | | | |
| | For the periods ended June 30, 2015 and June 30, 2014: | | | |
| | For active members and non-disabled retirees of the State employees and teachers, legislative, judicial, and PLD plans, the RP2000 Tables projected forward to 2015 using Scale AA are used; the ages are set back two years for employees of the teacher plan. Mortality assumptions were also reviewed and updated in 2011 for the PLD Consolidated Plan, and in 2012 for the other Plans, based on actual demographic data of the Plans. For all recipients of disability benefits, the Revenue Ruling 96-7 Disabled Mortality Table for Males and Females is used. | | | |

## 3. <u>Actuarial Methods and Assumptions – Group Life Insurance Plans</u>

The actuarial assumptions used in the June 30, 2016, 2017 and 2018 valuations were based on the results of an actuarial experience study for the period of June 30, 2012 to June 30, 2015. The actuarial assumptions used in the June 30, 2014 and 2015 valuations were based on the results of an actuarial experience study for the period of July 1, 2005 to June 30, 2010.

The information in the historical Group Life Insurance Plan information was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation date, June 30, 2018, is as follows:

*<u>Actuarial Cost Method</u>*

The individual entry age normal method is used to determine liabilities. Under the individual entry age normal method, a normal cost rate is calculated for each employee. This rate is determined by taking the value, as of age at entry into the plan, of the member's projected future benefits, and dividing it by the value, also as of the member's entry age, of his expected future salary. The normal cost for each employee is the product of his pay and his normal cost rate. The normal cost for the group is the sum of the normal costs for all members.

The actuarial accrued liability is defined as the present value of future benefits less the present value of future normal cost contributions. The unfunded actuarial accrued liability is the total of the actuarial liability for all members less the actuarial value of the System's assets.

Experience gains and losses, i.e., decreases or increases in liabilities and/or in assets when actual experience differs from the actuarial assumptions, affect the unfunded actuarial accrued liability.

## NOTES TO HISTORICAL PENSION AND OPEB INFORMATION
June 30, 2018
(UNAUDITED)

*Asset Valuation Method*

Asset amounts are taken as reported to the actuaries by the System without audit or change, except that State of Maine assets are allocated to State, Legislators, and Judges based on total actuarial liability.

*Amortization*

The unfunded actuarial accrued liability is being amortized as a level percentage of payroll over a 30-year period on a closed basis. As of June 30, 2018, there were 19 years remaining in the amortization schedule for state employees and teachers, and 12 years remaining for PLD employees.

Significant actuarial assumptions employed by the actuary for funding purposes as of June 30 for each year indicated are as follows:

| | **State employees, including judges and legislators** | **Teachers** | **PLD employees** |
|---|---|---|---|
| Investment Rate of Return | Per annum, compounded annually: 6.75% for June 30, 2018; 6.875% for June 30, 2017 | | |
| Inflation Rate | 2.75% for June 30, 2018 and June 30, 2017 | | |
| Annual Salary Increases, including Inflation | For June 30, 2018 and June 30, 2017 | | |
| | 2.75% - 8.75% | 2.75% - 14.50% | 2.75% - 9.00% |
| Mortality Rates | For June 30, 2018 and June 30, 2017 | | |
| | For active members and non-disabled retirees of the State employees, legislative, judicial, and PLD plans, the RP2014 Total Dataset Healthy Annuitant Mortality Table, for males and females, is used. For all recipients of disability benefits, the RP2014 Total Dataset Disabled Annuitant Mortality Table, for males and females, is used. | | |
| Participation Rate for Future Retirees | 100% of those currently enrolled | | |
| Conversion Charges | Apply to the cost of active group life insurance, not retiree group life insurance | | |
| Form of Benefit Payment | Lump sum | | |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan - Actives | Group Life Insurance Plan - State/ Teacher Retirees | Group Life Insurance Plan - PLD Retirees | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alternative Credit | | | | | | | | | | | | |
| Audax Senior Debt | 561,062 | 3,439 | 613 | 135,114 | 1,812 | - | - | - | - | - | - | 702,040 |
| Mesa West Core | 637,617 | 3,908 | 697 | 153,549 | 2,060 | - | - | - | - | - | - | 797,831 |
| Owl Rock | 202,794 | 1,243 | 222 | 48,836 | 655 | - | - | - | - | - | - | 253,750 |
| TCP Direct Lending VIII | 304,396 | 1,866 | 333 | 73,304 | 983 | - | - | - | - | - | - | 380,882 |
| Infrastructure | | | | | | | | | | | | |
| Alinda Infrastructure | 408,292 | 2,503 | 446 | 98,324 | 1,319 | - | - | - | - | - | - | 510,884 |
| ArcLight V | 564,685 | 3,461 | 617 | 135,986 | 1,824 | - | - | - | - | - | - | 706,573 |
| ArcLight VI | 1,929,596 | 11,828 | 2,109 | 464,681 | 6,233 | - | - | - | - | - | - | 2,414,447 |
| Brookfield Infrastructure II | 906,249 | 5,555 | 990 | 218,241 | 2,927 | - | - | - | - | - | - | 1,133,962 |
| Brookfield Infrastructure III | 1,006,976 | 6,173 | 1,100 | 242,498 | 3,253 | - | - | - | - | - | - | 1,260,000 |
| Carlyle Infrastructure | 35,296 | 216 | 39 | 8,500 | 114 | - | - | - | - | - | - | 44,165 |
| Carlyle Power Partners II | 559,431 | 3,429 | 611 | 134,721 | 1,807 | - | - | - | - | - | - | 699,999 |
| Cube Infrastructure | 465,846 | 2,856 | 509 | 112,184 | 1,505 | - | - | - | - | - | - | 582,900 |
| EQT III | 1,600,342 | 9,810 | 1,749 | 385,390 | 5,170 | - | - | - | - | - | - | 2,002,461 |
| First Reserve Infrastructure I | 335,917 | 2,059 | 367 | 80,895 | 1,085 | - | - | - | - | - | - | 420,323 |
| First Reserve Infrastructure II | 807,550 | 4,950 | 882 | 194,472 | 2,609 | - | - | - | - | - | - | 1,010,463 |
| GIP Co-Invest | 312,187 | 1,914 | 341 | 75,180 | 1,008 | - | - | - | - | - | - | 390,630 |
| GIP I | 215,576 | 1,321 | 236 | 51,915 | 696 | - | - | - | - | - | - | 269,744 |
| GIP II | 766,523 | 4,699 | 838 | 184,592 | 2,476 | - | - | - | - | - | - | 959,128 |
| GIP III | 1,948,020 | 11,941 | 2,129 | 469,117 | 6,293 | - | - | - | - | - | - | 2,437,500 |
| IFM Global Infrastructure | 1,053,526 | 6,458 | 1,151 | 253,708 | 3,403 | - | - | - | - | - | - | 1,318,246 |
| KKR Infrastructure | 480,071 | 2,943 | 525 | 115,610 | 1,551 | - | - | - | - | - | - | 600,700 |
| KKR Infrastructure II | 1,556,275 | 9,540 | 1,701 | 374,779 | 5,027 | - | - | - | - | - | - | 1,947,322 |
| Meridiam Europe I | 85,519 | 524 | 93 | 20,594 | 276 | - | - | - | - | - | - | 107,006 |
| Meridiam Europe II | 157,182 | 964 | 172 | 37,852 | 508 | - | - | - | - | - | - | 196,678 |
| Meridiam Europe III | 954,701 | 5,852 | 1,043 | 229,909 | 3,084 | - | - | - | - | - | - | 1,194,589 |
| Meridiam NA II | 557,570 | 3,418 | 609 | 134,273 | 1,801 | - | - | - | - | - | - | 697,671 |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan - Actives | Group Life Insurance Plan - State/ Teacher Retirees | Group Life Insurance Plan - PLD Retirees | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Meridiam NA III | 466,047 | 2,857 | 509 | 112,232 | 1,505 | - | - | - | - | - | - | 583,150 |
| Stonepeak II | 1,411,869 | 8,655 | 1,543 | 340,003 | 4,561 | - | - | - | - | - | - | 1,766,631 0 |
| Stonepeak III | 714,274 | 4,378 | 781 | 172,010 | 2,307 | - | - | - | - | - | - | 893,750 |
| Natural Resources | | | | | | | | | | | | |
| ACM Fund II | 489,502 | 3,001 | 535 | 117,881 | 1,581 | - | - | - | - | - | - | 612,500 |
| ACM Permanent Crops | 379,376 | 2,326 | 415 | 91,360 | 1,226 | - | - | - | - | - | - | 474,703 |
| Amerra III | 532,216 | 3,262 | 582 | 128,167 | 1,719 | - | - | - | - | - | - | 665,946 |
| Homestead II | 599,391 | 3,674 | 655 | 144,344 | 1,936 | - | - | - | - | - | - | 750,000 |
| IFC US Farming | 732,186 | 4,488 | 800 | 176,323 | 2,365 | - | - | - | - | - | - | 916,162 |
| Orion II | 659,330 | 4,042 | 721 | 158,778 | 2,130 | - | - | - | - | - | - | 825,001 |
| Taurus Annex | 287,220 | 1,761 | 314 | 69,168 | 928 | - | - | - | - | - | - | 359,391 |
| Taurus Mining | 499,492 | 3,062 | 546 | 120,287 | 1,614 | - | - | - | - | - | - | 625,001 |
| Twin Creeks | 524,550 | 3,215 | 573 | 126,321 | 1,694 | - | - | - | - | - | - | 656,353 |
| Domestic Equity | | | | | | | | | | | | |
| Blackrock Extended Equity | - | - | - | - | - | 441 | 4,555 | 773 | - | 614 | 12,604 | 18,987 |
| Blackrock DJ Total Stock Market | (77,983) | (478) | (85) | (18,780) | (252) | - | - | - | - | - | - | (97,578) |
| International Equity | | | | | | | | | | | | |
| Blackrock ACWI EX_US | 597,075 | 3,660 | 652 | 143,786 | 1,929 | 676 | 6,989 | 1,186 | - | 1,053 | 17,772 | 774,778 |
| Fixed Income | | | | | | | | | | | | |
| Blackrock Custom Fixed Income | 231,905 | 1,422 | 253 | 55,847 | 749 | - | - | - | - | - | - | 290,176 |
| Blackrock US Debt Index Fund B | - | - | - | - | - | 1,171 | 12,102 | 2,054 | - | 1,815 | 31,867 | 49,009 |
| Private Equity | | | | | | | | | | | | |
| ABRY ASF II | 270,573 | 1,659 | 296 | 65,159 | 874 | - | - | - | - | - | - | 338,561 |
| ABRY ASF III | 479,513 | 2,939 | 524 | 115,475 | 1,549 | - | - | - | - | - | - | 600,000 |
| ABRY Heritage | 159,838 | 980 | 175 | 38,492 | 516 | - | - | - | - | - | - | 200,001 |
| ABRY SE IV | 80,147 | 491 | 88 | 19,301 | 259 | - | - | - | - | - | - | 100,286 |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan - Actives | Group Life Insurance Plan - State/ Teacher Retirees | Group Life Insurance Plan - PLD Retirees | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ABRY VII | 36,625 | 225 | 40 | 8,820 | 118 | - | - | - | - | - | - | 45,828 |
| ABRY VIII | 319,675 | 1,960 | 349 | 76,983 | 1,033 | - | - | - | - | - | - | 400,000 |
| Advent GPE VII | 247,329 | 1,516 | 270 | 59,561 | 799 | - | - | - | - | - | - | 309,475 |
| Advent GPE VIII | 599,405 | 3,674 | 655 | 144,347 | 1,936 | - | - | - | - | - | - | 750,017 |
| Advent LAPEF VI | 319,675 | 1,960 | 349 | 76,983 | 1,033 | - | - | - | - | - | - | 400,000 |
| Affinity Asia Pacific IV | 829,683 | 5,086 | 907 | 199,802 | 2,680 | - | - | - | - | - | - | 1,038,158 |
| Berkshire IX | 799,188 | 4,899 | 873 | 192,458 | 2,582 | - | - | - | - | - | - | 1,000,000 |
| Berkshire VIII | 197,944 | 1,213 | 216 | 47,668 | 639 | - | - | - | - | - | - | 247,680 |
| Blackstone CapItal Partners VI | 126,595 | 776 | 138 | 30,486 | 409 | - | - | - | - | - | - | 158,404 |
| Blackstone CapItal Partners VII | 647,342 | 3,968 | 707 | 155,891 | 2,091 | - | - | - | - | - | - | 809,999 |
| Carlyle Asia Partners III | 29,398 | 180 | 32 | 7,080 | 95 | - | - | - | - | - | - | 36,785 |
| Carlyle Asia Partners IV | 719,269 | 4,409 | 786 | 173,213 | 2,323 | - | - | - | - | - | - | 900,000 |
| Centerbridge III | 359,634 | 2,205 | 393 | 86,606 | 1,162 | - | - | - | - | - | - | 450,000 |
| Charterhouse IX | 24,012 | 147 | 26 | 5,782 | 78 | - | - | - | - | - | - | 30,045 |
| Charterhouse X | 908,748 | 5,570 | 993 | 218,843 | 2,936 | - | - | - | - | - | - | 1,137,090 |
| CVC Capital VI | 641,878 | 3,935 | 701 | 154,575 | 2,073 | - | - | - | - | - | - | 803,162 |
| Encap Energy IX | 276,397 | 1,694 | 302 | 66,561 | 893 | - | - | - | - | - | - | 345,847 |
| EnCap Energy VIII | 152,207 | 933 | 166 | 36,654 | 492 | - | - | - | - | - | - | 190,452 |
| EnCap Energy X | 327,451 | 2,007 | 358 | 78,856 | 1,058 | - | - | - | - | - | - | 409,730 |
| EnCap Energy XI | 359,634 | 2,205 | 393 | 86,606 | 1,162 | - | - | - | - | - | - | 450,000 |
| Encap Flatrock Midstream III | 239,756 | 1,470 | 262 | 57,738 | 774 | - | - | - | - | - | - | 300,000 |
| EnCap Flatrock Midstream IV | 120,877 | 741 | 132 | 29,109 | 390 | - | - | - | - | - | - | 151,249 |
| GTCR X | 323,671 | 1,984 | 354 | 77,946 | 1,046 | - | - | - | - | - | - | 405,001 |
| GTCR XI | 419,574 | 2,572 | 459 | 101,041 | 1,355 | - | - | - | - | - | - | 525,001 |
| GTCR XII | 464,092 | 2,845 | 507 | 111,762 | 1,499 | - | - | - | - | - | - | 580,705 |
| Hellman & Friedman VII | 88,581 | 543 | 97 | 21,332 | 286 | - | - | - | - | - | - | 110,839 |
| Hellman & Friedman VIII | 539,449 | 3,307 | 590 | 129,909 | 1,743 | - | - | - | - | - | - | 674,998 |
| HIG Bayside III Europe | 301,615 | 1,849 | 330 | 72,634 | 974 | - | - | - | - | - | - | 377,402 |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan - Actives | Group Life Insurance Plan - State/ Teacher Retirees | Group Life Insurance Plan - PLD Retirees | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HIG Buyouts II | 155,862 | 955 | 170 | 37,534 | 503 | - | - | - | - | - | - | 195,024 |
| HIG Capital V | 239,756 | 1,470 | 262 | 57,738 | 774 | - | - | - | - | - | - | 300,000 |
| HIG Europe II | 375,174 | 2,300 | 410 | 90,348 | 1,212 | - | - | - | - | - | - | 469,444 |
| HIG Middle Market LBO II | 639,350 | 3,919 | 699 | 153,967 | 2,065 | - | - | - | - | - | - | 800,000 |
| Inflexion Buyout IV | 422,547 | 2,590 | 462 | 101,757 | 1,365 | - | - | - | - | - | - | 528,721 |
| Inflexion Capital I | 278,321 | 1,706 | 304 | 67,025 | 899 | - | - | - | - | - | - | 348,255 |
| Inflexion Supplemental IV | 104,683 | 642 | 114 | 25,209 | 338 | - | - | - | - | - | - | 130,986 |
| Kelso IX | 582,770 | 3,572 | 637 | 140,341 | 1,883 | - | - | - | - | - | - | 729,203 |
| Kelso VIII | 9,125 | 56 | 10 | 2,197 | 29 | - | - | - | - | - | - | 11,417 |
| KKR Americas XII | 599,391 | 3,674 | 655 | 144,344 | 1,936 | - | - | - | - | - | - | 750,000 |
| KKR North America XI | 295,227 | 1,810 | 323 | 71,096 | 954 | - | - | - | - | - | - | 369,410 |
| KKR Special Situations I | 645,478 | 3,957 | 705 | 155,443 | 2,085 | - | - | - | - | - | - | 807,668 |
| KKR Special Situations II | 366,721 | 2,248 | 401 | 88,313 | 1,185 | - | - | - | - | - | - | 458,868 |
| Oaktree PE | 86,360 | 529 | 94 | 20,797 | 279 | - | - | - | - | - | - | 108,059 |
| Onex ONCAP IV | 239,758 | 1,470 | 262 | 57,738 | 774 | - | - | - | - | - | - | 300,002 |
| Onex Partners III | 34,439 | 211 | 38 | 8,294 | 111 | - | - | - | - | - | - | 43,093 |
| Onex Partners IV | 817,198 | 5,009 | 893 | 196,796 | 2,640 | - | - | - | - | - | - | 1,022,536 |
| Paine & Partners IV | 959,025 | 5,879 | 1,048 | 230,950 | 3,098 | - | - | - | - | - | - | 1,200,000 |
| Rhone V | 950,387 | 5,826 | 1,039 | 228,870 | 3,070 | - | - | - | - | - | - | 1,189,192 |
| Riverside Capital Appreciation VI | 959,025 | 5,879 | 1,048 | 230,950 | 3,098 | - | - | - | - | - | - | 1,200,000 |
| Riverside Micro-Cap III | 711,745 | 4,363 | 778 | 171,401 | 2,299 | - | - | - | - | - | - | 890,586 |
| Riverside Micro-Cap IV | 959,025 | 5,879 | 1,048 | 230,950 | 3,098 | - | - | - | - | - | - | 1,200,000 |
| Shoreview Capital III | 383,610 | 2,351 | 419 | 92,380 | 1,239 | - | - | - | - | - | - | 479,999 |
| Sovereign Capital | 970,303 | 5,948 | 1,060 | 233,666 | 3,134 | - | - | - | - | - | - | 1,214,111 |
| Summit Credit II | 571,086 | 3,501 | 624 | 137,528 | 1,845 | - | - | - | - | - | - | 714,584 |
| Summit GE IX | 804,668 | 4,932 | 879 | 193,778 | 2,599 | - | - | - | - | - | - | 1,006,856 |
| Summit GE VIII | 309,730 | 1,899 | 338 | 74,588 | 1,001 | - | - | - | - | - | - | 387,556 |
| Summit VC III | 199,271 | 1,221 | 218 | 47,988 | 644 | - | - | - | - | - | - | 249,342 |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan - Actives | Group Life Insurance Plan - State/ Teacher Retirees | Group Life Insurance Plan - PLD Retirees | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCV IX | 530,728 | 3,253 | 580 | 127,809 | 1,714 | - | - | - | - | - | - | 664,084 |
| TCV VIII | 960,844 | 5,890 | 1,050 | 231,388 | 3,104 | - | - | - | - | - | - | 1,202,276 |
| Technology Impact Fund I | 414,246 | 2,539 | 453 | 99,758 | 1,338 | - | - | - | - | - | - | 518,334 |
| Thoma Bravo Special Opports II | 115,481 | 708 | 126 | 27,810 | 373 | - | - | - | - | - | - | 144,498 |
| Thoma Bravo XI | 743,122 | 4,555 | 812 | 178,957 | 2,401 | - | - | - | - | - | - | 929,847 |
| Thoma Bravo XII | 719,269 | 4,409 | 786 | 173,213 | 2,323 | - | - | - | - | - | - | 900,000 |
| Tillridge II | 699,290 | 4,287 | 764 | 168,401 | 2,259 | - | - | - | - | - | - | 875,001 |
| Water Street Healthcare III | 399,594 | 2,449 | 437 | 96,229 | 1,291 | - | - | - | - | - | - | 500,000 |
| Water Street Healthcare IV | 175,821 | 1,078 | 192 | 42,341 | 568 | - | - | - | - | - | - | 220,000 |
| Wayzata Opp III | 73,471 | 450 | 80 | 17,693 | 237 | - | - | - | - | - | - | 91,931 |
| Wynnchurch IV | 639,350 | 3,919 | 699 | 153,967 | 2,065 | - | - | - | - | - | - | 800,000 |
| Real Estate | | | | | | | | | | | | |
| Blackrock US Real Estate Securities Fund B | - | - | - | - | - | 372 | 3,848 | 653 | - | 639 | 10,016 | 15,528 |
| Blackstone Property Partners | 639,673 | 3,921 | 699 | 154,045 | 2,066 | - | - | - | - | - | - | 800,404 |
| Blackstone Real Estate partners (BREP VII) | 516,599 | 3,167 | 565 | 124,406 | 1,669 | - | - | - | - | - | - | 646,406 |
| Blackstone Real Estate partners (BREP VIII) | 599,391 | 3,674 | 655 | 144,344 | 1,936 | - | - | - | - | - | - | 750,000 |
| H/2 Credit Partners | 559,841 | 3,432 | 612 | 134,820 | 1,808 | - | - | - | - | - | - | 700,513 |
| Harrison Street Real Estate | 664,276 | 4,072 | 726 | 159,969 | 2,146 | - | - | - | - | - | - | 831,189 |
| High Street IV | (33,636) | (206) | (37) | (8,100) | (109) | - | - | - | - | - | - | (42,088) |
| High Street V | 357,910 | 2,194 | 391 | 86,191 | 1,156 | - | - | - | - | - | - | 447,842 |
| Invesco US Income | 1,145,088 | 7,019 | 1,251 | 275,757 | 3,699 | - | - | - | - | - | - | 1,432,814 |
| IronPoint Data Centers | 673,086 | 4,126 | 736 | 162,091 | 2,174 | - | - | - | - | - | - | 842,213 |
| JP Morgan Real Estate | 589,997 | 3,617 | 645 | 142,082 | 1,906 | - | - | - | - | - | - | 738,247 |
| KKR REPA I | 315,085 | 1,931 | 344 | 75,878 | 1,018 | - | - | - | - | - | - | 394,256 |
| KKR REPE | 458,870 | 2,813 | 501 | 110,504 | 1,482 | - | - | - | - | - | - | 574,170 |
| PMIT | 156,944 | 962 | 172 | 37,795 | 507 | - | - | - | - | - | - | 196,380 |
| Principal Global Investors/Real Estate | 718,935 | 4,407 | 786 | 173,132 | 2,322 | - | - | - | - | - | - | 899,582 |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan - Actives | Group Life Insurance Plan - State/ Teacher Retirees | Group Life Insurance Plan - PLD Retirees | Defined Contribution Plans | MainePERS OPEB Trust | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prudential Senior Housing V | 501,290 | 3,073 | 548 | 120,720 | 1,619 | - | - | - | - | - | - | 627,250 |
| Rubenstein III | 359,972 | 2,207 | 393 | 86,688 | 1,163 | - | - | - | - | - | - | 450,423 |
| Smart Markets | 903,582 | 5,539 | 987 | 217,598 | 2,919 | - | - | - | - | - | - | 1,130,625 |
| Walton Street Co-Invest | 36,924 | 226 | 40 | 8,892 | 119 | - | - | - | - | - | - | 46,201 |
| Walton Street RE VII | 464,520 | 2,847 | 508 | 111,865 | 1,501 | - | - | - | - | - | - | 581,241 |
| Walton Street RE VIII | 270,140 | 1,656 | 295 | 65,054 | 873 | - | - | - | - | - | - | 338,018 |
| Westbrook IX | 91,355 | 560 | 100 | 22,000 | 295 | - | - | - | - | - | - | 114,310 |
| Westbrook X | 749,709 | 4,596 | 819 | 180,543 | 2,422 | - | - | - | - | - | - | 938,089 |
| Risk Diversifier | | | | | | | | | | | | |
| AQR Liquid Enhanced Alternative Premia | 519,337 | 3,183 | 568 | 125,065 | 1,678 | - | - | - | - | - | - | 649,831 |
| Bridgewater Pure Alpha | 537,111 | 3,292 | 587 | 129,346 | 1,735 | - | - | - | - | - | - | 672,071 |
| Bridgewater Pure Alpha Major Markets | 541,893 | 3,322 | 592 | 130,497 | 1,750 | - | - | - | - | - | - | 678,054 |
| GMO | 2,334,072 | 14,308 | 2,551 | 562,086 | 7,540 | - | - | - | - | - | - | 2,920,557 |
| Windham Capital | 1,853,665 | 11,363 | 2,026 | 446,395 | 5,988 | - | - | - | - | - | - | 2,319,437 |
| Windham Risk Premia | 360,539 | 2,210 | 394 | 86,824 | 1,165 | - | - | - | - | - | - | 451,132 |
| Other investment expenses | - | - | - | - | - | - | - | - | 47,188 | - | - | 47,188 |
| In-house investment management | 4,219,488 | 25,862 | 4,611 | 1,016,124 | 13,636 | 3,382 | 34,955 | 5,933 | - | 4,747 | - | 5,328,738 |
| Total Investment Expenses | $ 80,941,472 | $ 496,159 | $ 88,453 | $ 19,492,131 | $ 261,466 | $ 6,042 | $ 62,449 | $ 10,599 | $ 47,188 | $ 8,868 | $ 72,259 | $ 101,487,086 |

# ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF ADMINISTRATIVE EXPENSES
For the Year Ended June 30, 2018

| | State Employee and Teacher Plan | Judicial Plan | Legislative Plan | PLD Consolidated Plan | PLD Agent Plan | Group Life Insurance Plan | Group Life Insurance Retired SETP | Group Life Insurance Retired PLD | Defined Contribution Plans | Retiree Health Insurance Trust | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Personnel services | $ 5,688,580 | $ 34,838 | $ 6,211 | $ 1,361,515 | $ 18,661 | $ 41,494 | $ 434,547 | $ 75,439 | $ 218,268 | $ 6,480 | $ 7,886,033 |
| Professional services | 1,470,813 | 9,007 | 1,606 | 352,027 | 4,826 | 10,728 | 112,355 | 19,505 | 56,434 | - | 2,037,301 |
| Computer services | 686,507 | 4,204 | 750 | 164,310 | 2,252 | 5,007 | 52,442 | 9,104 | 26,341 | - | 950,917 |
| Telephone, data, and internet svs | 126,184 | 773 | 138 | 30,201 | 414 | 920 | 9,639 | 1,673 | 4,842 | - | 174,784 |
| Printing and postage | 268,453 | 1,644 | 293 | 64,252 | 881 | 1,958 | 20,507 | 3,560 | 10,300 | - | 371,848 |
| Office rent and building operations | 198,198 | 1,214 | 216 | 47,437 | 650 | 1,446 | 15,140 | 2,628 | 7,605 | - | 274,534 |
| Depreciation | 1,118,385 | 6,849 | 1,221 | 267,676 | 3,669 | 8,157 | 85,433 | 14,831 | 42,912 | - | 1,549,133 |
| Other operating expenses | 519,122 | 3,179 | 567 | 124,248 | 1,703 | 3,786 | 39,655 | 6,884 | 19,919 | - | 719,063 |
| Total administrative expenses | $ 10,076,242 | $ 61,708 | $ 11,002 | $ 2,411,666 | $ 33,056 | $ 73,496 | $ 769,718 | $ 133,624 | $ 386,621 | $ 6,480 | $ 13,963,613 |

## ADDITIONAL SUPPLEMENTARY INFORMATION
## SCHEDULE OF PROFESSIONAL FEES
For the Year Ended June 30, 2018

| | | Total |
|---|---|---|
| Professional services: | | |
| Audit | $ | 71,820 |
| Actuarial services | | 343,639 |
| IT Services | | 946,688 |
| Legal services | | 177,369 |
| Medical consulting | | 377,458 |
| Other services | | 120,328 |
| Total professional services | $ | 2,037,301 |

# INVESTMENT SECTION


*Maine State Gemstone: Tourmaline*

CAMBRIDGE C|A ASSOCIATES

December 10, 2018

Board of Trustees (the "Board")
Maine Public Employees Retirement System
46 State House Station
Augusta, ME 04333-0046

RE: Maine Public Employees Retirement System ("MainePERS" or the "System")

To the Board:

Cambridge Associates, LLC has been retained by the Board of Trustees to advise on MainePERS' investment policy, perform quarterly reviews of performance and provide other general investment advice.

It is our opinion that MainePERS' assets are managed under detailed and well-articulated policies, appropriate to the circumstances of the System. Per the MainePERS' Investment Policy Statement, the portfolio's investment objectives attempt to balance the System's twin goals of generating investment returns (to ensure growth of the trust funds) and minimizing investment risks (loss of capital and cash flow shortfalls). It is our understanding that all performance measurements and comparisons have been made using standard performance evaluation methods consistent with industry standards. It is also our opinion that the Board, Executive Director, and staff have taken appropriate measures for overseeing the management of the System's assets and ensuring that investments have conformed with the Systems' investment policy statement. Furthermore, based upon our interactions with the Board, we believe the Board is providing prudent oversight of MainePERS' investments.

ARLINGTON
BEIJING
BOSTON
DALLAS
LONDON
MENLO PARK
SINGAPORE
SYDNEY

Sincerely,

Brian McDonnell
Global Head of the Pension Practice

125 High Street | Boston, Massachusetts 02110-2112 | tel 617.457.7500 | fax 617.457.7501 | www.cambridgeassociates.com

## INVESTMENT ACTIVITY

The table and graph below summarize the defined benefit portfolio activity for the ten years ended June 30, 2018. During this period, assets grew by $3.8 billion from $10.5 billion to $14.3 billion. Substantially all of this increase is attributable to net investment gains. In the year ended June 30, 2018, benefit payments exceeded contributions, and this is expected to continue in the future.

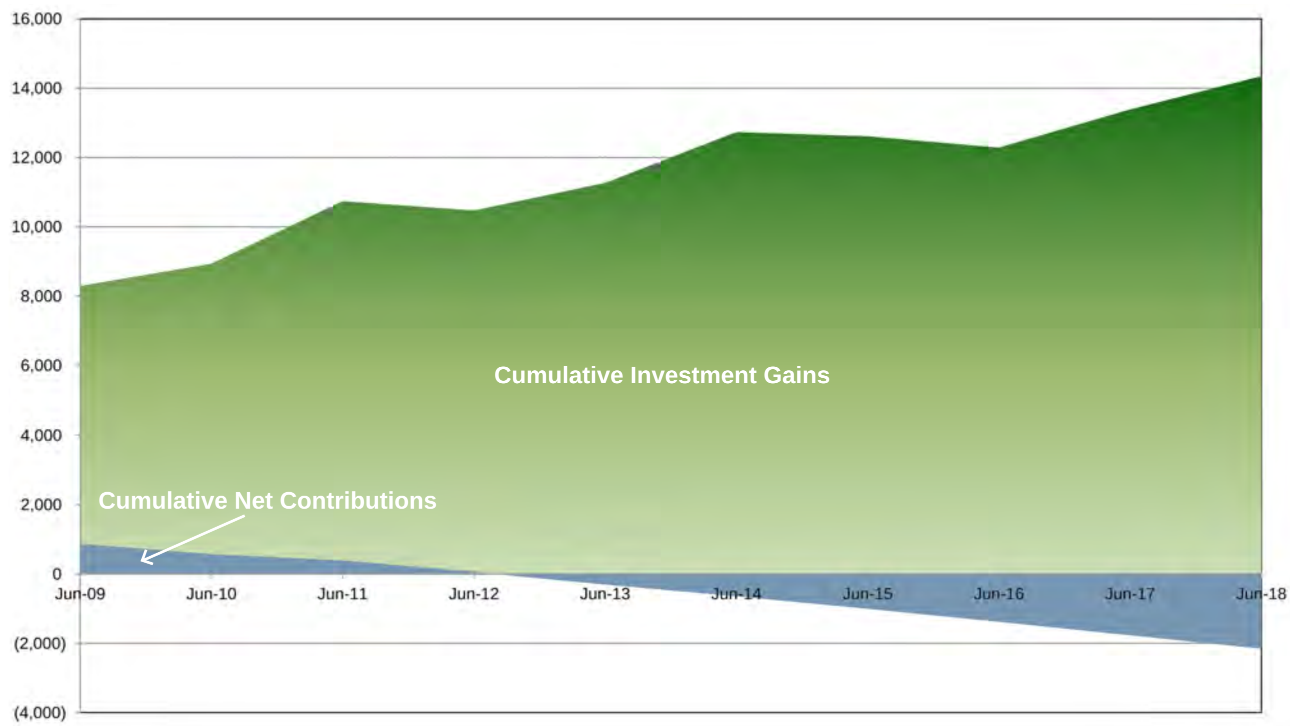
The rates of return displayed in the table are time weighted rates of return. The table displays the net invested assets of the investment portfolio. Securities lending liabilities are netted against securities lending collateral. Certain assets, such as cash in the System's operating bank accounts are not considered part of the investment portfolio, and are therefore not included in the table or graph.

### SUMMARY OF INVESTMENT ACTIVITY

| FY Ended June 30 | Opening Market Value ($ millions) | Closing Market Value ($ millions) | Rate of Return |
|---|---|---|---|
| 2018 | $ 13,385 | $ 14,344 | 10.3% |
| 2017 | $ 12,283 | $ 13,385 | 12.5% |
| 2016 | $ 12,610 | $ 12,283 | 0.6% |
| 2015 | $ 12,732 | $ 12,610 | 2.0% |
| 2014 | $ 11,264 | $ 12,732 | 16.7% |
| 2013 | $ 10,470 | $ 11,264 | 11.1% |
| 2012 | $ 10,739 | $ 10,470 | 0.6% |
| 2011 | $ 8,934 | $ 10,739 | 22.4% |
| 2010 | $ 8,291 | $ 8,934 | 11.1% |
| 2009 | $ 10,538 | $ 8,291 | -18.8% |
| | | Annualized 10-year period | 6.3% |
| | | Cumulative 10-year period | 83.5% |

## SUMMARY OF INVESTMENT ACTIVITY

*(continued)*




### INVESTMENT PORTFOLIO

The graph above illustrates the importance of investment returns to the financing of the System's benefit plans. In this section, the investment strategy MainePERS has adopted to optimize the financial health of the plans is reviewed.

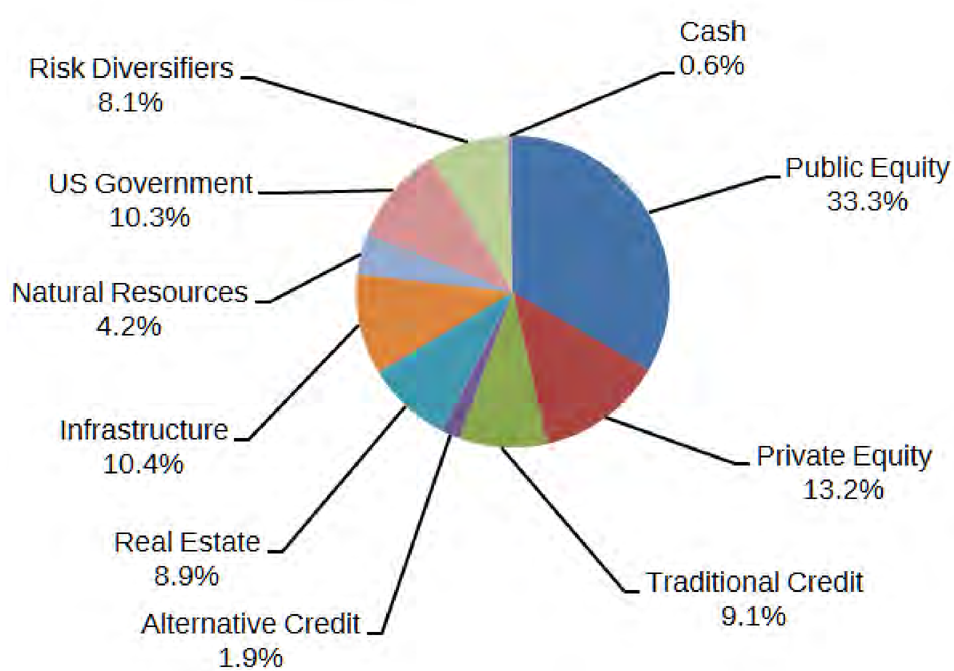
The System invests plan assets in a number of major asset classes. The table and pie charts on the following page display the actual and strategic target allocations at June 30, 2018.

The Board of Trustees is of the view that a prudent investment strategy for these plan assets involves accepting some level of investment risk. Because most of its benefit payments are not due for several decades into the future, the System has concluded it is prudent to invest a substantial portion of its assets in equities and other return-seeking investments. The Board allocates 60% to 80% of assets to equities and equity like securities and is of the view that this provides a prudent compromise between low risk and high return for the plans.

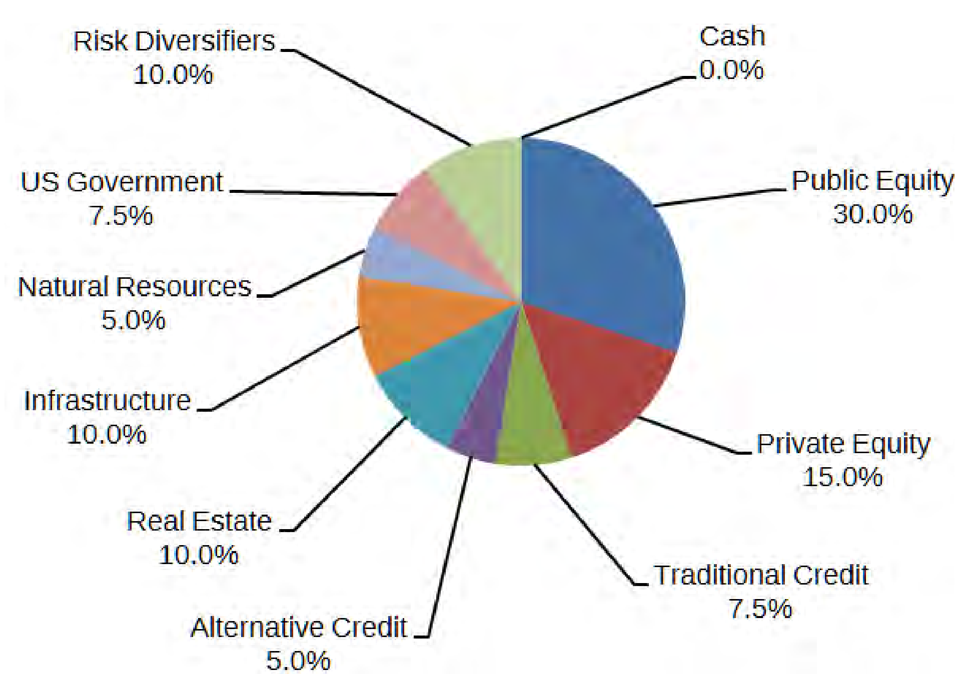
## STRATEGIC ASSET ALLOCATION

| | Public Equity | Private Equity | Traditional Credit | Alternative Credit | Real Estate | Infrastructure | Natural Resources | US Government | Risk Diversifiers | Cash | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Actual Allocation | 33.3% | 13.2% | 9.1% | 1.9% | 8.9% | 10.4% | 4.2% | 10.3% | 8.1% | 0.6% | 100.0% |
| Target Allocation | 30.0% | 15.0% | 7.5% | 5.0% | 10.0% | 10.0% | 5.0% | 7.5% | 10.0% | 0.0% | 100.0% |

**Actual Allocation at June 30, 2018**




**Strategic Target Allocation**



The System's Investment Policy has long-term, strategic asset class targets and requires the investment team to rebalance the portfolio to these targets as needed. In 2017, the System changed its target allocation to 30% Public Equity, 15% Private Equity, 10% Risk Diversifiers, 10% Real Estate, 10% Infrastructure, 5% Natural Resources, 7.5% Traditional Credit, 5% Alternative Credit, and 7.5% US Government Securities. While the Board has approved the new Asset Allocation targets, it will take several years to implement and fully fund the new allocation.

Because most of its benefit payments are not due for several decades into the future, the System has concluded it is prudent to invest a substantial portion of its assets in equities and other return-seeking investments. For the past ten years, the System has invested between 60% and 80% of its assets in equities. Over sufficiently long periods, equities have generally outperformed bonds. The System expects this relationship to hold in the future.

Essentially all of the assets of the System's plans are in portfolios managed by professional investment management firms. These managers act as fiduciaries and invest the assets assigned to them in accordance with the System's investment policies and the individual agreements between MainePERS and the investment managers.

Approximately 53% of assets were invested in passively managed index funds at June 30, 2018. The Board of Trustees views index funds as a cost-effective way of investing in most of the world's capital markets. However, the System does make use of actively managed portfolios where it has identified managers who are thought to be able to add value over an index fund, net of all costs.

The System uses a single firm to manage all of its passive investments. This enables the System to obtain attractive fees and also provides other cost savings on certain kinds of transactions. Since passively managed portfolios have a low risk of significantly underperforming their benchmarks, the Board, the investment staff, and the System's investment consultant find this concentration of assets to be appropriate.

In fiscal year 2017, the System conducted a thorough review of its strategic asset allocation. This type of review is typically conducted every three years with the assistance of the System's actuary and the general investment consultant.

## BENEFIT PLANS - INVESTMENT PORTFOLIO

| | at 06/30/2018 | | at 06/30/2017 | |
|---|---|---|---|---|
| | millions of dollars | % of assets | millions of dollars | % of assets |
| **Public Equity** | | | | |
| BlackRock | $ 4,778 | 33.3% | $ 5,350 | 40.0% |
| **Total Public Equity** | **$ 4,778** | **33.3%** | **$ 5,350** | **40.0%** |
| **Traditional Credit** | | | | |
| BlackRock | $ 1,308 | 9.1% | $ 1,012 | 7.6% |
| **Total Traditional Credit** | **$ 1,308** | **9.1%** | **$ 1,012** | **7.6%** |
| **US Government** | | | | |
| BlackRock | $ 1,475 | 10.3% | $ 2,042 | 15.3% |
| **Total US Government** | **$ 1,475** | **10.3%** | **$ 2,042** | **15.3%** |
| **Private Equity** | | | | |
| ABRY Advanced Securities Fund II | $ 3 | 0.0% | $ 8 | 0.1% |
| ABRY Advanced Securities Fund III | 19 | 0.1% | 15 | 0.1% |
| ABRY Senior Equity IV | 8 | 0.1% | 9 | 0.1% |
| ABRY Senior Equity V | 3 | 0.0% | 1 | 0.0% |
| ABRY Heritage | 2 | 0.0% | 2 | 0.0% |
| ABRY VII | 4 | 0.0% | 6 | 0.0% |
| ABRY VIII | 16 | 0.1% | 16 | 0.1% |
| Advent International GPE VII | 32 | 0.2% | 28 | 0.2% |
| Advent International GPE VIII | 26 | 0.2% | 12 | 0.1% |
| Advent LAPEF VI | 11 | 0.1% | 6 | 0.0% |
| Affinity Asia Pacific IV | 54 | 0.4% | 34 | 0.3% |
| Berkshire VIII | 8 | 0.1% | 14 | 0.1% |
| Berkshire IX | 17 | 0.1% | 5 | 0.0% |
| Blackstone Cap VI | 30 | 0.2% | 27 | 0.2% |
| Blackstone Cap VII | 15 | 0.1% | 7 | 0.1% |
| Carlyle Asia Partners Fund III | 4 | 0.0% | 7 | 0.1% |
| Carlyle Asia Partners Fund IV | 77 | 0.5% | 43 | 0.3% |
| Centerbridge Capital | 16 | 0.1% | 10 | 0.1% |
| Charterhouse VIII | 0 | 0.0% | - | 0.0% |
| Charterhouse IX | 1 | 0.0% | 1 | 0.0% |
| Charterhouse X | 25 | 0.2% | 17 | 0.1% |
| CVC Capital Partner VI | 59 | 0.4% | 42 | 0.3% |
| EnCap Energy Capital Fund VIII | 9 | 0.1% | 13 | 0.1% |

at 06/30/2018 at 06/30/2017

## BENEFIT PLANS - INVESTMENT PORTFOLIO
### (continued)

| | millions of dollars | % of assets | millions of dollars | % of assets |
|---|---|---|---|---|
| EnCap Energy Capital Fund XI | 3 | 0.0% | - | 0.0% |
| EnCap Flatrock Midstream III | 8 | 0.1% | 8 | 0.1% |
| EnCap Flatrock Midstream IV | 1 | 0.0% | - | 0.0% |
| GTCR X | 9 | 0.1% | 20 | 0.2% |
| GTCR XI | 27 | 0.2% | 21 | 0.2% |
| GTCR XII | 1 | 0.0% | - | 0.0% |
| Hellman & Friedman VII | 39 | 0.3% | 35 | 0.3% |
| Hellman & Friedman VIII | 32 | 0.2% | 3 | 0.0% |
| HIG Bayside Loan Opportunity II | 10 | 0.1% | 14 | 0.1% |
| HIG Bayside Loan Opportunity II (Europe) | 14 | 0.1% | 2 | 0.0% |
| HIG Bayside Loan Opportunity III (Europe) | 22 | 0.2% | 20 | 0.2% |
| HIG Bayside Brazil & Latin America | 21 | 0.1% | 1 | 0.0% |
| HIG Buyouts II | 23 | 0.2% | 12 | 0.1% |
| HIG Capital Partners V | 10 | 0.1% | 3 | 0.0% |
| HIG Middle Market LBO Fund II | 29 | 0.2% | 10 | 0.1% |
| Inflexion Buyout Fund IV | 24 | 0.2% | 13 | 0.1% |
| Inflexion Supplemental Fund IV | 8 | 0.1% | 3 | 0.0% |
| Inflexion Partnership Capital Fund I | 14 | 0.1% | 7 | 0.1% |
| Kelso VIII | 1 | 0.0% | 2 | 0.0% |
| Kelso IX | 55 | 0.4% | 32 | 0.2% |
| KKR Americas XII | 9 | 0.1% | - | 0.0% |
| KKR North America XI | 68 | 0.5% | 67 | 0.5% |
| KKR Special Situations | 51 | 0.4% | 65 | 0.5% |
| KKR Special Situations II | 33 | 0.2% | 18 | 0.1% |
| Oaktree Opportunity Fund VIII | 3 | 0.0% | 7 | 0.1% |
| ONCAP IV | 4 | 0.0% | 1 | 0.0% |
| Onex Partners III | 6 | 0.0% | 6 | 0.0% |
| Onex Partners IV | 44 | 0.3% | 40 | 0.3% |
| Paine & Partner | 43 | 0.3% | 27 | 0.2% |
| Rhone V | 31 | 0.2% | 11 | 0.1% |
| Riverside Capital Appreciation VI | 51 | 0.4% | 52 | 0.4% |
| Riverside Micro Cap Fund III | 51 | 0.4% | 42 | 0.3% |
| Riverside Micro Cap Fund IV | 44 | 0.3% | 18 | 0.1% |
| Shoreview Capital III | 17 | 0.1% | 12 | 0.1% |
| Sovereign Capital IV | 14 | 0.1% | 12 | 0.1% |
| Summit GE VIII | 18 | 0.1% | 26 | 0.2% |
| Summit GE IX | 21 | 0.1% | 3 | 0.0% |
| Summit VC III | 13 | 0.1% | 17 | 0.1% |
| Summit Credit Partners II | 36 | 0.3% | 31 | 0.2% |
| Summit VC IV | 18 | 0.1% | 11 | 0.1% |
| Technology Impact Fund | 10 | 0.1% | - | 0.0% |
| TCV VIII | 70 | 0.5% | 54 | 0.4% |
| TCV IX | 20 | 0.1% | 5 | 0.0% |
| Thoma Bravo XI | 62 | 0.4% | 59 | 0.4% |
| Thoma Bravo XII | 40 | 0.3% | 23 | 0.2% |
| Thoma Bravo Spec Opp Fund | 18 | 0.1% | 17 | 0.1% |
| Tillridge Global Agribusiness II | 5 | 0.0% | - | 0.0% |
| Water Street Healthcare III | 24 | 0.2% | 18 | 0.1% |
| Water Street Healthcare IV | 3 | 0.0% | 0 | 0.0% |
| Wayzata Opportunities III | 7 | 0.1% | 9 | 0.1% |
| Wynnchurch Capital | 20 | 0.1% | 8 | 0.1% |
| Co-Investments | 193 | 1.3% | 240 | 1.8% |
| **Total Private Equity** | **$ 1,887** | **13.2%** | **$ 1,464** | **10.9%** |
| | | | | |
| **Real Estate** | | | | |
| Blackstone Property Partners | $ 176 | 1.2% | $ - | 0.0% |
| Blackstone RE Partners VII | 60 | 0.4% | 65 | 0.5% |
| Blackstone RE Partners VIII | 30 | 0.2% | 23 | 0.2% |
| H/2 Credit Partners | 66 | 0.5% | 88 | 0.7% |
| Harrison Street | 112 | 0.8% | 107 | 0.8% |
| High Street IV | 0 | 0.0% | 2 | 0.0% |
| High Street V | 17 | 0.1% | 10 | 0.1% |
| Invesco US Income | 180 | 1.3% | 172 | 1.3% |
| IPI Data Center Partners I | 9 | 0.1% | - | 0.0% |
| JP Morgan Strategic Property Fund | 0 | 0.0% | 162 | 1.2% |
| KKR REPA I | 21 | 0.1% | 25 | 0.2% |
| KKR REPA II | 4 | 0.0% | - | 0.0% |
| KKR REPE | 18 | 0.1% | 10 | 0.1% |
| Prima Advisors Mortgage Fund | 91 | 0.6% | 91 | 0.7% |
| Principal US Property Fund | 96 | 0.7% | 89 | 0.7% |
| Prudential PRISA Fund | 86 | 0.6% | 112 | 0.8% |
| Prudential Senior Housing V | 29 | 0.2% | 24 | 0.2% |
| Rubenstein Partners III | 13 | 0.1% | 5 | 0.0% |
| Smart Markets | 187 | 1.3% | 181 | 1.3% |
| Walton Street VII | 29 | 0.2% | 37 | 0.3% |
| | **at 06/30/2018** | | **at 06/30/2017** | |

## BENEFIT PLANS - INVESTMENT PORTFOLIO
(continued)

| | millions of dollars | % of assets | millions of dollars | % of assets |
|---|---|---|---|---|
| Walton Street VIII | 22 | 0.2% | 13 | 0.1% |
| Westbrook IX | 8 | 0.1% | 10 | 0.1% |
| Westbrook X | 18 | 0.1% | 8 | 0.1% |
| Co-Investments | 8 | 0.1% | 0 | 0.0% |
| **Total Real Estate** | **$ 1,281** | **8.9%** | **$ 1,231** | **9.2%** |
| **Infrastructure** | | | | |
| Alinda Infrastructure Fund II | $ 26 | 0.2% | $ 40 | 0.3% |
| ArcLight Energy Partners V | 51 | 0.4% | 43 | 0.3% |
| ArcLight Energy Partners VI | 119 | 0.8% | 86 | 0.6% |
| Brookfield II | 107 | 0.7% | 99 | 0.7% |
| Brookfield III | 39 | 0.3% | 25 | 0.2% |
| Carlyle Infrastructure Fund | 3 | 0.0% | 14 | 0.1% |
| Carlyle Power Partners II | 20 | 0.1% | 14 | 0.1% |
| Cube Infrastructure Fund | 51 | 0.4% | 52 | 0.4% |
| EQT III | 33 | 0.2% | - | 0.0% |
| First Reserve Energy | 24 | 0.2% | 28 | 0.2% |
| First Reserve Energy II | 54 | 0.4% | 23 | 0.2% |
| Global Infrastructure Partners Fund | 40 | 0.3% | 30 | 0.2% |
| Global Infrastructure Partners Fund II | 81 | 0.6% | 71 | 0.5% |
| Global Infrastructure Partners Fund III | 77 | 0.5% | 25 | 0.2% |
| IFM Global Infrastructure | 145 | 1.0% | 118 | 0.9% |
| KKR Infrastructure | 61 | 0.4% | 54 | 0.4% |
| KKR Infrastructure II | 135 | 0.9% | 58 | 0.4% |
| Meridiam Infrastructure Europe I (Secondary) | 21 | 0.1% | 22 | 0.2% |
| Meridiam Infrastructure Europe I Class B (Secondary) | 17 | 0.1% | 0 | 0.0% |
| Meridiam Infrastructure Europe II (Secondary) | 24 | 0.2% | 20 | 0.2% |
| Meridiam Infrastructure Europe II Class B (Secondary) | 3 | 0.0% | 0 | 0.0% |
| Meridiam Infrastructure Europe III | 20 | 0.1% | 1 | 0.0% |
| Meridiam Infrastructure North America II | 53 | 0.4% | 40 | 0.3% |
| Meridiam Infrastructure North America II (CIP) | 0 | 0.0% | 0 | 0.0% |
| Meridiam Infrastructure North America II (Secondary) | 14 | 0.1% | 10 | 0.1% |
| Meridiam Infrastructure North America III | 0 | 0.0% | - | 0.0% |
| Stonepeak Infrastructure II | 106 | 0.7% | 87 | 0.7% |
| Stonepeak Infrastructure III | 12 | 0.1% | - | 0.0% |
| Co-Investments | 151 | 1.1% | - | 0.0% |
| **Total Infrastructure** | **$ 1,485** | **10.4%** | **$ 963** | **7.2%** |
| **Alternative Credit** | | | | |
| Mesa West Core | $ 100 | 0.7% | $ 100 | 0.7% |
| Audax | 98 | 0.7% | - | 0.0% |
| TCP Direct Lending III | 36 | 0.2% | - | 0.0% |
| Owl Rock | 37 | 0.3% | 32 | 0.2% |
| Co-Investments | 5 | 0.0% | - | 0.0% |
| **Total Alternative Credit** | **$ 276** | **1.9%** | **$ 132** | **1.0%** |
| **Risk Diversifiers** | | | | |
| AQR Liquid Enhanced Alternative Premia | $ 284 | 2.0% | - | 0.0% |
| Bridgewater Pure Alpha | 200 | 1.4% | - | 0.0% |
| Bridgewater Pure Alpha Major Markets | 202 | 1.4% | - | 0.0% |
| Grantham, Mayo, Van Oterloo | - | 0.0% | 356 | 2.7% |
| Windham Capital | 331 | 2.3% | 303 | 2.3% |
| Windham Risk Premia | 144 | 1.0% | - | 0.0% |
| **Total Risk Diversifiers** | **$ 1,161** | **8.1%** | **$ 660** | **4.9%** |
| **Natural Resources** | | | | |
| ACM Fund II | $ 18 | 0.1% | $ 6 | 0.0% |
| ACM Permanent Crops | 37 | 0.3% | 35 | 0.3% |
| AMERRA Agri Fund II | 33 | 0.2% | 30 | 0.2% |
| Homestead Farmland II | 20 | 0.1% | 9 | 0.1% |
| Orion Mine Finance II | 25 | 0.2% | 29 | 0.2% |
| Taurus Mining Finance | 20 | 0.1% | 13 | 0.1% |
| Taurus Mining Finance Annex | 5 | 0.0% | 1 | 0.0% |
| Teays River | 279 | 1.9% | 224 | 1.7% |
| Twin Creeks Timber | 113 | 0.8% | 92 | 0.7% |
| US Farming Realty III | 59 | 0.4% | 40 | 0.3% |
| **Total Natural Resources** | **$ 607** | **4.2%** | **$ 478** | **3.6%** |
| **Cash** | | | | |
| Liquidity Account | 85 | 0.6% | 54 | 0.4% |
| **Total Cash** | **$ 85** | **0.6%** | **$ 54** | **0.4%** |
| **Total Assets** | **$ 14,344** | **100%** | **$ 13,385** | **100%** |

## LARGEST HOLDINGS
### at June 30, 2018

| Top 10 Direct Common Stock Holdings | Market Value | % of Assets |
|---|---|---|
| Apple | $ 79,558,242 | 0.55% |
| Microsoft | 65,288,498 | 0.46% |
| Amazon | 60,378,596 | 0.42% |
| Alphabet | 59,123,645 | 0.41% |
| Facebook | 40,370,952 | 0.28% |
| Berkshire Hathaway | 31,579,127 | 0.22% |
| JP Morgan Chase | 30,871,959 | 0.22% |
| Exxon Mobil | 30,626,729 | 0.21% |
| Johnson & Johnson | 28,438,456 | 0.20% |
| Bank of America | 23,307,689 | 0.16% |

Some of the System’s index fund investments are made through commingled funds, with MainePERS owning units in the funds, and having beneficial, rather than direct ownership of the securities. The largest holdings list reports direct holdings held outside of the commingled funds. For a complete list of the System's holdings, please contact MainePERS.

## SECURITIES LENDING

MainePERS earns additional income on its investment portfolio by lending its securities. The System pays its custodian for managing the securities lending program. Information regarding the results of the securities lending program for the current and prior fiscal years may be found in the Financial Section starting on page 18.

Several of the collective trusts through which the System holds interests in commingled funds also lend securities. Because these trusts are legal entities separate from MainePERS, their lending activities are not reflected in the securities lending results reported in the financial statements. The System shares in the income and the risks of the securities lending activity in the commingled funds, and the income is included in the total income and return figures in this Investment Section and the Financial Statements.

## INVESTMENT PERFORMANCE

The table on the following pages displays the rates of return on the System’s investment portfolio over the last ten fiscal years, and for the three, five, and ten-year periods ended June 30, 2018. Because the System’s investment strategy has changed very little from year to year, and because the majority of the System’s assets are indexed, these results are determined almost entirely by the behavior of the capital markets. Negative returns for the fiscal year ended June 30, 2009 were the result of declines in domestic and foreign stock markets, partially offset by gains in the domestic bond market.

Over the ten-year period, the annualized rate of return on the System’s assets was 6.3%. MainePERS experienced nine years of positive returns and one year of negative returns. These results are consistent with the long-term risk/return strategy that forms the basis of the System’s policies. At 6.3%, the ten-year return has underperformed relative to the 6.75% investment return assumption utilized in the actuarial process.

The total return figures in the table on pages 86 and 87 are net of all expenses that can be directly attributed to the investment program (see Expenses, page 88). The table reports time weighted rates of return and all figures for periods greater than one year are annualized.

## PERFORMANCE: ACTUAL RETURNS VS. BENCHMARK RETURNS

(All returns are time weighted)

| | TOTAL FUND | | | DOMESTIC EQUITY | | | FOREIGN EQUITY | | | FIXED INCOME (2,3) | | | REAL ESTATE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year Ended June 30 | Actual Return | Benchmark Return(4) | Excess Return(1) | Actual Return | Benchmark Return(5) | Excess Return(1) | Actual Return | Benchmark Return(6) | Excess Return(1) | Actual Return | Benchmark Return(7) | Excess Return(1) | Actual Return | Benchmark Return 8) | Excess Return(1) |
| 2018 | 10.3% | 8.5% | 1.8% | 14.8% | 14.8% | 0.1% | 7.7% | 7.3% | 0.4% | 1.0% | -0.4% | 1.4% | 8.6% | 7.1% | 1.4% |
| 2017 | 12.5% | 11.4% | 1.1% | 18.5% | 18.5% | 0.0% | 20.8% | 20.5% | 0.4% | 0.6% | -0.3% | 0.9% | 9.8% | 5.6% | 4.1% |
| 2016 | 0.6% | 1.0% | -0.4% | 1.8% | 2.0% | -0.3% | -10.1% | -9.8% | -0.3% | 3.6% | 6.0% | -2.4% | 10.2% | 9.4% | 0.8% |
| 2015 | 2.0% | 1.8% | 0.3% | 7.2% | 7.2% | 0.0% | -5.1% | -4.9% | -0.2% | -0.4% | 1.9% | -2.3% | 11.4% | 8.8% | 2.6% |
| 2014 | 16.7% | 15.6% | 1.1% | 24.8% | 25.0% | -0.2% | 22.0% | 22.3% | -0.3% | 3.8% | 4.4% | -0.6% | 10.7% | 5.5% | 5.1% |
| 2013 | 11.1% | 10.4% | 0.8% | 21.5% | 21.5% | 0.1% | 13.9% | 14.1% | -0.2% | -1.9% | -0.7% | -1.3% | 10.2% | 7.8% | 2.4% |
| 2012 | 0.6% | 1.4% | -0.7% | 3.8% | 4.0% | -0.2% | -14.3% | -14.2% | -0.2% | 8.8% | 9.0% | -0.1% | 11.1% | 13.4% | -2.3% |
| 2011 | 22.4% | 21.5% | 0.8% | 32.6% | 32.4% | 0.2% | 30.0% | 30.3% | -0.3% | 6.2% | 3.9% | 2.3% | 22.5% | 16.0% | 6.5% |
| 2010 | 11.1% | 11.9% | -0.8% | 18.3% | 16.1% | 2.2% | 9.7% | 10.9% | -1.2% | 10.8% | 9.5% | 1.3% | -4.1% | -1.5% | -2.6% |
| 2009 | -18.8% | -19.4% | 0.6% | -29.3% | -26.4% | -2.9% | -32.1% | -30.5% | -1.6% | -0.8% | 6.1% | -6.9% | -35.0% | -19.6% | -15.4% |
| 3 years ending 2018 | 7.7% | 6.9% | 0.8% | 11.5% | 11.5% | -0.1% | 5.4% | 5.2% | 0.1% | 1.7% | 1.7% | 0.0% | 9.5% | 7.4% | 2.1% |
| 5 years ending 2018 | 8.2% | 7.5% | 0.7% | 13.1% | 13.2% | -0.1% | 6.3% | 6.3% | 0.0% | 1.7% | 2.3% | -0.6% | 10.1% | 7.3% | 2.8% |
| 10 years ending 2018 | 6.3% | 5.8% | 0.4% | 10.0% | 10.3% | -0.3% | 2.5% | 2.9% | -0.4% | 3.1% | 3.9% | -0.8% | 4.2% | 4.8% | -0.6% |

Notes:

1. Excess Return is Actual Return minus Benchmark Return.

2. The asset class of General Fixed Income was re-opened in the 4th quarter of 2008.

3. Fixed Income includes TIPS as of 7/31/04.

4. Total Fund Benchmark: A combination of the the benchmarks for the five major asset classes using the target asset class weights.

5. Domestic Equity Benchmark: Russell 3000 Index.

6. Foreign Equity Benchmark: Morgan Stanley Capital International All Country World Ex-U.S. Free, since Jan. 1, 1998.

7. General Fixed Income Benchmark: Barclays Capital Aggregate Bond Index less Governments plus TIPS, since Oct 2008.

TABLE CONTINUED ON NEXT PAGE

## PERFORMANCE: ACTUAL RETURNS VS. BENCHMARK RETURNS

(All returns are time weighted)

| INFRASTRUCTURE | | | PRIVATE EQUITY | | | NATURAL RESOURCES | | | ALTERNATIVE CREDIT | | | RISK DIVERSIFIERS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Actual Return | Benchmark Return[9] | Excess Return[1] | Actual Return | Benchmark Return[10] | Excess Return[1] | Actual Return | Benchmark Return[11] | Excess Return[1] | Actual Return | Benchmark Return[13] | Excess Return[1] | Actual Return | Benchmark Return[14] | Excess Return[1] |
| 16.6% | 12.6% | 4.0% | 22.7% | 17.8% | 4.9% | | | | | | | | | |
| 14.7% | 12.4% | 2.2% | 19.8% | 21.5% | -1.8% | | | | | | | | | |
| 6.8% | 11.8% | -5.0% | 6.6% | 5.1% | 1.5% | | | | | | | | | |
| 5.4% | 3.6% | 1.8% | 8.9% | 10.3% | -1.4% | | | | | | | | | |
| 15.5% | 14.7% | 0.8% | 9.8% | 7.9% | 2.0% | Data Not Meaningful[12] | | | Data Not Meaningful[12] | | | Data Not Meaningful[12] | | |
| 12.6% | 12.3% | 0.3% | 16.1% | 14.6% | 1.5% | | | | | | | | | |
| 11.7% | 11.0% | 0.7% | 13.4% | 12.4% | 1.0% | | | | | | | | | |

Notes *(continued)*:

8. Real Estate Benchmark: A combination of DJ Wilshire Real Estate Securities Index and National Council of Real Estate Investment Fiduciaries Property Index since July 1, 2005.

9. Infrastructure Benchmark: CA Infrastructure Median.

10. Private Equity Benchmark: Russell 3000 Index + 3%.

11. Natural Resources Benchmark: CA Natural Resources Median.

12. Natural Resources, Alternative Credit and Risk Diversifiers returns are not meaningful at this stage of the program.

13. Alternative Credit Benchmark: 50% Bank of America US High Yield II + 50% S&P/Loan Syndications & Trading Association US Leverage Loan Index.

14. Risk Diversifiers Benchmark: 0.3 Beta Morgan Stanley Capital International All Country World Index.

TABLE CONTINUED FROM PREVIOUS PAGE

## INVESTMENT EXPENSES

The adjacent table displays investment management expenses directly attributable to the investment program and paid directly by the System. Examples of directly attributable expenses include fees paid to investment managers and compensation and expenses of the System's own investment professionals, including time spent on investment matters by staff other than full-time investment professionals to the extent it can be separately identified. Other expenses not paid directly by the System include the expenses of securities lending programs conducted by managers of the commingled funds.

The increase of expenses in 2018 can be attributed to continued funding of the Alternatives Programs.

| Detail for year ended 6/30/2018 | | Dollar Expense |
|---|---|---|
| Domestic Equity | $ | (97,578) |
| Passive Fixed Income | | 290,176 |
| Risk Diversifiers | | 9,825,585 |
| Real Estate | | 14,366,304 |
| Infrastructure | | 24,334,968 |
| International Equity | | 747,102 |
| Private Equity | | 40,648,348 |
| Natural Resources | | 5,885,057 |
| Consultants | | 1,118,750 |
| Other Investment Expenses | | 578,886 |
| In House Expenses | | 3,582,085 |
| DC Investment Expenses | | 47,188 |
| Retiree Health Insurance Trust Expenses | | 72,259 |
| Group Life Insurance Expenses | | 79,090 |
| MainePERS OPEB | | 8,868 |
| Total Investment Expenses - All Plans | $ | 101,487,088 |

| Total for FY ended June 30 Defined Benefit Plans | $ Millions | % of Total Assets |
|---|---|---|
| 2018 | 101.5 | 0.71% |
| 2017 | 93.8 | 0.70% |
| 2016 | 76.0 | 0.62% |
| 2015 | 54.7 | 0.44% |
| 2014 | 41.1 | 0.32% |
| 2013 | 31.4 | 0.28% |
| 2012 | 24.3 | 0.23% |
| 2011 | 19.7 | 0.18% |
| 2010 | 22.0 | 0.25% |
| 2009 | 23.1 | 0.28% |

## BROKERAGE COMMISSIONS
## Year Ended June 30, 2018

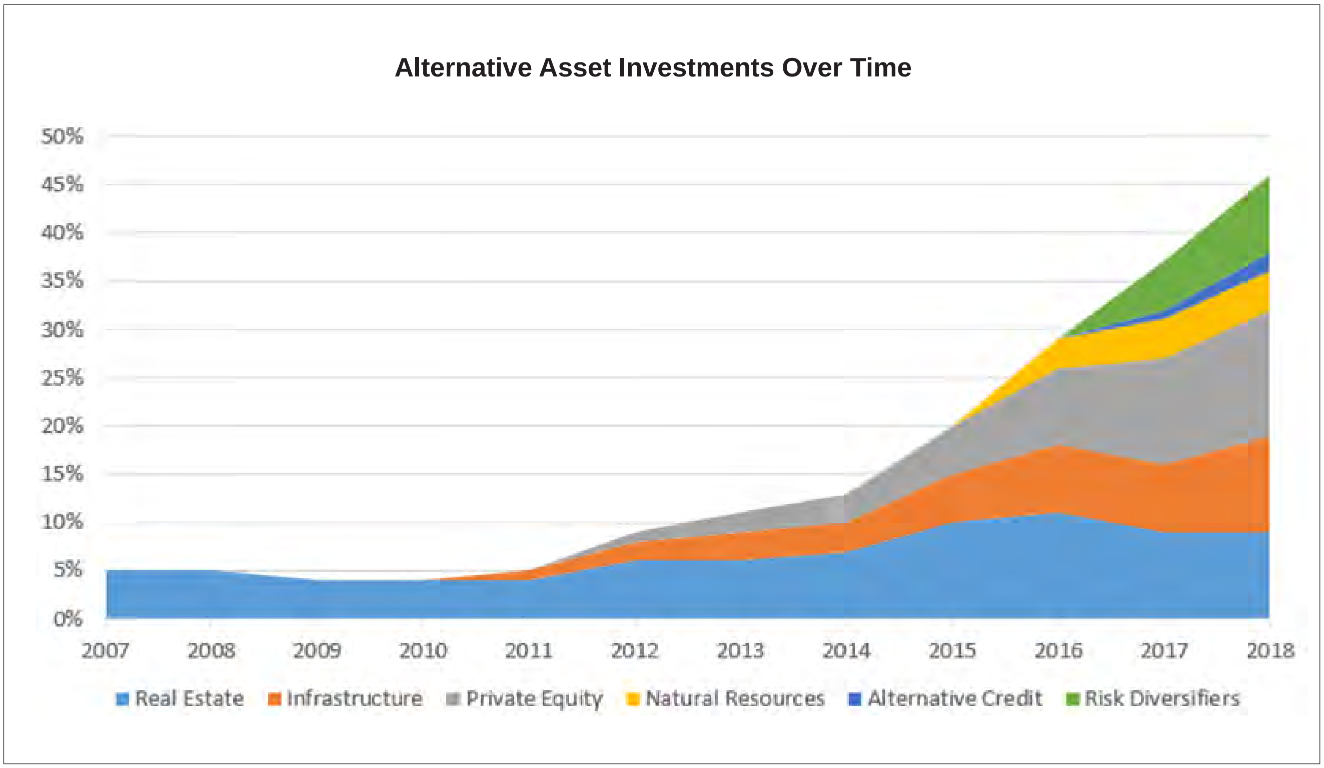
| Broker | Commissions | Amount Traded (Millions) | Cost of Trade (%) | Total Shares (Millions) | Commissions (Cents per Share) |
|---|---|---|---|---|---|
| UBS | $ 10,688 | $ 227 | 0.005% | 3.1 | 0.340 |
| JP Morgan Chase | 6,821 | 224 | 0.003% | 1.7 | 0.409 |
| Societe Generale | 4,625 | 125 | 0.004% | 0.0 | 244.839 |
| Industrial & Commercial Bank | 3,520 | 82 | 0.004% | 1.2 | 0.300 |
| Wells Fargo | 2,635 | 62 | 0.004% | 0.9 | 0.300 |
| Credit Suisse | 2,448 | 105 | 0.002% | 1.9 | 0.130 |
| Stone & Youngberg | 2,277 | 72 | 0.003% | 0.0 | 215.181 |
| Deutsche Bank | 1,814 | 50 | 0.004% | 0.7 | 0.255 |
| Citigroup | 1,386 | 33 | 0.004% | 0.5 | 0.273 |
| Merrill Lynch | 1,004 | 71 | 0.001% | 1.6 | 0.061 |
| Other | 950 | 92 | 0.001% | 1.9 | 0.051 |
| Total | $ 38,168 | $ 1,144 | 0.003% | 13.5 | 0.284 |

Commissions reported above are those paid directly by MainePERS. The table does not include other transaction costs the System may incur, nor does it include brokerage commissions incurred indirectly through investments in commingled funds. Brokerage commissions and other transaction costs are excluded from the expense table on page 88. Those commissions and expenses are accounted for in the net income and total return figures reported elsewhere in this report.

Selection of brokers is at the discretion of the System's investment managers, subject to their fiduciary obligations. MainePERS does not have any directed brokerage programs, commission recapture programs, or similar arrangements. Some of the System's managers have soft dollar arrangements with brokers, in which the broker agrees to provide additional services to the manager beyond trade execution. In addition some of the System's managers employ placement agents to market their funds. MainePERS does not pay placement agent fees and requires managers that do use placement agents to disclose the identity of said parties and the method and amount of payment.

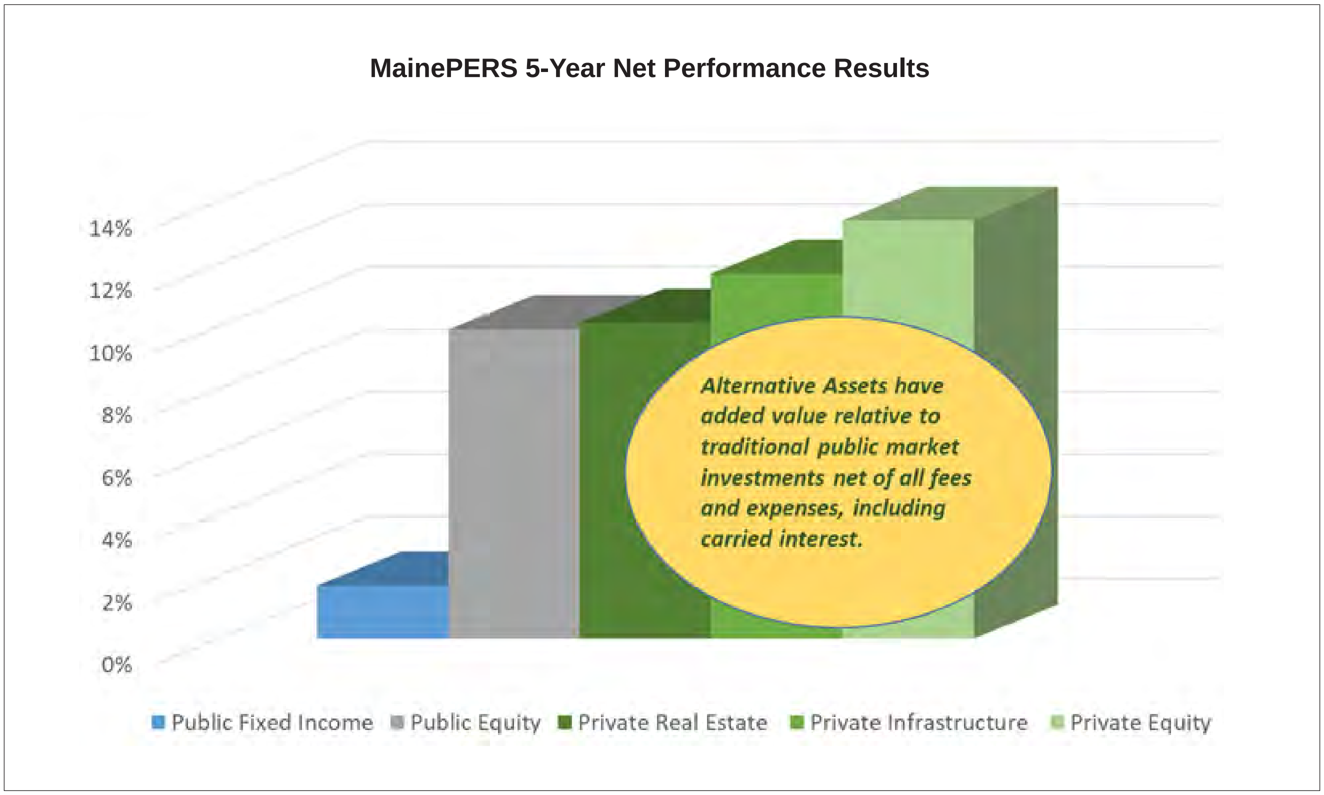
## A NOTE ON ALTERNATIVE ASSETS

The MainePERS Investment Team in 2008 recommended that the System increase its portfolio diversification by adding a number of alternative asset classes to its strategic asset allocation. Prior to this, essentially all of the volatility risk contained in the System's portfolio was due to its holdings of public equities. The expansion into alternative assets began with a strategic target allocation of 20% across Real Estate, Infrastructure, and Private Equity. In subsequent years the target overall allocation to alternative assets was increased to 55%, and Natural Resources, Alternative Credit, and Risk Diversifiers were added to the System's alternatives portfolio. The below chart shows the evolution of the System's Alternative Asset portfolio:




Each of these alternative asset classes plays a unique role in the overall portfolio. Private equity seeks to grow capital at a rate in excess of public equities by taking control positions in individual companies. Real Estate and Infrastructure provide the portfolio with stability, by generally investing in long-lived assets with predictable cash flows. Risk Diversifiers are investments specifically chosen for their ability to earn returns unrelated to public market returns. More in-depth descriptions of alternative asset classes can be found in the System's Investment Policy Statement available on the System's website. The decision to reduce portfolio risk by allocating capital across these asset classes was the result of a deliberative process involving the Trustees, Investment Team and consultants. This process weighed the risks of each asset class (return volatility, illiquidity, potential for extreme downside, adverse selection, etc.) against potential benefits (diversification, stability, higher returns, cash yields, etc.), and took into account interactions between asset classes. The goal of the process was to construct a portfolio that would best enable the System to make future benefit payments while keeping required contributions stable at a reasonable level.

The System's allocation to alternative assets is implemented largely via investments in private funds managed by specialized asset managers. Over the last decade the Investment Team has implemented the System's alternative asset allocation by carefully selecting investment managers in each asset class. This part of the process is crucial – academic research demonstrates the importance of manager selection, as the dispersion between good and poor managers is far wider in alternative assets than in traditional asset classes. The Investment Team has proceeded with the implementation of the System's target allocations in deliberate fashion, and has invested in over 150 individual funds managed by 70 managers. While it is likely that some of these investments may perform below expectations, we believe that the alternative asset portfolio is well-constructed and composed of top performers. While evaluating investment performance requires taking a long-term view, and this is especially true with alternative assets, we are pleased with the performance of the alternative asset portfolio to-date.




Finally, it is important to note that while in many cases expenses associated with alternative assets are higher than for traditional asset classes, all returns and asset values reported in this document are net of all fees and expenses. Many of the System's alternative investment partnership agreements provide for the manager to receive a share of profits, known as carried interest. Carried interest is generally only paid once the System has earned a sufficient return, generally in excess of the System's discount rate. Reported returns and asset values are net of carried interest.

## GROUP LIFE INSURANCE PROGRAM

The Group Life Insurance program is supported by premiums paid by its participants and by reserves. Substantially all the reserves are maintained in an investment portfolio, for which the summary results are displayed below. (Certain assets, such as the cash in the operating bank account, are not considered part of the investment portfolio.) Over this period, the increase in portfolio value is attributable to positive investment return and positive cash flow.

## SUMMARY OF INVESTMENT ACTIVITY

| FY Ended June 30 | Opening Fair Market Value | Closing Fair Market Value | Actual Return | Benchmark Return | Performance |
|---|---|---|---|---|---|
| 2018 | $ 110.5 | $ 120.4 | 8.9% | 8.6% | 0.3% |
| 2017 | $ 97.9 | $ 110.5 | 12.8% | 13.0% | -0.2% |
| 2016 | $ 95.2 | $ 97.9 | 0.9% | 1.0% | -0.1% |
| 2015 | $ 92.2 | $ 95.2 | 2.6% | 2.7% | -0.1% |
| 2014 | $ 78.3 | $ 92.2 | 18.6% | 18.3% | 0.3% |
| 2013 | $ 68.1 | $ 78.3 | 13.4% | 13.1% | 0.3% |
| 2012 | $ 66.4 | $ 68.1 | 0.6% | 0.5% | 0.1% |
| 2011 | $ 58.0 | $ 66.4 | 24.5% | 24.4% | 0.1% |
| 2010 | $ 50.2 | $ 58.0 | 15.1% | 15.1% | 0.1% |
| 2009 | $ 53.0 | $ 50.2 | -18.8% | -19.0% | 0.2% |
| | | 3 yrs ended 2018 | 7.4% | 7.4% | 0.0% |
| | | 5 yrs ended 2018 | 8.6% | 8.5% | 0.0% |
| | | 10 yrs ended 2018 | 7.2% | 7.1% | 0.1% |

In fiscal year 2009, the Group Life Insurance assets were separated from the defined benefit plan assets while maintaining the same type of investment strategy. Up until this change, beginning in November 2005, the assets had been combined with those of the other plans in the general investment portfolio. Prior to November 2005, the assets had been invested in either a medium term, investment grade fixed income portfolio or similar commingled funds. While the assets were invested in a mutual fund, they were not available for the System's own securities lending program. Any securities lending undertaken by the mutual fund is not covered in this report, although any results are reflected in the total return or gain/loss figures.

Over the ten-year period ended June 30, 2018, the actual return on the portfolio was essentially equivalent to the return of the performance benchmark.

The fees paid by the portfolio are consistent with those detailed in the fees and expenses tables of the previous section. For the period of time the portfolio was invested in a mutual fund, fees were consistent with other holders of the institutional class of shares, as detailed in the fund's prospectus.

# ACTUARIAL SECTION

*Maine State Bird: Chickadee*

CHEIRON
Classic Values, Innovative Advice

October 29, 2018

Board of Trustees
Maine Public Employees Retirement System
P.O. Box 349
Augusta, Maine 04332-0349

Dear Members of the Board:

At your request, we have conducted our annual actuarial valuation for each of the funded pension programs administered by the Maine Public Employees Retirement System (MainePERS) as of June 30, 2018. The purpose of this report is to present the annual actuarial valuation results for the various Programs. This report is for the use of the MainePERS Board of Trustees and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party. This valuation report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

**Funding Objective**
The funding objective for the Programs administered by MainePERS is to establish contribution rates that, over time, will remain level as a percentage of payroll while fully funding the Programs. In order to achieve this, we develop contribution rates that will provide for the current costs (i.e., normal cost expressed as a level percentage of payroll) plus a level percentage of payroll amortization of the unfunded liability over a specified period.

To our knowledge, the plan sponsors have consistently funded the full amounts required based on the actuarial valuations and specific statutory provisions.

**Assumptions and Methods**
The actuarial assumptions and methods used in these valuations have been recommended by the actuary and adopted by the Board of Trustees based on the actuary's most recent review of each Program's experience.

We believe that all the costs, liabilities, rates of interest, and other factors for MainePERS have been determined on the basis of actuarial assumptions and methods that are individually reasonable (taking into account the experience of the Programs administered by MainePERS and reasonable expectations) and that, in the aggregate, offer our best estimate of anticipated experience affecting the Programs. Nevertheless, the emerging costs rely on future plan experience conforming to the underlying assumptions and methods as outlined in this report. To the extent that the actual experience of the Programs deviates from the underlying assumptions and methods, or there are any changes in plan provisions or applicable law, the results will vary accordingly.

The calculations in the following exhibits have been made on a basis consistent with our understanding of MainePERS's funding requirements and goals. The Group Life Insurance Program (GLI) numbers disclosed in the Financial Section were produced in accordance with our understanding of the requirements of Governmental Accounting Standards Board (GASB) Statement No. 74. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

**Reliance on Others**
In preparing our report, we relied on information, some oral and some written, supplied by MainePERS. This information includes, but is not limited to, the plan provisions, membership data, and financial information. We performed a limited review of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23 and have found no material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable. Such a review was beyond the scope of our assignment.

**Determination of Discount Rate**

We have not performed formal cash flow projections as described under Paragraph 41 of GASB Statement No. 67. However, Paragraph 43 allows for alternative methods to confirm the sufficiency of the fiduciary net position if the evaluations "can be made with sufficient reliability without a separate projection of cash flows into and out of the pension plan…" In our professional judgment, adherence to the actuarial funding policy described above and detailed further in the individual valuation reports will result in the pension programs having projected fiduciary net positions being greater than or equal to the benefit payments projected for each future period for each program within the System.

**Supporting Schedules**

Cheiron is responsible for the following schedules included within the Financial and Actuarial Sections of the MainePERS Comprehensive Annual Financial Report:

- Schedule of Active Member Valuation Data
- Schedule of Benefit Recipients Valuation Data
- Schedule of Retirees and Beneficiaries Added to and Removed from the Rolls
- Schedule of Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Analysis of Financial Experience
- Solvency Test
- Schedule of Changes in Net OPEB Liability

**Certification**

We believe that the pension Programs administered by MainePERS are adequately and appropriately financed including contributions that are determined and funded on a level cost as a percentage of payroll basis using reasonable actuarial methods and assumptions.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, including the use of assumptions and methods for funding purposes that comply with the Actuarial Standards of Practice. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Gene Kalwarski, FSA, EA
Principal Consulting Actuary

Fiona E. Liston, FSA, EA
Principal Consulting Actuary

cc: Elizabeth Wiley, FSA

CHEIRON

# SECTION I
# DEMOGRAPHIC INFORMATION

**Schedule of Active Member Valuation Data**

| Valuation Date June 30, | Number of Active Members | Annual Payroll of Active Members | Average Annual Pay | Percentage Increase in Average Pay |
|---|---|---|---|---|
| **State Employee and Teacher Retirement Program** | | | | |
| 2018 | 39,843 | $ 1,891,366,352 | $ 47,470 | 2.91% |
| 2017 | 39,836 | 1,837,608,866 | 46,129 | 2.82% |
| 2016 | 39,942 | 1,792,004,417 | 44,865 | 2.88% |
| 2015 | 40,016 | 1,745,075,075 | 43,609 | 1.62% |
| 2014 | 39,669 | 1,702,310,338 | 42,913 | 7.92% |
| 2013 | 41,809 | 1,662,390,557 | 39,762 | (8.93)% |
| 2012 | 39,360 | 1,718,449,172 | 43,660 | 2.97% |
| 2011 | 38,759 | 1,643,389,735 | 42,400 | 1.13% |
| 2010 | 39,884 | 1,672,252,868 | 41,928 | 1.65% |
| 2009 | 40,486 | 1,669,885,710 | 41,246 | 5.83% |
| **Consolidated Plan for Participating Local Districts** | | | | |
| 2018 | 11,416 | $ 562,952,637 | $ 49,313 | 3.93% |
| 2017 | 11,195 | 531,168,594 | 47,447 | 3.37% |
| 2016 | 11,019 | 505,798,133 | 45,902 | 1.63% |
| 2015 | 10,870 | 490,974,092 | 45,168 | 6.51% |
| 2014 | 10,848 | 460,029,637 | 42,407 | 2.79% |
| 2013 | 11,112 | 458,424,764 | 41,255 | (6.41)% |
| 2012 | 10,772 | 474,828,262 | 44,080 | 7.55% |
| 2011 | 10,614 | 435,012,940 | 40,985 | 6.99% |
| 2010 | 10,331 | 395,747,663 | 38,307 | (2.16)% |
| 2009 | 9,719 | 380,541,135 | 39,154 | 3.80% |
| **Non-Consolidated Participating Local Districts** | | | | |
| 2018 | 16 | $ 922,083 | $ 57,630 | 2.09% |
| 2017 | 19 | 1,072,561 | 56,451 | 5.54% |
| 2016 | 21 | 1,123,218 | 53,487 | 1.85% |
| 2015 | 23 | 1,207,796 | 52,513 | 3.86% |
| 2014 | 24 | 1,213,514 | 50,563 | (0.92)% |
| 2013 | 28 | 1,428,984 | 51,035 | 0.97% |
| 2012 | 28 | 1,415,305 | 50,547 | 0.38% |
| 2011 | 31 | 1,561,053 | 50,357 | 23.11% |
| 2010 | 43 | 1,758,909 | 40,905 | (10.90)% |
| 2009 | 43 | 1,974,113 | 45,910 | 9.86% |
| **Judicial Retirement Program** | | | | |
| 2018 | 62 | $ 8,119,342 | $ 130,957 | 6.17% |
| 2017 | 63 | 7,770,523 | 123,342 | 6.44% |
| 2016 | 62 | 7,184,400 | 115,877 | (5.29)% |
| 2015 | 56 | 6,851,612 | 122,350 | 9.76% |
| 2014 | 60 | 6,688,159 | 111,469 | (0.81)% |
| 2013 | 60 | 6,742,444 | 112,374 | (2.36)% |
| 2012 | 59 | 6,790,274 | 115,089 | 0.00% |
| 2011 | 59 | 6,790,233 | 115,089 | (2.39)% |
| 2010 | 59 | 6,956,364 | 117,904 | 0.03% |
| 2009 | 57 | 6,718,453 | 117,868 | 7.63% |
| **Legislative Retirement Program*** | | | | |
| 2018 | 185 | $ 2,710,694 | $ 14,652 | 2.24% |
| 2017 | 185 | 2,651,195 | 14,331 | (2.06)% |
| 2016 | 177 | 2,590,011 | 14,633 | 3.92% |
| 2015 | 180 | 2,534,548 | 14,081 | 1.24% |
| 2014 | 181 | 2,517,431 | 13,908 | (0.14)% |
| 2013 | 182 | 2,534,740 | 13,927 | 0.53% |
| 2012 | 175 | 2,424,480 | 13,854 | 0.04% |
| 2011 | 173 | 2,395,694 | 13,848 | (1.25)% |
| 2010 | 170 | 2,384,083 | 14,024 | 3.67% |
| 2009 | 172 | 2,326,786 | 13,528 | 2.02% |

*Legislative salaries in even-numbered valuation years have been increased to approximate a full session amount.

# SECTION I
# DEMOGRAPHIC INFORMATION

*(continued)*

| Schedule of Benefit Recipients Valuation Data | | | | |
|---|---|---|---|---|
| Valuation Date June 30, | Total Number of Benefit Recipients at Year End | Annual Payments to Benefit Recipients | Average Annual Benefit | Percentage Increase in Average Benefit |
| **State Employee and Teacher Retirement Program** | | | | |
| 2018 | 35,601 | $ 792,094,655 | $ 22,249 | 1.89% |
| 2017 | 34,870 | 761,472,435 | 21,837 | 2.51% |
| 2016 | 34,181 | 728,131,830 | 21,302 | 2.41% |
| 2015 | 33,260 | 691,848,265 | 20,801 | 2.30% |
| 2014 | 32,391 | 658,595,271 | 20,333 | 0.87% |
| 2013 | 31,624 | 637,482,081 | 20,158 | 0.03% |
| 2012 | 30,485 | 614,303,923 | 20,151 | 2.33% |
| 2011 | 28,900 | 569,141,838 | 19,693 | 1.69% |
| 2010 | 28,248 | 547,042,219 | 19,366 | 1.46% |
| 2009 | 27,544 | 525,718,969 | 19,087 | 5.44% |
| **Consolidated Plan for Participating Local Districts** | | | | |
| 2018 | 9,256 | $ 149,732,113 | $ 16,177 | 2.99% |
| 2017 | 9,006 | 141,460,984 | 15,707 | 2.45% |
| 2016 | 8,847 | 135,629,476 | 15,331 | 0.70% |
| 2015 | 8,581 | 130,647,324 | 15,225 | 3.02% |
| 2014 | 8,333 | 123,149,154 | 14,778 | 2.99% |
| 2013 | 8,122 | 116,539,396 | 14,349 | (2.11)% |
| 2012 | 7,520 | 110,230,682 | 14,658 | 5.77% |
| 2011 | 7,409 | 102,681,024 | 13,859 | 2.70% |
| 2010 | 7,172 | 96,787,246 | 13,495 | 1.61% |
| 2009 | 7,021 | 93,249,060 | 13,281 | 5.86% |
| **Non-Consolidated Participating Local Districts** | | | | |
| 2018 | 170 | $ 2,698,875 | $ 15,876 | 2.51% |
| 2017 | 174 | 2,694,654 | 15,487 | (0.14)% |
| 2016 | 172 | 2,667,586 | 15,509 | 2.36% |
| 2015 | 176 | 2,666,644 | 15,151 | 6.69% |
| 2014 | 191 | 2,712,331 | 14,201 | 6.82% |
| 2013 | 196 | 2,605,703 | 13,294 | 0.53% |
| 2012 | 199 | 2,631,584 | 13,224 | 6.95% |
| 2011 | 201 | 2,485,447 | 12,365 | 0.01% |
| 2010 | 198 | 2,445,239 | 12,350 | 12.19% |
| 2009 | 214 | 2,355,639 | 11,008 | 5.24% |
| **Judicial Retirement Program** | | | | |
| 2018 | 75 | $ 3,915,645 | $ 52,209 | 6.28% |
| 2017 | 75 | 3,684,373 | 49,125 | 1.05% |
| 2016 | 74 | 3,597,415 | 48,614 | 1.47% |
| 2015 | 71 | 3,401,651 | 47,911 | (1.25)% |
| 2014 | 67 | 3,250,749 | 48,519 | (3.23)% |
| 2013 | 65 | 3,258,916 | 50,137 | 0.94% |
| 2012 | 63 | 3,129,136 | 49,669 | (0.64)% |
| 2011 | 62 | 3,099,334 | 49,989 | 0.19% |
| 2010 | 56 | 2,794,145 | 49,895 | 1.56% |
| 2009 | 53 | 2,603,792 | 49,128 | (1.13)% |
| **Legislative Retirement Program** | | | | |
| 2018 | 185 | $ 391,070 | $ 2,114 | 4.45% |
| 2017 | 185 | 374,529 | 2,024 | 1.05% |
| 2016 | 174 | 348,592 | 2,003 | 4.00% |
| 2015 | 170 | 327,469 | 1,926 | 3.55% |
| 2014 | 153 | 284,588 | 1,860 | 2.42% |
| 2013 | 155 | 281,433 | 1,816 | (3.25)% |
| 2012 | 141 | 264,716 | 1,877 | 1.19% |
| 2011 | 145 | 268,980 | 1,855 | 1.31% |
| 2010 | 131 | 239,823 | 1,831 | 3.50% |
| 2009 | 130 | 229,960 | 1,769 | 3.33% |

# SECTION I
# DEMOGRAPHIC INFORMATION

*(concluded)*

**Schedule of Retirees and Beneficiaries Added to and Removed from the Rolls**

| Year Ended June 30, | Added to Rolls No. | Added to Rolls Annual Allowance | Removed from Rolls No. | Removed from Rolls Annual Allowance | On Rolls at Year End No. | On Rolls at Year End Annual Allowance |
|---|---|---|---|---|---|---|
| **State Employee and Teacher Retirement Program** | | | | | | |
| 2018 | 1,781 | $ 49,254,819 | 1,050 | $ 18,632,598 | 35,601 | $ 792,094,655 |
| 2017 | 1,641 | 49,809,275 | 952 | 16,468,670 | 34,870 | 761,472,435 |
| 2016 | 1,840 | 52,295,379 | 919 | 16,011,814 | 34,181 | 728,131,830 |
| 2015 | 1,834 | 49,547,474 | 965 | 16,294,480 | 33,260 | 691,848,265 |
| 2014 | 1,668 | 36,572,188 | 901 | 15,458,998 | 32,391 | 658,595,271 |
| 2013 | 1,995 | 37,073,840 | 856 | 13,895,682 | 31,624 | 637,482,081 |
| 2012 | 2,402 | 58,170,235 | 817 | 13,008,150 | 30,485 | 614,303,923 |
| 2011 | 1,515 | 35,608,087 | 863 | 13,508,468 | 28,900 | 569,141,838 |
| 2010 | 1,659 | 36,147,606 | 955 | 14,824,356 | 28,248 | 547,042,219 |
| 2009 | 1,645 | 53,170,359 | 912 | 12,981,213 | 27,544 | 525,718,969 |
| **Consolidated Plan for Participating Local Districts*** | | | | | | |
| 2018 | 602 | $ 12,950,872 | 352 | $ 4,679,743 | 9,256 | $ 149,732,113 |
| 2017 | 521 | 10,098,997 | 362 | 4,267,489 | 9,006 | 141,460,984 |
| 2016 | 543 | 8,643,493 | 277 | 3,661,341 | 8,847 | 135,629,476 |
| 2015 | 620 | 11,937,098 | 372 | 4,438,928 | 8,581 | 130,647,324 |
| 2014 | 516 | 9,816,061 | 305 | 3,206,304 | 8,333 | 123,149,154 |
| **Non-Consolidated Participating Local Districts*** | | | | | | |
| 2018 | 4 | $ 72,079 | 8 | $ 67,858 | 170 | $ 2,698,875 |
| 2017 | 6 | 106,640 | 4 | 79,572 | 174 | 2,694,654 |
| 2016 | 2 | 64,941 | 6 | 63,999 | 172 | 2,667,586 |
| 2015 | 3 | 92,920 | 18 | 138,607 | 176 | 2,666,644 |
| 2014 | 6 | 162,335 | 11 | 55,706 | 191 | 2,712,331 |
| **PLDs (Consolidated and Non-Consolidated Plans)*** | | | | | | |
| 2013 | 881 | $ 9,563,286 | 300 | $ 3,280,453 | 8,318 | $ 119,145,099 |
| 2012 | 425 | 10,710,058 | 316 | 3,014,263 | 7,719 | 112,862,266 |
| 2011 | 516 | 8,796,407 | 276 | 2,862,417 | 7,610 | 105,166,471 |
| 2010 | 422 | 6,462,161 | 287 | 2,834,379 | 7,370 | 99,232,481 |
| 2009 | 326 | 8,821,806 | 287 | 2,912,694 | 7,235 | 95,604,699 |
| **Judicial Retirement Program** | | | | | | |
| 2018 | 5 | $ 460,761 | 5 | $ 229,489 | 75 | $ 3,915,645 |
| 2017 | 1 | 86,958 | 0 | 0 | 75 | 3,684,373 |
| 2016 | 7 | 426,643 | 4 | 230,879 | 74 | 3,597,415 |
| 2015 | 6 | 312,332 | 2 | 161,430 | 71 | 3,401,651 |
| 2014 | 6 | 254,034 | 4 | 262,201 | 67 | 3,250,749 |
| 2013 | 3 | 148,384 | 1 | 18,604 | 65 | 3,258,916 |
| 2012 | 3 | 142,235 | 2 | 112,433 | 63 | 3,129,136 |
| 2011 | 6 | 305,189 | 0 | 0 | 62 | 3,099,334 |
| 2010 | 3 | 190,353 | 0 | 0 | 56 | 2,794,145 |
| 2009 | 5 | 266,650 | 2 | 147,444 | 53 | 2,603,792 |
| **Legislative Retirement Program** | | | | | | |
| 2018 | 8 | $ 30,692 | 8 | $ 14,151 | 185 | $ 391,070 |
| 2017 | 20 | 48,314 | 9 | 22,377 | 185 | 374,529 |
| 2016 | 12 | 38,391 | 8 | 17,268 | 174 | 348,592 |
| 2015 | 25 | 53,264 | 8 | 10,383 | 170 | 327,469 |
| 2014 | 5 | 10,934 | 7 | 7,779 | 153 | 284,588 |
| 2013 | 18 | 24,752 | 4 | 8,035 | 155 | 281,433 |
| 2012 | 2 | 9,025 | 6 | 13,289 | 141 | 264,716 |
| 2011 | 18 | 36,695 | 4 | 7,538 | 145 | 268,980 |
| 2010 | 5 | 15,259 | 4 | 5,396 | 131 | 239,823 |
| 2009 | 18 | 34,185 | 8 | 9,642 | 130 | 229,960 |

*This schedule was developed in aggregate for the Participating Local Districts prior to 2014. Beginning with 2014, it was developed split between the Consolidated Plan and the Non-Consolidated PLDs.

# SECTION II
# ACCOUNTING INFORMATION
*(continued)*

**Schedule of Change in Net Pension Liability**
**as of June 30, 2018**

| | State Employee & Teacher Retirement Program | Consolidated Plan for PLDs | Non- Consolidated PLDs | Judicial Retirement Program | Legislative Retirement Program |
|---|---|---|---|---|---|
| **Total Pension Liability** | | | | | |
| Service Cost | $ 215,826,380 | $ 76,190,510 | $ 134,755 | $ 1,487,383 | $ 282,199 |
| Interest | 914,535,911 | 207,492,396 | 2,529,450 | 4,442,404 | 565,088 |
| Change in benefit terms | 0 | (106,123,366) | 0 | 0 | 0 |
| Difference between expected and actual experience | 34,151,279 | 1,285,304 | (572,913) | 468,895 | (90,816) |
| Change in assumptions | 191,998,939 | 46,439,540 | 660,646 | 697,807 | 99,915 |
| Benefit payments, including refunds | (810,211,176) | (152,087,885) | (2,788,424) | (3,804,709) | (459,746) |
| Net change in Total Pension Liability | $ 546,301,333 | $ 73,196,499 | $ (36,486) | $ 3,291,780 | $ 396,640 |
| Total Pension Liability – beginning of year | $ 13,484,886,512 | $ 3,016,660,721 | $ 38,028,287 | $ 65,000,144 | $ 8,163,310 |
| Total Pension Liability – end of year | $ 14,031,187,845 | $ 3,089,857,220 | $ 37,991,801 | $68,291,924 | $ 8,559,950 |
| **Plan Fiduciary Net Position** | | | | | |
| Contributions – Employer | $ 340,508,159 | $ 56,092,662 | $ 594,730 | $ 1,179,328 | $ 0 |
| Contributions – Member | 140,844,880 | 48,050,203 | 68,609 | 603,875 | 153,881 |
| Transfers | (5,355) | (386,621) | 0 | 0 | 0 |
| Net Investment Income | 1,077,827,553 | 259,699,518 | 3,477,464 | 6,606,904 | 1,176,463 |
| Benefit payments, including refunds | (810,211,176) | (152,087,885) | (2,788,424) | (3,804,709) | (459,746) |
| Administrative Expenses | (10,076,242) | (2,411,666) | (33,056) | (61,708) | (11,002) |
| Net Change in Plan Fiduciary Net Position | $ 738,887,819 | $ 208,956,211 | $ 1,319,323 | $ 4,523,690 | $ 859,596 |
| Plan Fiduciary Net Position – beginning of year | $ 10,893,291,864 | $ 2,607,223,644 | $ 35,735,739 | $ 66,710,150 | $ 11,896,225 |
| Plan Fiduciary Net Position – end of year | $ 11,632,179,683 | $ 2,816,179,855 | $ 37,056,061 | $ 71,233,840 | $ 12,755,821 |
| **Net Pension Liability/(Asset) – end of year** | $ 2,399,008,162 | $ 273,677,365 | $ 935,740 | $ (2,941,916) | $ (4,195,871) |

# SECTION II
# ACCOUNTING INFORMATION

**Sensitivity of Net Pension Liability to Changes in Discount Rate as of June 30, 2018**

| | State Employee & Teacher Retirement Program | Consolidated Plan for PLDs | Non- Consolidated PLDs | Judicial Retirement Program | Legislative Retirement Program |
|---|---|---|---|---|---|
| **Discount Rate** | | | | | |
| 1% Decrease | 5.75% | 5.75% | 5.75% | 5.75% | 5.75% |
| Current Discount Rate | 6.75% | 6.75% | 6.75% | 6.75% | 6.75% |
| 1% Increase | 7.75% | 7.75% | 7.75% | 7.75% | 7.75% |
| **Net Pension Liability** | | | | | |
| 1% Decrease | $ 4,118,391,649 | $ 645,021,221 | $ 4,734,920 | $ 3,241,765 | $ (3,338,833) |
| Current Discount Rate | 2,399,008,162 | 273,677,365 | 935,740 | (2,941,916) | (4,195,871) |
| 1% Increase | 963,017,602 | (73,427,244) | (2,518,060) | (8,316,508) | (4,939,812) |

# SECTION II
# ACCOUNTING INFORMATION
*(continued)*

The table below is a gain/loss analysis of the changes in the actuarial liability, reflecting variances between actual experience and assumed experience for different kinds of risk as specified in the GFOA GAAFR.

**Analysis of Financial Experience**
**Gain and Loss in Accrued Liability During Year**
**Resulting from Differences Between Assumed Experience and Actual Experience**
**For Year Ended June 30, 2018**

| Type of Activity | State Employee & Teacher Retirement Program | Consolidated Plan for PLDs | Non- Consolidated PLDs | Judicial Retirement Program | Legislative Retirement Program |
|---|---|---|---|---|---|
| Investment Income | $ 94,329,730 | $ 25,142,719 | $ 382,430 | $ 657,144 | $ 112,650 |
| Combined Liability Experience | (34,151,279) | (1,285,304) | 242,589 | (468,895) | 90,816 |
| Gain (or Loss) During Year from Financial Experience | $ 60,178,451 | $ 23,857,415 | $ 625,019 | $ 188,249 | $ 203,466 |
| Non-Recurring Items | (191,998,939) | 59,683,826 | (330,323) | (697,807) | (99,915) |
| Composite Gain (or Loss) During Year | **$** (131,820,488) | **$** 83,541,241 | **$** 294,696 | **$** (509,558) | **$** 103,551 |

# SECTION II
# ACCOUNTING INFORMATION

*(continued)*

**Solvency Test**
**Aggregate Actuarial Liabilities For**

| Valuation Date June 30, | (1) Active Member Contributions | (2) Retirees, Vested Terms, Beneficiaries | (3) Active Members (Employer Financed Portion) | Reported Assets* | Portion of Actuarial Liabilities Covered by Reported Assets (1) | (2) | (3) |
|---|---|---|---|---|---|---|---|
| **State Employee and Teacher Retirement Program** | | | | | | | |
| 2018 | $ 2,453,797,249 | $ 9,030,789,541 | $ 2,546,601,055 | $ 11,419,986,651 | 100% | 99% | 0% |
| 2017 | 2,402,112,525 | 8,727,549,999 | 2,355,223,988 | 10,904,082,221 | 100% | 97% | 0% |
| 2016 | 2,359,818,665 | 8,399,121,582 | 2,311,014,701 | 10,512,524,178 | 100% | 97% | 0% |
| 2015 | 2,339,138,044 | 7,831,348,903 | 2,445,800,107 | 10,375,552,498 | 100% | 100% | 8% |
| 2014 | 2,315,075,905 | 7,572,038,284 | 2,433,044,594 | 10,017,512,006 | 100% | 100% | 5% |
| 2013 | 2,290,505,939 | 7,181,259,077 | 2,358,884,866 | 9,177,749,627 | 100% | 96% | 0% |
| 2012 | 2,271,164,594 | 6,656,860,191 | 2,625,281,496 | 8,880,730,120 | 100% | 99% | 0% |
| 2011 | 2,229,984,967 | 6,453,384,730 | 2,598,295,489 | 8,736,885,121 | 100% | 100% | 2% |
| 2010 | 2,117,903,830 | 6,856,828,427 | 3,642,411,748 | 8,313,459,810 | 100% | 90% | 0% |
| 2009 | 2,002,784,767 | 6,622,143,609 | 3,696,290,956 | 8,325,951,236 | 100% | 95% | 0% |
| **Consolidated Plan for Participating Local Districts** | | | | | | | |
| 2018 | $ 494,411,535 | $ 1,818,566,082 | $ 776,879,603 | $ 2,764,807,391 | 100% | 100% | 58% |
| 2017 | 472,362,260 | 1,721,058,286 | 823,240,175 | 2,609,806,231 | 100% | 100% | 51% |
| 2016 | 452,446,198 | 1,654,981,662 | 782,312,774 | 2,489,157,281 | 100% | 100% | 49% |
| 2015 | 438,925,747 | 1,543,532,803 | 738,477,459 | 2,433,186,149 | 100% | 100% | 61% |
| 2014 | 423,097,001 | 1,462,031,828 | 724,529,016 | 2,379,733,634 | 100% | 100% | 68% |
| 2013 | 412,347,408 | 1,378,065,748 | 675,521,588 | 2,179,961,872 | 100% | 100% | 58% |
| 2012 | 398,895,449 | 1,262,186,227 | 707,745,483 | 2,103,481,277 | 100% | 100% | 63% |
| 2011 | 379,478,840 | 1,175,482,545 | 676,024,931 | 2,084,982,632 | 100% | 100% | 78% |
| 2010 | 347,801,024 | 1,083,097,662 | 654,598,374 | 2,011,019,138 | 100% | 100% | 89% |
| 2009 | 319,531,110 | 1,039,566,071 | 641,162,528 | 2,046,361,132 | 100% | 100% | 107% |
| **Non-Consolidated Participating Local Districts** | | | | | | | |
| 2018 | $ 4,461,906 | $ 30,747,638 | $ 2,782,257 | $ 36,380,088 | 100% | 100% | 42% |
| 2017 | 4,468,152 | 30,140,204 | 3,419,931 | 35,772,138 | 100% | 100% | 34% |
| 2016 | 4,494,490 | 30,215,191 | 3,337,304 | 35,516,058 | 100% | 100% | 24% |
| 2015 | 4,640,093 | 29,733,833 | 4,144,814 | 35,942,796 | 100% | 100% | 38% |
| 2014 | 4,667,251 | 31,696,569 | 3,382,954 | 35,485,488 | 100% | 97% | 0% |
| 2013 | 4,764,800 | 29,539,283 | 4,180,808 | 33,454,845 | 100% | 97% | 0% |
| 2012 | 4,757,033 | 27,810,149 | 4,313,899 | 33,172,070 | 100% | 100% | 14% |
| 2011 | 4,815,718 | 26,832,938 | 4,939,550 | 34,483,299 | 100% | 100% | 57% |
| 2010 | 4,695,405 | 27,353,693 | 5,287,301 | 34,317,862 | 100% | 100% | 43% |
| 2009 | 5,096,286 | 25,975,475 | 1,405,938 | 37,349,924 | 100% | 100% | 447% |
| **Judicial Retirement Program** | | | | | | | |
| 2018 | $ 11,180,063 | $ 36,854,246 | $ 20,257,615 | $ 69,934,400 | 100% | 100% | 108% |
| 2017 | 10,933,820 | 33,422,798 | 20,643,526 | 66,776,230 | 100% | 100% | 109% |
| 2016 | 10,592,002 | 33,418,288 | 19,710,981 | 64,265,782 | 100% | 100% | 103% |
| 2015 | 9,717,368 | 30,422,680 | 18,771,569 | 57,074,951 | 100% | 100% | 90% |
| 2014 | 9,466,378 | 28,785,537 | 16,308,727 | 55,419,017 | 100% | 100% | 105% |
| 2013 | 9,464,604 | 26,605,274 | 16,304,907 | 51,055,251 | 100% | 100% | 92% |
| 2012 | 9,379,428 | 24,731,810 | 12,229,440 | 49,735,004 | 100% | 100% | 128% |
| 2011 | 9,028,737 | 24,690,578 | 14,148,982 | 49,324,784 | 100% | 100% | 110% |
| 2010 | 8,510,723 | 26,915,670 | 17,723,306 | 47,677,635 | 100% | 100% | 69% |
| 2009 | 7,980,202 | 25,570,008 | 16,993,110 | 48,478,344 | 100% | 100% | 88% |
| **Legislative Retirement Program** | | | | | | | |
| 2018 | $ 2,591,378 | $ 6,277,075 | $ (308,503) | $ 12,523,131 | 100% | 100% | 1,185% |
| 2017 | 2,516,620 | 6,172,223 | (525,533) | 11,908,009 | 100% | 100% | 613% |
| 2016 | 2,505,647 | 5,795,917 | (622,106) | 11,405,769 | 100% | 100% | 499% |
| 2015 | 2,444,638 | 5,581,571 | (467,916) | 11,219,880 | 100% | 100% | 683% |
| 2014 | 2,464,847 | 5,073,388 | (33,042) | 10,775,701 | 100% | 100% | 9,798% |
| 2013 | 2,363,217 | 4,965,686 | (456,289) | 9,771,955 | 100% | 100% | 535% |
| 2012 | 2,321,819 | 3,895,976 | 25,844 | 9,322,419 | 100% | 100% | 12,013% |
| 2011 | 2,228,233 | 4,002,993 | (506,033) | 9,040,180 | 100% | 100% | 555% |
| 2010 | 2,099,683 | 3,680,940 | 292,741 | 8,634,635 | 100% | 100% | 975% |
| 2009 | 2,005,895 | 3,636,651 | (142,737) | 8,717,885 | 100% | 100% | 2,155% |

*Reported assets are measured at actuarial value. Results would be different if market value of assets were used. Despite the name of this exhibit, the liabilities presented in this schedule are not an appropriate measurement of the settlement value of the Program.

# SECTION II
# ACCOUNTING INFORMATION
*(concluded)*

The Maine Public Employees Retirement System covers Postretirement Group Life Insurance obligations for the participants of the State Employee and Teacher Retirement Program, the Judicial Retirement Program, and the Legislative Retirement Program, which we collectively call the State Sponsored Plans and the Participating Local Districts Plans (PLDs).

**Schedule of Changes in Net OPEB Liability**
**as of June 30, 2018**

| | State Sponsored Plans Retiree Group Life Insurance | PLD Retiree Group Life Insurance |
|---|---|---|
| **Total OPEB Liability** | | |
| Service cost (BOY) | $ 2,122,079 | $ 442,863 |
| Interest (includes interest on service cost) | 12,531,082 | 1,706,200 |
| Change in benefit terms | 0 | 0 |
| Difference between expected and actual experience | 1,957,220 | 2,045,678 |
| Change in assumptions | 3,199,639 | 1,554,074 |
| Benefit payments, including refunds | (7,269,810) | (1,530,346) |
| Net change in total OPEB liability | $ 12,540,210 | $ 4,218,469 |
| | | |
| Total OPEB Liability - beginning of year | $ 183,722,693 | $ 31,804,436 |
| Total OPEB Liability - end of year | $ 196,262,903 | $ 36,022,905 |
| | | |
| **Plan Fiduciary Net Position** | | |
| Contributions - Employer | $ 7,638,453 | $ $1,069,640 |
| Contributions - Member | 0 | 0 |
| Net Investment Income | 7,804,839 | 1,333,324 |
| Benefit payments, including refunds | (7,269,810) | (1,530,346) |
| Administrative Expense | (769,717) | (133,624) |
| Net Change in Plan Fiduciary Net Position | $ 7,403,765 | $ 738,994 |
| | | |
| Plan Fiduciary Net Position - beginning of year | $ 86,882,864 | $ 15,082,934 |
| Plan Fiduciary Net Position - end of year | $ 94,286,629 | $ 15,821,928 |
| | | |
| **Net OPEB Liability - end of year** | **$ 101,976,274** | **$ 20,200,977** |

# STATE EMPLOYEE AND TEACHER PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

## State Employee and Teacher Program

### 1. Membership

Membership is a condition of employment for state employees and teachers, and optional for elected and appointed officials.

Membership ceases on the earlier of withdrawal of contributions, retirement, or death.

### 2. Member Contributions

Except as otherwise described below, members are required to contribute 7.65% of earnable compensation. Member contributions earn 2.4% annual interest.

Contribution Requirements for Special State Employee Groups

State police and inland fisheries and wildlife officers employed before September 1, 1984: required to contribute 8.65% of earnable compensation for 20 years of service and 7.65% thereafter.

Forest rangers employed before September 1, 1984: required to contribute 8.65% of earnable compensation until eligible for retirement and 7.65% thereafter.

1998 Special Plan employees, which includes state prison employees, airplane pilots, forest rangers, defense, veterans and emergency management firefighters employed at Bangor International Airport, corrections employees, Baxter State Park Authority rangers, fire marshals, investigators and inspectors, oil and hazardous materials emergency response workers, and capitol security officers: required to contribute 8.65% of earnable compensation for 25 years and 7.65% thereafter.

State police employed on or after September 16, 1984 and special agent investigators hired before June 21, 1982: required to contribute 8.65% of earnable compensation for 25 years and 7.65% thereafter.

Inland fisheries and wildlife officers and marine resources officers employed on or after September 1, 1984: required to contribute 8.65% of earnable compensation for 25 years and 7.65% thereafter.

### 3. Average Final Compensation

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) that produce the highest such average. For compensation paid on or after July 1, 1993, increases in earnable compensation of greater than 5% per year or greater than 10% over the highest three years are not included in calculating average final compensation unless the employer pays the cost of including such compensation. Earnable compensation does not include sick and vacation pay for those members who had less than ten years of service at July 1, 1993. For members for whom sick and vacation pay is includable in earnable compensation, these payments are included in applying the caps described above.

### 4. Creditable Service

Creditable service includes service while a member, certain service prior to the establishment of the Program, purchased military service credit, other purchased service credit, and service while receiving disability benefits under the Program.

### 5. Service Retirement Benefits

#### *A. Regular Plan (State Employees and Teachers)*

i. Provisions for Members with at Least Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 60

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement and at least normal retirement age.

## STATE EMPLOYEE AND TEACHER PROGRAM
## SUMMARY OF PROGRAM AND PLAN PROVISIONS
*(continued)*

Eligibility for Members not in Active Service at Retirement and not in Active Service on or after October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or after October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of creditable service and up to 25 years of prior service, reduced by the following approximate percentages for each year retirement age is less than age 60.

| Age | Reduction | Age | Reduction |
|---|---|---|---|
| 45 | 29.3% | 53 | 16.6% |
| 46 | 28.0 | 54 | 14.6 |
| 47 | 26.6 | 55 | 12.5 |
| 48 | 25.2 | 56 | 10.3 |
| 49 | 23.6 | 57 | 7.9 |
| 50 | 22.0 | 58 | 5.4 |
| 51 | 20.3 | 59 | 2.8 |
| 52 | 18.5 | 60 | 0.0 |

Form of Payment: Life annuity.

ii. Provisions for Members with Less Than Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 62

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement age and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement and not in Active Service on or after October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or after October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by 6% for each year retirement age is less than age 62.

Form of Payment: Life annuity.

iii. Provisions for Members with Less Than Five Years of Creditable Service on July 1, 2011

Normal Retirement Age: 65

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement age and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement and not in Active Service on or after October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or after October 1, 1999: At least five years of creditable service and at least normal retirement age.

# STATE EMPLOYEE AND TEACHER PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS
*(continued)*

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by 6% for each year retirement age is less than age 65.

Form of Payment: Life annuity.

***B. Special Plans (State Employees)***

i. State Police Employed Before September 16, 1984 and Inland Fisheries and Wildlife Officers Employed Before September 1, 1984

Eligibility: 20 years of creditable service in named positions.

Benefit: One-half of average final compensation plus 2% for each year of service in excess of 20. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: 50% joint and survivor annuity or life annuity.

ii. Forest Rangers Employed Before September 1, 1984

Eligibility: Age 50 with 25 years of creditable service as a forest ranger.

Benefit: One-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

iii. 1998 Special Plan

1998 Entrants: State prison employees, airline pilots, forest rangers and liquor inspectors, employed after August 31, 1984; defense, veterans, and emergency management firefighters employed on and after July 1, 1998.

2000 Entrants: Baxter State Park Authority rangers, correctional employees and state fire marshals employed on or after January 1, 2000.

2002 Entrants: Capitol Police and oil and hazardous materials emergency response workers.

Eligibility: Ten years of creditable service under the 1998 Special Plan in one or a combination of the covered capacities and the attainment of age 55 – OR – 25 years of creditable service in one or a combination of the covered capacities.

Benefit: For service prior to coverage in the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 60, 62, or 65 (as determined by the applicable Regular Plan provisions described in 5.A.), except oil and hazardous materials emergency response workers, and certain prison employee, and Capitol Police benefits are reduced for retirement before age 55.

-PLUS-

For service under the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 55.

Form of Payment: Life annuity.

# STATE EMPLOYEE AND TEACHER PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

iv. 25 & Out Plan

1998 Entrants: State police employed on or after September 16, 1984 and special agent investigators hired before June 21, 1982.

2002 Entrants: Inland fisheries and wildlife officers and marine resources officers employed on and after August 31, 1984.

Eligibility: 25 years of creditable service in named positions.

Benefit: 1/50 of average final compensation multiplied by years of service.

Form of Payment: Life annuity.
Members in Special Plans who fail to qualify for Special Plan benefits can receive Regular Plan benefits when and as eligible and qualified.

v. Minimum Service Retirement Benefit

$100 per month

**6. Disability Retirement Benefits Other Than No Age Benefits (See Item 7)**

Eligibility: Disabled as defined in the MainePERS statutes prior to applicable normal retirement age, employed prior to October 16, 1992 and did not elect No Age Disability Benefits, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 66⅔% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after two years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of ten years following normal retirement age or on the date that the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at same rate as any cost-of-living adjustments for which the member is eligible (not subject to a cap) (see item 12). On the date when service benefits reach a level of 66⅔% of average final compensation or ten years after the normal retirement date, if earlier, the disability converts to a service retirement benefit based on service and average final compensation at that time.

**7. No Age Disability Retirement Benefits**

Eligibility: Disabled as defined in the MainePERS statutes, employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No Age Disability, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after two years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at the same rate as any cost-of-living adjustments for which the member is eligible (not subject to a cap) (see item 12). On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that time.

## STATE EMPLOYEE AND TEACHER PROGRAM
## SUMMARY OF PROGRAM AND PLAN PROVISIONS
*(continued)*

**8. Pre-Retirement Ordinary Death Benefits**

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, children, or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 13); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent children, parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, children, older parents, or estate.

**9. Pre-Retirement Accidental Death Benefits**

Eligibility: Death while active or disabled resulting from an injury received in the line-of-duty.

Benefit:

- If the member leaves no dependent children, two-thirds of the member's average final compensation to the surviving spouse until death.
- If the member is survived by a spouse who has the care of dependent children of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation while having the care of dependent children. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of member's average final compensation until death.
- If the member is survived by a spouse who does not have the care of the member's dependent children, the surviving spouse and dependent children shall share equally an annual sum equal to the member's average final compensation. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of the member's average final compensation until death.
- If the member leaves no spouse, the dependent children shall share an annual amount equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child."

**10. Termination Benefit**

Eligibility: Termination of service other than by retirement or death with at least five years of creditable service.

Benefit: The member's choice of a refund of the accumulated contributions with interest or a retirement benefit using creditable service and average final compensation as of date of termination, deferred to normal retirement age.

**11. Refund of Contributions**

Eligibility: Termination of service other than by retirement or death with less than five years of creditable service.

Benefit: Refund of member's accumulated contributions with interest.

**12. Cost-of-Living Adjustments**

All service and disability retirement and survivor benefits are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index. If the percentage change is negative, then no adjustment is made in that year. In subsequent years, the adjustment that would have been made will be adjusted downward to the extent necessary to recoup the full actuarial value of not having made the previous year's negative adjustment. This process of adjustment may occur over a multi-year period if needed to recoup the full value of negative changes in the Index.

Cost-of-living adjustments (COLA) are effective September 1 of each year and are applied to that portion of the benefit that is not in excess of a COLA cap whose value grows annually with the same adjustment as the COLA

## STATE EMPLOYEE AND TEACHER PROGRAM
## SUMMARY OF PROGRAM AND PLAN PROVISIONS
*(concluded)*

(see values below) for all benefits that have been in payment for at least twelve months as of that date. The maximum annual increase is 3%. Average final compensation used in determining disability benefits for disabled members is similarly adjusted for purposes of determining the recipient's service retirement benefit if and when the recipient moves to service retirement.

COLA Cap History: (value as of September 1 of listed year when COLA effective):

2014 - $20,000.00
2015 - $20,420.00
2016 - $20,940.71
2017 - $21,474.70
2018 - $21,818.30

Members who did not have ten years of service on July 1, 1993 will begin receiving cost-of-living adjustments at the later of 12 months after their normal retirement age and the first September 1 following a minimum of twelve months of being in receipt of their benefit.

**13. Methods of Payment of Service Retirement Benefits**

At retirement, a member who retires with a benefit must choose from the following methods of payment:

Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining member contribution balance, if any, at the date of death (where the member contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by member contributions).

Option 2: 100% joint and survivor annuity.

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6:100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with pop-up*.

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.

**14. Plan Changes since Prior Valuation**

None.

This Appendix B is intended to be a brief summary of provisions. In the event of a dispute, applicable statutes and administrative policy supersede this report description.

# STATE EMPLOYEE AND TEACHER PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

## A. Actuarial Assumptions

### 1. Annual Rate of Investment Return

| | |
|---|---|
| State Employees | 6.75% |
| Teachers | 6.75% |

Rate is net of both administrative and investment expense.

### 2. Cost-of-Living Adjustment (COLA) Assumed Rate

| | |
|---|---|
| State Employees | 2.20% |
| Teachers | 2.20% |

### 3. Annual Rate of Individual Salary Increase (% at Selected Years of Service)

| Service | State Employees | Teachers |
|---|---|---|
| 0 | 8.75% | 14.50% |
| 5 | 5.00% | 5.75 |
| 10 | 3.75% | 4.75 |
| 15 | 3.20% | 4.00 |
| 20 | 2.95% | 2.75 |
| 25 and over | 2.75% | 2.75 |

The above rates include a 2.75% across-the-board increase at each year of service.

### 4. Sample Rates of Termination (% at Selected Years of Service)

| Service | State Employees and Teachers |
|---|---|
| 0 | 33.50% |
| 5 | 10.50 |
| 10 | 5.95 |
| 15 | 4.25 |
| 20 | 4.00 |
| 25 | 4.00 |

Non-vested members are assumed to take a refund of contributions with interest. Once vested, the member is assumed to elect the greater of the deferred vested benefit or a refund of member contributions with interest based on present value at time of termination.

# STATE EMPLOYEE AND TEACHER PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

**5. Sample Rates of Mortality for Healthy Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | | | |
|---|---|---|---|---|
| | State Employees | | Teachers | |
| Age | Male | Female | Male | Female |
| 50 | 41 | 32 | 39 | 26 |
| 55 | 58 | 43 | 55 | 35 |
| 60 | 78 | 62 | 74 | 51 |
| 65 | 111 | 95 | 106 | 79 |
| 70 | 172 | 153 | 163 | 126 |
| 75 | 280 | 251 | 266 | 207 |
| 80 | 471 | 424 | 448 | 350 |
| 85 | 822 | 753 | 783 | 621 |
| 90 | 1,453 | 1,351 | 1,383 | 1,115 |
| 95 | 2,301 | 2,230 | 2,191 | 1,840 |

Rates for State Employees are based on 104% and 120% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020. Proposed rates for Teachers are based on 99% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table for both males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to the start of the Healthy Annuitant Mortality Table, respectively, both projected using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**6. Sample Rates of Mortality for Active Healthy Lives at Selected Ages (number of deaths per 10,000 members)***

| | (Showing values in 2018) | | | |
|---|---|---|---|---|
| | State Employees | | Teachers | |
| Age | Male | Female | Male | Female |
| 20 | 4 | 2 | 4 | 1 |
| 25 | 4 | 2 | 4 | 2 |
| 30 | 4 | 3 | 4 | 2 |
| 35 | 5 | 3 | 5 | 3 |
| 40 | 6 | 5 | 6 | 4 |
| 45 | 9 | 8 | 9 | 6 |
| 50 | 17 | 13 | 16 | 10 |
| 55 | 28 | 20 | 27 | 16 |
| 60 | 47 | 29 | 45 | 24 |
| 65 | 83 | 44 | 79 | 36 |

* For State Regular and Teachers 5% of deaths assumed to arise out of and in the course of employment; for State Special 20% of deaths are assumed to arise out of and in the course of employment.

Rates for State Employees are based on 104% and 120% of the RP-2014 Total Dataset Employee Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Healthy Annuitant Mortality Table rates after the end of the Total Employee Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020. Proposed rates for Teachers are based on 99% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table for both males and females, using the RP-2014 Total Dataset Healthy Annuitant Mortality Table

# STATE EMPLOYEE AND TEACHER PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

rates after the end of the Total Employee Mortality Table, respectively, both projected using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**7. Sample Rates of Mortality for Disabled Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | | | |
|---|---|---|---|---|
| | State Employees | | Teachers | |
| Age | Male | Female | Male | Female |
| 25 | 82 | 24 | 82 | 24 |
| 30 | 79 | 30 | 79 | 30 |
| 35 | 92 | 42 | 92 | 42 |
| 40 | 111 | 58 | 111 | 58 |
| 45 | 173 | 90 | 173 | 90 |
| 50 | 211 | 119 | 211 | 119 |
| 55 | 244 | 150 | 244 | 150 |
| 60 | 277 | 178 | 277 | 178 |
| 65 | 332 | 216 | 332 | 216 |
| 70 | 429 | 294 | 429 | 294 |

Rates are based on 108% and 105% of the RP-2014 Total Dataset Disabled Annuitant Mortality Table, respectively, for males and females, projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**8. Sample Rates of Retirement at Selected Ages (number retiring per 1,000 members)**

*Teachers and State Regular Plans*

| | State Employees and Teachers | | |
|---|---|---|---|
| Age | Tier 1 | Tier 2 | Tier 3 |
| 45 | 13 | NA | NA |
| 50 | 29 | NA | NA |
| 55 | 40 | 40 | 40 |
| 59 | 150 | 40 | 40 |
| 60 | 250 | 75 | 40 |
| 61 | 200 | 175 | 40 |
| 62 | 200 | 250 | 40 |
| 63 | 200 | 150 | 75 |
| 64 | 250 | 200 | 225 |
| 65 | 350 | 250 | 300 |
| 70 | 200 | 200 | 300 |
| 75 | 1,000 | 1,000 | 1,000 |

In the case of State Regular and Teacher employees, Tier 1 refers to those who had accrued at least 10 years of service by July 1, 1993. Tier 2 refers to those who had not accrued at least 10 years of service by July 1, 1993 or were hired after that date but had five years of service by July 1, 2011. Tier 3 refers to those who did not have five years of service by July 1, 2011. Rates are only applied for early retirement when the member is at least age 57. Earlier rates are applicable for normal retirement.

# STATE EMPLOYEE AND TEACHER PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS
*(continued)*

*State Special Plans*

Members of State Special Plans other than the 25 & Out Plan and the 1998 Special Plan are all currently assumed to retire at a rate of 50% per year, beginning when they reach eligibility for unreduced benefits, with a 100% assumed rate at age 70.

Members of the 1998 Special Plan are assumed to retire at rates that vary by age and whether service is less than 25 years or not. Sample revised rates are as follows:

| 1998 Special Plan Retirement | | |
|---|---|---|
| Age | Service < 25 | Service >= 25 |
| 55 | 20.0% | 25.0% |
| 57 | 10.0% | 25.0% |
| 60 | 20.0% | 30.0% |
| 62 | 15.0% | 30.0% |
| 65 | 23.4% | 30.0% |
| 67 | 36.8% | 50.0% |
| 70 | 100.0% | 100.0% |

**9. Sample Rates of Disability at Selected Ages (number becoming disabled per 10,000 members)***

| | State Employees | | |
|---|---|---|---|
| Age | Regular | Special | Teachers |
| 25 | 5.0 | 5.4 | 2.1 |
| 30 | 6.1 | 6.5 | 2.3 |
| 35 | 9.3 | 9.9 | 2.3 |
| 40 | 14.8 | 15.8 | 3.1 |
| 45 | 22.8 | 24.4 | 7 |
| 50 | 34.0 | 36.4 | 10.9 |
| 55 | 39.9 | 42.6 | 14.9 |
| 60 | 43.4 | 16.4 | 18.8 |

* 10% assumed to receive Workers Compensation benefits offsetting disability benefit; also, current rates for State Special groups are higher by 7 per 10,000 at all ages.

**10. Family Composition Assumptions**

80% of active members are assumed to be married and have two children born when the member is 24 and 28; children are assumed dependent until age 18; female spouse is assumed to be three years younger than male spouse; member is assumed to have no dependent parents; unmarried members are assumed to have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.

**11. Vacation/Sick Leave Credits**

For members who had ten years of service on July 1, 1993, credits for unused vacation and sick leave may be used to increase final average compensation and/or creditable service. In order to reflect this, projected retirement benefits are increased by 0.48% for state (regular) employees and 0.75% for teachers.

**12. Technical and Miscellaneous Assumptions**

Decrement Timing: Middle of the valuation year

Pay Increase Timing: Salary provided is treated as the rate of pay as of valuation date. Annual increases are applied as of the beginning of each subsequent valuation.

# STATE EMPLOYEE AND TEACHER PROGRAM ACTUARIAL ASSUMPTIONS and METHODS

*(concluded)*

Member Contribution Interest Rate: 2.4%

COLA Timing: September 1

**13. Rationale for Assumptions**

The assumptions were adopted by the Board of Trustees at their July 14, 2016 meeting. The demographic assumptions adopted are based on an experience study covering the period from June 30, 2012 through June 30, 2015 and the economic assumptions are based on this experience study along with advice of the MainePERS investment consultants.

**14. Changes since Last Valuation**

The annual rate of investment return was lowered from 6.875% to 6.75%.

**15. Rationale for Change in Actuarial Assumptions**

The Board continuously reviews the investment return assumption and adopted a reduced rate of 6.75% effective with the 2018 valuation, at the advice of its investment consultant.

**B. Actuarial Methods**

**1. Funding Method**

For the plans in this Program, the funding methodology employed is the entry age normal funding method. Under this method, there are two components to the total contribution: the normal cost rate (NC rate), and the unfunded actuarial liability rate (UAL rate). Both of these rates are developed for each plan within the Program, consisting of the Teacher Program, the State Regular Plan, and several State Special Plans.

For each plan in the Program, an individual entry age normal cost rate is determined for each active member. The normal cost is determined by the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into a plan, of each active member's projected future benefit. Second, this value is then divided by the value, also at entry age, of the member's expected future salary. Finally, the rate is reduced by the member contribution rate to produce the employer normal contribution rate. These rates are then multiplied by each member's salary as of the valuation date to get the total normal cost dollars as of the valuation date for that plan and then divided by the total payroll at the valuation for the plan to get the normal cost rate for that plan. This process results in specific normal cost rates for each of the plans in the Program.

The unfunded actuarial liability under the entry age normal funding method equals the present value, at the time of valuation, of the future benefit payments less the present value of future employer normal cost contributions, future member contributions, future UAL payments, and current assets. The UAL rate determined is the percentage that applied to member payroll is expected to amortize the UAL according to the Program's amortization policy. Specifically, the remaining original UAL has 10 years of its prescribed amortization period remaining and all other gains and losses are amortized over twenty-year periods beginning on the date as of which they occur.

**2. Asset Valuation Method**

For purposes of determining the employer contributions to the Program and the Program's funded ratio, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

**3. Changes since Last Valuation**

The amortization period for future gains and losses was changed from ten years to twenty years. Gains and Losses since 2012 were reset using a 20-year amortization years as of July 1, 2018.

**4. Rationale for Change**

Maine State's Constitution was amended to change the amortization of gains and losses from using a 10-year period to using a 20-year period.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

**<u>Consolidated Plan for Participating Local Districts</u>**

**1. Member Contributions**

Members are required to contribute a percentage of earnable compensation, which varies by Plan as follows:

| | |
|---|---|
| Regular AC & AN | 8.0% |
| Regular BC | 4.5% |
| Special 1C & 1N | 8.0% |
| Special 2C & 2N | 8.0% |
| Special 3C & 3N | 9.5% for first 25 years, 8.0% after |
| Special 4C & 4N | 9.0% for first 25 years, 8.0% after |

Member contributions earn 2.4% annual interest.

As of May 10, 2018, contribution rates for both PLDs and members will be determined annually based on the risk-sharing contribution methodology adopted by the Board of Trustees. The rates for FY 2020 will be the first set by this methodology. The details are not yet finalized though, so the existing rates described above are assumed to continue for all periods in the future for the sake of this valuation.

**2. Average Final Compensation**

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) that produce the highest such average.

**3. Creditable Service**

Creditable service includes service while a member, certain service prior to the establishment of the Plan, purchased service credit of which there are several types, and service while receiving disability benefits under the Plan.

Effective July 1, 2019, the ability to use accrued, unused vacation and sick leave towards retirement benefits will be available only to those who have 20 or more years of creditable service under the Plan at retirement.

**4. Service Retirement Benefits**

***Regular Plan AC***

Normal Retirement Age:

Plan members prior to July 1, 2014: 60

New members to the Plan on or after July 1, 2014: 65

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement and not in Active Service on or after October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement but in Active Service on or after October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service under Consolidated Plan AC reduced by:

Plan members prior to July 1, 2014: approximately 2¼% for each year that a member is younger than age 60 at retirement.

New members to the Plan on or after July 1, 2014: 6% for each year that a member is younger than age 65 at retirement.

## CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

Beginning July 1, 2019, the age reduction factors are a set of approximately actuarially equivalent rates rather than the above rates for members with less than 20 years of creditable service under the PLD Consolidated Plan on July 1, 2019. The above 2¼% and 6% rates remain in effect for those members with 20 or more years of creditable service under the PLD Consolidated Plan on July 1, 2019.

Form of Payment: Life annuity ("full benefit"), unless an optional method of payment is selected.

Cost-of-Living Adjustment: See item 11.

***Regular Plan AN***

This benefit plan is the same as Regular Benefit Plan AC, except that there is no provision for cost-of-living adjustments.

***Regular Plan BC***

Normal Retirement Age:

| | |
|---|---|
| Plan members prior to July 1, 2014: | 60 |
| New members to the Plan on or after July 1, 2014: | 65 |

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement and not in Active Service on or after October 1, 1999: At least 10 years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement but in Active Service on or after October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/100 of average final compensation multiplied by years of membership service under Consolidated Plan BC reduced by:

Plan members prior to July 1, 2014: approximately 2¼% for each year that a member is younger than age 60 at retirement.

New members to the Plan on or after July 1, 2014: 6% for each year that a member is younger than age 65 at retirement.

Beginning July 1, 2019, the age reduction factors are a set of approximately actuarially equivalent rates rather than the above rates for members with less than 20 years of creditable service under the PLD Consolidated Plan on July 1, 2019. The above 2¼% and 6% rates remain in effect for those members with 20 or more years of creditable service under the PLD Consolidated Plan on July 1, 2019.

Form of Payment: Life annuity ("full benefit"), unless an optional method of payment is selected.

Cost-of-Living Adjustment: See item 11.

***Regular Plan Notes***

1. Under certain circumstances, Regular Plan service can count, on a pro rata basis specific to the applicable Special Plan, toward meeting Special Plan benefit eligibility requirements.

2. The actual benefit for service earned prior to coverage under the Consolidated Plan may be based on a variable percentage of average final compensation multiplied by years of service under any previous plan(s) (the percentage depends on the previous plan(s)).

***Special Plan 1C***

Eligibility: 20 years of creditable service in named positions.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

Benefit: One-half of average final compensation plus 2% for each year of service in excess of 20 years of service.

Form of Payment: Life annuity (“full benefit”), unless an optional method of payment is selected.

Cost-of-Living Adjustment: See item 11.

***Special Plan 1N***

This benefit plan is identical to Special Benefit Plan 1C, except that there is no provision for cost-of-living adjustments.

***Special Plan 2C***

Eligibility: 25 years of creditable service in named positions.

Benefit: One-half average final compensation plus 2% for each year of service in excess of 25 years of service.

Form of Payment: Life annuity (“full benefit”), unless an optional method of payment is selected.

Cost-of-Living Adjustment: See item 11.

***Special Plan 2N***

This benefit plan is identical to Special Benefit Plan 2C, except that there is no provision for cost-of-living adjustments.

***Special Plan 3C***

Eligibility: 25 years of creditable service in named positions.

Benefit: Two thirds of average final compensation plus 2% for each year of service in excess of 25 years of service.

Form of Payment: Life annuity (“full benefit”), unless an optional method of payment is selected.

Cost-of-Living Adjustment: See item 11.

***Special Plan 3N***

This benefit is identical to Regular Benefit Plan 3C, except that there is no provision for cost-of-living adjustments.

***Special Plan 4C***

Eligibility: Age 55 with 25 years of creditable service in named positions.

Benefit: 1/50 of average final compensation multiplied by years of membership service under Consolidated Plan 4C reduced by:

Plan members prior to July 1, 2014: approximately 2¼% for each year that a member is younger than age 55 at retirement.

New members to the Plan on or after July 1, 2014: 6% for each year that a member is younger than age 55 at retirement.

Beginning July 1, 2019, the age reduction factors are a set of approximately actuarially equivalent rates rather than the above rates for members with less than 20 years of creditable service under the PLD Consolidated Plan on July 1, 2019. The above 2¼% and 6% rates remain in effect for those members with 20 or more years of creditable service under the PLD Consolidated Plan on July 1, 2019.

Form of Payment: Life annuity (“full benefit”), unless an optional method of payment is selected.
Cost-of-Living Adjustment: See item 11.

***Special Plan 4N***

This benefit plan is identical to Special Benefit Plan 4C, except that there is no provision for cost-of-living adjustments.

## CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
## SUMMARY OF PROGRAM AND PLAN PROVISIONS
*(continued)*

***Special Plan Notes***

1. If a Special Plan member fails to meet the Special Plan eligibility criteria, their service retirement benefit is that provided by the applicable underlying Regular Plan; Special Plan service credits are used toward Regular Plan eligibility requirements.

2. Service in all Special Plans counts, on a percentage basis, toward meeting the benefit eligibility requirements of any Special Plan.

3. The actual benefit for service earned prior to coverage under the Consolidated Plan may be based on a variable percentage of average final compensation multiplied by years of service under any previous plan(s) (the percentage depends on the previous plan(s)).

**5. Pre-Retirement Accidental Death Benefits**

Eligibility: Death while active or disabled resulting from injury received in the line of duty.

Benefit:

- If the member leaves no dependent children, two-thirds of the member's average final compensation to the surviving spouse until death.

- If the member is survived by a spouse who has the care of dependent children of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation while having the care of dependent children. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of member's average final compensation until death.

- If the member is survived by a spouse who does not have the care of the member's dependent children, the surviving spouse and dependent children shall share equally an annual sum equal to the member's average final compensation. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of the member's average final compensation until death.

- If the member leaves no spouse, the dependent children shall share an annual amount equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child."

**6. Pre-Retirement Ordinary Death Benefits**

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, children, or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 12); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent children, parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, children, older parents, or estate.

**7. Disability Retirement Benefits Other Than No Age Benefits (See Item 8)**

Eligibility: Disabled as defined in the MainePERS statutes prior to normal retirement age, employed prior to October 16, 1992 and did not elect No Age Disability Benefits, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 66⅔% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins upon termination of service and ceases on cessation of disability or after five years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of ten years following normal retirement age or the date that the service retirement benefit equals or exceeds the disability benefit.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at same rate as any cost-of-living adjustments for which the member is eligible (see item 11). On the date when service benefits reach a level of 66⅔% of average final compensation or ten years after the normal retirement date, if earlier, the disability converts to a service retirement benefit based on service and average final compensation at that time.

**8. No-Age Disability Benefits**

Eligibility: Disabled as defined in the MainePERS statutes, employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No-Age Disability, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins upon termination of service and ceases on cessation of disability or after five years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at the same rate as any cost-of-living adjustments for which the member is eligible (see item 11). On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that date.

**9. Termination Benefit**

Eligibility: Termination of service other than by retirement or death with at least 5 years of creditable service.

Benefit: The member's choice of a refund of the accumulated contributions with interest or a retirement benefit using creditable service and average final compensation as of date of termination, deferred to normal retirement age.

**10. Refund of Contributions**

Eligibility: Termination of service other than by retirement or death with less than 5 years of Creditable Service.

Benefit: Refund of member's accumulated contributions with interest.

**11. Cost-of-Living Adjustments (COLA)**

All service and disability retirement and survivor benefits payable to (or in relation to) benefit recipients who were employed by a PLD that elected a plan that provides for a COLA are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index. If the percentage change is negative, then no adjustment is made in that year. In subsequent years, the adjustment that would have been made will be adjusted downward to the extent necessary to recoup the full actuarial value of not having made the previous year's negative adjustment. This process of adjustment may occur over a multi-year period if needed to recoup the full value of negative changes in the Index.

Cost-of-living adjustments are effective September 1 and are applied to all benefits that have been in payment for 6 months for retirees who retire prior to September 1, 2015, 12 months for retirees who retired on or after September 1, 2015, and 24 months for those who retire on or after September 1, 2019.

The maximum annual increase is 2.5%, applicable to COLAs issued in September 2018 and later (prior to this, 3% for the 2014 through 2017 COLAs and 4% prior to the 2014 COLA).

Possible downward adjustments to future COLAs may occur if severe market losses result in contribution rates under the risk-sharing contribution methodology that exceed the contribution caps for PLD and member rates under this methodology. In this eventuality, a reduced COLA may be paid to retirees.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(concluded)*

**12. Methods of Payment of Service Retirement Benefits**

At retirement, a member who retires with a benefit must choose from the following methods of payment:

Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining member contribution balance, if any, at the date of death (where the member contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by member contributions).

Option 2: 100% joint and survivor annuity.

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6:100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with pop-up*.

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.

**13. Plan Changes since Prior Valuation**

The following plan changes were adopted by the MainePERS Board of Trustees on May 10, 2018:

- COLA changes
- Contribution changes (not yet reflected in this actuarial valuation but anticipated to be the basis of the FY 2020 rates adopted for both members and PLDs)
- Early retirement factor changes
- Unused Sick and/or Vacation time conversion

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# ACTUARIAL ASSUMPTIONS and METHODS

## A. Actuarial Assumptions

### 1. Annual Rate of Investment Return

| | |
|---|---|
| PLDs | 6.75% |

Rate is net of both administrative and investment expense.

### 2. Cost-of-Living Adjustment (COLA) Assumed Rate

| | |
|---|---|
| PLDs | 1.91% |

### 3. Sample Rates of Individual Salary Increases (% at Selected Years of Service)

| Years of Service | Disability Rate |
|---|---|
| 0 | 9.00% |
| 1 | 4.80 |
| 2 | 3.60 |
| 3 | 3.10 |
| 4 | 2.75 |
| 5 | 2.75 |
| 10 | 2.75 |
| 15 | 2.75 |
| 20 | 2.75 |
| 25 | 2.75 |
| 30 | 2.75 |

The above rates include a 2.75% across-the-board increase at each year of service.

### 4. Sample Rates of Termination (% at Selected Years of Service)

| Service | Regular | Special |
|---|---|---|
| 0 | 25.0% | 25.0% |
| 1 | 20.0 | 12.5 |
| 2 | 15.0 | 10.0 |
| 3 | 12.0 | 7.5 |
| 4 | 10.0 | 5.0 |
| 5 | 9.0 | 4.0 |
| 10 | 6.0 | 2.5 |
| 15 | 4.0 | 2.5 |
| 20 | 2.5 | 2.5 |

Non-vested members are assumed to take a refund of contributions with interest. Once vested, the member is assumed to elect the greater of the deferred vested benefit or a refund of member contributions with interest based on present value at time of termination.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

**5. Sample Rates of Mortality for Healthy Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 50 | 41 | 32 |
| 55 | 58 | 43 |
| 60 | 78 | 62 |
| 65 | 111 | 95 |
| 70 | 172 | 153 |
| 75 | 280 | 251 |
| 80 | 471 | 424 |
| 85 | 822 | 753 |
| 90 | 1,453 | 1,351 |
| 95 | 2,301 | 2,230 |

Rates are based on 104% and 120% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85 grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**6. Sample Rates of Mortality for Active Lives at Selected Ages (number of deaths per 10,000 members)***

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 20 | 4 | 2 |
| 25 | 4 | 2 |
| 30 | 4 | 3 |
| 35 | 5 | 3 |
| 40 | 6 | 5 |
| 45 | 9 | 8 |
| 50 | 17 | 13 |
| 55 | 28 | 20 |
| 60 | 47 | 29 |
| 65 | 83 | 44 |

* For Regular Plans, 5% of deaths assumed to arise out of and in the course of employment, while for Special Plans, 20% of deaths are assumed to arise out of and in the course of employment.

Rates are based on 104% and 120% of the RP-2014 Total Dataset Employee Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Healthy Annuitant Mortality Table rates after the end of the Total Employee Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

**7. Sample Rates of Mortality for Disabled Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 25 | 82 | 24 |
| 30 | 79 | 30 |
| 35 | 92 | 42 |
| 40 | 111 | 58 |
| 45 | 173 | 90 |
| 50 | 211 | 119 |
| 55 | 244 | 150 |
| 60 | 277 | 178 |
| 65 | 332 | 216 |
| 70 | 429 | 294 |

Rates are based on 108% and 105% of the RP-2014 Total Dataset Disabled Annuitant Mortality Table, respectively, for males and females, projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**8. Sample Rates of Retirement at Selected Ages (number retiring per 1,000 members)**

*Regular Plans*

| | Regular Plans | |
|---|---|---|
| Age | Tier 1 | Tier 2 |
| 45 | 50 | 50 |
| 50 | 50 | 50 |
| 55 | 50 | 50 |
| 60 | 200 | 50 |
| 65 | 250 | 200 |
| 70 | 1,000 | 1,000 |

In the case of PLD employees, Tier 1 refers to those who were hired prior to July 1, 2014, and Tier 2 refers to those who were hired on or after July 1, 2014.

*Special Plans*

| Special Plans | |
|---|---|
| 20 | 400 |
| 21-24 | 300 |
| 25 | 400 |
| 26-29 | 300 |
| 30 | 400 |
| 31-34 | 300 |
| 35+ | 1,000 |

Note that the all retirement rates are only applied once the member is eligible to retire, so those in 25-year plans are not assumed to retire at 20 years of service. For Special Plan retirements with less than 20 years of service, we assume 250 retirements per 1,000 members.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

**9. Sample Rates of Disability at Selected Ages (number becoming disabled per 10,000 members)***

| Age | Revised Assumption |
|---|---|
| 25 | 1.8 |
| 30 | 2.4 |
| 35 | 3.0 |
| 40 | 4.2 |
| 45 | 9.0 |
| 50 | 19.8 |
| 55 | 36.6 |
| 60 | 65.0 |

* 10% assumed to receive Workers Compensation benefits offsetting disability benefit.

**10. Family Composition Assumptions**

80% of active members are assumed to be married and have two children born when the member is 24 and 28; children are assumed dependent until age 18; female spouse is assumed to be three years younger than male spouse; member is assumed to have no dependent parents; unmarried members are assumed to have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.

**11. Technical and Miscellaneous Assumptions:**

Decrement Timing: Middle of the valuation year

Pay Increase Timing: Salary provided is treated as the rate of pay as of valuation date. Annual increases are applied as of the beginning of each subsequent valuation.

Member Contribution Interest Rate: 2.4%

COLA Timing: September 1

**12. Rationale for Assumptions:**

The assumptions were adopted by the Board of Trustees at their July 14, 2016 meeting. The demographic assumptions adopted are based on an experience study covering the period from June 30, 2012 through June 30, 2015 and the economic assumptions are based on this experience study along with advice of the MainePERS investment consultants.

**13. Changes since Last Valuation:**

The annual rate of investment return was lowered from 6.875% to 6.75%. Due to the plan changes, the COLA assumption was lowered from 2.20% to 1.91%.

**14. Rationale for Change in Actuarial Assumptions:**

The Board continuously reviews the investment return assumption and adopted a reduced rate of 6.75% effective with the 2018 valuation, at the advice of its investment consultant.

# CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
# ACTUARIAL ASSUMPTIONS and METHODS

*(concluded)*

## B. Actuarial Methods

### 1. Funding Method

This section reflects the methodology that was in effect through the June 30, 2017 valuation to determine the FY 2019 contribution rates. While we anticipate that the method will be altered for developing the FY 2020 contribution rates, the new risk-sharing contribution methodology has not yet been finalized. We will provide an update of this appendix as part of the communication that will be provided under separate cover for the FY 2020 contribution rates.

The entry age normal actuarial funding method is used to determine costs. Under this funding method, the total PLD contribution rate consists of two elements: the PLD normal cost rate and the Pooled Unfunded Actuarial Liability (PUAL) rate. The actual contribution for a given PLD will include an Individual Unpooled Unfunded Actuarial Liability (IUUAL) payment as well, unless the PLD came into the Plan without an IUUAL or has paid off its IUUAL.

For each of the Regular and Special Plans in the Consolidated Plan, an individual entry age normal cost rate is determined for each active member. The normal cost is determined by the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into a plan, of each active member's projected future benefits. Second, this value is then divided by the value, also at entry age, of the member's expected future salary. Finally, the rate is reduced by the member contribution rate to produce the employer normal contribution rate. These rates are then multiplied by each member's salary as of the valuation date to get the total normal cost dollars as of the valuation date for that plan and then divided by the total payroll at the valuation for the plan to get the normal cost rate for that plan. This process results in specific normal cost rates for each of the Regular and Special Plans in the Consolidated Plan.

The unfunded actuarial liability under the entry age normal funding method equals the present value, at the time of valuation, of the future benefit payments less the present value of future normal costs, future member contributions, future IUUAL payments, and current assets. Under the Consolidated Plan, a PUAL Rate is calculated for the Consolidated Plan in the Aggregate based on the PUAL being amortized over a 20-year period commencing with the June 30, 2015 valuation date and any layers of PUAL arising after that date amortized over individual 20-year periods. This amortization uses a level percentage of pay method with payroll assumed to increase at 2.75% per year. The amortization payment thus derived for the valuation year is then divided by the total payroll to develop a rate that is then allocated to each plan within the Consolidated Plan on the basis of total normal cost plus member contributions for each such plan. That is, those plans that constitute a larger portion of the overall liability will pay a larger portion of the pooled UAL payment when this rate is positive and receive a larger UAL credit when this rate is negative.

The Initial Unpooled Unfunded Actuarial Liability (IUUAL) was calculated at entry into the Consolidated Plan for each PLD that entered with liabilities in excess of their assets and is paid off through payment of a specific dollar amount until paid off.

### 2. Asset Valuation Method

For purposes of determining PLD contribution to the Plan and the Plan's funding status, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

### 3. Changes since Last Valuation

As noted in item 1 of this section, we anticipate that there will be changes in the methodology utilized to develop contributions based on this valuation, but will be providing this information under separate cover once the details of the new risk-sharing contribution methodology are finalized.

# JUDICIAL RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

**Judicial Retirement Program**

**1. Membership**

Membership is a condition of employment for all judges serving on or after December 1, 1984.

Membership ceases on the earlier of withdrawal of contributions, retirement, or death.

Judges who retired prior to December 1, 1984 are covered under a different program.

**2. Member Contributions**

Members are required to contribute 7.65% of earnable compensation. Member contributions earn 2.4% annual interest.

**3. Average Final Compensation**

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) that produce the highest such average.

For active judges as of July 1, 2003, July 1, 2004, and July 1, 2010, average final compensation shall be increased to reflect missed salary increases.

**4. Creditable Service**

Creditable service includes the following:

A. All judicial service as a member after November 30, 1984;

B. All judicial service before December 1, 1984;

C. Service credited while receiving disability benefits under the Program; and

D. All service creditable under the State Employee and Teacher Program provided the member elects to have the member's own and the employer's contributions on behalf of such service transferred to the Judicial Program.

**5. Service Retirement Benefits**

Eligibility:

***A. Eligibility for Members with at Least Ten Years of Creditable Service on July 1, 1993***

i. Eligibility for members in active service and inactive members:

25 years of creditable service.

ii. Eligibility alternative for members in active service:

Attainment of age 70 with at least one year of service immediately before retirement.

iii. Eligibility for members not in active service at retirement and not in active service on or after October 1, 1999:

Attainment of age 60 and ten years of creditable service.

iv. Eligibility for members not in active service at retirement, but in active service on or after October 1, 1999:

Attainment of age 60 and five years of creditable service.

# JUDICIAL RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

**B. *Eligibility for Members with Less Than Ten Years of Creditable Service on July 1, 1993***

i. Eligibility for members in active service and inactive members:

25 years of creditable service.

ii. Eligibility alternative for members in active service:

Attainment of age 70 with at least one year of service immediately before retirement.

iii. Eligibility for members not in active service at retirement and not in active service on or after October 1, 1999:

Attainment of age 62 with ten years of creditable service.

iv. Eligibility for members in active service on or after October 1, 1999:

Attainment of age 62 and five years of creditable service.

**C. *Eligibility for Members with Less Than Five Years of Creditable Service on July 1, 2011***

i. Eligibility for members in active service and inactive members:

25 years of creditable service.

ii. Eligibility alternative for members in active service:

Attainment of age 70 with at least one year of service immediately before retirement.

iii. Eligibility for members not in active service at retirement and not in active service on or after October 1, 1999:

Attainment of age 65 with ten years of creditable service.

iv. Eligibility for members in active service on or after October 1, 1999:

Attainment of age 65 and five years of creditable service.

Benefit Sum of:

(1) for service after November 30, 1984 and before July 1, 1998 and creditable service allowed under Section 1302(3), 2% of average final compensation multiplied by years of service;

(2) for service on or after July 1, 1998, 3% of average final compensation multiplied by years of service; and,

(3) for judicial service prior to December 1, 1984, 75% of November 30, 1984 salary for the position held at retirement, pro-rated for prior service less than ten years.

The benefit is reduced for retirement before age 60 at the approximate rates listed in the table below, for members with at least ten years creditable service on July 1, 1993.

| Age | Reduction | Age | Reduction |
|---|---|---|---|
| 45 | 29.3% | 53 | 16.6% |
| 46 | 28.0 | 54 | 14.6 |
| 47 | 26.6 | 55 | 12.5 |
| 48 | 25.2 | 56 | 10.3 |
| 49 | 23.6 | 57 | 7.9 |
| 50 | 22.0 | 58 | 5.4 |
| 51 | 20.3 | 59 | 2.8 |
| 52 | 18.5 | 60 | 0.0 |

# JUDICIAL RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

The benefit is reduced for retirement before age 62 by 6% for each year the member's age is less than age 62, if less than ten years creditable service on July 1, 1993, but at least five years creditable service on July 1, 2011.

The benefit is reduced for retirement before age 65 by 6% for each year the member's age is less than age 65, if less than five years creditable service on July 1, 2011.

Maximum Benefit: Total benefit cannot exceed 70% of average final compensation except as provided under the minimum benefit provision.

Minimum Benefit: For a judge in service and age 50 or older on December 1, 1984, 75% of salary on June 30, 1984 for the position held at retirement, increased by 6% per year from June 30, 1984 to June 30, 1989 or retirement date if earlier, and increased beyond June 30, 1989 by the costofliving increase granted the previous September.

Form of Payment: Life annuity; except, for a judge in service and age 50 before December 1, 1984, 50% joint and survivor annuity to surviving spouse.

**6. Disability Retirement Benefits Other Than No Age Benefits (See Item 7)**

Eligibility: Disabled as defined in the Judicial Retirement Program statutes prior to normal retirement age, employed prior to October 16, 1992 and did not elect the No Age Disability Option, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 66⅔% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after two years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of age 70 and the date that the service retirement benefit exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at same rate as any cost-of-living adjustments for which the member is eligible (not subject to a cap) (see item 12). On the date when service benefits reach a level of 66⅔% of average final compensation or at age 70, if earlier, the disability converts to a service retirement benefit based on service and average final compensation at that time.

**7. No Age Disability Retirement Benefits**

Eligibility: Disabled as defined in the Judicial Retirement Program statutes, employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No Age Disability, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation. A member in service on November 30, 1984 may elect benefits applicable for retirement before December 1, 1984.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after two years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at the same rate as any cost-of-living adjustments for which the member is eligible (not subject to a cap) (see item 12). On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that time.

# JUDICIAL RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

**8. Pre-Retirement Ordinary Death Benefits**

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, children, or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 13); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent children, parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, children, older parents, or estate.

Minimum Benefit: For a judge in service prior to December 1, 1984, one-half of the judge's retirement benefit determined on date of death, payable to the spouse and/or dependent children.

**9. Pre-Retirement Accidental Death Benefits**

Eligibility: Death while active or disabled resulting from an injury received in the lineofduty.

Benefit:

- If the member leaves no dependent children, two-thirds of the member's average final compensation to the surviving spouse until death.
- If the member is survived by a spouse who has the care of dependent children of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation while having the care of dependent children. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of member's average final compensation until death.
- If the member is survived by a spouse who does not have the care of the member's dependent children, the surviving spouse and dependent children shall share equally an annual sum equal to the member's average final compensation. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of the member's average final compensation until death.
- If the member leaves no spouse, the dependent children shall share an annual amount equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child".

**10. Termination Benefit**

Eligibility: Termination of service other than by retirement or death with at least five years of creditable service.

Benefit: The member's choice of a refund of the accumulated contributions with interest or a retirement benefit using creditable service and average final compensation as of date of termination, deferred to normal retirement age.

**11. Refund of Contributions**

Eligibility: Termination of service other than by retirement or death with less than five years of creditable service.

Benefit: Refund of member's accumulated contributions with interest.

**12. Cost-of-Living Adjustments**

All service and disability retirement and survivor benefits are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index. If the percentage change is negative, then no adjustment is made in that year. In subsequent years, the adjustment that would have been made will be adjusted downward to the extent necessary to recoup the full actuarial value of not having made the previous year's negative adjustment. This process of adjustment may occur over a multi-year period if needed to recoup the full value of negative changes in the Index.

# JUDICIAL RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(concluded)*

Cost-of-living adjustments (COLA) are effective September 1 of each year and are applied to that portion of the benefit that is not in excess of a COLA cap whose value grows annually with the same adjustment as the COLA (see values below) for all benefits that have been in payment for at least twelve months as of that date. The maximum annual increase is 3%. Average final compensation used in determining disability benefits for disabled members is similarly adjusted for purposes of determining the recipient's service retirement benefit if and when the recipient moves to service retirement.

COLA Cap History: (value as of September 1 of listed year when COLA effective):

2014 - $20,000.00
2015 - $20,420.00
2016 - $20,940.71
2017 - $21,474.70
2018 - $21,818.30

Members who did not have ten years of service on July 1, 1993 will begin receiving cost-of-living adjustments at the latter of 12 months after their normal retirement age and the first September 1 following a minimum of twelve months of being in receipt of their benefit.

Minimum benefits are increased 6% per year from July 1985 through June 1989, and as described above thereafter.

**13. Methods of Payment of Service Retirement Benefits**

At retirement, a member who retires with a benefit must choose from the following methods of payment:
Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining member contribution balance, if any, at the date of death (where the member contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by member contributions).

Option 2: 100% joint and survivor annuity.

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6:100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with pop-up*.

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.

**14. Program Changes since Prior Valuation**

None.

# JUDICIAL RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

## A. Actuarial Assumptions

### 1. Annual Rate of Investment Return

| | |
|---|---|
| Judicial | 6.75% |

Rate is net of both administrative and investment expense.

### 2. Cost-of-Living Adjustment (COLA) Assumed Rate

| | |
|---|---|
| Judicial | 2.20% |

### 3. Annual Rate of Individual Salary Increase:

| | |
|---|---|
| Judicial | 2.75% |

### 4. Sample Rates of Termination (% at Selected Ages)

| Age | Termination Rate |
|---|---|
| 25 | 7% |
| 30 | 6 |
| 35 | 5 |
| 40 | 4 |
| 45 | 3 |
| 50 | 2 |
| 55 | 1 |

Non-vested members are assumed to take a refund of contributions with interest. Once vested, the member is assumed to elect the greater of the deferred vested benefit or a refund of member contributions with interest based on present value at time of termination.

### 5. Sample Rates of Mortality for Healthy Annuitant Lives at Selected Ages (number of deaths per 10,000 members)

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 50 | 41 | 32 |
| 55 | 58 | 43 |
| 60 | 78 | 62 |
| 65 | 111 | 95 |
| 70 | 172 | 153 |
| 75 | 280 | 251 |
| 80 | 471 | 424 |
| 85 | 822 | 753 |
| 90 | 1,453 | 1,351 |
| 95 | 2,301 | 2,230 |

Rates are based on 104% and 120% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85 grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

# JUDICIAL RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

**6. Sample Rates of Mortality for Active Healthy Lives at Selected Ages (number of deaths per 10,000 members)***

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 20 | 4 | 2 |
| 25 | 4 | 2 |
| 30 | 4 | 3 |
| 35 | 5 | 3 |
| 40 | 6 | 5 |
| 45 | 9 | 8 |
| 50 | 17 | 13 |
| 55 | 28 | 20 |
| 60 | 47 | 29 |
| 65 | 83 | 44 |

* 5% of deaths assumed to arise out of and in the course of employment

Rates are based on 104% and 120% of the RP-2014 Total Dataset Employee Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Healthy Annuitant Mortality Table rates after the end of the Total Employee Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**7. Sample Rates of Mortality for Disabled Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 25 | 82 | 24 |
| 30 | 79 | 30 |
| 35 | 92 | 42 |
| 40 | 111 | 58 |
| 45 | 173 | 90 |
| 50 | 211 | 119 |
| 55 | 244 | 150 |
| 60 | 277 | 178 |
| 65 | 332 | 216 |
| 70 | 429 | 294 |

Rates are based on 108% and 105% of the RP-2014 Total Dataset Disabled Annuitant Mortality Table, respectively, for males and females, projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

**8. Sample Rates of Retirement at Selected Ages (number retiring per 1,000 members)**

| Age | Tier 1 | Tier 2 | Tier 3 |
|---|---|---|---|
| 60-61 | 1,000 | NA | NA |
| 62-64 | 1,000 | 500 | NA |
| 65-69 | 1,000 | 500 | 500 |
| 70-74 | 1,000 | 500 | 500 |
| 75+ | 1,000 | 1,000 | 1,000 |

# JUDICIAL RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

In the case of judicial employees, Tier 1 refers to those who had accrued at least 10 years of service by July 1, 1993. Tier 2 refers to those who had not accrued at least 10 years of service by July 1, 1993 or were hired after that date but had five years of service by July 1, 2011. Tier 3 refers to those who did not have five years of service by July 1, 2011.

**9. Sample Rates of Disability at Selected Ages (number becoming disabled per 10,000 members)**

| Age | Disability Rate |
|---|---|
| 25 | 0% |
| 30 | 0 |
| 35 | 0 |
| 40 | 0 |
| 45 | 0 |
| 50 | 0 |
| 55 | 0 |
| 60 | 0 |

**10. Family Composition Assumptions**

80% of active members are assumed to be married and have two children born when the member is 24 and 28; children are assumed dependent until age 18; female spouse is assumed to be three years younger than male spouse; member is assumed to have no dependent parents; unmarried members are assumed to have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.

**11. Technical and Miscellaneous Assumptions**

Decrement Timing: Middle of the valuation year

Pay Increase Timing: Salary provided is treated as the rate of pay as of valuation date. Annual increases are applied as of the beginning of each subsequent valuation.

Member Contribution Interest Rate: 2.4%

COLA Timing: September 1

**12. Rationale for Actuarial Assumptions**

The assumptions were adopted by the Board of Trustees at their July 14, 2016 meeting. The demographic assumptions adopted are based on an experience study covering the period from June 30, 2012 through June 30, 2015 and the economic assumptions are based on this experience study along with advice of the MainePERS investment consultants.

**13. Changes since Last Valuation**

The annual rate of investment return was lowered from 6.875% to 6.75%.

**14. Rationale for Change in Actuarial Assumptions**

The Board continuously reviews the investment return assumption and adopted a reduced rate of 6.75% effective with the 2018 valuation, at the advice of its investment consultant.

**B. Actuarial Methods**

**1. Funding Method**

The entry age normal actuarial funding method is used to determine costs. Under this funding method, the total employer contribution rate consists of two elements: the employer normal cost rate and the unfunded actuarial liability (UAL) rate.

# JUDICIAL RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(concluded)*

Under this method, the actuarial present value of the projected benefits of each active included in the valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to the year beginning on the valuation date is called the normal cost. For each active, the normal cost is determined by taking the value, as of entry age into the Program, of the member's projected benefits, reduced by the value of future member contributions, and then dividing it by the value, also as of the member's entry age, of the member's expected future salary. This rate is then multiplied by the member's salary at the valuation date to produce the normal cost for each member, which are then aggregated across all members to get the total normal cost for the Program. This total normal cost is then divided by the total salary for the Program at the valuation date to get the normal cost rate for the Program.

The portion of the actuarial present value not provided for at the valuation date by the actuarial present value of the future normal costs is called the actuarial liability. The unfunded actuarial liability is defined as the total actuarial liability at the valuation date less the actuarial value of the Program's assets at the valuation date. Contributions are made to fund this unfunded actuarial liability (UAL). The UAL rate for this Program is developed by amortizing the unfunded liability over an open ten-year period, assuming these amortization payments increase over the previous year at a rate of 2.75% per year. The resulting amortization for the year beginning on the valuation date is then divided by the total payroll for the Program to develop the UAL rate.

The total rate for the Program is produced by adding the normal cost rate and the UAL rate, subject to the requirement that the total rate cannot be less than 0%.

By using an open amortization period, this funding method results in the expectation that any unfunded liability in the Program as of a valuation date will never be fully reduced to zero if all of the valuation assumptions are exactly met.

**2. Asset Valuation Method**

For purposes of determining the State contribution to the Program and the Program's funded ratio, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

**3. Changes since Last Valuation**

None.

# LEGISLATIVE RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

## Legislative Retirement Program

### 1. Membership

Except as provided by statute, membership is mandatory for every legislator in service in the Legislature on or after December 3, 1986, and optional for those who were members of the Retirement System on December 2, 1986.

Membership ceases on the earlier of withdrawal of contributions, retirement, or death.

### 2. Member Contributions

Members are required to contribute 7.65% of earnable compensation. Member contributions earn 2.4% annual interest.

### 3. Average Final Compensation

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) that produce the highest such average.

### 4. Creditable Service

Creditable service includes the following:

A. All legislative service as a member after December 2, 1986;

B. All legislative service before December 3, 1986, for which contributions have been made to the Retirement System at the applicable rate, including appropriate interest;

C. Service credited while receiving disability benefits under the Program; and

D. All service creditable under the Retirement System as a State Employee provided the member elects to have the member's own and the employer's contributions on behalf of such service transferred to the Legislative Program.

### 5. Service Retirement Benefits

Eligibility:

***A. Eligibility for Members with at Least Ten Years of Creditable Service on July 1, 1993***

i. Eligibility for members in active service and inactive members:

25 years of creditable service.

ii. Eligibility alternative for members in active service:

Attainment of age 60.

iii. Eligibility for members not in active service at retirement, and not in active service on or after October 1, 1999:

Attainment of age 60 and ten years of creditable service.

iv. Eligibility for members not in active service at retirement, but in active service on or after October 1, 1999:

Attainment of age 60 and five years of creditable service.

# LEGISLATIVE RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

***B. Eligibility for Members with Less Than Ten Years of Creditable Service on July 1, 1993***

i. Eligibility for members in active service and inactive members:

25 years of creditable service.

ii. Eligibility alternative for members in active service:

Attainment of age 62.

iii. Eligibility for members not in active service at retirement, and not in active service on or after October 1, 1999:

Attainment of age 62 with ten years of creditable service.

iv. Eligibility for members not in active service at retirement, but in active service on or after October 1, 1999:

Attainment of age 62 and five years of creditable service.

***C. Eligibility for Members with Less Than Five Years of Creditable Service on July 1, 2011***

i. Eligibility for members in active service and inactive members:

25 years of creditable service.

ii. Eligibility alternative for members in active service:

Attainment of age 65.

iii. Eligibility for members not in active service at retirement, and not in active service on or after October 1, 1999:

Attainment of age 65 with ten years of creditable service.

iv. Eligibility for members not in active service at retirement, but in active service on or after October 1, 1999:

Attainment of age 65 and five years of creditable service.

Benefit: 1/50 of average final compensation multiplied by years of creditable service.

The benefit is reduced for retirement before age 60 at the approximate rates listed in the table below, for members with at least ten years creditable service on July 1, 1993.

| Age | Reduction | Age | Reduction |
|---|---|---|---|
| 45 | 29.3% | 53 | 16.6% |
| 46 | 28.0 | 54 | 14.6 |
| 47 | 26.6 | 55 | 12.5 |
| 48 | 25.2 | 56 | 10.3 |
| 49 | 23.6 | 57 | 7.9 |
| 50 | 22.0 | 58 | 5.4 |
| 51 | 20.3 | 59 | 2.8 |
| 52 | 18.5 | 60 | 0.0 |

The benefit is reduced for retirement before age 62 by 6% for each year the member's age is less than age 62, if less than ten years creditable service on July 1, 1993, but at least five years creditable service on July 1, 2011.

# LEGISLATIVE RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

The benefit is reduced for retirement before age 65 by 6% for each year the member's age is less than age 65, if less than five years creditable service on July 1, 2011.

Minimum benefit $100 per month if at least ten years of creditable service.

Form of Payment: Life annuity.

**6. Disability Retirement Benefits Other Than No Age Benefits (See Item 7)**

Eligibility: Disabled as defined in the Legislative Retirement Program statutes prior to normal retirement age, employed prior to October 16, 1992 and did not elect No Age Disability Option, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 66⅔% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after two years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of ten years following normal retirement age and the date that the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at same rate as any cost-of-living adjustments for which the member is eligible (not subject to a cap) (see item 12). On the date when service benefits reach a level of 66⅔% of average final compensation or ten years after the normal retirement date, if earlier, the disability converts to a service retirement benefit based on service and average final compensation at that time.

**7. No Age Disability Retirement Benefits**

Eligibility: Disabled as defined in the Legislative Retirement Program statutes, employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No Age Disability, and either disabled in the line-of-duty or disabled with at least five years of creditable service.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Workers' Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after two years, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, service is credited and average final compensation is increased at the same rate as any cost-of-living adjustments for which the member is eligible (not subject to a cap) (see item 12). On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that time.

**8. Pre-Retirement Ordinary Death Benefits**

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, children, or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 13); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent children, parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, children, older parents, or estate.

# LEGISLATIVE RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(continued)*

**9. Pre-Retirement Accidental Death Benefits**

Eligibility: Death while active or disabled resulting from an injury received in the lineofduty.

Benefit:

- If the member leaves no dependent children, two-thirds of the member's average final compensation to the surviving spouse until death.
- If the member is survived by a spouse who has the care of dependent children of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation while having the care of dependent children. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of member's average final compensation until death.
- If the member is survived by a spouse who does not have the care of the member's dependent children, the surviving spouse and dependent children shall share equally an annual sum equal to the member's average final compensation. When there are no longer any dependent children, the surviving spouse shall receive two-thirds of the member's average final compensation until death.
- If the member leaves no spouse, the dependent children shall share an annual amount equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child".

**10. Termination Benefit**

Eligibility: Termination of service other than by retirement or death with at least five years of creditable service.

Benefit: The member's choice of a refund of the accumulated contributions with interest or a retirement benefit using creditable service and average final compensation as of date of termination, deferred to normal retirement age.

**11. Refund of Contributions**

Eligibility: Termination of service other than by retirement or death with less than five years of creditable service.

Benefit: Refund of member's accumulated contributions with interest.

**12. Cost-of-Living Adjustments**

All service and disability retirement and survivor benefits are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index. If the percentage change is negative, then no adjustment is made in that year. In subsequent years, the adjustment that would have been made will be adjusted downward to the extent necessary to recoup the full actuarial value of not having made the previous year's negative adjustment. This process of adjustment may occur over a multi-year period if needed to recoup the full value of negative changes in the Index.

Cost-of-living adjustments (COLA) are effective September 1 of each year and are applied to that portion of the benefit that is not in excess of a COLA cap whose value grows annually with the same adjustment as the COLA (see values below) for all benefits that have been in payment for at least twelve months as of that date. The maximum annual increase is 3%. Average final compensation used in determining disability benefits for disabled members is similarly adjusted for purposes of determining the recipient's service retirement benefit if and when the recipient moves to service retirement.

COLA Cap History: (value as of September 1 of listed year when COLA effective):

2014 - $20,000.00
2015 - $20,420.00
2016 - $20,940.71
2017 - $21,474.70
2018 - $21,818.30

Members who did not have ten years of service on July 1, 1993 will begin receiving costofliving adjustments at the latter of 12 months after their normal retirement age and the first September 1 following a minimum of twelve months of being in receipt of their benefit.

# LEGISLATIVE RETIREMENT PROGRAM
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

*(concluded)*

**13. Methods of Payment of Service Retirement Benefits**

At retirement, a member who retires with a benefit must choose from the following methods of payment:

Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining member contribution balance, if any, at the date of death (where the member contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by member contributions).

Option 2: 100% joint and survivor annuity.

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6:100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with pop-up*.

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.

**14. Program Changes since Prior Valuation**

None.

# LEGISLATIVE RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

## A. Actuarial Assumptions

### 1. Annual Rate of Investment Return

| | |
|---|---|
| Legislative | 6.75% |

Rate is net of both administrative and investment expense.

### 2. Cost-of-Living Adjustment (COLA) Assumed Rate

| | |
|---|---|
| Legislative | 2.20% |

### 3. Annual Rate of Individual Salary Increase

| | |
|---|---|
| Legislative | 2.75% |

### 4. Sample Rates of Termination (% at Selected Years of Service)

| Service | Termination Rate |
|---|---|
| 0 | 0% |
| 1 | 0 |
| 2 | 30 |
| 3 | 30 |
| 4 | 25 |
| 5 | 25 |
| 6 | 10 |
| 7 | 10 |
| 8 | 50 |
| 9 | 50 |
| 10 | 25 |
| 11 | 25 |
| 12 | 25 |
| 13 | 25 |
| 14 | 25 |
| 15 | 25 |
| 16+ | 50 |

The rates shown are only applicable in the fiscal years ending in odd years while zero terminations are assumed in the fiscal years ending in even years.

Non-vested members are assumed to take a refund of contributions with interest. Once vested, the member is assumed to elect the greater of the deferred vested benefit or a refund of member contributions with interest based on present value at time of termination.

# LEGISLATIVE RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

5. **Sample Rates of Mortality for Healthy Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 50 | 41 | 32 |
| 55 | 58 | 43 |
| 60 | 78 | 62 |
| 65 | 111 | 95 |
| 70 | 172 | 153 |
| 75 | 280 | 251 |
| 80 | 471 | 424 |
| 85 | 822 | 753 |
| 90 | 1,453 | 1,351 |
| 95 | 2,301 | 2,230 |

Rates are based on 104% and 120% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85 grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

6. **Sample Rates of Mortality for Active Healthy Lives at Selected Ages (number of deaths per 10,000 members)***

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 20 | 4 | 2 |
| 25 | 4 | 2 |
| 30 | 4 | 3 |
| 35 | 5 | 3 |
| 40 | 6 | 5 |
| 45 | 9 | 8 |
| 50 | 17 | 13 |
| 55 | 28 | 20 |
| 60 | 47 | 29 |
| 65 | 83 | 44 |

* 5% of deaths assumed to arise out of and in the course of employment

Rates are based on 104% and 120% of the RP-2014 Total Dataset Employee Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Healthy Annuitant Mortality Table rates after the end of the Total Employee Mortality Table, both projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

# LEGISLATIVE RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

7. **Sample Rates of Mortality for Disabled Annuitant Lives at Selected Ages (number of deaths per 10,000 members)**

| | (Showing values in 2018) | |
|---|---|---|
| Age | Male | Female |
| 25 | 82 | 24 |
| 30 | 79 | 30 |
| 35 | 92 | 42 |
| 40 | 111 | 58 |
| 45 | 173 | 90 |
| 50 | 211 | 119 |
| 55 | 244 | 150 |
| 60 | 277 | 178 |
| 65 | 332 | 216 |
| 70 | 429 | 294 |

Rates are based on 108% and 105% of the RP-2014 Total Dataset Disabled Annuitant Mortality Table, respectively, for males and females, projected from the 2006 base rates using the RPEC_2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0.00% for ages 111-120, and convergence to the ultimate rate in the year 2020.

8. **Sample Rates of Retirement at Selected Ages (number retiring per 1,000 members):**

| Age | Fiscal Years Ending Even | Fiscal Years Ending Odd |
|---|---|---|
| 57-69 | 0 | 250 |
| 70+ | 0 | 1,000 |

Note that the all retirement rates are only applied once the member is eligible to retire, so those in with 62 or 65 normal retirement ages are not assumed to retire until eligible. No retirements are assumed prior to age 57, regardless of service amount.

9. **Sample Rates of Disability at Selected Ages (number becoming disabled per 10,000 members)**

| Age | Disability Rate |
|---|---|
| 25 | 0 |
| 30 | 0 |
| 35 | 0 |
| 40 | 0 |
| 45 | 0 |
| 50 | 0 |
| 55 | 0 |
| 60 | 0 |

10. **Family Composition Assumptions**

80% of active members are assumed to be married and have two children born when the member is 24 and 28; children are assumed dependent until age 18; female spouse is assumed to be three years younger than male spouse; member is assumed to have no dependent parents; unmarried members are assumed to have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.

# LEGISLATIVE RETIREMENT PROGRAM ACTUARIAL ASSUMPTIONS and METHODS

*(continued)*

**11. Technical and Miscellaneous Assumptions**

Decrement Timing: Middle of the valuation year

Pay Increase Timing: Salary provided is treated as the rate of pay as of valuation date. Annual increases are applied as of the beginning of each subsequent valuation.

Member Contribution Interest Rate: 2.4%

COLA Timing: September 1

**12. Rationale for Actuarial Assumptions**

The assumptions were adopted by the Board of Trustees at their July 14, 2016 meeting. The demographic assumptions adopted are based on an experience study covering the period from June 30, 2012 through June 30, 2015 and the economic assumptions are based on this experience study along with advice of the MainePERS investment consultants.

**13. Changes since Last Valuation**

The discount rate was lowered from 6.875% to 6.75%.

**14. Rationale for Change in Actuarial Assumptions**

The Board continuously reviews the investment return assumption and adopted a reduced rate of 6.75%, effective with the 2018 valuation, at the advice of its investment consultant.

## B. Actuarial Methods

**1. Funding Method**

The entry age normal actuarial funding method is used to determine costs. Under this funding method, the total employer contribution rate consists of two elements: the employer normal cost rate and the unfunded actuarial liability (UAL) rate.

Under this method, the actuarial present value of the projected benefits of each active included in the valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to the year beginning on the valuation date is called the normal cost. For each active, the normal cost is determined by taking the value, as of entry age into the Program, of the member’s projected benefits, reduced by the value of future member contributions, and then dividing it by the value, also as of the member’s entry age, of the member’s expected future salary. This rate is then multiplied by the member’s salary at the valuation date to produce the normal cost for each member, which are then aggregated across all members to get the total normal cost for the Program. This total normal cost is then divided by the total salary for the Program at the valuation date to get the normal cost rate for the Program.

The portion of the actuarial present value not provided for at the valuation date by the actuarial present value of the future normal costs is called the actuarial liability. The unfunded actuarial liability is defined as the total actuarial liability at the valuation date less the actuarial value of the Program’s assets at the valuation date. Contributions are made to fund this unfunded actuarial liability (UAL). The UAL rate for this Program is developed by amortizing the unfunded liability over an open ten-year period, assuming these amortization payments increase over the previous year at a rate of 2.75% per year. The resulting amortization for the year beginning on the valuation date is then divided by the total payroll for the Program to develop the UAL rate.

The total rate for the Program is produced by adding the normal cost rate and the UAL rate, subject to the requirement that the total rate cannot be less than 0%.

By using an open amortization period, this funding method results in the expectation that any unfunded liability in the Program as of a valuation date will never be fully reduced to zero if all of the valuation assumptions are exactly met.

# LEGISLATIVE RETIREMENT PROGRAM
# ACTUARIAL ASSUMPTIONS and METHODS

*(concluded)*

**2. Asset Valuation Method**

For purposes of determining the State contribution to the Program and the Program's funded ratio, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

**3. Changes since Last Valuation**

None.

# RETIREE GROUP LIFE INSURANCE
# SUMMARY OF PROGRAM AND PLAN PROVISIONS

**Membership**

| | |
|---|---|
| Service Retirement: | A retiree must have participated in the group life insurance program for at least ten years and possess coverage just prior to retirement. |
| Disability Retirement: | An employee must have participated in the group life insurance program immediately prior to disablement. |

**Basic Insurance**

Average final compensation calculated for retirement purposes.

**Amount of Insurance for a Retiree**

| | |
|---|---|
| Service Retirement: | The Basic Insurance will be reduced by 15% per year until the amount equal to the greater of (a) 40% of the initial Basic Insurance, or (b) $2,500. |
| Disability Retirement: | The amount of basic life insurance in force prior to retirement will be continued until normal retirement age. At normal retirement age, the amount of insurance will be reduced as for service retirement. |

**Retiree Contribution**

| | |
|---|---|
| State Employees: | None |
| Teachers: | None |
| Judges: | None |
| Legislators: | None |
| PLD: | PLD must pay $0.46 per month per $1,000 of base benefit, based on the coverage amounts declining from 100% to 40%. |

**Normal Retirement Age**

The specified age, the years of service requirement or any age and years of service combination at which a participant may become eligible for unreduced service retirement benefits.

**Discontinued Coverages at Retirement**

- Supplemental Life
- Accidental Death and Dismemberment
- Dependent Life

(Discontinued coverage may be ported to another group term product or converted to an individual policy. MainePERS is charged a fee for those active employees who convert to an individual policy upon termination from employment. Conversion charges are considered a cost of active, not retiree group life insurance. Therefore, it is not included in these liabilities.)

# RETIREE GROUP LIFE INSURANCE
# ACTUARIAL ASSUMPTIONS AND METHODS

**Economic Assumptions**

*Valuation Date:* June 30, 2018

| | |
|---|---|
| *State Sponsored Plans Beginning of Year Investment Return:* | 6.875% per year |
| *State Sponsored Plans End of Year Investment Return:* | 6.75% per year |
| *PLD GASB Beginning of Year Investment Return:* | 5.41% per year |
| *PLD GASB End of Year Investment Return:* | 5.13% per year |
| *Cost-of-Living Increases in Life Benefits:* | N/A. Unlike pension benefits, Life Benefits do not increase with Cost of Living. |
| *Premium Expense Assumption:* | To reflect administrative expenses associated with the distribution of benefits, the following loads have been added to the liabilities, normal cost, and benefit payments. |
| **State Employees, Judges and Legislators:** | 9.52% |
| **Teachers:** | 13.07% |
| **Participating Local Districts:** | 8.66% of claims |
| *Conversion Charges:* | Applies to the cost of active group life insurance, not retiree group life insurance. |
| *Form of Benefit Payment:* | Lump Sum. |
| **Other Assumptions and Methods** | All other assumptions and methods match those used for the pension valuation as of June 30, 2018. |

# STATISTICAL SECTION

*Maine State Animal: Moose*

# MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
# STATISTICAL SECTION
(UNAUDITED)

This section of the Maine Public Employees Retirement System's Comprehensive Annual Financial Report presents detailed information as a context for understanding this year's financial statements, note disclosures, and supplementary information. This information has not been audited by the independent auditor.

## TABLE OF CONTENTS

**Page**



These tables contain trend information that may assist the reader in assessing the System's current financial performance by placing it in historical perspective. Unless otherwise noted, the information in the Financial Trends tables is derived from the annual financial reports for the relevant year.





These tables contain service and infrastructure indicators that can enhance one's understanding of how the information in the System's financial statements relates to the services the System provides and the activities it performs. Unless otherwise noted, the information in these tables is derived from the System's pension administration records.

# DEFINED BENEFIT PLANS
# CHANGES IN FIDUCIARY NET POSITION - STATE EMPLOYEE AND TEACHER PLAN

## LAST TEN FISCAL YEARS

Fiscal Year

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Additions** | | | | | | | | | | |
| Member contributions | $ 140,844,879 | $ 139,464,284 | $ 125,523,986 | $ 123,528,807 | $ 121,033,152 | $ 121,059,118 | $ 121,071,499 | $ 124,356,773 | $ 125,814,747 | $ 124,008,211 |
| Employer contributions | 211,251,144 | 211,037,365 | 199,212,719 | 173,935,492 | 162,920,147 | 136,937,972 | 125,839,206 | 184,423,671 | 183,937,026 | 187,865,547 |
| Non-employer entity contributions | 129,421,735 | 116,080,164 | 112,477,836 | 147,283,716 | 142,303,104 | 126,762,206 | 126,343,975 | 148,728,049 | 144,496,637 | 131,104,913 |
| Investment Income (net of expenses) | 1,077,827,555 | 1,256,043,735 | 40,540,758 | 191,829,057 | 1,517,432,346 | 929,806,764 | 43,821,836 | 1,583,183,960 | 748,522,308 | (1,575,728,247) |
| Transfer from other funds | - | - | - | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 1,559,345,313 | 1,722,625,548 | 477,755,299 | 636,577,072 | 1,943,688,749 | 1,314,566,060 | 417,076,516 | 2,040,692,453 | 1,202,770,718 | (1,132,749,576) |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 792,397,467 | 762,449,708 | 727,717,177 | 703,292,105 | 667,506,634 | 651,525,831 | 612,512,717 | 574,135,970 | 548,688,977 | 524,001,240 |
| Refunds | 17,984,303 | 17,876,272 | 16,806,566 | 19,432,153 | 21,684,397 | 17,891,255 | 21,024,589 | 20,747,236 | 17,214,436 | 37,390,057 |
| Administrative expenses | 10,076,242 | 9,216,027 | 8,649,030 | 9,386,695 | 8,246,740 | 7,651,938 | 7,268,110 | 7,553,424 | 7,461,728 | 7,882,567 |
| Transfer to other funds | - | 124,178 | 6,342,010 | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 820,458,012 | 789,666,185 | 759,514,783 | 732,110,953 | 697,437,771 | 677,069,024 | 640,805,416 | 602,436,630 | 573,365,141 | 569,273,864 |
| **Change in fiduciary net position** | $ 738,887,301 | $ 932,959,363 | $ (281,759,484) | $ (95,533,881) | $ 1,246,250,978 | $ 637,497,036 | $ (223,728,900) | $ 1,438,255,823 | $ 629,405,577 | $ (1,702,023,440) |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 10,893,305,470 | $ 9,960,346,107 | $ 10,242,105,591 | $ 10,337,639,472 | $ 9,091,388,494 | $ 8,453,891,458 | $ 8,677,620,358 | $ 7,239,364,535 | $ 6,609,958,958 | $ 8,311,982,398 |
| **End of Year** | $ 11,632,192,771 | $ 10,893,305,470 | $ 9,960,346,107 | $ 10,242,105,591 | $ 10,337,639,472 | $ 9,091,388,494 | $ 8,453,891,458 | $ 8,677,620,358 | $ 7,239,364,535 | $ 6,609,958,958 |

# DEFINED BENEFIT PLANS
# CHANGES IN FIDUCIARY NET POSITION - JUDICIAL PLAN

## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Additions** | | | | | | | | | | |
| Member contributions | $ 603,875 | $ 584,451 | $ 549,845 | $ 549,691 | $ 528,192 | $ 518,094 | $ 517,419 | $ 518,138 | $ 530,521 | $ 508,074 |
| Employer contributions | 1,179,328 | 1,144,445 | 1,077,545 | 979,281 | 932,223 | 841,397 | 810,721 | 987,261 | 961,083 | 1,267,869 |
| Non-employer entity contributions | - | - | - | - | - | - | - | - | - | - |
| Investment income (net of expenses) | 6,606,905 | 7,799,507 | 129,372 | 1,055,347 | 8,416,042 | 5,195,908 | 238,870 | 9,044,929 | 4,368,320 | (9,198,191) |
| Transfer from other funds | - | - | 6,342,010 | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 8,390,108 | 9,528,403 | 8,098,772 | 2,584,319 | 9,876,457 | 6,555,399 | 1,567,010 | 10,550,328 | 5,859,924 | (7,422,248) |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 3,804,709 | 3,651,927 | 3,501,911 | 3,383,995 | 3,219,480 | 3,282,344 | 3,171,846 | 3,034,095 | 2,799,764 | 2,582,178 |
| Refunds | - | - | - | - | - | - | - | 124 | - | 29,128 |
| Administrative expenses | 61,708 | 56,436 | 47,577 | 49,399 | 41,681 | 42,858 | 40,852 | 43,534 | 30,222 | 31,024 |
| Transfer to other funds | - | - | - | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 3,866,417 | 3,708,363 | 3,549,488 | 3,433,394 | 3,261,161 | 3,325,202 | 3,212,698 | 3,077,753 | 2,829,986 | 2,642,330 |
| **Change in fiduciary net position** | $ 4,523,691 | $ 5,820,040 | $ 4,549,284 | $ (849,075) | $ 6,615,296 | $ 3,230,197 | $ (1,645,688) | $ 7,472,575 | $ 3,029,938 | $ (10,064,578) |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 66,710,149 | $ 60,890,109 | $ 56,340,825 | $ 57,189,900 | $ 50,574,604 | $ 47,344,407 | $ 48,990,095 | $ 41,517,520 | $ 38,487,582 | $ 48,552,160 |
| **End of Year** | $ 71,233,840 | $ 66,710,149 | $ 60,890,109 | $ 56,340,825 | $ 57,189,900 | $ 50,574,604 | $ 47,344,407 | $ 48,990,095 | $ 41,517,520 | $ 38,487,582 |

# DEFINED BENEFIT PLANS
# CHANGES IN FIDUCIARY NET POSITION - LEGISLATIVE PLAN

## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Additions** | | | | | | | | | | |
| Member contributions | $ 153,881 | $ 202,388 | $ 137,893 | $ 193,356 | $ 139,501 | $ 194,669 | $ 133,579 | $ 182,065 | $ 129,308 | $ 179,037 |
| Employer contributions | - | - | - | 4,418 | 3,857 | 6,507 | - | - | - | - |
| Non-employer entity contributions | - | - | - | - | - | - | - | - | - | - |
| Investment Income (net of expenses) | 1,176,462 | 1,366,222 | 47,890 | 206,453 | 1,622,295 | 975,524 | 48,845 | 1,634,305 | 780,615 | (1,645,122) |
| Transfer from other funds | - | - | - | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 1,330,343 | 1,568,610 | 185,783 | 404,227 | 1,765,653 | 1,176,700 | 182,424 | 1,816,370 | 909,923 | (1,466,085) |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 427,063 | 399,142 | 367,545 | 327,875 | 308,770 | 280,254 | 274,088 | 255,181 | 245,572 | 230,373 |
| Refunds | 32,682 | 69,901 | 77,786 | 111,237 | 8,836 | 82,768 | 5,613 | 93,809 | 58,762 | 134,503 |
| Administrative expenses | 11,002 | 10,003 | 9,353 | 9,584 | 7,975 | 8,040 | 7,241 | 7,551 | 7,741 | 10,111 |
| Transfer to other funds | - | - | - | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 470,747 | 479,046 | 454,684 | 448,696 | 325,581 | 371,062 | 286,942 | 356,541 | 312,075 | 374,987 |
| **Change in fiduciary net position** | $ 859,596 | $ 1,089,564 | $ (268,901) | $ (44,469) | $ 1,440,072 | $ 805,638 | $ (104,518) | $ 1,459,829 | $ 597,848 | $ (1,841,072) |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 11,896,225 | $ 10,806,661 | $ 11,075,562 | $ 11,120,031 | $ 9,679,959 | $ 8,874,321 | $ 8,978,839 | $ 7,519,010 | $ 6,921,162 | $ 8,762,234 |
| **End of Year** | $ 12,755,821 | $ 11,896,225 | $ 10,806,661 | $ 11,075,562 | $ 11,120,031 | $ 9,679,959 | $ 8,874,321 | $ 8,978,839 | $ 7,519,010 | $ 6,921,162 |

# DEFINED BENEFIT PLANS
# CHANGES IN FIDUCIARY NET POSITION - PLD CONSOLIDATED PLAN

## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Additions** | | | | | | | | | | |
| Member contributions | $ 48,050,202 | $ 46,080,851 | $ 40,861,405 | $ 37,202,921 | $ 33,210,510 | $ 31,658,619 | $ 32,343,655 | $ 35,022,928 | $ 32,332,068 | $ 29,710,526 |
| Employer contributions | 56,092,662 | 51,387,011 | 47,624,182 | 43,366,730 | 32,706,160 | 26,465,471 | 22,260,128 | 17,459,677 | 12,311,355 | 11,582,485 |
| Non-employer entity contributions | - | - | - | - | - | - | - | - | - | - |
| Investment Income (net of expenses) | 259,699,519 | 299,780,948 | 10,200,342 | 46,075,304 | 361,125,177 | 221,313,918 | 10,111,043 | 381,383,555 | 182,525,441 | (389,931,938) |
| Transfer from other funds | - | 124,177 | - | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 363,842,383 | 397,372,987 | 98,685,929 | 126,644,955 | 427,041,847 | 279,438,008 | 64,714,826 | 433,866,160 | 227,168,864 | (348,638,927) |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 147,516,358 | 140,413,488 | 134,834,445 | 129,476,010 | 121,559,257 | 114,627,512 | 108,646,611 | 101,288,867 | 96,702,118 | 93,095,725 |
| Refunds * | 4,571,527 | 5,750,078 | 5,085,235 | 48,939,042 | 5,602,101 | 6,051,774 | 22,911,291 | 11,353,634 | 5,822,392 | 8,041,146 |
| Administrative expenses | 2,411,666 | 2,209,324 | 2,028,294 | 2,117,266 | 1,779,304 | 1,810,389 | 1,732,139 | 1,827,587 | 1,668,738 | 1,754,829 |
| Transfer to other funds | 386,621 | 186,378 | 217,338 | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 154,886,172 | 148,559,268 | 142,165,312 | 180,532,318 | 128,940,662 | 122,489,675 | 133,290,041 | 114,470,088 | 104,193,248 | 102,891,700 |
| **Change in fiduciary net position** | $ 208,956,211 | $ 248,813,719 | $ (43,479,383) | $ (53,887,363) | $ 298,101,185 | $ 156,948,333 | $ (68,575,215) | $ 319,396,072 | $ 122,975,616 | $ (451,530,627) |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 2,607,223,644 | $ 2,358,409,925 | $ 2,401,889,308 | $ 2,455,776,671 | $ 2,157,675,486 | $ 2,000,727,153 | $ 2,069,302,368 | $ 1,749,906,296 | $ 1,626,930,680 | $ 2,078,461,307 |
| **End of Year** | $ 2,816,179,855 | $ 2,607,223,644 | $ 2,358,409,925 | $ 2,401,889,308 | $ 2,455,776,671 | $ 2,157,675,486 | $ 2,000,727,153 | $ 2,069,302,368 | $ 1,749,906,296 | $ 1,626,930,680 |

# DEFINED BENEFIT PLANS
# CHANGES IN FIDUCIARY NET POSITION - PLD AGENT PLAN

## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Additions** | | | | | | | | | | |
| Member contributions | $ 68,609 | $ 76,783 | $ 83,614 | $ 94,468 | $ 94,136 | $ 106,000 | $ 105,380 | $ 124,472 | $ 132,049 | $ 146,253 |
| Employer contributions | 594,730 | 630,639 | 783,608 | 916,671 | 667,846 | 656,047 | 102,509 | 302,338 | 9,024 | 2,776 |
| Non-employer entity contributions | - | - | - | - | - | - | - | - | - | - |
| Investment Income (net of expenses) | 3,477,465 | 4,160,113 | 112,396 | 662,680 | 5,581,964 | 3,591,957 | 79,872 | 6,669,837 | 6,005,408 | (11,619,730) |
| Transfer from other funds | - | - | - | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 4,140,804 | 4,867,535 | 979,618 | 1,673,819 | 6,343,946 | 4,354,004 | 287,761 | 7,096,647 | 6,146,481 | (11,470,701) |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 2,788,425 | 2,777,307 | 2,779,624 | 2,780,492 | 2,702,486 | 2,644,060 | 2,608,985 | 2,442,356 | 2,397,937 | 2,695,479 |
| Refunds | - | - | - | - | 1,897,634 | - | 201,244 | 9,190 | 141 | 17,109 |
| Administrative expenses | 33,056 | 4,005 | 29,962 | 32,253 | 27,981 | 30,704 | 30,884 | 33,525 | 31,457 | 41,741 |
| Transfer to other funds | - | - | - | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 2,821,481 | 2,781,312 | 2,809,586 | 2,812,745 | 4,628,101 | 2,674,764 | 2,841,113 | 2,485,071 | 2,429,535 | 2,754,329 |
| **Change in fiduciary net position** | $ 1,319,323 | $ 2,086,223 | $ (1,829,968) | $ (1,138,926) | $ 1,715,845 | $ 1,679,240 | $ (2,553,352) | $ 4,611,576 | $ 3,716,946 | $ (14,225,030) |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 35,736,738 | $ 33,650,515 | $ 35,480,483 | $ 36,619,409 | $ 34,903,564 | $ 33,224,324 | $ 35,777,676 | $ 31,166,100 | $ 27,449,154 | $ 41,674,184 |
| **End of Year** | $ 37,056,061 | $ 35,736,738 | $ 33,650,515 | $ 35,480,483 | $ 36,619,409 | $ 34,903,564 | $ 33,224,324 | $ 35,777,676 | $ 31,166,100 | $ 27,449,154 |

# GROUP LIFE INSURANCE PLAN
# CHANGES IN FIDUCIARY NET POSITION

## LAST TEN FISCAL YEARS *

### GROUP LIFE INSURANCE PLAN - ACTIVE EMPLOYEES

| | Fiscal Year 2018 | Fiscal Year 2017 |
|---|---|---|
| **Additions** | | |
| Member contributions | $ 3,865,718 | $ 4,464,169 |
| Employer contributions | 1,041,734 | 1,066,443 |
| Non-employer entity contributions | - | - |
| Investment Income (net of expenses) | 754,459 | 947,664 |
| Total additions to fiduciary net position | 5,661,911 | 6,478,276 |
| **Deductions** | | |
| Benefit payments | 4,229,368 | 4,222,130 |
| Refunds | - | - |
| Administrative expenses | 73,496 | 56,138 |
| Transfer to other funds | - | - |
| Total deductions from fiduciary net position | 4,302,864 | 4,278,268 |
| **Change in fiduciary net position** | $ 1,359,047 | $ 2,200,008 |
| **Fiduciary Net Position** | | |
| Beginning of Year | $ 8,295,918 | $ 6,095,910 |
| **End of Year** | $ 9,654,965 | $ 8,295,918 |

*The System currently has this information available for the years indicated. Additional information will be added to the schedule each year until the requisite ten years is obtained.

# GROUP LIFE INSURANCE PLAN
# CHANGES IN FIDUCIARY NET POSITION

## LAST TEN FISCAL YEARS *

### GROUP LIFE INSURANCE PLAN - STATE EMPLOYEE & TEACHER RETIREES

| | Fiscal Year 2018 | Fiscal Year 2017 |
|---|---|---|
| **Additions** | | |
| Employer contributions | $ 4,179,011 | $ 3,650,300 |
| Non-employer entity contributions | 3,459,442 | 3,270,928 |
| Investment Income (net of expenses) | 7,804,837 | 9,885,897 |
| Transfer from other funds | - | - |
| Total additions to fiduciary net position | 15,443,290 | 16,807,125 |
| **Deductions** | | |
| Benefit payments | 7,269,808 | 6,759,071 |
| Refunds | - | - |
| Administrative expenses | 769,717 | 580,641 |
| Total deductions from fiduciary net position | 8,039,525 | 7,339,712 |
| **Change in fiduciary net position** | $ 7,403,765 | $ 9,467,413 |
| **Fiduciary Net Position** | | |
| Beginning of Year | $ 86,882,864 | $ 77,415,451 |
| **End of Year** | $ 94,286,629 | $ 86,882,864 |

### GROUP LIFE INSURANCE PLAN - PLD RETIREES

| | Fiscal Year 2018 | Fiscal Year 2017 |
|---|---|---|
| **Additions** | | |
| Employer contributions | $ 1,069,640 | $ 1,037,124 |
| Non-employer entity contributions | - | - |
| Investment Income (net of expenses) | 1,333,324 | 1,738,914 |
| Transfer from other funds | - | - |
| Total additions to fiduciary net position | 2,402,964 | 2,776,038 |
| **Deductions** | | |
| Benefit payments | 1,530,346 | 1,529,148 |
| Refunds | - | - |
| Administrative expenses | 133,624 | 104,294 |
| Total deductions from fiduciary net position | 1,663,970 | 1,633,442 |
| **Change in fiduciary net position** | $ 738,994 | $ 1,142,596 |
| **Fiduciary Net Position** | | |
| Beginning of Year | $ 15,082,934 | $ 13,940,338 |
| **End of Year** | $ 15,821,928 | $ 15,082,934 |

*The System currently has this information available for the years indicated. Additional information will be added to the schedule each year until the requisite ten years is obtained.

# DEFINED CONTRIBUTION PLANS
# CHANGES IN FIDUCIARY NET POSITION

## LAST TEN FISCAL YEARS

Fiscal Year

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Additions** | | | | | | | | | | |
| Member contributions | $ 3,256,015 | $ 3,218,801 | $ 3,628,460 | $ 3,165,927 | $ 3,505,423 | $ 2,662,317 | $ 2,888,874 | $ 2,790,771 | $ 2,381,995 | $ 1,967,488 |
| Employer contributions | 587,906 | 560,505 | 47,768 | 131,589 | 109,515 | 111,327 | 43,434 | 47,377 | 53,956 | 153,334 |
| Other contributions | - | - | - | - | - | - | - | - | - | - |
| Investment Income (net of expenses) | 2,801,636 | 3,447,427 | 226,942 | 719,767 | 3,210,308 | 1,815,398 | 318,640 | 1,939,674 | 742,235 | (1,173,821) |
| Transfer from other funds | 386,621 | 186,378 | 217,338 | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 7,032,178 | 7,413,111 | 4,120,508 | 4,017,283 | 6,825,246 | 4,589,042 | 3,250,948 | 4,777,822 | 3,178,186 | 947,001 |
| **Deductions** | | | | | | | | | | |
| Benefit payments | - | - | - | - | - | - | - | - | - | - |
| Refunds and withdrawals | 2,774,078 | 2,072,166 | 1,866,147 | 1,718,286 | 2,032,458 | 643,765 | 1,055,018 | 770,630 | 411,390 | 470,750 |
| Administrative expenses | 496,042 | 284,202 | 309,558 | 130,964 | 112,015 | 113,827 | 45,964 | 50,143 | 56,686 | 159,635 |
| Transfer to other funds | | - | - | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 3,270,120 | 2,356,368 | 2,175,705 | 1,849,250 | 2,144,473 | 757,592 | 1,100,982 | 820,773 | 468,076 | 630,385 |
| **Change in fiduciary net postion** | $ 3,762,058 | $ 5,056,743 | $ 1,944,803 | $ 2,168,033 | $ 4,680,773 | $ 3,831,450 | $ 2,149,966 | $ 3,957,049 | $ 2,710,110 | $ 316,616 |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 34,198,883 | $ 29,142,140 | $ 27,197,337 | $ 25,029,304 | $ 20,348,531 | $ 16,517,081 | $ 14,367,115 | $ 10,410,066 | $ 7,699,956 | $ 7,383,340 |
| **End of Year** | $ 37,960,941 | $ 34,198,883 | $ 29,142,140 | $ 27,197,337 | $ 25,029,304 | $ 20,348,531 | $ 16,517,081 | $ 14,367,115 | $ 10,410,066 | $ 7,699,956 |

# RETIREE HEALTH INVESTMENT TRUST FUND
# CHANGES IN FIDUCIARY NET POSITION

## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Additions** | | | | | | | | | | |
| Member contributions | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Employer contributions | 2,000,000 | 4,000,000 | 5,584,992 | - | - | 1,840,385 | 6,000,000 | 14,411,368 | - | - |
| Other contributions | - | - | - | - | - | - | - | - | - | - |
| Investment Income (net of expenses) | 21,271,236 | 26,513,072 | 2,388,249 | 5,405,438 | 29,564,596 | 18,706,315 | 959,334 | 23,350,728 | 13,143,997 | (16,084,427) |
| Transfer from other funds | - | - | - | - | - | - | - | - | - | - |
| Total additions to fiduciary net position | 23,271,236 | 30,513,072 | 7,973,241 | 5,405,438 | 29,564,596 | 20,546,700 | 6,959,334 | 37,762,096 | 13,143,997 | (16,084,427) |
| **Deductions** | | | | | | | | | | |
| Benefit payments | - | - | - | - | - | - | - | - | - | - |
| Refunds | - | - | - | - | - | - | - | - | - | - |
| Administrative expenses | 6,480 | 5,844 | 5,354 | 117,844 | 90,030 | 85,609 | 68,643 | 64,510 | 56,754 | 55,695 |
| Transfer to other funds | - | - | - | - | - | - | - | - | - | - |
| Total deductions from fiduciary net position | 6,480 | 5,844 | 5,354 | 117,844 | 90,030 | 85,609 | 68,643 | 64,510 | 56,754 | 55,695 |
| **Change in fiduciary net position** | $ 23,264,756 | $ 30,507,228 | $ 7,967,887 | $ 5,287,594 | $ 29,474,566 | $ 20,461,091 | $ 6,890,691 | $ 37,697,586 | $ 13,087,243 | $ (16,140,122) |
| **Fiduciary Net Position** | | | | | | | | | | |
| Beginning of Year | $ 233,595,562 | $ 203,088,334 | $ 195,120,447 | $ 189,832,853 | $ 160,358,287 | $ 139,897,196 | $ 133,006,505 | $ 95,308,919 | $ 82,221,676 | $ 98,361,798 |
| **End of Year** | $ 256,860,318 | $ 233,595,562 | $ 203,088,334 | $ 195,120,447 | $ 189,832,853 | $ 160,358,287 | $ 139,897,196 | $ 133,006,505 | $ 95,308,919 | $ 82,221,676 |

# DEFINED BENEFIT PLANS
# BENEFIT AND REFUND DEDUCTIONS FROM FIDUCIARY NET POSITION
# BY TYPE

## LAST TEN FISCAL YEARS

### STATE EMPLOYEE AND TEACHER PLAN

| | Fiscal Year 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Type of Benefit** | | | | | | | | | | |
| Service retirement benefits | $ 748,896,621 | $ 718,059,271 | $ 683,518,206 | $ 658,113,295 | $ 622,008,923 | $ 604,712,027 | $ 566,668,373 | $ 528,676,257 | $ 503,788,858 | $ 475,556,492 |
| Disability benefits | 24,787,516 | 26,232,096 | 26,795,729 | 27,863,125 | 28,930,711 | 30,077,965 | 29,864,477 | 29,632,446 | 29,273,855 | 38,239,104 |
| Pre-Retirement death benefits | 18,713,331 | 18,158,342 | 17,403,242 | 17,315,685 | 16,567,000 | 16,735,839 | 15,979,866 | 15,827,267 | 15,626,264 | 10,205,645 |
| Total benefits | $ 792,397,468 | $ 762,449,709 | $ 727,717,177 | $ 703,292,105 | $ 667,506,634 | $ 651,525,831 | $ 612,512,716 | $ 574,135,970 | $ 548,688,977 | $ 524,001,241 |
| **Type of Refund** | | | | | | | | | | |
| Death | $ 3,079,428 | $ 4,373,110 | $ 2,778,790 | $ 3,120,006 | $ 3,247,581 | $ 3,955,186 | | | | |
| Separation | 14,904,875 | 13,503,162 | 14,027,776 | 16,312,147 | 18,436,816 | 13,936,069 | | | | |
| Other | - | - | - | - | - | - | | | | |
| Total refunds | $ 17,984,303 | $ 17,876,272 | $ 16,806,566 | $ 19,432,153 | $ 21,684,397 | $ 17,891,255 | $ - | $ - | $ - | $ - |

Data by type of refund, by plan, was not readily available for the years prior to 2013. This information will continue to be populated until the requisite ten years is displayed.

### JUDICIAL PLAN

| | Fiscal Year 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Type of Benefit** | | | | | | | | | | |
| Service retirement benefits | $ 3,804,709 | $ 3,651,927 | $ 3,501,911 | $ 3,383,995 | $ 3,194,250 | $ 3,207,656 | $ 3,107,935 | $ 2,996,751 | $ 2,762,420 | $ 2,514,193 |
| Disability benefits | - | - | - | - | 25,230 | 74,688 | 63,911 | 37,344 | 37,344 | 67,985 |
| Pre-Retirement death benefits | - | - | - | - | - | - | - | - | - | - |
| Total benefits | $ 3,804,709 | $ 3,651,927 | $ 3,501,911 | $ 3,383,995 | $ 3,219,480 | $ 3,282,344 | $ 3,171,846 | $ 3,034,095 | $ 2,799,764 | $ 2,582,178 |
| **Type of Refund** | | | | | | | | | | |
| Death | $ - | $ - | $ - | $ - | $ - | $ - | | | | |
| Separation | - | - | - | - | - | - | | | | |
| Other | - | - | - | - | - | - | | | | |
| Total refunds | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |

Data by type of refund, by plan, was not readily available for the years prior to 2013. This information will continue to be populated until the requisite ten years is displayed.

# DEFINED BENEFIT PLANS
# BENEFIT AND REFUND DEDUCTIONS FROM FIDUCIARY NET POSITION
# BY TYPE *(continued)*

## LAST TEN FISCAL YEARS

### LEGISLATIVE PLAN

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Type of Benefit** | | | | | | | | | | |
| Service retirement benefits | $ 363,478 | $ 347,133 | $ 312,108 | $ 289,432 | $ 271,025 | $ 242,015 | $ 231,584 | $ 215,154 | $ 205,545 | $ 203,842 |
| Disability benefits | 14,629 | 14,377 | 19,245 | 8,142 | 7,994 | 8,099 | 7,863 | 7,863 | 7,863 | 3,931 |
| Pre-Retirement death benefits | 48,956 | 37,632 | 36,192 | 30,301 | 29,751 | 30,140 | 34,641 | 32,164 | 32,164 | 22,600 |
| Total benefits | $ 427,063 | $ 399,142 | $ 367,545 | $ 327,875 | $ 308,770 | $ 280,254 | $ 274,088 | $ 255,181 | $ 245,572 | $ 230,373 |
| **Type of Refund** | | | | | | | | | | |
| Death | $ - | $ 14,720 | $ 6,122 | $ 11,524 | $ - | $ - | | | | |
| Separation | 32,682 | 55,181 | 71,664 | 99,713 | 8,836 | 82,768 | | | | |
| Other | - | - | - | - | - | - | | | | |
| Total refunds | $ 32,682 | $ 69,901 | $ 77,786 | $ 111,237 | $ 8,836 | $ 82,768 | $ - | $ - | $ - | $ - |

Data by type of refund, by plan, was not readily available for the years prior to 2013. This information will continue to be populated until the requisite ten years is displayed.

### PLD CONSOLIDATED PLAN

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Type of Benefit** | | | | | | | | | | |
| Service retirement benefits | $ 136,330,957 | $ 129,354,921 | $ 123,607,716 | $ 118,281,904 | $ 110,537,271 | $ 104,017,589 | $ 98,259,313 | $ 91,247,190 | $ 86,778,139 | $ 83,423,825 |
| Disability benefits | 6,469,460 | 6,596,584 | 6,954,282 | 6,994,050 | 7,133,396 | 6,860,218 | 6,842,091 | 6,611,574 | 6,552,114 | 7,369,060 |
| Pre-Retirement death benefits | 4,715,941 | 4,461,983 | 4,272,447 | 4,200,056 | 3,888,590 | 3,749,705 | 3,545,207 | 3,430,103 | 3,371,865 | 2,302,840 |
| Total benefits | $ 147,516,358 | $ 140,413,488 | $ 134,834,445 | $ 129,476,010 | $ 121,559,257 | $ 114,627,512 | $ 108,646,611 | $ 101,288,867 | $ 96,702,118 | $ 93,095,725 |
| **Type of Refund** | | | | | | | | | | |
| Death | $ 574,813 | $ 938,577 | $ 589,655 | $ 1,141,276 | $ 613,327 | $ 982,328 | | | | |
| Separation | 3,996,714 | 4,811,501 | 4,495,580 | 4,797,240 | 4,988,774 | 5,069,446 | | | | |
| Other * | - | - | - | 43,000,526 | - | - | | | | |
| Total refunds | $ 4,571,527 | $ 5,750,078 | $ 5,085,235 | $ 48,939,042 | $ 5,602,101 | $ 6,051,774 | $ - | $ - | $ - | $ - |

* Refunds in fiscal year 2015 reflect the return of approximately $43 million of non-Plan cash being managed by the System on behalf of PLD Consolidated Plan employers.

Data by type of refund, by plan, was not readily available for the years prior to 2013. This information will continue to be populated until the requisite ten years is displayed.

# DEFINED BENEFIT PLANS
# BENEFIT AND REFUND DEDUCTIONS FROM FIDUCIARY NET POSITION
# BY TYPE *(continued)*

## LAST TEN FISCAL YEARS

**PLD AGENT PLAN**

| | Fiscal Year 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Type of Benefit** | | | | | | | | | | |
| Service retirement benefits | $ 2,788,425 | $ 2,777,307 | $ 2,779,624 | $ 2,780,492 | $ 2,702,486 | $ 2,644,060 | $ 2,608,985 | $ 2,442,356 | $ 2,397,937 | $ 2,688,954 |
| Disability benefits | - | - | - | - | - | - | - | - | - | 6,525 |
| Pre-Retirement death benefits | - | - | - | - | - | - | - | - | - | - |
| Total benefits | $ 2,788,425 | $ 2,777,307 | $ 2,779,624 | $ 2,780,492 | $ 2,702,486 | $ 2,644,060 | $ 2,608,985 | $ 2,442,356 | $ 2,397,937 | $ 2,695,479 |
| **Type of Refund** | | | | | | | | | | |
| Death | $ - | $ - | $ - | $ - | $ - | $ - | | | | |
| Separation | - | - | - | - | - | - | | | | |
| Other | - | - | - | - | 1,897,634 | - | | | | |
| Total refunds | $ - | $ - | $ - | $ - | $ 1,897,634 | $ - | $ - | $ - | $ - | $ - |

Data by type of refund, by plan, was not readily available for the years prior to 2013. This information will continue to be populated until the requisite ten years is displayed.

**PENSION COMBINED**

| | Fiscal Year 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Type of Benefit** | | | | | | | | | | |
| Service retirement benefits | $ 892,184,190 | $ 854,190,558 | $ 813,719,565 | $ 782,849,118 | $ 738,713,955 | $ 714,823,347 | $ 670,876,190 | $ 625,577,708 | $ 595,870,176 | $ 564,341,497 |
| Disability benefits | 31,271,605 | 32,843,057 | 33,769,256 | 34,865,317 | 36,097,330 | 37,020,969 | 36,778,342 | 36,289,227 | 35,862,703 | 45,703,611 |
| Pre-Retirement death benefits | 23,478,228 | 22,657,957 | 21,711,881 | 21,546,043 | 20,485,341 | 20,515,684 | 19,559,715 | 19,289,534 | 19,001,489 | 12,559,888 |
| Total benefits | $ 946,934,023 | $ 909,691,572 | $ 869,200,702 | $ 839,260,478 | $ 795,296,626 | $ 772,360,000 | $ 727,214,247 | $ 681,156,469 | $ 650,734,368 | $ 622,604,996 |
| **Type of Refund** | | | | | | | | | | |
| Death | $ 3,654,240 | $ 5,326,407 | $ 3,374,567 | $ 4,272,805 | $ 3,860,908 | $ 4,937,513 | $ 4,406,322 | $ 5,139,665 | $ 2,533,464 | $ 4,833,774 |
| Separation | 18,934,271 | 18,369,844 | 18,595,020 | 21,209,100 | 23,434,426 | 19,088,284 | 21,003,032 | 20,567,589 | 18,099,434 | 38,700,530 |
| Other * | - | - | - | 43,000,526 | 1,897,634 | - | 18,733,381 | 6,496,738 | 2,462,834 | 2,077,637 |
| Total refunds | $ 22,588,511 | $ 23,696,251 | $ 21,969,587 | $ 68,482,431 | $ 29,192,968 | $ 24,025,797 | $ 44,142,736 | $ 32,203,992 | $ 23,095,732 | $ 45,611,942 |

* Refunds in fiscal year 2015 reflect the return of approximately $43 million of non-Plan cash being managed by the System on behalf of PLD Consolidated Plan employers.

Data by type of refund, by plan, was not readily available for the years prior to 2013. This information will continue to be populated until the requisite ten years is displayed.

# GROUP LIFE INSURANCE PLAN
# BENEFIT AND REFUND DEDUCTIONS FROM FIDUCIARY NET POSITION
# BY TYPE *(concluded)*

## LAST TEN FISCAL YEARS *

### GROUP LIFE INSURANCE PLAN - ACTIVE EMPLOYEES

| | Fiscal Year | |
|---|---|---|
| **Type of Benefit** ** | **2018** | **2017** |
| Basic active claims | $ 2,118,390 | $ 1,717,860 |
| Supplemental claims | 1,758,000 | 1,886,684 |
| Dependent claims | 237,500 | 182,500 |
| Accidental Death & Dismemberment claims | 60,000 | 309,000 |
| | 4,173,890 | 4,096,044 |
| Conversion expense | 55,478 | 53,235 |
| Total benefits | $ 4,229,368 | $ 4,149,279 |

### GROUP LIFE INSURANCE PLAN - STATE EMPLOYEE & TEACHER RETIREES

| | Fiscal Year | |
|---|---|---|
| **Type of Benefit** ** | **2018** | **2017** |
| Basic retiree claims | $ 7,269,809 | $ 6,003,967 |
| Total benefits | $ 7,269,809 | $ 6,003,967 |

### GROUP LIFE INSURANCE PLAN - PLD RETIREES

| | Fiscal Year | |
|---|---|---|
| **Type of Benefit** ** | **2018** | **2017** |
| Basic retiree claims | $ 1,530,346 | $ 1,394,586 |
| Total benefits | $ 1,530,346 | $ 1,394,586 |

* The System currently has this information available for the years indicated. Additional information will be added to the schedule each year until the requisite ten years is obtained.

** Benefit amounts displayed in 2018 include the cost of third-party processing activities.

# DEFINED BENEFIT PLANS - AVERAGE BENEFIT PAYMENTS

# LAST TEN FISCAL YEARS

**STATE EMPLOYEE AND TEACHER PLAN**

**Retirement Effective Dates**
**July 1, 2012 - June 30, 2018***

| | Years of Creditable Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Less than 5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Greater than 30 |
| Period 7/1/2017 to 6/30/2018 | | | | | | | |
| Average Monthly Benefit | $ 159 | $ 497 | $ 830 | $ 1,292 | $ 1,889 | $ 2,205 | $ 3,165 |
| Average Final Salary | $ 9,253 | $ 32,389 | $ 34,666 | $ 38,544 | $ 42,761 | $ 45,081 | $ 51,936 |
| Number of Service Retirees | 1,334 | 1,413 | 2,812 | 2,664 | 3,454 | 6,836 | 9,672 |
| Period 7/1/2016 to 6/30/2017 | | | | | | | |
| Average Monthly Benefit | $ 165 | $ 493 | $ 806 | $ 1,265 | $ 1,857 | $ 2,163 | $ 3,108 |
| Average Final Salary | $ 9,821 | $ 32,228 | $ 33,672 | $ 37,623 | $ 41,937 | $ 44,336 | $ 50,999 |
| Number of Service Retirees | 1,198 | 1,345 | 2,744 | 2,544 | 3,402 | 6,767 | 9,415 |
| Period 7/1/2015 to 6/30/2016 | | | | | | | |
| Average Monthly Benefit | $ 170 | $ 485 | $ 780 | $ 1,229 | $ 1,806 | $ 2,105 | $ 3,040 |
| Average Final Salary | $ 10,649 | $ 32,076 | $ 32,842 | $ 36,832 | $ 40,960 | $ 43,503 | $ 50,158 |
| Number of Service Retirees | 1,070 | 1,259 | 2,663 | 2,467 | 3,331 | 6,670 | 9,164 |
| Period 7/1/2014 to 6/30/2015 | | | | | | | |
| Average Monthly Benefit | $ 178 | $ 472 | $ 755 | $ 1,188 | $ 1,757 | $ 2,050 | $ 2,970 |
| Average Final Salary | $ 11,307 | $ 31,831 | $ 31,809 | $ 35,631 | $ 40,059 | $ 42,711 | $ 49,231 |
| Number of Service Retirees | 930 | 1,182 | 2,550 | 2,332 | 3,283 | 6,569 | 8,889 |
| Period 7/1/2013 to 6/30/2014 | | | | | | | |
| Average Monthly Benefit | $ 189 | $ 463 | $ 725 | $ 1,153 | $ 1,715 | $ 2,002 | $ 2,907 |
| Average Final Salary | $ 12,446 | $ 31,627 | $ 30,576 | $ 34,457 | $ 38,903 | $ 41,888 | $ 48,257 |
| Number of Service Retirees | 786 | 1,105 | 2,426 | 2,245 | 3,215 | 6,430 | 8,586 |
| Period 7/1/2012 to 6/30/2013 | | | | | | | |
| Average Monthly Benefit | $ 210 | $ 465 | $ 708 | $ 1,139 | $ 1,700 | $ 1,987 | $ 2,877 |
| Average Final Salary | $ 40,079 | $ 33,962 | $ 30,962 | $ 33,820 | $ 38,005 | $ 41,170 | $ 47,284 |
| Number of Service Retirees | 650 | 1,009 | 2,319 | 2,160 | 3,123 | 6,337 | 8,360 |

*This table will continue to be populated until the requisite ten years of data is presented.

**JUDICIAL PLAN**

**Retirement Effective Dates**
**July 1, 2012 - June 30, 2018***

| | Years of Creditable Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Less than 5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Greater than 30 |
| Period 7/1/2017 to 6/30/2018 | | | | | | | |
| Average Monthly Benefit | $ 562 | $ 1,778 | $ 3,985 | $ 4,037 | $ 4,779 | $ 5,615 | $ 5,293 |
| Average Final Salary | $ 13,088 | $ 55,919 | $ 78,254 | $ 92,037 | $ 97,926 | $ 110,586 | $ 111,931 |
| Number of Service Retirees | 7 | 13 | 14 | 19 | 8 | 9 | 5 |
| Period 7/1/2016 to 6/30/2017 | | | | | | | |
| Average Monthly Benefit | $ 442 | $ 1,729 | $ 4,358 | $ 4,244 | $ 4,738 | $ 5,586 | $ 5,268 |
| Average Final Salary | $ 10,273 | $ 57,420 | $ 84,234 | $ 89,784 | $ 103,183 | $ 110,586 | $ 111,931 |
| Number of Service Retirees | 6 | 12 | 12 | 20 | 5 | 9 | 5 |
| Period 7/1/2015 to 6/30/2016 | | | | | | | |
| Average Monthly Benefit | $ 440 | $ 1,707 | $ 4,317 | $ 4,199 | $ 4,696 | $ 5,542 | $ 5,229 |
| Average Final Salary | $ 10,273 | $ 57,420 | $ 84,234 | $ 87,575 | $ 103,183 | $ 110,586 | $ 111,931 |
| Number of Service Retirees | 6 | 12 | 12 | 19 | 5 | 9 | 5 |
| Period 7/1/2014 to 6/30/2015 | | | | | | | |
| Average Monthly Benefit | $ 388 | $ 1,689 | $ 4,606 | $ 4,154 | $ 4,655 | $ 5,499 | $ 5,190 |
| Average Final Salary | $ 17,129 | $ 57,420 | $ 79,169 | $ 86,262 | $ 103,183 | $ 110,586 | $ 111,931 |
| Number of Service Retirees | 4 | 12 | 13 | 15 | 5 | 9 | 5 |
| Period 7/1/2013 to 6/30/2014 | | | | | | | |
| Average Monthly Benefit | $ 315 | $ 1,590 | $ 4,861 | $ 4,000 | $ 4,621 | $ 5,464 | $ 5,164 |
| Average Final Salary | $ 8,279 | $ 54,733 | $ 78,970 | $ 84,290 | $ 103,183 | $ 110,586 | $ 111,931 |
| Number of Service Retirees | 1 | 9 | 15 | 12 | 5 | 9 | 5 |
| Period 7/1/2012 to 6/30/2013 | | | | | | | |
| Average Monthly Benefit | $ 315 | $ 1,623 | $ 5,070 | $ 4,229 | $ 4,750 | $ 5,464 | $ 5,541 |
| Average Final Salary | $ 118,269 | $ 112,541 | $ 87,240 | $ 93,463 | $ 110,809 | $ 110,586 | $ 109,339 |
| Number of Service Retirees | 1 | 5 | 17 | 9 | 6 | 9 | 4 |

*This table will continue to be populated until the requisite ten years of data is presented.

# DEFINED BENEFIT PLANS - AVERAGE BENEFIT PAYMENTS

*(continued)*

# LAST TEN FISCAL YEARS

**LEGISLATIVE PLAN**

**Retirement Effective Dates**
**July 1, 2012 - June 30, 2018***

| | Years of Creditable Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Less than 5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Greater than 30 |
| Period 7/1/2017 to 6/30/2018 | | | | | | | |
| Average Monthly Benefit | $ 86 | $ 166 | $ 274 | $ 351 | $ - | $ - | $ - |
| Average Final Salary | $ 9,777 | $ 12,318 | $ 12,388 | $ 14,665 | $ - | $ - | $ - |
| Number of Service Retirees | 23 | 104 | 17 | 4 | 0 | 0 | 0 |
| Period 7/1/2016 to 6/30/2017 | | | | | | | |
| Average Monthly Benefit | $ 82 | $ 161 | $ 279 | $ 363 | $ - | $ - | $ - |
| Average Final Salary | $ 9,646 | $ 12,109 | $ 12,284 | $ 14,900 | $ - | $ - | $ - |
| Number of Service Retirees | 23 | 105 | 16 | 3 | 0 | 0 | 0 |
| Period 7/1/2015 to 6/30/2016 | | | | | | | |
| Average Monthly Benefit | $ 80 | $ 159 | $ 263 | $ 402 | $ - | $ - | $ - |
| Average Final Salary | $ 10,120 | $ 12,078 | $ 11,681 | $ 12,773 | $ - | $ - | $ - |
| Number of Service Retirees | 23 | 97 | 14 | 3 | 0 | 0 | 0 |
| Period 7/1/2014 to 6/30/2015 | | | | | | | |
| Average Monthly Benefit | $ 79 | $ 155 | $ 254 | $ 382 | $ - | $ - | $ - |
| Average Final Salary | $ 10,270 | $ 11,994 | $ 11,153 | $ 13,204 | $ - | $ - | $ - |
| Number of Service Retirees | 24 | 96 | 16 | 4 | 0 | 0 | 0 |
| Period 7/1/2013 to 6/30/2014 | | | | | | | |
| Average Monthly Benefit | $ 67 | $ 149 | $ 247 | $ 374 | $ - | $ - | $ - |
| Average Final Salary | $ 9,603 | $ 11,643 | $ 11,138 | $ 13,204 | $ - | $ - | $ - |
| Number of Service Retirees | 22 | 84 | 14 | 4 | 0 | 0 | 0 |
| Period 7/1/2012 to 6/30/2013 | | | | | | | |
| Average Monthly Benefit | $ 69 | $ 148 | $ 256 | $ 374 | $ - | $ - | $ - |
| Average Final Salary | $ 18,728 | $ 11,778 | $ 11,339 | $ 13,204 | $ - | $ - | $ - |
| Number of Service Retirees | 24 | 87 | 11 | 4 | 0 | 0 | 0 |

*This table will continue to be populated until the requisite ten years of data is presented.

**PLD CONSOLIDATED PLAN**

**Retirement Effective Dates**
**July 1, 2012 - June 30, 2018***

| | Years of Creditable Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Less than 5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Greater than 30 |
| Period 7/1/2017 to 6/30/2018 | | | | | | | |
| Average Monthly Benefit | $ 145 | $ 545 | $ 820 | $ 1,350 | $ 1,923 | $ 2,337 | $ 3,152 |
| Average Final Salary | $ 7,736 | $ 24,418 | $ 29,145 | $ 35,125 | $ 37,357 | $ 43,630 | $ 48,843 |
| Number of Service Retirees | 1,639 | 1,451 | 1,329 | 1,331 | 1,326 | 994 | 579 |
| Period 7/1/2016 to 6/30/2017 | | | | | | | |
| Average Monthly Benefit | $ 139 | $ 528 | $ 790 | $ 1,307 | $ 1,859 | $ 2,268 | $ 3,064 |
| Average Final Salary | $ 7,669 | $ 24,049 | $ 28,550 | $ 34,100 | $ 35,609 | $ 42,422 | $ 47,585 |
| Number of Service Retirees | 1,478 | 1,297 | 1,271 | 1,276 | 1,233 | 1,008 | 599 |
| Period 7/1/2015 to 6/30/2016 | | | | | | | |
| Average Monthly Benefit | $ 138 | $ 511 | $ 748 | $ 1,281 | $ 1,809 | $ 2,228 | $ 3,015 |
| Average Final Salary | $ 7,707 | $ 23,663 | $ 27,128 | $ 33,490 | $ 33,885 | $ 41,686 | $ 47,280 |
| Number of Service Retirees | 1,328 | 1,176 | 1,201 | 1,252 | 1,139 | 1,031 | 618 |
| Period 7/1/2014 to 6/30/2015 | | | | | | | |
| Average Monthly Benefit | $ 139 | $ 497 | $ 727 | $ 1,256 | $ 1,797 | $ 2,206 | $ 3,004 |
| Average Final Salary | $ 7,777 | $ 23,320 | $ 26,728 | $ 32,942 | $ 32,952 | $ 41,008 | $ 46,870 |
| Number of Service Retirees | 1,186 | 1,050 | 1,130 | 1,167 | 1,090 | 1,037 | 638 |
| Period 7/1/2013 to 6/30/2014 | | | | | | | |
| Average Monthly Benefit | $ 139 | $ 471 | $ 675 | $ 1,178 | $ 1,748 | $ 2,138 | $ 2,919 |
| Average Final Salary | $ 8,018 | $ 23,316 | $ 25,525 | $ 31,381 | $ 31,737 | $ 40,026 | $ 46,278 |
| Number of Service Retirees | 1,007 | 926 | 1,064 | 1,046 | 1,072 | 1,063 | 656 |
| Period 7/1/2012 to 6/30/2013 | | | | | | | |
| Average Monthly Benefit | $ 136 | $ 449 | $ 629 | $ 1,103 | $ 1,710 | $ 2,086 | $ 2,858 |
| Average Final Salary | $ 39,573 | $ 35,552 | $ 28,806 | $ 36,407 | $ 32,317 | $ 39,707 | $ 46,137 |
| Number of Service Retirees | 882 | 779 | 1,002 | 906 | 1,083 | 1,076 | 656 |

*This table will continue to be populated until the requisite ten years of data is presented.

# DEFINED BENEFIT PLANS - AVERAGE BENEFIT PAYMENTS
*(concluded)*

## LAST TEN FISCAL YEARS

**PLD AGENT PLAN**

**Retirement Effective Dates**
**July 1, 2012 - June 30, 2018***

| | Years of Creditable Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Less than 5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Greater than 30 |
| Period 7/1/2017 to 6/30/2018 | | | | | | | |
| Average Monthly Benefit | $ 59 | $ 351 | $ 540 | $ 874 | $ 1,843 | $ 2,247 | $ 2,591 |
| Average Final Salary | $ 1,858 | $ 14,768 | $ 17,146 | $ 25,602 | $ 31,931 | $ 39,102 | $ 46,194 |
| Number of Service Retirees | 26 | 4 | 16 | 18 | 31 | 33 | 23 |
| Period 7/1/2016 to 6/30/2017 | | | | | | | |
| Average Monthly Benefit | $ 60 | $ 340 | $ 505 | $ 846 | $ 1,815 | $ 2,216 | $ 2,576 |
| Average Final Salary | $ 1,988 | $ 15,590 | $ 15,597 | $ 24,795 | $ 31,931 | $ 38,813 | $ 46,217 |
| Number of Service Retirees | 24 | 5 | 19 | 20 | 31 | 33 | 22 |
| Period 7/1/2015 to 6/30/2016 | | | | | | | |
| Average Monthly Benefit | $ 49 | $ 337 | $ 501 | $ 839 | $ 1,816 | $ 2,221 | $ 2,523 |
| Average Final Salary | $ 1,915 | $ 15,644 | $ 15,294 | $ 24,795 | $ 31,502 | $ 38,440 | $ 46,217 |
| Number of Service Retirees | 23 | 5 | 19 | 20 | 33 | 31 | 22 |
| Period 7/1/2014 to 6/30/2015 | | | | | | | |
| Average Monthly Benefit | $ 45 | $ 337 | $ 455 | $ 837 | $ 1,820 | $ 2,189 | $ 2,501 |
| Average Final Salary | $ 1,609 | $ 15,644 | $ 13,693 | $ 24,755 | $ 31,406 | $ 36,887 | $ 45,304 |
| Number of Service Retirees | 21 | 5 | 21 | 20 | 33 | 33 | 21 |
| Period 7/1/2013 to 6/30/2014 | | | | | | | |
| Average Monthly Benefit | $ 45 | $ 275 | $ 457 | $ 833 | $ 1,795 | $ 2,118 | $ 2,483 |
| Average Final Salary | $ 1,661 | $ 16,653 | $ 13,692 | $ 24,627 | $ 30,255 | $ 36,436 | $ 45,304 |
| Number of Service Retirees | 20 | 4 | 23 | 22 | 34 | 34 | 21 |
| Period 7/1/2012 to 6/30/2013 | | | | | | | |
| Average Monthly Benefit | $ 37 | $ 273 | $ 450 | $ 797 | $ 1,748 | $ 2,065 | $ 2,319 |
| Average Final Salary | $ 39,810 | $ 20,825 | $ 13,898 | $ 26,695 | $ 29,884 | $ 35,644 | $ 42,989 |
| Number of Service Retirees | 23 | 4 | 25 | 23 | 35 | 34 | 19 |

*This table will continue to be populated until the requisite ten years of data is presented.

# DEFINED BENEFIT PLANS - AVERAGE BENEFIT PAYMENTS

*(concluded)*

## LAST TEN FISCAL YEARS

**ALL DEFINED BENEFIT PENSION PLANS, COMBINED**

**Retirement Effective Dates**
**July 1, 2008 - June 30, 2018**

| | Years of Creditable Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | Less than 5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Greater than 30 |
| Period 7/1/2017 to 6/30/2018 | | | | | | | |
| Average Monthly Benefit | $ 173 | $ 530 | $ 839 | $ 1,326 | $ 1,906 | $ 2,226 | $ 3,164 |
| Average Final Salary | $ 8,388 | $ 27,950 | $ 32,915 | $ 37,612 | $ 41,281 | $ 44,935 | $ 51,762 |
| Number of Service Retirees | 2,998 | 2,975 | 4,177 | 4,024 | 4,823 | 7,876 | 10,286 |
| Period 7/1/2016 to 6/30/2017 | | | | | | | |
| Average Monthly Benefit | $ 172 | $ 518 | $ 812 | $ 1,295 | $ 1,863 | $ 2,181 | $ 3,105 |
| Average Final Salary | $ 8,593 | $ 27,750 | $ 32,079 | $ 36,657 | $ 40,248 | $ 44,131 | $ 50,799 |
| Number of Service Retirees | 2,701 | 2,757 | 4,047 | 3,853 | 4,675 | 7,821 | 10,048 |
| Period 7/1/2015 to 6/30/2016 | | | | | | | |
| Average Monthly Benefit | $ 172 | $ 504 | $ 782 | $ 1,262 | $ 1,812 | $ 2,126 | $ 3,038 |
| Average Final Salary | $ 8,943 | $ 27,562 | $ 31,106 | $ 35,902 | $ 39,162 | $ 43,310 | $ 49,980 |
| Number of Service Retirees | 2,425 | 2,538 | 3,899 | 3,748 | 4,510 | 7,745 | 9,818 |
| Period 7/1/2014 to 6/30/2015 | | | | | | | |
| Average Monthly Benefit | $ 173 | $ 490 | $ 759 | $ 1,222 | $ 1,772 | $ 2,077 | $ 2,973 |
| Average Final Salary | $ 8,697 | $ 27,354 | $ 30,250 | $ 34,875 | $ 38,303 | $ 42,528 | $ 49,081 |
| Number of Service Retirees | 2,143 | 2,340 | 3,719 | 3,529 | 4,410 | 7,652 | 9,561 |
| Period 7/1/2013 to 6/30/2014 | | | | | | | |
| Average Monthly Benefit | $ 179 | $ 470 | $ 727 | $ 1,168 | $ 1,728 | $ 2,026 | $ 2,908 |
| Average Final Salary | $ 9,877 | $ 27,332 | $ 29,082 | $ 33,579 | $ 37,127 | $ 41,680 | $ 48,133 |
| Number of Service Retirees | 1,821 | 2,123 | 3,537 | 3,320 | 4,328 | 7,537 | 9,274 |
| Period 7/1/2012 to 6/30/2013 | | | | | | | |
| Average Monthly Benefit | $ 364 | $ 433 | $ 681 | $ 1,105 | $ 1,698 | $ 2,006 | $ 2,881 |
| Average Final Salary | $ 28,688 | $ 30,446 | $ 28,554 | $ 32,680 | $ 36,429 | $ 41,244 | $ 47,413 |
| Number of Service Retirees | 440 | 1,482 | 3,112 | 2,860 | 4,288 | 7,658 | 9,194 |
| Period 7/1/2011 to 6/30/2012 | | | | | | | |
| Average Monthly Benefit | $ 647 | $ 427 | $ 671 | $ 1,083 | $ 1,678 | $ 1,979 | $ 2,845 |
| Average Final Salary | $ 25,200 | $ 59,515 | $ 27,199 | $ 31,429 | $ 35,443 | $ 40,189 | $ 46,386 |
| Number of Service Retirees | 568 | 1,402 | 3,013 | 2,777 | 4,182 | 7,413 | 8,863 |
| Period 7/1/2010 to 6/30/2011 | | | | | | | |
| Average Monthly Benefit | $ 419 | $ 399 | $ 636 | $ 1,035 | $ 1,599 | $ 1,877 | $ 2,681 |
| Average Final Salary | $ 26,382 | $ 27,791 | $ 25,452 | $ 29,842 | $ 34,108 | $ 38,836 | $ 44,693 |
| Number of Service Retirees | 551 | 1,276 | 2,913 | 2,681 | 4,083 | 7,060 | 8,221 |
| Period 7/1/2009 to 6/30/2010 | | | | | | | |
| Average Monthly Benefit | $ 617 | $ 388 | $ 617 | $ 1,016 | $ 1,583 | $ 1,867 | $ 2,653 |
| Average Final Salary | $ 25,338 | $ 26,322 | $ 23,944 | $ 28,556 | $ 32,700 | $ 37,655 | $ 43,265 |
| Number of Service Retirees | 559 | 1,175 | 2,819 | 2,594 | 3,898 | 6,782 | 7,868 |
| Period 7/1/2008 to 6/30/2009 | | | | | | | |
| Average Monthly Benefit | $ 388 | $ 398 | $ 616 | $ 1,017 | $ 1,625 | $ 1,907 | $ 2,737 |
| Average Final Salary | $ 23,532 | $ 24,858 | $ 22,828 | $ 27,456 | $ 31,630 | $ 36,735 | $ 42,107 |
| Number of Service Retirees | 451 | 1,132 | 2,810 | 2,570 | 3,827 | 6,657 | 7,501 |

# DEFINED BENEFIT PLANS
# RETIRED MEMBERS BY TYPE OF BENEFIT AND OPTION
# As of June 30, 2018

**STATE EMPLOYEES AND TEACHER PLAN**

| | | Type of Retirement Benefit | | | | Benefit Option Selected * | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amount of Monthly Benefit | Number of Retired Members | Service Retiree | Beneficiary | Disability | Pre-Retire Death Benefit | Full Benefit to Retiree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Other |
| $0 - $250 | 2,297 | 1,366 | 884 | 23 | 24 | 659 | 230 | 271 | 61 | 24 | 637 | 98 | 34 | 47 | 236 |
| $251 - $500 | 2,815 | 1,316 | 1,359 | 11 | 129 | 686 | 206 | 256 | 80 | 14 | 1,035 | 91 | 22 | 31 | 394 |
| $501 - $750 | 3,102 | 1,469 | 1,133 | 27 | 473 | 774 | 209 | 257 | 105 | 18 | 868 | 108 | 31 | 36 | 696 |
| $751 - $1,000 | 2,196 | 1,491 | 662 | 43 | - | 768 | 207 | 254 | 150 | 22 | 435 | 81 | 35 | 57 | 187 |
| $1,001 - $1,250 | 2,202 | 1,654 | 474 | 74 | - | 817 | 207 | 237 | 150 | 23 | 387 | 99 | 44 | 48 | 190 |
| $1,251 - $1,500 | 2,257 | 1,785 | 372 | 100 | - | 854 | 237 | 214 | 132 | 10 | 407 | 114 | 55 | 62 | 172 |
| $1,501 - $1,750 | 2,448 | 1,981 | 294 | 173 | - | 918 | 298 | 268 | 116 | 23 | 421 | 91 | 56 | 65 | 192 |
| $1,751 - $2,000 | 2,646 | 2,173 | 281 | 192 | - | 1,004 | 304 | 279 | 130 | 25 | 467 | 109 | 68 | 76 | 184 |
| Over $2,001 | 15,638 | 13,917 | 756 | 965 | - | 6,920 | 1,881 | 1,496 | 699 | 300 | 1,770 | 607 | 565 | 688 | 712 |
| **Totals** | **35,601** | **27,152** | **6,215** | **1,608** | **626** | **13,400** | **3,779** | **3,532** | **1,623** | **459** | **6,427** | **1,398** | **910** | **1,110** | **2,963** |

**JUDICIAL PLAN**

| | | Type of Retirement Benefit | | | | Benefit Option Selected * | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amount of Monthly Benefit | Number of Retired Members | Service Retiree | Beneficiary | Disability | Pre-Retire Death Benefit | Full Benefit to Retiree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Other |
| $0 - $250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $251 - $500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $501 - $750 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| $751 - $1,000 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| $1,001 - $1,250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $1,251 - $1,500 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| $1,501 - $1,750 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $1,751 - $2,000 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Over $2,001 | 67 | 53 | 13 | 1 | 0 | 17 | 3 | 18 | 10 | 3 | 9 | 3 | 0 | 2 | 2 |
| **Totals** | **75** | **54** | **20** | **1** | **0** | **17** | **4** | **19** | **10** | **3** | **13** | **3** | **0** | **2** | **4** |

**LEGISLATIVE PLAN**

| | | Type of Retirement Benefit | | | | Benefit Option Selected * | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amount of Monthly Benefit | Number of Retired Members | Service Retiree | Beneficiary | Disability | Pre-Retire Death Benefit | Full Benefit to Retiree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Other |
| $0 - $250 | 158 | 130 | 28 | 0 | 0 | 67 | 13 | 38 | 7 | 0 | 15 | 12 | 1 | 1 | 4 |
| $251 - $500 | 19 | 18 | 1 | 0 | 0 | 11 | 2 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| $501 - $750 | 8 | 0 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| $751 - $1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $1,001 - $1,250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $1,251 - $1,500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $1,501 - $1,750 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $1,751 - $2,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Over $2,001 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Totals** | **185** | **148** | **29** | **2** | **6** | **78** | **15** | **42** | **8** | **0** | **15** | **13** | **1** | **1** | **12** |

* There are eight options available to retirees for their monthly retirement benefit:

Full Benefit to Retiree: provides the highest benefit to the retiree; there is no benefit provided for a beneficiary(ies)

Option 1: the monthly benefit is reduced, and remaining contributions and interest, if any, are paid to a beneficiary(ies) upon retiree's death in a one-time, lump-sum payment

Option 2: the monthly benefit is reduced, and the same monthly benefit is paid to a beneficiary(ies) upon the retiree's death

Option 3: the monthly benefit is reduced, and one-half of the monthly benefit is paid to a beneficiary(ies) upon the retiree's death

Option 4: the monthly benefit is reduced, and a retiree-designated percentage of the monthly benefit is paid to a beneficiary(ies) upon the retiree's death

Option 5: the monthly benefit is split (up to 49%) with a beneficiary(ies) while both the retiree and beneficiary(ies) are living; upon death of either, the other receives the higher benefit for the remainder of his/her life

Option 6: similar to Option 2, except the retiree's monthly benefit will increase to the Full Benefit amount in the event the beneficiary(ies) dies before the retiree

Option 7: similar to Option 3, except the retiree's monthly benefit will increase to the Full Benefit amount in the event the beneficiary(ies) dies before the retiree

Option 8: similar to Option 4, except the retiree's monthly benefit will increase to the Full Benefit amount in the event the beneficiary(ies) dies before the retiree

Other: default option for specific circumstances such as disability benefits, survivor benefits, and qualified domestic relations order benefits

# DEFINED BENEFIT PLANS
# RETIRED MEMBERS BY TYPE OF BENEFIT AND OPTION
## As of June 30, 2018
*(concluded)*

**PLD CONSOLIDATED PLAN**

| | | Type of Retirement Benefit | | | | Benefit Option Selected * | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amount of Monthly Benefit | Number of Retired Members | Service Retiree | Beneficiary | Disability | Pre-Retire Death Benefit | Full Benefit to Retiree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Other |
| $0 - $250 | 1,507 | 995 | 483 | 22 | 7 | 524 | 134 | 190 | 62 | 16 | 316 | 66 | 29 | 40 | 130 |
| $251 - $500 | 1,153 | 668 | 441 | 14 | 30 | 295 | 131 | 197 | 48 | 8 | 304 | 40 | 12 | 11 | 107 |
| $501 - $750 | 1,162 | 660 | 350 | 19 | 133 | 283 | 118 | 167 | 56 | 8 | 242 | 42 | 16 | 19 | 211 |
| $751 - $1,000 | 784 | 534 | 222 | 28 | - | 236 | 75 | 126 | 55 | 7 | 139 | 34 | 14 | 15 | 83 |
| $1,001 - $1,250 | 692 | 509 | 149 | 34 | - | 205 | 89 | 122 | 40 | 7 | 100 | 43 | 11 | 11 | 64 |
| $1,251 - $1,500 | 563 | 418 | 117 | 28 | - | 160 | 69 | 93 | 17 | 3 | 108 | 30 | 14 | 9 | 60 |
| $1,501 - $1,750 | 524 | 415 | 70 | 39 | - | 139 | 60 | 93 | 25 | 5 | 113 | 26 | 10 | 5 | 48 |
| $1,751 - $2,000 | 499 | 385 | 59 | 54 | 1 | 163 | 56 | 61 | 22 | 3 | 107 | 21 | 8 | 11 | 47 |
| Over $2,001 | 2,372 | 2,088 | 128 | 155 | 1 | 782 | 252 | 350 | 126 | 44 | 374 | 155 | 76 | 65 | 148 |
| **Totals** | **9,256** | **6,672** | **2,019** | **393** | **172** | **2,787** | **984** | **1,399** | **451** | **101** | **1,803** | **457** | **190** | **186** | **898** |

**PLD AGENT PLAN**

| | | Type of Retirement Benefit | | | | Benefit Option Selected * | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amount of Monthly Benefit | Number of Retired Members | Service Retiree | Beneficiary | Disability | Pre-Retire Death Benefit | Full Benefit to Retiree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Other |
| $0 - $250 | 16 | 10 | 6 | 0 | 0 | 6 | 1 | 4 | 1 | 0 | 4 | 0 | 0 | 0 | 0 |
| $251 - $500 | 25 | 8 | 17 | 0 | 0 | 4 | 1 | 1 | 2 | 0 | 16 | 1 | 0 | 0 | 0 |
| $501 - $750 | 27 | 15 | 12 | 0 | 0 | 7 | 5 | 2 | 1 | 0 | 11 | 0 | 0 | 0 | 1 |
| $751 - $1,000 | 12 | 5 | 7 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| $1,001 - $1,250 | 14 | 12 | 2 | 0 | 0 | 5 | 0 | 2 | 1 | 1 | 3 | 0 | 2 | 0 | 0 |
| $1,251 - $1,500 | 10 | 9 | 1 | 0 | 0 | 3 | 0 | 1 | 2 | 0 | 2 | 1 | 0 | 1 | 0 |
| $1,501 - $1,750 | 14 | 13 | 1 | 0 | 0 | 3 | 2 | 3 | 0 | 1 | 3 | 0 | 0 | 1 | 1 |
| $1,751 - $2,000 | 4 | 4 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Over $2,001 | 48 | 45 | 3 | 0 | 0 | 7 | 3 | 8 | 4 | 1 | 21 | 4 | 0 | 0 | 0 |
| **Totals** | **170** | **121** | **49** | **0** | **0** | **37** | **12** | **26** | **13** | **3** | **63** | **6** | **2** | **2** | **6** |

* There are eight options available to retirees for their monthly retirement benefit:

Full Benefit to Retiree: provides the highest benefit to the retiree; there is no benefit provided for a beneficiary(ies)

Option 1: the monthly benefit is reduced, and remaining contributions and interest, if any, are paid to a beneficiary(ies) upon retiree's death in a one-time, lump-sum payment

Option 2: the monthly benefit is reduced, and the same monthly benefit is paid to a beneficiary(ies) upon the retiree's death

Option 3: the monthly benefit is reduced, and one-half of the monthly benefit is paid to a beneficiary(ies) upon the retiree's death

Option 4: the monthly benefit is reduced, and a retiree-designated percentage of the monthly benefit is paid to a beneficiary(ies) upon the retiree's death

Option 5: the monthly benefit is split (up to 49%) with a beneficiary(ies) while both the retiree and beneficiary(ies) are living; upon death of either, the other receives the higher benefit for the remainder of his/her life

Option 6: similar to Option 2, except the retiree's monthly benefit will increase to the Full Benefit amount in the event the beneficiary(ies) dies before the retiree

Option 7: similar to Option 3, except the retiree's monthly benefit will increase to the Full Benefit amount in the event the beneficiary(ies) dies before the retiree

Option 8: similar to Option 4, except the retiree's monthly benefit will increase to the Full Benefit amount in the event the beneficiary(ies) dies before the retiree

Other: default option for specific circumstances such as disability benefits, survivor benefits, and qualified domestic relations order benefits

# EMPLOYEE CONTRIBUTION RATES
## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Judges** | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% |
| **Legislators** | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% |
| **School Teacher Employees** | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% |
| **State of Maine Employees** | | | | | | | | | | |
| Employee Class: | | | | | | | | | | |
| General | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% | 7.65% |
| Police - Grandfathered | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| Marine Wardens - Grandfathered | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| Game Wardens - Grandfathered | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| Prison Wardens - Grandfathered | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| Forest Rangers - Grandfathered | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| 1998 Special Plan Groups | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| 25-Year/No-Age Special Plan Groups | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% | 8.65% |
| **Participating Local District Employees** | | | | | | | | | | |
| Employee Class: | | | | | | | | | | |
| AC - General COLA | 7.50% | 7.50% | 7.50% | 7.00% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| BC - General COLA | 4.00% | 4.00% | 4.00% | 3.50% | 3.00% | 3.00% | 3.00% | 3.00% | 3.00% | 3.00% |
| 1C - Special COLA | 7.50% | 7.50% | 7.50% | 7.00% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| 2C - Special COLA | 7.50% | 7.50% | 7.50% | 7.00% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| 3C - Special COLA | 9.00% | 9.00% | 9.00% | 8.50% | 8.00% | 8.00% | 8.00% | 8.00% | 8.00% | 8.00% |
| 4C - Special COLA | 8.50% | 8.50% | 8.50% | 8.00% | 7.50% | 7.50% | 7.50% | 7.50% | 7.50% | 7.50% |
| AN - General No COLA | 7.50% | 7.50% | 7.50% | 7.00% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| 1N - Special No COLA | 7.50% | 7.50% | 7.50% | 7.00% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| 2N - Special No COLA | 7.50% | 7.50% | 7.50% | 7.00% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| 3N - Special No COLA | 9.00% | 9.00% | 9.00% | 8.50% | 8.00% | 8.00% | 8.00% | 8.00% | 8.00% | 8.00% |
| 4N - Special No COLA | 8.50% | 8.50% | 8.50% | 8.00% | 7.50% | 7.50% | 7.50% | 7.50% | 7.50% | 7.50% |

# EMPLOYER CONTRIBUTION RATES
## LAST TEN FISCAL YEARS

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
| **Judges** | 14.94% | 14.98% | 14.99% | 13.24% | 13.25% | 11.98% | 11.99% | 14.12% | 14.35% | 15.85% |
| **Legislators** | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| **School Teacher Employees** | 15.05% | 13.38% | 13.38% | 15.68% | 15.68% | 13.85% | 13.85% | 17.28% | 17.28% | 16.72% |
| **State of Maine Employees** | | | | | | | | | | |
| Employee Class: | | | | | | | | | | |
| General | 24.05% | 22.69% | 22.37% | 18.43% | 18.14% | 14.21% | 14.18% | 16.92% | 16.38% | 17.37% |
| Police - Grandfathered | 46.51% | 38.56% | 38.01% | 41.05% | 40.43% | 39.36% | 39.22% | 51.26% | 50.19% | 48.69% |
| Marine Wardens - Grandfathered | 0.00% | 40.99% | 40.41% | 31.62% | 31.20% | 33.44% | 33.33% | 54.49% | 53.32% | 40.67% |
| Game Wardens - Grandfathered | 47.73% | 42.18% | 41.59% | 36.50% | 35.98% | 38.60% | 38.47% | 54.48% | 53.30% | 50.14% |
| Prison Wardens - Grandfathered | 0.00% | 27.75% | 27.28% | 29.51% | 29.05% | 26.83% | 26.74% | 27.03% | 25.81% | 25.68% |
| Forest Rangers - Grandfathered | 24.99% | 21.99% | 21.64% | 22.73% | 22.36% | 13.69% | 13.65% | 22.32% | 21.84% | 22.18% |
| 1998 Special Plan Groups | 26.24% | 29.16% | 28.71% | 23.04% | 22.65% | 17.39% | 17.33% | 19.06% | 18.27% | 19.50% |
| 25-Year/No-Age Special Plan Groups | 23.48% | 23.96% | 23.57% | 20.42% | 20.08% | 15.43% | 15.38% | 24.87% | 24.34% | 25.00% |
| **Participating Local District Employees** | | | | | | | | | | |
| Employee Class: | | | | | | | | | | |
| AC - General COLA | 9.60% | 9.50% | 8.90% | 7.80% | 6.50% | 5.30% | 4.40% | 3.50% | 2.80% | 2.80% |
| BC - General COLA | 6.10% | 6.40% | 5.80% | 4.70% | 3.90% | 3.20% | 2.70% | 2.10% | 1.70% | 1.70% |
| 1C - Special COLA | 15.70% | 14.20% | 14.00% | 13.40% | 12.80% | 12.20% | 10.20% | 8.10% | 6.50% | 6.50% |
| 2C - Special COLA | 10.10% | 9.10% | 8.90% | 8.30% | 7.90% | 7.50% | 6.30% | 5.00% | 4.00% | 4.00% |
| 3C - Special COLA | 12.20% | 11.40% | 11.40% | 11.00% | 10.50% | 10.00% | 8.30% | 6.60% | 5.30% | 5.30% |
| 4C - Special COLA | 8.40% | 7.70% | 7.60% | 7.20% | 6.90% | 6.60% | 5.50% | 4.40% | 3.50% | 3.50% |
| AN - General No COLA | 7.00% | 6.50% | 5.60% | 4.10% | 3.40% | 2.80% | 2.40% | 1.90% | 1.50% | 1.50% |
| 1N - Special No COLA | 10.50% | 9.30% | 8.70% | 7.50% | 7.10% | 6.80% | 5.60% | 4.50% | 3.60% | 3.60% |
| 2N - Special No COLA | 5.50% | 5.60% | 5.20% | 4.40% | 4.20% | 4.00% | 3.30% | 2.60% | 2.20% | 2.20% |
| 3N - Special No COLA | 7.50% | 7.40% | 7.00% | 6.10% | 5.80% | 5.50% | 4.50% | 3.60% | 2.90% | 2.90% |
| 4N - Special No COLA | 3.90% | 4.60% | 4.40% | 4.00% | 3.80% | 3.60% | 3.00% | 2.40% | 1.90% | 1.90% |

# PRINCIPAL PARTICIPATING EMPLOYERS

## CURRENT YEAR AND NINE YEARS AGO

**2018**

| Participating Entity | Covered Employees | Rank | Percentage of Total System |
|---|---|---|---|
| State of Maine | 14,320 | 1 | 25.02% |
| Maine Veterans Home | 1,431 | 2 | 2.50% |
| Portland School Department | 1,240 | 3 | 2.17% |
| Lewiston School Department | 950 | 4 | 1.66% |
| Portland, City of | 923 | 5 | 1.61% |
| Bangor School Department | 578 | 6 | 1.01% |
| Regional School Unit #6 | 552 | 7 | 0.96% |
| Auburn School Department | 550 | 8 | 0.96% |
| South Portland School Department | 536 | 9 | 0.94% |
| Regional School Unit #14 | 499 | 10 | 0.87% |
| All Others * | 35,665 | 11 | 62.30% |
| Total (550 Participating Entities) | 57,244 | | 100.00% |

**2009**

| Participating Entity | Covered Employees | Rank | Percentage of Total System |
|---|---|---|---|
| State of Maine | 15,651 | 1 | 26.23% |
| Maine Veterans Home | 1,309 | 2 | 2.19% |
| Portland School Department | 1,242 | 3 | 2.08% |
| Portland, City of | 802 | 4 | 1.34% |
| Lewiston School Department | 786 | 5 | 1.32% |
| Bangor School Department | 672 | 6 | 1.13% |
| Auburn School Department | 652 | 7 | 1.09% |
| MSAD #75 Topsham | 598 | 8 | 1.00% |
| MSAD #6 Bar Mills | 556 | 9 | 0.93% |
| South Portland School Department | 519 | 10 | 0.87% |
| All Others * | 36,872 | 11 | 61.82% |
| Total (605 Participating Entities) | 59,659 | | 100.00% |

* "All Others" includes employees covered under two or more employer types. In 2018, "All Others" consisted of:

| | Employers | Members |
|---|---|---|
| Participating Local Districts | 322 | 10,653 |
| School Districts | 218 | 25,012 |
| Total | 540 | 35,665 |

*Note: Covered employees of these employers are eligible to participate in the Defined Benefit Plans administered by MainePERS which provide normal and disability retirement benefits and certain survivor benefits as well as benefits under the Group Life Insurance Plan.*

*Data for this table are derived from the System's pension administration records.*

## PARTICIPATING EMPLOYERS, DETAILED LISTING

**PROGRAM: STATE EMPLOYEE / TEACHER RETIREMENT PROGRAM**

**Participants:** **State Employees**
**Employer:** **State of Maine**
**Reporting Entity:** **State of Maine**

**Participants:** **State Employees**
**Employers:** **Various**
**Reporting Entity:** **(as follows)**

Central Maine Community College
Eastern Maine Community College
Kennebec Valley Community College
Northern Maine Community College
Southern Maine Community College
Washington County Community College
York County Community College
Maine Community College System - Administration
Maine Community College - Career Advantage
MECDHH/Governor Baxter School for the Deaf
Maine Dairy & Nutrition Council
Maine Developmental Disabilities Council
Maine Potato Board
Northern New England Passenger Rail Authority
Wild Blueberry Commission of Maine

**Participants:** **Teachers**
**Employers:** **State of Maine; School Administrative Units**
**Reporting Entity:** **(as follows)**

Acton School Department
Andover School Department
AOS #43 Central Office
AOS #43 Howland
AOS #43 Milo
AOS #47 Central Office
AOS #47 Dedham
AOS #47 Orrington
AOS #77 Alexander
AOS #77 Central Office
AOS #77 Charlotte
AOS #77 Eastport
AOS #77 Lubec
AOS #77 Pembroke
AOS #77 Perry
AOS #77 Robbinston
AOS #90 Baileyville
AOS #90 Central Office
AOS #90 East Range
AOS #90 Lee
AOS #90 Princeton
AOS #91 Bar Harbor
AOS #91 Central Office
AOS #91 Cranberry Isle
AOS #91 Frenchboro
AOS #91 MDI High School
AOS #91 Mt Desert
AOS #91 Southwest Harbor
AOS #91 Swans Island
AOS #91 Tremont
AOS #91 Trenton
AOS #92 Central Office
AOS #92 Vassalboro
AOS #92 Waterville
AOS #92 Winslow
AOS #93 Bristol
AOS #93 Central Office
AOS #93 Great Salt Bay
AOS #93 Jefferson
AOS #93 Nobleboro
AOS #93 South Bristol
AOS #94 Central Office
AOS #94 Harmony
AOS #94 MSAD 46
AOS #96 Central Office
AOS #96 Cutler
AOS #96 East Machias
AOS #96 Jonesboro
AOS #96 Machias
AOS #96 Machiasport
AOS #96 Marshfield
AOS #96 Northfield
AOS #96 Roque Bluffs
AOS #96 Wesley
AOS #96 Whiting
AOS #96 Whitneyville
AOS #98 Boothbay Harbor
AOS #98 Central Office
AOS #98 Edgecomb
AOS #98 Georgetown
AOS #98 Southport
Athens School Department
Auburn School Department
Augusta School Department
Bangor School Department
Biddeford School Department
Brewer School Department
Brunswick School Department
Calais School Department
Cape Elizabeth School Department
Caswell School Department
Chebeague Island School Department
Cherryfield School Department
CSD #13 Deer Isle-Stonington
CSD #17 Moosabec
CSD #18 Wells-Ogunquit
CSD #19 Five Town
CSD #8 Airline
Dayton School Department
East Millinocket School Department
Easton School Department
Ellsworth School Department

## PARTICIPATING EMPLOYERS, DETAILED LISTING *(continued)*

**TEACHERS** *(continued)*

Erskine Academy
Eustis School Department
Falmouth School Department
Fayette School Department
Foxcroft Academy
Fryeburg Academy
George Stevens Academy
Glenburn School Department
Gorham School Department
Gould Academy
Greenbush School Department
Hancock School Department
Hermon School Department
Indian Island School
Indian Township School
Isle Au Haut School Department
Islesboro School Department
Kittery School Department
Lamoine School Department
Lee Academy
Lewiston School Department
Lincoln Academy
Lincolnville School Department
Lisbon School Department
Long Island School Department
Madawaska School Department
Maine Central Institute
Maine Education Association
Maine Indian Education
Maine School of Science & Mathematics
Medway School Department
Milford School Department
Millinocket School Department
Monhegan Plantation School Department
MSAD #4 Guilford
MSAD #7 North Haven
MSAD #8 Vinalhaven
MSAD #12 Jackman
MSAD #13 Bingham
MSAD #20 Fort Fairfield
MSAD #23 Carmel
MSAD #24 Van Buren
MSAD #27 Fort Kent
MSAD #28 Camden
MSAD #32 Ashland
MSAD #33 St. Agatha
MSAD #42 Mars Hill
MSAD #45 Washburn
MSAD #53 Pittsfield
MSAD #58 Kingfield
MSAD #59 Madison
MSAD #65 Matinicus
Northport School Department
Otis School Department
Oxford Hills Technical School MVR #11
Pleasant Point School
Portland School Department
Region 10 Cumberland-Sagadahoc County
Region 2 Southern Aroostook County
Region 3 Northern Penobscot County
Region 4 United Technologies Center
Region 7 Waldo County Technical Center
Region 8 Midcoast School of Technology
Region 9 School of Applied Technology
RSU #1
RSU #2 KIDS
RSU #3 MSAD #3 Unity
RSU #4
RSU #5
RSU #6 MSAD #6 Bar Mills
RSU #9 MSAD #9 Farmington
RSU #10
RSU #11 MSAD #11 Gardiner
RSU #12
RSU #13
RSU #14
RSU #15 MSAD #15 Gray
RSU #16
RSU #17 MSAD #17 South Paris
RSU #18
RSU #19
RSU #20
RSU #21
RSU #22
RSU #23
RSU #24
RSU #25
RSU #26
RSU #29 MSAD #29 Houlton
RSU #34
RSU #35 MSAD #35 Eliot
RSU #37 MSAD #37 Harrington
RSU #38
RSU #39 Eastern Aroostook
RSU #40 MSAD #40 Waldoboro
RSU #44 MSAD #44 Bethel
RSU #49 MSAD #49 Fairfield
RSU #50
RSU #51 MSAD #51 Cumberland Center
RSU #52 MSAD #52 Turner
RSU #54 MSAD #54 Skowhegan
RSU #55 MSAD #55 Cornish
RSU #56
RSU #57 MSAD #57 Waterboro
RSU #60 MSAD #60 North Berwick
RSU #61 MSAD #61 Bridgton
RSU #63 MSAD #63
RSU #64 MSAD #64 East Corinth
RSU #67 MSAD #67 Lincoln
RSU #68 MSAD #68 Dover-Foxcroft
RSU #70 MSAD #70
RSU #71

## PARTICIPATING EMPLOYERS, DETAILED LISTING *(continued)*

**TEACHERS** *(continued)*

RSU #72 MSAD #72 Fryeburg
RSU #73
RSU #74 MSAD #74 North Anson
RSU #75 MSAD #75 Topsham
RSU #78
RSU #79 MSAD #1 Presque Isle
RSU #84 MSAD #14
Saco School Department
Sanford School Department
Scarborough School Department
School Agent Carrabassett
School Agent Coplin Plantation
School Agent Pleasant Ridge Plantation
South Portland School Department
St. George School Department
Thornton Academy
Union 60 Greenville
Union 60 Shirley
Union 69 Appleton
Union 69 Hope
Union 76 Brooklin
Union 76 Sedgwick
Union 93 Blue Hill
Union 93 Brooksville
Union 93 Castine
Union 93 Penobscot
Union 93 Surry School Department
Union 103 Beals
Union 103 Jonesport
Union 122 New Sweden
Union 122 Westmanland
Union 122 Woodland
Vanceboro School Department
Veazie School Department
Washington Academy
West Bath School Department
Westbrook School Department
Winthrop School Department
Wiscasset School Department
Yarmouth School Department
York School Department

| | |
|---|---|
| **PROGRAM:** | **LEGISLATIVE RETIREMENT PROGRAM** |
| **Participants:** | **Legislators** |
| **Employer:** | **State of Maine** |
| **Reporting Entity:** | **Office of the Executive Director, Maine Legislature** |

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|---|---|
| **PROGRAM:** | **JUDICIAL RETIREMENT PROGRAM** |
| **Participants:** | **Judges** |
| **Employer:** | **State of Maine** |
| **Reporting Entity:** | **Administrative Office of the Courts** |

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|---|---|
| **PROGRAM:** | **PARTICIPATING LOCAL DISTRICT RETIREMENT PROGRAM** |
| **Employers:** | **PLDs (Active and Withdrawn)** |
| **Reporting Entities:** | **(as follows)** |

Acton, Town of
Androscoggin County
Androscoggin Valley Council of Governments
Anson-Madison Sanitary District
Aroostook County
Auburn Housing Authority
Auburn Lewiston Airport
Auburn Public Library
Auburn Water And Sewer District
Auburn, City of
Augusta, City of
Augusta Housing Authority
Baileyville, Town of
Bangor Housing Authority
Bangor Public Library
Bangor Water District
Bangor, City of
Bar Harbor, Town of
Bath Water District
Bath, City of
Baxter Academy of Technology and Science
Belfast Water District
Belfast, City of
Berwick Sewer District
Berwick, Town of
Bethel, Town of
Biddeford Housing Authority
Biddeford, City of
Boothbay Harbor, Town of
Boothbay Region Water District
Boothbay Harbor Sewer District
Bowdoinham Water District
Brewer Housing Authority
Brewer, City of
Bridgton Water District
Brownville, Town of
Brunswick Fire & Police
Brunswick Public Library Association
Brunswick Sewer District
Brunswick, Town of
Buckfield, Town of
Bucksport, Town of
Calais, City of
Camden, Town of
Cape Elizabeth Police
Caribou Fire & Police
Carrabassett Valley, Town of
Chesterville, Town of
Cheverus High School
China, Town of
Coastal Counties Workforce

# PARTICIPATING EMPLOYERS, DETAILED LISTING *(continued)*

**CONSOLIDATED PLAN FOR PLDs** *(continued)*

Community School District #912
Community School District #918
Corinna Sewer District
Corrinna, Town of
Cornville Regional Charter School
Cumberland County
Cumberland, Town of
Damariscotta, Town of
Danforth, Town of
Dayton, Town of
Dexter, Town of
Dover-Foxcroft Water District
Dover-Foxcroft, Town of
Durham, Town of
Eagle Lake Water & Sewer District
East Millinocket, Town of
Easton, Town of
Eliot, Town of
Ellsworth, City of
Erskine Academy
Fairfield, Town of
Falmouth Memorial Library
Falmouth, Town of
Farmington Village Corporation
Farmington, Town of
Fayette, Town of
Fort Fairfield Housing Authority
Fort Fairfield Utilities District
Fort Fairfield, Town of
Franklin County
Freeport, Town of
Frenchville, Town of
Fryeburg, Town of
Gardiner Water District
Gardiner, City of
Glenburn, Town of
Good Will Home Association
Gorham Fire and Police
Gorham, Town of
Gould Academy
Grand Isle, Town of
Greater Augusta Utility District
Greenville, Town of
Hallowell, City of
Hampden Water District
Hampden, Town of
Hancock County
Hancock, Town of
Harpswell, Town of
Harrison, Town of
Hartland, Town of
Hermon, Town of
Hodgdon, Town of
Holden, Town of
Houlton Water Company
Houlton, Town of
Indian Township Tribal Government
Jackman Utility District
Jay, Town of
Kennebec County
Kennebec Sanitary Treatment District
Kennebec Water District
Kennebunk Kennebunkport Wells Water District
Kennebunk Light & Power District
Kennebunk Sewer District
Kennebunk, Town of
Kennebunkport, Town of
Kittery Water District
Kittery, Town of
Knox County Sheriffs
Lebanon, Town of
Levant, Town of
Lewiston Auburn 911
Lewiston Housing Authority
Lewiston, City of
Lewiston-Auburn Water Pollution Control Authority
Limestone, Town of
Lincoln & Sagadahoc Multi-County Jail Authority
Lincoln Academy
Lincoln County
Lincoln County Sheriff's Office
Lincoln Sanitary District
Lincoln Water District
Lincoln, Town of
Linneus, Town of
Lisbon Water Department
Lisbon, Town of
Livermore Falls Water District
Livermore Falls, Town of
Lovell, Town of
Lubec Water District
Lubec, Town of
M.A.D.S.E.C.
Madawaska Water District
Madawaska, Town of
Maine Academy of Natural Sciences
Maine County Commissioners Association
Maine Maritime Academy
Maine Municipal Association
Maine Municipal Bond Bank
Maine Principals' Association
Maine Public Employees Retirement System
Maine School Management Association
Maine School of Science and Mathematics
Maine State Housing Authority
Maine Turnpike Authority
Maine Veterans' Homes
Maine Virtual Academy
Mapleton, Castle Hill, & Chapman, Towns of
Mars Hill Utility District
Mars Hill, Town of
Mechanic Falls Sanitary District
Mechanic Falls, Town of
Medway, Town of

# PARTICIPATING EMPLOYERS, DETAILED LISTING *(continued)*

**CONSOLIDATED PLAN FOR PLDs** *(continued)*

Mexico, Town of
Midcoast Council of Governments
Milford, Town of
Millinocket, Town of
Milo Water District
Monmouth, Town of
Monson, Town of
Mount Desert Island Regional School District
Mount Desert Water District
MSAD #13 Bingham
MSAD #31 Howland
MSAD #41 Milo
MSAD #53 Pittsfield
Mt. Desert, Town of
Naples, Town of
New Gloucester, Town of
Newport, Town of
Newport Water District
North Berwick Water District
North Berwick, Town of
Northern Oxford Regional Solid Waste Board
Norway Water District
Norway, Town of
Ogunquit, Town of
Old Orchard Beach, Town of
Old Town Housing Authority
Old Town Water District
Old Town, City of
Orland, Town of
Orono, Town of
Orrington, Town of
Otis, Town of
Otisfield, Town of
Oxford County
Oxford, Town of
Paris Utility District
Paris, Town of
Penobscot County
Penquis
Phippsburg, Town of
Piscataquis County
Pittsfield, Town of
Pleasant Pt. Passamaquoddy Reservation Housing Authority
Poland, Town of
Portland Housing Authority
Portland Public Library
Portland, City of
Princeton, Town of
Regional School Unit #1
Regional School Unit #2
Regional School Unit #4
Regional School Unit #5
Regional School Unit #9
Regional School Unit #10
Regional School Unit #16
Regional School Unit #20
Regional School Unit #21
Regional School Unit #23
Regional School Unit #24
Regional School Unit #25
Regional School Unit #26
Regional School Unit #29
Regional School Unit #34
Regional School Unit #39
Regional School Unit #49
Regional School Unit #51
Regional School Unit #54
Regional School Unit #56
Regional School Unit #60
Regional School Unit #67
Regional School Unit #71
Regional School Unit #73
Richmond Utilities District
Richmond, Town of
Rockland, City of
Rockport, Town of
Rumford Fire & Police
Rumford Mexico Sewerage District
Rumford Water District
Rumford, Town of
Sabattus, Town of
Saco, City of
Sagadahoc County
Sanford Housing Authority
Sanford Sewerage District
Sanford Water District
Sanford, City of
Scarborough, Town of
Searsport Water District
Searsport, Town of
Skowhegan, Town of
Somerset County
South Berwick Sewer District
South Berwick Water District
South Berwick, Town of
South Portland Housing Authority
South Portland, City of
St. Agatha, Town of
Thomaston, Town of
Thompson Free Library
Topsham Sewer District
Topsham, Town of
Trenton, Town of
Tri-Community Recycle/Sanitary Landfill
Union, Town of
United Technologies Center, Region 4
Van Buren Housing Authority
Van Buren, Town of
Vassalboro, Town of
Veazie Fire & Police
Waldo County
Waldo County Technical Center
Waldoboro, Town of
Washburn Water and Sewer District

# PARTICIPATING EMPLOYERS, DETAILED LISTING *(continued)*

**CONSOLIDATED PLAN FOR PLDs** *(continued)*

Washburn, Town of
Washington County
Waterboro, Town of
Waterville Fire & Police
Waterville Sewerage District
Wells Fire and Police
Wells, Town of
West Bath, Town of
Westbrook Fire & Police
Westbrook, City of
Westbrook Housing Authority
Wilton, Town of
Windham, Town of
Winslow Police
Winslow, Town of
Winter Harbor Utility District
Winterport Water & Sewer Districts
Winthrop Utilities District
Winthrop, Town of
Wiscasset, Town of
Yarmouth Water District
Yarmouth, Town of
York County
York Sewer District
York Water District
York, Town of

| | |
|---|---|
| **PROGRAM:** | **PARTICIPATING LOCAL DISTRICT RETIREMENT PROGRAM** |
| **Employers:** | **PLDs (Non-Consolidated)** |
| **Reporting Entities:** | **(as follows)** |

Bingham Water District
Bridgton, Town of
Cape Elizabeth, Town of
Community School District #903
Fort Kent, Town of
Knox County
Limestone Water & Sewer District
Milo, Town of
New Canada, Town of
Norway-Paris Solid Waste Incorporated
Presque Isle, City of
Western Maine Community Action

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM