

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

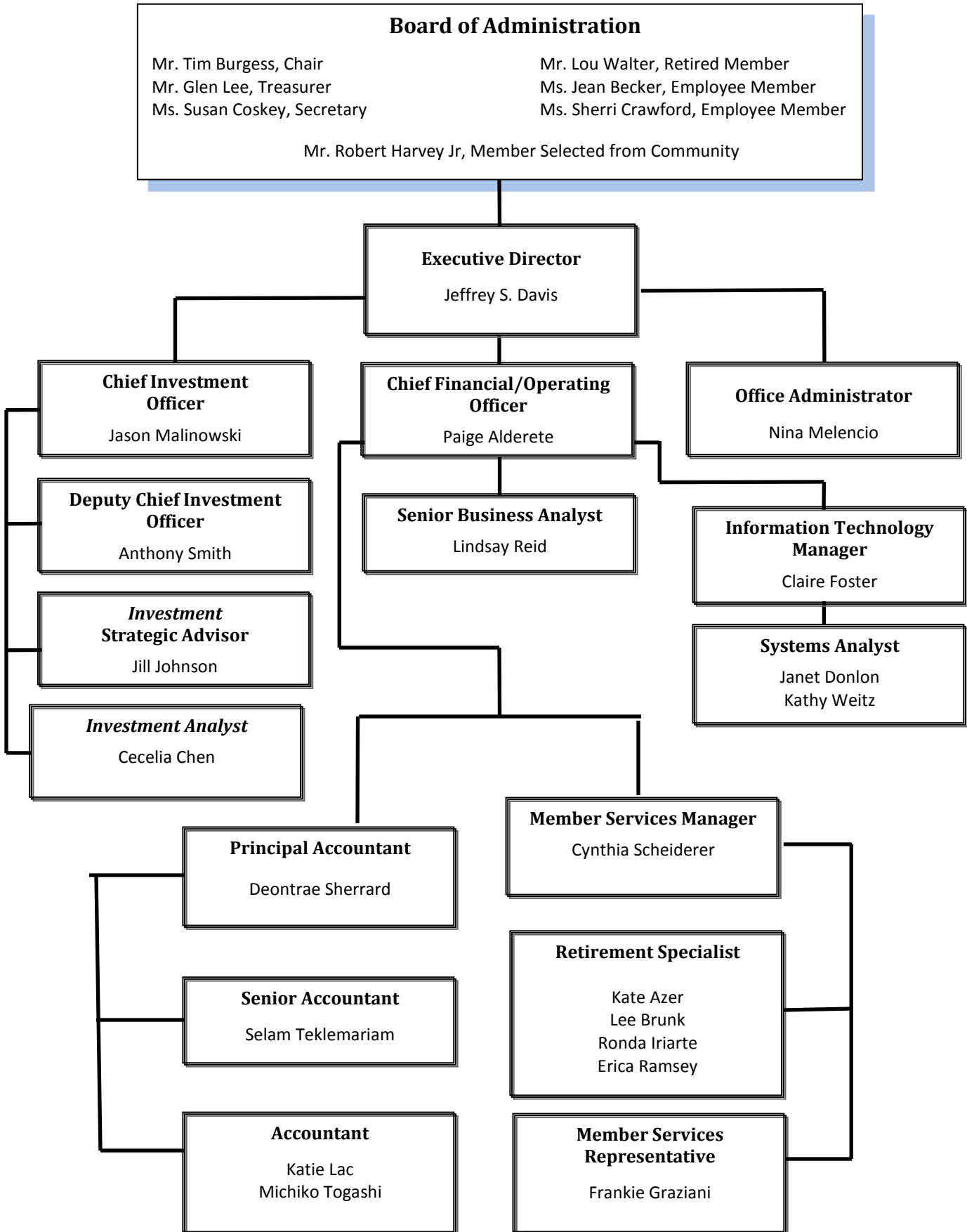
## A Pension Trust Fund of the City of Seattle

# ANNUAL REPORT

For the Year Ended December 31, 2017

**Prepared by:** Seattle City Employees' Retirement System Staff  
720 Third Avenue, Suite 900  
Seattle, WA 98104-1852  
(206) 386-1293  
(206) 386-1506 fax  
<http://www.seattle.gov/retirement>

## 2017 Organizational Chart





# Seattle City Employees' Retirement System

To the Honorable Mayor and Seattle City Council  
Seattle, Washington

I am pleased to transmit the 2017 Annual Report of the Seattle City Employees' Retirement System. This Annual Report consists of four sections: the Introductory Section contains the Executive Director's letter of transmittal, an organizational chart for the System, and the table of contents for the report; the Financial Section contains the audited financial statements of the System, as well as a letter from the System's certified public accountants; the Actuarial Section contains the independent consulting actuary's opinion, along with related actuarial data and statements; and the Statistical Section includes tables of significant data pertaining to the System operations.

The compilation of this report is the result of the combined effort of the Staff under the leadership of the Retirement Board. The intention is to provide complete and reliable information to assist in management decisions, to present evidence of compliance with legal provisions, and to demonstrate responsible stewardship for the assets contributed by the members and their employers.

The Executive Director and staff have reviewed the internal accounting controls and the financial statements, supporting schedules and statistical tables, and we are of the opinion that they fairly represent the condition of the Retirement System.

The accuracy and completeness of the data contained in this report are the sole responsibility of the management of the Seattle City Employees' Retirement System.

## **Overview of the Seattle City Employees' Retirement System**

The Retirement System was created and established by amendment to the Charter of the City of Seattle (Article XXII – Section 13) submitted to the voters at the municipal election of March 8, 1927. The System, known thereafter as the Seattle City Employees' Retirement System (SCERS), is to provide retirement income to help maintain the quality of life for its former employees. The retirement plan is a defined benefit plan, which means the employee's salary, years of service, and age at the time of retirement are used to determine the amount of retirement benefits. Members of the Retirement System also participate in Social Security.

The Retirement System covers employees of the City of Seattle, the Seattle Public Library, and certain employees of King County and METRO. The Retirement System does not cover law enforcement officers and fire fighter employees. The year ended December 31, 2017, concludes our 91st year of operations.

The City of Seattle also sponsors a voluntary deferred compensation plan which permits employees to make pre-tax contributions up to the federal limits and manage the investment allocation of their contributions. This plan is administered through the Seattle Department of Human Resources and a third party administrator.

## **Distribution of the 2017 Annual Report**

The report will be posted to the System's website. We trust the departments and Retirement System members will find this report both informative and helpful.

We would like to express our gratitude to the staff, the advisors, and to the many other people who have worked so diligently to assure the successful operation of the System.

Respectfully submitted,  
BOARD OF ADMINISTRATION,  
SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

A handwritten signature in blue ink, appearing to read 'Jeffrey S. Davis', is written over a faint, light blue circular stamp.

Jeffrey S. Davis  
Executive Director

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*CliftonLarsonAllen*

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*Milliman*

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**FINANCIAL**  
**Independent Auditors Report**



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**Report of Independent Auditors**  
**and Financial Statements with**  
**Required Supplementary Information**  
**and Additional Information**

**December 31, 2017 and 2016**



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## INDEPENDENT AUDITORS' REPORT

Board of Administration  
Seattle City Employees' Retirement System  
Seattle, Washington

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the Seattle City Employees' Retirement System (SCERS), which comprise the statements of fiduciary net position as of December 31, 2017 and 2016, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

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

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

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

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

***Opinion***

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of SCERS as of December 31, 2017 and 2016, and the results of its operations for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Report on Required Supplementary Information**

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

**Report on Other Information**

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The additional information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the additional information, as listed in the table of contents, is fairly stated in all material respects in relation to the financial statements as a whole.

**CliftonLarsonAllen LLP**

Baltimore, Maryland  
July 26, 2018

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**Years Ended December 31, 2017 and 2016**

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This section presents management's discussion and analysis of the Seattle City Employees' Retirement System's (SCERS or the System) financial performance during the years ended December 31, 2017 and 2016. Please read it in conjunction with the accompanying financial statements and the related notes.

The City of Seattle is responsible for establishing and maintaining an internal control structure designed to ensure the protection of assets from loss, theft, or misuse, and to ensure the accounting information generated is adequate to prepare financial statements in conformity with generally accepted accounting principles. The internal control structure is designed to provide reasonable, though not absolute, assurance of achieving these objectives.

As a department of the City of Seattle, the Seattle City Employees' Retirement System is subject to this internal control structure. In addition, section 4.36.140.D of the Seattle Municipal Code requires the Board of Administration to annually transmit a report of the financial condition of the System to the City Council.

This report is prepared in accordance with the principles of governmental accounting and reporting promulgated by the Governmental Accounting Standards Board (GASB). Investments are stated at fair value, and revenues include the recognition of unrealized gains and losses. The accrual basis of accounting is used to record assets, liabilities, revenues and expenses. Revenue recognition occurs when earned without regard to the date of collection. Expense recognition occurs when the corresponding liabilities are incurred, regardless of payment date. The basis of contributions to the System follows the principles of level cost financing, with current service financed on a current basis. Milliman Consultants and Actuaries, the consulting actuary, evaluates the funding status of the System.

**This report contains the following information:**

- 1. Basic Financial Statements** including:
  - a. Statements of Fiduciary Net Position
  - b. Statements of Changes in Fiduciary Net Position
  - c. Notes to the Financial Statements
- 2. Required Supplementary Information** including:
  - a. Schedule of Changes in Net Pension Liability and Related Ratios
  - b. Schedule of Employer Contributions
  - c. Schedule of Investment Returns
- 3. Additional Information** including:
  - a. Schedule of Administrative Expenses
  - b. Schedule of Investment Expenses

The basic financial statements are described as follows:

- The Statement of Fiduciary Net Position shows the account balances at year-end and includes the net position available for future benefit payments. The liabilities for future benefit payments are not included in this statement; however, they are shown in the Schedule of Changes in Net Pension Liability and Related Ratios that is included in the Required Supplementary Information.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**Years Ended December 31, 2017 and 2016**

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- The Statement of Changes in Fiduciary Net Position shows the sources and uses of funds during the year and illustrates the change in net position from the previous year.
- The Notes to the Financial Statements are an integral part of the financial statements and include additional detailed information and schedules to provide a better understanding of the financial statements.

The required supplementary information provides historical trends that help to reflect the ongoing plan perspective and the long-term nature of the defined benefit plan.

- The Schedule of Changes in Net Pension Liability and Related Ratios contains actuarial information about the status of the plan.
- The Schedule of Employer Contributions contains historical trend information regarding the value of the total annual contributions the employer must pay and the actual contributions paid by employers in meeting this requirement.
- The Schedule of Investment Returns contains the investment returns realized on the total portfolio for the years since 2014.

#### **Financial Highlights**

- Net position increased by \$364 million (14.6%) during 2017. The primary driver was net investment income of \$389 million. Net position increased by \$175 million (7.6%) during 2016. The primary driver was a \$190 million in the net investment income.
- Revenue additions to net position for 2017 were \$575 million which includes member and employer contributions of \$186 million and revenue from investment activity totaling \$389 million. Revenue additions to net position for 2016 were \$370 million which includes member and employer contributions of \$180 million and revenue from investment activity totaling \$190 million.
- Expenses (deductions from net position) for 2017 increased by \$16 million (8.1%) from 2016. This can be primarily attributed to a \$10 million increase in retiree benefits. In 2017, the net increase in the number of retirees receiving benefits was 2.4%. Expenses for 2016 increased by \$11 million (6.0%) from 2015. This can be primarily attributed to an \$9.6 million increase in retiree benefits. In 2016, the net increase in the number of retirees receiving benefits was 2.6%.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**Years Ended December 31, 2017 and 2016**

**Fiduciary Net Position**

The table below provides a summary of assets and current liabilities for the years ended December 31:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Cash, short-term investments and receivables	\$ 293,323,449	\$ 443,140,843	\$ 170,672,072
Investments at fair value	2,815,776,988	2,351,299,369	2,154,482,878
Securities lending collateral	<u>11,358,941</u>	<u>11,130,677</u>	<u>50,952,037</u>
<b>Total assets</b>	<u>3,120,459,378</u>	<u>2,805,570,889</u>	<u>2,376,106,987</u>
Securities lending payable	11,350,612	11,125,376	53,633,431
Other payables	<u>256,236,201</u>	<u>305,947,349</u>	<u>9,452,393</u>
<b>Total liabilities</b>	<u>267,586,813</u>	<u>317,072,725</u>	<u>63,085,824</u>
<b>Total net position</b>	<u>\$ 2,852,872,565</u>	<u>\$ 2,488,498,164</u>	<u>\$ 2,313,021,163</u>

**Changes in Fiduciary Net Position**

The table below provides a summary of the changes in plan net position and reflects the activities of the fund for the years ended December 31:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
<b>Additions:</b>			
Employer contributions	\$ 112,102,982	\$ 108,454,496	\$ 101,153,403
Member contributions	73,650,409	71,755,857	65,779,216
Net investment income and other income	<u>389,136,824</u>	<u>189,941,169</u>	<u>7,083,633</u>
<b>Total additions</b>	<u>574,890,215</u>	<u>370,151,522</u>	<u>174,016,252</u>
<b>Deductions:</b>			
Retiree benefits	179,226,526	168,967,298	159,349,807
Refunds of contributions	19,158,756	16,456,570	16,137,840
Administrative expenses	<u>12,130,532</u>	<u>9,250,653</u>	<u>8,211,137</u>
<b>Total deductions</b>	<u>210,515,814</u>	<u>194,674,521</u>	<u>183,698,784</u>
<b>Net increase (decrease)</b>	<u>\$ 364,374,401</u>	<u>\$ 175,477,001</u>	<u>\$ (9,682,532)</u>

**Revenues - Additions to Fiduciary Net Position**

- In 2017, employer contributions increased by \$3.6 million (3.4%) compared to 2016. In 2016, employer contributions increased by \$7.3 million (7.2%) compared to 2015.
- Member contributions increased by \$1.9 million (2.6%) compared to 2016. In 2016, member contributions increased by \$6.0 million (9.1%) compared to 2015.
- Net investment income was \$389.1 million in 2017 compared to \$189.9 million in 2016 and \$7.1 million in 2015.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**Years Ended December 31, 2017 and 2016**

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**Expenses - Deductions from Fiduciary Net Position**

- Retiree benefits increased in 2017 by \$10.3 million (6.1%) compared to 2016, primarily due to the increased number of members making application for retirement and a mandatory 1.5% COLA (Cost of Living Adjustment). As a comparison, retiree benefits increased \$9.6 million (6.0%) in 2016.
- Refunds of contributions increased in 2017 by \$2.7 million (16.4%) compared to amounts paid in 2016. In 2016, refunds increased by \$0.3 million (2.0%) compared to amounts paid in 2015.

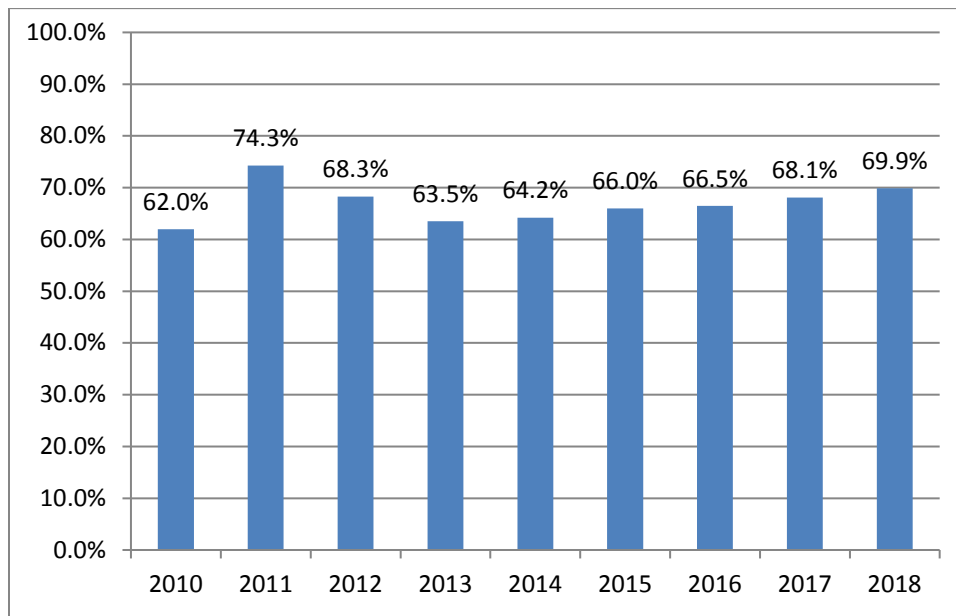
**Changes in Plan Membership**

The table below reflects the active membership and retiree changes for the years ended December 31:

	<u>2017</u>	<u>2016</u>	<u>Change</u>
Retirees and beneficiaries receiving benefits	<u>6,534</u>	<u>6,382</u>	2.4%
Current and terminated employees:			
Current employee members	9,283	9,151	1.4%
Terminated members entitled to, but not yet receiving benefits, Vested	1,312	1,257	4.4%
Terminated members not entitled to benefits beyond contributions and accumulated interest, Non-Vested	<u>1,193</u>	<u>1,095</u>	8.9%
<b>Total</b>	<u>11,788</u>	<u>11,503</u>	2.5%

Funding Status

Schedule of Funding Progress  
Funding Ratio  
As of January 1<sup>st</sup> Valuation Date



With the January 1, 2011 Valuation and the 2007-2010 Experience Study, the Board of Administration adopted a policy of asset smoothing over a 5-year period. The reported funding ratio as of January 1, 2012 reflects that change. Prior to January 1, 2011, all funding ratios were reported on a market basis.

Funds are accumulated from employer and employee contributions and investment earnings, and are used to pay present and future benefit obligations and administrative expenses. We continue to make a constant effort to achieve a fully funded status, thereby assuring the participants of a financially sound retirement system. In 2017, most active members contributed 10.03% of their salaries to the retirement fund and the City contributed 15.29%. In 2016, most active members contributed 10.03% of their salaries to the retirement fund and the City contributed 15.23%.

The graph above refers to the results of actuarial valuations prepared for funding purposes in accordance with Actuarial Standards of Practice (ASOPs). However, GASB 67 requires a separate actuarial valuation for accounting purposes. The primary purpose of the valuation for accounting purposes is to provide consistent, standardized methodology that allows comparability of amounts and increased transparency of the pension liability across U.S. pension plans complying with GASB 67. When reporting in accordance with GASB 67, the Plan Fiduciary Net Position as a Percentage of the Total Pension Liability was 72.04% as of December 31, 2017.



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**Years Ended December 31, 2017 and 2016**

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**Investment Activities**

One-year returns on asset classes (gross of fees) and comparative benchmarks are presented in the table below for the years ended December 31. These returns are calculated on a time-weighted rate of return basis:

**2017 Investment Performance**

Total Portfolio	16.0%
Bench Mark: Policy Index	15.6%
Public Equity	23.9%
Bench Mark: MSCI ACWI IMI W/US Gross	24.3%
Core Fixed Income	3.9%
Bench Mark: Bloomberg: Barclays U.S Assergate	3.5%
Credit Fixed Income	8.1%
Bench Mark: Bloomberg: Custom Credit Index	7.2%
Private Equity	9.2%
Bench Mark: Custom Private Equity Index	9.7%
Real Estate	7.7%
Bench Mark: NCREIF ODCE Index	6.7%
Diversifying Strategies	8.8%
Bench Mark: HFRI Fund of Funds Comp. Index	7.7%
Cash	0.0%
Bench Mark: Citigroup 3-Month T-Bills	0.9%

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**Years Ended December 31, 2017 and 2016**

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**2016 Investment Performance**

Total Portfolio	8.6%
Domestic Equities	13.2%
Benchmark: Russell 3000 Index (Blend)	12.7%
International Equities	5.2%
Benchmark: MSCI ACWI ex US IM/ND	4.4%
Broad Fixed Income	4.3%
Benchmark: Barclays U.S. Universal Index	3.9%
Private Equity	6.5%
Benchmark: ASP Custom Private Equity Index	0.4%
Real Estate	9.7%
Benchmark: Russell NCREIF Property Index	9.1%
Diversifying Strategies	0.0%
Benchmark: HFRI Fund of Funds Comp. Index	0.5%
Cash	0.0%
Benchmark: Citigroup 3-Month T-Bills	0.3%

The investments of the System are governed primarily by the prudent investor rule. The prudent investor rule, as set forth by the Revised Code of Washington, establishes a standard for all fiduciaries, which includes anyone who has authority with respect to the fund. The System invests retirement funds for the long-term, anticipating both good and poor performing financial markets. The overall investment portfolio is positioned in a diversified manner to maximize return given the System's risk tolerance.

**Contacting the Seattle City Employees' Retirement System**

If you have questions about this report or need additional information, please contact us by telephone at: 206.386.1293 or by e-mail at: [retirecity@seattle.gov](mailto:retirecity@seattle.gov) or you may mail your questions to:

Seattle City Employees' Retirement System  
720 Third Avenue, Suite 900  
Seattle, WA 98104

**FINANCIAL STATEMENTS**

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**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**STATEMENTS OF FIDUCIARY NET POSITION**  
**Years Ended December 31, 2017 and 2016**

	<u>2017</u>	<u>2016</u>
Assets:		
Cash	\$ 5,513,428	\$ 6,302,934
Short-term investments	<u>111,309,124</u>	<u>336,427,114</u>
Total cash and short-term investments	<u>116,822,552</u>	<u>342,730,048</u>
Receivables:		
Members	4,327,168	3,434,870
Employer	5,657,238	6,143,927
Interest and dividends	4,103,031	3,486,918
Sales proceeds receivable	<u>162,413,460</u>	<u>87,345,080</u>
Total receivables	<u>176,500,897</u>	<u>100,410,795</u>
Investments, at fair value:		
Fixed income	676,019,482	539,527,403
Equity	1,604,858,505	1,350,196,766
Real estate	304,854,074	287,996,774
Alternative investments	<u>230,044,927</u>	<u>173,578,426</u>
Total investments, at fair value	<u>2,815,776,988</u>	<u>2,351,299,369</u>
Securities lending collateral	<u>11,358,941</u>	<u>11,130,677</u>
Total assets	<u>3,120,459,378</u>	<u>2,805,570,889</u>
Liabilities:		
Pensions payable and other	3,321,750	1,370,010
Obligations under securities lending	11,350,612	11,125,376
Investment commitments payable	<u>252,914,451</u>	<u>304,577,339</u>
Total liabilities	<u>267,586,813</u>	<u>317,072,725</u>
<b>Fiduciary net position held in trust for pension benefits</b>	<u>\$ 2,852,872,565</u>	<u>\$ 2,488,498,164</u>

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

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION**  
**Years Ended December 31, 2017 and 2016**

	<u>2017</u>	<u>2016</u>
Additions:		
Contributions:		
Employer	\$ 112,102,982	\$ 108,454,496
Member	73,650,409	71,755,857
Total contributions	<u>185,753,391</u>	<u>180,210,353</u>
Investment activities:		
Investment income:		
Net change in fair value of investments	363,468,284	163,299,357
Interest	13,471,317	10,569,831
Dividends	22,509,987	24,780,531
Net investment income	<u>399,449,588</u>	<u>198,649,719</u>
Securities lending activities:		
Securities lending income	133,711	100,217
Borrowing rebates	(44,277)	165,375
Total securities lending income	89,434	265,592
Securities lending management fees	(20,135)	(66,376)
Net income from securities lending	<u>69,299</u>	<u>199,216</u>
Investment activity expenses:		
Investment management fees	(9,783,194)	(8,186,323)
Investment consultant fees	(295,000)	(295,000)
Investment custodial fees	(303,869)	(426,443)
Total investment activity expenses	<u>(10,382,063)</u>	<u>(8,907,766)</u>
Net income from investment activities	<u>389,136,824</u>	<u>189,941,169</u>
Total additions	<u>574,890,215</u>	<u>370,151,522</u>
Deductions:		
Benefits	179,226,526	168,967,298
Refunds of contributions	19,158,756	16,456,570
Administrative expenses	12,130,532	9,250,653
Total deductions	<u>210,515,814</u>	<u>194,674,521</u>
Net change	364,374,401	175,477,001
Fiduciary net position held in trust for pension benefits		
Beginning of year	<u>2,488,498,164</u>	<u>2,313,021,163</u>
<b>End of year</b>	<u>\$ 2,852,872,565</u>	<u>\$ 2,488,498,164</u>

**Note 1 - Plan Description**

The Seattle City Employees' Retirement System (the System) is a multiple employer defined benefit public employee retirement plan, covering employees of the City of Seattle and administered in accordance with Chapter 4.36 of the Seattle Municipal Code. The System is a pension trust fund of the City of Seattle.

The System is administered by the Retirement System Board of Administration (the Board). The Board consists of seven members including the Chair of the Finance Committee of the Seattle City Council, the City of Seattle Finance Director, the City of Seattle Personnel Director, two active members and one retired member of the System who are elected by other system members, and one outside board member who is appointed by the other six board members. Elected and appointed board members serve for three-year terms.

All employees of the City of Seattle are eligible for membership in the System with the exception of uniformed police and fire personnel who are covered under a retirement system administered by the State of Washington. Employees of METRO and the King County Health Department who established membership in the System when these organizations were City of Seattle departments were allowed to continue their System membership (there are currently fewer than 50 members in this category). There are currently 6,534 retirees and beneficiaries receiving benefits, and 9,283 active members of the System. There are 1,312 terminated, vested employees entitled to future benefits.

The System provides retirement, death, and disability benefits. Retirement benefits vest after five years of credited service, while death and disability benefits vest after ten years of service. Retirement benefits are calculated as 2% multiplied by years of creditable service, multiplied by average salary, based on the highest 24 consecutive months. The benefit is actuarially reduced for early retirement. The System provides post-retirement benefit increase including an automatic 1.5% annual COLA increase and a 65% restoration of purchasing power benefit.

The City of Seattle adopted a second tier for the System in 2016. Starting January 1, 2017, new eligible employees will join this second tier. The tier is a defined benefit plan much like the original tier but has a lower contribution rate for members and calculates final average salary based on the highest 60 consecutive months of service. Other changes related to the new tier can be found in the Seattle Municipal Code 4.36.

**Note 2 - Summary of Significant Accounting Policies and Plan Asset Matters**

**Basis of Accounting** - These financial statements have been prepared with an "economic resources" measurement focus on the accrual basis of accounting in accordance with generally accepted accounting principles, as prescribed by the Government Accounting Standards Board.

**Use of Estimates in Preparing Financial Statements** - The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires the System to make estimates and assumptions that affect the reported amounts of assets, liabilities, additions and deductions to net position held in trust for pension benefits and disclosure of contingent assets and liabilities at the date of the financial statements and during the reporting period. Actual results could differ from those estimates.

**Note 2 - Summary of Significant Accounting Policies and Plan Asset Matters (Continued)**

**Cash and Short Term Investments** - The System classifies cash on deposit in financial institutions and cash on deposit in the City of Seattle's internal cash management pool as cash. The System also recognizes certain short-term highly liquid securities with an original maturity of three months or less as short-term investments.

**Method Used to Value Investments** - Plan investments are reported at fair value. Fair value is defined as the amount at which an investment could be exchanged in a current arm's length transaction between willing parties in which the parties each act knowledgeably and prudently. All investments are valued based on objective, observable, unadjusted quoted market prices in an active market on the measurement date, if available. In the absence of such data, valuations are based upon those of comparable securities in active markets. For illiquid or hard to value investments such as real estate, private equity, and other private investments, valuations are based upon data provided by the respective investment managers. These private asset valuations are generally based upon estimated current values and/or independent appraisals.

Investment income consists of realized and unrealized appreciation (depreciation) in the fair value of investments, interest and dividend income earned, less investment expense, plus income from securities lending activities, less deduction for security lending expenses. Interest income is recorded on the accrual basis and dividends are recorded on the ex-dividend date. Securities and securities transactions are reflected in the financial statements on a trade-date basis. Investments are made in accordance with the Prudent Person Rule as defined by the State of Washington RCW 35.39.060.

**Federal Income Tax Status** - The System is a qualified plan under section 401(a) of the Internal Revenue Code and is exempt from federal income taxes under section 501(a).

**Contributions** - Employee and employer contributions are reported in the year they are due to the System.

**Benefits and Refunds of Contributions** - Benefits and refunds of contributions are recognized when due and payable in accordance with the System's policy.

**Note 3 - Contributions**

Member and employer contributions rates are established by the Seattle Municipal Code Chapter 4.36.

The employer contribution rate is determined by the actuarial formula identified as the Entry Age Cost Method. The formula determines the amount of contributions necessary to fund the current service cost, representing the estimated amount necessary to pay for benefits earned by the employees during the current service year and the amount of contributions necessary to pay for prior service costs. Total required contributions, including amounts necessary to pay administrative costs, are determined through annual actuarial valuations.

Actuarially determined contribution rates were 10.03% for most members in 2017 and 2016 and 15.29% and 15.23% for the employers in 2017 and 2016. There are no long-term contracts for contributions outstanding and currently no legally required reserves. See Note 9 for additional information on assumptions used in calculating the actuarially determined contribution rates.

**Note 4 - Cash**

SCERS' policy for custodial credit risk of deposits is to rely on Federal Deposit Insurance Corporation (FDIC) and Washington Public Deposit Protection Commission (PDPC) insurance. FDIC insures the cash deposits up to \$250,000. As provided by the State of Washington RCW 43.84, the PDPC collateralizes deposits in excess of \$100,000. The bank balances of deposits of a FDIC institution as of the balance sheet date are insured.

**Note 5 - Investments**

**Investment policy** - The pension plan's policy in regard to the allocation of invested assets is established and may be amended by the SCERS Board by a majority vote of its members. It is the policy of the SCERS Board to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The pension plan's investment policy discourages the use of cash equivalents, except for liquidity purposes, and aims to refrain from dramatically shifting asset class allocations over short time spans. The following was the Board's adopted asset allocation policy as of December 31, 2017:

Asset Class	Target Allocation
Equity	
Public Equity	48.0%
Private Equity	9.0%
Fixed Income	
Core Fixed Income	16.0%
Credit Fixed Income	7.0%
Real Assets	
Real Estate	12.0%
Infrastructure	3.0%
Diversifying Strategies	5.0%
<b>Total</b>	<b>100.0%</b>



**Note 5 - Investments** (Continued)

**Money-weighted rate of return** – As of December 31, 2017, the return for the System, based on a money-weighted rate of return methodology, was 16.25%. As of December 31, 2016, the return for the System, based on a money-weighted rate of return methodology, was 8.62%.

**Short Term Investments** - Short term investments include a Short-term Investment Fund (STIF), which is a collective trust that may include certificates of deposit, treasury bills, and mutual funds.

**Commingled Funds** – The System invests in various commingled funds where it has an ownership interest in a pool of securities alongside other fund holders. For those commingled funds that are anticipated to be held by the System on a long-term basis, the following tables in this Section reflect the System's pro rata net asset value in these commingled funds. The System's investments in commingled funds that are anticipated to be held on a temporary basis are not reflected in this manner.

**Custodial Credit Risk** – For investments, custodial credit risk is the risk that in the event of the failure of a financial institution or a bank, the System will not be able to recover the value of its deposits or investments that are in the possession of an outside party. The System mitigates custodial credit risk by having its investment securities held by the System's custodian (BNY Mellon) and registered in the System's name. The System's short-term investments are created through daily sweeps of excess cash by the System's custodian, and invested in a vehicle managed by the custodian.

**Credit Risk** - Credit risk is the risk that an issuer, or other counterparty, to an investment will not fulfill its obligations. The Retirement Board provides each of the System's Broad Fixed Income investment managers with a set of investment guidelines. These guidelines specify eligible investments, minimum diversification standards, and applicable investment restrictions necessary for diversification and risk control. In general, these guidelines require that at least 70 percent of the net asset value of a manager's portfolio be invested in investment-grade securities. Managers do not have authority to depart from their guidelines. A summary of the credit ratings of the System's fixed income investments is provided on pages 22 and 23.

**Concentration of Credit Risk** - Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. The Retirement Board provides each of the System's Broad Fixed Income investment managers with a set of investment guidelines. These guidelines specify eligible investments, minimum diversification standards, and applicable investment restrictions necessary for diversification and risk control. In general, these guidelines require that investments in any one issuer may not exceed 5 percent of the net asset value of a manager's portfolio. Managers do not have authority to depart from their guidelines.

**Note 5 - Investments** (Continued)

**Interest Rate Risk** - Interest rate risk is the risk that changes in interest rates over time will adversely affect the fair value of an investment. Market or interest rate risk is the greatest risk faced by an investor in the debt securities market. The price of a debt security typically moves in the opposite direction of the change in interest rates. The Retirement Board provides each of the System's Broad Fixed Income investment managers with a set of investment guidelines. These guidelines specify eligible investments, minimum diversification standards, and applicable investment restrictions necessary for diversification and risk control. In general, these guidelines require that the weighted average duration of the security holdings of a manager's portfolio not vary from that of the applicable benchmark by more than 20 percent. Managers do not have authority to depart from their guidelines. A summary of the maturities of the System's fixed income investments is provided on pages 20 and 21.

The fixed income portfolio is primarily managed by four external money management firms. Managers have agreed to a set of guidelines that provide ranges and limits for varying types of securities that may be held within the portfolio. A consultant is hired to measure performance and monitor the investment style. The Investment Committee reviews the consultant's results quarterly.

**Foreign Currency Risk** - Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The System's currency risk exposures, or exchange rate risk, primarily reside within the non-U.S. equity and fixed income investment holdings. The System expects these managers to maintain adequately diversified portfolios to limit foreign currency and security risk.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
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**Note 5 - Investments (Continued)**

The System's exposure to foreign currency risk in U.S. dollars as of December 31, 2017, is summarized in the following table.

<b>Currency Type</b>	<b>Equity</b>	<b>Fixed Income</b>	<b>Derivatives</b>	<b>Cash</b>	<b>Total</b>
Australian Dollar	\$ 3,488,650	\$ -	\$ -	\$ 71,136	\$ 3,559,786
Canadian Dollar	4,874,861	-	-	43,997	4,918,858
Swiss Franc	4,101,755	-	-	3,939	4,105,694
Danish Krone	884,851	-	-	7,655	892,506
Euro Currency Unit	16,438,125	-	-	63,395	16,501,520
Pound Sterling	8,991,644	-	-	73,802	9,065,446
Hong Kong Dollar	1,687,095	-	-	47,360	1,734,455
Israeli Shekel	107,128	-	-	4,251	111,379
Japanese Yen	12,177,697	-	-	75,859	12,253,556
Norwegian Krone	402,048	-	-	22,911	424,959
New Zealand Dollar	75,688	-	-	5,737	81,425
Polish Zloty	-	-	-	-	-
Swedish Krona	1,394,402	-	-	6,447	1,400,849
Singapore Dollar	655,546	-	-	22,687	678,233
<b>Total</b>	<b>\$ 55,279,490</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 449,176</b>	<b>\$ 55,728,666</b>

The System's exposure to foreign currency risk in U.S. dollars as of December 31, 2016, is summarized in the following table.

<b>Currency Type</b>	<b>Equity</b>	<b>Fixed Income</b>	<b>Derivatives</b>	<b>Cash</b>	<b>Total</b>
Australian Dollar	\$ 3,100,873	\$ -	\$ 33,999	\$ 22,467	\$ 3,157,339
Canadian Dollar	4,119,689	-	22,374	14,998	4,157,061
Swiss Franc	3,643,597	-	20,659	1,523	3,665,779
Danish Krone	676,323	-	12,509	2,731	691,563
Euro Currency Unit	12,804,253	-	108,622	7,921	12,920,796
Pound Sterling	7,535,544	-	69,738	60,144	7,665,426
Hong Kong Dollar	1,257,177	-	1,041	4,820	1,263,038
Israeli Shekel	86,014	-	-	1,394	87,408
Japanese Yen	9,978,529	-	28,389	44,458	10,051,376
Norwegian Krone	324,414	-	6,956	7,206	338,576
New Zealand Dollar	81,293	-	-	1,857	83,150
Polish Zloty	-	-	10,362	-	10,362
Swedish Krona	1,163,964	-	-	25,638	1,189,602
Singapore Dollar	474,219	-	1,396	12,769	488,384
<b>Total</b>	<b>\$ 45,245,889</b>	<b>\$ -</b>	<b>\$ 316,045</b>	<b>\$ 207,926</b>	<b>\$ 45,769,860</b>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
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**Note 5 - Investments (Continued)**

**Derivatives** - The derivatives used by the System typically have no greater risk than their physical counterparts and, in many cases, are offset by exposures elsewhere in the portfolio. Counterparty risk, the risk that the "other party" to a contract will default, is managed by careful screening of counterparties. Derivative securities are priced and accounted for at fair value. Foreign exchange forward contracts are valued at the price at which the transaction could be settled by offsets in the forward markets.

The System's derivative transactions as of December 31, 2017 are summarized in the following table.

Type	Unrealized Gain/Loss			Notional Value	
	Long Position	Short Position	Total	Long Position	Short Position
Futures - Fixed Income	\$ (492,713)	\$ -	\$ (492,713)	\$ 127,400,063	\$ -
Futures - Equity	-	(314,398)	(314,398)	-	(47,816,645)
Options - Fixed Income	(20,732)	10,009	(10,723)	N/M	N/M
Options - Equity	-	(141,491)	(141,491)	N/M	N/M
Options - Short-Term	9,741	5,217	14,958	N/M	N/M
Swaps - Fixed Income	437,928	133,744	571,671	109,100,000	(109,100,000)
<b>Total</b>	<u>\$ (65,776)</u>	<u>\$ (306,919)</u>	<u>\$ (372,695)</u>		

The information in the above table on 2017 derivative transactions is displayed differently than prior years. The following tables show the System's derivative transactions as of December 31, 2016 as re-stated and as originally presented.

The System's derivative transactions as of December 31, 2016 as re-stated are summarized in the following table.

Type	Unrealized Gain/Loss			Notional Value	
	Long Position	Short Position	Total	Long Position	Short Position
Futures - Fixed Income	\$ (435,875)	\$ 15,754	\$ (420,122)	\$ 124,264,125	\$ (20,996,794)
Futures - Equity	(417,997)	-	(417,997)	35,950,655	-
Options - Fixed Income	-	18,963	18,963	N/M	N/M
Options - Equity	-	133,807	133,807	N/M	N/M
Swaps - Fixed Income	301,468	185,361	486,829	151,000,000	(151,000,000)
<b>Total</b>	<u>\$ (552,404)</u>	<u>\$ 353,885</u>	<u>\$ (198,520)</u>		

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 5 - Investments (Continued)**

The System's derivative transactions as of December 31, 2016 as originally presented are summarized in the following table.

<u>Currency Type</u>	<u>Purchases</u>	<u>Unrealized Gain/Loss</u>	<u>Sells</u>	<u>Unrealized Gain/Loss</u>	<u>Total Unrealized Gain/Loss</u>
Australian Dollar	\$ -	\$ -	\$ 35,642	\$ (1,642)	(1,642)
Canadian Dollar	-	-	22,589	(215)	(215)
Swiss Franc	-	-	21,803	(1,144)	(1,144)
Danish Krone	-	-	14,763	(2,253)	(2,253)
Euro Currency Unit	-	-	132,167	(23,542)	(23,542)
Pound Sterling	-	-	71,738	(1,999)	(1,999)
Hong Kong Dollar	-	-	1,040	-	-
Japanese Yen	-	-	29,993	(1,604)	(1,604)
Norwegian Krone	-	-	11,712	(4,756)	(4,756)
Polish Zloty	-	-	11,695	(1,333)	(1,333)
Singapore Dollar	-	-	1,393	2	2
<b>Total</b>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 354,535</u>	<u>\$ (38,486)</u>	<u>\$ (38,486)</u>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 5 - Investments (Continued)**

As of December 31, 2017, the fixed income portfolio of the System had the following investment maturities:

Investment	Fair Value	Investment Maturities (in years)				N/A *
		<1	1 - 5	6 - 10	>10	
Fixed income						
Agencies	\$ 1,935,869	\$ -	\$ 1,935,869	\$ -	\$ -	\$ -
Asset Backed Security	39,887,331	-	18,893,763	19,457,546	1,536,022	-
Commingled Funds	-	-	-	-	-	-
Corporate Debt	307,815,002	21,001,662	101,627,601	156,467,927	28,717,812	-
Derivatives	1,800,232	(260,595)	2,109,003	(48,176)	-	-
Foreign Sovereign	29,142,160	330,819	7,055,414	13,455,666	8,300,261	-
Mortgage Backed Security	180,601,625	-	202,608	9,472,854	170,926,163	-
Municipal	4,621,829	88,845	-	707,798	3,825,186	-
Treasury Notes and Bonds	110,215,434	1,773,712	45,569,401	32,453,854	30,418,467	-
<b>Total Fixed Income</b>	<u>676,019,482</u>	<u>\$ 22,934,443</u>	<u>\$ 177,393,659</u>	<u>\$ 231,967,469</u>	<u>\$ 243,723,911</u>	<u>\$ -</u>

*\*Note - Amounts primarily relate to commingled funds and therefore a weighted average was not available.*

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 5 - Investments (Continued)**

As of December 31, 2016, the fixed income portfolio of the System had the following investment maturities:

Investment	Fair Value	Investment Maturities (in years)				N/A *
		<1	1 - 5	6 - 10	>10	
Fixed income						
Agencies	\$ 3,384,578	\$ -	\$ 1,951,858	\$ 1,432,720	\$ -	\$ -
Asset Backed Security	18,417,402	-	8,988,044	8,981,776	447,582	-
Commingled Funds	35,149,819	-	-	-	-	35,149,819
Corporate Debt	236,226,048	1,620,730	52,011,703	146,404,165	29,676,020	6,513,430
Derivatives	1,761,087	(30,617)	1,991,620	-	(199,916)	-
Foreign Sovereign	1,503,600	-	-	1,503,600	-	-
Mortgage Backed Security	176,024,872	-	-	4,540,822	171,484,050	-
Municipal	5,443,906	-	196,728	1,187,943	4,059,235	-
Treasury Notes and Bonds	61,616,091	8,821,496	18,628,819	22,791,357	11,374,419	-
<b>Total Fixed Income</b>	<u>539,527,403</u>	<u>\$ 10,411,609</u>	<u>\$ 83,768,772</u>	<u>\$ 186,842,383</u>	<u>\$ 216,841,390</u>	<u>\$ 41,663,249</u>

\* Note - Amounts primarily relate to commingled funds and therefore a weighted average was not available.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 5 - Investments (Continued)**

As of December 31, 2017, the fixed income portfolio of the System had the following investment ratings:

Investment	Fair Value	Ratings							
		AAA	AA	A	BBB	BB	B	CCC& Below	Not Rated
Fixed income									
Agencies	\$ 1,935,869	\$ -	\$ 1,935,623	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 246
Asset Backed Security	39,887,330	31,743,697	1,338,259	-	-	-	-	412,693	6,392,681
Commingled Funds	-	-	-	-	-	-	-	-	-
Corporate Debt	307,815,003	873,215	11,022,428	45,897,058	105,048,362	53,883,265	55,828,019	14,203,669	21,058,987
Derivatives	1,800,232	-	-	-	-	-	-	-	1,800,232
Foreign Sovereign	29,142,160	-	-	2,295,639	7,041,800	7,541,209	5,595,255	857,307	5,810,950
Mortgage Backed Security	180,601,625	1,816,758	80,026,060	496,503	515,467	-	-	-	97,746,837
Municipal	4,621,829	1,185,003	732,903	1,930,283	773,640	-	-	-	-
Treasury Notes and Bonds	110,215,434	-	110,215,434	-	-	-	-	-	-
<b>Total Fixed Income</b>	<b>\$ 676,019,482</b>	<b>\$ 35,618,673</b>	<b>\$ 205,270,707</b>	<b>\$ 50,619,483</b>	<b>\$ 113,379,269</b>	<b>\$ 61,424,474</b>	<b>\$ 61,423,274</b>	<b>\$ 15,473,669</b>	<b>\$ 132,809,933</b>



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 5 - Investments (Continued)**

As of December 31, 2016, the fixed income portfolio of the System had the following investment ratings:

Investment	Fair Value	Ratings							
		AAA	AA	A	BBB	BB	B	CCC& Below	Not Rated
Fixed income									
Agencies	\$ 3,384,578	\$ -	\$ 3,382,492	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,086
Asset Backed Security	18,417,402	13,720,413	315,854	-	-	-	-	447,582	3,933,553
Commingled Funds	35,149,819	-	-	-	-	-	-	-	35,149,819
Corporate Debt	236,226,048	1,283,302	5,897,549	28,201,323	76,234,613	44,649,385	43,049,133	4,668,682	32,242,061
Derivatives	1,761,087	-	-	-	-	-	-	-	1,761,087
Foreign Sovereign	1,503,600	-	-	-	1,503,600	-	-	-	-
Mortgage Backed Security	176,024,872	1,959,137	66,487,270	1,010,059	848,978	-	-	-	105,719,429
Municipal	5,443,906	1,695,605	1,230,246	2,518,054	-	-	-	-	-
Treasury Notes and Bonds	61,616,091	-	61,616,091	-	-	-	-	-	-
<b>Total Fixed Income</b>	<b>\$ 539,527,403</b>	<b>\$ 18,658,457</b>	<b>\$ 138,929,502</b>	<b>\$ 31,729,436</b>	<b>\$ 78,587,191</b>	<b>\$ 44,649,385</b>	<b>\$ 43,049,133</b>	<b>\$ 5,116,264</b>	<b>\$ 178,808,035</b>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 6 - Fair Value Measurements**

Fair value measurements are categorized within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset:

- Level 1: unadjusted quoted prices for identical instruments in active markets
- Level 2: quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable
- Level 3: significant inputs are unobservable

The following schedule<sup>1</sup> presents investments categorized according to the fair value hierarchy, and is proceeded with additional information regarding investments measured at the net asset value as of December 31, 2017:

Investments by fair value level	12/31/2017	Fair Value Measurements Using		
		Quoted Prices in Active Markets Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Equity Securities	\$ 745,311,784	\$ 745,767,811	\$ (471,890)	\$ 15,863
Fixed Income Securities	503,457,043	109,722,722	393,734,321	-
<b>Total investments by fair value level</b>	<b>1,248,768,827</b>	<b>855,490,533</b>	<b>393,262,431</b>	<b>15,863</b>
<b>Fund Investments measured at the net asset value (NAV)</b>				
Equity	868,952,952			
Fixed Income	176,523,956			
Real Estate	304,828,502			
Alternative Investments	230,044,927			
<b>Total investments measured at the NAV</b>	<b>1,580,350,337</b>			
<b>Less total fund investments identifiable as short-term investments</b>	<b>\$ 13,342,176</b>			
<b>Total investments</b>	<b>\$ 2,815,776,988</b>			

**Fund Investments Measured at the NAV**

	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Alternative Investments	230,044,927	217,378,224	Monthly, N/A	75 Days, N/A
Equity	868,952,952	-	Daily, Monthly	1 - 30 Days
Fixed Income	176,523,956	-	Monthly	5 - 30 Days
Real Estate	304,828,502	61,905,884	Quarterly, N/A	45 Days, N/A
<b>Total investments measured at the NAV</b>	<b>1,580,350,337</b>	<b>279,284,108</b>		

<sup>1</sup> Fund investments may consist of underlying securities that are not exclusively in the fund-defined asset class. In other schedules, those securities are categorized based on the asset class of the underlying security rather than the fund.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

**Note 6 - Fair Value Measurements (Continued)**

The following schedule presents investments categorized according to the fair value hierarchy, and is proceeded with additional information regarding investments measured at the net asset value as of December 31, 2016:

Investments by fair value level	12/31/2016	Fair Value Measurements Using		
		Quoted Prices in Active Markets Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Equity	\$ 639,807,625	\$ 636,258,397	\$ 3,533,147	\$ 16,081
Fixed Income	413,737,686	96,765,911	316,971,775	-
<b>Total investments by fair value level</b>	<b>1,053,545,311</b>	<b>733,024,308</b>	<b>320,504,922</b>	<b>16,081</b>
<b>Investments measured at the net asset value (NAV)</b>				
Equity	710,389,141			
Fixed Income	125,789,717			
Real Estate	287,996,774			
Alternative Investments	173,578,426			
<b>Total investments measured at the NAV</b>	<b>1,297,754,058</b>			
<b>Total investments</b>	<b>\$ 2,351,299,369</b>			

Investment	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Equity	\$ 710,389,141	\$ -	Daily, Monthly	1 - 30 Days
Fixed Income	125,789,717	-	Monthly	30 Days
Real Estate	287,996,774	9,444,262	N/A	N/A
Alternative Investments	173,578,426	242,114,969	N/A	N/A
<b>Total investments measured at the NAV</b>	<b>1,297,754,058</b>	<b>251,559,231</b>		

Alternative Investments – These investments are structured as limited partnerships or limited liability companies. Strategies include private equity, private credit, infrastructure and diversifying strategies. These investments include those with a perpetual life and the ability to redeem as well as investments with an approximate life of 10 years where redemptions are restricted. There are no plans to liquidate the total portfolio.

Equity – These investments are structured as mutual funds, trusts, limited partnerships or limited liability companies. The funds have a perpetual life. Redemption frequencies range from daily to monthly. There are no plans to liquidate the portfolio.

Fixed Income – These investments are structured as limited partnerships. The funds have a perpetual life. The redemption frequency is monthly. There are no plans to liquidate the portfolio.

**Note 6 - Fair Value Measurements (Continued)**

Real Estate – These investments are structured as trusts, limited partnerships or limited liability companies. These investments include those with a perpetual life and the ability to redeem as well as investments with an approximate life of 10 years where redemptions are restricted. There are no plans to liquidate the total portfolio.

**Note 7 - Securities Lending Transactions**

Under the authority of State of Washington RCW 41.28.005 and the Seattle Municipal Code 4.36.130, the System's Board of Administration adopted investment policies that define eligible investments, which include securities lending transactions. Through a custodial agent, the System participates in a securities lending program whereby securities are lent for the purpose of generating additional income to the System. The System lends securities from its investment portfolio on a collateralized basis to third parties, primarily financial institutions. The market value of the required collateral must meet or exceed 102% of the market value of the securities lent, providing a margin against a decline in the market value of the collateral, and is limited to a volume of less than \$75 million. The contractual agreement with the System's custodian provides indemnification in the event the borrower fails to return the securities lent or fails to pay the System income it is due on the securities lent. Cash and U.S. government securities were received as collateral for these loans. The System invests cash collateral received; accordingly, investments made with cash collateral appear as an asset. A corresponding liability is recorded as the System must return the cash collateral to the borrower upon the expiration of the loan. Gross income from securities lending transactions are recorded in the operating statements as well as the various fees paid to the institution that oversees the lending activity.

As of December 31, 2017, the fair value of securities on loan was \$11,028,844. Associated cash collateral totaling \$11,350,612 was received. The fair market value of the reinvested collateral was \$11,358,941 at December 31, 2017, which includes an unrealized gain totaling \$8,329.

As of December 31, 2016, the fair value of securities on loan was \$10,791,203. Associated cash collateral totaling \$11,125,376 was received. The fair market value of the reinvested collateral was \$11,130,677 at December 31, 2016, which includes an unrealized loss totaling \$5,301.

**Note 8 - Commitments**

The System has entered into capital commitments to fund partnership interests in certain alternative investments. At December 31, 2017, the System has unfunded commitments of \$279,284,108 to these partnerships.

**Note 9 - Net Pension Liability**

The components of the net pension liability as of December 31, 2017 were as follows:

Total Pension Liability	\$3,960,042,655
Plan Fiduciary Net Position	<u>2,852,872,565</u>
Net Pension Liability	<u>\$1,107,170,090</u>

Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	72.04%
--	--------

**Actuarial assumptions**

The total pension liability was determined by an actuarial valuation as of December 31, 2016, using the following actuarial assumptions, applied to all periods including the measurement period:

Investment Rate of Return:	7.50% compounded annually, net of expenses
Salary Increases:	4.00%
Inflation:	3.25%
Actuarial Cost Method:	Individual Entry Age Normal

\* The actuarial assumptions used in the January 1, 2016 valuation, and the mortality tables included in Appendix A of the valuation, were based on the results of an actuarial experience study for the period January 1, 2010 through December 31, 2013.

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

Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2017 (see discussion of pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Equity	
Public Equity	4.94%
Private Equity	6.25%
Fixed Income	
Core Fixed Income	0.42%
Credit Fixed Income	3.30%
Real Assets	
Real Estate	3.66%
Infrastructure	3.00%
Diversifying Strategies	3.09%

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2017 and 2016**

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**Note 9 - Net Pension Liability** (Continued)

The above table reflects the expected (30 year) real rate of return for each major asset class. The expected inflation rate is projected at 3.25% for the same time period.

Discount Rate. The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and the participating governmental entity contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods on projected benefit payment to determine the total pension liability.

Sensitivity of the net pension liability. The following presents the net pension liability of the System, calculated using the discount rate of 7.50%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

<b>1%</b> <b>Decrease</b> <b>(6.50%)</b>	<b>Current</b> <b>Discount</b> <b>Rate (7.50%)</b>	<b>1%</b> <b>Increase</b> <b>(8.50%)</b>
\$1,586,836,840	\$1,107,170,090	\$703,684,341

**REQUIRED SUPPLEMENTARY INFORMATION**

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**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**

	<u>December 31, 2017</u>	<u>December 31, 2016</u>	<u>December 31, 2015</u>	<u>December 31, 2014</u>
<b>Total pension liability</b>				
Service Cost	\$ 112,691,379	\$ 106,450,550	\$ 100,415,811	\$ 94,017,562
Interest	281,360,916	268,005,035	254,539,867	241,885,785
Benefit changes	-	-	-	-
Difference between expected and actual experience	(29,175,591)	(7,653,756)	1,983,005	-
Changes of assumptions	-	-	-	-
Benefits payments	(179,226,526)	(168,967,298)	(159,349,807)	(150,239,208)
Refunds of contributions	(19,158,756)	(16,456,570)	(16,137,840)	(15,103,615)
Net change in total pension liability	166,491,422	181,377,961	181,451,036	170,560,524
<b>Total pension liability - beginning</b>	<u>3,793,551,233</u>	<u>3,612,173,272</u>	<u>3,430,722,236</u>	<u>3,260,161,712</u>
<b>Total pension liability - ending (a)</b>	<u>3,960,042,655</u>	<u>3,793,551,233</u>	<u>3,612,173,272</u>	<u>3,430,722,236</u>
<b>Plan net position</b>				
Contributions - employer	112,102,982	108,454,496	101,153,403	89,988,898
Contributions - member	73,650,409	71,755,857	65,779,216	63,969,504
Net investment income	389,136,824	189,941,169	7,083,633	122,510,395
Benefits payments	(179,226,526)	(168,967,298)	(159,349,807)	(150,239,208)
Administrative expense	(12,130,532)	(9,250,653)	(8,211,137)	(5,330,764)
Refunds of contributions	(19,158,756)	(16,456,570)	(16,137,840)	(15,103,615)
Net change in plan net position	364,374,401	175,477,001	(9,682,532)	105,795,210
<b>Plan net position - beginning</b>	<u>2,488,498,164</u>	<u>2,313,021,163</u>	<u>2,322,703,695</u>	<u>2,216,908,485</u>
<b>Plan net position - ending (b)</b>	<u>2,852,872,565</u>	<u>2,488,498,164</u>	<u>2,313,021,163</u>	<u>2,322,703,695</u>
<b>Net pension liability - ending (a) - (b)</b>	<u>\$ 1,107,170,090</u>	<u>\$ 1,305,053,069</u>	<u>\$ 1,299,152,109</u>	<u>\$ 1,108,018,541</u>
<b>Ratio of plan net position to total pension liability -- (b) / (a)</b>	72.04%	65.60%	64.03%	67.70%
<b>Covered employee payroll</b>	\$ 733,300,000	\$ 708,600,000	\$ 641,700,000	\$ 630,900,000
<b>Net pension liability as a percentage of covered-employee payroll</b>	150.98%	184.17%	202.45%	175.63%

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



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
Amounts Presented in Millions

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$112.1	\$107.9	\$100.9	\$90.3	\$77.1	\$62.5	\$72.3	\$93.9	\$46.9	\$46.2
Actual employer contributions	112.1	108.5	101.2	90.0	77.1	62.5	50.3	45.2	46.7	46.0
Annual contribution deficiency (excess)	0.0	(0.6)	(0.3)	0.3	0.0	0.0	22.0	48.7	0.2	0.2
Covered-employee payroll	733.3	708.6	641.7	630.9	597.9	567.8	557.0	563.2	580.9	572.4
Actual contributions as a percentage of covered-employee payroll	15.29%	15.31%	15.77%	14.27%	12.90%	11.01%	9.03%	8.03%	8.04%	8.04%

**Notes to Schedule:**

Valuation Date: Actuarially determined contribution rates are calculated as of January 1, one year prior to the fiscal year in which the contributions will apply.

Methods and Assumptions used to determine contribution rates for fiscal year 2017 are:

Actuarial cost method	Individual Entry Age Normal
Amortization method	Level percent
Remaining amortization period	Closed 30 years as of January 1, 2013 Valuation
Asset valuation method	5 years smoothed, Non-asymptotic
Inflation	3.25%
Salary increases	4.00%, differs slightly from actuarial valuation due to exclusion of 0.50% active membership growth assumption for GASB calculations.
Investment rate of return	7.50%, net of pension plan investment expense, and gross of administrative expenses
Cost of Living Adjustments	As noted in the January 1, 2014 actuarial valuation.

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
SCHEDULE OF INVESTMENT RETURNS

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	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total Portfolio	16.25%	8.62%	0.28%	5.67%

Note: These returns are calculated on a money-weighted rate of return basis. The schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

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**ADDITIONAL INFORMATION**

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF ADMINISTRATIVE EXPENSES**  
**Years Ended December 31, 2017 and 2016**

	Budget	Actual Expense	
	<u>2017</u>	<u>2017</u>	<u>2016</u>
Personnel Services			
Salaries	\$ 2,757,021	\$ 3,283,743	\$ 2,849,584
Benefits	<u>881,281</u>	<u>1,105,121</u>	<u>914,188</u>
Total Personnel Services	<u>3,638,302</u>	<u>4,388,864</u>	<u>3,763,772</u>
Maintenance and Operations			
Professional Services	3,658,526	5,031,855	3,226,834
Office rent	225,455	477,384	341,023
Data processing and central costs	2,187,354	1,847,283	1,467,775
Office supplies and other expenses	284,294	255,782	325,214
Postage and telephone	59,047	49,022	44,915
Travel	68,295	69,065	65,576
Training	<u>19,618</u>	<u>11,277</u>	<u>15,544</u>
Total Maintenance and Operations	<u>6,502,589</u>	<u>7,741,668</u>	<u>5,486,881</u>
<b>Total Administrative Expenses</b>	<u><u>\$ 10,140,891</u></u>	<u><u>\$ 12,130,532</u></u>	<u><u>\$ 9,250,653</u></u>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF INVESTMENT EXPENSES**  
**Year Ended December 31, 2017**

<b>Investment Management Fees:</b>	
Adams Street	\$ 810,110
AEW Core Property Trust	657,510
AQR Multistrat	435,446
Ares	274,361
Ashmore	252,832
Babson Tower Square	17,662
Bison Capital Equity Partners	10,681
BlackRock	272,939
Bluebay	208,410
Brookfield	406,367
Capital Point Partners	43,153
Carlyle Realty	52,049
City of London	77,882
DFA International	629,261
Dover Street	127,242
Global Infrastructure	219,414
Heitman American	602,479
JP Morgan	1,984,449
Oaktree	13,105
Parametric Delta Shift	401,034
PCCP	35,575
PIMCO	950,666
Pugh	253,108
RhumbLine	111,566
Russell	195,121
Stonepeak	85,853
TA Realty Associates	93,956
TCW Crescent	5,995
Cash	<u>68</u>
<b>Total Investment Management Fees</b>	<b><u>9,228,294</u></b>
True-Up of Prior Year Investment Fees	554,900
<b>Performance Measurement:</b>	
NEPC LLC	295,000
<b>Custodial Services:</b>	
Bank of New York Mellon	<u>303,869</u>
<b>Total Investment Expenses</b>	<b><u>10,382,063</u></b>
<b>Securities Lending Services:</b>	
Bank of New York Mellon	20,135

# ACTUARIAL

## **Actuarial Valuation**





# Seattle City Employees' Retirement System

January 1, 2018 Actuarial Valuation

Prepared by:

**Nick J. Collier**, ASA, EA, MAAA  
Consulting Actuary

**Daniel R. Wade**, FSA, EA, MAAA  
Consulting Actuary

**Julie D. Smith**, FSA, EA, MAAA  
Consulting Actuary

Milliman, Inc.  
1301 Fifth Avenue, Suite 3800  
Seattle, WA 98101-2605  
Tel +1 206 624 7940  
milliman.com





August 2, 2018

Retirement Board  
Seattle City Employees' Retirement System  
720 Third Avenue, Suite 900  
Seattle, WA 98104

Dear Members of the Board:

As requested, we have prepared an actuarial valuation of the Seattle City Employees' Retirement System (SCERS) as of January 1, 2018. This report reflects the benefit provisions and calculated contribution rates in effect as of January 1, 2018.

#### **Actuarial Certification**

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by SCERS staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations), and which, in combination, offer a reasonable estimate of anticipated experience affecting the System. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the Plan and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the System.

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Retirement Board has the final decision regarding the appropriateness of the assumptions.

The Retirement Board elected to use the same assumptions for this valuation as were used in the January 1, 2017 funding valuation. These assumptions are disclosed in Appendix A. New assumptions were adopted at the July Board meeting for use in January 1, 2019 funding valuation. These new assumptions are disclosed in our 2014-2017 Investigation of Experience report, with the exception that an alternative set of economic assumptions was adopted as follows:

Economic Assumptions	Assumptions used in Funding Valuation	
	1/1/2018	1/1/2019
Investment Return Assumption <sup>(1)</sup>	7.50%	7.25%
Consumer Price Inflation	3.25%	2.75%
Real Wage Inflation	0.75%	0.75%
Wage Growth ( <i>price inflation plus wage inflation</i> )	4.00%	3.50%
Active Membership Growth	0.50%	0.50%
Payroll Growth ( <i>wage &amp; membership growth</i> )	4.52%	4.02%
Interest on Post-2011 Contributions	4.75%	4.00%

1. Net of investment expenses.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for SCERS. Actuarial computations presented for financial reporting in a separate report under GASB Statements No. 67 and 68 are for purposes of assisting SCERS and participating employers in fulfilling their financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of SCERS' funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of SCERS. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

- a) SCERS may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.
- b) SCERS may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the City of Seattle. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report, along with the information contained in the Comprehensive Annual Financial Report, is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We would like to express appreciation to the system staff, including Mr. Jeff Davis and Ms. Paige Alderete, who gave substantial assistance in supplying the data on which this report is based.

Respectfully submitted,



Nick J. Collier, ASA, EA, MAAA  
Consulting Actuary



Daniel R. Wade, FSA, EA, MAAA  
Consulting Actuary



Julie D. Smith, FSA, EA, MAAA  
Consulting Actuary

NJC/DRW/JDS/nlo

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## Section 1 Summary of the Findings



### Overview

	January 1, 2018	January 1, 2017
<b>Total Actuarial Contribution Rate</b>	24.40%	25.00%
<b>Employer Actuarial Contribution Rate</b>	14.55%	14.97%
<b>Funding Ratio</b>	69.9%	68.1%

We are pleased to present the results of the January 1, 2018 actuarial valuation. This valuation determines the minimum actuarially required employer contribution rate (referred to as the employer actuarial contribution rate) payable beginning January 1, 2019 based on the Board's funding policy. Several key points of the valuation are summarized as follows:

- **Investment Returns:** For the year ending December 31, 2017, the SCERS assets returned around 15.8% on a market value basis (net of investment expenses) and 8.5% on an actuarial value basis. These rates of return were greater than the assumed rate. From January 1, 2017 to December 31, 2017, the SCERS assets were assumed to earn 7.50%. The result is an actuarial gain on assets for the 2017 year. Note that only one-fifth of this gain will be recognized in the current year Actuarial Value of Assets (AVA), due to the asset smoothing method; see Section 3 of this report for details.
- **Employer Contribution Rate:** The employer actuarial contribution rate has decreased from the prior valuation, from 14.97% to 14.55% of payroll. New assumptions will be used in the January 1, 2019 funding valuation that will increase the employer actuarial contribution rate for the City. Our understanding is that the employer is currently contributing at a rate greater than the minimum 14.97% for 2018. We suggest consideration be given to maintaining or increasing the employer contribution rate to reduce the magnitude of the projected increase in the next valuation.
- **Funding Progress:** On the basis of the January 1, 2017 actuarial valuation, the Funding Ratio (which is measured as the AVA divided by the Actuarial Accrued liability) was 68.1%. Based on the January 1, 2018 valuation, the Funding Ratio has increased to 69.9%. The most significant factors causing this increase were the greater than expected investment return and the amortization payment made by the City during the prior year. Note that these Funding Ratios are calculated using the AVA; Funding Ratio results based on the Market Value of Assets (MVA) are shown in Table 1 at the end of this section.
- **Funding Policy:** In August 2013, the Seattle City Council passed a resolution to formally close the period over which any SCERS UAAL will be amortized. This resolution stipulated that the 30-year amortization period would be closed as of the January 1, 2013 actuarial valuation. The result is that, for purposes of the January 1, 2018 valuation calculation, a 25-year remaining closed period is in effect.

**Overview  
(continued)**

- **New Assumptions Deferred:** The Board adopted new assumptions at its July 2018 Board meeting to be used for the January 1, 2019 funding valuation. For this valuation, which determines the employer actuarial contribution rate to be paid for 2019, the assumptions used in the prior valuation are used. If the new assumptions had been used for this valuation, the employer contribution would have been 0.93% of pay higher (15.48% compared to 14.55%) and the Funding Ratio would have been 1.7% lower (68.2% compared to 69.9%) than reported in this valuation.
- **SCERS Plan 2:** This valuation reflects Plan 2 members, those who first entered SCERS on January 1, 2017 and later. Plan 2 members have a lower contribution rate and level of benefits which resulted in a modest decrease in the overall normal cost rate of SCERS.

**Employer Actuarial  
Contribution Rate**

Based on the actuarial valuation of the benefits in effect under the SCERS as of January 1, 2018, the total actuarially required contribution rate decreased from 25.00% to 24.40% for the year beginning January 1, 2019.

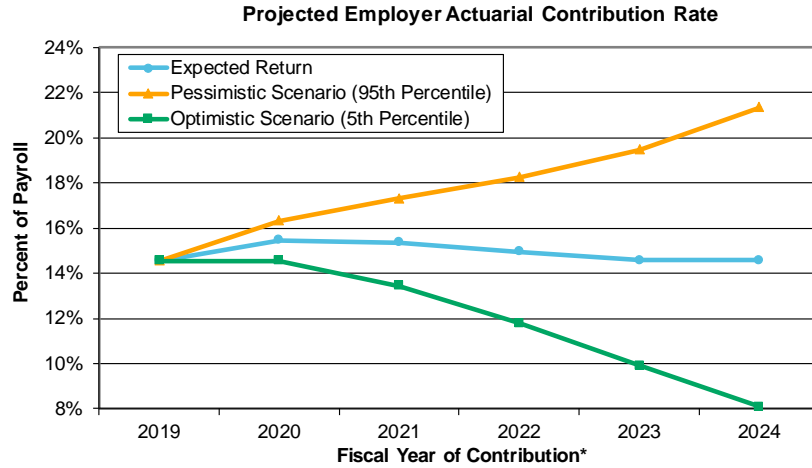
The current contribution rates for the death benefit program are projected to be sufficient to finance the \$2,000 death benefit.

Based on the average member contribution rate of 9.85% (a blend of the 10.03% for Plan 1 members and 7.00% for Plan 2 members), the employer actuarial contribution rate may be decreased from 14.97% to 14.55% effective January 1, 2019. This reflects the City's commitment to fund at least the actuarially determined contribution rate, which is based on a 25-year amortization of the UAAL beginning January 1, 2018. A greater City contribution rate would result in a shorter projected amortization of the UAAL, if all actuarial assumptions are met. It would also reduce the magnitude of the projected increase in the next valuation.

We have performed a five-year projection of the employer actuarial contribution rates if a 7.25% return (the new return assumption adopted by the Board for the January 1, 2019 funding valuation) was earned on the Market Value of Assets in each future year (and assuming that no other actuarial gains or losses occur and there are no other changes to assumptions or benefit provisions). This projection shows the expected impact of the reflecting the new assumptions (an increase) and recognizing the currently deferred asset gains and losses over time (a decrease).

**Employer Actuarial Contribution Rate (continued)**

It is likely that the Market Value of Assets will not return an annual average of exactly 7.25% over all future years. To show the potential impact of volatility in asset returns on the employer actuarial contribution rate, we have performed a projection of the contribution rates at the 5<sup>th</sup> and 95<sup>th</sup> percentile expected returns (thereby yielding a 90% asset-return-based confidence interval for the specified rates). These projections are shown in the graph and table below.



**Projected Actuarial Required City Contribution Rate**

Contribution Year <sup>(1)</sup>	Assuming 7.25% Future Returns <sup>(2)</sup>	90% Asset Return Confidence Interval
2019	14.55%	14.55% - 14.55%
2020	15.46%	14.56% - 16.34%
2021	15.37%	13.45% - 17.31%
2022	14.97%	11.79% - 18.24%
2023	14.58%	9.90% - 19.46%
2024	14.58%	8.10% - 21.34%

1. Contribution year lags valuation year by one year. For example: Contribution Year 2019 is based on the 2018 valuation results, amortized over 25 years beginning in 2018, if the increase takes place in 2019.
2. Projections reflect new assumptions adopted by the Board in the 2020 contribution year.

**Compounded Average Return for Period**

	Percentile	
	95th	5th
1-Year Period	-12.3%	27.2%
2-Year Period	-7.4%	20.5%
3-Year Period	-5.1%	17.6%
4-Year Period	-3.7%	15.9%
5-Year Period	-2.8%	14.8%



**Employer Actuarial Contribution Rate (continued)**

The 90% confidence interval results are based on the 5<sup>th</sup> and 95<sup>th</sup> percentile compounded returns for one-, two-, three-, four- and five-year periods. Since actuarial assets are used to calculate contribution rates, deferred gains or losses would continue to decrease or increase the actuarially required employer contribution rate after these dates.

See Section 8 of this report for a detailed discussion of the projected contribution rates.

**Funding Valuation**

This report provides information relevant to the funding of SCERS. Information for financial reporting purposes will be provided in a separate GASB 67 and 68 Disclosure report.

**Funding Progress**

On the basis of the January 1, 2017 actuarial valuation, the Funding Ratio was 68.1%. Based on the January 1, 2018 valuation, the Funding Ratio is 69.9%. The increase in the Funding Ratio is due mainly to investment return and the UAAL payment made by the City in 2017. See Section 3 of this report for a full discussion.

Details are in the table below.

**Analysis of Change**

The table shows the sources of change in the actuarial contribution rate and the funding ratio between the prior and current actuarial valuations.

Sources of Change	Employer Actuarial Contrib. Rate	Funding Ratio
<b>January 1, 2017 Actuarial Valuation</b>	<b>14.97 %</b>	<b>68.1 %</b>
Expected Valuation-to-Valuation Change	-	0.9 %
Asset Gain/Loss on Actuarial Value	(0.18)%	0.6 %
Salary/Membership Growth Different Than Expected	(0.07)%	0.1 %
Demographic Experience	(0.08)%	0.2 %
Lower Normal Cost Rate for Plan 2 Members	(0.04)%	-
Changes in Assumptions	-	-
Other	(0.05)%	-
<b>Total Change</b>	<b>(0.42)%</b>	<b>1.8 %</b>
<b>January 1, 2018 Actuarial Valuation</b>	<b>14.55 %</b>	<b>69.9 %</b>

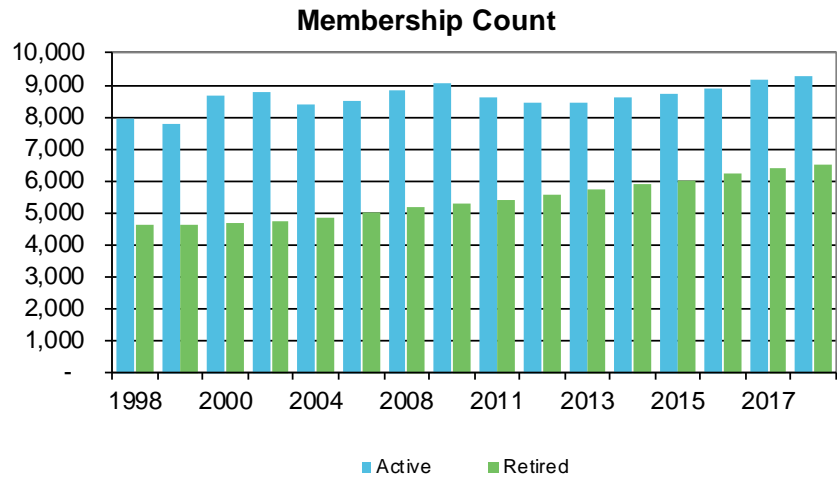
**Contingent COLA Benefits**

The Seattle Municipal Code allows for an increase in the cost-of-living adjustment (COLA) available to current and future retired members. Currently, the Floor COLA (also referred to as a Restoration of Purchasing Power COLA) is at the 65% level. The enhanced COLA benefit (70% Floor COLA) does not become effective until the System attains at least a 100% funding level.

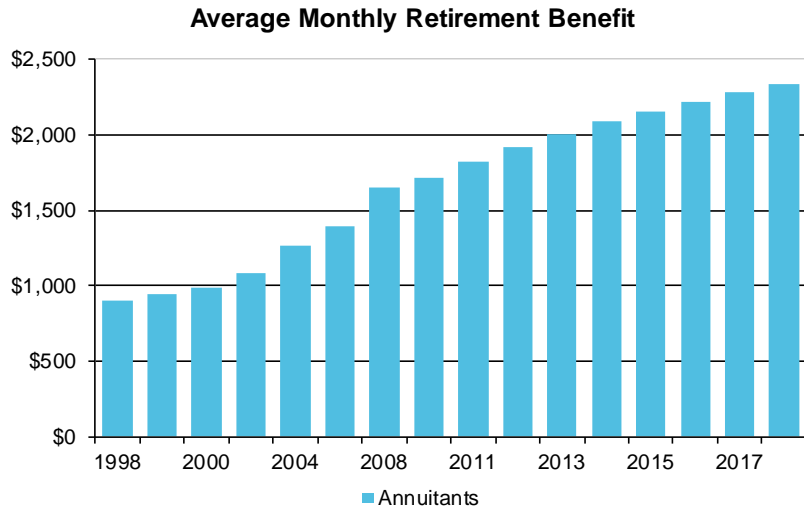
Since it is unknown when this benefit will become effective, especially given the current funded status of the System, we have not included the valuation of these potential benefit changes (i.e., the increase in the ROPP COLA to the 70% level) in this valuation. See Appendix A of this report for further details.

**Membership Information**

Total valuation payroll has increased by 4.9% since the 2017 valuation, and active membership has increased by 1.5% during this same period. As of January 1, 2018, the annualized payroll is \$761 million for 9,284 active members.



Retired member counts and average retirement benefit amounts continue to increase steadily. As of January 1, 2018, there were 6,534 retired members and beneficiaries with an average benefit of \$2,332 per month. This represents a 2.4% increase in count and a 2.0% increase in average benefit amount.



## Analysis of Change in Member Population

The following table summarizes the year-to-year change in member population.

	Actives	Deferred Members <sup>(1)</sup>	Retirees/ Beneficiaries
<b>January 1, 2017 Valuation</b>	9,151	2,352	6,382
Termination with Refund / Death	(132)	(86)	(261)
Termination without Refund	(288)	288	-
Service Retirement	(300)	(45)	345
Disability Retirement	(1)	(1)	2
Rehires	38	(38)	-
New Entrants / Beneficiaries	816	32	66
Data Corrections	-	-	-
<b>January 1, 2018 Valuation</b>	9,284	2,502	6,534

1. Counts include non-vested terminated members whose contributions are still on deposit with SCERS as of valuation date.

## Summary Exhibit

A summary of the key results of this valuation, along with a comparison to the January 1, 2017 valuation, is shown in Table 1.

Note that the valuation measures are based on the Actuarial Value of Assets, which recognizes asset gains and losses over a five-year period; however, we have also shown key measures using the Market Value of Assets.

Graphs 1 and 2 and the associated data table show historical asset and liability information, including the Present Value of Future Benefits (PVFB) and Present Value of Future Normal Costs (PVFNC), at previous valuation dates.

## Seattle City Employees' Retirement System Actuarial Valuation

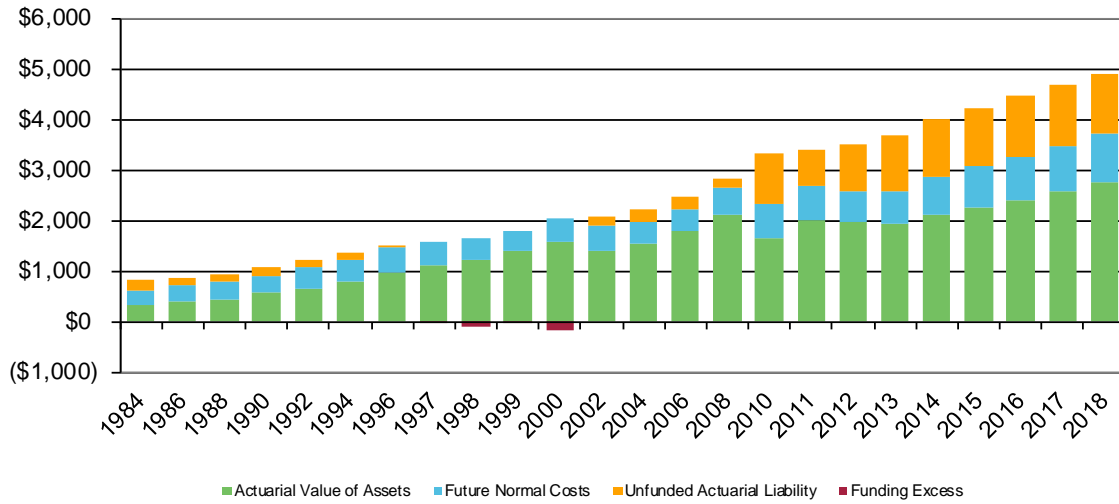
**Table 1 Summary of Results**

	Valuation January 1, 2018	Valuation January 1, 2017	Percentage Change
I. Total Membership			
A. Active Members	9,284	9,151	1.5%
B. Retired Members & Beneficiaries	6,534	6,382	2.4%
C. Vested Terminated Members <sup>(1)</sup>	2,502	2,352	6.4%
D. Total	18,320	17,885	2.4%
II. Pay as of Valuation Date			
A. Annual Total (\$millions)	\$ 761.0	\$ 725.6	4.9%
B. Annual Average	\$ 81,969	\$ 79,288	3.4%
III. Average Monthly Benefit Paid to Current Retirees and Beneficiaries			
A. Service Retirement	\$ 2,450	\$ 2,417	1.4%
B. Disability Retirement	1,373	1,351	1.6%
C. Surviving Spouse and Dependents	1,519	1,405	8.1%
D. Total	\$ 2,332	\$ 2,285	2.0%
IV. Actuarial Accrued Liability (\$millions)			
A. Active Members	\$ 1,835.4	\$ 1,791.3	2.5%
B. Retired Members	1,893.8	1,783.6	6.2%
C. Vested Terminated Members	212.6	191.5	11.0%
D. Total	\$ 3,941.8	\$ 3,766.4	4.7%
V. Assets			
A. Actuarial Value of Assets (\$millions)	\$ 2,755.2	\$ 2,564.1	7.5%
VI. Unfunded Actuarial Accrued Liability or Surplus Funding (\$millions)	\$ 1,186.6	\$ 1,202.3	(1.3)%
VII. Normal Cost Rate Plus Amortization of UAAL Total Contribution Rate Needed for			
25-Year <sup>(2)</sup> Amortization (as a % of Payroll)	24.40%	25.00%	(2.4)%
Employer Actuarial Contribution Rate	14.55%	14.97%	(2.8)%
VIII. Funding Ratio	69.9%	68.1%	2.7%
IX. Normal Cost as a Percent of Salary	15.56%	15.83%	(1.7)%
<b>Market Value of Assets (MVA) -- For Informational Purposes Only</b>			
X. Assets Based on MVA			
A. Market Value of Assets (\$millions)	\$ 2,852.9	\$ 2,488.5	14.6%
XI. Amortization of UAAL Based on MVA			
A. Total Contribution Rate Needed for			
25-Year <sup>(2)</sup> Amortization (as a % of Payroll)	23.61%	25.61%	(7.8)%
XII. Funding Ratio Based on MVA	72.4%	66.1%	9.5%

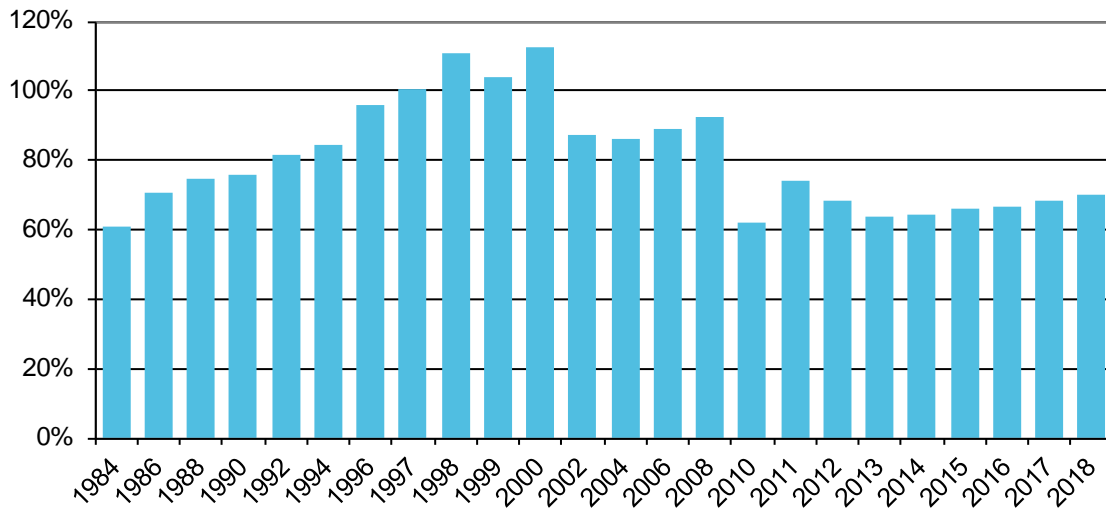
1. Includes non-vested terminated members whose contributions are still on deposit with SCERS as of valuation date.

2. Amortization method is closed 30-year beginning with January 1, 2013 valuation. 2017 values shown are over 26 years.

**Graph 1 Historical Asset and Liability Comparison**



**Graph 2 Historical Funding Ratios**



Year	(in \$Millions)				Funding Ratio
	PVFB	Assets	PVFC	UAAL	
2008	2,825.8	2,119.4	531.2	175.2	92.4%
2010	3,328.7	1,645.3	674.9	1,008.5	62.0%
2011	3,379.6	2,013.7	670.6	695.4	74.3%
2012	3,494.1	1,954.3	634.8	905.0	68.3%
2013	3,679.8	1,920.1	654.5	1,105.2	63.5%
2014	4,007.3	2,094.3	747.2	1,165.8	64.2%
2015	4,231.3	2,266.7	798.7	1,165.9	66.0%
2016	4,458.1	2,397.1	853.0	1,208.0	66.5%
2017	4,672.6	2,564.1	906.2	1,202.3	68.1%
2018	4,885.2	2,755.2	943.4	1,186.6	69.9%

## Section 2 Scope of the Report



This report presents the actuarial valuation of the Seattle City Employees' Retirement System as of January 1, 2018.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets of the System. A summary of the assets is set forth in Table 2. Sections 3, 4, and 5 describe how the obligations of the System are to be met under the actuarial cost method in use.

Section 6 discloses additional historical information.

Section 7 sets forth estimated actuarial gains or losses from the various sources. Section 8 shows projections of the System's funding under both optimistic and pessimistic scenarios. Section 9 shows projections of SCERS benefit payments and dollar contributions over a 10-year period following the actuarial valuation.

Appendix A is a summary of the actuarial procedures and assumptions used to compute the liabilities and contributions shown in this report.

The current benefit structure, as determined by the provisions of the governing law on January 1, 2018, is summarized in Appendix B. Schedules of valuation data classifying the data used in the valuation by various categories of contributing members, former contributing members and beneficiaries make up Appendix C.

Comparative statistics are presented on the System's membership and contribution rates. Appendix D is a glossary of actuarial terms used in this report.

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## Section 3 Assets



In many respects, an actuarial valuation can be regarded as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is January 1, 2018. On that date, the assets available for the payment of benefits are appraised. These assets are compared with the actuarial liabilities, which are generally well in excess of the assets. The actuarial process thus leads to a method of determining what contributions by members and their employers are needed to pay expected benefits.

This section of the report deals with the asset determination. In the next section, the actuarial liabilities will be discussed. Section 5 will deal with the process for determining required contributions, based on the relationship between the assets and the actuarial liabilities.

### Financial Exhibits

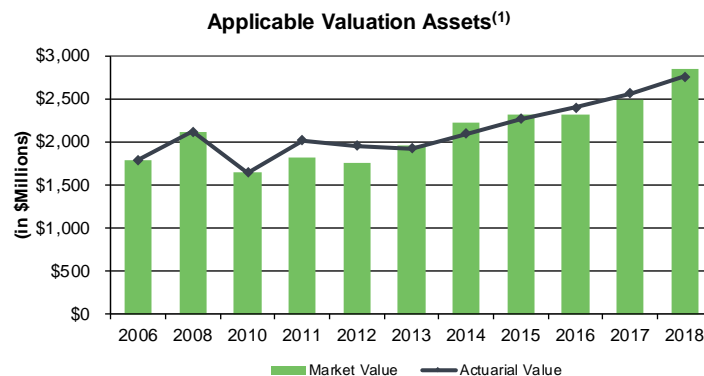
Table 2 shows the calculation of the Actuarial Value of Assets as of January 1, 2018. Note that a net gain is currently being deferred. This means that, if the system earns 7.50% in the future, the AVA will experience an actuarial gain over upcoming years as the remaining portions of deferred gains are recognized. In both the Executive Summary and Section 8 of this report, we discuss projections of the minimum actuarially required contribution rates resulting from this projected actuarial gain on the AVA.

Tables 3 and 4 summarize the financial resources of the System on January 1, 2018 on a Market Value basis. Table 3 shows the Market Value of Assets at January 1, 2018 and January 1, 2017. Table 4 shows the changes in Market Value of Assets during the year ending January 1, 2017 and the year ending January 1, 2018.

Tables 3 and 4 are taken directly from data furnished to us by SCERS staff. We have accepted these tables for use in this report without audit, but we have reviewed them for reasonableness and consistency with previous reports.

### Actuarial Asset Method

SCERS uses five-year asset smoothing which recognizes the asset gain or loss occurring in each year evenly over a five-year period. The following graph shows a historical comparison of the actuarial and market assets used for valuation purposes. Note that prior to 2011 the AVA was equal to the MVA.



1. Prior to 2010, actuarial valuations were only performed every second year.



**Table 2 Calculation of Actuarial Value of Assets at January 1, 2018**

(All dollar amounts in millions)

Five-Year Asset Smoothing											
Year Ended	Market Value at Beginning of Year	Total Contributions	Benefit Payments Plus Admin. Expenses	Expected Investment Return	Market Value of Assets		Asset Gain/(Loss)	Current Phase Out	Deferred Amount		
					Expected <sup>(1)</sup>	Actual					
December 31, 2013	\$ 1,951.4	\$ 137.4	\$ 161.8	\$ 150.3	\$ 2,077.3	\$ 2,216.9	\$ 139.6	0%	-		
December 31, 2014	2,216.9	154.0	170.7	165.7	2,365.9	2,322.7	(43.2)	20%	\$ (8.6)		
December 31, 2015	2,322.7	166.9	183.7	173.6	2,479.5	2,313.0	(166.5)	40%	(66.6)		
December 31, 2016	2,313.0	180.2	194.7	172.9	2,471.4	2,488.5	17.1	60%	10.3		
December 31, 2017	2,488.5	185.8	210.5	185.7	2,649.5	2,852.9	203.4	80%	162.7		
									Total Deferred at Jan. 1, 2018:	97.7	
									Market Value of Assets at Jan. 1, 2018:	2,852.9	
									Less Total Deferred at Jan. 1, 2018:	97.7	
									<b>Actuarial Value of Assets at Jan. 1, 2018:</b>	<b><u>\$ 2,755.2</u></b>	

1. Expected Market Value of Assets based on the actuarial investment return assumption for the prior year, taking into account actual cash flows during year.

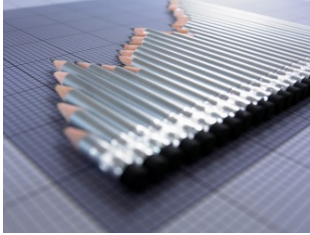
**Table 3 Summary of Plan Net Assets (at Market Value)**

	January 1, 2018		January 1, 2017	
	Market Value	Distribution	Market Value	Distribution
<b>Assets</b>				
Cash and short-term investments	\$ 116,822,552	4.1%	\$ 342,730,048	13.8%
Securities lending collateral	11,358,941	0.4%	11,130,677	0.4%
Receivables				
Employee	\$ 4,327,168	0.2%	\$ 3,434,870	0.1%
Employer	5,657,238	0.2%	6,143,927	0.2%
Interest and Dividends	4,103,031	0.1%	3,486,918	0.1%
Sales Proceeds Receivable	<u>162,413,460</u>	5.7%	<u>87,345,080</u>	3.5%
Total Receivables	\$ 176,500,897	6.2%	\$ 100,410,795	4.0%
Investments at fair value				
Fixed Income	\$ 676,019,482	23.7%	\$ 539,527,403	21.7%
Equity	1,604,858,505	56.3%	1,350,196,766	54.3%
Real estate	304,854,074	10.7%	287,996,774	11.6%
Alternative	<u>230,044,927</u>	8.1%	<u>173,578,426</u>	7.0%
Total investments	\$ 2,815,776,988	98.7%	\$ 2,351,299,369	94.5%
Total assets	\$ 3,120,459,378	109.4%	\$ 2,805,570,889	112.7%
<b>Liabilities</b>				
Pension & Other payables	\$ 3,321,750	-0.1%	\$ 1,370,010	-0.1%
Securities lending obligation	11,350,612	-0.4%	11,125,376	-0.4%
Investment commitments payable	<u>252,914,451</u>	-8.9%	<u>304,577,339</u>	-12.2%
Total Liabilities	\$ 267,586,813	-9.4%	\$ 317,072,725	-12.7%
<b>Market Value of Net Assets Held in Trust For Pension Benefits</b>				
	<b>\$ 2,852,872,565</b>	<b>100.0%</b>	<b>\$ 2,488,498,164</b>	<b>100.0%</b>

**Table 4 Summary of Changes in Plan Net Assets (at Market Value)**

	<u>January 1, 2018</u> Market Value	<u>January 1, 2017</u> Market Value
<b>Additions</b>		
Contributions		
Employer	\$ 112,102,982	\$ 108,454,496
Employee	73,650,409	71,755,857
Total contributions	<u>\$ 185,753,391</u>	<u>\$ 180,210,353</u>
Investment activities		
Investment income (loss)		
Net change in fair value of investments	\$ 363,468,284	\$ 163,299,357
Interest	13,471,317	10,569,831
Dividends	22,509,987	24,780,531
Net investment income (loss)	<u>\$ 399,449,588</u>	<u>\$ 198,649,719</u>
Securities lending activities		
Securities lending income	\$ 133,711	\$ 100,217
Borrowing rebates	(44,277)	165,375
Total securities lending income	<u>\$ 89,434</u>	<u>\$ 265,592</u>
Securities lending management fees	(20,135)	(66,376)
Net income from securities lending	<u>\$ 69,299</u>	<u>\$ 199,216</u>
Investment activity expenses		
Investment management fees	\$ (9,783,194)	\$ (8,186,323)
Investment consultant fees	(295,000)	(295,000)
Investment custodial fees	(303,869)	(426,443)
Total investment activity expenses	<u>\$ (10,382,063)</u>	<u>\$ (8,907,766)</u>
Total additions	\$ 574,890,215	\$ 370,151,522
<b>Deductions</b>		
Benefits	\$ 179,226,526	\$ 168,967,298
Refunds of contributions	19,158,756	16,456,570
Administrative expenses	12,130,532	9,250,653
Total deductions	<u>\$ 210,515,814</u>	<u>\$ 194,674,521</u>
Net Increase/(Decrease)	\$ 364,374,401	\$ 175,477,001
Net position held in trust for pension benefits		
Beginning of Year	\$ 2,488,498,164	\$ 2,313,021,163
<b>End of Year</b>	<b>\$ 2,852,872,565</b>	<b>\$ 2,488,498,164</b>

## Section 4 Actuarial Liabilities



### Actuarial Present Value of Future Benefits

In the previous section, an actuarial valuation was related to an inventory process and an analysis was given of the inventory of assets of the System as of the valuation date, January 1, 2018. In this section, the discussion will focus on the commitments of the System, which will be referred to as its actuarial liabilities (or, actuarial value of future benefits).

In an active system, the present value of future actuarial liabilities will almost always exceed the actuarial assets. This is usually expected in all but a fully closed down fund, where no further contributions of any sort are anticipated. This deficiency has to be provided for by future contributions. The funding method for the system sets out a schedule of future contributions that will deal with any deficiency in an orderly fashion. The determination of the level of future contributions needed is discussed in the next section (Section 5) of this report.

Table 5 contains an analysis of the actuarial present value of all future benefits for contributing members, former contributing members, and beneficiaries. The analysis is given by type of benefit.

The actuarial liabilities summarized in Table 5 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes a measure of both benefits already earned and future benefits to be earned. Thus, for all current members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of their surviving beneficiaries.

The actuarial assumptions used to determine the liabilities for the January 1, 2018 funding valuation are based on the results of the 2014 Investigation of Experience Report. These assumptions were adopted by the Board effective with the January 1, 2014 actuarial valuation. See Appendix A of this report for details. Note that new assumptions were adopted effective with the January 1, 2019 actuarial valuation based on the results of the 2017 Investigation of Experience Report. These assumptions are not reflected in the actuarial liabilities as of January 1, 2018 used in the calculation of the employer actuarial contribution rate.

### Actuarial Cost Method

The method used to determine how the actuarial cost for an individual (or for the System as a whole) is allocated to past and future years is referred to as the actuarial cost method. For this valuation, the individual entry age normal cost (EANC) method has been used.

Under this method, the actuarial liabilities discussed above are allocated into two primary calculation components:

1. A normal cost
2. An actuarial accrued liability

## **Normal Cost and Actuarial Accrued Liability**

The normal cost under the EANC method is developed so that benefits are allocated as a level percentage of payroll for each member, from the member's membership date to the member's termination date. One key feature of the EANC method is that normal costs with a plan tend to be stable from year to year (assuming no change in assumptions or benefit provisions) because most members' entry age cost percentages do not change materially from year to year, and because the population typically does not change considerably from year to year.

In the case of SCERS, we project the normal cost rate to gradually decrease over time as Plan 2 members with lower benefit levels (and therefore lower normal cost rates) than Plan 1 become a greater portion of the population. The normal cost rates as a percentage of payroll for the current and prior valuation are shown by benefit type and SCERS plan in Table 6. These normal cost contribution rates are intended to be contributed in each year in order to fund the ongoing cost of benefit accruals.

The annual normal cost rate may be considered the ongoing cost of benefit accruals for any given plan year. When the present value of all future normal costs is subtracted from the present value of total benefits, the result is the actuarial accrued liability (AAL). This can be thought of as the current value of all past normal costs, or the amount that would be in the fund if all prior actuarial assumptions had been exactly met. The AAL represents the portion of the present value of total benefits that the cost method allocates to past service.

To the extent that this AAL exceeds plan assets, an Unfunded Actuarial Accrued Liability (UAAL) exists. Table 7 calculates the UAAL, if any, for the current and prior valuations. Note that currently, a UAAL exists for SCERS; the payoff of this UAAL is discussed in more detail in Section 5 (Employer Contributions) of this report.

**Table 5 Actuarial Present Value of Future Benefits (PVFB)**

(All dollar amounts in millions)

	January 1, 2018			January 1, 2017
	Plan 1	Plan 2	Total	Total
<b>A. Active Members</b>				
Service Retirement	\$ 2,576.5	\$ 52.1	\$ 2,628.7	\$ 2,550.0
Vested Retirement	69.6	2.3	71.9	69.9
Disability Retirement	7.8	0.4	8.1	7.7
Survivor Benefits	23.5	0.5	24.0	23.3
Refund of Member Contributions	42.2	3.9	46.1	46.6
<b>Total</b>	<b>\$ 2,719.6</b>	<b>\$ 59.2</b>	<b>\$ 2,778.8</b>	<b>\$ 2,697.5</b>
<b>B. Inactive Members and Annuitants</b>				
Service Retirement	\$ 1,770.5	\$ -	\$ 1,770.5	\$ 1,670.0
Disability Retirement	10.3	-	10.3	10.1
Beneficiaries	113.0	-	113.0	103.5
Inactive Members	212.6	-	212.6	191.5
<b>Total</b>	<b>\$ 2,106.4</b>	<b>\$ -</b>	<b>\$ 2,106.4</b>	<b>\$ 1,975.1</b>
<b>C. Grand Total PVFB</b>	<b>\$ 4,826.0</b>	<b>\$ 59.2</b>	<b>\$ 4,885.2</b>	<b>\$ 4,672.6</b>

**Table 6 Normal Cost Contribution Rates as Percentages of Salary**

	January 1, 2018			January 1, 2017
	Plan 1	Plan 2	Total	Total
Service Retirement	12.60 %	10.19 %	12.46 %	12.59 %
Vested Retirement	1.20	0.43	1.15	1.21
Disability Retirement	0.07	0.06	0.07	0.07
Survivor Benefits	0.17	0.09	0.16	0.17
Refund of Member Contributions	1.15	0.77	1.12	1.19
Administrative Expenses	<u>0.60</u>	<u>0.60</u>	<u>0.60</u>	<u>0.60</u>
<b>Total</b>	<b>15.79 %</b>	<b>12.14 %</b>	<b>15.56 %</b>	<b>15.83 %</b>

**Table 7      Unfunded Actuarial Accrued Liability (UAAL)**

(All dollar amounts in millions)

	January 1, 2018	January 1, 2017
A. Actuarial present value of all future benefits for present and former members and their survivors (Table 3)	\$ 4,885.2	\$ 4,672.6
B. Less actuarial present value of total future normal costs for present members	943.4	906.2
C. Actuarial accrued liability <sup>(1)</sup> [A - B]	\$ 3,941.8	\$ 3,766.4
D. Less actuarial value of assets available for benefits (Table 2)	<u>2,755.2</u>	<u>2,564.1</u>
E. Unfunded actuarial accrued liability (Funding Excess, if negative) [C - D]	\$ 1,186.6	\$ 1,202.3
F. Funding Ratio [D ÷ C]	69.9%	68.1%

1. The actuarial accrued liability as of January 1, 2019 is projected to be \$4,246.5 million.



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## Section 5 Employer Contributions



As shown in Table 7 in the previous section of this report, the AAL exceeds the current Actuarial Value of Assets. In other words, as of the January 1, 2018 valuation, a UAAL exists for SCERS.

Because a UAAL exists, the total (member + employer) actuarially required contribution rate will consist of two components:

1. The normal cost contribution rate as of January 1, 2018
2. An amortization payment intended to pay off the UAAL in accordance with the SCERS funding policy

### Funding

The current SCERS funding policy was updated by a Seattle City Council resolution in August 2013. The funding policy specifies that the UAAL will be amortized as a level percentage of payroll over a closed 30-year period as of the January 1, 2013 actuarial valuation. This means that, for the January 1, 2018 valuation, the amortization contribution rate must pay off the current UAAL over a 25-year period.

### Actuarial Gains and Losses

When experience is different from actuarial expectation, an actuarial gain or loss occurs. Ongoing actuarial gains and losses decrease and increase the UAAL. Section 7 of this report illustrates the historical actuarial gains and losses on the UAAL by source.

### Amortization of UAAL

Table 8 details the components of the total actuarially required contribution rate of 24.40% by breaking it into the necessary funding components: normal cost and amortization of UAAL. It then illustrates the split between member and employer contribution rates, assuming that member contributions are allocated entirely toward paying the ongoing normal cost of benefits.

As of the January 1, 2018 valuation, the employer actuarial contribution rate for the employer has decreased to 14.55% beginning January 1, 2019. This is mainly due to the greater than expected investment return.

The total contribution rate of 25.00% determined in the 2018 valuation was calculated in order to amortize the January 1, 2017 UAAL over a 26-year period; however, this rate is not projected to perfectly amortize the January 1, 2018 UAAL over 25 years due to gains that have occurred during 2017. Table 9 details the expected amortization of the UAAL over the 25-year closed period beginning January 1, 2018.

The total contribution rate can be immediately (i.e., as of the beginning of the next calendar year) decreased from 25.00% of pay to 24.40% of pay to be projected to amortize the UAAL over the scheduled 25 years from January 1, 2018. If the contribution rate is not decreased, the UAAL would be projected to be amortized over a shorter period than 25 years. Because this figure is based on an Actuarial Value of Assets that is currently deferring a net gain, this 24.40% is projected to decrease over the next several years if no other actuarial asset gains or losses were to occur.

**Amortization of UAAL  
(continued)**

In Section 8 of this report, we have included a five-year projection of the actuarial required contribution, including optimistic and pessimistic investment return scenarios.

**New Assumptions**

As discussed, new assumptions will be used to determine the employer actuarial contribution rates for the year 2020. This is expected to result in an increase in the rate as discussed in Section 8.

**Table 8 Contribution Rates as Percentages of Salary**

	Actuarial Required Contribution Beginning	
	January 1, 2019	January 1, 2018
A. Total normal cost rate	15.56 %	15.83 %
B. UAAL amortization rate	<u>8.84</u>	<u>9.17</u>
C. Actuarial required contribution rate	24.40 %	25.00 %
D. Member contribution rate	<u>9.85</u>	<u>10.03</u>
E. Allocation of employer contribution rate <sup>(1)</sup>		
Normal cost	5.71 %	5.80 %
Amortization payment	<u>8.84</u>	<u>9.17</u>
Total employer contribution rate	14.55 %	14.97 %

1. If member contributions are all allocated to paying normal cost.

**Table 9 Amortization of Unfunded Actuarial Accrued Liability (UAAL)<sup>(1)(2)</sup>**  
 (All dollar amounts in millions)

Year	Payroll	Total Contribution Rate	Normal Cost Rate	UAAL Rate	UAAL			Ending Balance
					Beginning Balance	Amortization Payment	Interest	
2018	\$ 761	25.00%	15.56%	9.44%	\$ 1,186.6	\$ 71.8	\$ 86.3	\$ 1,201.1
2019	795	24.40%	15.56%	8.84%	1,201.1	70.3	87.5	1,218.3
2020	831	24.40%	15.56%	8.84%	1,218.3	73.5	88.7	1,233.5
2021	869	24.40%	15.56%	8.84%	1,233.5	76.9	89.7	1,246.3
2022	908	24.40%	15.56%	8.84%	1,246.3	80.3	90.5	1,256.5
2023	949	24.40%	15.56%	8.84%	1,256.5	83.9	91.1	1,263.7
2024	992	24.40%	15.56%	8.84%	1,263.7	87.7	91.5	1,267.5
2025	1037	24.40%	15.56%	8.84%	1,267.5	91.7	91.7	1,267.4
2026	1084	24.40%	15.56%	8.84%	1,267.4	95.9	91.5	1,263.1
2027	1133	24.40%	15.56%	8.84%	1,263.1	100.2	91.0	1,253.9
2028	1184	24.40%	15.56%	8.84%	1,253.9	104.7	90.2	1,239.4
2029	1238	24.40%	15.56%	8.84%	1,239.4	109.5	88.9	1,218.8
2030	1294	24.40%	15.56%	8.84%	1,218.8	114.5	87.2	1,191.5
2031	1352	24.40%	15.56%	8.84%	1,191.5	119.6	85.0	1,156.9
2032	1413	24.40%	15.56%	8.84%	1,156.9	125.0	82.2	1,114.1
2033	1477	24.40%	15.56%	8.84%	1,114.1	130.6	78.7	1,062.2
2034	1544	24.40%	15.56%	8.84%	1,062.2	136.6	74.6	1,000.3
2035	1614	24.40%	15.56%	8.84%	1,000.3	142.8	69.8	927.3
2036	1687	24.40%	15.56%	8.84%	927.3	149.2	64.1	842.1
2037	1763	24.40%	15.56%	8.84%	842.1	155.9	57.4	743.6
2038	1843	24.40%	15.56%	8.84%	743.6	163.0	49.8	630.4
2039	1926	24.40%	15.56%	8.84%	630.4	170.4	41.0	501.0
2040	2013	24.40%	15.56%	8.84%	501.0	178.0	31.0	354.0
2041	2104	24.40%	15.56%	8.84%	354.0	186.1	19.7	187.6
2042	2199	24.40%	15.56%	8.84%	187.6	194.5	6.9	0.0

1. Amortization shown does not include the projected impact of currently deferred asset gains and losses.
2. Does not reflect projected impact on normal cost and contribution rate of future Plan 2 members.

## Section 6 Additional Actuarial Information



The schedule of funding progress is shown in Table 10 and compares assets and liabilities over the years. Primarily due to the poor investment returns of 2000 through 2003, as well as the extreme market downturn of 2008, the Plan is not fully funded. Another material factor in the increase in liabilities is the benefit enhancements triggered in 2007 (i.e., 65% Floor COLA and the 1.5% COLA for all retirees).

Exhibit 11 compares the Actuarial Value of Valuation Assets to the types of Actuarial Accrued Liabilities, applying them first to Active Member contributions, then to retirees and beneficiaries, and then the remaining amount to the Active Members benefits. This is referred to as the Solvency Test. Although not required under GASB, this test is part of the CAFR guidelines specified by the Government Finance Officers Association (GFOA).

**Table 10 Schedule of Funding Progress**

(All dollar amounts in millions)

<b>Actuarial Valuation Date January 1</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liabilities (AAL)</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)</b>	<b>Funded Ratio</b>	<b>Covered Payroll<sup>(1)</sup></b>	<b>UAAL as a Percentage of Covered Payroll</b>
1986	\$ 395.7	\$ 561.3	\$ 165.6	70.5%	\$ 182.0	91.0%
1988	445.4	595.3	149.9	74.8	199.0	75.3
1990	558.8	737.9	179.1	75.7	212.3	84.4
1992	660.0	810.5	150.5	81.4	239.4	62.9
1994	781.8	926.2	144.4	84.4	291.8	49.5
1996	980.2	1,019.7	39.5	96.1	310.6	12.7
1997	1,094.8	1,087.3	(7.5)	100.7	316.9	(2.4)
1998 <sup>(2)</sup>	1,224.6	1,266.7	42.1	96.7	341.5	12.3
1999	1,375.0	1,326.6	(48.4)	103.6	370.4	(13.1)
2000	1,582.7	1,403.1	(179.6)	112.8	383.6	(46.5)
2002	1,383.7	1,581.4	197.7	87.5	405.1	48.8
2004	1,527.5	1,778.9	251.4	85.9	424.7	59.2
2006	1,791.8	2,017.5	225.8	88.8	447.0	50.5
2008	2,119.4	2,294.6	175.2	92.4	501.9	34.9
2010	1,645.3	2,653.8	1,008.5	62.0	580.9	173.6
2011	2,013.7	2,709.0	695.4	74.3	563.2	123.5
2012	1,954.3	2,859.3	905.0	68.3	557.0	162.5
2013	1,920.1	3,025.3	1,105.2	63.5	567.8	194.6
2014	2,094.3	3,260.1	1,165.8	64.2	597.9	195.0
2015	2,266.7	3,432.6	1,165.9	66.0	630.9	184.8
2016	2,397.1	3,605.1	1,208.0	66.5	641.7	188.3
2017	2,564.1	3,766.4	1,202.3	68.1	708.6	169.7
2018	2,755.2	3,941.8	1,186.6	69.9	733.3	161.8

1. Covered Payroll includes compensation paid to all active employees on which contributions are calculated. Covered Payroll differs from the Active Member Valuation Payroll shown in Table 1, which is an annualized compensation of only those members who were active on the actuarial valuation date.

2. Reflects increased COLA benefits adopted by the City Council after the valuation was completed.

**Table 11 Solvency Test**

(All dollar amounts in millions)

Actuarial Valuation Date January 1	Actuarial Value of Valuation Assets	Actuarial Accrued Liabilities for				Portion of Actuarial Accrued Liabilities Covered by Assets			
		(A)	(B)	(C)	(D)	(A)	(B)	(C)	(D)
		Active Member Contributions	Inactives, Retirees and Beneficiaries	Active Members (Employer Financed Portion)	Total				
1986	\$ 395.7	\$ 110.7	\$ 263.1	\$ 187.5	\$ 561.3	100.0%	100.0%	11.7%	70.5%
1988	445.4	136.0	303.6	155.7	595.3	100.0	100.0	3.7	74.8
1990	558.8	164.0	332.8	241.1	737.9	100.0	100.0	25.7	75.7
1992	660.0	202.6	357.9	250.0	810.5	100.0	100.0	39.8	81.4
1994	781.8	248.4	383.1	294.7	926.2	100.0	100.0	51.0	84.4
1996	980.2	294.1	409.3	316.3	1,019.7	100.0	100.0	87.5	96.1
1997	1,094.8	313.1	449.8	324.4	1,087.3	100.0	100.0	100.0	100.7
1998 <sup>(1)</sup>	1,224.6	337.3	551.8	377.6	1,266.7	100.0	100.0	88.9	96.7
1999	1,375.0	358.4	577.6	390.6	1,326.6	100.0	100.0	100.0	103.6
2000	1,582.7	385.2	599.4	418.5	1,403.1	100.0	100.0	100.0	112.8
2002	1,383.7	434.3	675.6	471.5	1,581.4	100.0	100.0	58.1	87.5
2004	1,527.5	482.5	758.9	537.5	1,778.9	100.0	100.0	53.2	85.9
2006	1,791.8	539.7	902.2	575.6	2,017.5	100.0	100.0	60.8	88.8
2008	2,119.4	590.1	1,084.9	619.6	2,294.6	100.0	100.0	71.7	92.4
2010	1,645.3	684.7	1,176.4	792.7	2,653.8	100.0	81.7	0.0	62.0
2011	2,013.7	683.7	1,290.9	734.4	2,709.0	100.0	100.0	5.3	74.3
2012	1,954.3	730.9	1,393.7	734.7	2,859.3	100.0	87.8	0.0	68.3
2013	1,920.1	757.3	1,513.4	754.6	3,025.3	100.0	76.8	0.0	63.5
2014	2,094.3	792.4	1,657.0	810.7	3,260.1	100.0	78.6	0.0	64.2
2015	2,266.7	829.7	1,753.5	849.4	3,432.6	100.0	82.0	0.0	66.0
2016	2,397.1	851.2	1,875.1	878.8	3,605.1	100.0	82.4	0.0	66.5
2017	2,564.1	888.1	1,975.1	903.2	3,766.4	100.0	84.9	0.0	68.1
2018	2,755.2	911.0	2,106.4	924.4	3,941.8	100.0	87.6	0.0	69.9

1. Reflects increased COLA benefits adopted by the City Council after the valuation was completed.



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**Section 7 Actuarial Gains or Losses**



An analysis of actuarial gains or losses was performed in conjunction with the January 1, 2016, January 1, 2017, and January 1, 2018 actuarial valuations.

The results of our analysis of the financial experience of the System in the three most recent actuarial valuations are presented in Table 12. Each gain or loss shown represents our estimate of how much the given type of experience caused the UAAL to change in the period since the previous actuarial valuation.

Gains and losses due to demographic sources are approximate. Demographic experience is analyzed in greater detail in our periodic assumption studies.

**Table 12 Analysis of Actuarial Gains or Losses<sup>(1)</sup>**

(All dollar amounts in millions)

	Gain/(Loss) For Period		
	2017	2016	2015
<b>Investment Income</b>			
Investment income on AVA was greater (less) than assumed.	\$ 24.5	\$ 2.3	\$ (22.1)
<b>Pay Increases</b>			
Pay increases were less (greater) than expected.	4.9	14.5	(7.3)
<b>Age and Service Retirements</b>			
Members retired at older (younger) ages or with less (greater) final average pay than expected.	4.6	20.9	17.2
<b>Disability Retirements</b>			
Disability claims were less (greater) than expected.	(0.1)	(0.1)	(0.1)
<b>Death-in-Service Benefits</b>			
Survivor claims were less (greater) than expected.	(1.4)	-	-
<b>Withdrawal from Employment</b>			
More (less) reserves were released by withdrawals than expected.	(6.2)	(18.9)	(24.0)
<b>Death after Retirement</b>			
Retirees died younger (lived longer) than expected.	<u>1.4</u>	<u>(1.0)</u>	<u>9.0</u>
<b>Total Gain or (Loss) during Period from Financial Experience</b>	\$ 27.7	\$ 17.7	\$ (27.3)
<b>Non-Recurring Items:</b>			
Changes in actuarial assumptions and plan amendments caused a gain (loss).	-	-	-
Data revisions	-	-	-
Change in actuarial asset valuation method caused a gain (loss).	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
<b>Composite Gain (Loss) During Period</b>	\$ 27.7	\$ 17.7	\$ (27.3)

1. Effects related to losses are shown in parentheses. Numerical results are expressed as a decrease (increase) in the UAAL.

## Section 8 Contribution Rate Projections and Increases



This section of the January 1, 2018 actuarial valuation is devoted to a detailed discussion of the contribution rates currently needed, and projected to be needed, in order to effectively fund the System.

This section illustrates two key points:

1. As mentioned throughout this report, the current AVA is deferring a net gain. As a result, if no actuarial asset gains or losses were to occur over the next several years (i.e., the market return equals the new return assumption of 7.25%), the employer actuarial contribution rate would be projected to decrease (and the Funding Ratio would be projected to increase) as the remaining deferred gains are fully phased in. Additionally, the projections reflect the expected impact of the new assumptions in year 2020 and later.
2. Based on this valuation, the total (member and employer) actuarial contribution rate is calculated to be 24.40% of payroll beginning January 1, 2019. Of this, 14.55% is the employer portion. The actual contribution rate needed will vary in the future. We have shown projections to roughly quantify the potential impact of good and bad experience. As previously discussed, we recommend the City consider maintaining or increasing its current contribution rate to mitigate the expected increase in 2020.

### Projection of Actuarially Required Contribution Rate

We have performed a five-year projection of the employer actuarially required contribution rate under three different scenarios:

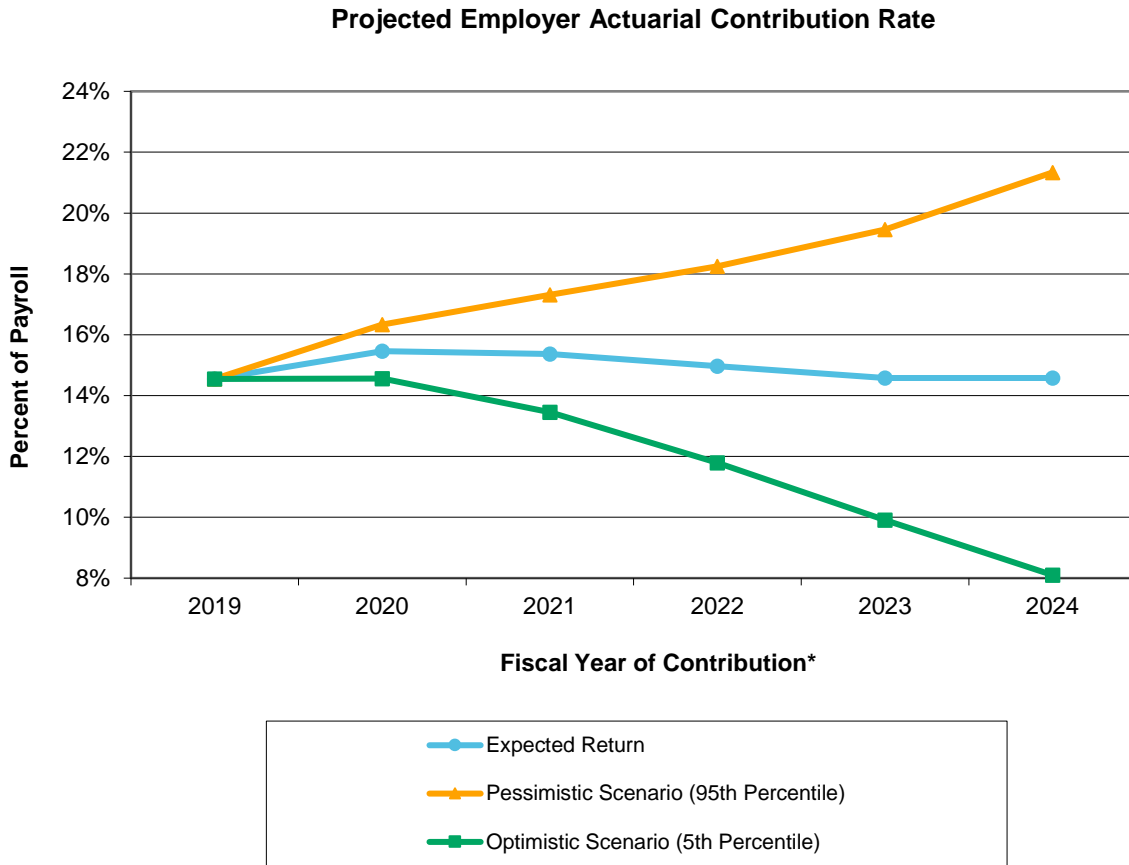
1. Assuming that the investment return assumption of 7.25% is met in each future year.
2. Assuming that the assets return at the 5<sup>th</sup> percentile.
3. Assuming that the assets return at the 95<sup>th</sup> percentile.

The result is effectively a 90% confidence interval (based on asset returns) of the projected contribution rates in these years. Note that in each scenario, all other actuarial assumptions are assumed to be met.

The projections assume the employer contributes the actuarially required contribution rate each year in the future. This rate is based on a 25-year closed amortization period as of January 1, 2018 and includes a 0.50% population growth assumption. Future returns at the 5<sup>th</sup> and 95<sup>th</sup> percentile are based on Milliman's capital market assumptions and SCERS's target asset allocation as of January 1, 2018.

Table 13 provides the results of these projections.

**Table 13 Projected Total Contribution Rates**



<b>Projected Employer Actuarial Contribution Rate</b>			
<b>Contribution Year<sup>(1)</sup></b>	<b>If Asset Return at 95th Percentile</b>	<b>Assuming 7.25% Future Returns<sup>(2)</sup></b>	<b>If Asset Return at 5th Percentile</b>
2019	14.55%	14.55%	14.55%
2020	16.34%	15.46%	14.56%
2021	17.31%	15.37%	13.45%
2022	18.24%	14.97%	11.79%
2023	19.46%	14.58%	9.90%
2024	21.34%	14.58%	8.10%

1. Contribution year lags calculation year by one year. For example: Contribution Year 2019 is based on the 2018 valuation results, amortized over 25 years beginning in 2018, if the increase takes place in 2019.  
 2. Projections reflect new assumptions adopted by the Board in the 2020 contribution year.

**Assumed Returns for Projection**

The projection above uses the 5<sup>th</sup> and 95<sup>th</sup> percentile returns based on SCERS' target asset allocation and Milliman's January 1, 2018 capital market assumptions. These percentile returns vary by the number of years of return; for example, the Contribution Year 2019 number assumes one year of return at the one-year 5<sup>th</sup> or 95<sup>th</sup> percentile rate; the Contribution Year 2020 number assumes two years of return at the two-year 5<sup>th</sup> or 95<sup>th</sup> percentile rate.

The percentile rates assumed for this analysis are shown in the table below:

	<b>Compounded Average Return for Period</b>	
	<i>Percentile</i>	
	<i>95th</i>	<i>5th</i>
<i>1-Year Period</i>	-12.3%	27.2%
<i>2-Year Period</i>	-7.4%	20.5%
<i>3-Year Period</i>	-5.1%	17.6%
<i>4-Year Period</i>	-3.7%	15.9%
<i>5-Year Period</i>	-2.8%	14.8%

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## Section 9 Projection of Benefit Payments and Contribution Dollars



### Projection of Benefit Payments and Contribution Dollars

This section of the January 1, 2018 actuarial valuation illustrates projected SCERS benefit payments and dollar contributions over a 10-year period following the actuarial valuation.

These projections assume all actuarial assumptions, including 7.25% investment returns (on a market basis) in each future year, are met in the future. Note that for these projections we used the actuarial assumptions effective with the January 1, 2019 actuarial valuation that reflect the 2018 Investigation of Experience report.

The projection of contribution dollars makes the following three additional key assumptions:

1. Valuation payroll is assumed to grow with both wage inflation of 3.50% and annual population growth of 0.50% (per current SCERS assumptions).
2. The City is assumed to make the employer actuarially required contribution rate calculated in each projection year.
3. Future recognition of currently deferred asset gains or losses is reflected in the projection.

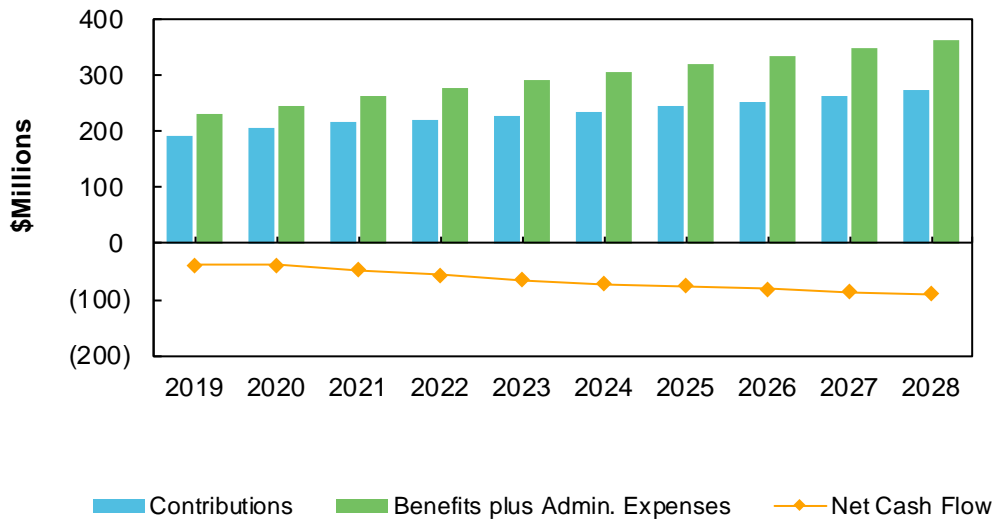
Table 14 shows the results of these projections.



**Table 14 10-Year Projection of Benefit Payments and Contributions<sup>(1)</sup>**

Year	Projected Payroll	Projected Admin. Expenses	Projected Benefit Payments	Projected Total Cash Outflow	Projected Total Contributions	Projected Net Cash Flow
2019	\$ 791.6	\$ 6.3	\$ 224.6	\$ 230.9	\$ 193.1	\$ (37.8)
2020	823.4	6.6	240.9	247.5	208.4	(39.1)
2021	856.5	6.9	256.1	263.0	216.0	(47.0)
2022	890.9	7.1	270.5	277.6	221.1	(56.5)
2023	926.7	7.4	284.8	292.2	226.4	(65.8)
2024	963.9	7.7	299.5	307.2	235.5	(71.7)
2025	1,002.6	8.0	313.5	321.5	244.9	(76.6)
2026	1,042.9	8.3	328.2	336.5	254.8	(81.8)
2027	1,084.8	8.7	342.3	351.0	265.0	(86.0)
2028	1,128.4	9.0	356.2	365.2	275.7	(89.6)

**Cash Flow Projections**



1. Benefit payments do not include administrative expenses. Contributions include employer and member contributions.

## Appendix A Actuarial Procedures and Assumptions



This section of the report describes the actuarial procedures and assumptions used in this valuation. The assumptions used in this valuation were adopted by the SCERS Board at its May 2014 meeting. They are based on Milliman's Investigation of Experience for the period ending December 31, 2013. Further discussion and the rationale for the assumptions are shown in that report. Note that assumptions based on Milliman's Investigation of Experience for the period ending December 31, 2017 will be effective for the January 1, 2019 actuarial valuation. Results based on the new assumptions are disclosed in the Executive Summary. These assumptions are disclosed in the recent Investigation of Experience report, with the exception that alternative economic assumptions were adopted as follows:

Economic Assumptions	Assumptions used in Funding Valuation	
	1/1/2018	1/1/2019
Investment Return Assumption <sup>(1)</sup>	7.50%	7.25%
Consumer Price Inflation	3.25%	2.75%
Real Wage Inflation	0.75%	0.75%
Wage Growth ( <i>price inflation plus wage inflation</i> )	4.00%	3.50%
Active Membership Growth	0.50%	0.50%
Payroll Growth ( <i>wage &amp; membership growth</i> )	4.52%	4.02%
Interest on Post-2011 Contributions	4.75%	4.00%

### 1. Net of investment expenses.

The actuarial assumptions used in the valuation are intended to estimate the future experience of the members of the System and of the System itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of the System's benefits. Table A-1 summarizes the actuarial assumptions.

Table A-2 presents expected annual salary increases for various years of service. Tables A-3 through A-7 show rates of decrement for service retirement, disability, mortality, and other terminations of employment. Table A-8 shows probabilities of refund upon termination.

### Actuarial Cost Method

The actuarial valuation was prepared using the entry age actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the unfunded actuarial accrued liability or UAAL. The UAAL is amortized as a level percentage of the projected salaries of present and future members of the System.

**Records and Data**

The data used in the valuation consist of financial information; records of age, sex, service, salary, contribution rates and account balances of contributing members; and records of age, sex, and amount of benefit for retired members and beneficiaries. All of the data were supplied by the System and are accepted for valuation purposes without audit.

**Replacement of Terminated Members**

The ages at entry and distribution by sex of future members are assumed to average the same as those of the present members they replace. If the number of active members should increase, it is further assumed that the average entry age of the larger group will be the same, from an actuarial standpoint, as that of the present group. Under these assumptions, the normal cost rates for active members will not vary with the termination of present members.

**Employer Contributions**

The employer actuarial contribution rate is determined as of the prior year's valuation such that the combined member and employer contribution rate is sufficient to amortize the UAAL over a closed 30-year period beginning January 1, 2013. The amortization payment is based on a level percent of pay.

<b>Administrative Expense</b>	The annual contribution assumed to be necessary to meet general administrative expenses of the system, excluding investment expenses, is 0.60% of members' salaries. This figure is included in the calculation of the normal cost rate.
<b>Valuation of Assets</b>	The assets are valued using a five-year smoothing method based on the difference between the expected market value and the actual market value of the assets in each year. The expected market value is the prior year's market value increased with the net increase in the cash flow, all increased with interest during the past fiscal year at the expected investment return rate assumption.
<b>Investment Earnings</b>	The annual rate of investment earnings of the assets of the System is assumed to be 7.50%. This rate is compounded annually and is net of investment expenses.
<b>Postretirement Benefit Increases</b>	<p>Postretirement benefit increases include:</p> <ul style="list-style-type: none"> <li>▪ Automatic 1.5% Annual COLA – This benefit applies to all members.</li> <li>▪ 65% Restoration of Purchasing Power (ROPP) – The member's benefit is the greater of 65% of the annual initial benefit adjusted for CPI or their applicable benefit. This minimum benefit is available to all retirees and beneficiaries. The financial impact of the ROPP benefit is valued assuming an annual price inflation rate of 3.25%.</li> </ul> <p>Additional contingent COLA increases that were adopted in 2001, but not effective until the System reaches at least a 100% funding ratio, are not included in the valuation results.</p>
<b>Valuation Services</b>	<p>The projected salary for the valuation year is equal to the member's hourly pay rate multiplied by 2088 with the following adjustments:</p> <ul style="list-style-type: none"> <li>▪ Annualized pay for members who entered in year preceding valuation year.</li> <li>▪ Multiplied hourly pay rate by minimum of 1,040 and actual hours worked in prior year for part-time employees.</li> </ul>
<b>Future Salaries</b>	Table A-2 illustrates the rates of future (after the valuation year) salary increases assumed for the purpose of the valuation. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 4.00% per annum rate of increase in the general wage level of the membership.
<b>Service Retirement</b>	Tables A-3 and A-4 show the annual assumed rates of retirement among members eligible for service retirement or reduced retirement. Separate rates are also used during the first year a member is eligible for service retirement.
<b>Disability</b>	The rates of disability used in this valuation are illustrated in Table A-5. It is assumed that one-third of all disabilities are duty related and two-thirds occur while off duty.
<b>Mortality</b>	The mortality rates used in this valuation are illustrated in Table A-6. A written description of each table used is included in Table A-1.

<b>Other Terminations of Employment</b>	The rates of assumed future withdrawal from active service for reasons other than death, disability, or retirement are shown for representative ages in Table A-7. Note that this assumption only applies to members who terminate and are not yet eligible for retirement.
<b>Probability of Refund</b>	<p>Terminating members may forfeit a vested right to a deferred benefit if they elect a refund of their accumulated contributions. Table A-8 gives the assumed probability, at selected ages, that a terminating member will elect to receive a refund of his accumulated contributions instead of a deferred benefit.</p> <p>If a member terminates with more than 20 years of service, there is assumed to be a 20% probability that the member will elect a refund.</p> <p>Note that the probability of refund assumption only applies to members who terminate with a vested benefit and are not yet eligible for retirement.</p>
<b>Interest on Member Contributions</b>	Interest on member contributions made prior to January 1, 2012 is assumed to accrue at a rate of 5.75% per annum, compounded annually. Interest on member contributions made on or after January 1, 2012 is assumed to accrue at 4.75%.
<b>Portability</b>	The cost of portability with other public retirement systems is not included in this valuation.
<b>Probability of Marriage</b>	We assumed 60% of the active members are married or have a registered domestic partner.
<b>Commencement for Terminated Vested Members</b>	Vested members who terminate but elect to leave their contributions in the System are assumed to commence receiving benefits at age 62.

## Table A-1 Summary of Valuation Assumptions

January 1, 2018

I.	Economic assumptions	
A.	Price inflation	3.25%
B.	General wage increases	4.00
C.	Investment return	7.50
D.	Increase in membership	0.50
E.	Interest on member accounts	5.75/4.75 <sup>(1)</sup>
II.	Demographic assumptions	
A.	Salary increases due to promotion and longevity	Table A-2
B.	Retirement	Tables A-3 to A-4
C.	Disability	Table A-5
D.	Mortality <sup>(2)</sup> among contributing members	Table A-6
	Men RP 2000 Employees Table for Males, with ages set back six years.	
	Women RP 2000 Employees Table for Females, with ages set back six years.	
E.	Mortality <sup>(2)</sup> among service retired members and beneficiaries	Table A-6
	Men RP2000 Combined Healthy Males, with ages set back two years.	
	Women RP2000 Combined Healthy Females, with ages set back one year.	
F.	Mortality <sup>(2)</sup> among disabled members	Table A-6
	Men RP2000 Disabled Males, with ages set back four years.	
	Women RP2000 Disabled Females, with ages set back four years.	
G.	Other terminations of employment	Table A-7
H.	Probabilities of vesting on termination	Table A-8

1. Member contributions made prior to January 1, 2012 are assumed to accrue interest at 5.75%; contributions made on or after that date are assumed to accrue at 4.75%.

2. All mortality tables are generational using Projection Scale AA to reflect expected future mortality improvement.

**Table A-2 Future Salaries – Plans 1 and 2**

<b>Annual Rate of Increase</b>		
<b>Years of Service</b>	<b>Promotion and Longevity</b>	<b>Total<sup>(1)</sup></b>
0 to 1	4.50%	8.68%
1 to 2	3.50	7.64
2 to 3	2.75	6.86
3 to 4	2.00	6.08
4 to 5	1.50	5.56
9 to 10	0.80	4.83
14 to 15	0.45	4.47
19 to 20	0.29	4.30
24 to 25	0.25	4.26
29 to 30	0.25	4.26
35 or more	0.25	4.26

*1. Total rate shown reflects compounded effect of merit increase and assumed wage growth of 4.00%.*

**Table A-3 Retirement – Plan 1**

Age	Annual Probability					
	Men			Women		
	Eligible for Full Benefits			Eligible for Full Benefits		
	Eligible for Reduced Benefits	Less than 30 years of service	30 years or more of service	Eligible for Reduced Benefits	Less than 30 years of service	30 years or more of service
Less than 50	0.0%	8.0%	8.0%	0.0%	10.0%	10.0%
50	5.0	8.0	10.0	5.0	10.0	10.0
51	5.0	8.0	10.0	5.0	10.0	10.0
52	5.0	8.0	12.0	5.0	10.0	12.0
53	3.0	8.0	12.0	3.0	10.0	12.0
54	3.0	8.0	12.0	3.0	10.0	12.0
55	6.0	8.0	12.0	6.0	10.0	12.0
56	5.0	8.0	12.0	5.0	10.0	12.0
57	5.0	8.0	12.0	5.0	13.0	12.0
58	5.0	8.0	12.0	5.0	13.0	12.0
59	5.0	8.0	15.0	8.0	13.0	15.0
60	6.0	14.0	15.0	8.0	15.0	15.0
61	9.0	12.0	15.0	12.0	13.0	15.0
62	15.0	20.0	30.0	15.0	20.0	26.5
63	12.0	18.0	22.0	12.0	18.0	20.0
64	9.5	18.0	22.0	13.0	18.0	20.0
65		40.0	32.0		40.0	30.0
66		40.0	32.0		40.0	38.0
67		40.0	32.0		40.0	38.0
68		30.0	26.0		33.0	32.0
69		30.0	26.0		33.0	32.0
70		(1)	(1)		(1)	(1)

1. Immediate retirement is assumed for every person age 70 or over.



**Table A-4 Retirement – Plan 2**

Age	Annual Probability			
	Male		Female	
	Eligible for Reduced Benefits	Eligible for Full Benefits	Eligible for Reduced Benefits	Eligible for Full Benefits
Less than 55	0.0%	0.0%	0.0%	0.0%
55	4.8	8.0	4.8	9.6
56	4.0	8.0	4.0	9.6
57	4.0	8.0	4.0	9.6
58	4.0	8.0	4.0	9.6
59	4.0	8.0	5.6	9.6
60	4.8	12.0	6.4	12.0
61	6.0	12.0	8.0	12.0
62	14.0	25.0	15.0	25.0
63	10.0	20.0	12.0	20.0
64	10.0	20.0	12.0	20.0
65		35.0		35.0
66		40.0		40.0
67		40.0		40.0
68		35.0		35.0
69-74		35.0		35.0
75		(1)		(1)

1. Immediate retirement is assumed for every person age 70 or over.

**Table A-5 Disability – Plans 1 and 2<sup>(1)</sup>**

Age	Annual Rates	
	Men	Women
20	.00%	.00%
25	.00	.00
30	.02	.02
35	.02	.02
40	.03	.03
45	.03	.03
50	.04	.04
55	.04	.04
60	.04	.04
65	.00	.00

*1. It is assumed that one-third of all disabilities are duty related and two-thirds are non-duty related.*

**Table A-6 Mortality – Plans 1 and 2**

Age	Annual Probability <sup>(1)</sup>					
	Contributing Members		Members Retired for Service and Beneficiaries of Members		Disabled Members	
	Men	Women	Men	Women	Men	Women
22	0.03 %	0.02 %	0.03 %	0.02 %	2.26 %	0.74 %
27	0.04	0.02	0.04	0.02	2.26	0.74
32	0.04	0.02	0.04	0.03	2.26	0.74
37	0.05	0.03	0.08	0.05	2.26	0.74
42	0.08	0.05	0.11	0.08	2.26	0.74
47	0.11	0.08	0.15	0.12	2.26	0.74
52	0.16	0.12	0.21	0.19	2.64	0.98
57	0.23	0.18	0.36	0.31	3.29	1.45
62	0.33	0.28	0.67	0.58	3.93	1.97
67	0.54	0.43	1.27	1.10	4.66	2.53
72	N/A	N/A	2.22	1.86	5.69	3.32
77	N/A	N/A	3.78	3.10	7.33	4.58
82	N/A	N/A	6.44	5.08	9.76	6.35
87	N/A	N/A	11.08	8.64	12.83	8.78
92	N/A	N/A	18.34	14.46	16.22	12.25

1. The mortality rates shown above are generationally projected on an individual basis using Projection Scale AA for the valuation.

**Table A-7 Other Terminations of Employment Among Members Not Eligible to Retire  
– Plans 1 and 2**

<b>Years of Service</b>	<b>Annual Rates for Men</b>	<b>Annual Rates for Women</b>
0 to 1	6.5%	8.5%
1 to 2	5.8	8.3
2 to 3	5.3	8.0
3 to 4	4.8	7.8
4 to 5	4.4	7.5
5 to 6	4.1	7.0
6 to 7	3.8	6.3
7 to 8	3.5	5.7
8 to 9	3.2	5.1
9 to 10	2.9	4.5
10 to 11	2.6	4.1
11 to 12	2.3	3.8
12 to 13	2.1	3.4
13 to 14	1.9	3.1
14 to 15	1.7	2.7
15 to 16	1.5	2.4
16 to 17	1.4	2.0
17 to 18	1.2	1.7
18 to 19	1.1	1.4
19 to 20	1.0	1.2
20 to 21	0.9	1.1
21 to 22	0.8	1.0
22 to 23	0.8	0.9
23 to 24	0.7	0.8
24 to 25	0.7	0.8
25 to 26	0.6	0.7
26 to 27	0.6	0.7
27 to 28	0.5	0.6
28 to 29	0.5	0.6
29 to 30	0.4	0.5
30 or more	0.5	0.5

**Table A-8 Probability of Refund – Plans 1 and 2**

<b>Age</b>	<b>Probabilities of Refund upon Termination<sup>(1)</sup></b>
25	70.0%
30	65.0
35	55.0
40	48.0
45	43.0
50	38.0
55	36.0
60	40.0

*1. If service is 20 or more years at termination, probability of refund is equal to 20%.*

## Appendix B Provisions of Governing Law



All actuarial calculations are based upon our understanding of the provisions governing the Seattle City Employees' Retirement System, Chapter 4.36 of the Seattle City Code. The benefit and contribution provisions are summarized briefly below, along with corresponding references to the City code. This summary encompasses the major provisions of the System; it does not attempt to cover all of the detailed provisions.

### Effective Date

The effective date of the retirement system was July 1, 1929. (Section 4.36.080)

### Membership

Plan 1

Employees whose membership date is prior to January 1, 2017. (Section 4.36.060)

Plan 2

Employees whose membership date is on or after January 1, 2017. (Section 4.36.060)

### Members' Contribution Rate

Plan 1

The members' contribution rate is 10.03% of salary as of January 2012. Certain members who were contributing at a lower rate on June 23, 1972 continue to contribute at a lower rate. (Section 4.36.540A)

Plan 2

The members' contribution rate is 7.00% of salary as of January 2017. (Section 4.36.540B)

### Employer Contribution Rate

The employer contribution rate is the amount that is actuarially determined to be necessary to fund that portion of the retirement allowances not covered by the members' contributions. This amount shall be at least the members' contribution rate. (Section 4.36.545)

### Final Compensation

Plan 1

Final compensation is based on highest average compensation (excluding overtime) during any consecutive 24 months. (Sections 4.36.040 and 4.36.050)

Plan 2

Final compensation is based on highest average compensation (excluding overtime) during any consecutive 60 months. (Sections 4.36.040 and 4.36.050)

### Service Retirement

Plan 1

#### *Eligibility*

30 years of service;

Age 52 and 20 years of service;

Age 57 and 10 years of service; or

Age 62 and 5 years of service.

#### *Normal Form*

Straight life benefit.

**Service Retirement**  
Plan 1 (continued)

*Optional Forms*

Actuarial equivalent according to the mortality and interest basis adopted by the Retirement Board for such purposes.

*Amount of Allowance*

The total monthly allowance is generally 2% times final compensation times total years of creditable service.

However, if the member does not qualify in one of the following ways, the 2% factor is reduced by 0.1% for each year that retirement precedes the earliest date the member would be:

- (a) Any age with 30 years of service.
- (b) Age 51-59, providing the member's age and years of service total 80 or more.
- (c) Age 60 or older with 20 years of service.
- (d) Age 65 or older with five years of service.

The reduction is somewhat less than 0.1% for members with less than 20 years of service.

For those hired on or after January 1, 1988, creditable service excludes the first six months of service.

*Maximum Allowance*

The formula-based retirement allowance (as described above) of any member shall be limited to 60% of final compensation, except where the minimum allowance described below applies.

*Minimum Allowance*

A monthly benefit based on twice the actuarial value of accumulated member contributions. This is not subject to the 60% of final compensation maximum. (Sections 4.36.600, 4.36.605, 4.36.610 and 4.36.640)

Note: Effective January 1, 2014, the conversion of the contributions to an annuity benefit in the minimum allowance reflects option factors that use the new mortality rates.

**Service Retirement**  
Plan 2

*Eligibility*

Age 55 and 20 years of service;

Age 57 and 10 years of service; or

Age 60 and 5 years of service.

*Normal Form*

Straight life benefit

*Optional Forms*

Actuarial equivalent according to the mortality and interest basis adopted by the Retirement Board for such purposes.

*Amount of Allowance*

The total monthly allowance is generally 1.75% times final compensation times total years of creditable service.

However, if the member does not qualify in one of the following ways, the 1.75% factor is reduced by 0.07% for each year that retirement precedes the earliest date the member would be:

- (a) 55-64, providing the member's age and years of service total 85 or more.
- (c) Age 55 or older with 30 years of service.
- (d) Age 65 or older with five years of service.

The reduction is somewhat more than 0.07% for members with less than 20 years of service.

(Sections 4.36.607, 4.36.608, 4.36.610 and 4.36.640)



## **Disability Retirement**

Plans 1 and 2

### *Eligibility*

Ten years of service credited within the 15 years preceding disability retirement. If disability occurs in the course of City employment, there is no service requirement.

### *Normal Form*

Modified cash refund annuity. An optional survivor's benefit is available if the spouse is the beneficiary.

### *Amount of Allowance*

The total monthly disability allowance is the greater of:

- (a) 1.5% times final compensation times completed years of creditable service.
- (b) 1.5% times final compensation times total years of creditable service that could have been earned to age 62, but not to exceed one-third of final compensation.

### *Maximum Allowance*

The maximum disability allowance is 60% of final compensation.

### *Minimum Allowance*

The minimum disability allowance is \$140 per month.

(Sections 4.36.645 and 4.36.650)

## **Death Benefits**

Plans 1 and 2

### *Retired Members*

Death benefits to retired members are payable according to the form of retirement allowance elected.

### *Active Members*

- (a) Payment to the beneficiary of accumulated contributions, including interest; or
- (b) If the member had completed 10 years of service at the time of death, a surviving spouse or a registered domestic partner may elect to receive, in place of (a) above, either:
  - (1) A monthly allowance for life equal to the benefit the spouse would have received had the member just retired with a 100% contingent annuitant option in force; or
  - (2) A cash payment of no more than one-half of the member's accumulated contributions, along with a correspondingly reduced retirement allowance.

(Section 4.36.680)

## **Withdrawal Benefits**

Plans 1 and 2

### *Form*

Payment of accumulated contributions, with interest.

(Section 4.36.665A)

**Vested Withdrawal Benefits**

Plans 1 and 2

*Eligibility*

Five years of service.

*Amount of Allowance*

Same as service retirement benefit.

Plan 1

*Benefits Commence*

Age 52, if 20 or more years of service;

Age 57, if 10-19 years of service; or

Age 62, regardless of years of service.

(Section 4.36.665)

Plan 2

*Benefits Commence*

Age 55, if 20 or more years of service;

Age 57, if 10-19 years of service; or

Age 60, regardless of years of service.

(Section 4.36.665)

**Postretirement Benefit Increases**

Plans 1 and 2

*Provisions*

Effective January 1, 2007, the City Council adopted a 65% Restoration of Purchasing Power benefit and an automatic 1.5% annual COLA to all members.

If the System reaches a 100% Funding Ratio, the restoration amount increases to 70%.

(Section 4.36.615)

**Death Benefit System**

Plans 1 and 2

*Eligibility*

Mandatory for all active members; optional for retired members.

*Benefits*

\$2,000 upon the death of an active member or a participating retired member.

*Assessment*

Members pay an assessment of \$12 per year; the City pays a matching amount. If these assessments are not adequate, additional amounts may be transferred from the interest earnings in the retirement fund.

(Sections 4.36.690 and 4.36.695)

**Additional  
Contributions**  
Plans 1 and 2

*Provisions*

Members may voluntarily make contributions in excess of the regular rate; these are make-up contributions that apply only in specific situations.

*Retirement Benefit*

A monthly annuity which is the actuarial equivalent of accumulated additional contributions with interest.

*Other Benefits*

Accumulated additional contributions, with interest, generally become payable upon termination other than retirement.

(Sections 4.36.030 and 4.36.540A)

## Appendix C Valuation Data



This valuation is based upon the membership of the system as of January 1, 2018. Membership data were supplied by the System and accepted for valuation purposes without audit. However, extensive tests were performed to ensure that the data are sufficiently accurate for valuation purposes.

The data for all contributing members, former contributing members, and their survivors are summarized in Table C-1.

Tables C-2 through C-4 present distributions of members receiving service retirement benefits, members receiving disability retirement benefits, and survivors receiving benefits. Shown in the tables are the numbers of persons receiving benefits, the total annual benefits received (including payments for the annual bonus), and the average annual benefit per recipient.

Table C-5 contains summaries of the data for contributing members. Values shown in the tables are the numbers of members and their total and average annual salaries.

The valuation also includes liabilities attributable to members who have terminated employment but have neither retired nor withdrawn their contributions.

**Table C-1 Summary of Membership Data**

	<b>Contributing Members</b>			<b>Annuitants</b>		
	<b>Number</b>	<b>Annual Salaries (\$1,000)</b>	<b>Average Annual Salaries</b>	<b>Number</b>	<b>Annual Benefits (\$1,000)</b>	<b>Average Annual Benefits</b>
January 1, 2018	9,284	\$ 760,987	\$ 81,968	6,534	\$ 182,794	\$ 27,976
January 1, 2017	9,151	725,580	79,288	6,382	174,933	27,411
January 1, 2016	8,882	686,748	77,317	6,223	165,836	26,650
January 1, 2015	8,746	647,800	74,068	6,019	155,597	25,852
January 1, 2014	8,603	606,888	70,548	5,880	147,145	25,026
January 1, 2013	8,465	579,396	68,449	5,742	137,836	24,006
January 1, 2012	8,430	560,412	66,476	5,580	128,645	23,056
January 1, 2011	8,599	569,472	66,225	5,428	118,920	21,909
January 1, 2010	9,071	596,892	65,802	5,304	108,886	20,529
January 1, 2008	8,842	529,062	59,835	5,201	102,772	19,760
January 1, 2006	8,521	468,096	54,934	5,011	83,988	16,761
January 1, 2004	8,382	441,562	52,680	4,876	74,341	15,246
January 1, 2002	8,758	418,908	47,831	4,733	61,801	13,058
January 1, 2000	8,669	382,620	44,137	4,681	55,542	11,865
January 1, 1999	7,779	333,984	42,934	4,644	52,482	11,301
January 1, 1998	7,926	329,028	41,512	4,649	50,394	10,840
January 1, 1996	8,078	314,448	38,926	4,619	44,271	9,585

**Table C-2 Members Receiving Service Retirement Benefits as of January 1, 2018 – Inactive Lives**

	<u>&lt;50</u>	<u>50-54</u>	<u>55-59</u>	<u>60-64</u>	<u>65-69</u>	<u>70-74</u>	<u>75-79</u>	<u>80-84</u>	<u>85-89</u>	<u>90+</u>	<u>Totals</u>
Number of Persons											
Male	0	12	114	374	800	798	471	295	167	146	3,177
Female	0	13	133	391	761	610	269	161	109	102	2,549
Total	0	25	247	765	1,561	1,408	740	456	276	248	5,726
Annual Benefits in Thousands											
Male \$	0	\$ 604	\$ 4,423	\$ 14,044	\$ 26,957	\$ 24,351	\$ 14,319	\$ 7,261	\$ 3,990	\$ 3,499	\$ 99,449
Female	0	529	5,213	13,471	21,751	15,823	5,908	3,160	1,767	1,241	68,863
Total	0	1,133	9,636	27,515	48,708	40,174	20,227	10,421	5,757	4,740	168,312
Average Annual Benefits											
Male \$	0	\$ 50,366	\$ 38,795	\$ 37,551	\$ 33,697	\$ 30,515	\$ 30,402	\$ 24,613	\$ 23,891	\$ 23,969	\$ 31,303
Female	0	40,660	39,199	34,453	28,582	25,940	21,962	19,629	16,213	12,166	27,016
Total	0	45,319	39,013	35,967	31,203	28,533	27,334	22,854	20,859	19,115	29,394

**Table C-3 Members Receiving Disability Retirement Benefits as of January 1, 2018 – Inactive Lives**

	<u>&lt;50</u>	<u>50-54</u>	<u>55-59</u>	<u>60-64</u>	<u>65-69</u>	<u>70-74</u>	<u>75-79</u>	<u>80-84</u>	<u>85-89</u>	<u>90+</u>	<u>Totals</u>
Number of Persons											
Male	2	3	2	5	2	4	3	1	1	1	24
Female	2	2	6	10	4	1	3	2	0	0	30
Total	4	5	8	15	6	5	6	3	1	1	54
Annual Benefits in Thousands											
Male	\$ 39	\$ 58	\$ 45	\$ 84	\$ 35	\$ 55	\$ 35	* \$	* \$	* \$	352
Female	33	43	103	179	73	*	34	25	0	0	490
Total	72	101	148	264	108	55	69	25	*	*	842
Average Annual Benefits											
Male	\$ 19,390	\$ 19,313	\$ 22,251	\$ 16,884	\$ 17,573	\$ 13,874	\$ 11,790	* \$	* \$	* \$	14,652
Female	16,640	21,447	17,233	17,911	18,221	*	11,254	12,281	0	0	16,330
Total	18,015	20,167	18,487	17,569	18,005	11,099	11,522	8,187	*	*	15,570

\* Benefit amounts for groups with only one member not shown.

**Table C-4 Survivors Receiving Retirement Benefits as of January 1, 2018 – Inactive Lives**

	<u>&lt;50</u>	<u>50-54</u>	<u>55-59</u>	<u>60-64</u>	<u>65-69</u>	<u>70-74</u>	<u>75-79</u>	<u>80-84</u>	<u>85-89</u>	<u>90+</u>	<u>Totals</u>
Number of Persons											
Male	1	0	3	10	6	6	10	3	5	5	49
Female	5	14	26	49	69	86	59	77	91	145	621
Total	6	14	29	59	75	92	69	80	96	150	670
Annual Benefits in Thousands											
Male \$	* \$	0 \$	40 \$	175 \$	57 \$	118 \$	123 \$	36 \$	58 \$	36 \$	642
Female	82	297	510	1,197	1,454	1,614	1,139	1,428	1,542	2,047	11,311
Total	82	297	550	1,372	1,511	1,732	1,262	1,464	1,600	2,083	11,953
Average Annual Benefits											
Male \$	* \$	0 \$	13,308 \$	17,476 \$	9,535 \$	19,623 \$	12,270 \$	12,078 \$	11,611 \$	7,167 \$	13,111
Female	16,453	21,239	19,602	24,431	21,075	18,767	19,306	18,546	16,944	14,119	18,214
Total	13,711	21,239	18,951	23,252	20,152	18,823	18,286	18,304	16,667	13,888	17,841

\* Benefit amounts for groups with only one member not shown.

Note: In addition, 38 male survivors are receiving \$705,708 and 46 female survivors are receiving \$981,709 in Option B or Option C for a certain period only.



**Table C-5 Distribution of Employees and Salaries as of January 1, 2018 – Active Lives**

Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0	1	11	34	46	27	14	17	11	14	5			180
1		16	55	87	76	53	58	40	24	7	4		420
2		8	66	75	70	60	47	26	44	21	2		419
3-4		14	61	95	121	94	103	68	57	41	8	2	664
5-9		1	39	104	128	113	108	105	82	67	30	7	784
10-14			6	71	155	171	166	154	148	94	40	9	1,014
15-19				1	33	102	137	150	151	126	52	15	767
20-24						7	75	93	89	69	16	9	358
25-29						1	18	78	103	86	36	10	332
30-34								10	41	56	27	5	139
35-39									30	43	7	2	82
40+									3	15	17	9	44
Totals	1	50	261	479	610	615	729	735	786	630	239	68	5,203

**Monthly Salaries in Thousands - By Age Group - Males**

Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0	\$ 1	\$ 52	\$ 176	\$ 279	\$ 195	\$ 92	\$ 119	\$ 68	\$ 80	\$ 42	\$	\$	1,105
1		72	283	509	502	360	381	317	159	48	30		2,659
2		31	358	447	468	415	325	166	320	167	11		2,708
3-4		64	317	654	852	729	759	493	416	278	53	17	4,633
5-9		1	209	657	942	837	819	783	606	489	188	44	5,575
10-14			29	446	1,062	1,201	1,206	1,086	1,064	621	257	57	7,028
15-19				5	215	755	1,033	1,126	1,162	876	341	99	5,611
20-24						48	563	721	689	479	106	57	2,663
25-29						7	125	611	746	687	258	71	2,505
30-34								77	310	429	210	38	1,064
35-39									239	381	59	18	696
40+									24	108	120	56	308
Totals	1	220	1,373	2,997	4,236	4,444	5,331	5,448	5,813	4,604	1,631	458	36,557

**Table C-5 Distribution of Employees and Salaries as of January 1, 2018 – Active Lives (continued)**

Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0	\$ 1,472	\$ 4,732	\$ 5,189	\$ 6,073	\$ 7,214	\$ 6,593	\$ 6,978	\$ 6,208	\$ 5,692	\$ 8,457	\$	\$	\$ 6,140
1		4,493	5,142	5,845	6,606	6,791	6,573	7,925	6,617	6,796	7,420		6,332
2		3,858	5,425	5,958	6,690	6,921	6,919	6,392	7,265	7,958	5,305		6,463
3-4		4,577	5,203	6,884	7,045	7,761	7,373	7,250	7,297	6,775	6,565	8,628	6,978
5-9		1,404	5,366	6,319	7,357	7,409	7,584	7,456	7,389	7,293	6,267	6,303	7,111
10-14			4,810	6,277	6,850	7,022	7,267	7,052	7,190	6,606	6,418	6,320	6,931
15-19				5,143	6,517	7,397	7,541	7,505	7,696	6,954	6,548	6,599	7,316
20-24						6,836	7,507	7,754	7,743	6,935	6,625	6,345	7,438
25-29						6,716	6,953	7,837	7,240	7,989	7,170	7,142	7,547
30-34								7,698	7,555	7,664	7,772	7,662	7,655
35-39									7,952	8,857	8,472	8,859	8,493
40+									7,970	7,167	7,068	6,236	6,993
Totals	1,472	4,406	5,260	6,256	6,945	7,226	7,313	7,413	7,396	7,307	6,826	6,734	7,026

**Table C-6 Distribution of Employees and Salaries as of January 1, 2018 – Active Lives**

Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0		10	42	31	31	13	21	10	12	4	2	1	177
1	1	19	55	83	65	59	29	34	25	11	3		384
2		15	38	65	58	35	34	33	31	13	3		325
3-4		9	59	80	101	62	57	54	43	32	5	1	503
5-9		1	30	65	101	101	69	62	54	41	17	3	544
10-14			3	51	115	113	122	118	97	75	24	7	725
15-19				2	32	77	104	104	111	76	22	16	544
20-24					1	19	53	65	62	50	19	4	273
25-29						2	31	92	102	64	33	5	329
30-34							2	16	62	51	26	2	159
35-39									19	39	14	5	77
40+									2	15	20	4	41
Totals	1	54	227	377	504	481	522	588	620	471	188	48	4,081

**Monthly Salaries in Thousands - By Age Group - Females**

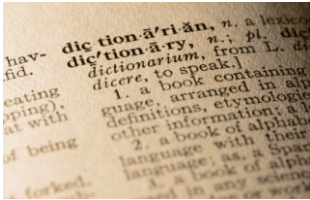
Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0	\$	\$ 33	\$ 216	\$ 154	\$ 195	\$ 81	\$ 132	\$ 64	\$ 74	\$ 16	\$ 14	\$ 2	981
1	3	64	305	471	402	381	202	241	171	57	12		2,310
2		54	207	387	395	217	237	236	205	92	17		2,048
3-4		32	297	500	709	420	369	394	315	232	28	9	3,305
5-9		5	145	393	692	690	507	411	393	277	100	12	3,626
10-14			14	274	705	782	866	762	645	524	171	29	4,771
15-19				12	182	545	740	768	758	516	126	57	3,704
20-24					4	125	366	474	417	366	103	9	1,865
25-29						14	199	684	689	463	233	20	2,301
30-34							14	100	442	372	204	15	1,147
35-39									140	269	98	42	549
40+									15	91	120	26	251
Totals	3	188	1,183	2,192	3,286	3,255	3,630	4,134	4,265	3,275	1,227	220	26,858

**Table C-6 Distribution of Employees and Salaries as of January 1, 2018 – Active Lives (continued)**

Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0	\$ 3,177	\$ 3,255	\$ 5,145	\$ 4,975	\$ 6,291	\$ 6,232	\$ 6,278	\$ 6,386	\$ 6,178	\$ 4,063	\$ 7,163	\$ 1,873	\$ 5,543
1	3,177	3,388	5,540	5,679	6,191	6,450	6,949	7,099	6,857	5,167	4,147		6,016
2		3,632	5,447	5,955	6,810	6,194	6,968	7,158	6,627	7,112	5,685		6,303
3-4		3,550	5,028	6,255	7,018	6,771	6,471	7,304	7,328	7,236	5,661	8,974	6,570
5-9		5,115	4,823	6,049	6,852	6,837	7,344	6,634	7,277	6,754	5,904	4,009	6,665
10-14			4,704	5,372	6,133	6,920	7,096	6,454	6,651	6,984	7,108	4,105	6,581
15-19				5,762	5,702	7,080	7,111	7,381	6,833	6,786	5,733	3,554	6,808
20-24					4,392	6,561	6,911	7,296	6,729	7,325	5,446	2,236	6,833
25-29						7,080	6,418	7,429	6,750	7,231	7,052	4,003	6,993
30-34							6,824	6,273	7,124	7,299	7,849	7,391	7,213
35-39									7,366	6,897	6,986	8,456	7,130
40+									7,433	6,089	5,979	6,388	6,130
Totals	3,177	3,490	5,212	5,814	6,519	6,766	6,954	7,031	6,879	6,954	6,526	4,584	6,581

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## Appendix D Glossary



The following definitions are largely excerpts from a list adopted in 1981 by the major actuarial organizations in the United States. In some cases the definitions have been modified for specific applicability to the Seattle City Employees' Retirement System. Defined terms are capitalized throughout this Appendix.

### **Accrued Benefit**

The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.

### **Actuarial Accrued Liability**

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

### **Actuarial Assumptions**

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation, rates of investment earnings, and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

### **Actuarial Cost Method**

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

### **Actuarial Gain (Loss)**

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

### **Actuarial Present Value**

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

### **Actuarial Valuation**

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

### **Actuarial Value of Assets**

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

### **Actuarially Equivalent**

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

### **Amortization Payment**

That portion of the pension plan contribution that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability (UAAL).

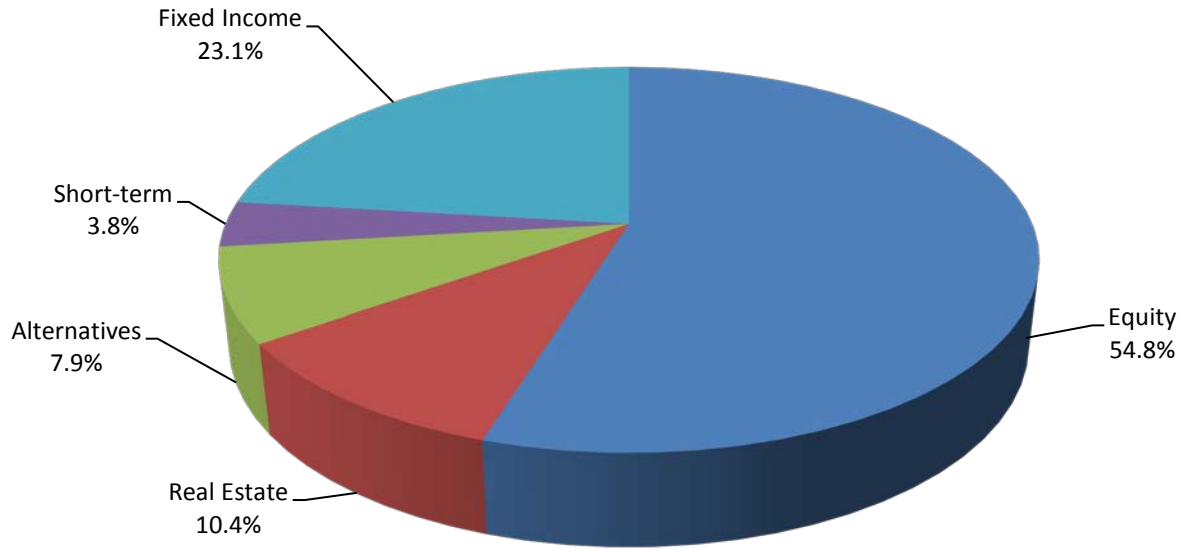
<b>Entry Age Actuarial Cost Method</b>	A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.
<b>Funding Ratio</b>	The Actuarial Value of Assets divided by the Actuarial Accrued Liability. May also be calculated as the Market Value of Assets divided by the Actuarial Accrued Liability, in which case it is indicated that the Funding Ratio is shown on a Market Value basis.
<b>Normal Cost</b>	That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
<b>Projected Benefits</b>	Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.
<b>Surplus Funding</b>	The excess of the Actuarial Value of Assets over the Actuarial Accrued Liability.
<b>Unaccrued Benefit</b>	The excess of an individual's Projected Benefits over the Accrued Benefits as of a specified date.
<b>Unfunded Actuarial Accrued Liability</b>	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

# STATISTICAL

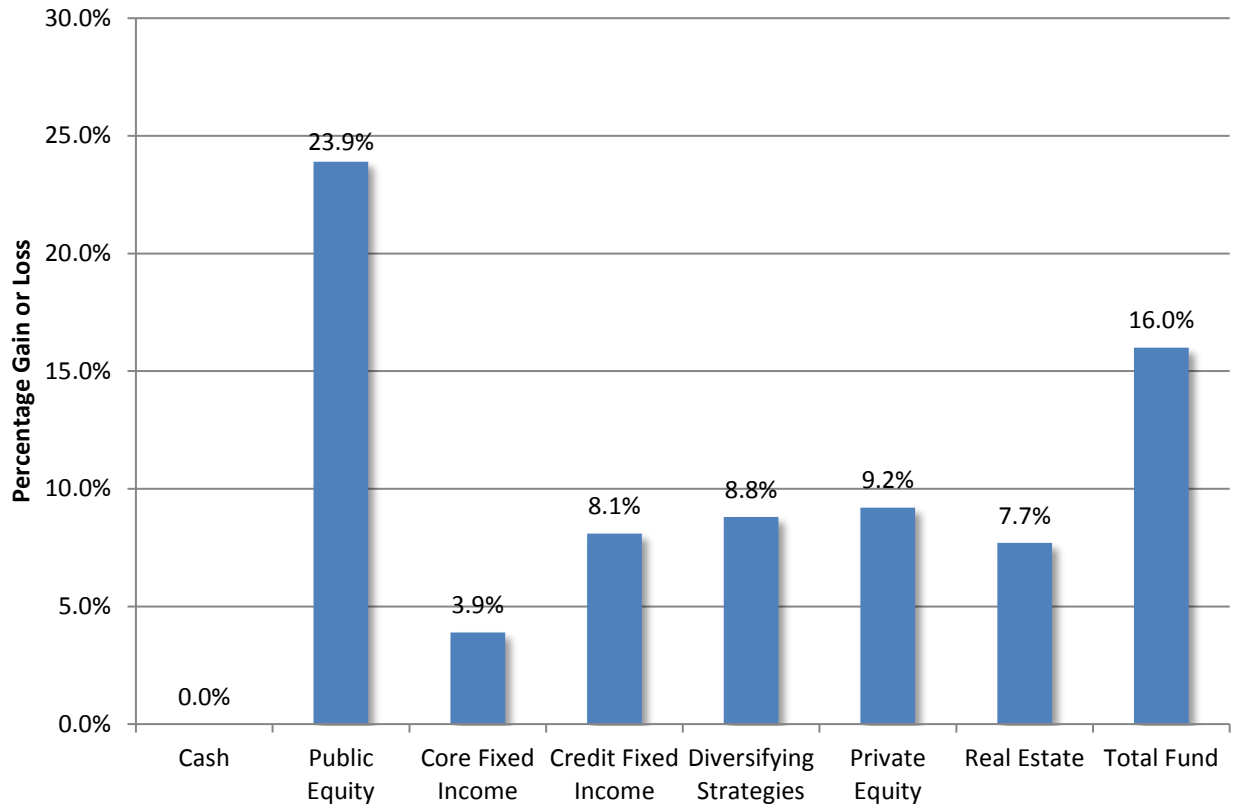




## 2017 YE Investment Portfolio Composition



## 2017 Fund Performance



Returns provided by NEPC as of 12/31/17

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF REVENUES BY SOURCE**

Employee Contribution % *	Employer Contribution % **	Fiscal Year	Member Contributions	Employer Contribution	Investment Income	Miscellaneous Income	Total
8.03	7.91	1980	\$ 9,166,162	\$ 10,470,335	\$ 16,284,473	\$ 846	\$ 35,921,816
8.03	8.54	1981	11,845,089	13,309,388	18,488,195	2,311	43,644,983
8.03	8.54	1982	12,465,220	14,790,039	21,106,414		48,361,673
8.03	8.54	1983	12,926,545	14,265,554	27,224,215	5,050	54,421,364
8.03	8.91	1984	14,076,607	15,961,211	30,543,443	67	60,581,328
8.03	8.91	1985	14,399,465	16,280,464	25,317,826		55,997,755
8.03	8.91	1986	15,164,105	16,758,439	33,081,706		65,004,250
8.03	8.91	1987	16,088,280	17,799,789	46,029,652	410	79,918,131
8.03	8.91	1988	16,701,142	18,521,365	36,397,481		71,619,988
8.03	8.91	1989	17,246,117	18,983,634	41,803,863	545	78,034,159
8.03	8.91	1990	20,405,149	21,810,612	27,725,284		69,941,045
8.03	8.91	1991	21,111,940	21,458,952	37,758,671		80,329,563
8.03	8.91	1992	21,564,881	25,117,924	41,792,730		88,475,535
8.03	8.91	1993	23,473,485	26,139,925	100,705,007	***	150,318,417
8.03	8.91	1994	24,764,862	26,704,211	3,670,356		55,139,429
8.03	8.91	1995	26,069,124	27,816,819	181,470,912		235,356,855
8.03	8.91	1996	25,835,147	28,372,760	118,399,056		172,606,963
8.03	8.91	1997	25,571,634	28,310,353	143,719,597		197,601,584
8.03	8.91	1998	27,311,815	30,554,650	168,477,507		226,343,972
8.03	8.03	1999	29,201,844	29,898,474	240,904,299		300,004,617
8.03	8.03	2000	30,962,052	30,956,217	(79,832,672)		(17,914,403)
8.03	8.03	2001	32,602,859	32,667,381	(93,021,798)		(27,751,558)
8.03	8.03	2002	39,388,249	36,599,830	(116,907,340)		(40,919,261)
8.03	8.03	2003	36,243,490	34,200,693	296,239,050		366,683,233
8.03	8.03	2004	37,192,591	36,819,271	177,211,711		251,223,573
8.03	8.03	2005	35,962,449	35,897,345	139,866,897		211,726,691
8.03	8.03	2006	38,228,475	38,077,976	251,934,917		328,241,368
8.03	8.03	2007	40,533,554	40,299,506	149,708,740		230,541,800
8.03	8.03	2008	45,986,139	45,961,040	(612,803,880)		(520,856,701)
8.03	8.03	2009	46,613,886	46,650,169	198,417,995		291,682,050
8.03	8.03	2010	45,364,624	45,224,787	216,839,059		307,428,470
9.03	9.03	2011	50,415,119	50,301,263	(8,233,151)		92,483,231
10.03	11.01	2012	57,086,346	62,515,432	237,789,669		357,391,447
10.03	12.89	2013	60,342,581	77,073,667	298,149,888		435,566,136
10.03	14.31	2014	63,969,504	89,988,898	130,807,611		284,766,013
10.03	15.73	2015	65,779,216	101,153,403	16,280,647		183,213,266
10.03	15.23	2016	71,755,857	108,454,496	198,649,719		378,860,072
10.03	15.29	2017	73,650,409	112,102,982	399,449,588		585,202,979

\* Employee Contributions reflected above are representative for the overall majority of active members. There are a small percentage of active members whose employee contribution rate is "grandfathered" at a slightly lower rate.

\*\* Employer Contributions reflected as a percentage of covered payroll.

\*\*\* Beginning with 1993, the investment income reflects unrealized gains (losses) required by GASB 25.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF EXPENSES BY TYPE**

<b>Year</b>	<b>Benefits</b>	<b>Refunds</b>	<b>Administrative &amp; Investment</b>	<b>Total</b>
1980	\$ 17,584,611	\$ 1,786,654	\$ 331,600	\$ 19,702,865
1981	19,114,992	2,074,078	419,568	21,608,638
1982	21,358,214	2,151,528	458,261	23,968,003
1983	23,029,611	2,086,102	538,059	25,653,772
1984	25,175,469	3,366,999	737,445	29,279,913
1985	27,090,615	2,753,418	1,076,324	30,920,357
1986	28,777,844	3,212,415	1,340,874	33,331,133
1987	30,499,027	3,141,868	1,494,189	35,135,084
1988	32,093,902	3,293,088	1,408,946	36,795,936
1989	34,121,917	3,257,432	1,538,544	38,917,893
1990	36,431,265	3,592,483	1,636,911	41,660,659
1991	37,862,028	3,731,762	1,870,922	43,464,712
1992	38,884,790	3,585,672	2,109,340	44,579,802
1993	40,131,325	2,944,003	2,525,620	45,600,948
1994	42,420,358	3,412,882	2,639,538	48,472,778
1995	44,352,180	3,874,980	7,217,337	55,444,497
1996	46,257,605	3,888,043	7,989,200	58,134,848
1997	50,349,474	5,463,464	11,875,158	67,688,096
1998	56,247,811	7,502,444	12,145,939	75,896,194
1999	58,704,086	9,730,803	10,447,151	78,882,040
2000	62,844,355	11,641,902	10,634,557	85,120,814
2001	65,553,605	8,785,879	7,293,821	81,633,305
2002	68,825,558	12,019,852	7,250,214	88,095,624
2003	73,559,728	13,218,137	7,081,030	93,858,895
2004	77,289,288	9,791,692	7,188,848	94,269,828
2005	82,268,449	10,385,215	11,773,914	104,427,578
2006	87,583,509	10,553,067	10,715,425	108,852,001
2007	98,391,533	11,525,660	12,380,123	122,297,316
2008	102,703,230	10,223,415	8,188,287	121,114,932
2009	108,138,820	9,742,692	5,929,667	123,811,179
2010	113,650,795	14,715,000	11,605,536	139,971,331
2011	124,061,630	16,677,022	10,974,855	151,713,507
2012	134,135,553	14,913,574	10,431,260	159,480,387
2013	141,424,206	15,278,136	13,466,311	170,168,653
2014	150,239,008	15,103,615	13,868,184	179,210,807
2015	159,349,807	16,137,840	18,138,855	193,626,502
2016	168,967,298	16,456,570	18,224,795	203,648,663
2017	179,226,526	19,158,756	22,532,730	220,918,012

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**

**BENEFIT EXPENSE BY TYPE**

**Twenty Years Ending December 31, 2017**

<b>Year</b>	<b>Age &amp; Service Retirants</b>	<b>Benefits Survivors</b>	<b>Disability Retirants Benefits</b>	<b>Death Benefit</b>	<b>Refunds</b>	<b>Total</b>
1998	48,684,577	6,500,622	714,624	347,988	7,502,444	63,750,255
1999	50,902,672	6,821,887	698,527	281,000	9,730,803	68,434,889
2000	54,518,311	7,260,855	714,799	350,390	11,641,902	74,486,257
2001	57,122,024	7,486,988	672,593	272,000	8,785,879	74,339,484
2002	59,991,882	7,821,555	686,121	326,000	12,019,852	80,845,410
2003	64,301,813	8,215,109	714,806	328,000	13,218,137	86,777,865
2004	67,794,624	8,486,860	711,804	296,000	9,791,692	87,080,980
2005	72,390,702	8,754,471	785,276	338,000	10,351,215	92,653,664
2006	77,320,260	9,180,292	814,957	268,000	10,553,067	98,136,576
2007	87,019,040	10,230,265	864,228	278,000	11,525,660	109,917,193
2008	91,265,085	10,282,919	885,227	270,000	10,223,415	112,926,645
2009	95,951,625	11,022,403	886,684	278,108	9,742,692	117,881,512
2010	101,965,821	10,526,966	918,009	240,000	14,714,999	128,365,795
2011	112,072,113	10,804,171	919,345	266,000	16,677,022	140,738,651
2012	122,076,194	10,904,912	924,447	230,000	14,913,574	149,049,127
2013	129,360,508	10,845,604	914,094	304,000	15,278,136	156,702,342
2014	137,887,118	11,175,718	896,172	280,000	15,103,615	165,342,623
2015	146,991,429	11,232,712	913,166	212,500	16,137,840	175,487,647
2016	156,661,906	11,237,234	902,858	165,300	16,456,570	185,423,868
2017	166,501,881	11,602,199	907,732	214,714	19,158,756	198,385,282

**REVENUE RATIOS BY SOURCE**  
**1975 Through 2017**

Year	Member Contributions %	Employer Contributions %	Investment Income %	Total Revenue %	
1975	26	31	43	100	
1976	26	31	43	100	
1977	25	29	46	100	
1978	25	29	46	100	
1979	27	30	43	100	
1980	26	29	45	100	
1981	27	31	42	100	
1982	25	31	44	100	
1983	24	26	50	100	
1984	23	26	51	100	
1985	26	29	45	100	
1986	24	26	50	100	
1987	20	22	58	100	
1988	23	26	51	100	
1989	22	24	54	100	
1990	29	31	40	100	
1991	26	27	47	100	
1992	25	28	47	100	
1993	*	16	17	67	100
1994	*	45	48	7	100
1995	**	11	12	77	100
1996	**	15	16	69	100
1997		13	14	73	100
1998		12	14	74	100
1999		10	10	80	100
2000			<i>Net Loss</i>		
2001			<i>Net Loss</i>		
2002			<i>Net Loss</i>		
2003	10	9	81	100	
2004	15	15	70	100	
2005	17	17	66	100	
2006	12	12	76	100	
2007	18	18	64	100	
2008			<i>Net Loss</i>		
2009	16	16	68	100	
2010	15	15	70	100	
2011			<i>Net Loss</i>	100	
2012	16	17	67	100	
2013	14	18	68	100	
2014	23	33	44	100	
2015	36	55	9	100	
2016	19	29	52	100	
2017	13	19	68	100	

\* Beginning with 1993, the investment income reflects unrealized gains (losses) required by GASB 25.

\*\* Beginning with 1996 (and 1995 has been restated) investment income includes the gross income from Securities Lending as required by GASB 28.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF INVESTMENT RESULTS**  
**Ten Years Ending December 31, 2017**

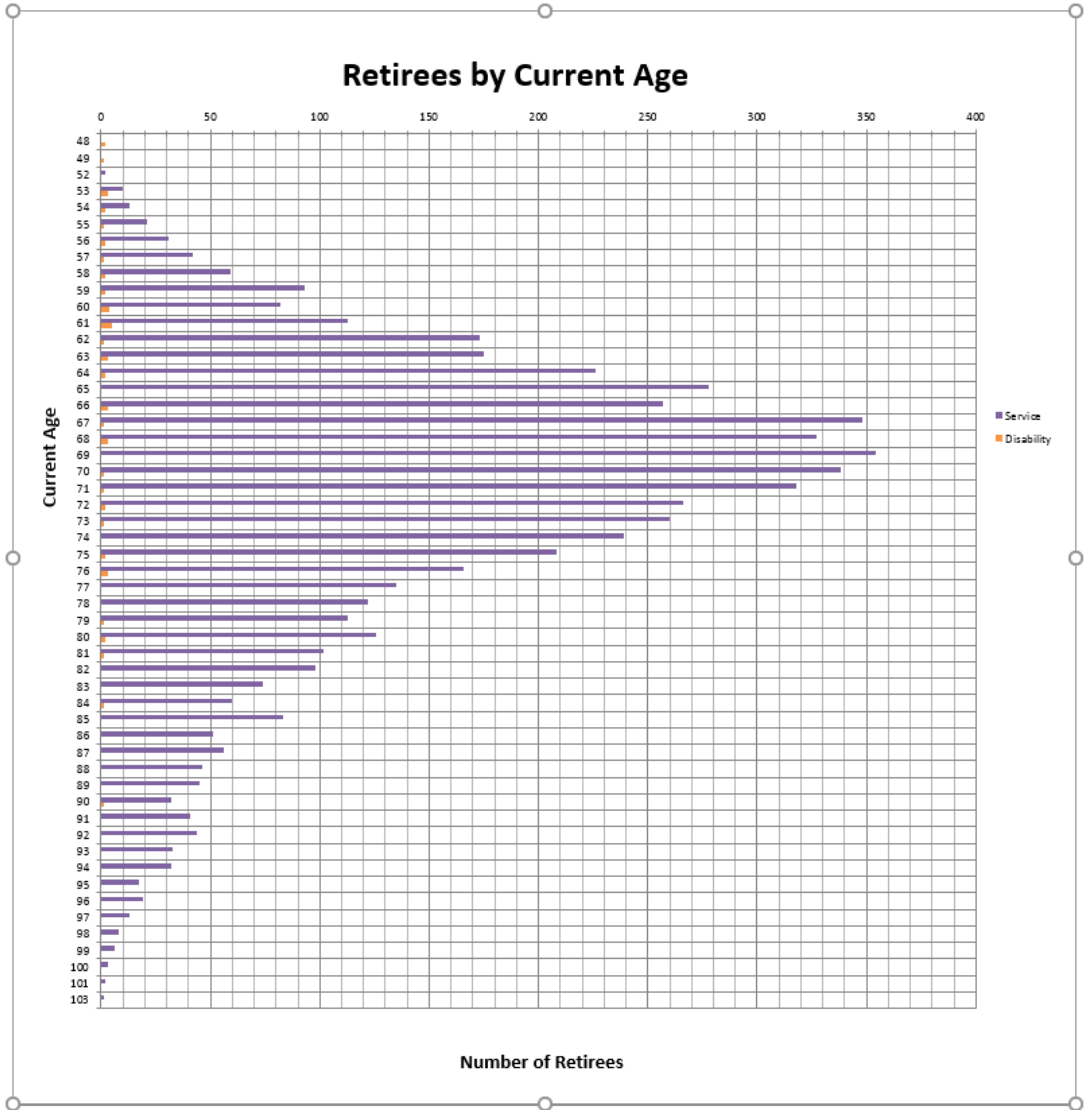
<b>Year</b>	<b>Investment Income *</b>	<b>Investments Market Value</b>	<b>Securities Lending Collateral</b>	<b>Return on Market Value</b>
2008	(612,803,880)	1,467,556,416	69,838,616	(26.8)%
2009	198,417,995	1,635,993,047	36,491,886	10.8%
2010	216,839,059	1,809,331,365	33,896,148	13.2%
2011	(8,233,150)	1,750,742,911	3,489,721	(0.0)%
2012	237,789,669	1,944,976,344	10,154,781	14.0%
2013	298,225,616	2,213,014,808	13,595,048	15.5%
2014	131,047,615	2,315,159,044	25,231,590	5.7%
2015	17,011,351	2,297,798,733	50,952,037	0.3%
2016	198,915,311	2,473,986,443	11,130,677	8.6%
2017	399,539,022	2,840,696,481	11,358,941	16.0%

\* Investment Income includes market gains and losses, and gross income from Securities Lending.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
SERVICE AND DISABILITY PENSIONERS BY AGE  
As of December 31, 2017**

Current AGE	Service	Disability
48	0	2
49	0	1
52	2	0
53	10	3
54	13	2
55	21	1
56	31	2
57	42	1
58	53	2
59	93	2
60	82	4
61	113	5
62	173	1
63	175	3
64	226	2
65	278	0
66	257	3
67	348	1
68	327	3
69	354	0
70	338	1
71	318	1
72	266	2
73	260	1
74	239	0
75	208	2
76	166	3
77	135	0
78	122	0
79	113	1
80	126	2
81	102	1
82	98	0
83	74	0
84	60	1
85	83	0
86	51	0
87	56	0
88	46	0
89	45	0
90	32	1
91	41	0
92	44	0
93	33	0
94	32	0
95	17	0
96	19	0
97	13	0
98	8	0
99	6	0
100	3	0
101	2	0
103	1	0
<b>5761</b>	<b>54</b>	

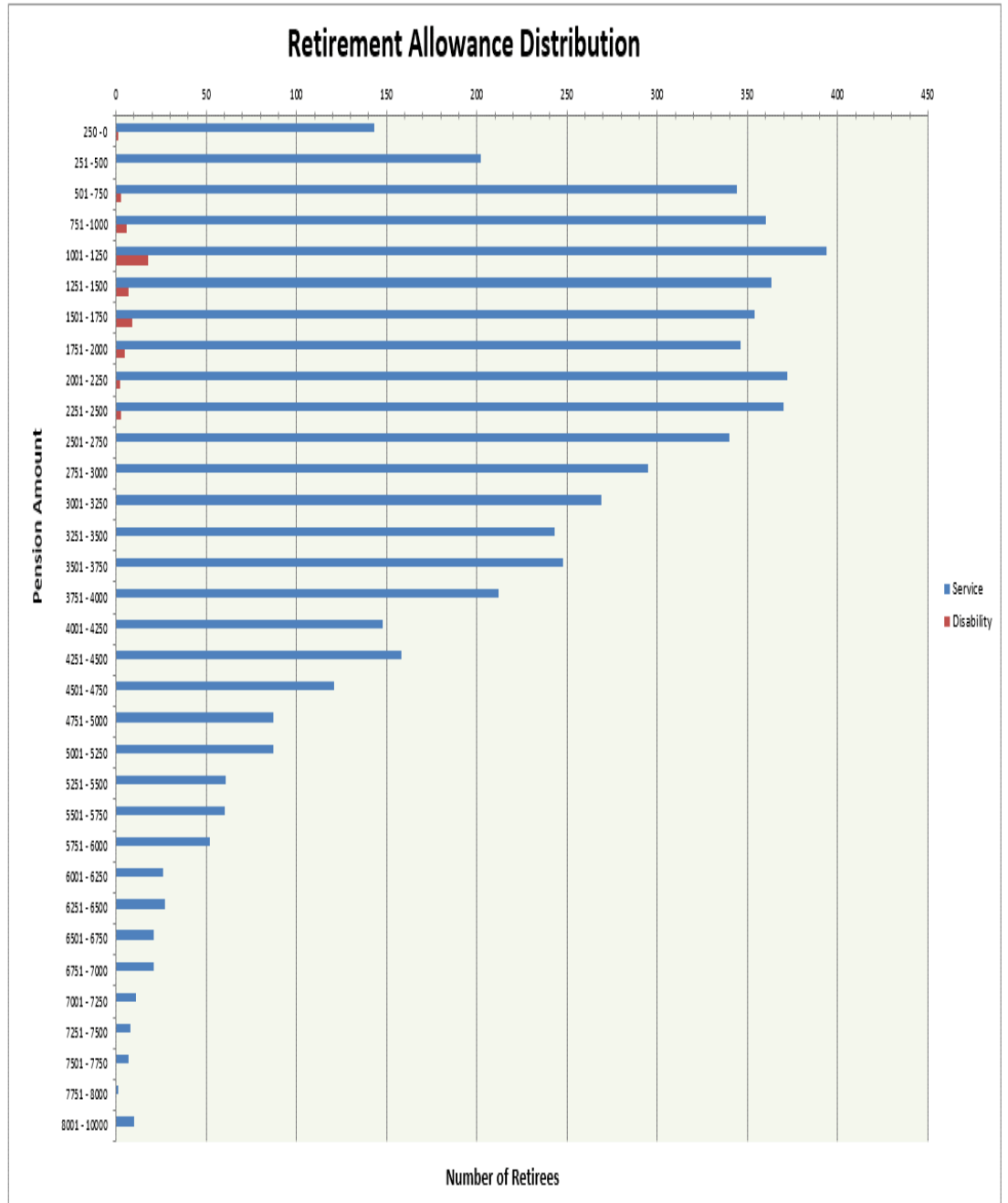
Total: 5815





**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
RETIREMENT ALLOWANCE DISTRIBUTION  
As of December 31, 2017**

	\$	\$	Service	Disability
250-0	250.00	- 0.00	143	1
251-500	251.00	- 500.00	202	0
501-750	501.00	- 750.00	344	3
751-1000	751.00	- 1,000.00	360	6
1001-1250	1,001.00	- 1,250.00	394	18
1251-1500	1,251.00	- 1,500.00	363	7
1501-1750	1,501.00	- 1,750.00	354	9
1751-2000	1,751.00	- 2,000.00	346	5
2001-2250	2,001.00	- 2,250.00	372	2
2251-2500	2,251.00	- 2,500.00	370	3
2501-2750	2,501.00	- 2,750.00	340	0
2751-3000	2,751.00	- 3,000.00	295	0
3001-3250	3,001.00	- 3,250.00	269	0
3251-3500	3,251.00	- 3,500.00	243	0
3501-3750	3,501.00	- 3,750.00	248	0
3751-4000	3,751.00	- 4,000.00	212	0
4001-4250	4,001.00	- 4,250.00	148	0
4251-4500	4,251.00	- 4,500.00	158	0
4501-4750	4,501.00	- 4,750.00	121	0
4751-5000	4,751.00	- 5,000.00	87	0
5001-5250	5,001.00	- 5,250.00	87	0
5251-5500	5,251.00	- 5,500.00	61	0
5501-5750	5,501.00	- 5,750.00	60	0
5751-6000	5,751.00	- 6,000.00	52	0
6001-6250	6,001.00	- 6,250.00	26	0
6251-6500	6,251.00	- 6,500.00	27	0
6501-6750	6,501.00	- 6,750.00	21	0
6751-7000	6,751.00	- 7,000.00	21	0
7001-7250	7,001.00	- 7,250.00	11	0
7251-7500	7,251.00	- 7,500.00	8	0
7501-7750	7,501.00	- 7,750.00	7	0
7751-8000	7,751.00	- 8,000.00	1	0
8001-10000	8,001.00	- 10,000.00	10	0
			<b>Sub Total</b>	<b>54</b>
			<b>Total</b>	<b>5,815</b>



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTIVE MEMBERSHIP EXPERIENCE**  
**For the Last Thirty Years**

Year	Members at End of Period	New Members During Period	Withdrawals During Period	Re-entering & Re-depositing	Deaths During Period	Pensions Granted During Period
1988	7,252	542	361	45	10	160
1989	7,544	672	251	51	12	168
1990	7,813	872	454	45	12	182
1991	8,037	681	354	43	13	133
1992	8,171	463	220	32	17	124
1993	8,317	537	279	39	15	136
1994	8,553	512	201	133	16	192
1995	8,741	477	284	136	12	153
1996	8,584	339	270	13	12	227
1997	8,572	435	287	36	18	178
1998	8,743	557	236	29	9	170
1999	9,576	1,289	238	14	17	215
2000	9,836	876	393	17	13	227
2001	10,111	706	241	25	18	197
2002	9,737	426	503	16	12	301
2003	9,964	628	202	5	14	190
2004	10,222	636	123	4	8	251
2005	10,387	635	212	3	11	247
2006	10,493	710	325	15	16	278
2007	10,892	948	292	37	8	286
2008	10,831	833	340	83	9	187
2009	11,077	347	313	122	16	221
2010	10,597	273	397	17	15	355
2011	10,477	317	239	16	12	321
2012	10,075	405	219	15	9	351
2013	10,627	786	235	28	12	331
2014	10,894	785	208	31	11	320
2015	11,165	853	228	34	10	377
2016	11,595	958	194	17	18	307
2017	11,840	789	194	16	14	346

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**COMPARATIVE STATEMENT OF EXPERIENCE OF SERVICE AND DISABILITY RETIREMENT PAYROLLS**  
**From Inception in 1929, Through 2017**

Figures Quoted as of the End of Each Fiscal Period

	Number Retired During Period			Number Deceased During Period		Pensions Discontinued			Benefit Cont' to Beneficiary Service	Number on Payroll at End of Period		
	Service	Sec. 19-b	Disability	Service	Disability	Service	Beneficiary	Disability		Service	Beneficiary	Disability
1929 - 1983 Inclusive	6,734	443	943	3,434	657	3	409	84	647	3,344	684	202
December 31, 1984	206	9	4	135	14		28		51	3,415	716	192
December 31, 1985	202	4	7	115	18		19	1	48	3,505	743	183
December 31, 1986	175	10	4	140	9		13		20	3,540	760	178
December 31, 1987	184	6	7	132	16		6		16	3,592	776	169
December 31, 1988	158	2	3	120	9		25		37	3,627	790	163
December 31, 1989	163	8	5	141	12		5		43	3,660	780	154
December 31, 1990	181	10	1	128	16		7		44	3,695	827	140
December 31, 1991	129		4	158	12		31		70	3,665	866	132
December 31, 1992	121		3	161	4		32		50	3,625	884	131
December 31, 1993	133	6	3	157	6		42		45	3,601	894	127
December 31, 1994	181	10	1	159	10		53		55	3,608	922	117
December 31, 1995	148	5	2	162	5		54		38	3,591	914	114
December 31, 1996	225	3	1	173	8		44		49	3,659	907	106
December 31, 1997	170	9	1	186	9		75		69	3,622	931	98
December 31, 1998	166	2	2	170	9	1	45		51	3,614	942	91
December 31, 1999	208	5	2	167	5		67		51	3,662	931	88
December 31, 2000	222	4	1	142	4		46		43	3,699	933	84
December 31, 2001	192	4	1	152	8		53		33	3,733	924	76
December 31, 2002	290	5	6	170	5		49		48	3,836	945	77
December 31, 2003	189	6	1	163	5		67		57	3,858	945	73
December 31, 2004	243	2	6	172	6		61		39	3,924	930	73
December 31, 2005	235	6	6	164	3		66		70	3,993	942	76
December 31, 2006	270	6	2	151	6		72		33	4,113	908	72
December 31, 2007	277	6	2	155	2		70		59	4,231	897	72
December 31, 2008	192	5	1	158	2		72		51	4,295	875	77
December 31, 2009	221	16	1	144	4		60		47	4,345	885	75
December 31, 2010	355	5	0	159	0		68		41	4,546	808	74
December 31, 2011	321	4	1	136	2		76		50	4,712	802	66
December 31, 2012	351	6	2	155	5		66		36	4,844	779	62
December 31, 2013	328	1		214	7	4	12		53	5,025	758	58
December 31, 2014	317		3	157			55		36	5,209	755	62
December 31, 2015	371	2	6	136	6	3	67		27	5,494	713	61
December 31, 2016	307	0	0	153	4	2	62	3	41	5,576	703	55
December 31, 2017	341	3	2	165	4	6	60	3	30	5,759	680	54
										<b>2017 Grand Total</b>		<b>6,493</b>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
EXPERIENCE IN MISCELLANEOUS AVERAGES  
For the Last Thirty Years**

	AVERAGE SERVICE RETIREMENT ALLOWANCE	AVERAGE AGE OF SERVICE PENSIONERS	AVERAGE DISABILITY RETIREMENT ALLOWANCE	AVERAGE AGE OF DISABILITY PENSIONERS	ACTIVE MEMBERS DECEASED	
					# OF DEATHS	AVERAGE AGE
1988	655.62	70.02	357.61	66.40	14	49.93
1989	664.36	71.45	343.74	66.53	12	49.17
1990	697.54	71.72	352.75	65.88	12	47.67
1991	757.07	72.19	378.41	66.61	13	57.77
1992	749.31	72.44	366.23	66.30	17	50.94
1993	775.72	73.42	394.13	67.80	15	53.00
1994	811.55	73.28	407.60	67.52	16	55.00
1995	850.50	73.45	431.19	67.78	12	53.67
1996	904.11	73.43	423.86	68.88	12	44.92
1997	961.30	73.29	448.15	68.12	18	54.72
1998 *	1,063.66	73.30	594.09	68.13	9	56.11
1999	1,114.34	73.10	609.19	68.25	17	55.24
2000	1,167.60	72.88	622.66	68.69	13	50.77
2001	1,222.42	72.70	654.53	67.84	18	51.39
2002	1,289.77	72.16	703.83	67.25	12	54.33
2003	1,338.49	72.14	734.85	66.78	14	53.14
2004	1,404.86	71.93	788.94	65.40	8	50.62
2005	1,477.58	71.78	827.46	65.15	11	53.18
2006	1,552.57	71.53	877.96	64.75	16	51.94
2007	1,768.13	71.42	1,010.15	65.53	8	53.13
2008	1,822.44	71.92	1,038.93	65.49	9	52.33
2009	1,873.39	71.51	1,077.33	64.15	16	58.00
2010	1,965.36	71.32	1,110.10	65.84	15	55.73
2011	2,043.56	71.29	1,144.88	65.61	12	54.00
2012	2,152.85	71.21	1,203.52	66.08	9	57.67
2013	2,206.86	71.60	1,220.27	65.97	12	59.90
2014	2,268.70	71.26	1,257.92	65.33	11	53.27
2015	2,332.94	71.30	1,296.45	64.27	10	57.30
2016	2,392.64	71.55	1,331.95	64.46	18	56.33
2017	2,468.41	71.59	1,374.87	64.45	14	63.29

\* Beginning in 1998 the average retirement allowance numbers include the monthly COLA amounts.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
SCHEDULE OF AVERAGE BENEFIT PAYMENTS**

Retirement Effective Dates	Years Credited Service					
	<u>0-10</u>	<u>11-15</u>	<u>16-20</u>	<u>21-25</u>	<u>26-30</u>	<u>31 +</u>
<b><u>Jan. 1, 2008 to Dec. 31, 2017</u></b>						
Period 1/1/08 to 12/31/08						
Average Monthly Benefit	\$ 693.96	1,307.50	1,683.04	2,237.23	3,032.86	3,467.66
Average Final Salary	\$ 5,616.72	5,133.11	5,029.50	5,470.66	5,896.14	5,682.79
Number of Active Retirees	25	18	20	37	41	46
Period 1/1/09 to 12/31/09						
Average Monthly Benefit	\$ 725.01	1,200.14	1,633.91	2,191.40	2,895.97	3,517.60
Average Final Salary	\$ 6,221.46	5,346.25	5,391.47	5,637.85	5,937.71	6,298.57
Number of Active Retirees	35	36	26	34	33	57
Period 1/1/10 to 12/31/10						
Average Monthly Benefit	\$ 743.52	1,230.93	1,819.18	2,553.58	3,152.03	3,738.60
Average Final Salary	\$ 4,657.13	5,098.76	5,424.67	6,829.01	6,418.87	6,161.06
Number of Active Retirees	35	32	59	57	90	82
Period 1/1/11 to 12/31/11						
Average Monthly Benefit	\$ 770.06	1,387.07	1,986.83	2,439.29	3,370.92	3,912.57
Average Final Salary	\$ 5,937.02	5,547.89	6,190.33	6,320.57	6,492.13	6,399.97
Number of Active Retirees	41	39	31	64	58	90
Period 1/1/12 to 12/31/12						
Average Monthly Benefit	\$ 846.84	1,988.33	2,004.20	2,942.30	3,331.36	3,859.10
Average Final Salary	\$ 5,698.96	6,197.59	5,938.01	6,511.90	6,562.86	6,479.21
Number of Active Retirees	59	36	45	57	74	80
Period 1/1/13 to 12/31/13						
Average Monthly Benefit	\$ 956.90	1,698.31	2,270.52	2,859.90	3,432.76	4,014.78
Average Final Salary	\$ 5,910.57	6,526.74	6,126.15	6,900.96	6,775.70	6,667.11
Number of Active Retirees	45	43	34	58	63	85

Retirement Effective Dates	Years Credited Service						
	<u>Jan. 1, 2008 to Dec. 31, 2017</u>	<u>0-10</u>	<u>11-15</u>	<u>16-20</u>	<u>21-25</u>	<u>26-30</u>	<u>31 +</u>
Period 1/1/14 to 12/31/14							
Average Monthly Benefit	\$	933.87	1,709.96	2,209.50	2,659.54	3,684.43	4,461.46
Average Final Salary	\$	6,141.78	6,444.04	6,814.88	6,012.59	7,017.93	6,692.68
Number of Active Retirees		69	32	42	48	71	55
Period 1/1/15 to 12/31/15							
Average Monthly Benefit	\$	906.17	1,720.51	2,010.67	3,050.66	3,542.68	4,301.93
Average Final Salary	\$	6,402.57	6,829.11	6,313.27	6,822.33	6,512.09	6,887.75
Number of Active Retirees		66	48	41	69	66	78
Period 1/1/16 to 12/31/16							
Average Monthly Benefit	\$	980.70	1,698.99	2,330.34	3,175.59	3,531.85	4,836.48
Average Final Salary	\$	6,453.25	6,407.79	6,432.5	7,121.27	6,809.85	7,176.18
Number of Active Retirees		57	48	41	53	55	67
Period 1/1/2017 to 12/31/17							
Average Monthly Benefit	\$	1,170.16	1,573.96	2,354.49	2,920.97	3,973.49	4,799.48
Average Final Salary	\$	6,878.82	6,033.23	6,838.85	6,909.76	7,354.58	7,221.45
Number of Active Retirees		65	40	43	45	71	82
<hr/>							
<b>Period 1/1/08 to 12/31/17</b>							
<b>Average Monthly Benefit</b>	<b>\$</b>	<b>872.72</b>	<b>1,551.57</b>	<b>2,030.27</b>	<b>2,703.05</b>	<b>3,394.84</b>	<b>4,090.97</b>
<b>Average Final Salary</b>	<b>\$</b>	<b>5,991.83</b>	<b>5,956.45</b>	<b>6,049.96</b>	<b>6,453.69</b>	<b>6,577.79</b>	<b>6,566.68</b>
<b>Average Number of Retirees</b>		<b>50</b>	<b>37</b>	<b>38</b>	<b>52</b>	<b>62</b>	<b>72</b>

**NEW MEMBERS IN THE RETIREMENT SYSTEM IN 2017  
BY DEPARTMENT**

Department Name	Count
Arts Department	1
City Budget Office Dept	3
Dept Of Construction & Inspect	32
Dept Of Early Learning & Educ	12
Dept Of Neighborhoods	6
Dept Of Transportation	90
Employees Ret Dept	5
Ethics And Elections Dept	3
Finance & Admin Services Dept	56
Fire Department	12
Hearing Examiner Dept	1
Human Services Department	47
Immigrant & Ref Affairs Dept	1
Intergovernment Relations Dept	1
Law Department	16
Legislative Dept	8
Library Dept	41
Mayors Office Dept	4
Municipal Courts Dept	22
Off Of Labor And Stand Dept	6
Office Of Civil Rights Dept	4
Office Of Economic Development	3
Office Of Housing	6
Office Of Planning & Comm Dev	3
Parks Department	55
Police Department	70
Seattle Center	20
Seattle City Light	83
Seattle Dept Of HR	20
Seattle IT Dept	67
Seattle Public Utilities	87
Sustainability & Environ Dept	4
<b>Total</b>	<b>789</b>

**RETURNING MEMBERS IN THE RETIREMENT SYSTEM IN 2017  
BY DEPARTMENT**

<b>Redepositing</b>	<b>Count</b>
Library Dept	1
Seattle Public Utilities	1
<b>Total</b>	<b>2</b>
<b>Re-entering</b>	<b>Count</b>
Off Of Labor And Stand Dept	1
Library Dept	2
Dept Of Transportation	3
Human Services Department	1
Office Of Civil Rights Dept	1
Seattle Center	1
Seattle IT Dept	3
Dept Of Construction & Inspect	1
Parks Department	6
Seattle City Light	4
Seattle Public Utilities	3
Seattle Dept Of HR	1
Law Department	1
Municipal Courts Dept	2
Police Department	2
Mayors Office Dept	1
Finance & Admin Services Dept	1
<b>Total</b>	<b>34</b>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
SERVICE RETIREMENTS GRANTED IN 2017**

<b>Retiree</b>	<b>Department Name</b>	<b>Position</b>	<b>Yrs</b>	<b>Days</b>	<b>Age</b>
Stoltey,Catherine M		Actg Tech II-BU	10	31	73
Glass,Eleanor E	DHHS	Admin Spec I-BU	24	94	62
Wheelock,Dana Joseph	City Light	Pwr Supply Engr	29	199	56
Jonas,Lisa J	Information Technology	Admin Spec I	28	266	61
Aoki,Lanell Louise Crosser	Information Technology	Info Technol Prof B-BU	25	329	54
Armijo,Daniel	Information Technology	Info Technol Prof A,Exempt	29	100	52
Batinchok,Judith E	Information Technology	Info Technol Prof	28	327	71
Blood,Bruce L	Information Technology	Info Technol Prof A,Exempt	30	183	66
Cantrell,Susan L	Information Technology	Info Technol Prof B-BU	20	110	63
Collins,Patricia A	Information Technology	Admin Spec II-BU	28	235	66
Evans,Vicki G	Information Technology	Manager3,Info Technol	23	66	60
Giamberso,John	Information Technology	Manager3	16	87	72
Hughes,Amy L	Information Technology	Manager3,Info Technol	9	165	58
Kelson,Mary Ann	Information Technology	StratAdvrs2,General Govt	35	192	58
King,Douglas T	Information Technology	Info Technol Prof B-BU	27	30	66
Kirkness,Patricia L	Information Technology	Info Technol Prof A,Exempt	35	170	66
Knutson,Mark A	Information Technology	Info Technol Prof A,Exempt	8	133	62
Leung,Bayard Pok-Man	Information Technology	Info Technol Prof B-BU	32	121	64
McCoy,Harold A	Information Technology	Info Technol Prof B-BU	27	174	65
McCruy,Gerald	Information Technology	Info Technol Prof C-BU	17	357	71
Navarro,Danilo L	Information Technology	Info Technol Prof A,Exempt	35	318	66
Reonal,Reynaldo	Information Technology	Info Technol Sysys Anlyst	31	60	63
Reyes,Vivian Vogtsberger	Information Technology	Admin Spec II-BU	13	293	59
Rogers,Dennis A	Information Technology	Info Technol Prof B-BU	14	288	67
Rossman-Pablo,Sandra	Information Technology	Mgmt Sysys Anlyst,Sr	24	110	56
Thompson,Matt S	Information Technology	Info Technol Prof A,Exempt	36	271	64
Williams,Melvin E	Information Technology	Info Technol Prof B-BU	18	256	66
Wills,Vicki N	Information Technology	StratAdvrs3,Info Technol	40	0	68
Wong,Vern Tyler	Information Technology	Info Technol Prof B-BU	26	135	54
Macdonald,Richard	Neighborhood Develop	Plng&Dev Spec,Supvsng	22	33	60
Watson,Wendy J	Neighborhood Develop	Admin Spec II-BU	17	252	62
Aviado,Juliet A	Parks	Admin Spec I-BU	17	292	67
Baines,Robert	Parks	Plnt Ecologist	34	93	67
Balcom,Dennis R	Parks	Manager1,General Govt	30	14	63
Bentley,Mark S	Parks	Metal Fabricator	39	316	63
Blanch,Yvonne D	Parks	Plng&Dev Spec,Sr	17	92	66
Brown,Calvin D	Parks	Elctn	5	1	62
Bull,Keith D	Parks	Cement Finisher-Parks Facils	25	178	67
Chao,Younchoy F	Parks	Maint Laborer	27	175	65



Dalzell,Mary L	Parks	Rec Prgm Spec	39	107	62
Daughters,Judy D E	Parks	Radio Dispatcher	20	346	67
Duncan,Michael R	Parks	Maint Laborer	24	302	55
Knorr,Thomas T	Parks	Maint Laborer	16	120	65
Lund,Cindy L	Parks	Plumber,Sr	33	64	60
Moimoi,Lasike T	Parks	Maint Laborer	24	212	66
Mosby,Anthony D	Parks	Cashier	25	229	67
Padgett,Donald R	Parks	Accountant,Prin	10	85	60
Pullen,Margaret A	Parks	Parks Maint CC	29	278	63
Robinson,Randall Frank	Parks	Landscape Architect,Sr	19	174	60
Spates,Preston D	Parks	Plumber	31	350	52
Stokely,Elizabeth	Parks	Cashier	5	212	66
Talamaivao,Jacinta	Parks	Admin Spec I	18	135	65
Thompson Jr,James M	Parks	Maint Laborer	11	234	65
Westling,Jim R	Parks	Maint Laborer	9	183	68
Whitman,Kathleen L	Parks	Manager2,Parks&Rec	42	146	66
Wilkinson,Paul C	Parks	Manager3,Exempt	36	110	62
Ames,Laurie L	Planning	Plng&Dev Spec,Sr	24	310	62
Aminian,Kaveh	Planning	Strucl Plans Engr Supv	29	253	64
Baucom,Vicki L	Planning	Code Compliance Anlyst	11	62	62
Dow,Lloyd Forest	Planning	Permit Spec II	19	106	67
El-Amin,Raushanah K	Planning	Admin Spec II-BU	37	341	69
Fisher,Billie J	Planning	Plng&Dev Spec,Sr	14	230	67
George,David S	Planning	Noise Contrl Prgm Spec	27	287	63
Leslie,Dori	Planning	Admin Staff Anlyst	16	209	60
Meier,Dennis C	Planning	StratAdvsr1,Engrng&Plans Rev	36	300	64
Rekhi,Parminder K	Planning	Permit Spec I	30	47	62
White Jr,Donald S	Planning	Manager2,Engrng&Plans Rev	19	80	65
Rust,Susan G	Educational Devel	Exec Asst,Sr	20	256	59
Flack,Katherine M	Ethics and Elections	StratAdvsr1,Exempt	8	321	65
Chin,Amy Shiu Yin	Finance and Administ	Actg Tech II-BU	38	115	66
Chinn,Halbert	Finance and Administ	Auto Mechanic	27	55	61
Craver,Nancy G	Finance and Administ	StratAdvsr2,Exempt	11	181	60
Dozier,Lillian Marie Alexander	Finance and Administ	Actg Tech II	37	354	63
Fajardo,Helen B	Finance and Administ	Admin Spec II-BU	26	244	68
Freeman,Allen R	Finance and Administ	Shop Opns Supv	34	226	63
Hansen,Sandra K	Finance and Administ	Cust Svc Rep,Sr *	15	183	59
Kearns,Erlinda F	Finance and Administ	Remittance Proc Tech,Sr	33	110	73
Klunder,Robin Lee	Finance and Administ	Manager1,General Govt	19	248	60
Leisy,Craig Alan	Finance and Administ	Manager3,General Govt	21	231	66
Locke,Nancy M	Finance and Administ	Executive2 *	23	172	58
Magbalot,Conrado	Finance and Administ	Accountant,Sr	25	69	64
Maidesil,James Ngirbau	Finance and Administ	Equip Svcr	21	72	65
Ortiz,Sonny	Finance and Administ	Licenses&Standards Inspector	30	112	60

Peyer,Lisa S	Finance and Administ	Executive2 *	31	275	59
Schy Berg,Kathleen M	Finance and Administ	Manager1,General Govt	13	332	67
Sheehy II,William D	Finance and Administ	Facility Techl Supv	11	325	59
Smith,Cheryl Renee	Finance and Administ	Res&Eval Asst II	30	323	55
Stockholm,Andrew Ronald	Finance and Administ	Plumber	23	328	61
To,Tuoi Thi	Finance and Administ	Remittance Proc Tech	27	130	65
Tokunaga,Bryon J	Finance and Administ	Executive2	30	6	51
Upton-Shields,Lana	Finance and Administ	Accountant	41	241	68
Villalon,Romulo	Finance and Administ	Licenses&Standards Inspector	38	188	65
Welding,Patrick L	Finance and Administ	Auto Mechanic,Sr	33	272	63
Zoulas,Mary Ellen	Finance and Administ	Manager1,General Govt	34	69	71
Linehan,Maureen B	Human Services	StratAdvsr1 *	17	309	59
Cowan, Robin L	KC Health	Admin Spec III	33	313	70
Sam, Roeun	King County	King County	25	40	54
Elder,Carolyn E	King County Public H	Application Worker	29	278	65
Lim,Vann R	Law Department	Accountant,Prin	30	255	56
McGillin,William G	Law Department	City Attorney,Asst	19	110	66
Nelson,Marcia M	Law Department	City Attorney,Asst	33	55	67
Ramsey,Joyce Ann	Law Department	Personnel Spec,Sr	34	261	66
Ishino,Eric L	Legislative Department	StratAdvsr-Legislative	20	0	63
Burgess,Timothy L	Mayor's Office	Mayor	9	329	68
Murray,Edward B	Mayor's Office	Mayor	3	256	62
Lawless,Mary L	Muni Court		36	298	67
Bronstein,Elliott Hart	Office for Civil Rights	StratAdvsr1,General Govt	17	79	65
Morris,Jane E	Office of Arts & Culture	Manager1,Exempt	30	49	64
Paine,Deborah	Office of Arts & Culture	Arts Prgm Spec,Sr	11	37	67
Goncalves,Maria	Office of Housing	Admin Spec II-BU	11	142	65
Marusic,Esref	Office of Housing	Property Rehab Spec	14	178	67
Price,John Wesley	Parks	Golf Course Maint Supv	33	286	68
Richardson,Louis	Parks	Grounds Maint Lead Worker	22	267	48
Trudeau,Debra Jane D'Andrea	Police	Paralegal	14	217	65
Wilson, Regina	Public Health (KC)	Fiscal Specialist IV	41	251	69
Zimmerman,Constance M	SDOT	StratAdvsr2, Engrng&Plans Rev	12	224	69
Rowley,Frederic Fleming	SPU	Info technol Prof A	17	105	65
Bryant,Barbara F	Seattle Center	Manager1,CSPI&P	39	8	75
Hammer,Brian G	Seattle Center	Parking Attendant *	36	5	72
Herrera Sr,Vincent Leo	Seattle Center	Laborer	19	182	71
Perry,Darnell	Seattle Center	Security Ofcr	24	294	64
Sink,Shelley Janette	Seattle Center	Manager1, CSPI&P	28	100	65
Woods,Diane D	Seattle Center	Contracts&Concss Asst	22	110	66
Young,Frederick E	Seattle Center	HVAC Tech	29	60	66
Alvarez III,Samuel	City Light	Manager3,Utills	30	320	58
Anderson,Doris J	City Light	Actg Tech III-BU	14	213	60
Bjerkness,Karen L	City Light	Lnwkr	28	112	58

Chan,Wing-Lai	City Light	Prot&Cntrl Elctn CC	21	94	60
Crutchfield,Shanna Lynn	City Light	StratAdvsr2,Exempt-BU	27	231	52
Davis,Wanda L	City Light	Elecl Constr&Maint Supv-BU	31	333	59
Dominguez,Franklin R	City Light	Warehouser-BU	33	354	65
Eades,Earl K	City Light	Cblspl CC-Net Area	38	26	64
Faletogo,Mane leti	City Light	Cblspl-Jrnywkr In Chg	18	282	65
Fishman,David Henry	City Light	MatSup,Elec-Asg OPVTCHBNSTR	39	174	65
Franklin,Stephanie C	City Light	Elecl Svc Rep,Sr	30	0	68
Gamble,Toni Jean	City Light	Elecl Svc Rep,Supvsng	29	11	57
Geissinger,Laurie Gail	City Light	StratAdvsr2,Utills-BU	27	110	66
Genson,Leonard L	City Light	Comms Elctn II	36	46	68
Graves,Larry Joe	City Light	Elctn-Con-(OI)	24	194	75
Hager,Vike F	City Light	Line C CC	35	279	68
Hansen,Robert S	City Light	Capital Prjts Coord,Sr	39	323	65
Herfindahl,Henry C	City Light	Prot&Cntrl Elctn II	26	174	66
Johnson,Roy E	City Light	Comms Elctn II	31	31	68
Kallies,Susan Augusta	City Light	Civil Engrng Spec, Sr.	17	163	61
Kase,Kunio	City Light	Cblspl-Net Area	40	266	64
Kent,Brenda L	City Light	Admin Spec II-BU	23	363	56
Kochhar,Rajinderpal S	City Light	Elecl Pwr Sysys Engr	36	345	66
Kovac,Steven A	City Light	Elctn-Con	33	23	59
Leclare,Antoinette M	City Light	Hydro Op,Chief	34	264	66
Leonard,Donald L	City Light	Elctn-Con-(OI)	36	290	65
Lewis,Stephen M	City Light	Pwr Structs Mechanic	30	256	63
Likes Sr,John F	City Light	Elecl Svc Rep	27	25	73
Lockridge,Alice A	City Light	Trng&Ed Coord	24	308	66
Long,Martin E	City Light	MatSup,Elec-Asg OPVTCHBNSTR	32	11	59
Maichel,Lyle Lee	City Light	Credit Rep,Sr	12	359	58
Martin,Dan L	City Light	Meter Reader	25	349	63
Matthias,Bruce E	City Light	Line C CC	5	363	59
McCudden,Mathew Patrick	City Light	Executive2	5	64	63
McDougall,Constance J	City Light	Public Relations Spec,Sr	12	350	66
Morrison,Steven R	City Light	Carpenter CC	26	42	63
Myers,Robert James	City Light	Gardener,Sr	17	352	62
Nelson,Donald Thomas	City Light	StratAdvsr2,Fin,Bud,&Actg-BU	14	146	70
Nelson,Jim M	City Light	Meter Reader	19	77	63
Ngo,Thuy T	City Light	Actg Tech II-BU	27	305	62
Novak,Laura L	City Light	Mat Suplr-Asg Leo/Pdm/Hb	23	296	59
O'Kelley,Steven Michael	City Light	Comms Elctn II	38	150	62
Ogi,Irving S	City Light	Elecl Pwr Sysys Engr,Prin	32	97	60
Paine,Susan M	City Light	StratAdvsr1,Utills	10	266	55
Payne,Bradley N	City Light	Warehouser-BU	31	295	66
Phillips,James H	City Light	Hydroelec Op II	10	73	61
Phillips,Patrick D	City Light	Elecl Engrng Spec,Sr	19	142	65
Presas Jr.,Jose Leonin	City Light	Elecl Engr,Asst II	17	46	67

Raymond,Bruce A	City Light	Info Technol Prof B-BU	37	170	64
Schmidt,Brent M	City Light	Manager3,Utills-BU	21	293	63
Schmitz,Leo C	City Light	Line C CC	44	17	69
Scott Jr,Sylvester G	City Light	Pole Yard CC	30	335	65
Snyder,John H	City Light	Line CC-Asg C Coord	8	152	62
Sovern,Dennis J	City Light	Line C CC	37	358	65
Spisak,Edward P	City Light	MatSup,Elec-Asg OPVTCHBNSTR	36	185	64
Stephens,Lorraine	City Light	Installation Maint Wkr	27	101	66
Tat,Lena	City Light	Manager3,Engrng&Plans Rev-BU	30	270	64
Teuscher,Vern D	City Light	Cblspl CC-Net Area	30	148	57
Thompson,Joanne Marie	City Light	Maint Laborer	25	273	66
Timbang,Ester P	City Light	Admin Spec III-BU	18	73	68
Alderman,Kerri L	Transportation	HRIS Spec	25	36	58
Ames,William Edward	Transportation	Civil Engrng Spec,Sr	28	36	62
Anton,Joanne T	Transportation	Trng&Ed Coord,Sr *	25	309	67
Borowski,Ronald H	Transportation	Transp Plnr,Sr	30	110	68
Burns,Robert K	Transportation	Civil Engrng Spec,Assoc	24	334	65
Burroughs,Diana L	Transportation	Transportation Construction Perm	8	84	62
Canda,Steven R	Transportation	Civil Engrng Spec,Assoc	32	67	64
Challus,George E	Transportation	Cement Finisher	34	256	65
Dahle,John C	Transportation	Civil Engrng Spec,Assoc	36	362	65
DeWitt,Sharon M	Transportation	Admin Spec II-BU	10	0	67
Deaver,Kate A	Transportation	Manager1,P&FM	1	268	60
Eacker,Daniel R	Transportation	Admin Spec III-BU	33	21	62
Gentilo,Elaine T	Transportation	StratAdvsr3,Exempt	7	64	65
Goldsmith,Stuart A	Transportation	StratAdvsr2,General Govt	20	79	62
Green,Kelvin T	Transportation	Street Maint Supv	31	219	54
Hadlock,Joseph Ray	Transportation	Bridge Op,Sr	25	183	63
Howard,Sandra	Transportation	StratAdvsr3,Engrng&Plans Rev	25	73	65
Kelley,Jerene L	Transportation	Personnel Spec *	31	257	59
Kling,Joyce Carolyn	Transportation	StratAdvsr2,General Govt	30	52	71
Lafferty,Colleen	Transportation	Personnel Anlyst,Sr	33	122	62
Lee,Valerie	Transportation	Civil Engr Supv	9	139	70
Ma,Binh	Transportation	Parking Pay Stat Tech	31	105	75
Meyer,Thomas S	Transportation	Bridge Maint Mechanic	18	54	62
Nowkhasteh,Saeed	Transportation	Civil Engrng Spec Supv	9	155	66
Rutherford,Mary S	Transportation	Executive2	10	89	66
Steffen,Astrid H	Transportation	Workers' Comp Analyst	11	299	63
Thurman,Michele E	Transportation	Personnel Anlyst Supv	30	114	60
Walker,Richard W	Transportation	Elctn	12	31	69
Wanwig,Nancy Ann	Transportation	Admin Spec I-BU	28	169	65
Yuen Leong,Linda S	Transportation	Personnel Anlyst	27	11	56
Johnson,Kathy E	Fire	Payroll Supv	37	110	55
Kelly,Robert D	Fire	Warehouser,Chief	13	28	68
Patriarca,Fe L	Fire	Accountant	32	240	64

Robledo,Sonia	Fire	Admin Spec III-BU	34	139	65
Wainscott,Stanley H	Fire	Fire Svcs Spec	26	54	74
Waleryszak,Judith A	Fire	Admin Staff Asst	37	124	65
Dickens,Juliet D	Muni Court	Admin Spec II-MC	33	281	65
George,Michelle Y	Muni Court	Prob Counslr-Asg Pers Recog	5	73	66
Jain,Anita	Muni Court	Admin Spec I-MC	28	39	63
Nakauye,George	Muni Court	Court Marshall	12	256	67
Ravnsborg,Lenora Ann	Muni Court	Admin Spec I-MC	29	364	61
Sernius,Sharon A	Muni Court	Admin Spec III	5	27	64
Wilson,Joni Rae	Muni Court	Manager1,Exempt	26	162	62
Alcayaga,Isabelo R	Police	Video Spec II	10	313	70
Butterfield,Marlene K	Police	Pol Comms Dispatcher I	10	154	62
Hell,Jane Marie	Police	Parking Enf Ofcr	17	49	65
Helmers Jr,Frederick W	Police	Evidence Warehouser,Sr	26	292	62
Hoyt,Jan R.	Police	Pol Comms Anlyst	28	0	62
Hutton,Margaret E	Police	Pol Comms Dispatcher I	29	142	63
Johnson,Marlene E	Police	Pol Data Tech Supv	12	178	57
Johnston,Terrie L	Police	Crime Prev Coord	30	211	62
Kremkau,James C	Police	Photographer,Sr	14	110	60
Miller,Karim L	Police	Manager3,CL&PS	30	320	58
Miller,Robert R	Police	Fleet Mgmt Anlyst	38	224	72
Mitchell-Ayco,Melba D	Police	Admin Support Supv-BU	28	34	56
Mundy,Eldon R	Police	Pol Comms Dispatcher III	28	265	69
Paston,Aaron L	Police	Parking Enf Ofcr	11	183	57
Sheehan,Patricia A	Police	Identification Tech	29	37	66
Stone,Diane K	Police	Victim Advocate	5	131	64
Tonkin,Shawn M	Police	Plng&Dev Spec,Sr	25	339	61
Andrews,Stacey K	Library	Library Assoc II	12	0	58
Aoki,Kay M	Library	Asst Mgr-Library	32	241	64
Carlisle,Dennis	Library	Librn	31	157	57
FitzGerald,Ellen R	Library	Librn	16	320	66
Gardner,Marilynne	Library	Dir, Admin Svcs	27	329	66
Hunt,Gayle M	Library	Page	12	146	67
Kelly,Patricia B	Library	Library Assoc IV	27	219	66
Kennedy,Julia E	Library	Library Assoc II	29	76	64
Knorr,Katherine C	Library	Library Assoc II	44	23	68
Nagy,Carolyn I	Library	Library Assoc II	17	110	66
Palmer,Mary E	Library	Librn	21	143	68
Peterson,Paige E	Library	Actg Tech II-Library	26	189	54
Proff,O. Allen	Library	Bldg Maint Wkr	13	63	59
Sinner,Sandra G	Library	Librn	32	2	65
Turner,Kim R	Library	Library Tech I	54	361	73
Ulrey,Shirley M	Library	Library Assoc IV	40	95	65
Cayton,Diana L	Public Utilities	Info Technol Prof B-BU	30	183	60
Chen,Bih-Shiung	Public Utilities	Civil Engrng Spec,Sr	31	49	66

Dietlin,Claudette Blagsvedt	Public Utilities	Exec Asst,Sr	8	73	65
Dunn,James A	Public Utilities	Wtr Quality Anlyst,Supv	28	7	53
Flores,Teresa Christine	Public Utilities	Admin Spec I-BU	20	310	62
Friend,Stephen T	Public Utilities	StratAdvsr2, Utils	32	274	62
Gulas,Arthur C	Public Utilities	Wtr Pipe Wkr	39	16	63
Hamilton,Tracy Jo	Public Utilities	Util Act Rep II	25	15	55
Harvey,Cassandra D	Public Utilities	Manager2,Info Technol	31	206	61
Holmes,Mark	Public Utilities	Act Exec	24	102	58
Jenkins,Brian	Public Utilities	Truck Drvr,Heavy	17	294	58
Jolk,Donald A	Public Utilities	Wtrshed Inspector	14	20	63
Kain,Elizabeth C	Public Utilities	Grants&Contracts Spec	37	184	66
Kleeberg,Charles Frederick	Public Utilities	Executive2	8	80	67
Lanning,Karen Debra	Public Utilities	Manager 2, Utils	28	362	61
Massie,Jeffrey D	Public Utilities	StratAdvsr1,Utils	8	303	56
McClure,Caroline Idell	Public Utilities	Exec Asst,Sr	18	162	57
Melton,Tanner S	Public Utilities	Info Technol Prof C-BU	20	0	55
Murphy,Kurt B	Public Utilities	Capital Prjts Coord	38	264	65
Newsome,Jan A	Public Utilities	Personnel Spec,Sr	23	117	60
Paschke,Philip E	Public Utilities	Plng&Dev Spec,Sr	22	310	63
Rogers,Linda L	Public Utilities	Personnel Spec,Sr	30	139	68
Sager,Bradley Allen	Public Utilities	Civil Engrng Spec,Sr	22	249	58
Schiantarelli,Vicky	Public Utilities	StratAdvsr2 *	5	358	62
Schwartz,Leslie A	Public Utilities	Drainage&Wstwtr Coll CC	42	150	62
Scott,Ora L	Public Utilities	Manager1,CSPI&P	28	358	66
St Louis,Glenda A	Public Utilities	Util Act Rep II	28	12	70
Straley,Judylyne	Public Utilities	Admin Spec II-BU	18	110	71
Tamez,Rick	Public Utilities	Drainage&Wstwtr Coll Wkr	10	91	58
Thoma,Valerie J	Public Utilities	Envrnmtl Anlyst,Assoc *	31	283	64
Ticeson,Steven Dewayne	Public Utilities	Real Property Agent, SR.	30	188	68
Washburn,Diane L	Public Utilities	Mgmt Sys Anlyst,Sr *	3	217	63
Wrice,Cynthia M	Public Utilities	Admin Spec I - BU	9	8	67
York,Karen	Public Utilities	Civil Engr,Sr	23	187	69
Toilolo,Marie K	Police	Admin spec II	17	257	65
West,Theautries	Vested Member		10	17	57
Adams,Susan E	Vested Member		15	288	53
Coward,Carla H	Vested Member		8	329	62
Gonzales,Sandra E	Vested Member		22	163	55
Andrus,Myrna L	Vested Member		24	3	60
Armstrong,Kenneth	Vested Member	Executive2	9	131	62
Bryan,Michele A	Vested Member	Process Server	9	80	62
Carlson,Carolyn M	Vested Member	Plng&Dev Spec II	3	259	65
Choi,Chang Gyu	Vested Member	Elecl Engr,Sr	10	69	54
Cunniff,Charles L	Vested Member	StratAdvsr2,General Govt	5	323	62
Davidson,Nancy L	Vested Member	Mgr XII	7	203	60
Doennebrink,Arlene F	Vested Member	Manager1,Fin,Bud,&Actg	6	0	62

Doubleday,Michael D	Vested Member	StratAdvsr3,Exempt	11	140	65
Finn,Donald L	Vested Member	Lnwkr	22	136	59
Gillespie, Debora	Vested Member		7	0	65
Gaines,William Anderson	Vested Member	Electric Util Exec 3,Ofcr	1	73	62
Goldstein,Robert M	Vested Member	Executive2-Library	11	181	62
Gregory,Stuart	Vested Member	Elecl Pwr Sysys Engr	4	87	62
Griffith,Connie L	Vested Member	Executive2	3	72	64
Guddat,Jeffery E	Vested Member	Fin Mgr,Sr	6	204	62
Higashiyama,Dennis	Vested Member	Rec Program Spec, Sr.	4	359	65
Hodge,Sarah Amanda	Vested Member	Info Technol Prof B-BU	4	146	65
Hohn,Timothy Charles	Vested Member	Arboriculturist	0	158	65
Knapp,James P	Vested Member	Metal Fabricator	7	266	65
Lacey,Janet M	Vested Member	Court Clerk	16	226	61
Larson,Mary George	Vested Member	Personnel Spec,Sr	8	263	62
Lau,Dorin	Vested Member	Counslr	14	150	58
Lawson,Mathew L	Vested Member	Elecl PwrSysysEngr-Mrt	15	126	57
Martin,Rosalyn Amelda	Vested Member	Admin Spec II-BU	14	304	63
McCaffrey,Anne Louise	Vested Member	Cashier	13	357	68
Monillas,Normita E	Vested Member	Admin Spec I-BU	15	227	62
Orcutt,David R	Vested Member	Labor Relations Coord	10	229	65
Paston,Cheryl Nakata	Vested Member	Manager3,Engrng&Plans Rev	25	235	55
Perry,William L	Vested Member	Envrnmtl Fld Spec	5	206	65
Raymundo,Angelita P	Vested Member	Accountant,Sr	8	144	62
Reisner,Fritzie	Vested Member	Legislative Anlyst	2	249	62
Sullivan, Joann Marie	Vested Member		7	39	65
Schoenfeld,Robert M	Vested Member	Meter Elctn	25	54	57
Sims,Beverly	Vested Member	Vested Member	19	20	67
Tan,Yan Yi	Vested Member	Janitor-FAS/CL	13	143	61
Tawney,Everette Anthony	Vested Member	Sfty&Hlth Spec,Sr	18	160	74
Thompson,Donna Lynn	Vested Member	Capital Prjts Coord	3	272	65
Time,Time Posala	Vested Member	Admin Spec I-BU	1	145	62
Treener,Mylor E	Vested Member	Mgr V	8	105	67
Turpin,E Katharine	Vested Member	Admin Staff Asst *	8	67	62
Tyft,Lars O	Vested Member	Comms Elctn II	5	113	62
Vales,Paige E	Vested Member	Pol Comms Dispatcher II	13	329	53
Walsh,Kathleen M	Vested Member	Cblspl-Asg Locator	27	244	60
White,Ron Harris	Vested Member	StratAdvsr2,CSPI&P	15	43	65
Yund,Carolyn	Vested Member	Admin Spec I	2	103	70
von Hagen,Russell B	Vested Member	Meter Elctn	5	113	63
<b>Total Service Retirements</b>			<b>346</b>		

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
RETIRED MEMBERS DECEASED IN 2017**

Name	Dept Name	Retired For	Date Retired	Date of Death	Age at Death
Abiera, Timoteo Alvaniz	Seattle Center	Service	6/12/2010	10/10/2017	78
Akridge, Arthur W		Service	8/1/1979	3/6/2017	94
Allen, Charles J		Service	8/1/1980	10/9/2017	90
Ames, Janice L.	Library	Service	9/21/2002	8/9/2017	88
Anderson, Rose Marie	City Light	Service	4/29/2009	6/7/2017	73
Atwood, Michael R	City Light	Service	12/2/2015	5/11/2017	60
Baca, Robert L	Parks Dept	Service	4/8/2015	5/1/2017	67
Baer, Reid A		Service	8/1/1983	8/14/2017	96
Baker, Norma P	Sea Center	Service	1/1/1994	8/22/2017	92
Banda, Shirley M		Disability	7/10/2014	12/22/2017	48
Barkuloo, Gloria R		Service	4/1/1987	11/14/2017	89
Barnes, Curtis	Parks Dept	Service	8/14/2013	1/28/2017	73
Barrow, Eugene	Police	Service	10/1/2002	7/21/2017	77
Bartz, Dale D		Service	3/1/1994	7/25/2017	88
Bennett, Dennis R	City Light	Service	6/18/2014	11/2/2017	77
Bennett, LaVonne T		Service	6/18/2014	5/9/2017	71
Bjornsson, Paul B	DEEL	Service	5/1/1991	10/24/2017	86
Blankenship, John L		Service	4/1/1986	6/5/2017	92
Bonzon, Robert A		Service	7/1/1979	3/25/2017	97
Bradley, Carol Ann	Vested - DCLU	Service	8/31/2004	10/6/2017	75
Brown, Elizabeth A		Service	1/1/1977	4/22/2017	94
Brunkel, Aleta G	Human Services	Service	2/6/2013	4/5/2017	69
Bryant, James A		Service	10/1/1991	1/10/2017	90
Buck, Arlene H		Service	1/1/1986	5/14/2017	93
Burbridge, Margaret A		Service	1/1/1994	12/17/2017	86
Buswell, Leona K		Service	3/1/1982	3/3/2017	97
Cady, Gordon L		Service	6/1/1991	1/6/2017	88
Chapman, Mike D	Parks	Service	11/26/2011	12/14/2017	63
Chesterfield, Phyllis		Service	7/20/1996	11/16/2017	81
Cline, Richard O		Service	10/1/1981	3/24/2017	92
Combs, Terry Joe	City Light	Service	1/25/2006	2/27/2017	68
Courbot, Jane V	K.C. Health	Service	9/29/2004	12/12/2017	73
Curtis, George A		Service	1/1/1991	8/9/2017	92
Czeisler, Linda M	Fire	Service	10/3/2012	11/23/2017	71
Degginger, Wendy C.	Library	Service	10/2/2009	3/19/2017	60
Dehnhoff, Clifford A		Service	12/1/1989	4/5/2017	90
Dickson, Robert G.	City Light	Service	6/16/2001	9/18/2017	68
Edelman, Carl C		Service	2/1/1994	1/26/2017	88
Edgar, June M		Service	8/1/1992	1/11/2017	88
Edwards, Dorothy D		Disability	5/1/1981	10/21/2017	78



Egts, Robert		Service	7/13/1996	10/26/2017	85
Ellis, Theresa J.	Park	Service	5/7/1997	2/7/2017	80
Fernandez, Nancy		Service	6/1/1990	7/9/2017	87
Fiamengo, Wayne W		Service	4/1/1985	4/17/2017	86
Fisher, Joyce A		Service	7/1/1989	5/17/2017	85
Floyd, F.L.	ESD	Service	1/1/2003	1/26/2017	91
Frombach, Louise A	Parks Dept	Service	9/1/1986	7/17/2017	91
Garcia, Manual	Metro Transit	Service	4/3/1999	7/16/2017	84
Gaye, Helen C		Service	2/1/1994	1/22/2017	95
Gertig, Joann Glass	Library	Service	5/16/2007	8/25/2017	68
Gillette, M Ruth		Service	9/1/1988	3/6/2017	91
Gordon, Charles E	City Light	Service	3/1/1985	1/20/2017	86
Grace, Norine	SPU	Service	9/12/2001	3/27/2017	81
Graham, James S	City Light	Service	7/12/2006	2/15/2017	74
Green, Fred	SDCI	Service	12/1/1987	4/22/2017	94
Hadaller, Herman J		Service	4/1/1988	8/16/2017	84
Hale, Dolores	SEATRAN	Service	12/2/2003	4/13/2017	65
Hamack, Robert		Service	6/1/1996	4/16/2017	88
Hamilton, Jack V		Service	7/1/1991	7/24/2017	82
Hammersmith, John C.	Seattle Center	Service	2/5/1997	11/27/2017	81
Hansberry, Verda R		Service	2/1/1982	2/5/2017	97
Harris, Camilla R	SPU	Service	10/4/2006	11/3/2017	81
Harris, Ruby D.	Vested	Service	6/10/2007	7/18/2017	67
Hashimoto, Kiyoto		Service	4/1/1991	9/18/2017	89
Haynes, Robert G		Service	10/1/1990	9/5/2017	88
Hegamin, Robert H		Service	1/1/1989	1/2/2017	90
Hicok, Vernon H	Light	Service	4/1/1994	12/15/2017	87
Hill, James B	City Light	Service	8/4/2015	8/10/2017	69
Hooper, Lloyd D		Service	10/1/1981	12/21/2017	86
Huston, Harold W.	Metro Transit	Service	3/20/1999	1/9/2017	83
Huston, T. Dale	Metro Transit	Service	2/6/1999	11/8/2017	81
Hutchison, Constance E		Service	12/1/1992	11/30/2017	80
Jenkins, Dennis H.	Metro Transit	Service	2/2/2002	1/3/2017	80
Jerochim, Gerd		Service	2/1/1995	1/4/2017	74
Johnson, Jeanette B		Service	2/1/1995	7/29/2017	87
Jones, Warren W		Service	1/1/1988	12/7/2017	86
Jordan, Thomas P	DEA	Service	12/22/2010	5/8/2017	70
Joy, Vicky L	Vested	Service	9/13/2011	1/26/2017	67
Kennedy, Myrtle L		Service	6/1/1984	4/13/2017	94
King, Winston I	Vested	Service	8/13/1991	3/9/2017	82
Kylen, Richard S		Service	8/1/1985	11/13/2017	83
Kyte, Craig D	Library	Service	10/4/2008	11/1/2017	74
Lamers, Eric		Service	7/1/1993	1/16/2017	79
Larson, Arnold L		Service	3/1/1987	10/21/2017	93
Lawson, Nettie M		Service	10/1/1984	8/17/2017	97

Lessard,Leslie W		Disability	7/1/1985	4/19/2017	81
Leyrer,Mavis M		Service	6/1/1990	1/15/2017	96
Lieser,Jr.		Service	11/1/1987	3/4/2017	82
Lins-Morstadt,Mitzie		Service	8/1/1994	9/30/2017	88
Lonien,Richard H		Service	7/1/1982	2/16/2017	92
Lorenz,Thomas R		Service	9/1/1994	11/29/2017	98
Maddocks,Teresa		Service	9/1/1986	4/1/2017	92
Magness,Virginia E		Service	12/1/1985	2/11/2017	93
Mathisen,Ralph A		Service	4/1/1989	7/26/2017	88
Matsuzaki,Joseph H		Service	3/1/1986	9/5/2017	96
Maxson,William J		Service	1/1/1984	12/11/2017	95
Mayberry, William C.	Parks	Service	10/1/2002	9/9/2017	79
McCarthy, Walter T	Parks	Service	7/1/2008	9/29/2017	74
McClellan,Louise R	Light	Service	4/1/1994	2/12/2017	88
McCormick,Charles D.	Engineering	Service	1/1/1997	3/26/2017	82
McGilton, Joan	Parks	Service	5/3/2002	7/27/2017	79
Mcgregor,William M		Service	6/1/1990	11/25/2017	92
Mcintosh,Houston T	City Light	Service	2/1/1991	2/20/2017	89
Mertz,Clarence J		Service	5/1/1988	8/12/2017	80
Mithoug,Robert E		Service	7/1/1985	12/4/2017	89
Morrow,Michael Sean	City Light	Service	1/20/1999	8/21/2017	76
Motteler,Jay A		Service	1/1/1990	7/22/2017	82
Nelson,Joanna E		Service	3/1/1986	1/17/2017	87
Nelson,William H		Service	2/1/1993	1/2/2017	86
Odegard,James		Service	2/1/1990	8/27/2017	85
Ohtani,Thomas K	City Light	Service	2/1/1988	9/12/2017	86
Okuda,Kiichi	City Light	Service	9/13/2000	12/26/2017	77
Omoth, Robert N.	SDOT	Service	6/27/2007	11/14/2017	72
Pajo,Besiledes V.	DHHS	Service	8/2/2000	12/22/2017	89
Pinegar,Charlotte A	Human Svcs	Service	2/5/2014	10/31/2017	65
Pritchett,Donald H	City Light	Service	9/3/1999	6/10/2017	75
Razon,Evangeline D	City Light	Service	5/8/2013	1/28/2017	60
Reynolds,Zola W	Personnel	Service	12/30/2005	11/29/2017	72
Richards, Allen L.	SPU	Service	7/5/2000	1/11/2017	73
Romero,Arthur		Service	3/1/1993	8/12/2017	92
Rudd,Paul T	City Light	Service	1/5/2005	2/28/2017	78
Sablan,Charles A	Vested	Service	2/14/2016	3/9/2017	60
Sanders, Philip M	Parks	Service	1/9/2010	7/15/2017	74
Sayers,Guy S		Service	9/1/1993	5/22/2017	80
Schindler,Roger L.	City Light	Service	5/4/2005	7/11/2017	82
Schwartz,Leslie A	Seattle Public Utili	Service	1/25/2017	11/9/2017	63
Scott,Dorothy M		Service	4/1/1985	1/12/2017	97
Sewer,Merrill		Service	6/1/1993	6/1/2017	88
Shepherd,Constance M		Service	7/1/1988	8/13/2017	95
Sheppard,James C	City Light	Service	12/30/1989	2/20/2017	83

Siler,James	ESD	Service	8/2/2000	3/23/2017	77
Smith,June A		Service	10/1/1985	9/20/2017	84
Smith,Richard Q		Service	2/1/1989	6/14/2017	89
Sonier, Eddie		Service	10/29/1996	6/16/2017	85
Sparling Sr,R W		Service	5/1/1986	7/23/2017	93
Stearns,Faye D		Service	9/1/1989	3/13/2017	89
Steimle,Roger L	Vested	Service	6/22/2016	2/1/2017	60
Straley,Judylayne	Seattle Public Utili	Service	4/5/2017	11/23/2017	72
Strong,Richard M	SPU	Service	9/2/1999	3/17/2017	70
Stuart,George H		Service	8/1/1993	12/22/2017	86
Sullinger,James		Service	4/15/1996	10/27/2017	82
Sullinger,Lee		Service	4/15/1996	10/27/2017	80
Sutton, Paul	City Light	Service	10/1/2002	8/9/2017	77
Thompson,Robert W	Light	Service	8/3/1994	3/5/2017	77
Timmen,Linda L	Police	Service	10/8/2014	8/3/2017	70
Tracey,Rita M		Service	5/1/1988	10/21/2017	88
Trebon, Ronald J		Service	3/2/1996	12/2/2017	84
Tuai, Shamie	SPU	Service	7/5/2000	11/14/2017	78
Turner,Charles W		Service	7/1/1989	1/20/2017	94
Turpin,Mary C		Service	12/1/1977	2/25/2017	95
Ulsh,Boyd D		Service	4/1/1985	12/17/2017	90
Valanas, Silvia E	SPU	Service	9/8/1999	3/14/2017	81
Vasquez,Roy M		Service	5/1/1994	11/27/2017	77
Veleber,Eleanor E		Service	3/1/1984	4/13/2017	93
Wakenight, Donald J	City Light	Service	10/8/1999	3/8/2017	68
Walker,Dennis B		Service	1/1/1991	12/17/2017	85
Wallace, Dave E.	Parks	Service	10/5/2007	11/19/2017	66
Walls,Susan K	Parks Dept	Service	7/2/2014	4/29/2017	68
Walton,Donald G		Service	9/1/1987	3/31/2017	84
Watland, Percy G.	Parks	Service	1/5/2010	7/23/2017	81
Wesselius,James R		Service	5/1/1985	10/21/2017	85
White,Arlie W		Service	9/1/1982	3/5/2017	92
Wicker,Albert V	KC Health	Service	3/22/1989	7/31/2017	95
Williams,Walter L.	Law	Service	3/8/2000	6/16/2017	83
Wright,Kay D		Service	7/1/1994	3/30/2017	85
Wright,Tanafriti	PublicUtil	Service	3/5/2014	7/20/2017	79
Yamamoto,Joe		Service	5/2/1996	8/31/2017	83
Yeager,Kenneth E		Disability	8/1/1976	3/16/2017	75
Young,Wilbur	DCLU	Service	6/20/2001	12/25/2017	82
<b>Count</b>					<b>169</b>

Average Age of Deceased Service Pensioner	82
Average Age of Deceased Disability Pensioner	71
Number of Service Pensioners Deceased	165
Number of Disability Pensioners Deceased	4
Death Benefits for Deceased Active and Retired	214,714
Refunds Under Option "A"	6
Refunds Under Disability	0

**DEATHS IN ACTIVE SERVICE DURING 2017**

<b>Member</b>	<b>Position</b>	<b>Department</b>	<b>Age</b>
Alsol,Robert A	Janitor-Library	Human Resources	54
Anderson,Andrew J	DWW North District	Seattle Center	70
Bracilano,David	Drainage&Wstwtr Lead Wkr CII	Personnel	62
Buchanan,Sabrina	Real Property Agent	Dept. of Finance and Admin Svc	51
Chang,Fon Hwa	Accountant, Prin	Dept. of Finance and Admin Svc	63
Chun,Bryan P	Mat Suplr-Asg Leo/Pdm/Hb	City Light	56
Dias,Gregory A	Usher	Seattle Center	68
Dorsey,Mary J	Manager2,CSPI&P-BU	Comm-Public Affairs	56
Green,Christine A	Counselor	Human Services	55
Jacobs,Robert E	Usher	Sea Center	82
Johnson,Mary G	Admin Spec II-BU	Seattle Center	68
Larsen,Sonja D	Adms Employee	Seattle Center	84
Mezen,David W	Bldg Inspector,Sr(Expert)	Inspections	63
O'Sullivan,Daniel K	Civil Engr,Sr	City Light	54
		<b>Count</b>	14
		<b>Average Age</b>	63

**DEATH BENEFIT SYSTEM**  
**For The Year Ended December 31, 2017**

All active members and those retired members who so elect are covered by the Death Benefit System. The Death Benefit System is similar to a life insurance policy and pays \$2,000 to the beneficiary of an active or retired member.

The annual premium for each member is \$12, with the City matching this amount. Any additional funds needed to fund the Death Benefit System come from the undistributed earnings of the Retirement System.

There were 14 payouts for deaths in active service and 169 claims from retired employees - a total of 183 claims. This compares with 18 deaths in active service in 2016, and 157 claims from retired employees - a total of 175. The claims totaled \$165,300 in 2016 and \$212,500 in 2015.

Income from Active and Retired Employees:		\$	156,296
Income from Employers:			
Seattle City Light	\$		31,434
General Fund			38,924
Seattle Public Utilities			21,594
Seattle Parks Department			15,780
Transportation			13,920
Library			9,768
Administrative Services			10,572
Seattle Center			4,788
Planning and Development			5,934
King County/Metro			3,120
Employees' Retirement System			462
Total from Employer Funds		\$	156,296
Total paid into Death Benefit Reserve		\$	312,593
<u>Less: Death Benefit Claims – 2017</u>		\$	<u>214,714</u>
Total 2017 Addition to Operating Fund Balance		\$	97,879

## Benefit Calculation

In accordance with the Seattle Municipal Code, the Seattle City Employees Retirement System has two distinct plans, SCERS Plan 1 and SCERS Plan 2. Both plans essentially work the same way and many provisions between the two plans are the same.

*This table contains the most significant differences between SCERS I and SCERS II.*

	SCERS I	SCERS II														
<b>Employee Contribution Rate</b>	10.03 percent	7.0 percent														
<b>Final Average Salary</b>	Highest 52 pay periods	Highest 130 pay periods														
<b>Minimum Retirement Age</b>	Active employees are eligible after reaching: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">5 to 9 service years and age 62</td> <td style="width: 50%;">5 to 9 service years and age 60</td> </tr> <tr> <td>10 to 19 service years and age 57</td> <td>10 to 19 service years and age 57</td> </tr> <tr> <td>20 to 29 service years and age 52</td> <td>20 or more service years and age 55</td> </tr> <tr> <td>30 or more service years and any age</td> <td></td> </tr> </table>	5 to 9 service years and age 62	5 to 9 service years and age 60	10 to 19 service years and age 57	10 to 19 service years and age 57	20 to 29 service years and age 52	20 or more service years and age 55	30 or more service years and any age		Active employees are eligible after reaching: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">5 to 9 service years and age 60</td> <td style="width: 50%;">5 to 9 service years and age 60</td> </tr> <tr> <td>10 to 19 service years and age 57</td> <td>10 to 19 service years and age 57</td> </tr> <tr> <td>20 or more service years and age 55</td> <td></td> </tr> </table>	5 to 9 service years and age 60	5 to 9 service years and age 60	10 to 19 service years and age 57	10 to 19 service years and age 57	20 or more service years and age 55	
5 to 9 service years and age 62	5 to 9 service years and age 60															
10 to 19 service years and age 57	10 to 19 service years and age 57															
20 to 29 service years and age 52	20 or more service years and age 55															
30 or more service years and any age																
5 to 9 service years and age 60	5 to 9 service years and age 60															
10 to 19 service years and age 57	10 to 19 service years and age 57															
20 or more service years and age 55																
<b>Earned Benefit Per Year of Service Multiplier</b>	Maximum 2 percent. Refer to table in SMC 4.36.605.	Maximum 1.75 percent. Refer to table in SMC 4.36.608.														
<b>Minimum Benefit Calculation</b>	Contributions plus interest times two.	Benefit is calculated using age and length of service. See table in SMC 4.36.608.														

Under the SCERS 1 Plan, the retirement benefit is the higher of the two formulas shown below:

*Service Retirement Formula:* (years of City service) x (yearly percentage factor) x (average of the highest 52 consecutive pay period).

*Contributions-Based Formula (2 Times Match):* The employee contribution plus interest multiplied by two, used to purchase a lifetime annuity.

Under the SCERS 2 Plan, the retirement benefit is calculated by the following Service Retirement Formula:

*Service Retirement Formula:* (years of City service) x (yearly percentage factor) x (average of the highest 130 consecutive pay period).

These calculations determine the “straight” or unmodified benefit. There are retirement options that offer a lower benefit amount in exchange for different kinds of guaranteed payments. See the retirement handbook at [www.seattle.gov/retirement](http://www.seattle.gov/retirement) for more information.

In addition, there are two kinds of service used in the above calculations:

*City service* is the retirement-eligible hours you earn during your employment with the City. This includes all regular hours and excludes overtime. City service is used in the *Service Retirement Formula*.

*Eligibility service* is your City service together with any service you have earned from a system that has portability with SCERS. Portable systems include the cities of Spokane and Tacoma, and most systems operated by the Washington State Department of Retirement Systems. Eligibility service is used to determine the percentage factor for the service retirement formula.

The table below shows how the yearly percentage factor in the *Service Retirement Formula* is determined based on the number of years of retirement eligibility service credit and age at retirement.

### Yearly Percentage Factors used in the Service Retirement Formula

Years of Retirement Eligibility Service Credit	Age at Retirement															Years of Retirement Eligibility Service Credit	
	Any	52	53	54	55	56	57	58	59	60	61	62	63	64	65		
30 or more	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	30 or more	
29		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	29	
28		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	28	
27		1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	27	
26		1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	26	
25		1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	25	
24		1.6	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	24	
23		1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	23	
22		1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	22	
21		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	21	
20		1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	20	
19							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	19	
18							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	18	
17							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	17	
16							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	16	
15							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	15	
14							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	14	
13							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	13	
12		Not Eligible To Retire						1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	12
11							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	11	
10							1.52	1.58	1.64	1.7	1.76	1.82	1.88	1.94	2.0	10	
9											1.82	1.88	1.94	2.0	9		
8											1.82	1.88	1.94	2.0	8		
7											1.82	1.88	1.94	2.0	7		
6											1.82	1.88	1.94	2.0	6		
5											1.82	1.88	1.94	2.0	5		