

Maine Public Employees Retirement System

Consolidated Plan for Participating Local Districts

**Actuarial Valuation Report
as of June 30, 2017**

Produced by Cheiron

October 2017

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October 31, 2017

Board of Trustees
Maine Public Employees Retirement System
PO Box 349
Augusta, Maine 04332-0349

Dear Members of the Board:

We are pleased to submit the June 30, 2017 actuarial valuation report for the Consolidated Plan for Participating Local Districts (Plan) of the Maine Public Employees Retirement System (MainePERS or System). This report is for the use of the MainePERS Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report contains information on assets, liabilities, and contributions of the Plan, as well as the required accounting statement disclosures under the Governmental Accounting Standards Board (GASB) Statement No. 67.

In preparing our report, we relied on information, both oral and written, supplied by the System's staff. This information includes, but is not limited to, the plan provisions, member data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The results of this report rely on future plan experience conforming to the underlying assumptions and methods outlined in this report. Future experience may differ significantly from the current experience due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

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.

This valuation was prepared for the Maine Public Employees Retirement System for the purposes described herein and for the use by the Plan's auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron



Gene Kalwarski, FSA, EA
Principal Consulting Actuary



Fiona E. Liston, FSA, EA
Principal Consulting Actuary

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

FOREWORD

Cheiron has completed the actuarial valuation report of the Consolidated Plan for Participating Local Districts (Plan) of the Maine Public Employees Retirement System (MainePERS or System) as of June 30, 2017. The purpose of this report is to:

- 1) Measure and disclose, as of the valuation date, the financial condition of the Plan;
- 2) Indicate trends, both historical and prospective, in the financial condition of the Plan;
- 3) Determine the adequacy of the contribution rates to be paid by the PLDs for Fiscal Year (FY) 2019; and
- 4) Provide specific information and documentation required for MainePERS's financial disclosures.

An actuarial valuation establishes and analyzes assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our key findings, disclosing important trends experienced by the Plan in recent years, and providing analysis relating to the future status of the Plan.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on liability measures for various purposes, including analysis of key changes in the measures.

Section IV develops the PLD contribution rates determined using actuarial techniques and compares those to the reduced corridor rates currently in place for each Regular and Special Plan.

Section V includes financial disclosure information.

Finally, at the end of this report we present appendices that contain a summary of the:

- Plan elections that have been made by the participating local districts (PLDs) (Appendix A);
- Plan membership information at the valuation date (Appendix B);
- Major benefit provisions of the Plan and the various Regular and Special Plans included in the Plan (Appendix C);
- Actuarial methods and assumptions used in the current valuation (Appendix D); and
- Terminology used in the Governmental Accounting Standards Board (GASB) disclosures provided as a glossary (Appendix E).

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SECTION I - BOARD SUMMARY

General Comments

Most of the participating local districts (PLDs) in the State of Maine participate in this Consolidated Plan for PLDs (Plan). The Plan offers a number of Plan options from which each PLD can choose, with each option having its own specific contributions associated with it to be paid by both the member and the PLD. The member contributions are paid as rates that are set by the MainePERS Board of Trustees and are applicable to payroll. The pooled PLD contributions are paid as rates applicable to payroll determined using a corridor funding method. PLDs that entered the Plan with liabilities exceeding their assets also pay an additional amount relating to this specific unfunded liability that is in addition to the pooled liability until it is fully amortized.

Under the Plan's current corridor funding approach, as long as the Plan's actuarial value of assets (AVA) funded ratio (the ratio of AVA to actuarial liability) remains within a corridor of 90% to 130%, the total pooled PLD contribution rate for the Plan is fixed at the rate paid in the immediately prior year. If the AVA funded ratio falls outside of this corridor, the total pooled PLD contribution rate for the Plan will be incrementally adjusted, subject to a minimum rate (75% of the pooled PLD normal cost, which is the total pooled normal cost rate reduced by the pooled member contribution rate). When the AVA funded ratio falls outside the corridor range, the factor for incremental adjustments is 10% of the difference between the calculated total PLD rates for each plan under the Plan's funding method without the corridor and the corridor rate for that plan in effect for the immediately prior year.

The total pooled PLD contribution rate discussed above is defined as the sum of the pooled PLD normal cost rate, equal to the total pooled normal cost rate reduced by the pooled member contribution rate, and a 20-year layered amortization of the pooled unfunded actuarial liability (PUAL). The specific PLD rates for each plan option within the Plan are then developed as described in Section IV of this report.

In addition to the plan-specific PLD rates paid based on the total pooled PLD contribution rate to pay the PLD normal cost and to amortize the PUAL, some PLDs are also making additional contributions to reduce their Individual Unpooled Unfunded Actuarial Liability (IUUAL) due to entering the Plan with liabilities exceeding assets.

Experience from July 1, 2016 through June 30, 2017 (Fiscal Year 2017)

As of this June 30, 2017 valuation, the AVA funded ratio for the Plan is 86.5%, which is an increase from the prior year's 86.1% AVA funded ratio. This slight increase in the funded ratio during this year was primarily attributable to a slight gain on liabilities.

Since this year's AVA funded ratio is less than 90%, the PLD contribution rates based on the corridor require an adjustment. Over the last few years, the aggregate corridor rate, the basis from which the plan-specific corridor rates are derived, has increased from three percent of payroll in 2010 to 9.9% of payroll for fiscal year (FY) 2018. The corridor calculation in this

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year’s valuation results in an additional increase to the aggregate corridor contribution rate of 0.2% for a total of 10.1% for FY 2019.

As of June 30, 2017, the Plan had an unfunded actuarial liability (UAL) of \$0.407 billion. This represents an increase of \$0.006 billion from the \$0.401 billion UAL measured as of June 30, 2016. The specific factors contributing to this change are presented in Table I-1. There are separate columns showing the impact of liabilities and investments as well as their combined effect on the UAL.

Table I-1 (Amounts in Billions)			
	Liabilities	Assets*	UAL
Value as of June 30, 2016	\$ 2.890	\$ 2.489	\$ 0.401
Expected Change	0.129	0.121	0.008
Impact of Assumption Changes	0.000	0.000	0.000
Recognized Investment Loss	0.000	0.000	0.000
Recognized Liability Gain	<u>(0.002)</u>	<u>0.000</u>	<u>(0.002)</u>
Value as of June 30, 2017	\$ 3.017	\$ 2.610	\$ 0.407

*Demonstration uses the actuarial value of assets. Results would be different if the market value was used.

The remainder of this Board Summary section summarizes the Plan’s trends, provides projections of the Plan’s future status, and summarizes the principal results of the valuation, comparing key results between this year’s valuation and last year’s for member counts, assets and liabilities, and contributions rates.

Trends

It is important to take a step back from the latest results and view them in the context of the Plan’s history. On the next few pages, we present a series of graphs that display key historical trends of the Plan’s condition. Following this historical review, we present projections of the probable condition of the Plan in the future under various market return scenarios.

Assets and Liabilities

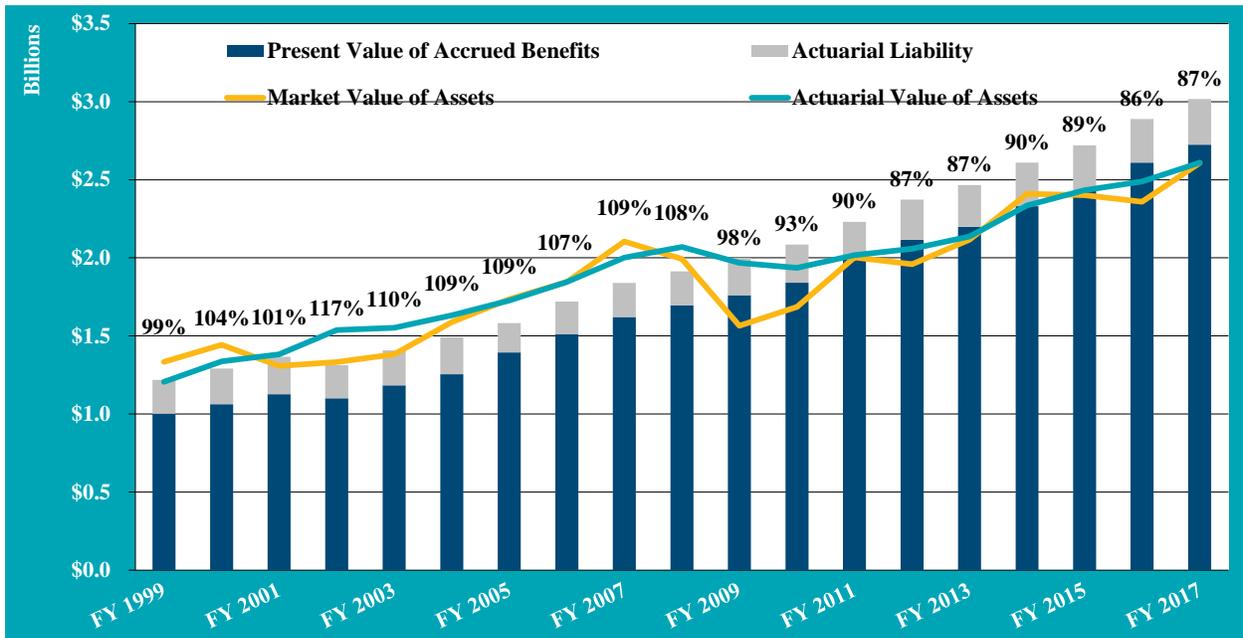
The following graph illustrates the progress of assets against liabilities for the Plan since June 30, 1999. The blue bars represent the present value of accrued benefits (PVAB) as of June 30 of the indicated years.

The actuarial liability (AL), the liability measure used for funding purposes, is represented by the top of the grey bars. The actuarial value of assets (AVA) divided by this measure of liability is the AVA funded ratio that is used in evaluating the Plan’s financial status. These values as of each valuation date are shown as the percentages in the graph labels.

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This graph shows that the Plan had its highest AVA funded ratio (117%) at June 30, 2002, which was just after several PLDs paid off their IUUALs. After that, the funded ratio was relatively stable around 108-110% until the financial market events of 2008-2009 resulted in the ratio dropping below 100%. The ratio stabilized after that drop and has been 87-90% since June 30, 2011. This graph does not show the ratio of the market value of assets (MVA) to AL, but it was actually as low as 78% as of the June 30, 2009 valuation. However, the market recovery combined with the increasing contribution rates for both PLDs and members has resulted in improvements in this measure, with the MVA funded ratio reaching 86% with this valuation.



Contributions

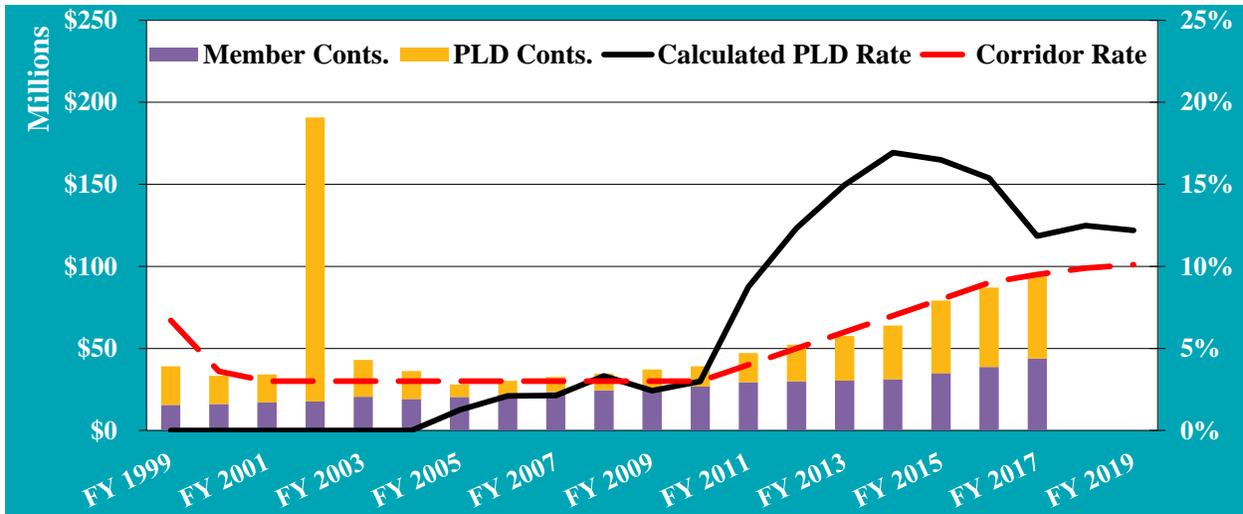
The next graph shows the history of contributions to the Plan, both as dollar amounts and as percentages of payroll. The bars in this graph show the contributions made by both the PLDs and the members in dollar terms for each fiscal year (FY) ending in the year indicated by the horizontal axis since 1999. These bars are read using the left-hand axis. The black line shows the actuarially calculated total pooled PLD contribution rate as a percentage of payrolls for the FY indicated, while the red dotted line shows the aggregate corridor contribution rate actually in effect for each year. Both the red and the black line are read using the right-hand axis. The significant increase in the total calculated rate from FY 2010 to FY 2014 was due primarily to investment losses sustained in the 2008-09 market events. The increases in the aggregate corridor rate during this period combined with benefit changes have been working to close the gap between these two rates and are expected to continue to do so. The increase in the corridor rate as calculated in this valuation is primarily due to the corridor rate being less than the calculated rate in recent years with the recent investment losses. Since there is a lag between the calculation

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of these contribution rates and the year in which they apply, we are showing two additional years of each of these contribution rates.

The member contribution rates are set by statute and by the Board, specific to the Regular or Special Plan in which the member participates. The calculated total pooled PLD contribution rate is set by the annual actuarial valuations, with this June 30, 2017 valuation determining the FY 2019 employer rates. Total PLD contribution rates for each plan are then developed and thus the contributions for each PLD vary according to the plan or plans in which the covered members of the PLD participate. The actual paid aggregate corridor contribution rate is determined based on the Plan's AVA funded ratio for the year, the corridor rate for the prior year, and the calculated rate for the year. Similar to the actuarially determined rates, corridor rates specific to each benefit option in the Plan are then developed and these are the basis on which each PLD makes their pooled contributions. In addition, some PLDs pay an additional IUUAL contribution to amortize liability specific to their members. Note that the large dollar amount contributed in FY 2002 by the PLDs in the graph below was due to several PLDs paying off their IUUAL amounts as IUUAL contributions are included in the PLD contributions shown in the yellow bars.



Participant Trends

The stacked bars in the graph that follows show the number of active members, terminated vested members, and members in pay status covered by the Plan as of June 30 of each year indicated and is read using the left-hand axis of the graph. There has been an approximately 1.3% per year growth in the number of active members and an approximately 2.2% per year growth in the number of in pay members of the Plan over the time period shown. The terminated vested group has shown the most growth in this period, averaging 13.0% per year.

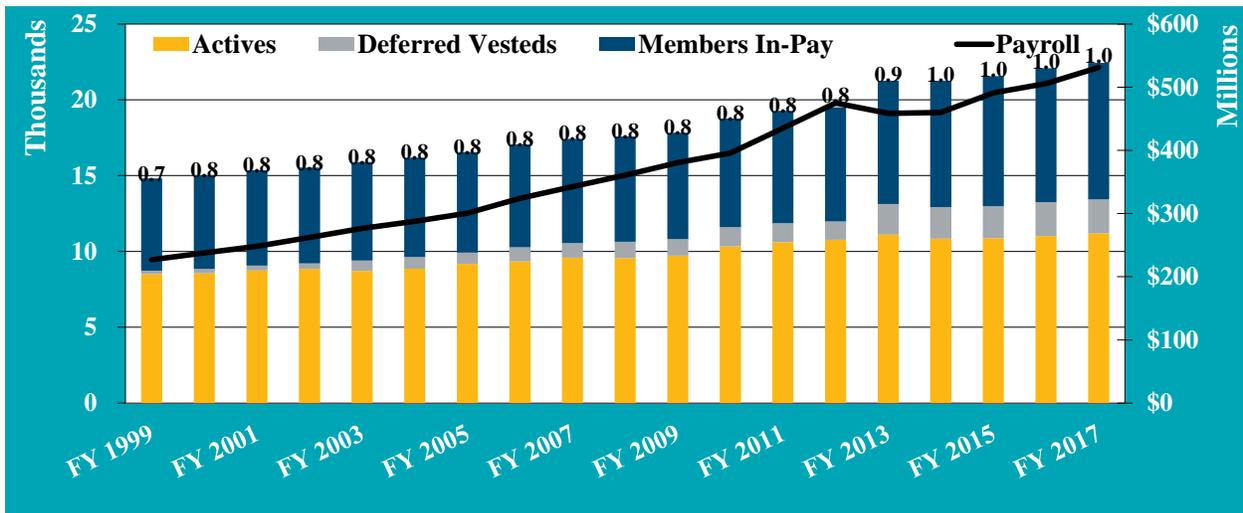
The labels above each bar show the ratio of inactive members (members in pay status plus terminated vested members) per active member and have increased gradually since 1999. While this ratio has been reasonably stable for the Plan since 1999, this ratio may start increasing more

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rapidly as more and more “baby boomers” retire. While an increasing ratio would be a concern in a plan with no prefunding, in the Plan’s case, it just indicates there may be increased difficulty in recovering from an investment loss since assets are lost on all covered liabilities, but contributions only come in on the basis of payroll. In addition, as this ratio grows, the cash flows of a plan tend to become more negative. The more negative a plan’s cash flows, the more sensitive, in terms of contribution volatility, the plan is to volatile investment markets. The valuation process takes this trend into account. The projections in the next section of this Board Summary show that the assets are expected to be sufficient to meet this growing cash flow disparity.

The black line in the graph indicates the total covered payroll of actives in the Plan and is read using the right-hand axis of the graph. The use of a revised data collection process lead to a reduction in the covered payroll as of June 30, 2014 compared to the previous valuation. The payroll for the current valuation increased over that of the June 30, 2016 valuation.



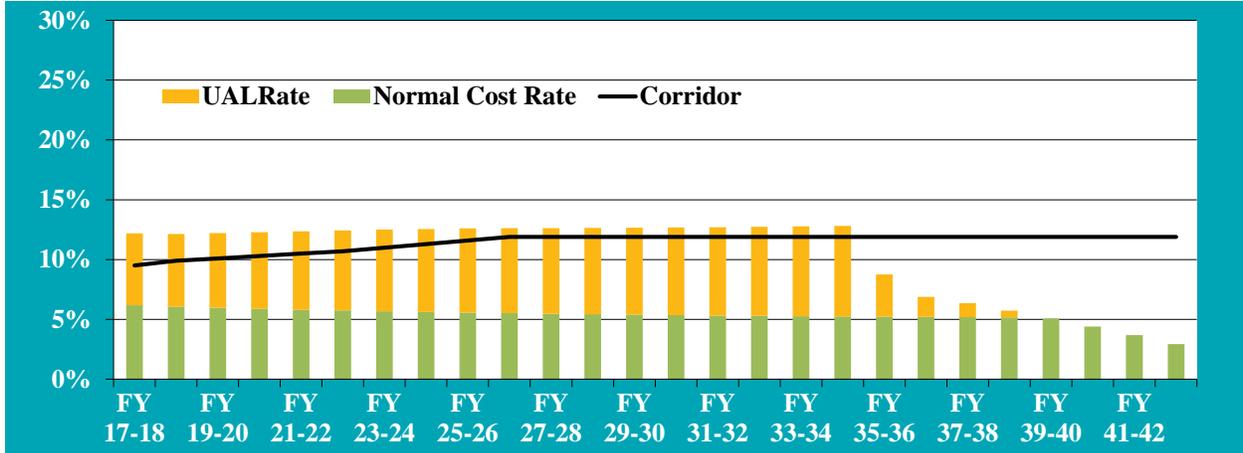
Projections

Our analysis of the projected financial trends for the Plan is an important part of this valuation. In this section, we present sensitivity analysis of future valuation results in terms of benefit security, the previously referenced AVA funded ratio (AVA over AL), and both the expected actuarially calculated total pooled PLD contribution rate and the aggregate corridor contribution rate. We first present a baseline projection of these metrics based on all actuarial assumptions being exactly met during the projection period, including the assumed 6.875% investment rate of return being achieved each year. We then present the same projections based on continuing to achieve all assumptions exactly, **except** for having investment earnings one percent above and then one percent below the assumed 6.875% return. The primary purpose of presenting these projections is to demonstrate how sensitive future valuation results are to deviations from our investment return expectations.

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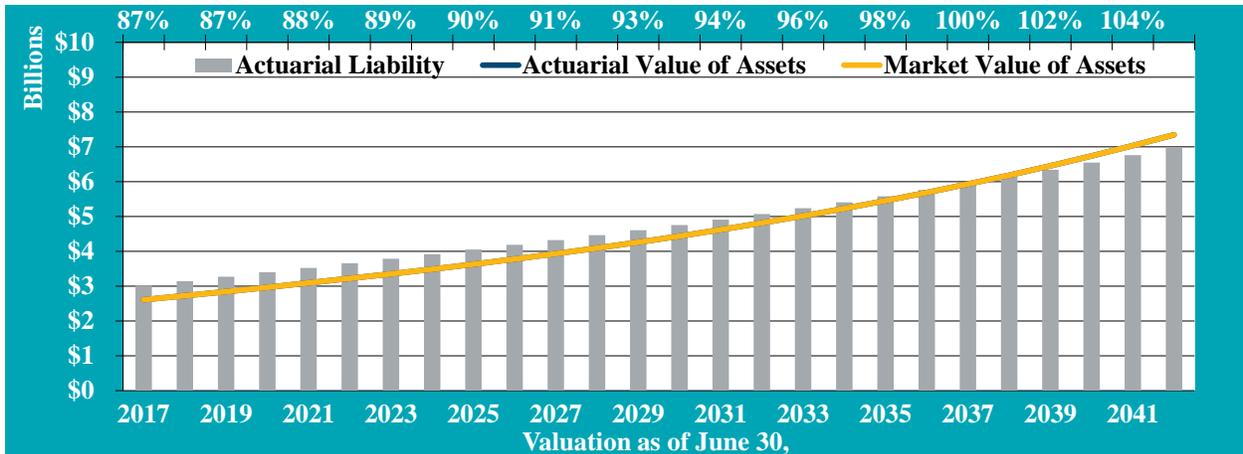
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Baseline Projections



The graph above shows the expected progress of the Plan’s PLD contribution rates over the next 25 years assuming that the Plan’s assets earn 6.875% on their *market value*. The actuarially calculated total pooled PLD contribution rate is shown as the black line while the aggregate corridor contribution rate is indicated by the tops of the stacked bars. The green bars represent the PLD normal cost rate while the yellow bars represent the rate necessary to amortize the unfunded actuarial liability under the Plan’s funding policy.

This graph shows that as the UAL is paid down over time, the aggregate corridor contribution rate catches up to, and then exceeds, the actuarially calculated total pooled PLD contribution rate. Both rates are shown as those being in effect for the fiscal year identified.

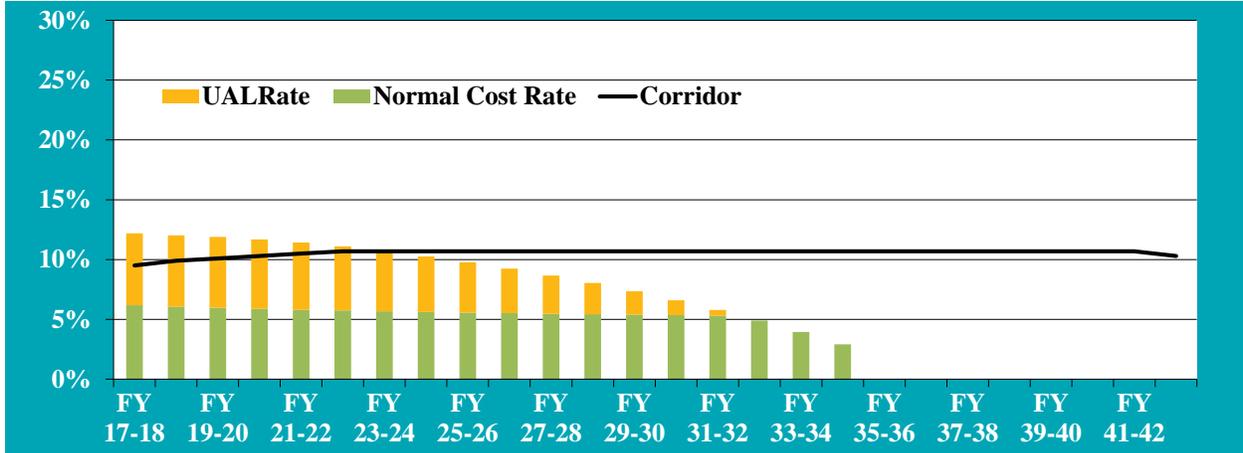


The graph above shows the projected funded ratio (AVA divided by AL) over the next 25 years in this baseline scenario. It shows that the Plan’s funded ratio is projected to improve from the starting level of 87% as of FY 2017 to 100% funding in FY 2037. The amounts shown are as of June 30 of the year identified in the horizontal axis.

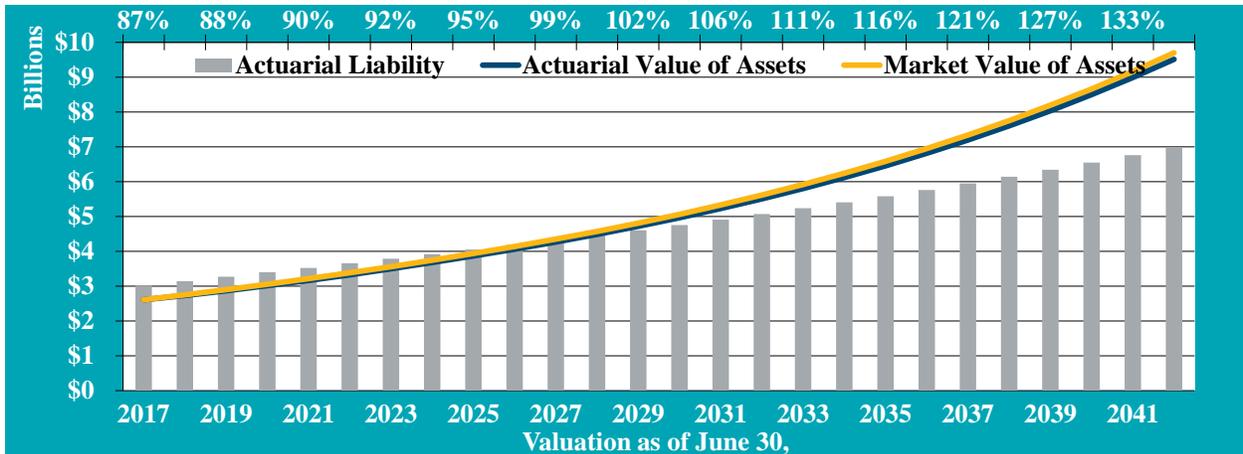
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Projections with Asset Returns of 7.875%



The future funding status of this Plan will be significantly driven by investment earnings as relatively minor changes in the market returns can have significant effects on the Plan’s funding status. The graph above shows that with a 7.875% annual return in each year while exactly meeting all other assumptions, the actuarially calculated total pooled PLD contribution rate produced by the valuation process would decrease to zero, while the aggregate corridor contribution rate would catch up to the calculated rate by FY 2024 and would then remain level through the remainder of the projection period. Once the Plan reaches 130% funded, the top of the corridor for the Plan’s corridor funding method, expected in FY 2041, the corridor rate would begin to step down gradually, but would not go below the minimum total pooled PLD contribution level of 75% of the PLD normal cost.

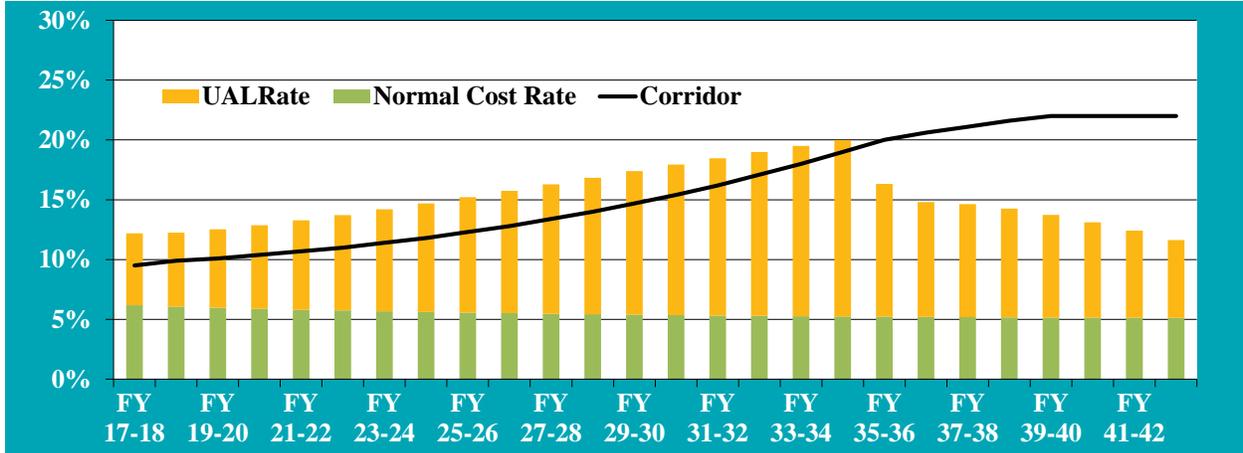


Assuming the same 7.875% return on investments scenario, the above graph shows that the Plan’s AVA funded ratio would steadily increase from 86% to 133% by the end of the period shown, as compared to 104% at the end of the baseline scenario.

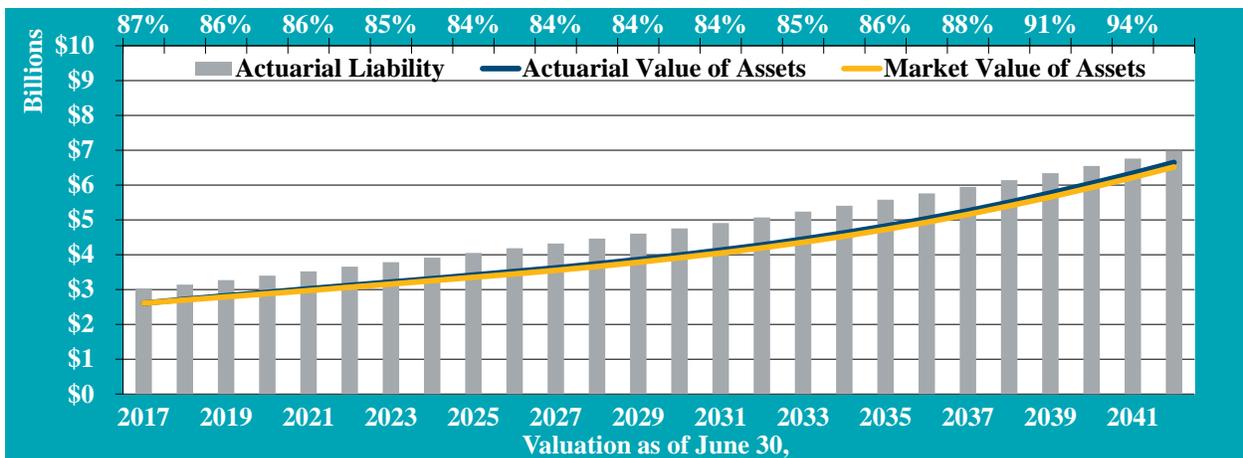
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Projections with Asset Returns of 5.875%



Just as returns in excess of the rate of return assumption will lead to declining contributions and an improved funded ratio, the opposite will occur if actual investment earnings are below the assumed rate. The graph above shows the contribution projection under a 5.875% annual return scenario, continuing to meet all other assumptions exactly. The actuarially calculated total pooled PLD contribution rate climbs, reflecting losses from the 5.875% returns not meeting assumptions. The aggregate corridor contribution rate also climbs and then holds at the level reached at the point the Plan is projected to reenter the corridor (90% funded). That rate as of reentering the corridor would then not decline until the Plan’s funded ratio reaches the 130% top of the corridor and the corridor funding method again permits it to decline.



The above graph shows that the Plan’s AVA funded ratio in this 5.875% rate of return scenario would fall as low as 84% before starting to rebound as contributions subject to the corridor funding method ramp up, with a funded ratio of 94% at the end of the projection period in contrast to the equivalent baseline scenario value of 104%. However, the cost to reach this funded level is projected aggregate total contribution rates of 22% of payroll.

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Principal Results Summary

The balance of this Board Summary section of the Actuarial Valuation Report presents a summary of the principal results of the valuation, comparing key results between this year's valuation and last year's for member counts, assets and liabilities, and contribution rates. These summary results are shown for the total Consolidated Plan and then for the Regular Plans subgroup and the Special Plans subgroup.

**Table I-2
Summary of Principal Results
PLD Consolidated Retirement Plan
Total**

Valuation as of:	June 30, 2016	June 30, 2017	% Change
<u>Member Counts</u>			
Active Members	11,019	11,195	1.6%
Retired Members	6,279	6,436	2.5%
Beneficiaries of Retired Members	1,987	1,995	0.4%
Survivors of Deceased Members	176	178	1.1%
Disabled Members	405	397	(2.0)%
Terminated Vested Members	2,221	2,234	0.6%
Inactives Due Refunds	<u>6,849</u>	<u>7,274</u>	6.2%
Total Membership	28,936	29,709	2.7%
Annual Payroll of Active Members	\$ 505,798,133	\$ 531,168,594	5.0%
Annual Payments to Benefit Recipients	\$ 135,629,476	\$ 141,460,984	4.3%
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 2,889,740,634	\$ 3,016,660,721	4.4%
Actuarial Value of Assets (AVA)	<u>2,489,157,281</u>	<u>2,609,806,231</u>	4.8%
Unfunded Actuarial Liability (UAL)	\$ 400,583,353	\$ 406,854,490	1.6%
Individual Portion (IUUAL)	<u>NA</u>	<u>NA</u>	
Pooled Portion (PUAL)	\$ 400,583,353	\$ 406,854,490	1.6%
AVA Funded Ratio (AVA/AL)	86.1%	86.5%	
MVA Funded Ratio (MVA/AL)	81.6%	86.4%	
Accrued Benefit Liability (PVAB)	\$ 2,609,285,626	\$ 2,724,952,286	4.4%
Market Value of Assets (MVA)	<u>2,358,409,925</u>	<u>2,607,223,644</u>	10.6%
Unfunded PVAB	\$ 250,875,701	\$ 117,728,642	(53.1)%
Accrued Benefit Funded Ratio	90.4%	95.7%	
<u>PLD Contribution Rate</u>			
	<u>FY 2018</u>	<u>FY 2019</u>	
Pooled PLD Normal Cost Rate	6.5%	6.2%	
Pooled UAL Rate	<u>6.0%</u>	<u>6.0%</u>	
Total Calculated Pooled PLD Rate	12.5%	12.2%	
Aggregate Corridor PLD Rate	9.9%	10.1%	

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**Table I-3
Summary of Principal Results
PLD Consolidated Retirement Plan
Regular Plans: AC, AN & BC**

Valuation as of:	June 30, 2016	June 30, 2017	% Change
<u>Member Counts</u>			
Active Members	8,437	8,549	1.3%
Retired Members	4,840	4,985	3.0%
Beneficiaries of Retired Members	1,353	1,362	0.7%
Survivors of Deceased Members	151	151	0.0%
Disabled Members	310	304	(1.9)%
Terminated Vested Members	1,946	1,953	0.4%
Inactives Due Refunds	6,284	6,291	0.1%
Total Membership	<u>23,321</u>	<u>23,595</u>	1.2%
Annual Payroll of Active Members	\$ 349,979,018	\$ 368,272,346	5.2%
Annual Payments to Benefit Recipients	\$ 82,378,852	\$ 86,453,873	4.9%
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 1,732,370,852	\$ 1,810,757,945	4.5%
Actuarial Value of Assets (AVA)	<u>1,458,972,630</u>	<u>1,526,182,605</u>	4.6%
Unfunded Actuarial Liability (UAL)	\$ 273,398,222	\$ 284,575,340	4.1%
Individual Portion (IUUAL)	<u>NA</u>	<u>NA</u>	
Pooled Portion (PUAL)	\$ 273,398,222	\$ 284,575,340	4.1%
AVA Funded Ratio (AVA/AL)	84.2%	84.3%	
MVA Funded Ratio (MVA/AL)	79.8%	84.2%	
Accrued Benefit Liability (PVAB)	\$ 1,568,673,059	\$ 1,642,966,113	4.7%
Market Value of Assets (MVA)	<u>1,382,337,529</u>	<u>1,524,672,337</u>	10.3%
Unfunded PVAB	\$ 186,335,530	\$ 118,293,776	(36.5)%
Accrued Benefit Funded Ratio	88.1%	92.8%	
<u>PLD Contribution Rate</u>			
	<u>FY 2018</u>	<u>FY 2019</u>	
PLD Normal Cost Rate	6.1%	5.7%	
UAL Rate	<u>5.8%</u>	<u>5.7%</u>	
Total Calculated PLD Rate	11.9%	11.4%	
Aggregate Corridor PLD Rate	9.4%	9.6%	

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**Table I-4
Summary of Principal Results
PLD Consolidated Retirement Plan
Special Plans: 1C-4C & 1N-4N**

Valuation as of:	June 30, 2016	June 30, 2017	% Change
<u>Member Counts</u>			
Active Members	2,582	2,646	2.5%
Retired Members	1,439	1,451	0.8%
Beneficiaries of Retired Members	634	633	(0.2)%
Survivors of Deceased Members	25	27	8.0%
Disabled Members	95	93	(2.1)%
Terminated Vested Members	275	281	2.2%
Inactives Due Refunds	565	983	74.0%
Total Membership	5,615	6,114	8.9%
Annual Payroll of Active Members	\$ 155,819,115	\$ 162,896,248	4.5%
Annual Payments to Benefit Recipients	\$ 53,250,624	\$ 55,007,111	3.3%
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 1,157,369,782	\$ 1,205,902,776	4.2%
Actuarial Value of Assets (AVA)	1,020,027,500	1,059,191,929	3.8%
Unfunded Actuarial Liability (UAL)	\$ 137,342,282	\$ 146,710,847	6.8%
Individual Portion (IUUAL)	NA	NA	
Pooled Portion (PUAL)	\$ 137,342,282	\$ 146,710,847	6.8%
AVA Funded Ratio (AVA/AL)	88.1%	87.8%	
MVA Funded Ratio (MVA/AL)	83.5%	87.7%	
Accrued Benefit Liability (PVAB)	\$ 1,040,612,567	\$ 1,081,986,173	4.0%
Market Value of Assets (MVA)	966,448,765	1,058,143,783	9.5%
Unfunded PVAB	\$ 74,163,802	\$ 23,842,390	(67.9)%
Accrued Benefit Funded Ratio	92.9%	97.8%	
<u>PLD Contribution Rate</u>			
	<u>FY 2018</u>	<u>FY 2019</u>	
PLD Normal Cost Rate	7.4%	7.4%	
UAL Rate	6.5%	6.6%	
Total Calculated PLD Rate	13.9%	14.0%	
Aggregate Corridor PLD Rate	11.0%	11.2%	

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SECTION II - ASSETS

Pension plan assets play a key role in the financial operation of plans and in the decisions Trustees make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, PLD contribution rates, and the ultimate security of members' benefits.

The assets for all Defined Benefit (DB) Programs administered by MainePERS are invested together. These Programs are the State Employee and Teacher Retirement Program, the Judicial Retirement Program, the Legislative Retirement Program, and the Participating Local District Retirement Program, including both the Consolidated Plan that is the subject of this valuation and the several Nonconsolidated PLDs. The assets of all of these Programs are entirely commingled for investment purposes, so the actuarial value of assets (AVA) for each of these Programs is developed by first developing it for the entire asset pool and then subsequently allocating that total AVA to each of the specific Programs.

In this section, we present detailed information on the Plan's assets including:

- Disclosure of total MainePERS DB assets at June 30, 2016 and June 30, 2017;
- Statement of the changes in total MainePERS DB market values during the year;
- Development of the total MainePERS DB actuarial value of assets;
- Allocation of total actuarial value to MainePERS DB sub-plans;
- Assessment of the total MainePERS DB investment performance; and
- Projection of expected cash flows for the Plan for the next ten years.

Disclosure

The market value of assets (MVA) represents a "snap-shot" or "cash-out" value, which provides the principal basis for measuring financial performance from one year to the next. However, market values can fluctuate widely with corresponding swings in the marketplace, resulting in volatility in the resulting contributions if the unadjusted market value is used in the valuation process that develops the contributions. Therefore, a smoothed, actuarial value is developed for use in this process and for evaluating the Plan's ongoing ability to meet its obligations.

Current actuarial methods employed in this Plan use an allocated portion of the actuarial value of assets developed for the total MainePERS DB assets. The actuarial methodology used for the total assets sets the actuarial value of assets equal to the expected value of the actuarial value of assets plus one-third of the difference between the actual market value of assets and the expected actuarial value of assets, all as of the valuation date. The expected value of the actuarial 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 investment return assumption that was in effect for the previous year, 6.875% for this valuation.

Table II-1 that follows develops the change in the market value of assets for the total MainePERS DB assets during FY 2017.

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SECTION II - ASSETS

Table II-1		
Changes in Market Value of Total MainePERS Defined Benefit (DB) Assets		
Market Value of Total MainePERS DB Assets – June 30, 2016		\$ 12,424,092,601
<u>Additions</u>		
Contributions:		
Employer Contributions	\$ 380,113,580	
Member Contributions	186,408,757	
Transfers	<u>(191,938)</u>	
Total Contributions	\$ 566,330,399	
Investment Income:		
Net Appreciation (Depreciation) in Fair Value of Investments	\$ 1,662,452,587	
Interest on Bank Balances	<u>331,268</u>	
Total Investment Income	\$ 1,662,783,855	
Investment Activity Expenses:		
Management Fees	\$ (88,429,331)	
Investment Related Expense	(5,169,895)	
Banking Fees	<u>(34,106)</u>	
Total Investment Activity Expenses	\$ (93,633,332)	
Net Income from Investing Activities	\$ 1,569,150,523	
Total Additions		\$ 2,135,480,922
<u>Deductions</u>		
Retirement Benefits	\$ (854,021,841)	
Disability Benefits	(32,843,057)	
Survivor Benefits	(22,657,957)	
Refunds	(23,696,251)	
Administrative Expenses	<u>(11,495,796)</u>	
Total Deductions		\$ (944,714,902)
<u>Total</u>		
Net Increase (Decrease)		\$ 1,190,766,020
Market Value of Total MainePERS DB Assets – June 30, 2017		\$ 13,614,858,621

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Table II-2 below develops the actuarial value of assets for the total MainePERS DB assets as of June 30, 2017 using the adopted actuarial valuation methodology.

Table II-2 Development of Actuarial Value of Total MainePERS Defined Benefit (DB) Assets as of June 30, 2017		
1.	Actuarial Value of Total MainePERS DB Assets at June 30, 2016	\$ 13,112,869,070
2.	Amount in (1) with Interest to June 30, 2017	14,014,378,819
3.	Employer and Member Contributions for FY 2017	566,330,399
4.	Interest on Contributions in (3), Assuming Received Uniformly throughout FY 2017	19,144,038
5.	Total Disbursements without Administrative Expenses for FY 2017	(933,219,106)
6.	Interest on Disbursements in (5), Assuming Payments made Uniformly throughout FY 2017	<u>(31,546,218)</u>
7.	Expected Value of Total MainePERS DB Assets at June 30, 2017 = (2) + (3) + (4) + (5) + (6)	\$ 13,635,087,932
8.	Actual Market Value of Total MainePERS DB Assets at June 30, 2017	13,614,858,621
9.	Excess of (8) Over (7)	<u>(20,229,311)</u>
10.	Actuarial Value of Total MainePERS DB Assets at June 30, 2017 = (7) + [33⅓% of (9)]	\$ 13,628,344,828

Actuarial Value of Total MainePERS DB Assets

As discussed in the disclosure portion of this section, the actuarial value of assets for the Plan represents a “smoothed” value developed by the actuary to reduce, or eliminate, volatility in contribution rates that could develop from short-term fluctuations in the market value of assets. Current actuarial methods employed in this Plan use an allocated portion of the total actuarial value of assets based on the actuarial valuation process applied to the total MainePERS DB assets. This methodology for the total MainePERS DB assets sets the actuarial value of assets equal to the expected value of the actuarial value of assets plus one-third of the difference between the actual market value of assets and the expected actuarial value of assets. The expected value of the actuarial 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 investment return assumption that was in effect for the previous year, 6.875% for this valuation. The previous table, Table II-2, illustrates the calculation of the actuarial value of assets for the total MainePERS DB assets as of June 30, 2017.

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Allocation of Actuarial Value of Assets to the Plan

The assets for all of the defined benefit (DB) Programs administered by MainePERS are commingled for investment purposes, with the adopted actuarial smoothing methodology applied to the market value of the total MainePERS DB assets. This produces an asset ratio (total MainePERS actuarial value of assets divided by total MainePERS market value of assets) that is then applied to the market value of assets attributable to each of the Programs to determine their actuarial value of assets as of the valuation date. The asset ratio derived in this June 30, 2017 valuation as shown in Table II-2 above is 1.000991 ($\$13,628,344,828 \div \$13,614,858,621$). The allocation of actuarial value of the total MainePERS DB assets to each of the MainePERS DB Programs based on this asset ratio is shown in the following chart.

Table II-3 Allocation of Actuarial Value of Total MainePERS DB Assets as of June 30, 2017		
	Market Value	Actuarial Value
Teachers	\$ 7,269,242,349	\$ 7,276,442,901
State (Regular & Special)	3,624,049,515	3,627,639,320
Judicial	66,710,150	66,776,230
Legislative	11,896,225	11,908,009
Participating Local Districts (Consolidated & Non-Consolidated)	<u>2,642,960,382</u>	<u>2,645,578,368</u>
Total	\$ 13,614,858,621	\$ 13,628,344,828

Investment Performance

The market value of assets for the total MainePERS DB assets returned a positive 12.72% during FY 2017. This is greater than the assumed return of 6.875%. The equivalent returns in FY 2016 and FY 2015 were positive 0.32% and positive 1.80%, respectively.

On an actuarial value of assets basis, the return for FY 2017 for the Consolidated PLD Plan portion of the total MainePERS DB assets was a positive 6.84%. This return is lower than the return on a market value basis and is also slightly lower than the 6.875% assumption. Therefore, this return gave rise to an investment loss on the Plan's assets this year.

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SECTION II - ASSETS

Cash Flow Projections

Table II-4 Projection of Plan's Benefit Payments and Contributions				
FY Ending June 30,	Expected Benefit Payments	Expected PLD Pooled Corridor and IUUAL Contributions	Expected Member Contributions	Total Expected Contributions
2018	\$ 153,884,000	\$ 51,150,000	\$ 43,881,000	\$ 95,031,000
2019	164,059,000	54,770,000	45,088,000	99,858,000
2020	173,235,000	57,413,000	46,328,000	103,741,000
2021	182,013,000	60,160,000	47,602,000	107,762,000
2022	190,928,000	63,014,000	48,911,000	111,925,000
2023	200,277,000	65,981,000	50,256,000	116,237,000
2024	210,078,000	69,696,000	51,638,000	121,334,000
2025	219,808,000	73,566,000	53,058,000	126,624,000
2026	228,786,000	77,595,000	54,517,000	132,112,000
2027	237,726,000	81,791,000	56,017,000	137,808,000

In Table II-4 above, we provide a projection of expected cash flows in and out of the Plan for the next ten years for informational purposes. The Board may share these projections with its investment advisor for consideration of the growing gap shown between the cash coming into the Plan through PLD and member contributions and the cash being paid out of the Plan to provide benefit payments.

The expected benefit payments in Table II-4 were developed using the data currently included in this valuation and on the assumption that the actuarial assumptions disclosed in Appendix D will be exactly met. Actual benefit payments will vary if members retire sooner or later than assumed, if salary increases and actual future post-retirement COLAs differ from those assumed, or if other assumptions differ from the actual experience seen. These benefit projections exclude any assumption about new plan participants, whose experience will eventually lead to increased benefit payments. However, we do not feel this exclusion will materially impact the projections for the time period shown.

Expected PLD contributions in this table are based on the current covered payroll and the anticipated aggregate corridor contribution rates developed using the corridor funding method. In developing this projection, future contribution rates increase as stored asset losses are picked up by the corridor method. We have assumed that all actuarial assumptions will be exactly met in the projection period, including that the market value of assets will earn 6.875% per year and that payroll will increase by 2.75% per year.

The expected member contributions are similarly based on a 2.75% per year assumed increase in covered payroll multiplied by the current average aggregate member contribution rate of 8.15% for FY 2018.

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SECTION III - LIABILITIES

In this section, we present detailed information on plan liabilities including:

- Disclosure of the Plan's liabilities as of June 30, 2016 and June 30, 2017; and
- Statement of changes in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used.

- **Present Value of Future Benefits (PVB):** Used for analyzing the overall financial obligations of the Plan, this represents the amount of money needed today to fully fund all future benefits of the Plan, assuming active participants continue to earn salary increases and accrue benefits under their current plan provisions and assuming all actuarial assumptions are exactly met, including the 6.875% per year investment return.
- **Actuarial Liability (AL):** Used for funding calculations and GASB disclosures, this liability is calculated taking PVB above and subtracting the value of accruals that are assigned to future years on a person-by-person basis. This offset is equal to the present value of future member contributions and future PLD normal cost contributions under an acceptable actuarial funding method. For this Plan and the other MainePERS defined benefit Programs, this method is referred to as the entry age normal (EAN) funding method, which is the only acceptable actuarial funding method for GASB disclosures.
- **Present Value of Accrued Benefits (PVAB):** Used for communicating the liabilities for benefits accrued as of the valuation date.

Table III-1 on the following page discloses each of these liabilities for the current and prior years' valuations. With respect to the actuarial liability and the present value of accrued benefits, a subtraction of the appropriate value of the Plan's assets yields, for each respective type, a net surplus or an unfunded liability.

We note that none of the liabilities presented in this report is an appropriate measure of a settlement liability.

The PVB is compared to the current market value of assets, the expected future value of member contributions, and the expected future value of total PLD contributions assuming the corridor rate remains constant. The difference between the PVB and these anticipated resources indicates either an expected shortfall or an expected surplus representing either additional funding or excess funding required on the payroll of new hires to pay for benefits of existing members.

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SECTION III - LIABILITIES

**Table III-1
Disclosure of Liabilities**

	June 30, 2016	June 30, 2017
Present Value of Benefits (PVB)		
Active Member Benefits	\$ 1,682,004,497	\$ 1,757,848,620
Retired, Disabled, Survivor, and Beneficiary Benefits	1,534,650,366	1,600,303,115
Terminated (Vested & Nonvested) Benefits	<u>120,331,296</u>	<u>120,755,171</u>
Total PVB	\$ 3,336,986,159	\$ 3,478,906,906
Market Value of Assets (MVA)	\$ 2,358,409,925	\$ 2,607,223,644
Future Member Contributions	274,966,210	290,557,205
Future PLD Contributions at Fixed Rate*	332,653,159	358,383,530
Projected (Surplus)/Shortfall	<u>370,956,865</u>	<u>222,742,527</u>
Total Resources	\$ 3,336,986,159	\$ 3,478,906,906
Actuarial Liability (AL)		
Present Value of Benefits (PVB)	\$ 3,336,986,159	\$ 3,478,906,906
Present Value of Future Normal Costs (PVFNC)		
PLD Portion	172,279,315	171,688,980
Member Portion	<u>274,966,210</u>	<u>290,557,205</u>
Actuarial Liability (AL = PVB – PVFNC)	\$ 2,889,740,634	\$ 3,016,660,721
Actuarial Value of Assets (AVA)	<u>2,489,157,281</u>	<u>2,609,806,231</u>
Net (Surplus)/Unfunded (AL – AVA)	\$ 400,583,353	\$ 406,854,490
Present Value of Accrued Benefits		
Present Value of Benefits (PVB)	\$ 3,336,986,159	\$ 3,478,906,906
Present Value of Future Benefit Accruals (PVFBA)	<u>727,700,533</u>	<u>753,954,620</u>
Accrued Liability (PVAB = PVB – PVFBA)	\$ 2,609,285,626	\$ 2,724,952,286
Market Value of Assets (MVA)	<u>2,358,409,925</u>	<u>2,607,223,644</u>
Net (Surplus)/Unfunded (PVAB – MVA)	\$ 250,875,701	\$ 117,728,642

* Assumed fixed rates are 9.90% in FY 2018 and 10.10% for FY 2019 and all years after that.

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SECTION III - LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each subsequent valuation. The components of these changes, depending upon which liability is analyzed, can include:

- New plan participants since the last valuation
- Benefits accrued since the last valuation
- Plan amendments changing benefits since the last valuation
- Passage of time, which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected since the last valuation
- A change in actuarial assumptions since the last valuation
- A change in the actuarial funding method since the last valuation

Unfunded liability measurements will change because of all of the above, as well as due to changes in the Plan's asset measurements resulting from:

- PLD contributions being different than expected
- Investment earnings being different than expected
- A change in the method used to measure plan assets in developing the unfunded liability measure since the last valuation

In each valuation, we report on those elements of change in the Plan's liability measures that are of particular significance, potentially affecting the long-term financial outlook of the Plan. In Table III-2 below, we present key changes in the Plan's liability measures since the last valuation.

	Table III-2			
	Present Value of Future Benefits	Actuarial Liability	Present Value of Accrued Benefits	
Liability Measurement - 06/30/2016	\$ 3,336,986,159	\$ 2,889,740,634	\$ 2,609,285,626	
Liability Measurement - 06/30/2017	<u>3,478,906,906</u>	<u>3,016,660,721</u>	<u>2,724,952,286</u>	
Liability Measurement Increase/ (Decrease) Due to:	\$ 141,920,747	\$ 126,920,087	\$ 115,666,660	
Plan Amendment	\$ 0	\$ 0	\$ 0	
Assumption Change	0	0	0	
Actuarial (Gain)/Loss	N/C	\$ (2,160,603)	N/C	
Benefits Accumulated and Other Sources	\$ 141,920,747	\$ 129,080,690	\$ 115,666,660	

N/C = Not calculated

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SECTION IV - CONTRIBUTIONS

In this section, we present detailed information on PLD contribution rates as developed in this June 30, 2017 valuation for the Plan, including:

- Development of the actuarially calculated total pooled PLD contribution rate, including the pooled PLD normal cost rate and the pooled PLD unfunded actuarial liability (UAL) rate;
- Development of the aggregate corridor contribution rate; and
- Allocation of the aggregate corridor contribution rate to each of the individual plans.

Note that the PLD contribution rates based on this June 30, 2017 Actuarial Valuation Report are the basis of the FY 2019 PLD contributions that will be paid.

In addition to the applicable PLD contribution rate, several individual PLDs are still making payments based on their Initial Unpooled Unfunded Actuarial Liability (IUUAL) that will be made by these PLDs in addition to the amount derived by applying the applicable PLD contribution rates to the active member payroll.

Active members are also required to contribute to the Plans. Member contribution rates are detailed in Appendix C.

Description of Rate Components

For this Program, the funding methodology employed to develop the actuarially calculated total pooled PLD contribution rate is the entry age normal funding method. Under this method, there are two components to the total PLD contribution rate: the pooled normal cost rate (NC rate) and the pooled unfunded actuarial liability rate (UAL rate). A separate rate is developed for each of the Regular and Special Plans in the Consolidated Plan. These plans are listed in Appendix C along with the relevant plan provisions for each Regular and Special Plan in the Consolidated Plan.

Normal Cost Rate

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 of each active member's projected future benefit as of entry age into a Plan. 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.

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Pooled Unfunded Actuarial Liability Rate

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 IUUAL payments, and current assets. Under the Consolidated Plan, a pooled unfunded actuarial liability rate is calculated for the Consolidated Plan in total. This rate 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, with larger annual benefit accruals for a given payroll level, 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. Composite contribution rates for this year and the prior year are shown in Table IV-1.

IUUAL Payments

In addition to total PLD contributions required under the Consolidated Plan, each individual PLD in the Consolidated Plan that came into the Plan with liabilities in excess of their assets will make payments on its Individual Unpooled Unfunded Actuarial Liability (IUUAL) until it is fully paid off. Where IUUAL payments are due, each PLD makes payment of a specific dollar amount. The System now treats future IUUAL payments as receivable contributions that are already included in the asset values provided and so are not separately identified in the Section I summary tables.

PLD Contribution Rate Summary

In Table IV-2, we present the total pooled PLD contribution rates developed in this valuation and the aggregate corridor contribution rate for FY 2019 developed by this valuation, using the cost methods described above. These were developed using the actuarial assumptions and methods described in Appendix D.

Corridor Contribution Rate

Under the Plan's corridor funding approach, as long as the Plan's AVA funded ratio (the ratio of actuarial value of assets to actuarial liability) remains within a corridor of 90% to 130%, the total pooled PLD contribution rate for each plan is fixed at the rate paid in the prior year. If the AVA funded ratio falls outside of the corridor, the total pooled PLD contribution rate is adjusted to reflect 10% of the difference between the actuarially calculated total pooled PLD contribution rate and the current aggregate corridor contribution rate. Note that when the aggregate corridor contribution rate is reduced, it will never be less than 75% of the pooled PLD normal cost rate (which is the total pooled normal cost rate reduced by the member contribution rate). The overall aggregate corridor contribution rate is then allocated across each of the plans on the basis of their relative total normal cost rates (total normal cost being the Plan's normal cost minus the member contribution rate).

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Contribution Calculations

Table IV-1 below presents and compares the total pooled PLD contribution rate, as well as its two components, for all plans in the Plan as developed in this valuation and the prior one. It also shows the aggregate corridor contribution rate as of each of those dates.

Table IV-1		
Total Pooled PLD Rate and Aggregate Corridor Rate		
Valuation Date	June 30, 2016	June 30, 2017
Pooled NC Rate	6.5%	6.2%
Pooled UAL Rate	<u>6.0%</u>	<u>6.0%</u>
Total Pooled PLD Rate	12.5%	12.2%
Aggregate Corridor Contribution Rate	9.9%	10.1%

The remainder of this section details the calculation of the above rates and then develops both the calculated and corridor rates for each specific plan within the Plan, including their components.

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SECTION IV – CONTRIBUTIONS

Table IV-2 shows the PLD NC rate, the UAL rate, and the total PLD rates, both calculated and corridor, for each benefit option in the Plan.

Table IV-2 Total Employer Contribution Rates by Plan						
Valuation Date June 30, 2017	Plan Total NC Rate	Plan Employee Contribution Rate	Plan PLD NC Rate	Plan UAL Contribution Rate	Plan Total PLD Calculated Rate	Plan PLD Corridor Rate
Plans With COLA						
Regular Employees Plan AC	13.8%	8.0%	5.8%	5.8%	11.6%	9.8%
Regular Employees Plan BC	8.8%	4.5%	4.3%	3.7%	8.0%	6.2%
Special Plan 1C	19.7%	8.0%	11.7%	8.2%	19.9%	16.0%
Special Plan 2C	14.8%	8.0%	6.8%	6.1%	12.9%	10.3%
Special Plan 3C	17.7%	9.5%	8.2%	7.4%	15.6%	12.4%
Special Plan 4C	13.4%	9.0%	4.4%	5.6%	10.0%	8.6%
Plans With No COLA						
Regular Employees Plan AN	11.5%	8.0%	3.5%	4.8%	8.3%	7.1%
Special Plan 1N	15.2%	8.0%	7.2%	6.3%	13.5%	10.7%
Special Plan 2N	10.9%	8.0%	2.9%	4.6%	7.5%	5.6%
Special Plan 3N	13.4%	9.5%	3.9%	5.6%	9.5%	7.7%
Special Plan 4N	9.9%	9.0%	0.9%	4.2%	5.1%	4.0%

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SECTION IV - CONTRIBUTIONS

Table IV-3 below provides the development of the 6.0% UAL rate as of June 30, 2017 that was shown in Table IV-1 for the PLD Consolidated Plan as a whole. In Table IV-4, the resulting total pooled PLD contribution rate is then allocated to each of the Plans on the basis of their relative values, as measured by the plan total normal cost rate developed for each Plan in Table IV-2.

Table IV-3 Derivation of Pooled UAL Rate	
1. Actuarial Liability (AL)	\$ 3,016,660,721
2. Actuarial Value of Assets (AVA)	<u>2,609,806,231</u>
3. Unfunded Actuarial Liability (UAL)	\$ 406,854,490
4. Remaining Balances of Prior Amortization Bases	
a. Original UAL Amount	\$ 280,825,831
b. 2016 (Gain)/Loss Base	116,036,572
c. 2017 (Gain)/Loss Base	<u>9,992,087</u>
d. Sum of the Bases	\$ 406,854,490
5. UAL Amortizations	
a. Original UAL Amount 18 Years	\$ 22,209,697
b. 2016 (Gain)/Loss Base 19 Years	8,845,823
c. 2017 (Gain)/Loss Base 20 Years	<u>736,186</u>
d. Sum of Amortization Payments	\$ 31,791,706
6. Covered Payroll	\$ 531,168,594
7. UAL Amortization Rate	
a. Original UAL Amount 18 Years	4.2%
b. 2016 (Gain)/Loss Base 19 Years	1.7%
c. 2017 (Gain)/Loss Base 20 Years	<u>0.1%</u>
d. Sum of UAL Amortization Rates	6.0%

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SECTION IV - CONTRIBUTIONS

Table IV-4 below shows the development of the UAL rate for each specific Plan within the Plan.

Table IV-4 Allocation of Pooled UAL Rate within Consolidated PLD (Regular & Special Plans)						
	Total Plan	Regular AN	Special 1N	Special 2N	Special 3N	Special 4N
1. Plan PLD NC Rate	6.2%	3.5%	7.2%	2.9%	3.9%	0.9%
2. Member Contribution Rate	<u>8.2%</u>	<u>8.0%</u>	<u>8.0%</u>	<u>8.0%</u>	<u>9.5%</u>	<u>9.0%</u>
3. Plan Total NC Rate	14.4%	11.5%	15.2%	10.9%	13.4%	9.9%
4. Plan UAL Amortization Rates*	6.0%	4.8%	6.3%	4.6%	5.6%	4.2%
5. Total Plan Calculated Cost (1. + 4.)	12.2%	8.3%	13.5%	7.5%	9.5%	5.1%
6. Plan Corridor Rates**	10.1%	7.1%	10.7%	5.6%	7.7%	4.0%

Table IV-4 (cont.) Allocation of Pooled UAL Rate within Consolidated PLD (Regular & Special Plans)						
	Regular AC	Regular BC	Special 1C	Special 2C	Special 3C	Special 4C
1. Plan PLD NC Rate	5.8%	4.3%	11.7%	6.8%	8.2%	4.4%
2. Member Contribution Rate	<u>8.0%</u>	<u>4.5%</u>	<u>8.0%</u>	<u>8.0%</u>	<u>9.5%</u>	<u>9.0%</u>
3. Plan Total NC Rate	13.8%	8.8%	19.7%	14.8%	17.7%	13.4%
4. Plan UAL Amortization Rates*	5.8%	3.7%	8.2%	6.1%	7.4%	5.6%
5. Total Plan Calculated Cost (1. + 4.)	11.6%	8.0%	19.9%	12.9%	15.6%	10.0%
6. Plan Corridor Rates**	9.8%	6.2%	16.0%	10.3%	12.4%	8.6%

* UAL amortization Rates = (total Amort/Total Plan NC) x Individual NC

** Corridor Rates = (Total corridor/Total Calculated) x Individual Calculated

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This section contains financial disclosure information regarding the Plan developed under a number of accounting standards and guidance.

First, for informational purposes, we show the Plan's funded status under the Financial Accounting Standards Board (FASB) ASC Topic 960, which discloses how the market value of assets would compare to accrued liabilities if contributions were to stop and accrued benefit claims had to be satisfied as of the valuation date. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if all provisions of the Consolidated Plan were to terminate. We have prepared the following exhibit in this section based on FASB ASC Topic 960:

- Table V-1: Accrued Benefits information

The Governmental Accounting Standards Board (GASB) Statements Nos. 67 and 68 establish standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in financial statements, notes to financial statements, and supplementary information. We have prepared the following exhibits reflecting provisions of GASB Statement Nos. 67 and 68:

- Table V-2: Schedule of Changes in Net Pension Liability and Related Ratios
- Table V-3: Sensitivity of Net Pension Liability to Changes in Discount Rate
- Table V-4: Schedule of Employer Contributions
- Table V-5: Average Expected Remaining Service Lives

A summary of the terminology used in GASB Statement Nos. 67 and 68 is provided in Appendix E of this report. Note that while much of the information provided in this report under GASB No. 67 is also utilized in GASB No. 68, Table V-5 included in this section is only applicable to GASB No. 68.

Finally, we have also developed disclosure information in this section based on additional guidance relating to Comprehensive Annual Financial Reports (CAFRs) of public employees retirement systems (PERS) provided by the Government Finance Officers Association (GFOA) in their publication, *Governmental Accounting, Auditing, and Financial Reporting* (GAAFR). We have prepared the following exhibits reflecting guidance in the GAAFR:

- Table V-6: Analysis of Financial Experience
- Table V-7: Solvency Test

The present value of accrued benefits, the total pension liability (GASB 67/68), and the actuarial liability (GAAFR) disclosures in this section are all determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities as of June 30, 2017 are discounted at the assumed valuation interest rate of 6.875% per annum in all of these disclosures.

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Table V-1 below includes the relevant amounts as of June 30, 2016 and June 30, 2017 as well as reconciliation between the two dates under FASB ASC Topic 960. There were no assumption changes or plan changes during the year.

Table V-1 Accrued Benefits Information		
FASB ASC Topic 960 Basis	June 30, 2016	June 30, 2017
1. Present Value of Benefits Accrued to Date (PVAB)		
a. Members Currently Receiving Payments	\$ 1,534,650,366	\$ 1,600,303,115
b. Terminated Vested Members	120,331,296	120,755,171
c. Active Members	<u>954,303,964</u>	<u>1,003,894,000</u>
d. Total PVAB	\$ 2,609,285,626	\$ 2,724,952,286
2. Assets at Market Value (MVA)	<u>2,358,409,925</u>	<u>2,607,223,644</u>
3. Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	\$ 250,875,701	\$ 117,728,642
4. Ratio of MVA to PVAB (2)/(1)(d)	90.4%	95.7%
Change in Present Value of Benefits Accrued to Date during FY 2017		
Increase/(Decrease) during Year Attributable to:		
Passage of Time	\$ 174,447,524	
Benefits Paid	(146,163,566)	
Assumption Changes	0	
Plan Changes	0	
Benefits Accrued, Other Gains/Losses	<u>87,382,702</u>	
Net Increase/(Decrease)	\$ 115,666,660	

Table V-2 that follows shows the changes in the total pension liability (TPL), the Plan's fiduciary net position (FNP) (i.e., fair value of the Plan's net assets), and the net pension liability (NPL) during the measurement year ending June 30, 2017 as well as related ratios calculated under the provisions of GASB Statement No. 67 for the Plan.

As of the June 30, 2017 valuation, the fiduciary net position for this Plan was projected to be available to make all projected future benefit payments for current plan members. As such, the long-term expected rate of return on the Program's investments was applied to all periods of projected benefit payments in determining the total pension liability under GASB Nos. 67 and 68. The projection of cash flows used to determine the discount rate assumed that member contributions will be made at the current contribution rates and the PLD contributions will be made according to the current corridor funding policy.

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Table V-2
Schedule of Changes in Net Pension Liability and Related Ratios
FY 2017

<u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 76,271,766
Interest (Includes Interest on Service Cost)	198,972,490
Changes of Benefit Terms	0
Differences Between Actual and Expected Experience	(2,160,603)
Changes of Assumptions	0
Benefit Payments, Including Refunds of Member Contributions	<u>(146,163,566)</u>
Net Change in TPL	126,920,087
Beginning of Year (BOY) TPL	<u>2,889,740,634</u>
End of Year (EOY) TPL	<u>\$3,016,660,721</u>
<u>Plan Fiduciary Net Position (FNP)</u>	
PLD (Employer) Contributions	\$ 51,387,012
Member Contributions	46,080,851
Transfers	(62,201)
Net Investment Income	299,780,947
Benefit Payments, Including Refunds of Member Contributions	(146,163,566)
Administrative Expenses	<u>(2,209,324)</u>
Net Change in FNP	\$ 248,813,719
BOY FNP	<u>2,358,409,925</u>
EOY FNP	<u>\$2,607,223,644</u>
EOY Net Pension Liability (NPL)	<u>\$ 409,437,077</u>
FNP as a Percentage of TPL	86.4%
Covered Payroll (Payroll)*	\$ 542,572,528
NPL as a Percentage of Payroll	75.5%

*For FY 2017

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

None.

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A ten-year schedule of changes in NPL and related ratios is to be included within the CAFR for PERS. However, based on GASB guidance, this ten-year history can be built one year at a time following implementation. We have shown only the current year of this *Schedule of Changes in Net Pension Liability and Related Ratios* above and believe that you can accumulate these individual years in the MainePERS CAFR to build this schedule to show the full ten-year schedule over time. Notes to this schedule should be included for any factors significantly impacting the trends reported within the period shown in this schedule at that time. As of June 30, 2017, we believe no such note is necessary and as such have included none in the *Notes to Schedule of Changes in Net Pension Liability and Related Ratios* above. However, it is our expectation that System staff will make the final determination regarding any notes needed for this schedule and are available to provide any information they may need for this purpose.

Table V-3 below illustrates the sensitivity of the net pension liability (NPL) to the discount rate. Changes in the discount rate affect the measurement of the total pension liability (TPL) for the Plan. Lower discount rates produce a higher TPL, and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the Net Pension Liability (NPL) can be very significant for relatively small changes in the discount rate.

**Table V-3
Sensitivity of Net Pension Liability to Changes in Discount Rate
FY 2017**

	1% Decrease 5.875%	Discount Rate 6.875%	1% Increase 7.875%
Total Pension Liability (TPL)	\$3,428,680,222	\$ 3,016,660,721	\$ 2,706,473,870
Plan Fiduciary Net Position (FNP)	<u>2,607,223,644</u>	<u>2,607,223,644</u>	<u>2,607,223,644</u>
Net Pension Liability (NPL)	<u>\$ 821,456,578</u>	<u>\$ 409,437,077</u>	<u>\$ 99,250,226</u>
FNP as a Percentage of TPL	76.0%	86.4%	96.3%

A one percent decrease in the discount rate increases the TPL by approximately 14% and increases the NPL by approximately 101%. A one percent increase in the discount rate decreases the TPL by approximately 10% and decreases the NPL by approximately 76%.

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Table V-4 that follows provides information relating to the employer contributions for the Plan. Under GASB Statement No. 67, if an actuarially determined contribution (ADC) or a contractually or statutorily required contribution (CRC) is developed for a single employer or cost-sharing plan, the following schedule is required. For purposes of this schedule, an ADC is a contribution amount determined in accordance with Actuarial Standards of Practice and a CRC is based on statutory or contractual requirements. Both should exclude any amounts to finance specific liabilities of individual employers of the plan. If an ADC is available, the schedule of employer contributions should be developed on that basis. If there is no ADC, but there is a CRC, the schedule should be developed on that basis. Only if neither an ADC nor a CRC is developed can this schedule be omitted from the PERS’s CAFR.

The Consolidated Plan’s corridor rates meet the definition of an ADC, so for this Plan this schedule should be developed on that basis. Based on GASB guidance, a full ten years of information should be shown in this schedule if it is available, but this ten-year history can be built one year at a time following implementation. We have shown only the current year of this *Schedule of Employer Contributions* below and believe that you can accumulate these in the MainePERS CAFR to build this schedule to show the full ten-year schedule over time.

Only the current year of the *Notes to Schedule of Employer Contributions* below needs to be included in the notes to this schedule. However, any factors that significantly affect trends in the *Schedule of Employer Contributions* at any point in the ten-year period should also be included in the notes to this schedule. We do not believe that any such note will be needed in the future based on this measurement year ending June 30, 2017, but it is our expectation that System staff will make the final determination regarding any notes needed for this schedule and are available to provide any additional information that they may need for this purpose.

**Table V-4
Schedule of Employer Contributions
FY 2017**

Actuarially Determined Contribution (ADC)	\$ 51,544,390
Contributions in Relation to the ADC	<u>51,544,390</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>
Covered Payroll (Payroll)	\$ 542,572,528
Contributions as a Percentage of Payroll	9.50%

Notes to Schedule of Employer Contributions

Valuation Date June 30, 2015

Timing June 30, 2017 ADC rates calculated based on the 2015 Actuarial Valuation.

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Key Methods and Assumptions Used to Determine Contribution Rates

Actuarial Cost Method:	Entry age normal
Asset Valuation Method:	Three-year smoothed market
Amortization Method:	Calculated rate uses level % of pay amortization over closed 20 year periods. When the funded ratio is less than 90%, the contribution rate is adjusted from its prior year level by 10% of the difference to reach the calculated rate.
Discount Rate:	7.125%
Amortization Growth Rate:	3.50%
Price Inflation:	3.50%
Salary Increases:	3.50% plus merit component based on employee's years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2015 using Scale AA

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2017 can be found in the June 30, 2015 Actuarial Valuation Report.

Other Information

None.

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Table V-5 that follows was provided in this report at the request of MainePERS staff, showing the development of the average remaining service life for the Plan. GASB 68 requires some items be recognized by employers into pension expense over a period “equal to the average of the expected remaining service lives of all employees that are provided with pensions through the pension plan (active employees and inactive employees) determined as of the beginning of the measurement period.” For the current measurement year ending on June 30, 2017, these values are thus developed as of June 30, 2016. The development of this value is shown below, including reflection of the decision by MainePERS to round the resulting value to the nearest whole year.

Table V-5 Average Expected Remaining Service Lives For Measurement Year Ending June 30, 2017			
Status	Total Expected Future Service	Count	Average Remaining Service Lives
Actives	97,928	11,019	9
In-Pay Members	0	8,847	0
Terminated Vested Members	0	2,221	0
Inactives Due Refunds	<u>0</u>	<u>6,849</u>	<u>0</u>
Total Membership	97,928	28,936	3

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Table V-6 below is a gain/loss analysis of the changes in the actuarial liability over the past six years, reflecting variances between actual experience and assumed experience for different kinds of risk as specified in the GFOA GAAFR.

Table V-6						
Analysis of Financial Experience						
Gain and Loss in Actuarial Liability During Fiscal Years Ended June 30						
Resulting from Differences Between Assumed Experience and Actual Experience						
Type of Activity	Gain (or Loss) For Fiscal Year Ended June 30, 2012	Gain (or Loss) For Fiscal Year Ended June 30, 2013	Gain (or Loss) For Fiscal Year Ended June 30, 2014	Gain (or Loss) For Fiscal Year Ended June 30, 2015	Gain (or Loss) For Fiscal Year Ended June 30, 2016	Gain (or Loss) For Fiscal Year Ended June 30, 2017
Investment Income	\$ (40,860,595)	\$ (26,747,451)	\$ 110,262,333	\$ (15,798,973)	\$ (63,941,136)	\$ (76,616)
Combined Liability Experience	<u>(45,091,413)</u>	<u>(20,284,597)</u>	<u>(19,939,857)</u>	<u>54,634,906</u>	<u>9,142,757</u>	<u>2,160,603</u>
Gain (or Loss) during Year from Financial Experience	\$ (85,952,008)	\$ (47,032,048)	\$ 90,322,476	\$ 38,835,933	\$ (54,798,379)	\$ 2,083,987
Non-Recurring Items	<u>4,567,558</u>	<u>52,024,637</u>	<u>0</u>	<u>(37,593,598)</u>	<u>(50,884,219)</u>	<u>0</u>
Composite Gain (or Loss) During Year	\$ (81,384,450)	\$ 4,992,589	\$ 90,322,476	\$ 1,242,335	\$ (105,682,598)	\$ 2,083,987

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Table V-7 below compares the Plan's assets as of each valuation date shown to the Plan's actuarial liability divided into three separate groups: liabilities for contributions on deposit for current active members, liabilities for future benefits for inactive members, and employer-financed liabilities for current active members. This solvency test is used to assess funding progress based on what percentage of the liabilities for each of these groups the Plan's assets are sufficient to cover. Per GFOA guidance, this schedule is to include this assessment for the ten most recent years and notes to this schedule should be provided to explain any factors that affect the comparability of the data. We do not believe that any such note is necessary for the measurement year ending June 30, 2017 valuation, but it is our expectation that System staff will make the final determination regarding any notes needed for this schedule.

Table V-7 Solvency Test Aggregate Actuarial Liabilities For								
Valuation Date	(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)	
June 30, 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	
2008	294,627,592	990,913,007	628,335,716	2,151,832,580	100	100	138	

* 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 Plan.

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APPENDIX A - PARTICIPATING LOCAL DISTRICT PLAN ELECTIONS

PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Acton, Town of	0361	A	2		Yes	7/1/2016	
Androscoggin County	0067	A ¹	1 ¹	2 ¹	Yes	7/1/1994	
Androscoggin Valley Council of Government	0231	A			Yes	7/1/1996	
Anson-Madison Sanitary District	0365	A			Yes	7/1/2017	
Aroostook County	0106	A			Yes	7/1/1994	
Auburn Housing Authority	0145	A			Yes	7/1/1994	
Auburn Lewiston Airport	0256	A			Yes	7/1/1996	
Auburn Public Library	0043	A			FO	7/1/1996	7/1/2001
Auburn Water and Sewer District	0052	A			Yes	7/1/1994	
Auburn, City of	0027	A	2	3 ²	Yes	7/1/1994	
Augusta Housing Authority	0351	A			Yes	4/1/2014	
Augusta, City of	0023	A	2	3 ³	Yes	7/1/1994	
Baileyville, Town of	0069	A	3		Yes	7/1/1996	
Bangor Housing Authority	0288	A			Yes	7/1/1994	
Bangor Public Library	0022	A			Yes	7/1/1996	
Bangor Water District	0059	B ⁴			Yes	7/1/1996	
Bangor, City of	0020	A	1	2	Yes	7/1/1996	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Bar Harbor, Town of	0015	A	4		Yes	7/1/1995	
Bath Water District	0019	A			Yes	7/1/1994	
Bath, City of	0073	A	2	3	Yes	7/1/1996	
Baxter Academy of Technology And Sciences	0348	A			Yes	7/1/2013	
Belfast Water District	0132	A			Yes	7/1/1995	
Belfast, City of	0035	A	2		Yes	7/1/1996	
Berwick Sewer District	0207	A			Yes	7/1/1994	
Berwick, Town of	0108	A	1 ⁵		FO	7/1/1996	7/1/2008
Bethel, Town of	0246	A			Yes	7/1/1996	
Biddeford Housing Authority	0310	A			Yes	7/1/2007	
Biddeford, City of	0158	A	3 ⁶		FO	7/1/2010	7/1/2010
Boothbay Harbor, Town of	0146	A	2		Yes	7/1/1996	
Boothbay Region Water District	0298	A	2		Yes	1/1/2002	
Bowdoinham Water District	0319	A			Yes	1/1/2009	
Brewer Housing Authority	0248	A			Yes	7/1/1994	
Brewer, City of	0063	A ⁷	2		Yes	7/1/1996	
Brownville, Town of	0177	A			No	7/1/2010	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Brunswick Fire And Police	0292	A	1 ⁸	3 ⁸	FO	7/1/1997	7/1/1997
Brunswick Public Library Association	0273	A			FO	7/1/1995	7/1/1995
Brunswick Sewer District	0072	A			Yes	7/1/1996	
Brunswick, Town of	0042	A			FO	7/1/1995	7/1/2000
Buckfield, Town of	0344	A			No	1/1/2013	
Bucksport, Town of	0130	A	4 ⁹		No	7/1/1995	
Calais, City of	0036	A			FO	7/1/1996	7/1/1996
Camden, Town of	0008	A			Yes	7/1/1994	
Cape Elizabeth Police	0317	A	2		Yes	7/1/2008	
Caribou Fire & Police	0208	A	1	2	No	7/1/1996	
Carrabassett Valley, Town of	0277	A			FO	7/1/1994	7/1/1994
Chesterville, Town of	0295	A ¹⁰			Yes	7/1/1999	
China, Town of	0235	A			FO	7/1/1996	7/1/2008
Coastal Counties Workforce Incorporated	0301	A ¹¹			Yes	7/1/2003	
Community School Dist. #912	0252	A			Yes	7/1/1996	
Corinna, Town of	0217	A			Yes	7/1/1996	
Cornville Regional Charter School	0345	A			Yes	7/1/2013	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Cumberland County	0005	A	2 ¹²		Yes	7/1/1996	
Cumberland, Town of	0216	A	2	3 ¹³	Yes	7/1/1995	
Damariscotta, Town of	0191	A			Yes	7/1/2011	
Danforth, Town of	0367	A			Yes	7/1/2017	
Dexter, Town of	0097	A			Yes	7/1/1996	
Dover-Foxcroft Water District	0137	A			Yes	7/1/1994	
Dover-Foxcroft, Town of	0167	A			No	7/1/1995	
Durham, Town of	0234	A			No	7/1/1996	
Eagle Lake Water & Sewer District	0274	A			Yes	7/1/1996	
East Millinocket, Town of	0054	A	2		Yes	7/1/1996	
Easton, Town of	0240	A			Yes	7/1/1994	
Eliot, Town of	0180	A	1 ¹⁴		Yes	7/1/1994	
Ellsworth, City of	0013	A	4		Yes	7/1/1995	
Erskine Academy	0249	A			No	7/1/1994	
Fairfield, Town of	0260	A	3		Yes	7/1/1995	
Falmouth Memorial Library	0058	A			Yes	7/1/1996	
Falmouth, Town of	0087	A	2 ¹⁵	3 ¹⁵	Yes	7/1/1996	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Farmington Village Corporation	0118	A			No	7/1/1994	
Farmington, Town of	0100	A	1		Yes	7/1/1995	
Fort Fairfield Housing Authority	0275	A			FO	7/1/2002	7/1/1994
Fort Fairfield Utilities District	0131	A			Yes	7/1/1996	
Fort Fairfield, Town of	0017	A			Yes	7/1/2000	
Franklin County	0102	A	3 ¹⁶		Yes	7/1/2006	
Freeport, Town of	0142	A	2 ¹¹		Yes	7/1/2003	
Frenchville, Town of	0098	A			No	7/1/1996	
Fryeburg, Town of	0149	A			No	1/1/2011	
Gardiner Water District	0221	A			No	7/1/1994	
Gardiner, City of	0024	A	3		FO	7/1/1996	7/1/2009
Glenburn, Town of	0174	A			Yes	7/1/1994	
Good Will Home Association	0347	A			Yes	7/1/2013	
Gorham Fire & Police	0334	A	3		Yes	7/1/2009	
Gorham, Town of	0133	A			Yes	7/1/1996	
Gould Academy	0205	A			No	7/1/1996	
Grand Isle, Town of	0312	B			Yes	7/1/2008	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Greater Augusta Utility District ¹⁷	0311	A			Yes	1/1/2008	
Greenville, Town of	0112	A	2 ¹⁸		Yes	7/1/1996	
Hallowell, City of	0160	A			Yes	7/1/1996	
Hampden Water District	0183	A			Yes	7/1/1996	
Hampden, Town of	0151	A	3 ¹⁹		FO	7/1/1996	7/1/2009
Hancock County	0056	A			Yes	7/1/1994	
Hancock, Town of	0353	A			Yes	7/1/2014	
Harpswell, Town of	0270	A			Yes	7/1/1994	
Harrison, Town of	0280	B ²⁰			Yes	7/1/1994	
Hartland, Town of	0360	A			Yes	1/1/2016	
Hermon, Town of	0150	A			No	7/1/1996	
Hodgdon, Town of	0215	A			FO	7/1/1996	7/1/2007
Holden, Town of	0338	A	4		Yes	7/1/2011	
Houlton Water District	0026	A			Yes	7/1/1995	
Houlton, Town of	0010	A	4 ⁹		Yes	7/1/1996	
Jackman Utility District	0294	A			Yes	7/1/1996	
Jay, Town of	0045	A	2 ²¹		Yes	7/1/1994	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Kennebec County	0047	A	2		Yes	7/1/1995	
Kennebec Sanitary Treatment District	0220	A			FO	7/1/1995	7/1/1995
Kennebec Water District	0031	A			Yes	7/1/1996	
Kennebunk Light & Power District	0062	A			Yes	7/1/1994	
Kennebunk Sewer District	0201	A			FO	7/1/1994	7/1/2000
Kennebunk, Kennebunkport & Wells Water District	0255	A			FO	7/1/1996	7/1/1999
Kennebunk, Town of	0084	A	2 ²²		Yes	7/1/1996	
Kennebunkport, Town of	0188	A	1		FO	7/1/1996	7/1/2006
Kittery Water District	0012	A			Yes	7/1/1994	
Kittery, Town of	0014	A	1 ²³		Yes	7/1/1995	
Knox County Sheriffs	0359	A	3		No	1/1/2016	
Lebanon, Town of	0181	A			Yes	7/1/1996	
Levant, Town of	0339	A			Yes	7/1/2011	
Lewiston-Auburn Water Pollution Control Authority	0163	A			FO	7/1/1996	7/1/1996
Lewiston Housing Authority	0154	A			Yes	7/1/1994	
Lewiston, City of	0048	A	1	2	Yes	7/1/1996	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Lewiston/Auburn 9-1-1	0291	A			Yes	7/1/1994	
Limestone, Town of	0245	A			Yes	7/1/2006	
Lincoln Academy	0134	A			Yes	7/1/1994	
Lincoln County	0095	A			Yes	7/1/2004	
Lincoln Sanitary District	0219	A			Yes	7/1/1994	
Lincoln & Sagadahoc Multicounty Jail Authority	0304	A	2		Yes	7/1/2004	
Lincoln County Sheriffs	0302	A	2 ¹¹		Yes	7/1/2003	
Lincoln, Town of	0076	A	3		No	7/1/1996	
Linneus, Town of	0214	A			No	7/1/1996	
Lisbon Water Department	0243	A			FO	7/1/1996	7/1/2007
Lisbon, Town of	0103	A	2		Yes	7/1/1996	
Livermore Falls Water District	0032	A			Yes	7/1/1994	
Livermore Falls, Town of	0109	A			No	7/1/1996	
Lovell, Town of	0276	A			Yes	7/1/1996	
Lubec Water and Electric District	0088	A			Yes	7/1/1996	
Lubec, Town of	0228	A			No	7/1/1996	
Madawaska Water District	0236	A			Yes	7/1/1994	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Madawaska, Town of	0082	A			Yes	7/1/1996	
Maine Academy of Natural Sciences	0346	A			Yes	7/1/2013	
Maine County Commissioners Association	0225	A			No	7/1/1996	
Maine Maritime Academy	0038	A	2		Yes	7/1/1996	
Maine Municipal Association	0055	A			Yes	7/1/2009	
Maine Municipal Bond Bank	0093	A			Yes	7/1/1995	
Maine School Management Association	0239	A			Yes	7/1/1994	
Maine Secondary School Principals Association	0105	A			Yes	7/1/1994	
Maine Turnpike Authority	0049	A			Yes	7/1/1994	
Maine Veterans Home	0271	A			Yes	7/1/1994	
Maine Public Employees Retirement System	0290	A			Yes	7/1/1994	
Maine School of Science & Mathematics	0352	A			Yes	7/1/2014	
Maine State Housing Authority	0169	A			Yes	7/1/2005	
Maine Virtual Academy	0357	A			Yes	7/1/2015	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Mapleton, Castle Hill And Chapman, Town of	0265	A			Yes	7/1/1996	
Mars Hill Utility District	0283	A			Yes	7/1/1994	
Mars Hill, Town of	0227	A			Yes	7/1/1996	
Mechanic Falls Sanitary District	0282	A			FO	7/1/1994	7/1/2002
Mechanic Falls, Town of	0114	A			Yes	7/1/1994	
Medway, Town of	0194	A			Yes	7/1/1996	
Midcoast Council of Governments	0343	A			Yes	7/1/2012	
Milford, Town of	0186	A			No	7/1/1996	
Millinocket, Town of	0003	A	3	4	Yes	7/1/1996	
Milo Water District	0238	A			No	7/1/1996	
Monmouth, Town of	0316	A	3		Yes	7/1/2008	
Monson, Town of	0184	A			No	7/1/1996	
Mount Desert Island Regional School District	0120	A			Yes	7/1/1996	
Mount Desert, Town of	0016	A	3 ²⁴		Yes	7/1/1996	
Mount Desert Water District	0300	A ¹¹			Yes	7/1/2003	
New Gloucester, Town of	0210	A			FO	7/1/1995	7/1/2007

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Newport Water District	0313	A			Yes	7/1/2008	
Newport, Town of	0314	A	2		Yes	7/1/2008	
North Berwick, Town of	0254	A	1		No	7/1/1996	
North Berwick Water District	0308	A			Yes	7/1/2006	
Norway Water District	0136	A			FO	7/1/1995	7/1/2000
Norway, Town of	0125	A			FO	7/1/1996	7/1/2000
Ogunquit, Town of	0303	A	1		Yes	7/1/2004	
Old Orchard Beach, Town of	0140	A	2	3/1 ²⁵	Yes	7/1/2003	
Old Town Housing Authority	0262	A			FO	7/1/1994	7/1/1994
Old Town Water District	0079	A			No	7/1/1994	
Old Town, City of	0111	A	2 ²⁶	3 ²⁶	No	7/1/1995	
Orland, Town of	0166	A			No	7/1/1996	
Orono, Town of	0061	A	2 ²⁷		FO	7/1/1996	7/1/2002
Orrington, Town of	0209	A	3		No	7/1/1995	
Otis, Town of	0364	A			Yes	7/1/2017	
Otisfield, Town of	0193	A			FO	7/1/1996	7/1/1996
Oxford County	0057	A ¹¹	2		Yes	7/1/1994	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Oxford, Town of	0200	A			No	7/1/1996	
Paris Utility District	0159	A			Yes	7/1/1995	
Paris, Town of	0127	A			Yes	7/1/1996	
Penobscot County	0011	A	2 ²⁸		Yes	7/1/1994	
Penquis Cap Inc	0237	A			No	7/1/1995	
Phippsburg, Town of	0202	A	3 ²⁹		Yes	7/1/1996	
Piscataquis County	0121	A			Yes	7/1/1994	
Pittsfield, Town of	0110	A			No	7/1/1996	
Pleasant Point Passamaquoddy Reservation Housing Authority	0165	A			Yes	7/1/1996	
Poland, Town of	0336	A	1		No	7/1/2010	
Portland Housing Authority	0185	A			Yes	7/1/1994	
Portland Public Library	0041	A			Yes	7/1/1995	
Portland, City of	0002	A	1	2	Yes	7/1/1995	
Princeton, Town of	0258	A			No	7/1/1996	
Regional School Unit #01	0315	A	2		Yes	7/1/2008	
Regional School Unit #02	0323	A			FO	7/1/2009	7/1/2009
Regional School Unit #04	0324	A			Yes	7/1/2009	

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Regional School Unit #05	0325	A			Yes	7/1/2009	
Regional School Unit #10	0326	A			Yes	7/1/2009	
Regional School Unit #20	0328	A			Yes	7/1/2009	
Regional School Unit #21	0322	A			FO	7/1/2009	7/1/2009
Regional School Unit #23	0329	A			Yes	7/1/2009	
Regional School Unit #25	0321	A			No	7/1/2009	
Regional School Unit #26	0330	A			Yes	7/1/2009	
Regional School Unit #34	0331	A			No	7/1/2009	
Regional School Unit #39	0332	A			Yes	7/1/2009	
Regional School Unit #56	0366	A			Yes	7/1/2017	
Regional School Unit #67	0126	A			Yes	7/1/2016	
Regional School Unit #71	0358	A			Yes	7/1/2015	
Regional School Unit #73	0340	A			Yes	7/1/2011	
Richmond Utilities District	0242	A			No	7/1/1994	
Richmond, Town of	0213	A			Yes	7/1/2007	
Rockland , City of	0018	A	3		Yes	7/1/1995	
Rockport, Town of	0161	A			No	7/1/1996	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Rumford Fire And Police	0060	A	2 ³⁰	4	Yes	7/1/1995	
Rumford Mexico Sewerage District	0247	A			Yes	7/1/1996	
Rumford Water District	0065	A			Yes	7/1/1995	
Rumford, Town of	0090	A			Yes	7/1/1995	
Sabattus, Town of	0175	A	3 ³¹		FO	7/1/1996	7/1/2006
Saco, City of	0192	A	2	3 ³²	No	7/1/1995	
Sagadahoc County	0096	A	2	3 ³³	Yes	7/1/2002	
Sanford Housing Authority	0152	A			Yes	7/1/1996	
Sanford Sewerage District	0089	A			FO	7/1/1994	1/1/2009
Sanford Water District	0170	A			Yes	7/1/1996	7/1/2009
Sanford, City of	0083	A	1/3 ³⁴	2 ³⁴	FO	7/1/1995	7/1/2002
Scarborough, Town of	0147	A	3 ³⁵	1 ³⁵	Yes	7/1/1996	
School Administrative District No. 09 Farmington	0119	A			Yes	7/1/1995	
School Administrative District No. 13 Bingham	0223	A			Yes	7/1/1996	
School Administrative District No. 29 Houlton	0168	A			Yes	7/1/1996	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
School Administrative District No. 31 Howland	0050	A			FO	7/1/1994	7/1/1994
School Administrative District No. 41 Milo	0143	A			Yes	7/1/1996	
School Administrative District No. 49 Fairfield	0189	A			No	7/1/1995	
School Administrative District No. 51 Cumberland Center	0198	A			No	7/1/1996	
School Administrative District No. 53 Pittsfield	0129	A			No	7/1/1996	
School Administrative District No. 54 Skowhegan	0115	A			Yes	7/1/1996	
School Administrative District No. 60 North Berwick	0187	A			No	7/1/1994	
School Administrative District No. 67 Lincoln	0126	A			Yes	7/1/1996	
Searsport Water District	0124	A			No	7/1/1996	
Searsport, Town of	0117	A			No	7/1/1996	
Skowhegan, Town of	0080	A	3		Yes	7/1/1996	
South Portland Housing Authority	0206	A			Yes	7/1/1996	
Somerset County	0101	A			Yes	7/1/2005	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
South Berwick Water District	0171	A	2		Yes	7/1/1996	
South Berwick, Town of	0141	A	1		FO	7/1/1996	7/1/1996
South Berwick Sewer District	0299	A ¹¹			Yes	7/1/2003	
South Portland, City of	0009	A	3 ³⁶		Yes	7/1/1995	
St. Agatha, Town of	0030	A			Yes	7/1/1996	
Thomaston, Town of	0164	A	2		Yes	1/1/2010	1/1/2010
Thompson Free Library	0318	A			Yes	1/1/2009	
Topsham Sewer District	0307	A ³⁷			Yes	7/1/2005	
Topsham, Town of	0081	A	2	3	Yes	7/1/1996	
Tri-Community Recycle/Sanitary Landfill	0267	A			Yes	7/1/1996	
Union, Town of	0342	A			No	7/1/2012	
United Technologies Center, Region 4, S Penobscot	0269	A			FO	7/1/1996	7/1/2009
Van Buren, Town of	0182	A			Yes	7/1/1995	
Vassalboro, Town of	0153	A			Yes	7/1/1996	
Veazie Fire & Police	0305	A	3 ³⁸		Yes	7/1/2004	
Waldo County	0046	A	2		Yes	7/1/1994	

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PLD Name	PLD #	Regular Plan	Special Plan	Special Plan	COLA	Entry Date	FO COLA Date
Waldo County Technical Center	0224	A			No	7/1/1996	
Waldoboro, Town of	0195	A	3		Yes	7/1/1995	
Washburn Water & Sewer District	0335	A			No	7/1/2009	
Washburn, Town of	0230	A			No	7/1/1994	
Washington County	0040	A			Yes	7/1/1996	
Waterboro, Town of	0356	A			No	1/1/2015	
Waterville Fire & Police	0066	A	3		No	7/1/1996	
Waterville Sewerage District	0222	A			Yes	7/1/1994	
Wells Ogunquit Community School District #918	0266	A			FO	7/1/1995	7/1/1995
Wells Fire And Police	0349	A	2		Yes	7/1/2013	
Wells, Town of	0107	A	3		Yes	7/1/1995	
West Bath, Town of	0333	A			Yes	7/1/2009	
Westbrook Fire & Police	0070	A	1	3	Yes	7/1/2006	
Westbrook, City of	0122	A			Yes	7/1/2006	
Wilton, Town of	0086	A	2		FO	1/1/2009	1/1/2009
Windham, Town of	0309	A	4	3	Yes	7/1/2006	
Winterport Water & Sewer Districts	0306	A ³⁷			Yes	7/1/2005	

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Winthrop Utilities District	0337	A			Yes	1/1/2011	
Winthrop, Town of	0179	A			FO	7/1/1994	7/1/2003
Wiscasset, Town of	0417	A			No	1/1/2012	
Yarmouth Water District	0278	A			Yes	7/1/1994	
Yarmouth, Town of	0116	A	1 ³⁹		Yes	7/1/1996	
York County	0037	A	2 ⁴⁰	1 ⁴⁰	Yes	7/1/1996	
York Sewer District	0139	A			FO	7/1/1994	7/1/2006
York Water District	0039	A			Yes	7/1/1996	
York, Town of	0028	A	2 ³⁷		Yes	7/1/1994	

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Notes to Appendix A:

FO = Future Service COLA only, that is, for benefits attributable to service rendered after the Future Service COLA date.

- ¹ Employees hired prior to July 1, 1997 who are members of the Plan are covered under Plan 1. Corrections Officers and Law Enforcement Officers hired on or after July 1, 1997 are covered under Plan 2. All other employees hired on or after July 1, 1997 will be covered under Regular Plan A.
- ² Plan 3 applicable for future service only from January 1, 2014 for Firefighters hired after July 1, 1989 and for Law Enforcement Officers hired after December 31, 1989.
- ³ Plan 3 is applicable for future service only rendered by the City's Firefighters hired after December 31, 1989, effective January 1, 2015.
- ⁴ Plan B applicable to all new hires on or after July 1, 1996. All members in the PLD at July 1, 1996 elected to remain in the 1/50 Plan under Regular Plan A.
- ⁵ Plan 1 applicable for future service only for Police Officers from July 1, 2008 and for future service only for Firefighters from July 1, 2010.
- ⁶ Applicable for future service only rendered by Law Enforcement Officers from July 1, 2003. Applicable for future service only rendered by Firefighters from July 1, 2007.
- ⁷ Brewer Water District (P0068) ceased to exist as a separate entity on January 15, 2003 and became part of the City of Brewer (P0063). All Brewer Water District Regular Plan AN members became members of the Regular Plan AC for future service only as of that date.
- ⁸ Plan 1 applicable to Police Officers for future service only after January 1, 2010 and Plan 3 applicable to Firefighters for future service only after January 1, 2010. Some grandparented Police Officers and Firefighters receive all service in Plan 1.
- ⁹ Plan 4 applicable for future service only rendered by the Town's Firefighters and Police Officers from July 1, 2001.
- ¹⁰ Applicable for future service only from July 1, 2000.

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- 11 Applicable for future service only from July 1, 2003.
- 12 Plan 2 applicable for future service only rendered by the County's Police Officers from July 1, 2008.
- 13 Plan 3 is applicable for future service only rendered by the Town's Law Enforcement Officers, effective January 1, 2015.
- 14 Plan 1 applicable for future service only of Police Officers, effective July 1, 2006.
- 15 Plan 2 applicable for future service only of Police Officers, from July 1, 2006 to December 31, 2015. Plan 3 applicable for future service only of Police Officers, effective January 1, 2016.
- 16 Plan 3 applicable for future service only for Police Officers from January 1, 2014.
- 17 Greater Augusta Utility District (P0311) was formed by the merger of the Augusta Water District (former P0034) and the Augusta Sanitary District (former P0064).
- 18 Plan 2 applicable for future service only for the Town's Police Officers from July 1, 2016.
- 19 Plan 3 applicable for future service only for the Town's Firefighters and Police Officers, effective July 1, 2009.
- 20 Applicable to all new hires on or after July 1, 1994. All members in the PLD at July 1, 1994 elected to remain in the 1/50 Plan under Regular Plan A.
- 21 Plan 2 applicable for future service only for the Town's Police Officers, effective January 1, 2012.
- 22 Plan 2 applicable to all service for Police Officers and for future service only of Firefighters rendered from July 1, 2008.
- 23 Plan 1 applicable for future service only of Police Officers, effective July 1, 2007.

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- 24 Plan 3 applicable to all service for Police Officers and Firefighters, effective July 1, 2017.
- 25 Plan 3 for future service only after January 1, 2010 for Police Officers hired on or after October 12, 1992. Plan 1 for future service only after January 1, 2010 for Police Officers hired prior to October 1, 1992.
- 26 Plan 3 applicable for future service only for Firefighters and Police Officers effective January 1, 2014.
- 27 Plan 2 applicable to future service only rendered by the Town's Firefighters and Police Officers from July 1, 2005. Prior service was credited under Plan 4.
- 28 Plan 2 applicable for future service only rendered by the County's Law Enforcement Officers from July 1, 2017.
- 29 Plan 3 applicable for future service only rendered by the Town's Police Officers from July 1, 2007.
- 30 Plan 2 applicable for future service only for Firefighters from January 1, 2014. As of July 1, 2017, Plan 2 also applicable for service rendered prior to January 1, 2014.
- 31 Plan 3 is applicable for future service only rendered by the Town's Police Officers, effective July 1, 2017.
- 32 Plan 3 is applicable for future service only rendered by the City's Police Officers, effective July 1, 2015. Service for the City's Police Officers prior to July 1, 2015 under Plan 2. Plan 3 is applicable for future service only rendered by the City's Firefighters, effective July 1, 2016. Service for the City's Firefighters prior to July 1, 2016 under Plan 2.
- 33 Plan 3 applicable for future service only rendered by Law Enforcement Officers from July 1, 2002. Service for Law Enforcement Officers prior to July 1, 2002 under Plan 2.
- 34 Plan 1 is applicable for future service only rendered by Firefighters from July 1, 2002 and Police Officers from July 1, 2004. Plan 2 is applicable for Police Officers hired on or after July 1, 2014 and for Firefighters hired after December 31, 2014. Existing Firefighters as of December 31, 2014 elected either to remain under Plan 1 or move to Plan 3 for service rendered after December 31, 2014. Existing Police as of July 1, 2014 remained under Plan 1 for future service January 1, 2015.

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- 35 Plan 3 is applicable for future service only rendered by the Town's Firefighters from July 1, 2014. Firefighters who were covered under Plan 1, for future service rendered after July 1, 2008, could make an irrevocable election to remain in Plan 1. Firefighters hired after June 30, 2014 in Plan 3. Plan 1 is applicable to the Town's Police Officers for future service rendered effective July 1, 2009.
- 36 Plan 3 applicable for future service only of Police Officers, effective July 1, 2009, and for future service only of Firefighters, effective July 1, 2010. Prior service credited under Special Plan 2. Police hired on or after July 1, 2014 covered by Plan 2.
- 37 Applicable for future service only from July 1, 2005.
- 38 Plan 3 applicable for future service only rendered by the Town's Firefighters from July 1, 2005.
- 39 Applicable for future service rendered by Police Officers after January 1, 2010.
- 40 Plan 1 applicable for all future service rendered by the Town's Firefighters/EMS and Police Officers from July 1, 2010. Previous service credited under Plan 2. Police Officers hired on or after July 1, 2014 covered by Plan 2.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017

APPENDIX B - MEMBERSHIP INFORMATION

Active Member Data as of June 30, 2017	
Regular Plan Members	
Count	8,549
Average Current Age	47.7
Average Benefit Service	8.9
Average Vesting Service	9.2
Average Valuation Pay	\$ 43,078
Special Plan Members	
Count	2,646
Average Current Age	41.4
Average Benefit Service	11.4
Average Vesting Service	11.8
Average Valuation Pay	\$ 61,563
All Plan Members	
Count	11,195
Average Current Age	46.2
Average Benefit Service	9.5
Average Vesting Service	9.8
Average Valuation Pay	\$ 47,447

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

APPENDIX B - MEMBERSHIP INFORMATION

Participating Local Districts of the Maine Public Employees Retirement System Inactive Member Data as of June 30, 2017 Regular Plans				
	Count	Average Age	Total Annual Benefit	Average Annual Benefit
Retired	4,985	73.1	\$ 68,781,286	\$ 13,798
Retired - Concurrent Beneficiary	369	71.2	1,291,466	3,500
Disability - Section 1122	29	75.2	340,275	11,734
Disability – Sections 3 and 3A	275	65.3	5,546,431	20,169
Beneficiary of Above	993	74.1	9,559,823	9,627
Pre-Retirement Death Beneficiary	151	69.7	934,593	6,189
Terminated Vested	1,953	53.7	8,992,703	4,605
Inactive Due Refund	6,291	NA	NA	NA

Participating Local Districts of the Maine Public Employees Retirement System Inactive Member Data as of June 30, 2017 Special Plans				
	Count	Average Age	Total Annual Benefit	Average Annual Benefit
Retired	1,451	67.7	\$ 45,454,714	\$ 31,326
Retired - Concurrent Beneficiary	360	66.5	2,215,562	6,154
Disability - Section 1122	21	72.1	439,228	20,916
Disability – Sections 3 and 3A	72	60.4	2,126,117	29,529
Beneficiary of Above	273	72.1	4,586,850	16,802
Pre-Retirement Death Beneficiary	27	61.3	184,641	6,839
Terminated Vested	281	46.9	2,294,166	8,164
Inactive Due Refund	983	NA	NA	NA

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

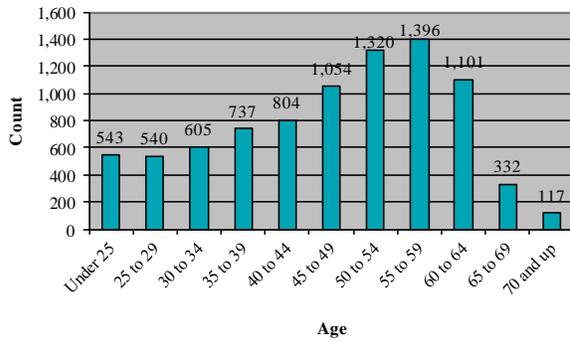
APPENDIX B - MEMBERSHIP INFORMATION

**Distribution of Active Members
As of June 30, 2017**

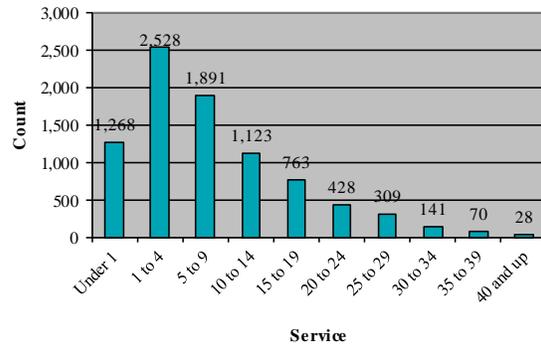
Regular Plan Participants

	Years of Service										Totals	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up		
Under 25	335	205	3	0	0	0	0	0	0	0	0	543
25 to 29	169	284	83	4	0	0	0	0	0	0	0	540
30 to 34	120	293	152	38	2	0	0	0	0	0	0	605
35 to 39	131	281	192	103	29	1	0	0	0	0	0	737
40 to 44	104	300	198	117	75	10	0	0	0	0	0	804
45 to 49	124	314	268	160	112	49	25	2	0	0	0	1,054
50 to 54	113	342	308	213	151	98	71	22	2	0	0	1,320
55 to 59	89	241	344	247	171	115	105	53	28	3	0	1,396
60 to 64	53	189	243	177	151	112	80	46	31	19	0	1,101
65 to 69	20	51	77	51	56	33	20	15	7	2	0	332
70 and up	10	28	23	13	16	10	8	3	2	4	0	117
Total	1,268	2,528	1,891	1,123	763	428	309	141	70	28	0	8,549

Age Distribution



Service Distribution



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

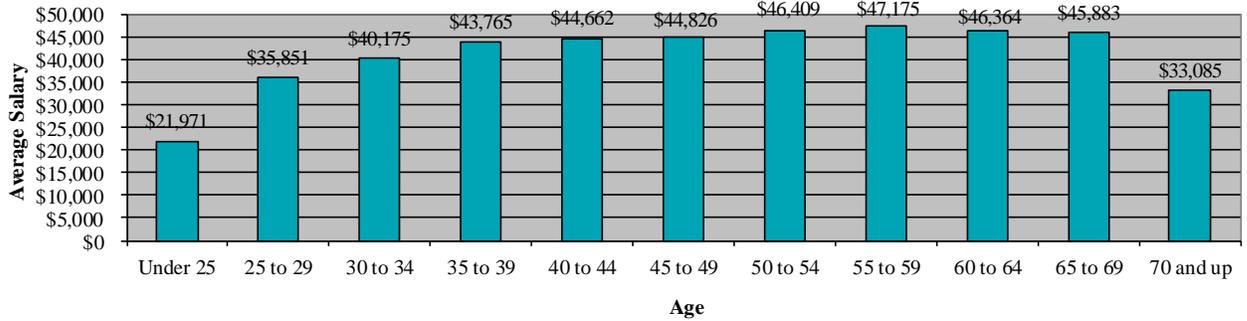
APPENDIX B - MEMBERSHIP INFORMATION

**Distribution of Active Members
As of June 30, 2017**

Regular Plan Participants

	Average Salary Years of Service										Average
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	\$ 16,916	\$ 29,952	\$ 41,208	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 21,971
25 to 29	28,186	38,109	43,237	46,109	0	0	0	0	0	0	35,851
30 to 34	29,286	39,816	47,832	46,321	47,385	0	0	0	0	0	40,175
35 to 39	31,566	41,855	50,154	50,894	49,350	55,910	0	0	0	0	43,765
40 to 44	30,092	41,505	51,096	48,788	53,125	51,773	0	0	0	0	44,662
45 to 49	31,090	38,536	47,890	51,147	54,190	56,381	54,061	44,675	0	0	44,826
50 to 54	29,970	42,671	47,068	47,505	49,705	57,498	57,312	61,749	48,272	0	46,409
55 to 59	33,507	37,748	50,094	48,257	48,362	49,454	53,962	58,201	61,159	68,250	47,175
60 to 64	28,348	39,501	44,408	46,296	46,117	52,448	55,977	58,412	64,621	57,214	46,364
65 to 69	19,986	32,274	50,716	48,071	47,915	48,213	62,089	54,108	54,309	61,488	45,883
70 and up	11,450	28,400	24,931	46,036	36,205	54,379	34,774	26,297	59,364	47,630	33,085
Average	\$ 26,380	\$ 38,979	\$ 47,891	\$ 48,407	\$ 49,254	\$ 52,961	\$ 55,291	\$ 57,517	\$ 61,588	\$ 57,333	\$ 43,078

Average Salary Distribution



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

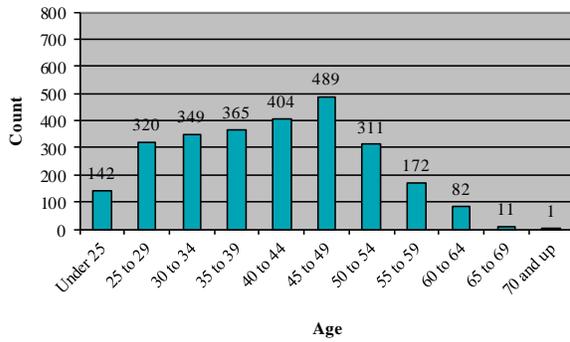
APPENDIX B - MEMBERSHIP INFORMATION

**Distribution of Active Members
As of June 30, 2017**

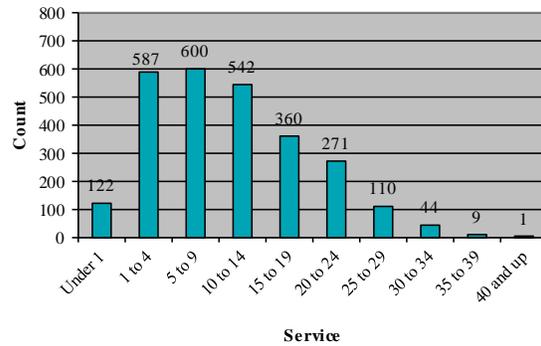
Special Plan Participants

	Years of Service										Totals
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	41	101	0	0	0	0	0	0	0	0	142
25 to 29	26	214	80	0	0	0	0	0	0	0	320
30 to 34	15	107	168	59	0	0	0	0	0	0	349
35 to 39	12	60	120	134	39	0	0	0	0	0	365
40 to 44	9	49	78	106	118	43	1	0	0	0	404
45 to 49	10	29	71	115	112	129	22	1	0	0	489
50 to 54	3	20	37	75	56	58	49	13	0	0	311
55 to 59	5	4	32	34	25	25	28	16	3	0	172
60 to 64	1	1	14	18	8	13	9	12	5	1	82
65 to 69	0	2	0	1	2	3	0	2	1	0	11
70 and up	0	0	0	0	0	0	1	0	0	0	1
Total	122	587	600	542	360	271	110	44	9	1	2,646

Age Distribution



Service Distribution



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

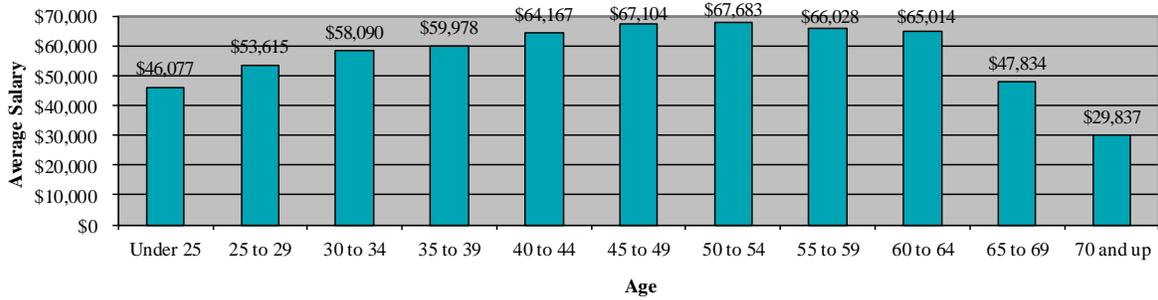
APPENDIX B - MEMBERSHIP INFORMATION

**Distribution of Active Members
As of June 30, 2017**

Special Plan Participants

	Average Salary Years of Service										Average
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	\$ 37,250	\$ 49,661	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 46,077
25 to 29	41,576	52,827	59,635	0	0	0	0	0	0	0	53,615
30 to 34	40,518	54,003	59,974	64,607	0	0	0	0	0	0	58,090
35 to 39	40,675	54,478	58,421	63,146	68,286	0	0	0	0	0	59,978
40 to 44	39,882	54,372	60,447	65,434	69,010	71,218	44,109	0	0	0	64,167
45 to 49	46,703	51,876	62,404	64,690	68,695	73,525	78,697	62,498	0	0	67,104
50 to 54	41,416	56,511	65,074	64,697	68,449	69,563	74,657	77,621	0	0	67,683
55 to 59	53,805	43,671	63,212	68,151	56,298	64,432	75,699	71,024	99,638	0	66,028
60 to 64	39,000	41,024	62,876	64,167	65,896	62,159	58,083	73,314	76,648	94,910	65,014
65 to 69	0	18,488	0	40,914	21,754	85,169	0	60,303	28,661	0	47,834
70 and up	0	0	0	0	0	0	29,837	0	0	0	29,837
Average	\$ 40,675	\$ 52,673	\$ 60,522	\$ 64,602	\$ 67,532	\$ 71,056	\$ 73,689	\$ 72,917	\$ 78,980	\$ 94,910	\$ 61,563

Average Salary Distribution



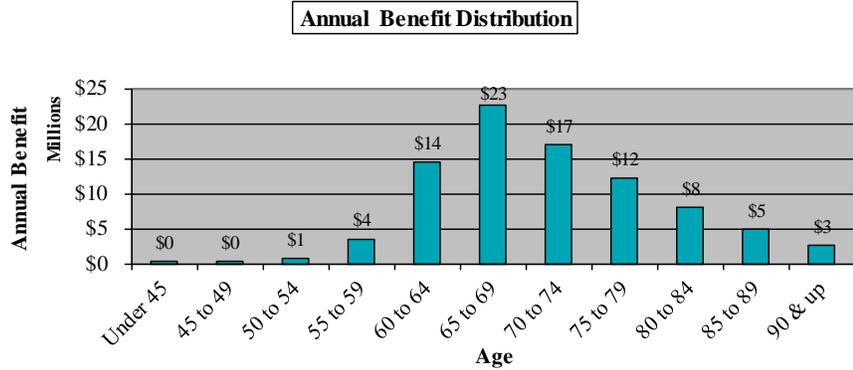
**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
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ACTUARIAL VALUATION AS OF JUNE 30, 2017**

APPENDIX B - MEMBERSHIP INFORMATION

**Distribution of Retirees, Disabled
Members, Beneficiaries, and Survivors
As of June 30, 2017**

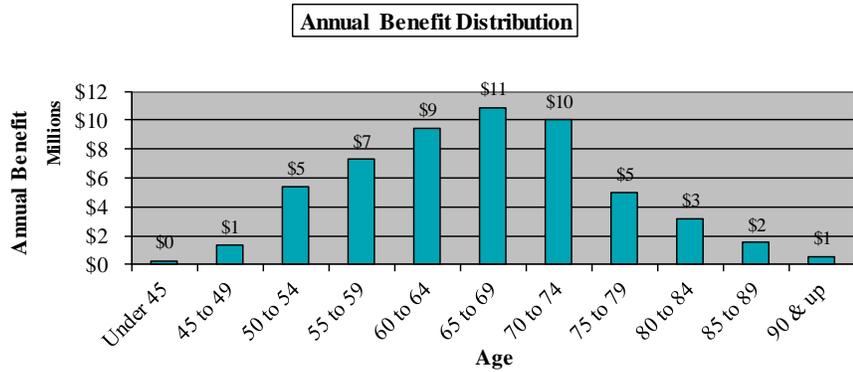
Regular Plan Participants

Age	Count	Annual Benefit
Under 45	59	\$ 341,019
45 to 49	31	257,848
50 to 54	73	792,738
55 to 59	206	3,531,613
60 to 64	953	14,418,630
65 to 69	1,597	22,665,178
70 to 74	1,295	16,952,981
75 to 79	1,022	12,239,046
80 to 84	737	7,940,384
85 to 89	507	4,800,732
90 & up	<u>322</u>	<u>2,513,705</u>
Total	6,802	\$ 86,453,873



Special Plan Participants

Age	Count	Annual Benefit
Under 45	19	\$ 292,143
45 to 49	55	1,348,224
50 to 54	188	5,404,163
55 to 59	261	7,277,707
60 to 64	333	9,451,839
65 to 69	429	10,892,535
70 to 74	401	10,049,909
75 to 79	232	4,998,275
80 to 84	169	3,214,215
85 to 89	81	1,519,935
90 & up	<u>36</u>	<u>558,166</u>
Total	2,204	\$ 55,007,111



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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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 5% annual interest.

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.

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.

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
CONSOLIDATED PLAN FOR PARTICIPATING LOCAL DISTRICTS
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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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.
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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.
---	--

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.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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.
---	--

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.

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.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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.
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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.
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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.

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

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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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.

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

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM
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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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 credible 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.

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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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 twelve months for retirees who retired on or after September 1, 2015 or for six months for retirees who retire prior to September 1, 2015. The maximum annual increase is 3% (4% prior to the 2014 COLA).

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.*

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APPENDIX C - SUMMARY OF PLAN PROVISIONS

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

None.

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APPENDIX D - ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Annual Rate of Investment Return

PLDs	6.875%
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Rate is net of both administrative and investment expense.

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

PLDs	2.20%
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3. Sample Rates of Individual Salary Increases (% at Selected Years of Service)

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

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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.

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

(Showing values in 2017)		
Age	Male	Female
50	41	32
55	58	43
60	79	63
65	112	96
70	173	155
75	282	253
80	475	428
85	829	760
90	1,460	1,358
95	2,306	2,234

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.

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

(Showing values in 2017)		
Age	Male	Female
20	4	2
25	5	2
30	4	3
35	5	4
40	6	5
45	10	8
50	17	13
55	28	20
60	47	29
65	84	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.

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

(Showing values in 2017)		
Age	Male	Female
25	83	24
30	79	30
35	93	42
40	112	58
45	174	91
50	214	120
55	246	151
60	280	179
65	335	218
70	433	296

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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.

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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: 5%

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:

None.

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APPENDIX D - ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method

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.

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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

None.

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APPENDIX E - GLOSSARY OF GASB TERMS

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual, included in an actuarial valuation, is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

6. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.

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APPENDIX E - GLOSSARY OF GASB TERMS

7. Net Pension Liability

The liability of employers and non-employer contributing entities for employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

8. Plan Fiduciary Net Position

The fair or market value of assets.

9. Reporting Date

The last day of the Plan or employer's fiscal year.

10. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

11. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the entry age actuarial cost method.



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