



**SERS**

**Spokane Employees'  
Retirement System**

**Comprehensive Annual Report**  
FOR THE YEAR ENDED DECEMBER 31, 2018

*Photography by James Richman*

Retirement Department  
City Hall, Suite 604  
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# Comprehensive Annual Report

FOR THE YEAR ENDED DECEMBER 31, 2018



Retirement Department  
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# Introductory Section

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**SPOKANE EMPLOYEES'  
RETIREMENT SYSTEM**  
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To the Honorable Mayor and  
Spokane City Council  
Spokane, WA 99201

This 77<sup>th</sup> Annual Report consists of five sections: The Introductory Section contains the letter of transmittal and an explanation of the administrative organization of the System; the Financial Section contains the audited financial statements of the System as well as an opinion letter from the System's independent certified public accountants; the Actuarial Section contains the consulting actuary's report along with related actuarial data and statements; the Statistical Section contains tables of significant data pertaining to the operation of the System; and the last section is the Investment Section, which includes information related to the System's investments.

The Retirement System began its first year of operations in 1942 and is managed in accordance with Chapters 3.05 and 4.14 of the Spokane Municipal Code. The retirement plan is an employer-sponsored defined benefit plan that pays a determinable amount to each member who retires after a minimum number of years of service. Refer to the *Summary of Benefit and Contribution Provisions* contained in the Actuarial Section of this report for criteria and a more detailed explanation of the benefits.

The compilation of this report reflects the combined efforts of the staff under the leadership of the Retirement Board. The intention of this report 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 employer. The accuracy and completeness of the data contained in this report are the sole responsibility of the management of the Spokane Employees' Retirement System.

We would like to express our gratitude to the advisors and the many people who have worked so diligently to assure the successful operation of the System. Lastly, the Director would like to acknowledge the hard work and dedication of the Retirement Department staff. Without them, this report would not be possible.

Respectfully submitted,

Board of Administration,  
Spokane Employees' Retirement System  
As of December 31, 2018

Phillip Tencick  
Retirement Director



## Administrative Organization

### BOARD OF ADMINISTRATION

|                              |                   |   |
|------------------------------|-------------------|---|
| Michael F. Coster<br>(Chair) | Elected Employee  | WWTP Operations Superintendent,<br>Advanced Waste Water Treatment Plant                 |
| Michael Cavanaugh            | Elected Employee  | Water Service Foreperson,<br>Water Division   |
| James Tieken                 | Elected Employee  | Refuse District Supervisor,<br>Solid Waste Management                                   |
| Candace Mumm                 | Council Appointee | City of Spokane,<br>City Council Member   |
| Brian Brill                  | Council Appointee | Portfolio Manager,<br>Washington Trust Bank   |
| Dean Kiefer                  | Council Appointee | Associate Professor, Finance and Marketing<br>Department, Eastern Washington University |
| J.D. Morscheck               | Board Appointee   | Assistant Professor of Finance,<br>Gonzaga University                                   |

### INVESTMENT ADVISORY COMMITTEE

|                  |   |
|------------------|---|
| Gene Fitzpatrick | President, Spokane City Credit Union  |
| Brian Brill      | Portfolio Manager, Washington Trust Bank  |
| Dean Kiefer      | Associate Professor, Finance and Marketing Department, Eastern<br>Washington University |
| Gavin Cooley     | Chief Financial Officer, City of Spokane  |
| Phillip Tencick  | Retirement Director, Spokane Employees' Retirement System                               |

### STAFF

|                   |                               |
|-------------------|-------------------------------|
| Phillip Tencick   | Retirement Director           |
| Christine Shisler | Assistant Retirement Director |
| Donald G. Brown   | Pension Specialist            |
| Timothy Szambelan | Legal Advisor                 |

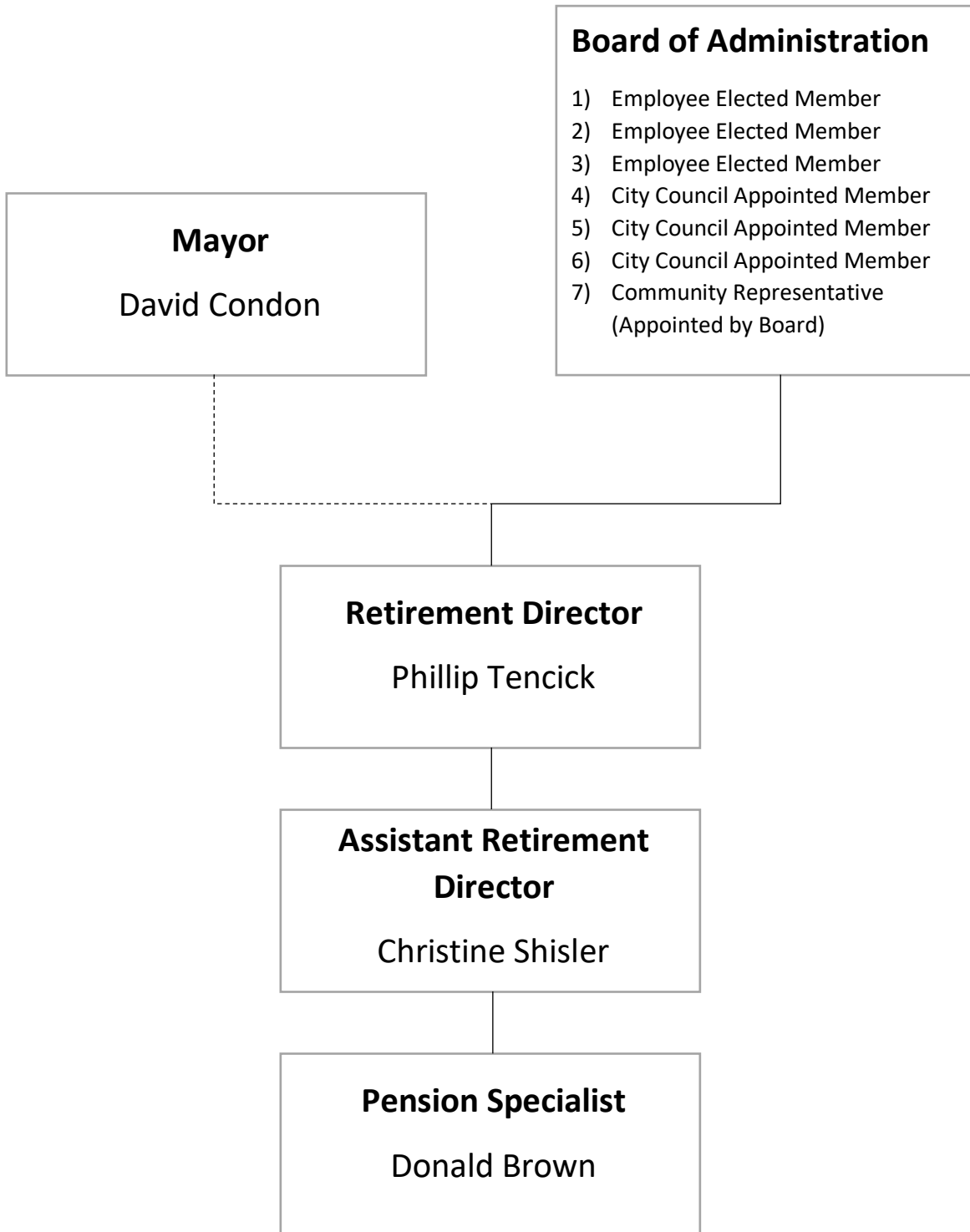
### ADVISORY

|                       |  |
|-----------------------|--|
| Auditor               | Moss Adams   |
| Actuary               | SageView Consulting Group                                  |
| Investment Consultant | Hyas Group   |
| Custodian             | US Bank  |
| Legal Counsel         | K&L Gates and Ogletree, Deakins, Nash, Smoak & Stewart, PC |

This Annual Report was printed and produced by Sir Speedy Printing, Spokane, WA

# Organization Chart

## Retirement Department



## Description of Retirement System

The Spokane Employees' Retirement System (SERS) is a defined benefit pension plan that was established July 1, 1942. Membership in SERS is required for all permanent non-uniformed employees of the City of Spokane. SERS provides retirement, death, and disability benefits after a member has vested.

SERS is governed by a Board of Administration of seven members. Three members are appointed by the City Council and three employee members are elected by the SERS membership. The seventh member is appointed by the other six members and may not be an elected official or an employee of the City.

Member contributions are currently 9.25% of total salary-based compensation. Member contributions are deducted from the member's salary and paid into the retirement fund, with credit given to the specific member. The City makes an equivalent 9.0% contribution. The City's contributions are used for funding the overall plan. The contribution rate increased from 9.00% to 9.25% for both the member and the City on December 16, 2018.

This following contains a brief summary of the Retirement System; refer to the Summary of Benefit and Contribution Provisions contained in the Actuarial Section of this report for a more detailed explanation of the benefits.

If a member terminates service before vesting, their contributions plus interest are available for withdrawal. If the member is vested and eligible to retire, they can elect to withdraw their contributions or they can elect to receive a monthly pension. If a member is vested and not yet eligible to retire, they can withdraw their contributions or they can vest and receive a pension when they meet the retirement eligibility requirements.

If a member has vested and becomes totally and permanently disabled, the member may be eligible for a disability pension. If the disability is due to an injury incurred on the job, no minimum service is required. The amount of disability pension is calculated based on 1.25% of final average salary and service that would have been creditable had the member worked until normal retirement age.

For employees hired on or before December 31, 2008, their benefits vest with five-years of service. The normal retirement age is 50. The normal retirement benefit is calculated by multiplying 2.15% times the member's years of creditable service times their consecutive two-year monthly salary. Creditable service is capped at 30 years.

For those employees hired between January 1, 2009 and December 31, 2014, their benefits vest with five-years of service. The normal retirement age is 62, with early eligibility when the employee's age plus years of service equals 75. The normal retirement benefit is calculated by multiplying 2.0% times the member's years of creditable service times their consecutive two-year monthly salary. Creditable service is capped at 35 years.

For those employees hired between January 1, 2015 and December 31, 2017, their benefits vest with seven-years of service. The normal retirement age is 65, with early eligibility when the employee's age plus years of service equals 80. The normal retirement benefit is calculated by multiplying 2.0% times the member's years of creditable service times their consecutive three-year monthly salary. Creditable service is capped at 35 years.

For those employees hired on or after January 1, 2018, their benefits vest with seven-years of service. The normal retirement age is 65, with early eligibility when the employee's age plus years of service equals 90 or upon completing 30 years of service and reaching age 50. The normal retirement benefit is calculated by multiplying 2.0% times the member's years of creditable service times their consecutive three-year monthly salary. Creditable service is capped at 40 years. Salary with overtime is capped at 120% for any given year.

There are a number of actuarially equivalent payment options that allow a retiree to provide benefits to his or her beneficiary with a reduction in monthly pension benefits.

## Service Retirement Options

In each option, a pension is paid to the retiree for their lifetime. The options provide different types of a remaining cash balance, paid to a beneficiary, upon death of the retiree. Briefly, the options are as follows:

**Normal Benefit** The total pension is deducted each month from the retiree's total accumulated contributions, leaving any remaining balance to be paid to a beneficiary in one lump-sum upon the retiree's death.

**Option "A"** An annuity portion is deducted monthly from the retiree's total accumulations, with a lump-sum cash refund of any remaining balance being paid to a beneficiary upon the retiree's death.

**Option "B"** The death benefit is the same as in Option A, but it is paid in monthly payments until the balance of the total accumulations is exhausted.

**Option "C"** In case of death within the guaranteed period, a retiree's beneficiary receives the pension for the remainder of a pre-selected time period of 5, 10, 15, or 20 years.

**Option "D"** Upon the retiree's death, 50% of the pension is continued to the retiree's spouse for life.

**Option "E"** Upon the retiree's death, 100% of the pension is continued to retiree's spouse for life.

If a retiree elects options "A" through "E," their monthly pension is actuarially reduced to provide a total benefit equivalent to the Normal Benefit.

At the time of retirement, a retiree also has the option of withdrawing their contributions, with interest, in a lump-sum payment and foregoing all rights to any further benefits from SERS.

Additional information can be obtained at [www.spokanesers.org](http://www.spokanesers.org)

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# Financial Section

Moss-Adams L.L.P.  
Independent Auditor's Report



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## Report of Independent Auditors

The Trustees  
Spokane Employees' Retirement System

### Report on the Financial Statements

We have audited the accompanying financial statements of the Spokane Employees' Retirement System, a pension trust fund of the City of Spokane, Washington, which comprise the statements of fiduciary net position as of December 31, 2018 and 2017, 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.

### *Auditor's 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 and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

### *Opinion*

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Spokane Employees' Retirement System as of December 31, 2018 and 2017, and the changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matter***Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 9 and schedules of changes in the employer's net pension liability and related ratios, employer's contributions, and investment returns on pages 22 through 25 be presented to supplement the 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 audit 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.

*Other Supplementary Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements taken as a whole. The schedules of administrative and investment expenses, on pages 26 through 28, are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates to the underlying accounting and other records used to prepare the financial statements. The schedules of administrative and investment expenses have been subjected to the auditing procedures applied in the audit 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 schedules of administrative and investment expenses are fairly stated in all material respects in relation to the financial statements as a whole.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated June 10, 2019, on our consideration of Spokane Employees' Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and the results of that testing, and not to provide an opinion on the effectiveness of the Spokane Employees' Retirement System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Spokane Employees' Retirement System's internal control over financial reporting and compliance.



Spokane, Washington  
June 10, 2019

## Spokane Employees' Retirement Plan Management Discussion and Analysis

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This section presents management's discussion and analysis of the Spokane Employees' Retirement System's (SERS, System, or Plan) financial performance during the year ended December 31, 2018. Please read it in conjunction with the accompanying financial statements and the related notes.

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 market value or net asset value and income includes the recognition of unrealized gains or 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. For ease of reading, the dollar amounts that appear in these narratives are typically rounded to the closest one thousand dollars. The basis of contributions to the System is the Entry Age Normal funding method, with current service contributions based on the normal contribution rate determined under the funding method and unfunded prior service amortized as a level percentage of covered payroll over a period of no more than 30 years in accordance with GASB standards. SageView Consulting Group, LLC, the System's actuary, evaluates the funding status of the System.

### The financial section contains the following information:

1. **Basic Financial Statements** including:
  - Statements of fiduciary net position
  - Statements of changes in fiduciary net position
  - Notes to financial statements
2. **Required Supplementary Information** including:
  - Schedule of changes in the employer's net pension liability and related ratios
  - Schedule of employer's contributions
  - Schedule of investment returns
3. **Additional Information** including:
  - Schedule of administrative expenses
  - Schedule of investment expenses

## Spokane Employees' Retirement Plan Management Discussion and Analysis

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The basic financial statements are described as follows:

- The statements of fiduciary net position show the account balances at year end and includes the net position available for future benefit payments. The Plan's net position is restricted to the payment as shown in the schedule of employers' net pension liability and related ratios.
- The statements of changes in fiduciary net position shows the sources and uses of funds during the year corresponding to 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 data and projected obligations that reflect the long-term nature of the Plan and trends over time.

- Schedule of changes in the employer's net pension liability and related ratios contains the items contributing to the changes in the pension liability and Plan's net position. Ratios comparing the unfunded liability to the Plan's net position and covered-employee payroll are also provided.
- Schedule of employer's contributions contains a history of employee and employer contributions made to the Plan.
- Schedule of investment returns contains a history of the Plan's investment performance on a money-weighted basis.

### Financial Highlights

- Net position decreased by \$29.8 million (9.6%) during 2018 and increased by \$31.3 million (11.3%) during 2017. Investments returned -6.3% for the year, and the net outflows for benefit payments (benefit payments and refunds less total contributions) were \$10.5 million. In 2017, investments gained 15.4% and net outflows for benefit payments totaled \$11.2 million.
- Total additions to net position were -\$340 thousand in 2018, compared to \$59.3 million in the prior year. For 2018, revenue includes member and employer contributions of \$18.4 million and a net investment loss of \$18.7 million. Member and employer contributions increased by \$2.1 million in 2018 compared to an increase of \$1.1 million in 2017. Net investment income or loss, which fluctuates year-to-year depending on market conditions, was a loss of \$18.7 million in 2018, down \$61.8 million compared to \$43.1 million of income in 2017.
- Total plan expenses and payments for 2018 were \$29.4 million, a 5.0% increase from 2017. Total expense amounts and fluctuations are primarily driven by pension benefit payments, which make up 96% of total expenses. Retiree benefits increased by \$1.4 million during 2018 and by \$1.2 million during 2017.

## Spokane Employees' Retirement Plan Management Discussion and Analysis

### Financial Statements and Analysis

#### Changes in Plan Net Position

The table below provides a summary of the changes in Plan net position during the years ended December 31, 2018:

|   | <u>2018</u>           | <u>2017</u>           | <u>2016</u>           |
|---|-----------------------|-----------------------|-----------------------|
| <b>Additions</b>                            |                       |                       |                       |
| Employer contributions                      | \$ 9,187,420          | \$ 8,113,319          | \$ 7,586,362          |
| Plan member contributions                   | 9,188,781             | 8,113,319             | 7,586,362             |
| Miscellaneous revenue                       | -                     | 988                   | -                     |
| Net investment income (loss)                | <u>(18,715,945)</u>   | <u>43,084,584</u>     | <u>16,802,274</u>     |
| Total additions                             | <u>(339,744)</u>      | <u>59,312,210</u>     | <u>31,974,998</u>     |
| <b>Deductions</b>                           |                       |                       |                       |
| Benefits                                    | 28,309,344            | 26,891,785            | 25,737,515            |
| Refunds of contributions                    | 554,422               | 551,908               | 729,741               |
| Net administrative expenses                 | <u>554,484</u>        | <u>563,078</u>        | <u>477,252</u>        |
| Total deductions                            | <u>29,418,250</u>     | <u>28,006,771</u>     | <u>26,944,508</u>     |
| Net increase (decrease) in net position     | <u>(29,757,994)</u>   | <u>31,305,439</u>     | <u>5,030,490</u>      |
| <b>Net position restricted for pensions</b> |                       |                       |                       |
| Beginning of year                           | <u>308,637,220</u>    | <u>277,331,781</u>    | <u>272,301,291</u>    |
| End of year                                 | <u>\$ 278,879,226</u> | <u>\$ 308,637,220</u> | <u>\$ 277,331,781</u> |

#### Revenues – Additions to Net Plan Position

- Both employer and plan participant contributions increased by 13.2% (\$1.1 million) in 2018. In 2017, employer contributions and participant contributions each increased by 6.9% (\$527 thousand). Participant contributions may vary from employer contributions if rehired employees exercise their option to buy-back creditable service time from a prior withdrawal upon being rehired. Employer and participant contributions are driven by employees' salaries/wages and the contribution rate. Effective December 16, 2018, the contribution rate changed from 9.00% to 9.25% of salary for both parties. Effective December 15, 2017, the contribution rate changed from 8.25% to 9.00% of salary for both parties.



## Spokane Employees' Retirement Plan Management Discussion and Analysis

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### Revenues – Additions to Net Plan Position (continued)

- Net investment return was an \$18.7 million loss in 2018 compared to a \$43.1 million gain in 2017. In 2018, the portfolio's annual return was -6.3% compared to 15.4% in 2017. The investment loss of -6.3% in 2018 was due to broad market weakness in the second half of the year and a sharp downturn in equity markets in December. International equities suffered the largest loss, down 15.8%. Domestic equities were the next largest contributor to the loss, with a 7.8% investment loss and a 32% target weight. Real estate and long/short hedge funds were the only asset classes with positive returns for the year. The performance in 2018 was nearly opposite of the strong markets of 2017. In 2017, markets performed exceptionally well, with all asset classes generating positive returns for the year. International equity was the top performing asset class with a 28.5% return for the year. Domestic equity contributed the largest amount dollar amount to the overall returns with a 32% target allocation and a 19.9% investment return.

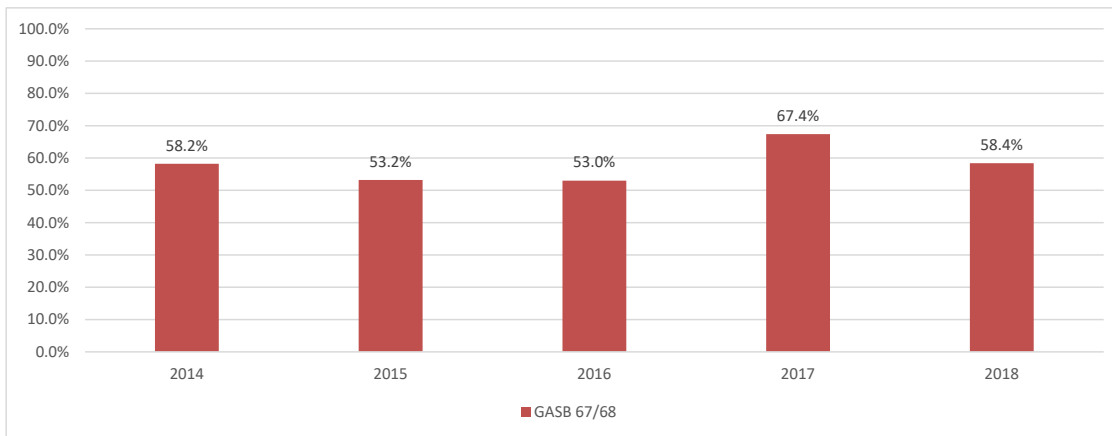
### Expenses – Deductions from Net Plan Assets

- Retiree benefits paid increased by \$1.4 million (5.3%) in 2018 and \$1.2 million (4.5%) in 2017. The number of retirees and beneficiaries increased by 48 (3.5%) in 2018 and by 34 (2.5%) in 2017. SERS' active member age is an average of 47.49 years old, which is a slight decrease from 47.95 as compared to 2017. Average active participant service has decreased slightly from 11.69 years in 2017 to 11.25 years in 2018.
- Refunds of contributions increased by just under \$3 thousand (0.5%) in 2018 compared to a decrease of \$178 thousand (-24.4%) in 2017. Lump sum withdrawals from the Plan fluctuate from year to year based on the number of participants that leave the system and the average size of withdrawal.
- Net administrative expenses include salaries and benefits for SERS staff, along with other costs associated with administering the Plan. These expenses are shown on the Schedule of Administrative Expenses. Staff and the Board continue to be diligent about Plan operating expenses. The net administrative expenses were \$554 thousand, a decrease of 1.5% compared to 2017 and represent only 0.20% of net Plan assets and 1.9% of total annual expenditures.

## Spokane Employees' Retirement Plan Management Discussion and Analysis

### Funding Status

The Net Pension Liability (NPL) is the actuarial present value of benefits accrued, adjusted to reflect future changes based on the actuarial assumptions. The funded ratio compares the NPL to Plan assets.



Beginning in 2014, and reported retrospectively, the implementation of the Governmental Accounting Standards Board (GASB) No. 67 resulted in a new method for measuring the future value of Plan liabilities. The discount rate for any funding shortfalls moved from the long-term assumed rate of return to the municipal bond borrowing rate for all points in time after fund assets are projected to be depleted. This change in methodology reduced the discount rate from 7.50% to 5.50%, which increased the value of the reported unfunded liability through 2016. The lower discount rate reduced the funding ratio from 69.3% to 58.2% in 2014 when GASB No. 67 was implemented for the Plan. The funding ratio fell as low as 53.0% in 2016 as investment returns did not meet the assumed rate of return for the year and the liability continued to grow.

Funds are accumulated from employer and employee contributions and investment earnings, and are used to pay present and future benefit obligations and administrative expenses. Starting December 16, 2018, active members contribute 9.25% of their salaries to the Plan and the City contributes 9.25%, for a total of 18.50%. Previously active members contributed 9.00% of their salaries to the Plan and the City contributed 9.00%, for a total of 18.00%. The current 9.25% employer and employee contribution rate is expected to allow the Plan to gradually improve its funded position.

At the end of 2017, a new tier was added to the Plan that will reduce the normal cost for employees hired on or after January 1, 2018. In addition, the participant and employee contribution rates are now tied to the Actuarially Determined Contribution (ADC) rate as determined by the Plan's actuary in the annual valuation. These changes were sufficient to eliminate the projected depletion of assets and use a discount rate equal to the 7.50% assumed rate of return.

The SERS Board of Administration considers issuing an ad hoc adjustment for retiree benefits each year. The Board can grant an ad hoc adjustment if the funded ratio is 90% or greater and remains above 90% after the ad hoc adjustment is granted. The funded ratio was less than 90% as of December 31, 2018. The last ad hoc retiree adjustment occurred in 2001. Based on the current funded ratio, the Plan does not anticipate making ad hoc adjustments for the foreseeable future. It will take continued favorable experience in the investment markets or an increase in contribution levels to raise the funded ratio above the ad hoc threshold.

## Spokane Employees' Retirement Plan Management Discussion and Analysis

### Investment Activities

One-year returns on asset classes and comparative benchmarks are presented in the table below. The policy indices and benchmarks are in italics.

|   | Investment Return |        |
|---|-------------------|--------|
|   | 2018              | 2017   |
| Total portfolio                               | -6.27%            | 15.40% |
| <i>Policy Index</i>                           | -5.11%            | 15.30% |
| Capital Preservation                          | -0.94%            | 5.85%  |
| <i>Capital Preservation Policy Index</i>      | -0.72%            | 4.56%  |
| Total Return Bonds                            | -0.09%            | 4.20%  |
| <i>Barclays US Aggregate Bond Index</i>       | 0.01%             | 3.54%  |
| High Yield Bonds                              | -3.46%            | 8.22%  |
| <i>Barclays US Corporate High Yield Index</i> | -2.08%            | 7.50%  |
| Absolute Return                               | -1.11%            | 5.33%  |
| <i>HFRI FOF Conservative Index</i>            | -0.86%            | 4.01%  |
| Domestic Equity                               | -7.80%            | 19.86% |
| <i>Domestic Equity Policy Index</i>           | -6.30%            | 20.11% |
| US Large Cap Equities                         | -7.70%            | 22.54% |
| <i>S&amp;P 500 Index</i>                      | -4.38%            | 21.83% |
| US Small/Mid Cap Equities                     | -8.05%            | 14.91% |
| <i>Russell 2500 Index</i>                     | -10.00%           | 16.81% |
| International Equity                          | -15.78%           | 28.45% |
| <i>International Equity Policy Index</i>      | -14.96%           | 29.35% |
| International Large Cap Equities              | -15.14%           | 27.50% |
| <i>MSCI ACWI Ex-US Index</i>                  | -14.20%           | 27.19% |
| International Small/Mid Cap Equities          | -20.33%           | 37.08% |
| <i>MSCI ACWI Ex-US Small Cap Index</i>        | -18.20%           | 31.65% |
| Emerging Market Equities                      | -14.62%           | 23.58% |
| <i>MSCI EM Free Index</i>                     | -14.58%           | 37.28% |
| Long Biased Hedge Funds                       | 2.43%             | 1.19%  |
| <i>HFRI FOF Composite Index</i>               | -4.08%            | 7.69%  |
| Opportunistic Credit                          | -5.68%            | 7.08%  |
| <i>HFRI Distressed Restructuring Index</i>    | -2.02%            | 6.66%  |
| Real Estate                                   | 3.68%             | 10.01% |
| <i>NCREIF ODCE Index</i>                      | 8.35%             | 7.62%  |
| Special Opportunities                         | -11.43%           | 25.32% |
| <i>Russell 3000 Index</i>                     | -5.24%            | 21.13% |

## Spokane Employees' Retirement Plan Management Discussion and Analysis

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### Investment Activities (continued)

The investments of the System are governed by the “prudent investor rule.” The prudent investor rule, as set forth by state statute, establishes a standard for all fiduciaries, which includes anyone who has authority with respect to the fund.

Total investments, valued at fair market value and net asset value, decreased in 2018 by \$27.0 million, which is composed of an investment loss of \$23.0 million (-6.3%) and offsetting sales of \$10.8 million to fund expenditures. In 2017, total investments increased \$29.1 million, which is composed of investment returns of \$43.1 million (15.4%) and offsetting sales of \$11.8 million to fund expenditures. The overall loss for 2018 was attributable to broad market weakness in the second half of the year, highlighted by a sharp equity decline in December. The domestic equity, international equity and special opportunity assets classes were the largest contributors to the overall performance. These assets suffered the most in the year-end decline with all losing more than 10% in the fourth quarter. Much of the losses were regained in early 2019 as markets rallied strongly to begin the year. Real estate and long/short hedge funds were the only assets to generate positive returns for the year, with 3.7% and 2.4% returns, respectively. SERS continued to utilize alternative investments to provide diversification and reduce short-term volatility, as seen with the contribution provided by long/short hedge funds. Over a full market cycle, SERS expects these strategies to provide equity-like returns and lower portfolio volatility due to their low correlations with traditional equity and fixed income markets.

The System is a long-term investor with a perpetual investment horizon, anticipating ongoing investment cycles with both good and bad years for financial markets. Investments are diversified to reduce investment risk and mitigate the risk of underperforming the actuarial rate of return. While annual market performance is unlikely to match the actuarial rate of return in any given year, long-term returns are expected to be in line with the assumption based on the diversified nature of the portfolio. Each alternative investment that SERS enters into has been carefully studied by the System's independent investment consultant and has been reviewed by the Retirement Director and the Board. The asset allocation study that was modeled by the independent consultant and completed in 2016 demonstrated that alternative assets have low correlations to traditional asset classes and are expected to add value to the portfolio over time. The Board believes the use of alternative investments is a prudent approach to managing risk.

### Contacting the Spokane Employees' Retirement System

If you have questions about this report or need additional information, please contact:

Spokane Employees' Retirement System  
City Hall – Suite 604  
808 W. Spokane Falls Blvd.  
Spokane, WA 99201  
[www.spokanesers.org](http://www.spokanesers.org)  
509.625.6330

## Spokane Employees' Retirement Plan Statements of Fiduciary Net Position

|   | December 31,          |                       |
|---|-----------------------|-----------------------|
|   | 2018                  | 2017                  |
| <b>Assets</b>                               |                       |                       |
| Cash  | \$ 108,124            | \$ 32,606             |
| Short-term investments                      | 554,256               | 896,869               |
| Total cash and short-term investments       | <u>662,380</u>        | <u>929,475</u>        |
| Receivables:                                |                       |                       |
| Investment income                           | 191,119               | 193,877               |
| Redemption receivable                       | -                     | 2,500,000             |
| Other                                       | 2,835                 | 1,674                 |
| Total receivables                           | <u>193,954</u>        | <u>2,695,551</u>      |
| Investments:                                |                       |                       |
| U.S. fixed income securities                | 34,402,792            | 47,390,265            |
| International fixed income securities       | 684,533               | 815,292               |
| U.S. equities                               | 75,843,382            | 104,540,678           |
| International/global equities               | 58,948,145            | 53,815,203            |
| Real estate                                 | 25,314,141            | 27,096,456            |
| Alternatives                                | 82,721,805            | 71,238,891            |
| Total investments                           | <u>277,914,798</u>    | <u>304,896,785</u>    |
| Capitalized software, net                   | <u>229,437</u>        | <u>247,086</u>        |
| Total assets                                | <u>\$ 279,000,569</u> | <u>\$ 308,768,897</u> |
| <b>Liabilities</b>                          |                       |                       |
| Payables:                                   |                       |                       |
| Accounts payable                            | \$ 69,398             | \$ 79,726             |
| Employee salaries and benefits              | 13,540                | 17,884                |
| Employee leave benefits                     | 26,401                | 21,968                |
| Other liabilities                           | 12,004                | 12,099                |
| Total liabilities                           | <u>121,343</u>        | <u>131,677</u>        |
| <b>Net position restricted for pensions</b> | <u>\$ 278,879,226</u> | <u>\$ 308,637,220</u> |

## Spokane Employees' Retirement Plan Statements of Changes in Fiduciary Net Position

|  | Years Ended December 31,     |                              |
|--|------------------------------|------------------------------|
|  | 2018                         | 2017                         |
| <b>Additions</b>   |                              |                              |
| Contributions:   |                              |                              |
| Employer   | \$ 9,187,420                 | \$ 8,113,319                 |
| Member   | 9,188,781                    | 8,113,319                    |
| Miscellaneous revenue  | -                            | 988                          |
| Total contributions  | <u>18,376,201</u>            | <u>16,227,626</u>            |
| Investment income (loss):                                    |                              |                              |
| Net appreciation (depreciation) in fair value of investments | (23,011,419)                 | 39,406,448                   |
| Interest and dividends                                       | 4,731,880                    | 4,127,973                    |
| Less investment expense                                      | <u>(436,406)</u>             | <u>(449,837)</u>             |
| Net investment income (loss)                                 | <u>(18,715,945)</u>          | <u>43,084,584</u>            |
| Total additions  | <u>(339,744)</u>             | <u>59,312,210</u>            |
| <b>Deductions</b>  |                              |                              |
| Benefit payments   | 28,309,344                   | 26,891,785                   |
| Refunds of member contributions                              | 554,422                      | 551,908                      |
| Administrative expenses, net of administrative income        | <u>554,484</u>               | <u>563,078</u>               |
| Total deductions   | <u>29,418,250</u>            | <u>28,006,771</u>            |
| Net increase (decrease) in net position                      | (29,757,994)                 | 31,305,439                   |
| <b>Net position restricted for pensions</b>                  |                              |                              |
| Beginning of year  | <u>308,637,220</u>           | <u>277,331,781</u>           |
| End of year  | <u><u>\$ 278,879,226</u></u> | <u><u>\$ 308,637,220</u></u> |



## Spokane Employees' Retirement Plan

### Notes to Financial Statements

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#### Note 1 – Plan Description

**Plan administration** – The Spokane Employees' Retirement System (SERS, System, or Plan) is a single employer defined benefit pension plan covering employees of the City of Spokane, administered in accordance with Chapters 3.05 and 4.14 of the Spokane Municipal Code (SMC).

SERS is a pension trust fund of the City of Spokane and is presented as a blended component unit within the fiduciary fund of the City's comprehensive annual financial report. SERS has separate legal standing. The City is financially accountable for SERS because a financial burden is imposed on the City using the criteria of financial accountability. SERS has determined there are no entities that require inclusion within its financial statements.

All permanent employees of the City, including employees of the Plan, are eligible to belong to SERS with the exception of elected officials, who may opt out of the Plan, and police and firefighters, who are members of the State Law Enforcement Officers and Firefighters' Retirement System.

Management of SERS is vested in SERS Board, which consists of seven members: three members are elected by active employee Plan members, three members are appointed by the Spokane City Council, and one member (who may not be an elected official or employee of the City) is appointed by the other six Board members.

**Plan membership** – At December 31, 2018, pension Plan membership consisted of the following:

|  |       |
|--|-------|
| Retirees or beneficiaries currently receiving benefits           | 1,424 |
| Inactive plan members entitled to but not yet receiving benefits | 123   |
| Active plan members  | 1,481 |
|  | 3,028 |

**Benefits provided** – SERS provides retirement, death, and disability benefits. All employees hired before January 1, 2009, who participate in SERS, are eligible for service retirement after completing five years of service if they are age 50 or older. Their retirement benefits are calculated by multiplying 2.15% of the member's highest consecutive two-year average salary by the member's years of creditable service, not to exceed 64.50%. Employees hired prior to January 1, 2009, may retire under the terms of a subsequent tier if it provides a greater benefit.

All employees hired between January 1, 2009 and December 31, 2014, who participate in SERS, are eligible for service retirement after completing five years of service and are age 50 or older; however, this group of employees must have their age, plus years of service, equal to 75 before they can draw a pension. Their retirement benefits are calculated by multiplying 2.00% of the member's highest consecutive two-year average salary by the member's years of creditable service, to a maximum of 70.00%. In addition, the normal retirement age for these employees is 62. Employees hired between January 1, 2009 and December 31, 2014, may retire under the terms of a subsequent tier if it provides a greater benefit.

## Spokane Employees' Retirement Plan Notes to Financial Statements

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### Note 1 – Plan Description (continued)

All employees hired between January 1, 2015 and December 31, 2017, who participate in SERS, are eligible for service retirement after completing seven years of service and are age 50 or older; however, this group of employees must have their age plus years of service equal to 80 before they can draw a pension. Their retirement benefits are calculated by multiplying 2.00% of the member's highest consecutive three-year average salary by the member's years of creditable service, to a maximum of 70.00%. In addition, the normal retirement age for these employees is 65. Employees hired between January 1, 2015 and December 31, 2017, may retire under the terms of a subsequent tier if it provides a greater benefit.

All employees hired on or after January 1, 2018, who participate in SERS, are eligible for service retirement after completing seven years of service and reach the normal retirement age of 65. Early retirement, with no reduction of benefits, may be elected when an employee's age plus years of service equal to 90 or if they are age 50 or older and have completed 30 years of service. A reduced early retirement may be elected with benefits reduced by 2.5% per year for each year before the retiree would be eligible for full retirement. Their retirement benefits are calculated by multiplying 2.00% by the member's years of creditable service times the member's highest consecutive three-year average salary, with an annual cap on overtime plus base pay equal to 120% of base pay. The maximum retirement factor is 80.00%.

For all employee groups, benefits may be reduced on an actuarially equivalent basis according to the retirement annuity option selected for themselves and their beneficiaries.

The SERS Board of Administration considers issuing an ad hoc adjustment for retiree benefits each year. The Board can grant an ad hoc adjustment if the funded ratio is 90% or greater and remains above 90% after the ad hoc adjustment is granted. The funded ratio was less than 90% as of December 31, 2018. The last ad hoc retiree adjustment occurred in 2001. Based on the current funded ratio, the Plan does not anticipate making ad hoc adjustments for the foreseeable future. It will take continued favorable experience in the investment markets or an increase in contribution levels to raise the funded ratio above the ad hoc threshold.

### Note 2 – Summary of Significant Accounting Policies

**Basis of accounting** – The financial statements were prepared using the accrual basis of accounting. Employee and employer contributions are recorded as revenues in the period in which payroll is due and expenses are recorded when the corresponding liabilities are incurred. Interest income is recognized when earned and dividend income is recognized on the ex-dividend date.

**Use of estimates** – In preparing the Plan's financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

## Spokane Employees' Retirement Plan

### Notes to Financial Statements

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#### Note 2 – Summary of Significant Accounting Policies (continued)

**Methods used to value investments** – All fixed income, common stock, and short-term investments are listed at fair market value. Short-term investments are reported at cost, which approximates fair value. Fixed income securities and common stock traded on national exchanges are valued at fair market value based on the closing price of the securities. Investments that do not have an established market are reported at estimated fair value.

Investment fees detailed in the Schedule of Investment Expenses represent cash payments made to money managers and other investment professionals. Certain investments, such as mutual funds and limited partnerships, net their management fees before the fund itself reports net investment income for the period and are not reflected in this schedule. However, these investment expenses are netted against investment income in the statement of changes of Plan net position to arrive at a net investment income amount.

Investments are exposed to various risks, such as interest rate, market, credit, and regulatory risk. Due to the level of risk associated with certain investments, it is at least reasonably possible that changes in the values of investments will occur in the near term and that such changes could materially affect total net position and the amounts reported in the statements of fiduciary Plan net position.

**Subsequent events** – Subsequent events are events or transactions that occur after the statement of fiduciary net position date but before the financial statements are available to be issued. The Plan recognizes in the financial statements the effects of all subsequent events that provide additional evidence about conditions that existed at the date of the statement of fiduciary net position, including the estimates inherent in the process of preparing the financial statements. The Plan's financial statements do not recognize subsequent events that provide evidence about conditions that did not exist at the date of the statement of fiduciary net position but arose after the statement of fiduciary net position date and before the financial statements are available to be issued.

The Plan has evaluated subsequent events through June 10, 2019, which is the date the financial statements were available to be issued.

Spokane Regional Emergency Communications (SREC) is an entity that was established to manage all 911 calls for the Spokane region. SREC is scheduled to begin operations July 1, 2019, with staffing to be provided by entities currently handling 911 operations. Currently, 12 SERS members have received layoff notices and corresponding job offers from SREC to facilitate the transition. The SERS Board was petitioned by the SREC and the City of Spokane to allow members to remain SERS participants following the transition. At the May 29, 2019, Board Meeting, the SERS Board approved the petition. SERS members that transition to SREC will have the option to remain in SERS at the time they transition. Such members will have the benefits, eligibility requirements, and contribution rates as current SERS members. Additionally, current SERS members cannot be harmed, so SREC will be required to make the required employer contributions and fund any incremental costs with SERS becoming a multiple employer plan. SERS does not anticipate any material impacts.

## Spokane Employees' Retirement Plan Notes to Financial Statements

### Note 3 – Deposits and Investments

**Deposits** – The Federal Deposit Insurance Corporation (FDIC) insures the cash deposits up to \$250,000 per depositor. As provided by State of Washington RCW 43.84, the Washington Public Deposit Protection Commission (PDPC) collateralizes deposits in excess of \$100,000.

**Investment policy** – The Plan's policy regarding the allocation of invested assets is established, and may be amended, by a majority vote of the SERS Board. It is the policy of the SERS Board to pursue an investment strategy that meets the projected return requirements while minimizing volatility by diversifying the portfolio across a broad selection of distinct asset classes. The Plan's investment policy limits the use of cash equivalents to meeting liquidity requirements and reviews rebalancing needs at least quarterly. The investment policy was not updated during the reporting period.

The following was the Board's target asset allocation as of December 31, 2018:

| <u>Asset Class</u>                 | <u>Target<br/>Allocation</u> |
|------------------------------------|------------------------------|
| Domestic Equities                  | 32%                          |
| Capital Preservation               | 23%                          |
| International Equities             | 22%                          |
| Real Estate                        | 9%                           |
| Long Biased                        | 7%                           |
| Opportunistic Credit               | 7%                           |
| Special Opportunities <sup>1</sup> | 0%                           |
|                                    | <hr/>                        |
| Total                              | 100%                         |
|                                    | <hr/> <hr/>                  |

<sup>1</sup> By policy, Special Opportunities may be up to 10%

**Rate of return** – For the year ended December 31, 2018, the annual money-weighted rate of return on pension Plan investments, net of pension Plan investment expense, was -6.3%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

## Spokane Employees' Retirement Plan

### Notes to Financial Statements

#### Note 3 – Deposits and Investments (continued)

The long-term expected rate of return on pension Plan investments was determined using statistical methods to determine the best-estimate future real rate of return (net of pension Plan investment expense and inflation) based on long-term performance of the major asset classes. These returns are used to determine the estimated portfolio return based on the target asset allocation percentage of each asset class. 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, 2018, are summarized in the following table:

| <u>Asset Class</u>     | <u>Long-Term Expected<br/>Real Rate of Return</u> |
|------------------------|---|
| Domestic Equities      | 6.5%  |
| Capital Preservation   | 1.9%  |
| International Equities | 5.9%  |
| Long Biased            | 4.0%  |
| Opportunistic Credit   | 7.0%  |
| Real Estate            | 2.2%  |

Inflation

**Discount rate** – The discount rate used to measure the total pension liability was 7.5%. The projection of cash flows used to determine the discount rate assumed that Plan member contributions will be made at the current 9.25% contribution rate, which went into effect December 16, 2018, and that City contributions will be made at the same rate. GASB No. 67 requires the use of a blended discount rate to the extent future contributions are not projected to be sufficient to provide future benefits for the current closed group of Plan participants. If that is the case, the expected long-term rate of return on Plan assets (7.50%) is used for the period where assets are projected to be sufficient and the current yield on the 20-year AA municipal bonds is used thereafter.

**Sensitivity of the net pension liability to changes in the discount rate** – The following presents the net pension liability of SERS, calculated using the blended discount rate of 7.5%, as well as what SERS's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.5%) or 1 percentage point higher (8.5%) than the current rate:

|                              | <u>1% Decrease<br/>(6.5%)</u> | <u>Current<br/>Discount Rate<br/>(7.5%)</u> | <u>1% Increase<br/>(8.5%)</u> |
|------------------------------|-------------------------------|---|-------------------------------|
| Plan's net pension liability | \$ 248,551,705                | \$ 198,361,217                              | \$ 155,541,772                |

**Investments** – The SERS's investment management policy is set by the Board of Administration. The investment policy sets strategic asset allocation targets and ranges for all approved asset classes. SERS investments are governed by an investment standard known as the "prudent person rule." The prudent person rule, as set forth by state statute, establishes a standard for all fiduciaries, which includes anyone who has authority with respect to the Plan.

## Spokane Employees' Retirement Plan Notes to Financial Statements

### Note 3 – Deposits and Investments (continued)

Investments of the pension trust funds are reported at fair value. The Board of Administration maintains a formal Statement of Investment Policy, which addresses governing provisions and additional guidelines for the investment process. In fulfilling its responsibilities, the Board of Administration has contracted with investment managers, a custodian, and an independent investment consultant. Investment manager contracts include specific guidelines regarding the investments under management. All investments are held in custody. The independent investment consultant monitors the fund on a regular basis and provides quarterly reports to staff and the Board.

The Board has an asset allocation policy that includes allocations to alternative investments. The term "alternative investments" encompasses a broad category of investments other than traditional asset classes of equities, fixed income, and real estate. Funding of these investments began in 2007 and continues on an ongoing basis. Each alternative investment that SERS enters into has been studied carefully by the System's independent investment consultant, reviewed by staff, and approved by the Board. The asset allocation study that was modeled by the independent consultant demonstrated the alternative assets can add value to the portfolio over time through diversification and higher expected returns. The Chief Investment Officer (CIO) and Board believes the use of alternative investments increases the expected return and reduces the risk of the Plan compared to investing only in traditional asset classes.

**Credit risk** – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the System. Although the SERS Investment Policy does not specifically address credit risk, this risk is mitigated by closely monitoring the credit quality ratings of its fixed income portfolios and by setting criteria for fixed income manager selection. SERS' fixed income assets are comprised of one institutional class mutual fund and one separately managed account targeting different levels of credit risk.

**Concentration of credit risk** – SERS has no holdings by an issuer that represent five percent or more of SERS' investments. SERS' holdings in organizations that manage five percent or more of the Plan's fiduciary net position at December 31, 2018, were:

| Organization                  | % of net position |
|-------------------------------|-------------------|
| Sterling Capital Management   | 9.9%              |
| Hotchkis & Wiley              | 9.0%              |
| Artisan Partners              | 7.0%              |
| American Funds                | 6.8%              |
| Vanguard Funds                | 6.8%              |
| Evanston Capital Management   | 5.4%              |
| Contrarian Capital Management | 5.2%              |
| Jackson Square                | 5.2%              |

**Custodial credit risk** – Custodial credit risk is the risk that in the event of a financial institution or bank failure, SERS would not be able to recover the value of its deposits and investments that are in the possession of an outside party. Under GASB No. 40, *Deposit and Investment Risk Disclosures Guidelines*, SERS does not have exposure to custodial credit risk.



## Spokane Employees' Retirement Plan

### Notes to Financial Statements

#### Note 3 – Deposits and Investments (continued)

**Interest rate risk** – 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. Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Although the SERS Investment Policy does not specifically limit interest rate risk, the System's fixed income portfolio is professionally managed with an expected range of interest rate risk within the portfolio. In addition, the portfolio is closely monitored by the independent consultant and the staff.

The table below shows the System's fixed income assets by investment type, average effective maturity and market value as of December 31, 2018:

| Asset                                    | Fair Value           | Less than 1<br>Year  | 1-5 Years           | 6-10 Years          | More than 10<br>Years |
|--|----------------------|----------------------|---------------------|---------------------|-----------------------|
| Fixed income mutual funds                | \$ 11,491,293        | \$ 11,491,293        | \$ -                | \$ -                | \$ -                  |
| Corporate notes and bonds                | 9,075,412            | 311,865              | 3,195,347           | 2,305,857           | 3,262,344             |
| Asset backed securities                  | 5,977,991            | -                    | 1,622,312           | 1,156,943           | 3,198,736             |
| Governmental CMOs                        | 4,144,001            | -                    | -                   | 459,920             | 3,684,081             |
| Municipal bonds                          | 1,452,795            | 30,665               | 686,874             | 551,334             | 183,923               |
| Mortgage backed governmental passthrough | 1,183,087            | -                    | -                   | 224,344             | 958,744               |
| U.S. government treasuries               | 1,762,746            | -                    | 587,443             | 25,257              | 1,150,045             |
|  | <b>\$ 35,087,325</b> | <b>\$ 11,833,822</b> | <b>\$ 6,091,976</b> | <b>\$ 4,723,655</b> | <b>\$ 12,437,872</b>  |

**Foreign currency risk** – Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. At December 31, 2018, 29.4% of the System's portfolio is invested in foreign issued securities, which primarily consist of equities, fixed income, and alternative investments. The SERS Investment Policy does not specifically address foreign currency risk; however, the System considers foreign currency risk during the selection and monitoring process of fund managers. The fair market value of the foreign investments as of December 31, 2018, were:

|              | Total Investments     | US Issues             | Foreign Issues       | % Foreign    |
|--------------|-----------------------|-----------------------|----------------------|--------------|
| Cash         | \$ 554,256            | \$ 554,256            | \$ -                 | 0.0%         |
| Fixed income | 35,087,325            | 34,402,792            | 684,533              | 2.0%         |
| Equities     | 134,791,527           | 77,591,023            | 57,200,504           | 42.4%        |
| Real estate  | 25,314,141            | 25,130,755            | 183,386              | 0.7%         |
| Alternatives | 82,721,805            | 59,024,391            | 23,697,414           | 28.6%        |
| <b>Total</b> | <b>\$ 278,469,054</b> | <b>\$ 196,703,217</b> | <b>\$ 81,765,837</b> | <b>29.4%</b> |

## Spokane Employees' Retirement Plan Notes to Financial Statements

### Note 4 – Fair Value Measurement

Investments measured and reported at fair value are classified according to the following hierarchy, in accordance with GASB Statement 72 – *Fair Value Measurement and Application*:

- **Level 1** – Quoted prices for an identical asset in an active market
- **Level 2** – Market value where prices are determined using observable inputs
- **Level 3** – Market value where prices are determined using unobservable inputs
- **NAV** – Net Asset Value (NAV) is used as a practical expedient where the investment does not have a readily determinable fair value and the investee is an investment company within the scope of Accounting Standards Codification (ASC) Topic 946, *Financial Services – Investment Companies*

The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument and should not be perceived as the particular investment's risk.

Fixed income and equity investments classified as Level 1 in the fair value hierarchy are valued directly from a predetermined primary external pricing vendor.

Investments classified as Level 2 represent proportional ownership in a Collective Investment Trust (CIT). All assets in the CIT have observable prices in active markets, with the fair value of the CIT representing a proportionate share of all underlying assets held in the CIT.

The following table presents fair value measurements as of December 31, 2018:

|                            | Fair Value            | Level 1               | Level 2              | Level 3     | NAV                   |
|----------------------------|-----------------------|-----------------------|----------------------|-------------|-----------------------|
| <b>Cash Equivalents</b>    | \$ 554,256            | \$ 554,256            | \$ -                 | \$ -        | \$ -                  |
| US Government              | 7,089,834             | 7,089,834             | -                    | -           | -                     |
| US Corporate Fixed Income  | 8,390,879             | 8,390,879             | -                    | -           | -                     |
| International Fixed Income | 684,533               | 684,533               | -                    | -           | -                     |
| Asset Backed Securities    | 5,977,991             | 5,977,991             | -                    | -           | -                     |
| Municipal Bonds            | 1,452,795             | 1,452,795             | -                    | -           | -                     |
| Fixed Income Mutual Funds  | 11,491,293            | 11,491,293            | -                    | -           | -                     |
| <b>Total Fixed Income</b>  | 35,087,325            | 35,087,325            | -                    | -           | -                     |
| US Common Stock            | 17,651,848            | 17,651,848            | -                    | -           | -                     |
| International Common Stock | 583,537               | 583,537               | -                    | -           | -                     |
| Equity Mutual Funds        | 112,129,047           | 99,169,281            | 12,959,766           | -           | -                     |
| <b>Total Equities</b>      | 130,364,432           | 117,404,665           | 12,959,766           | -           | -                     |
| <b>Real Estate</b>         | 15,796,228            | -                     | -                    | -           | 15,796,228            |
| <b>Alternatives</b>        | 96,666,813            | -                     | -                    | -           | 96,666,813            |
| <b>Total Investments</b>   | <u>\$ 278,469,054</u> | <u>\$ 153,046,246</u> | <u>\$ 12,959,766</u> | <u>\$ -</u> | <u>\$ 112,463,042</u> |

## Spokane Employees' Retirement Plan

### Notes to Financial Statements

#### Note 4 – Fair Value Measurement (continued)

The valuation method for investments measured at the NAV per share, or equivalent, is presented in the table below:

|  | <u>Net Asset Value<br/>(NAV)</u> | <u>Unfunded<br/>Commitments</u> | <u>Redemption Frequency</u>     | <u>Redemption<br/>Notice</u> |
|--|----------------------------------|---------------------------------|---------------------------------|------------------------------|
| Equity Fund                            | \$ 13,945,009                    | \$ -                            | Monthly, Annually               | 15-90 Days                   |
| Long/Short Hedge Fund                  | 23,157,321                       | -                               | Quarterly                       | 60-65 Days                   |
| Real Estate Fund                       | 15,796,228                       | 1,398,976                       | N/A                             | N/A                          |
| Absolute Return Hedge Fund             | 29,754,219                       | -                               | Monthly, Quarterly, Semi-Annual | 30-45 Days                   |
| Closed-End Hedge Fund                  | 5,023,732                        | 2,505,731                       | N/A                             | N/A                          |
| Fixed Income Fund                      | 24,786,533                       | -                               | Quarterly                       | 90 Days                      |
| <b>Total Investments Valued at NAV</b> | <b><u>\$ 112,463,042</u></b>     | <b><u>\$ 3,904,707</u></b>      |                                 |                              |

*Equity Fund* – Two international funds and one US fund that invest long-only in less liquid markets seeking to capture an illiquidity premium. The international funds are fund of funds and valued based on the net asset value provided for each of the underlying units. The US fund unit net asset value is based on the value of the underlying holdings.

*Long/Short Hedge Fund* – Two funds that invest long and short to generate outside risk-adjusted returns. One fund is valued at net asset value of units held based on underlying holdings. One fund is a fund of funds and is valued based on the net asset value provided for each of the underlying units.

*Real Estate Fund* – Four funds that invest primarily in commercial real estate properties and debt instruments. The fair values of these funds has been determined using net assets valued based on the appraised value of the holdings. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5 to 10 years.

*Absolute Return Hedge Fund* – Four funds that seek to generate consistent positive returns with low volatility and low net market exposure. Each fund's unit net asset value is based on the value of the underlying holdings.

*Closed-end Hedge Fund* – Two funds that invests primarily in medical royalty streams or securities associated with the royalties. The fair value of the fund is determined using discounted cash flow models based on expected future cash flows. The fund is not eligible for redemption. Distributions are received as underlying investments within the fund generates cash flows, which on average can occur over the span of 5 to 10 years.

*Fixed Income Fund* – Three funds that invest in less liquid or distressed debt securities. All funds unit net asset value is based on the value of the underlying holdings.

## Spokane Employees' Retirement Plan Notes to Financial Statements

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### Note 5 – Contributions Required and Contributions Made

Member and employer contribution rates are established by City Code, Chapter 4.14. Effective December 16, 2018, member contributions are 9.25% of eligible compensation and are deducted from the member's salary and paid into the retirement fund; the City contributes 9.25% of eligible compensation for a combined total of 18.5%. Previously, the contribution rate was 18.0% of payroll (9.0% of pay paid by the employee, 9.0% of pay paid by the City).

Contribution rates are reviewed annually to determine if they meet the Actuarially Determined Contribution (ADC). If the contribution rate is less than the ADC, the contribution rate shall be increased by up to 1.0% per year for both the employee and employer. It is contemplated that over the long term, the contribution by the City will, when added to the member's contribution, plus other revenues, be enough to properly fund the retirement benefits set forth.

**Required Supplementary Information**

**Spokane Employees' Retirement System  
Schedule of Changes in the Employer's Net Pension Liability and Related Ratios**

|   | 2018           | 2017           | 2016           | 2015           | 2014           |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Total pension liability</b>  |                |                |                |                |                |
| Service cost  | \$ 9,397,166   | \$ 13,133,393  | \$ 12,896,547  | \$ 12,384,960  | \$ 11,405,611  |
| Interest  | 33,296,148     | 29,336,782     | 27,443,176     | 26,359,257     | 25,718,424     |
| Changes of benefit terms  | -              | 165,092        | -              | -              | 86,298         |
| Differences between expected and actual experience                                | 5,291,272      | (3,830,239)    | 12,381,445     | 6,483,011      | 18,507,784     |
| Changes of assumptions  | -              | (76,976,691)   | (14,542,266)   | -              | -              |
| Benefit payments, including refunds of member contributions                       | (28,863,766)   | (27,443,693)   | (26,467,256)   | (24,597,020)   | (22,884,026)   |
| <b>Net change in total pension liability</b>                                      | 19,120,820     | (65,615,356)   | 11,711,646     | 20,630,208     | 32,834,091     |
| <b>Total pension liability—beginning</b>  | 458,119,623    | 523,734,979    | 512,023,333    | 491,393,125    | 458,559,034    |
| <b>Total pension liability—ending (a)</b>   | \$ 477,240,443 | \$ 458,119,623 | \$ 523,734,979 | \$ 512,023,333 | \$ 491,393,125 |
| <b>Plan fiduciary net position</b>  |                |                |                |                |                |
| Contributions—employer  | \$ 9,187,420   | \$ 8,113,319   | \$ 7,586,365   | \$ 7,398,945   | \$ 6,822,279   |
| Contributions—member  | 9,188,781      | 8,113,319      | 7,586,362      | 7,402,905      | 6,822,279      |
| Net investment income   | (18,715,945)   | 43,085,572     | 16,802,274     | (3,228,439)    | 14,487,901     |
| Benefit payments, including refunds of member contributions                       | (28,863,766)   | (27,443,693)   | (26,467,256)   | (24,597,020)   | (22,884,026)   |
| Administrative expense  | (554,484)      | (563,078)      | (477,252)      | (447,921)      | (386,713)      |
| Other   | -              | -              | -              | -              | -              |
| <b>Net change in plan fiduciary net position</b>                                  | (29,757,994)   | 31,305,439     | 5,030,490      | (13,471,530)   | 4,871,720      |
| <b>Plan fiduciary net position—beginning</b>                                      | 308,637,220    | 277,331,781    | 272,301,291    | 285,772,821    | 280,901,101    |
| <b>Plan fiduciary net position—ending (b)</b>                                     | \$ 278,879,226 | \$ 308,637,220 | \$ 277,331,781 | \$ 272,301,291 | \$ 285,772,821 |
| <b>Plan's net pension liability—ending (a) – (b)</b>                              | \$ 198,361,217 | \$ 149,482,403 | \$ 246,403,195 | \$ 239,722,042 | \$ 205,620,304 |
| <b>Plan fiduciary net position as a percentage of the total pension liability</b> | 58.4%          | 67.4%          | 53.0%          | 53.2%          | 58.16%         |
| <b>Covered-employee salaries, as of December 31</b>                               | \$ 107,017,146 | \$ 102,844,614 | \$ 102,378,550 | \$ 93,899,096  | \$ 89,034,522  |
| <b>Plan's net pension liability as a percentage of covered-employee salaries</b>  | 185.40%        | 145.30%        | 240.70%        | 255.30%        | 230.90%        |

**Notes to Schedule:**  
*Legislative and administrative changes:* The System added a new benefit tier for employees hired on or after January 1, 2018. The details of the tier are included in the "Benefits Provided" of Note 1 to the Financial Statements. Additionally, the contribution rate for all participants and the City increased to 9.25% on December 16, 2018. The contribution rate is now tied to the Actuarially Determined Contribution (ADC) rate as determined by the Plan's actuary in the annual valuation.

**Spokane Employees' Retirement System  
Schedule of Employer's Contributions**

|  | 2018           | 2017          | 2016          | 2015          | 2014          | 2013          | 2012          | 2011          | 2010          | 2009          |
|--|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Actuarially determined contribution                                  | \$ 10,044,342  | \$ 9,765,949  | \$ 9,853,762  | \$ 9,069,276  | \$ 8,292,066  | \$ 8,237,317  | \$ 8,325,936  | \$ 10,010,885 | \$ 8,955,055  | \$ 8,267,280  |
| Contributions in relation to the actuarially determined contribution | 9,187,420      | 8,113,319     | 7,586,362     | 7,388,945     | 6,822,279     | 6,715,376     | 6,937,750     | 6,799,258     | 6,580,795     | 6,474,432     |
| Contribution deficiency (excess)                                     | \$ 856,922     | \$ 1,652,630  | \$ 2,267,400  | \$ 1,670,331  | \$ 1,469,787  | \$ 1,521,941  | \$ 1,388,186  | \$ 3,211,627  | \$ 2,374,260  | \$ 1,792,848  |
| Covered-employee payroll   | \$ 102,082,444 | \$ 98,343,261 | \$ 91,955,903 | \$ 89,684,182 | \$ 86,139,886 | \$ 86,650,013 | \$ 89,519,355 | \$ 90,264,062 | \$ 88,093,679 | \$ 83,455,429 |
| Contributions as a percentage of covered-employee payroll            | 9.00%          | 8.25%         | 8.25%         | 8.25%         | 7.92%         | 7.75%         | 7.75%         | 7.75%         | 7.75%         | 7.75%         |

## Spokane Employees' Retirement System Schedule of Employer's Contributions

Valuation date: December 31, 2018

Actuarially determined contribution rates are calculated as of December 31, of the end of the fiscal year in which methods and assumptions used to determine contribution rates:

|                               |  |
|-------------------------------|--|
| Actuarial cost method         | Entry age normal   |
| Amortization method           | Level percentage of payroll, closed                      |
| Remaining amortization period | 22 years   |
| Asset valuation method        | 5-year smoothed market                                   |
| Inflation                     | 2.25%  |
| Salary increases              | In accordance with the following table based on service: |

| <u>Years of Service</u> | <u>Annual Increase</u> |
|-------------------------|------------------------|
| <1                      | 12.0%                  |
| 1-2                     | 10.0%                  |
| 3                       | 8.0%                   |
| 4                       | 5.0%                   |
| 5-9                     | 4.0%                   |
| 10-19                   | 3.0%                   |
| 20+                     | 2.5%                   |

|                           |  |
|---------------------------|--|
| Investment rate of return | 7.5%, net of pension plan investment expense         |
| Retirement age            | In accordance with the following table based on age: |

| <u>Age</u> | <u>Retirement<br/>Probability</u> |
|------------|-----------------------------------|
| <50        | 0.0%                              |
| 50-58      | 5.0%                              |
| 59-61      | 10.0%                             |
| 62         | 25.0%                             |
| 63         | 20.0%                             |
| 64         | 25.0%                             |
| 65         | 30.0%                             |
| 66         | 25.0%                             |
| 67         | 30.0%                             |
| 68         | 10.0%                             |
| 69         | 25.0%                             |
| 70         | 15.0%                             |
| 71-74      | 30.0%                             |
| 75+        | 100.0%                            |

|           |                              |
|-----------|------------------------------|
| Mortality | RP - 2000 Fully Generational |
|-----------|------------------------------|



**Spokane Employees' Retirement System  
Schedule of Investment Returns**

|   | 2018   | 2017   | 2016  | 2015   | 2014  | 2013   | 2012   | 2011   | 2010   | 2009   |
|---|--------|--------|-------|--------|-------|--------|--------|--------|--------|--------|
| Annual money-weighted rate of return, net of investment expense | -6.27% | 15.40% | 6.70% | -0.94% | 5.34% | 18.89% | 11.70% | -2.80% | 13.47% | 21.99% |

## **Additional Supplementary Information**

### Spokane Employees' Retirement System Schedule of Administrative Expenses

|  | <u>2018 Budget</u> | <u>2018 Actual</u> | <u>2017 Actual</u> |
|--|--------------------|--------------------|--------------------|
| Personnel services:                        |                    |                    |                    |
| Salaries and wages                         | \$ 290,564         | \$ 279,091         | \$ 272,809         |
| Personnel benefits                         | 86,250             | 83,449             | 78,628             |
| Administrative income                      | (10,000)           | (20,854)           | (19,374)           |
|  | <u>366,814</u>     | <u>341,686</u>     | <u>332,063</u>     |
| Supplies:                                  |                    |                    |                    |
| Office supplies                            | 2,000              | 521                | 508                |
| Publications                               | 200                | -                  | -                  |
| Postage                                    | 3,500              | 621                | 1,843              |
| Software (non-capitalized)                 | 200                | 191                | 162                |
| Minor equipment                            | 500                | -                  | -                  |
| Office furniture (non-capitalized)         | -                  | -                  | 1,289              |
| Other                                      | 1,050              | 637                | 666                |
|  | <u>7,450</u>       | <u>1,970</u>       | <u>4,468</u>       |
| Other services and charges:                |                    |                    |                    |
| State audit charges                        | 15,000             | 12,444             | 10,670             |
| Professional services                      | 175,000            | 132,743            | 139,187            |
| Travel                                     | 15,000             | 7,873              | 10,969             |
| Registration and schooling                 | 15,000             | 8,575              | 15,980             |
| Other dues, subscriptions, and memberships | 2,500              | 1,710              | 1,886              |
| Printing                                   | 2,500              | 719                | 212                |
| Depreciation/amortization                  | -                  | 17,649             | 17,649             |
| Other miscellaneous charges                | 1,300              | 664                | 709                |
|  | <u>226,300</u>     | <u>182,377</u>     | <u>197,262</u>     |
| Total other services and charges           | <u>\$ 226,300</u>  | <u>\$ 182,377</u>  | <u>\$ 197,262</u>  |

**Spokane Employees' Retirement System**  
**Additional Supplementary Information**  
**Schedule of Administrative Expenses**

|   | <u>2018 Budget</u> | <u>2018 Actual</u> | <u>2017 Actual</u> |
|---|--------------------|--------------------|--------------------|
| Interfund (IF) payments for services:                             |                    |                    |                    |
| IF centralized purchasing   | \$ 378             | \$ 506             | \$ 2,347           |
| IF centralized accounting   | 2,078              | 1,958              | 2,347              |
| IF risk management  | 790                | 790                | 760                |
| IF workers' compensation  | 109                | 109                | 104                |
| IF IT   | 16,171             | 15,825             | 13,756             |
| IF reprographics  | 4,500              | 6,720              | 7,596              |
| IF IT replacement   | 2,066              | 2,066              | 2,772              |
| IF My Spokane   | 1,532              | 477                | 436                |
|   | <u>27,624</u>      | <u>28,451</u>      | <u>29,285</u>      |
| TOTAL ADMINISTRATIVE<br>EXPENSES, NET OF<br>ADMINISTRATIVE INCOME | <u>\$ 628,188</u>  | <u>\$ 554,484</u>  | <u>\$ 563,078</u>  |

**Spokane Employees' Retirement System**  
**Additional Supplementary Information**  
**Schedule of Investment Expenses**

|                                     | Year Ended<br>December 31, 2018 |
|-------------------------------------|---------------------------------|
| Investment Services:                |                                 |
| Bridge City Capital LLC             | \$ 22,325                       |
| Champlain Small Cap Fund LLC        | 62,586                          |
| Principal Real Estate Investors LLC | 75,008                          |
| Sterling Capital Management LLC     | 102,687                         |
|                                     | 262,606                         |
| Investment Consulting:              |                                 |
| Hyas Group, LLC                     | 121,500                         |
| Custodial Services:                 |                                 |
| U.S. Bank                           | 52,300                          |
| TOTAL INVESTMENT EXPENSES           | \$ 436,406                      |

*Mutual fund and limited partnership fees are not reflected in this schedule; instead, these investment expenses are netted against investment income in the statement of changes of plan net assets to arrive at a net investment income amount.*



## **Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards***

The Trustees  
Spokane Employees' Retirement System

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Spokane Employees' Retirement System, which comprise the statement of fiduciary net position as of December 31, 2018, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated June 10, 2019.

### **Internal Control Over Financial Reporting**

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

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

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

**Compliance and Other Matters**

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

**Purpose of this Report**

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

The image shows a handwritten signature in cursive script that reads "Moss Adams LLP".

Spokane, Washington

June 10, 2019

# Actuarial Section

SageView Consulting Group, L.L.C.  
Actuarial Valuation



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**SPOKANE EMPLOYEES'  
RETIREMENT SYSTEM**

**ACTUARIAL VALUATION  
AS OF DECEMBER 31, 2018**



Sageview Consulting Group  
4510 Cox Road, Suite 200, Glen Allen, VA 23060  
804.270.1508 [www.sageviewadvisory.com](http://www.sageviewadvisory.com)

April 24, 2019

Spokane Employees' Retirement System  
808 West Spokane Falls Boulevard  
Spokane, Washington 99201-3324

Ladies and Gentlemen:

Effective December 31, 2008, actuarial valuations of the Spokane Employees' Retirement System are performed annually. The results of the latest actuarial valuation of the System, which was prepared as of December 31, 2018, are summarized in this letter.

The valuation reflects the benefits in effect on the valuation date, and was prepared on the basis of the data submitted by the System using generally accepted actuarial principles and methods.

### Financing Objective and Contribution Rate

The financing objective of the System is to:

- (a) fully fund all current costs based on the normal contribution rate payable by the System determined under the funding method; and
- (b) liquidate the unfunded accrued liability based on accrued liability contributions payable by the System over an amortization period of no more than 30 years; and
- (c) accomplish the above through a combination of Employee Contributions (currently 9.25% of pay) and Employer Contributions (currently 9.25% of pay).

The December 31, 2018 valuation develops an Actuarially Determined Employer Contribution Rate (ADC), exclusive of employee contributions, of 10.06% of total payroll. The ADC rate compares with an actual Employer Contribution rate of 9.25% of total payroll. The Employer Contribution for the 2018 fiscal year of \$9,187,420 was less than the ADC of \$10,044,342 by \$856,922.

### Net Pension Liability

Under GASB 67, the Net Pension Liability is the excess, if any, of the Total Pension Liability over the Fiduciary Net Position. The Total Pension Liability is determined under the Entry Age actuarial cost method. The Net Pension Liability as of December 31, 2018 and December 31, 2017 is as follows:

|  | December 31<br>2018 | December 31<br>2017 |
|--|---------------------|---------------------|
| Total Pension Liability:   | \$477,240,443       | \$458,119,623       |
| Fiduciary Net Position:  | \$278,879,226       | \$308,637,220       |
| Net Pension Liability:   | \$198,361,217       | \$149,482,403       |
| Fiduciary Net Position as a Percentage of Total Pension Liability: | 58.4%               | 67.4%               |
| GASB 67 Discount Rate:   | 7.50%               | 7.50%               |

Spokane Employees' Retirement System  
April 24, 2019  
Page two

### **System's Assets and Member Data**

The individual data for members of the System as of the valuation date were reported to the actuary by the System. While we did not verify the data at its source, we did perform tests for internal consistency and reasonability in relation to the data submitted for the previous valuation. It is our understanding that the outside auditor of the System has also made an examination of the data.

The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the System's Staff and audited by the independent auditor of the System.

### **Actuarial Assumptions and Methods**

Actuarial assumptions are adopted by the Board, upon review of recommendations made by the actuary. An experience study was conducted for the five-year period ended December 31, 2016. This study resulted in the Board adopting several changes in assumptions as of December 31, 2017, at the recommendation of the actuary, in order to better anticipate emerging experience under the System.

In order to smooth out market value fluctuations for purposes of developing the ADC, the difference between actual investment earnings over expected investment earnings will be recognized in equal amounts over a five-year period with the restriction that the smoothed value of assets may not be less than 90% nor greater than 110% of market value.

Samples of the actuarial assumptions, and descriptions of the actuarial cost method and asset valuation method are set forth in the outline of actuarial assumptions and methods included in the report.

### **Legislative and Administrative Changes**

There were no legislative or administrative changes since the last valuation that had a financial impact on the System.

Spokane Employees' Retirement System  
April 24, 2019  
Page three

### Financial Results and Membership Data

Detailed summaries of financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report and the related membership data schedules. We were responsible for providing information for all schedules included in the Actuarial Section: information for the following schedules included in the Actuarial Section: Schedule of Actuarial Assumptions and Methods, Net Pension Liability, 20 Year Benefit Payment Projections, Schedule of Active Member Valuation Data, Schedule of Retiree and Beneficiary Data, Analysis of Financial Experience and Schedule of Benefit and Contribution Provisions, as well as the Schedule of Changes in Employers' Net Pension Liability and Related Ratios and Schedule of Employers' Contributions included in the annual financial report for the fiscal year ended December 31, 2018.

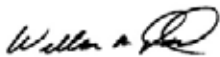
To the best of our knowledge, this report is complete and accurate. All costs and liabilities have been determined in conformance with generally accepted actuarial principles and on the basis of actuarial assumptions and methods which are individually reasonable (taking into account past experience and reasonable expectations of future experience) and which in combination represent the best estimate of anticipated experience under the System. In addition, the assumptions and methods used for funding purposes meet the parameters set by relevant Actuarial Standards of Practice.

Future liability and asset values may differ from the results shown in this report for many reasons including, but not limited to, actual experience differing from assumed experience, changes in actuarial assumptions or methods, plan amendments, regulatory changes or changes in contribution strategy. An impact analysis of such potential changes is not included in this report. Potential plan risks are discussed in Appendix I in compliance with ASOP 51.

The undersigned are available to provide additional information or answer any questions with respect to this report.

Respectfully Submitted By:

#### Sageview Consulting Group



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William M. Dowd, FCA, EA  
Managing Principal



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William J. Reid, FCA, EA  
Principal

### *Summary of Valuation Results*

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Presented in this report are the results of the actuarial valuation as of December 31, 2018 for the Spokane Employees' Retirement System.

The principal results include:

- The Actuarially Determined Employer Contribution Rate (ADC) is 10.06% of total payroll. This compares to an actual Employer Contribution rate of 9.25% of total payroll.

The valuation was completed based on membership and financial data submitted by the System.

#### **Net Pension Liability**

Under GASB 67, the Net Pension Liability is the excess, if any, of the Total Pension Liability over the Fiduciary Net Position. The Total Pension Liability is determined under the Entry Age actuarial cost method. The Net Pension Liability as of December 31, 2018 and December 31, 2017 is as follows:

|  | December 31<br>2018 | December 31<br>2017 |
|--|---------------------|---------------------|
| Total Pension Liability:   | \$477,240,443       | \$458,119,623       |
| Fiduciary Net Position:  | \$278,879,226       | \$308,637,220       |
| Net Pension Liability:   | \$198,361,217       | \$149,482,403       |
| Fiduciary Net Position as a Percentage of Total Pension Liability: | 58.4%               | 67.4%               |
| <br>GASB 67 Discount Rate:   | <br>7.50%           | <br>7.50%           |

The following changes have been made since the last actuarial valuation:

- **Actuarial Assumptions and Methods**

Actuarial assumptions are adopted by the Board, upon review of recommendations made by the actuary. An experience study was conducted for the five-year period ended December 31, 2016. This study resulted in the Board adopting several changes in assumptions as of December 31, 2017, at the recommendation of the actuary, in order to better anticipate emerging experience under the System.

GASB 67 requires the use of a blended discount rate to the extent future contributions are not projected to be sufficient to provide future benefits for the current closed group of plan participants. This was the case for years prior to 2017. For years ended 2017 and later, it was not necessary to apply a blended discount rate because of the negotiated terms that allow for both employer and employee contributions to increase or decrease up to 1% each year based on changes in the ADC.

- **Legislative and Administrative Changes**

There were no legislative or administrative changes since the last valuation that had a financial impact on the System.

***Summary of Valuation Results (continued)***

| <b><u>Demographics</u></b>   | <b><u>2018</u></b> | <b><u>2017</u></b> |
|--|--------------------|--------------------|
| <b><u>Active</u></b>   |                    |                    |
| Number   | 1,481              | 1,444              |
| Average Pay for Coming Year  | \$ 72,260          | \$ 71,222          |
| <b><u>Retired and Beneficiaries</u></b>                                  |                    |                    |
| Number   | 1,424              | 1,376              |
| Average Annual Allowance   | 20,323             | 19,894             |
| <b><u>Terminated Vested and Portables</u></b>                            |                    |                    |
| Number   | 123                | 113                |
| <b><u>Total Membership</u></b>   | <b>3,028</b>       | <b>2,933</b>       |
| <b><u>Net Pension Liability</u></b>                                      |                    |                    |
| Total Pension Liability  | \$477,240,443      | \$458,119,623      |
| Fiduciary Net Position   | \$278,879,226      | \$308,637,220      |
| Net Pension Liability  | \$198,361,217      | \$149,482,403      |
| Fiduciary Net Position as<br>a Percentage of the Total Pension Liability | 58.4%              | 67.4%              |
| <b><u>Contribution Rates</u></b>   |                    |                    |
| Actuarially Determined Employer Contribution<br>Rate (ADC)*              | 10.06%             | 9.49%              |
| Actual Employer Contribution Rate  | 9.25%              | 9.00%              |

\* Exclusive of Employee Contributions (9.25% of pay effective December 16, 2018, 9.00% of pay effective December 17, 2017, 8.25% of pay prior to December 17, 2017, 7.75% of pay prior to September 1, 2014)

***Summary of Valuation Results (continued)***

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**Contribution Rates (ADC)**

The results of the valuation as of December 31, 2018 determine the ADC rate for the System. The actual Employer Contribution rate is compared to the contribution rate developed in the valuation in order to determine the appropriateness of the actual Employer Contribution rate. As of December 31, 2018 the actual Employer Contribution rate of 9.25% is less than the ADC rate of 10.06%.

**Reasons for Change in the ADC**

The recommended employer contribution rate as determined by the ADC increased from 9.49% as of December 31, 2017 to 10.06% as of December 31, 2018. The increase of 0.57% is due to the following reasons:

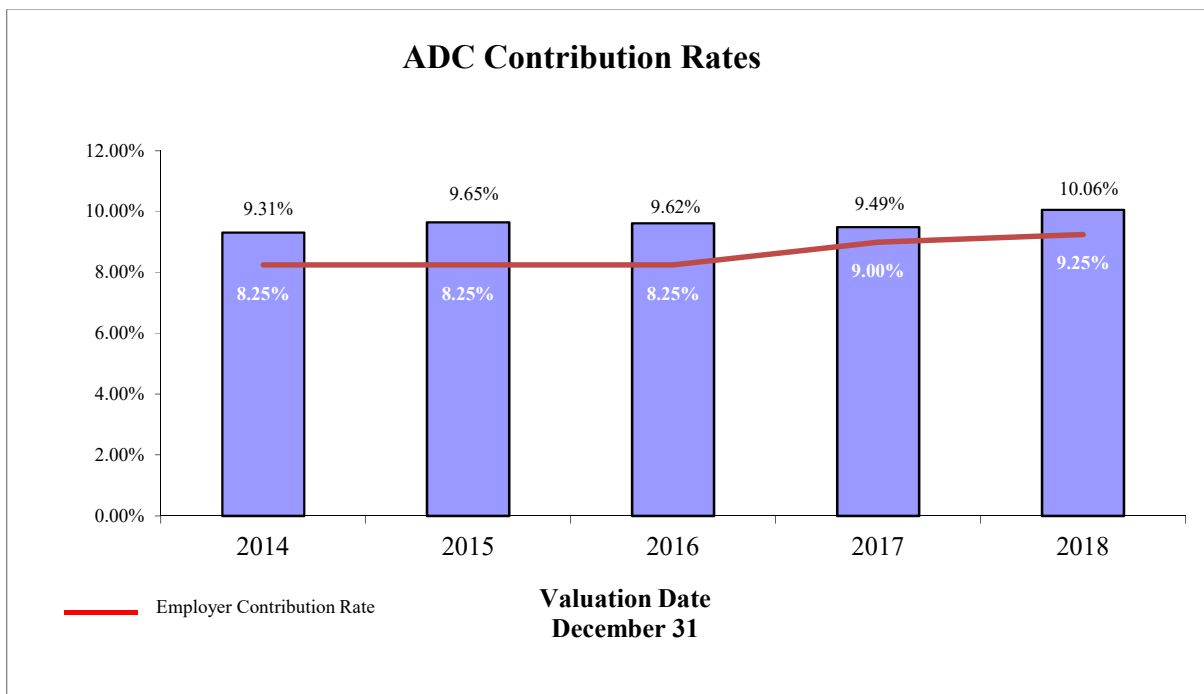
|  |              |
|--|--------------|
| ● Increase due to return on actuarial assets   | 0.52%        |
| ● Decrease due to change in normal cost rate   | (0.24%)      |
| ● Increase due to change in benefit provisions | 0.00%        |
| ● Decrease due to legislative changes          | 0.00%        |
| ● Increase due to change in assumptions        | 0.00%        |
| ● Decrease due to change in funding method     | 0.00%        |
| ● Increase due to other factors                | 0.29%        |
| ● Total  | <u>0.57%</u> |



**Summary of Valuation Results (continued)**

**Five-Year History of Contribution Rates  
(As a % of payroll)**

| Valuation Date | ADC    | Employer Rate |
|----------------|--------|---------------|
| 2014           | 9.31%  | 8.25%         |
| 2015           | 9.65%  | 8.25%         |
| 2016           | 9.62%  | 8.25%         |
| 2017           | 9.49%  | 9.00%         |
| 2018           | 10.06% | 9.25%         |



***Summary of Valuation Results (continued)***

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**Unfunded Accrued Liability**

The financing objective of the System is to:

- fully fund all current costs based on the normal contribution rate payable by the System determined under the funding method; and
- liquidate the unfunded accrued liability based on accrued liability contributions payable by the System over an amortization period of no more than 30 years; and
- accomplish the above through a combination of Employee Contributions (currently 9.25% of pay) and Employer Contributions (currently 9.25% of pay).

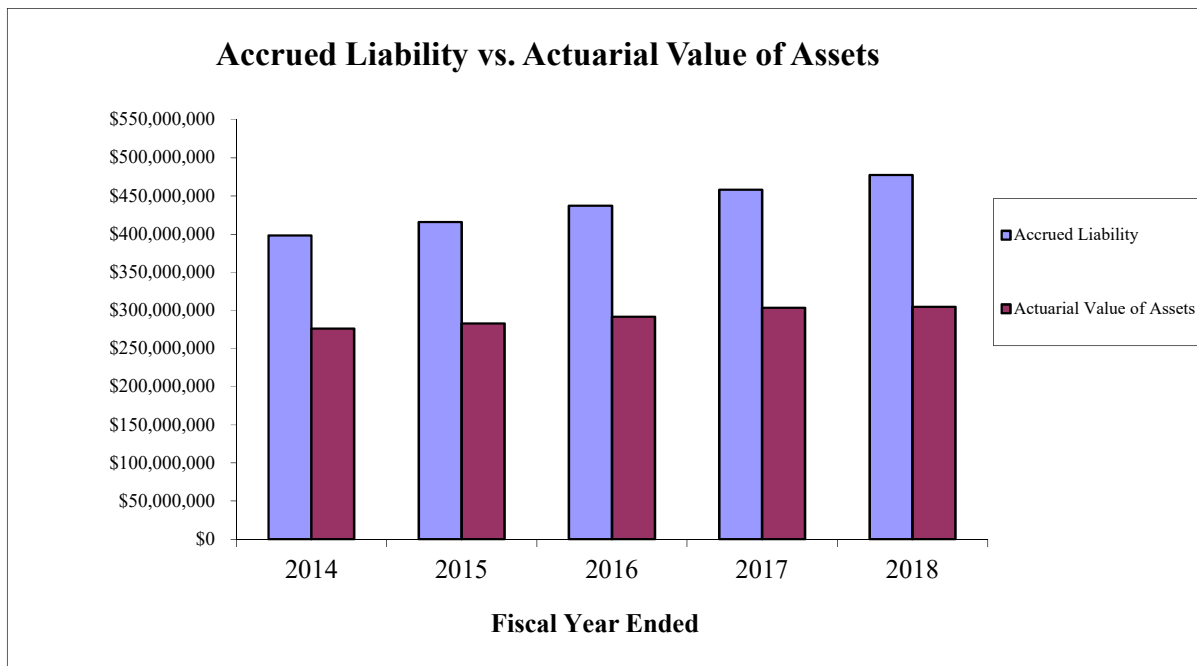
For purposes of determining contribution rates, the System's unfunded actuarial liability is measured by comparing the actuarial value of assets with the actuarial liability. The actuarial liability is determined under the entry age normal cost method. On this basis, the System's unfunded actuarial liability is \$172,695,585 as of December 31, 2018. The unfunded actuarial liability is based on an actuarial value of assets of \$304,544,858 and an actuarial liability of \$477,240,443.

For purposes of financial reporting, the Fund's unfunded liability (net pension liability) is measured by comparing the market value of assets (fiduciary net position) with the actuarial liability (total pension liability). The total pension liability is determined under the entry age cost method. On this basis, the Fund's net pension liability is \$198,361,217 as of December 31, 2018. The net pension liability is based on an fiduciary net position of \$278,879,226 and a total pension liability of \$477,240,443.

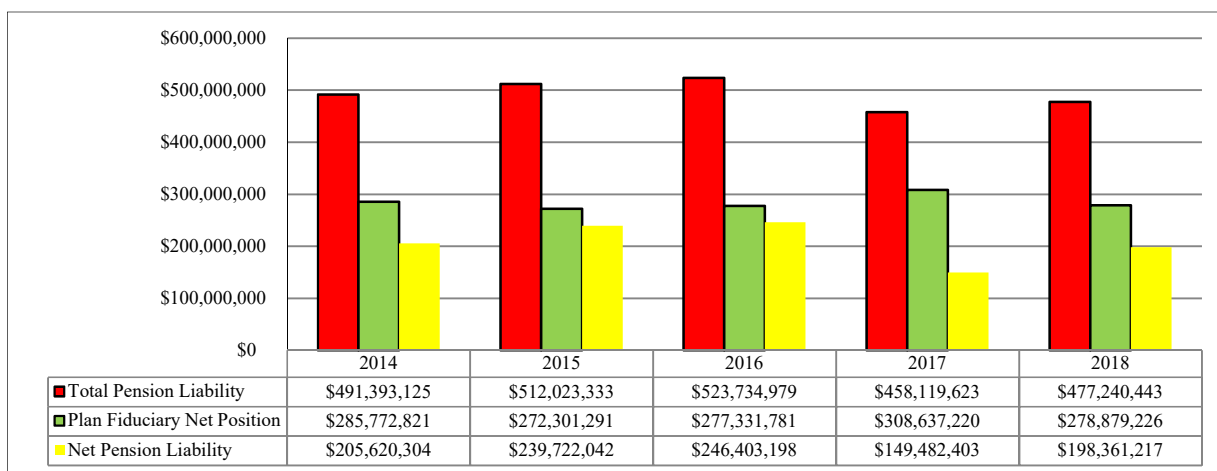
**Summary of Valuation Results (continued)**

**Five-Year History of Accrued Liability and Actuarial Value of Assets**

| Fiscal Year Ending | Accrued Liability | Actuarial Value of Assets |
|--------------------|-------------------|---------------------------|
| 2014               | \$398,057,936     | \$276,002,759             |
| 2015               | \$415,534,531     | \$282,955,179             |
| 2016               | \$437,145,260     | \$291,545,586             |
| 2017               | \$458,119,623     | \$303,330,508             |
| 2018               | \$477,240,443     | \$304,544,858             |



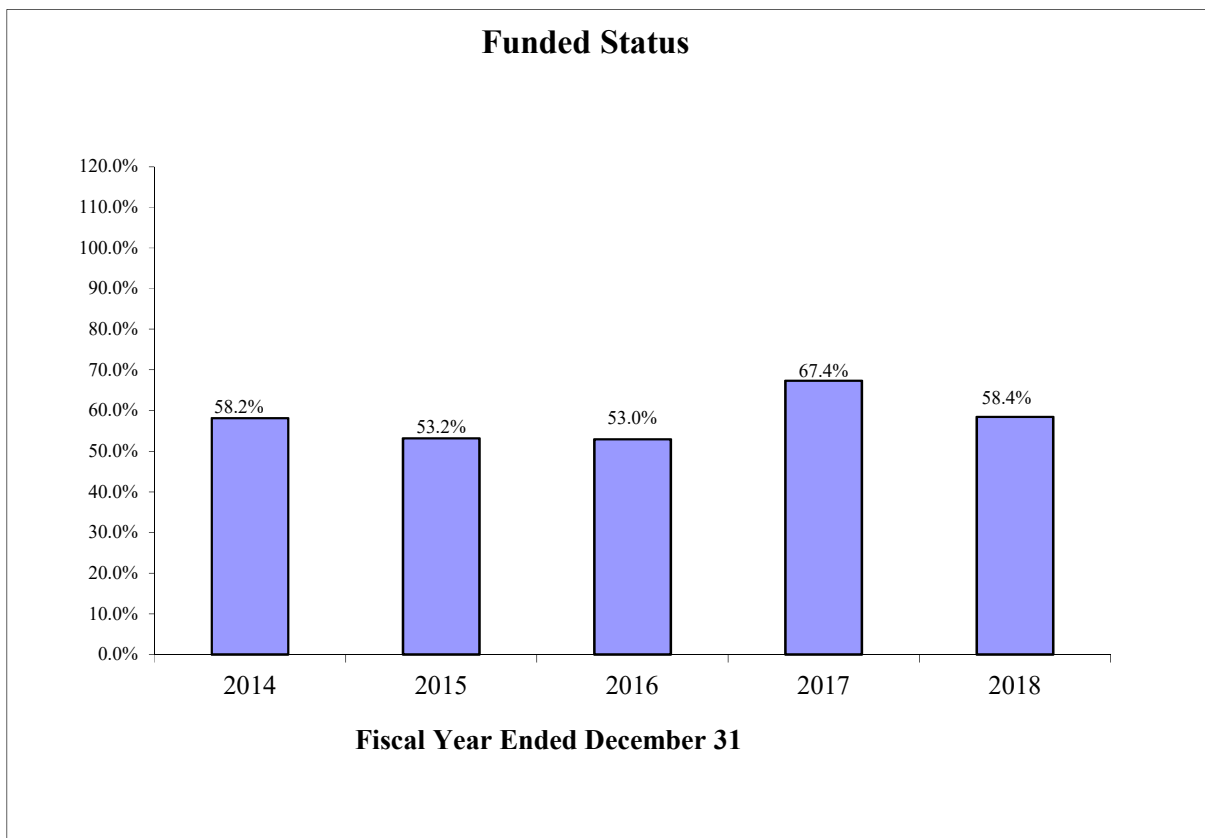
**History of Net Pension Liability**



**Summary of Valuation Results (continued)**

**Five-Year History of Funded Status\*  
(Assets vs. Accrued Liability)**

| Fiscal<br>Year Ending | Funded Status |
|-----------------------|---------------|
| 2014                  | 58.2%         |
| 2015                  | 53.2%         |
| 2016                  | 53.0%         |
| 2017                  | 67.4%         |
| 2018                  | 58.4%         |



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***Summary of Valuation Results (continued)***

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**Rate of Return**

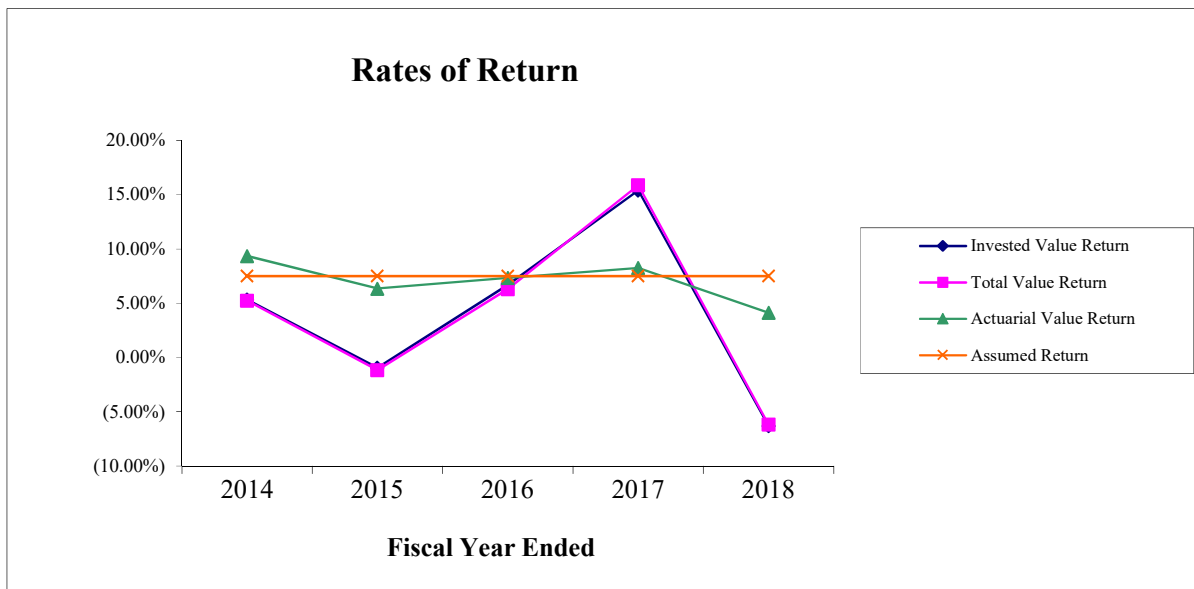
The investment return of the trust fund (i.e. total return including both realized and unrealized gains and losses) based on the market value of invested assets for the fiscal year ended December 31, 2018 was -6.30%. However, since some contributions go directly to paying benefits and are never invested in the trust, the net investment return on total assets of the System was -6.17%. The investment return on the smoothed fair value of assets was 4.12%. The expected rate of return was 7.50%.

The smoothed fair value of assets is determined using a method that is designed to smooth the impact of market fluctuations. Unlike the market value, which immediately reflects all investment gains and losses during the year, the smoothed fair value recognizes annual appreciation and depreciation over a five-year period.

**Summary of Valuation Results (continued)**

**Five-Year History of Rates of Return**

| Fiscal Year<br>Ending | Rate of Return on Assets |         |           |         |
|-----------------------|--------------------------|---------|-----------|---------|
|                       | Invested                 | Total   | Actuarial | Assumed |
| 2014                  | 5.34%                    | 5.25%   | 9.36%     | 7.50%   |
| 2015                  | (0.94%)                  | (1.15%) | 6.35%     | 7.50%   |
| 2016                  | 6.70%                    | 6.31%   | 7.35%     | 7.50%   |
| 2017                  | 15.40%                   | 15.87%  | 8.25%     | 7.50%   |
| 2018                  | (6.30%)                  | (6.17%) | 4.12%     | 7.50%   |



***Supporting Information***

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The remainder of the report is comprised of the following sections or schedules:

|             |   |
|-------------|---|
| Table 1     | Demographics  |
| Table 2     | Market Value Reconciliation   |
| Table 3     | Smoothed Fair Value of Net Assets Determination   |
| Table 4     | Accrued Liability   |
| Table 5     | Actuarial (Gain)/Loss   |
| Table 6     | Amortization Schedule   |
| Table 7     | Normal Cost   |
| Table 8     | Contribution Summary  |
| Table 9     | Statement of Fiduciary Net Position   |
| Table 10    | Statement of Changes in Fiduciary Net Position  |
| Table 11    | Net Pension Liability   |
| Table 12    | Schedule of Employer Contributions  |
| Table 13    | GASB 68 Summary for 2018  |
| Table 14    | GASB 68 Summary for 2019  |
| Table 15    | Deferred Outflows/(Inflows) Amortization Schedule                                       |
| Table 16    | Historical Summary of Fund Additions and Deductions                                     |
| Table 17    | Schedule of Membership  |
| Table 18    | Schedule of Active Members Valuation Data   |
| Table 19    | Schedule of Retirees Added to and Removed from Rolls                                    |
| Table 20    | Schedule of Retired Members by Type of Benefit;<br>Schedule of Benefit Payments by Type |
| Table 21    | Schedule of Average Annual Benefit Payments   |
| Table 22    | Description of Actuarial Assumptions and Methods  |
| Table 23    | Summary of Benefit and Contribution Provisions  |
| Appendix I  | Plan Risks (ASOP 51 Compliance)   |
| Appendix II | Data Tables   |

**Table 1****DEMOGRAPHICS**

|  | <u>2018</u> | <u>2017</u> | <u>Increase/<br/>(Decrease)</u> |
|--|-------------|-------------|---------------------------------|
| Number of Members:                     |             |             |                                 |
| Retirees                               | 1,253       | 1,213       | 40                              |
| Beneficiaries                          | 162         | 154         | 8                               |
| Disabled                               | 9           | 9           | 0                               |
| Terminated Vested                      | 71          | 67          | 4                               |
| Portables                              | 52          | 46          | 6                               |
| Active                                 | 1,481       | 1,444       | 37                              |
| Total Members                          | 3,028       | 2,933       | 95                              |
| Projected Compensation for Coming Year | 107,017,146 | 102,844,614 | 4,172,532                       |
| Average Compensation for Coming Year   | 72,260      | 71,222      | 1,038                           |
| Average Age (Active Members)           | 47.49       | 47.95       | (0.46)                          |
| Average Service (Active Members)       | 11.25       | 11.69       | (0.44)                          |
| Annual Retirement Allowance            | 28,940,185  | 27,374,150  | 1,566,035                       |
| Average Annual Retirement Allowance    | 20,323      | 19,894      | 429                             |
| Average Monthly Retirement Allowance   | 1,694       | 1,658       | 36                              |



**Table 2****ASSET INFORMATION****Market Value Reconciliation**

|   |              |              |
|---|--------------|--------------|
| 1. Total Market Value of Net Assets, 12/31/2017   |              | 308,637,220  |
| 2. Audit Adjustment                               |              | 0            |
| 3. Contributions                                  |              |              |
| a. Employer                                       | 9,187,420    |              |
| b. Employee                                       | 9,188,781    |              |
| c. Total Contributions                            |              | 18,376,201   |
| 4. Miscellaneous Revenue                          |              | -            |
| 5. Investment Earnings                            |              |              |
| a. Interest & Dividends & Other Income            | 4,731,880    |              |
| b. Realized & Unrealized Gain/(Loss)              | (23,011,419) |              |
| c. Investment Expenses                            | (436,406)    |              |
| d. Total Investment Earnings                      |              | (18,715,945) |
| 6. Benefit Payments                               |              |              |
| a. Benefits                                       | (28,309,344) |              |
| b. Refund of Contributions                        | (554,422)    |              |
| c. Total Benefit Payments                         |              | (28,863,766) |
| 7. Administrative Expenses                        |              | (554,484)    |
| 8. Total Market Value of Net Assets, 12/31/2018   |              | 278,879,226  |
| 9. Approximate Rate of Return on Total Assets     |              | -6.17%       |
| 10. Approximate Rate of Return on Invested Assets |              | -6.30%       |

**Table 3****ASSET INFORMATION****Smoothed Fair Value of Net Assets Determination**

|  |                        |   |  |                             |                            |
|--|------------------------|---|--|-----------------------------|----------------------------|
| 1. Total Market Value of Net Assets, 12/31/2017  |                        |   |  | 308,637,220                 |                            |
| 2. Expected Return for Plan Year   |                        |   |  | 22,741,200                  |                            |
| 3. Actual Return for Plan Year   |                        |   |  | (18,715,945)                |                            |
| 4. Total Market Value of Net Assets, 12/31/2018  |                        |   |  | 278,879,226                 |                            |
| 5. Determination of Deferred Gain (Loss)   |                        |   |  |                             |                            |
|  | <u>Fiscal<br/>Year</u> | <u>Actual vs.<br/>Expected<br/>Return</u> | <u>Amount<br/>Recognized<br/>This Year</u> | <u>Portion<br/>Deferred</u> | <u>Deferred<br/>Amount</u> |
|  | 2018                   | (41,457,145)                              | (8,291,429)                                | 4/5                         | (33,165,716)               |
|  | 2017                   | 22,719,457                                | 4,543,891                                  | 3/5                         | 13,631,674                 |
|  | 2016                   | (3,186,861)                               | (637,372)                                  | 2/5                         | (1,274,744)                |
|  | 2015                   | (24,284,229)                              | (4,856,846)                                | 1/5                         | (4,856,846)                |
|  | 2014                   | (6,215,226)                               | (1,243,045)                                | 0/5                         | 0                          |
|  | Total                  | (52,424,004)                              | (10,484,801)                               |                             | (25,665,632)               |
| 6. Preliminary Smoothed Fair Value of Net Assets (4. - 5.)                                   |                        |   |  |                             | 304,544,858                |
| 7. Ratio of Preliminary Smoothed Fair Value to Market Value                                  |                        |   |  |                             | 109.20%                    |
| 8. Smoothed Fair Value of Net Assets<br>(6., but not less than 90% nor more than 110% of 4.) |                        |   |  |                             | 304,544,858                |
| 9. Ratio of Smoothed Fair Value to Market Value  |                        |   |  |                             | 109.20%                    |
| 10. Approximate Rate of Return on Smoothed Fair Value of Net Assets                          |                        |   |  |                             | 4.12%                      |

**Table 4****ACCRUED LIABILITY**

|   |             |             |
|---|-------------|-------------|
| 1. Accrued Liability prior to Changes in Benefit Provisions and Assumptions |             |             |
| a. Active   | 188,220,512 |             |
| b. Terminated Vested & Portables  | 11,591,823  |             |
| c. Retirees   | 257,895,160 |             |
| d. Beneficiaries  | 18,255,379  |             |
| e. Disableds  | 1,277,569   |             |
| f. Total Accrued Liability prior to Changes                                 |             | 477,240,443 |
| 2. Actuarial Value of Assets  |             | 304,544,858 |
| 3. Unfunded Accrued Liability prior to Changes<br>(1.f. - 2.)               |             | 172,695,585 |
| 4. Change in Unfunded Accrued Liability                                     |             |             |
| a. Due to Changes in Plan Provisions  | 0           |             |
| b. Due to Changes in Assumptions  | 0           |             |
| c. Due to Change in Funding Method  | 0           |             |
| d. Due to Change in Asset Method  | 0           |             |
| e. Total Change in Unfunded Accrued Liability                               |             | 0           |
| 5. Actual Unfunded Accrued Liability<br>(3. + 4.e.)                         |             | 172,695,585 |

**Table 5****ACTUARIAL (GAIN)/LOSS**

|  |             |
|--|-------------|
| 1. Increase (decrease) in Unfunded Accrued Liability   |             |
| a. Unfunded Accrued Liability, prior year  | 154,789,115 |
| b. Entry Age Normal Cost (excluding expenses)  | 8,741,550   |
| c. Contributions   | 18,376,201  |
| d. Interest  | 11,588,150  |
| e. Expected Unfunded Accrued Liability, current year<br>(a. + b. - c. + d.)                          | 156,742,614 |
| f. Actual Unfunded Accrued Liability, current year before<br>benefit, assumption, and method changes | 172,695,585 |
| g. (Gain)/Loss<br>(f. -e.)   | 15,952,971  |
| 2. Reasons for (Gain)/Loss   |             |
| a. Investment Return on Smoothed Fair Value of Assets  | 10,661,699  |
| b. Other   | 5,291,272   |
| c. Total   | 15,952,971  |

**Table 6****AMORTIZATION SCHEDULE\***

| <u>Date Established</u> | <u>Source</u>                   | <u>Initial Amount</u> | <u>Remaining Balance</u> | <u>Years to Amortize</u> | <u>Required Payment</u> |
|-------------------------|---------------------------------|-----------------------|--------------------------|--------------------------|-------------------------|
| 12/31/2018              | Actuarial Loss                  | 15,952,971            | 15,952,971               | 30                       | 825,053                 |
| 12/31/2017              | Actuarial Gain                  | (5,056,189)           | (5,174,576)              | 29                       | (273,024)               |
| 12/31/2017              | Assumption Change               | 10,524,826            | 10,771,257               | 29                       | 568,320                 |
| 12/31/2017              | Plan Amendment                  | 165,092               | 168,958                  | 29                       | 8,915                   |
| 12/31/2017              | Reamortization of Prior Amounts | 118,016,263           | 150,976,975              | 21                       | 9,811,919               |
| Total                   |                                 | 139,602,963           | 172,695,585              |                          | 10,941,183              |

\* Effective December 31, 2017, prior bases established between December 31, 2007 and December 31, 2016 were combined into one base with a weighted average remaining amortization period of 22 years.

**Table 7****NORMAL COST**

|   |             |
|---|-------------|
| 1. Normal Cost for All Benefits                 | 9,129,729   |
| 2. Offset for Employee Contributions            | (9,899,086) |
| 3. Estimated Expenses                           | 600,000     |
| 4. Total (1) - (2) + (3), but not less than \$0 | (169,357)   |

**Table 8****CONTRIBUTION SUMMARY**

|  |            |             |
|--|------------|-------------|
| 1. Actuarially Determined Employer Contribution Amount |            |             |
| a. Normal Cost   | (169,357)  |             |
| b. Amortization Charges                                | 10,941,183 |             |
| c. Total   |            | 10,771,826  |
| 2. Actuarially Determined Employer Contribution Rate   |            |             |
| a. Normal Cost   | -0.16%     |             |
| b. Amortization Charges                                | 10.22%     |             |
| c. Total   |            | 10.06%      |
| 3. Projected Pay for the Upcoming Year                 |            | 107,017,146 |

**Table 9****ASSET INFORMATION****Statement of Fiduciary Net Position  
(as provided by SERS staff)****ASSETS**

|  |            |                    |
|--|------------|--------------------|
| 1. Cash  |            | 108,124            |
| 2. Short-term investments                                |            | 554,256            |
| 3. Receivables   |            |                    |
| a. Interest and Dividends                                | 191,119    |                    |
| b. Redemption Receivable                                 | 0          |                    |
| c. Other receivables                                     | 2,835      |                    |
| d. Total Receivables                                     |            | <u>193,954</u>     |
| 4. Investments, at fair value                            |            |                    |
| a. U. S. Fixed Income                                    | 34,402,792 |                    |
| b. International Fixed Income                            | 684,533    |                    |
| c. U.S. Equities   | 75,843,382 |                    |
| d. International Equities                                | 58,948,145 |                    |
| e. Real Estate   | 25,314,141 |                    |
| f. Alternatives  | 82,721,805 |                    |
| g. Total Investments                                     |            | <u>277,914,798</u> |
| 5. Capitalized software, net of accumulated amortization |            | 229,437            |
| 6. Total Assets  |            | <u>279,000,569</u> |

**LIABILITIES**

|   |        |                |
|---|--------|----------------|
| 1. Accounts Payable                           | 69,398 |                |
| 2. Current portion employee salary & benefits | 13,540 |                |
| 3. Employee leave benefits                    | 26,401 |                |
| 4. Other current liabilities                  | 12,004 |                |
| 5. Total Liabilities                          |        | <u>121,343</u> |

**NET POSITION**278,879,226



**Table 10****ASSET INFORMATION****Statement of Changes in Fiduciary Net Position  
(as provided by SERS staff)****ADDITIONS**

|   |              |              |
|---|--------------|--------------|
| 1. Contributions  |              |              |
| a. Employer   | 9,187,420    |              |
| b. Plan Members   | 9,188,781    |              |
| c. Miscellaneous Revenue                                | -            |              |
| d. Total Contributions                                  |              | 18,376,201   |
| 2. Investment Earnings:                                 |              |              |
| a. Net increase (decrease) in fair value of investments | (23,011,419) |              |
| b. Interest, dividends and other investment income      | 4,731,880    |              |
| c. Total Investment Earnings (loss)                     |              | (18,279,539) |
| d. Less: investment expense                             |              | 436,406      |
| e. Net investment earnings (loss)                       |              | (18,715,945) |
| Total additions   |              | (339,744)    |

**DEDUCTIONS**

|   |            |              |
|---|------------|--------------|
| 1. Pension benefits                     | 28,309,344 |              |
| 2. Refund of contributions              | 554,422    |              |
| 3. Administrative expenses              | 554,484    |              |
| Total deductions                        |            | 29,418,250   |
| Change in net assets:                   |            | (29,757,994) |
| Prior period adjustment                 |            | 0            |
| Plan Fiduciary Net Position, 12/31/2017 |            | 308,637,220  |
| Plan Fiduciary Net Position, 12/31/2018 |            | 278,879,226  |

**Table 11****NET PENSION LIABILITY**

|  | <u>2018</u>  | <u>2017</u>  |
|--|--------------|--------------|
| <b>Total Pension Liability</b>   |              |              |
| Service Cost   | 9,397,166    | 13,133,393   |
| Interest   | 33,296,148   | 29,336,782   |
| Changes of benefit terms   | 0            | 165,092      |
| Differences between expected and actual experience                         | 5,291,272    | (3,830,239)  |
| Changes of assumptions   | 0            | (76,976,691) |
| Benefit Payments, including refunds of member contributions                | (28,863,766) | (27,443,693) |
| Net change in total pension liability                                      | 19,120,820   | (65,615,356) |
| Total pension liability - beginning  | 458,119,623  | 523,734,979  |
| Total pension liability - ending (a)                                       | 477,240,443  | 458,119,623  |
| <b>Plan Fiduciary Net Position</b>   |              |              |
| Contributions - employer   | 9,187,420    | 8,113,319    |
| Contributions - member   | 9,188,781    | 8,113,319    |
| Net investment income  | (18,715,945) | 43,085,572   |
| Benefit payments, including refunds of member contributions                | (28,863,766) | (27,443,693) |
| Administrative expense   | (554,484)    | (563,078)    |
| Other  | 0            | 0            |
| Net change in plan fiduciary net position                                  | (29,757,994) | 31,305,439   |
| Plan fiduciary net position - beginning                                    | 308,637,220  | 277,331,781  |
| Plan fiduciary net position - ending (b)                                   | 278,879,226  | 308,637,220  |
| Net pension liability - ending (a) - (b) *                                 | 198,361,217  | 149,482,403  |
| Plan fiduciary net position as a percentage of the total pension liability | 58.4%        | 67.4%        |
| Covered-employee payroll   | 107,017,146  | 102,844,614  |
| Net pension liability as a percentage of covered-employee payroll          | 185.4%       | 145.3%       |
| GASB 67 Blended Discount Rate Beginning of Period:                         | 7.50%        | 5.75%        |
| GASB 67 Blended Discount Rate End of Period:                               | 7.50%        | 7.50%        |

\* A 1% decrease in the discount rate increases the net pension liability to \$248,551,705, an increase of \$50,190,488.

A 1% increase in the discount rate decreases the net pension liability to \$155,541,772, a decrease of \$42,819,445.

**Table 12****SCHEDULE OF EMPLOYER CONTRIBUTIONS  
(Excludes Member Contributions)**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Actuarially<br/>Determined<br/>Contribution</u> | <u>Contributions in Relation<br/>to the Actuarially<br/>Determined Contribution</u> | <u>Contribution<br/>Deficiency<br/>(Excess)</u> | <u>Covered<br/>Employee<br/>Payroll</u> | <u>Percentage<br/>Contributed</u> |
|----------------------------------|--|---|---|---|-----------------------------------|
| 12/31/2012                       | 8,325,936  | 6,937,750   | 1,388,186                                       | 89,519,355                              | 7.75%                             |
| 12/31/2013                       | 8,237,317  | 6,715,376   | 1,521,941                                       | 86,650,013                              | 7.75%                             |
| 12/31/2014                       | 8,292,066  | 6,822,279   | 1,469,787                                       | 86,139,886                              | 7.92%                             |
| 12/31/2015                       | 9,069,276  | 7,398,945   | 1,670,331                                       | 89,684,182                              | 8.25%                             |
| 12/31/2016                       | 9,853,762  | 7,586,362   | 2,267,400                                       | 91,955,903                              | 8.25%                             |
| 12/31/2017                       | 9,765,949  | 8,113,319   | 1,652,630                                       | 98,343,261                              | 8.25%                             |
| 12/31/2018                       | 10,044,342   | 9,187,420   | 856,922   | 102,082,444                             | 9.00%                             |

Table 13

| GASB 68 Summary for 2018               |                         |                   |                             |                       |                       |                                |                               |                 |                     |
|--|-------------------------|-------------------|-----------------------------|-----------------------|-----------------------|--------------------------------|-------------------------------|-----------------|---------------------|
| Total Plan                             |                         |                   |                             |                       |                       |                                |                               |                 |                     |
|  | Total Pension Liability | Plan Net Position | Net Pension Liability (NPL) | NPL Discount Rate +1% | NPL Discount Rate -1% | Deferred Outflows of Resources | Deferred Inflows of Resources | Pension Expense | Amortization Period |
| Balance, Beginning of Year (1)         | 523,734,979             | 277,331,781       | 246,403,198                 | 193,927,544           | 308,477,570           | 44,369,356                     | 12,118,555                    |                 |                     |
| Changes for the year                   |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| Service Cost                           | 13,133,393              |                   | 13,133,393                  |                       |                       |                                |                               | 13,133,393      |                     |
| Interest Cost                          | 29,336,782              |                   | 29,336,782                  |                       |                       |                                |                               | 29,336,782      |                     |
| Benefit Changes                        | 165,092                 |                   | 165,092                     |                       |                       |                                |                               | 165,092         |                     |
| Experience loss (gain)                 | (3,830,239)             |                   | (3,830,239)                 |                       |                       | -                              | 3,191,866                     | (638,373)       | 6.00                |
| Changes in assumptions                 | (76,976,691)            |                   | (76,976,691)                |                       |                       | -                              | 64,147,242                    | (12,829,449)    | 6.00                |
| Contributions - Employer               |                         | 8,113,319         | (8,113,319)                 |                       |                       |                                |                               |                 |                     |
| Contributions - Employee               |                         | 8,113,319         | (8,113,319)                 |                       |                       |                                |                               |                 |                     |
| Net Investment Income                  |                         | 43,085,572        | (43,085,572)                |                       |                       |                                |                               |                 |                     |
| Expected Return on Investments         |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| Investment (gain) loss expensed        |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| Investment (gain) loss deferred        |                         |                   |                             |                       |                       |                                | 18,175,566                    | (20,366,115)    | 5.00                |
| Benefits paid including refunds        | (27,443,693)            | (27,443,693)      | -                           |                       |                       |                                |                               | (4,543,891)     |                     |
| Administrative Expense                 |                         | (563,078)         | 563,078                     |                       |                       |                                |                               |                 |                     |
| Other Changes                          |                         | -                 | -                           |                       |                       |                                |                               | 563,078         |                     |
| Amortization                           |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| Net Changes                            | (65,615,356)            | 31,305,439        | (96,920,795)                |                       |                       | (13,255,889)                   | (2,423,711)                   | 10,832,178      |                     |
| Balance, End of Year (2)               | 458,119,623             | 308,637,220       | 149,482,403                 | 108,110,636           | 198,000,057           | 31,113,467                     | 95,209,518                    | 7,539,376       |                     |
| (1) Measurement Date December 31, 2016 |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| (2) Measurement Date December 31, 2017 |                         |                   |                             |                       |                       |                                |                               |                 |                     |

Table 14

GASB 68 Summary for 2019

Total Plan

|  | Total Pension Liability | Plan Net Position | Net Pension Liability (NPL) | NPL Discount Rate +1% | NPL Discount Rate -1% | Deferred Outflows of Resources | Deferred Inflows of Resources | Pension Expense | Amortization Period |
|--|-------------------------|-------------------|-----------------------------|-----------------------|-----------------------|--------------------------------|-------------------------------|-----------------|---------------------|
| Balance, Beginning of Year (1)         | 458,119,623             | 308,637,220       | 149,482,403                 | 108,110,636           | 198,000,057           | 31,113,467                     | 95,209,518                    |                 |                     |
| Changes for the year                   |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| Service Cost                           | 9,397,166               |                   | 9,397,166                   |                       |                       |                                |                               | 9,397,166       |                     |
| Interest Cost                          | 33,296,148              |                   | 33,296,148                  |                       |                       |                                |                               | 33,296,148      |                     |
| Benefit Changes                        | -                       |                   | -                           |                       |                       |                                |                               | -               |                     |
| Experience loss (gain)                 | 5,291,272               |                   | 5,291,272                   |                       |                       | 4,233,018                      | -                             | 1,058,254       | 5.00                |
| Changes in assumptions                 | -                       |                   | -                           |                       |                       | -                              | -                             | -               | 5.00                |
| Contributions - Employer               |                         | 9,187,420         | (9,187,420)                 |                       |                       |                                |                               |                 |                     |
| Contributions - Employee               |                         | 9,188,781         | (9,188,781)                 |                       |                       |                                |                               | (9,188,781)     |                     |
| Net Investment Income                  |                         | (18,715,945)      | 18,715,945                  |                       |                       |                                |                               |                 |                     |
| Expected Return on Investments         |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| Investment (gain) loss expensed        |                         |                   |                             |                       |                       | 33,165,716                     | -                             | (22,741,200)    | 5.00                |
| Investment (gain) loss deferred        |                         |                   |                             |                       |                       |                                |                               | 8,291,429       |                     |
| Benefits paid including refunds        | (28,863,766)            | (28,863,766)      | -                           |                       |                       |                                |                               | -               |                     |
| Administrative Expense                 |                         | (554,484)         | 554,484                     |                       |                       |                                |                               | 554,484         |                     |
| Other Changes                          |                         | -                 | -                           |                       |                       |                                |                               |                 |                     |
| Amortization                           |                         |                   |                             |                       |                       | (13,255,889)                   | (20,435,424)                  | (7,179,535)     |                     |
| Net Changes                            | 19,120,820              | (29,757,994)      | 48,878,814                  |                       |                       | 24,142,845                     | (20,435,424)                  |                 |                     |
| Balance, End of Year (2)               | 477,240,443             | 278,879,226       | 198,361,217                 | 155,541,772           | 248,551,705           | 55,256,312                     | 74,774,094                    | 13,487,965      |                     |
| (1) Measurement Date December 31, 2017 |                         |                   |                             |                       |                       |                                |                               |                 |                     |
| (2) Measurement Date December 31, 2018 |                         |                   |                             |                       |                       |                                |                               |                 |                     |

**Table 15****Deferred Outflows/(Inflows) Amortization Schedule as of December 31, 2019  
(Measurement Date: December 31, 2018)**

| Date Established | Source            | Initial Amount | Deferred Amount | Remaining Years | Amortization Payment |
|------------------|-------------------|----------------|-----------------|-----------------|----------------------|
| 12/31/2019       | Experience Loss   | 5,291,272      | 4,233,018       | 4.00            | 1,058,254            |
| 12/31/2019       | Investment Loss   | 41,457,145     | 33,165,716      | 4.00            | 8,291,429            |
| 12/31/2018       | Experience Gain   | (3,830,239)    | (2,553,493)     | 4.00            | (638,373)            |
| 12/31/2018       | Assumption Change | (76,976,691)   | (51,317,793)    | 4.00            | (12,829,449)         |
| 12/31/2018       | Investment Gain   | (22,719,457)   | (13,631,675)    | 3.00            | (4,543,891)          |
| 12/31/2017       | Experience Loss   | 12,381,445     | 6,190,723       | 3.00            | 2,063,574            |
| 12/31/2017       | Assumption Change | (14,542,266)   | (7,271,133)     | 3.00            | (2,423,711)          |
| 12/31/2017       | Investment Loss   | 3,178,881      | 1,271,553       | 2.00            | 635,776              |
| 12/31/2016       | Experience Loss   | 6,483,011      | 2,161,003       | 2.00            | 1,080,502            |
| 12/31/2016       | Investment Loss   | 24,277,285     | 4,855,457       | 1.00            | 4,855,457            |
| 12/31/2015       | Experience Loss   | 18,507,784     | 3,378,842       | 1.00            | 3,378,842            |
| Total            |                   |                | (19,517,782)    |                 | 928,410              |

**Table 16****HISTORICAL SUMMARY OF FUND ADDITIONS AND DEDUCTIONS****ADDITIONS BY SOURCE**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Employer<br/>Contributions<br/>as a Percent<br/>of Payroll</u> | <u>Employer<br/>Contributions</u> | <u>Employee<br/>Contributions</u> | <u>Net<br/>Investment<br/>Income</u> | <u>Total</u> |
|----------------------------------|---|-----------------------------------|-----------------------------------|--------------------------------------|--------------|
| 12/31/09                         | 7.75%   | 6,474,432                         | 6,637,872                         | 38,442,846                           | 51,555,150   |
| 12/31/10                         | 7.75%   | 6,580,795                         | 6,618,558                         | 27,752,165                           | 40,951,518   |
| 12/31/11                         | 7.75%   | 6,799,258                         | 6,831,742                         | (6,440,146)                          | 7,190,854    |
| 12/31/12                         | 7.75%   | 6,937,750                         | 7,019,684                         | 25,667,673                           | 39,625,107   |
| 12/31/13                         | 7.75%   | 6,715,376                         | 6,715,376                         | 45,323,533                           | 58,754,285   |
| 12/31/14                         | 8.25%   | 6,822,279                         | 6,822,279                         | 14,497,901                           | 28,142,459   |
| 12/31/15                         | 8.25%   | 7,398,945                         | 7,402,905                         | (3,228,439)                          | 11,573,411   |
| 12/31/16                         | 8.25%   | 7,586,362                         | 7,586,362                         | 16,802,274                           | 31,974,998   |
| 12/31/17                         | 8.25%   | 8,113,319                         | 8,113,319                         | 43,085,572                           | 59,312,210   |
| 12/31/18                         | 9.00%   | 9,187,420                         | 9,188,781                         | (18,715,945)                         | (339,744)    |

**DEDUCTIONS BY TYPE**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Benefit<br/>Payments</u> | <u>Refunds</u> | <u>Admin<br/>Expenses</u> | <u>Total</u> |
|----------------------------------|-----------------------------|----------------|---------------------------|--------------|
| 12/31/09                         | 15,509,868                  | 315,919        | 563,408                   | 16,389,195   |
| 12/31/10                         | 16,547,561                  | 493,911        | 505,222                   | 17,546,694   |
| 12/31/11                         | 17,216,853                  | 502,566        | 490,611                   | 18,210,030   |
| 12/31/12                         | 18,554,194                  | 569,058        | 520,955                   | 19,644,207   |
| 12/31/13                         | 20,346,281                  | 393,954        | 385,675                   | 21,125,910   |
| 12/31/14                         | 22,258,842                  | 625,184        | 386,713                   | 23,270,739   |
| 12/31/15                         | 23,959,198                  | 637,822        | 447,921                   | 25,044,941   |
| 12/31/16                         | 25,737,515                  | 729,741        | 477,252                   | 26,944,508   |
| 12/31/17                         | 26,891,785                  | 551,908        | 563,078                   | 28,006,771   |
| 12/31/18                         | 28,309,344                  | 554,422        | 554,484                   | 29,418,250   |

**Table 17****SCHEDULE OF MEMBERSHIP**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Active<br/>Members</u> | <u>Terminated<br/>Vested<br/>Members</u> | <u>Service<br/>Retirees and<br/>Beneficiaries</u> | <u>Disabled<br/>Retirees</u> | <u>Total<br/>Retirees</u> | <u>Total<br/>Members</u> |
|----------------------------------|---------------------------|--|---|------------------------------|---------------------------|--------------------------|
| 12/31/09                         | 1,501                     | 89                                       | 1,041   | 10                           | 1,051                     | 2,641                    |
| 12/31/10                         | 1,516                     | 90                                       | 1,050   | 10                           | 1,060                     | 2,666                    |
| 12/31/11                         | 1,491                     | 84                                       | 1,079   | 9                            | 1,088                     | 2,663                    |
| 12/31/12                         | 1,453                     | 96                                       | 1,119   | 9                            | 1,128                     | 2,677                    |
| 12/31/13                         | 1,422                     | 98                                       | 1,171   | 9                            | 1,180                     | 2,700                    |
| 12/31/14                         | 1,407                     | 105                                      | 1,234   | 9                            | 1,243                     | 2,755                    |
| 12/31/15                         | 1,424                     | 97                                       | 1,291   | 9                            | 1,300                     | 2,821                    |
| 12/31/16                         | 1,460                     | 109                                      | 1,333   | 9                            | 1,342                     | 2,911                    |
| 12/31/17                         | 1,444                     | 113                                      | 1,367   | 9                            | 1,376                     | 2,933                    |
| 12/31/18                         | 1,481                     | 123                                      | 1,415   | 9                            | 1,424                     | 3,028                    |



**Table 18****SCHEDULE OF ACTIVE MEMBERS VALUATION DATA**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Active<br/>Members</u> | <u>Covered<br/>Payroll</u> | <u>Average<br/>Payroll<br/>Rate</u> | <u>Annual<br/>Percentage<br/>Increase in<br/>Average<br/>Payroll Rate</u> |
|----------------------------------|---------------------------|----------------------------|-------------------------------------|---|
| 12/31/2009                       | 1,501                     | 83,455,429                 | 55,600                              | 11.82%  |
| 12/31/2010                       | 1,516                     | 88,093,679                 | 58,109                              | 4.51%   |
| 12/31/2011                       | 1,491                     | 90,264,062                 | 60,539                              | 4.18%   |
| 12/31/2012                       | 1,453                     | 89,015,136                 | 61,263                              | 1.20%   |
| 12/31/2013                       | 1,422                     | 87,337,232                 | 61,419                              | 0.25%   |
| 12/31/2014                       | 1,407                     | 89,034,522                 | 63,280                              | 3.03%   |
| 12/31/2015                       | 1,424                     | 93,899,096                 | 65,940                              | 4.20%   |
| 12/31/2016                       | 1,460                     | 102,378,550                | 70,122                              | 6.34%   |
| 12/31/2017                       | 1,444                     | 102,844,614                | 71,222                              | 1.57%   |
| 12/31/2018                       | 1,481                     | 107,017,146                | 72,260                              | 1.46%   |

**Table 19****SCHEDULE OF RETIREES ADDED TO AND REMOVED FROM ROLLS**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Added</u> | <u>Annual Allowances</u> |                | <u>Annual Allowances</u> |                | <u>Total</u> | <u>Annual Allowances</u> | <u>Percent Change</u> | <u>Average Annual Allowances</u> | <u>Retirees as Percent of Active Members</u> |            |
|----------------------------------|--------------|--------------------------|----------------|--------------------------|----------------|--------------|--------------------------|-----------------------|----------------------------------|--|------------|
|                                  |              | <u>Added</u>             | <u>Removed</u> | <u>Removed</u>           | <u>Removed</u> |              |                          |                       |                                  | <u>Number</u>                                | <u>Pay</u> |
| 12/31/2009                       | 70           | 1,586,201                | 38             | 414,388                  | 1,051          | 16,326,879   | 7.7%                     | 15,535                | 70.0%                            | 19.6%  |            |
| 12/31/2010                       | 52           | 1,103,228                | 43             | 554,985                  | 1,060          | 16,875,122   | 3.4%                     | 15,920                | 69.9%                            | 19.2%  |            |
| 12/31/2011                       | 66           | 1,326,502                | 38             | 546,291                  | 1,088          | 17,655,333   | 4.6%                     | 16,227                | 73.0%                            | 19.6%  |            |
| 12/31/2012                       | 72           | 1,945,840                | 32             | 423,102                  | 1,128          | 19,178,071   | 8.6%                     | 17,002                | 77.6%                            | 21.5%  |            |
| 12/31/2013                       | 95           | 2,351,086                | 43             | 532,395                  | 1,180          | 20,996,762   | 9.5%                     | 17,794                | 83.0%                            | 24.0%  |            |
| 12/31/2014                       | 100          | 2,552,358                | 37             | 573,123                  | 1,243          | 22,975,997   | 9.4%                     | 18,484                | 88.3%                            | 25.8%  |            |
| 12/31/2015                       | 96           | 2,379,741                | 39             | 667,843                  | 1,300          | 24,687,895   | 7.5%                     | 18,991                | 91.3%                            | 26.3%  |            |
| 12/31/2016                       | 82           | 2,262,702                | 40             | 753,144                  | 1,342          | 26,197,453   | 6.1%                     | 19,521                | 91.9%                            | 25.6%  |            |
| 12/31/2017                       | 75           | 1,862,418                | 41             | 685,721                  | 1,376          | 27,374,150   | 4.5%                     | 19,894                | 95.3%                            | 26.6%  |            |
| 12/31/2018                       | 81           | 2,054,117                | 33             | 488,082                  | 1,424          | 28,940,185   | 5.7%                     | 20,323                | 96.2%                            | 27.0%  |            |

**Table 20****SCHEDULE OF RETIRED MEMBERS BY TYPE OF BENEFIT**

| Amount of<br>Monthly<br>Benefit | Number<br>of<br>Retirees | Type of Retirement* |          |           | Option Selected** |           |           |           |           |           |            |
|---------------------------------|--------------------------|---------------------|----------|-----------|-------------------|-----------|-----------|-----------|-----------|-----------|------------|
|                                 |                          | <u>1</u>            | <u>2</u> | <u>3</u>  | <u>LIFE</u>       | <u>C1</u> | <u>C2</u> | <u>C3</u> | <u>C4</u> | <u>D</u>  | <u>E</u>   |
| 1 - 100                         | 1                        | 1                   | 0        | 0         | 1                 | 0         | 0         | 0         | 0         | 0         | 0          |
| 101 - 200                       | 12                       | 5                   | 0        | 7         | 1                 | 0         | 0         | 0         | 0         | 2         | 9          |
| 201 - 300                       | 24                       | 20                  | 0        | 4         | 15                | 2         | 0         | 0         | 0         | 2         | 5          |
| 301 - 400                       | 55                       | 42                  | 0        | 13        | 29                | 1         | 0         | 0         | 1         | 5         | 19         |
| 401 - 500                       | 67                       | 46                  | 0        | 21        | 28                | 0         | 0         | 1         | 1         | 9         | 28         |
| 501 - 600                       | 61                       | 53                  | 0        | 8         | 36                | 0         | 1         | 1         | 0         | 3         | 20         |
| 601 - 700                       | 60                       | 51                  | 1        | 8         | 29                | 1         | 0         | 0         | 0         | 7         | 23         |
| 701 - 800                       | 58                       | 46                  | 1        | 11        | 27                | 0         | 0         | 0         | 1         | 12        | 18         |
| 801 - 900                       | 55                       | 48                  | 1        | 6         | 35                | 0         | 1         | 0         | 0         | 6         | 13         |
| 901 - 1,000                     | 68                       | 61                  | 0        | 7         | 28                | 3         | 0         | 0         | 1         | 8         | 28         |
| 1,001 - 1,500                   | 252                      | 220                 | 4        | 28        | 119               | 1         | 1         | 1         | 0         | 30        | 100        |
| 1,501 - 2,000                   | 224                      | 197                 | 2        | 25        | 97                | 0         | 0         | 0         | 1         | 33        | 93         |
| Over 2,000                      | <u>487</u>               | <u>463</u>          | <u>0</u> | <u>24</u> | <u>212</u>        | <u>10</u> | <u>0</u>  | <u>3</u>  | <u>2</u>  | <u>82</u> | <u>178</u> |
| Total                           | 1,424                    | 1,253               | 9        | 162       | 657               | 18        | 3         | 6         | 7         | 199       | 534        |

## \*Type of Retirement:

- 1 Service Retirement
- 2 Disability Retirement
- 3 Beneficiary

## \*\*Option Selected:

- Life Remaining accumulated balance paid to beneficiary
- Opt. C1 60 months guaranteed
- Opt. C2 120 months guaranteed
- Opt. C3 180 months guaranteed
- Opt. C4 240 months guaranteed
- Opt. D 50% continuation to beneficiary
- Opt. E 100% continuation to beneficiary

**SCHEDULE OF BENEFIT PAYMENTS BY TYPE**

| Fiscal<br>Year<br>Ended | Service<br>Retirement | Disability<br>Retirement | Beneficiaries | Refunds | Total<br>Benefits |
|-------------------------|-----------------------|--------------------------|---------------|---------|-------------------|
| 12/31/2009              | 14,341,682            | 130,868                  | 1,037,317     | 315,919 | 15,825,786        |
| 12/31/2010              | 15,302,791            | 120,261                  | 1,124,509     | 493,911 | 17,041,472        |
| 12/31/2011              | 15,863,198            | 113,271                  | 1,240,384     | 502,566 | 17,719,419        |
| 12/31/2012              | 17,161,187            | 109,122                  | 1,283,885     | 569,058 | 19,123,252        |
| 12/31/2013              | 18,887,269            | 125,353                  | 1,333,659     | 393,954 | 20,740,235        |
| 12/31/2014              | 20,659,575            | 125,329                  | 1,473,938     | 625,184 | 22,884,026        |
| 12/31/2015              | 22,192,756            | 125,328                  | 1,641,114     | 637,822 | 24,597,020        |
| 12/31/2016              | 23,765,713            | 125,328                  | 1,846,474     | 729,741 | 26,467,256        |
| 12/31/2017              | 24,852,640            | 125,328                  | 1,913,817     | 551,908 | 27,443,693        |
| 12/31/2018              | 26,202,801            | 125,328                  | 1,981,215     | 554,422 | 28,863,766        |

**Table 21****SCHEDULE OF AVERAGE ANNUAL BENEFIT PAYMENTS**

| <u>Fiscal<br/>Year<br/>Ended</u> | <u>Service<br/>Retirement<br/>and<br/>Beneficiaries</u> | <u>Disability<br/>Retirement</u> | <u>Total</u> | <u>Annual<br/>Percentage<br/>Increase in<br/>Average<br/>Benefits</u> |
|----------------------------------|---|----------------------------------|--------------|---|
| 12/31/2009                       | 14,773  | 13,087                           | 14,757       | 0.24%   |
| 12/31/2010                       | 15,645  | 12,026                           | 15,611       | 5.79%   |
| 12/31/2011                       | 15,851  | 12,586                           | 15,824       | 1.36%   |
| 12/31/2012                       | 16,484  | 12,125                           | 16,449       | 3.95%   |
| 12/31/2013                       | 17,268  | 13,928                           | 17,243       | 4.83%   |
| 12/31/2014                       | 17,936  | 13,925                           | 17,907       | 3.85%   |
| 12/31/2015                       | 18,462  | 13,925                           | 18,430       | 2.92%   |
| 12/31/2016                       | 19,214  | 13,925                           | 19,178       | 4.06%   |
| 12/31/2017                       | 19,580  | 13,925                           | 19,543       | 1.90%   |
| 12/31/2018                       | 19,918  | 13,925                           | 19,880       | 1.72%   |

**Table 22**

**DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Actuarial Cost Method**

The actuarial cost method used to determine the actuarial accrued liability and the normal cost for both funding and financial reporting purposes is the Entry Age Normal (EAN) Actuarial Cost Method. The accrued liability and the normal cost are used to determine the City's contribution requirement. Under this method, the cost of each individual's pension is allocated on a level percent of payroll basis between the time employment starts (entry age) and the assumed retirement date. The normal cost is the amount allocated for a given year and accrued liability is the accumulation of prior normal costs as of the determination date. The total actuarial liability for retirement benefits is the sum of the accrued liability for each active member.

The actuarial accrued liability and normal cost for termination benefits, disability benefits, and pre-retirement spouse's death benefits are determined in a similar manner as for retirement benefits described above.

The actuarial accrued liability for inactive members is determined as the actuarial present value of the benefits expected to be paid; no normal cost is determined for these members.

Prior to December 31, 2012 the Projected Unit Credit (PUC) Actuarial Cost Method was used.

Unless otherwise specified, the following actuarial assumptions and methods were adopted December 31, 2017.

**Actuarial Assumptions**

**Mortality:** Healthy Lives RP - 2000 Fully Generational  
 Disabled Lives RP - 2000 Fully Generational

**Interest:** 7.5% per annum, compounded annually

**GASB 67 Blended** Beginning of Period: 7.50%  
**Discount Rate:** End of Period: 7.50%

**Amortization of Unfunded Liability:** Closed 30 year amortization as a level percent of payroll. Payroll growth assumed to be 4.0% per year. Prior bases established between December 31, 2007 and December 31, 2016 were combined into one base with a weighted average remaining amortization period of 22 years.

**Turnover:** In accordance with the following table based on service:

| <u>Years of Service</u> | <u>Turnover Probability</u> |
|-------------------------|-----------------------------|
| <1                      | 12.0%                       |
| 1-3                     | 8.0%                        |
| 4-6                     | 6.0%                        |
| 7-9                     | 5.0%                        |
| 10-11                   | 4.0%                        |
| 12+                     | 2.0%                        |

**Table 22****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Retirement:** In accordance with the following table based on age:

| <u>Age</u> | <u>Retirement<br/>Probability</u> |
|------------|-----------------------------------|
| <50        | 0.0%                              |
| 50-58      | 5.0%                              |
| 59-61      | 10.0%                             |
| 62         | 25.0%                             |
| 63         | 20.0%                             |
| 64         | 25.0%                             |
| 65         | 30.0%                             |
| 66         | 25.0%                             |
| 67         | 20.0%                             |
| 68         | 10.0%                             |
| 69         | 25.0%                             |
| 70         | 15.0%                             |
| 71-74      | 30.0%                             |
| 75+        | 100.0%                            |

**Disability:** None assumed

**Salary Increases:** In accordance with the following table based on service:

| <u>Years of<br/>Service</u> | <u>Annual<br/>Increase</u> |
|-----------------------------|----------------------------|
| <1                          | 12.0%                      |
| 1-2                         | 10.0%                      |
| 3                           | 8.0%                       |
| 4                           | 5.0%                       |
| 5-9                         | 4.0%                       |
| 10-19                       | 3.0%                       |
| 20+                         | 2.5%                       |

**Inflation Rate:** 2.25% per year

**Non-Investment  
Expenses:** Prior year's actual amount rounded up to next \$100,000

**Family Composition:** 75% of employees are assumed to be married with males assumed to be four years older than their spouses.

**Asset Valuation Basis**

In order to smooth out market value fluctuations for purposes of developing the ADC, the difference between actual investment earnings over expected investment earnings will be recognized in equal amounts over a five-year period with the restriction that the smoothed value of assets may not be less than 90% nor greater than 110% of market value.

**Table 23****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

Outlined on the following pages are the principal features of the Plan reflected in the 2018 valuation.

**Definitions:**

|                               |  |
|-------------------------------|--|
| <u>Creditable Service</u>     | Service credited as an employee of the City of Spokane during which contributions were made as an eligible member of the Retirement System up to a maximum of 40 years. The maximum is 35 years for employees hired after January 1, 2015, but before December 31, 2017. The maximum is 30 years for employees hired prior to January 1, 2009 who terminate after January 1, 2009 and who do not elect the alternate benefit formula.  |
| <u>Service Buy-Back</u>       | A six-month window was opened from October 1, 2009 through March 31, 2010 during which members who had withdrawn their retirement accumulations and not elected to buy back prior service time could do so. Future rehired employees will have one year from their date of rehire to elect to buy back prior service time  |
| <u>Compensation</u>           | Total amount received by an employee including base pay, shift differential, overtime, holiday pay, hazardous duty pay and out-of-classification pay and not reduced by salary reduction contributions to the City's cafeteria plan or Section 457 plan. For employees hired after January 1, 2018, overtime compensation will be capped at 120% of an employee's annual base salary.  |
| <u>Final Compensation</u>     | The highest average annual Compensation received by a member during any three consecutive years. For employees hired prior to January 1, 2015, the highest average annual Compensation received by a member during any two consecutive years.  |
| <u>Normal Retirement Date</u> | The first day of the month coinciding with or next following the attainment of age 65 and completion of 7 years of Creditable Service. For employees hired prior to January 1, 2015, the first day of the month coinciding with or next following the attainment of age 62 and completion of 5 years of Creditable Service.  |
| <u>Early Retirement Date</u>  | The first day of the month coinciding with or next following the attainment of age 50 and with the sum of age plus Creditable Service greater than or equal to 90. Employees hired between January 1, 2015 and December 31, 2017, the first day of the month coinciding with or next following the attainment of age 50 and with the sum of age plus Creditable Service greater than or equal to 80. Employees hired between January 1, 2009 and December 31, 2014, the first day of the month coinciding with or next following the attainment of age 50 and with the sum of age plus Creditable Service greater than or equal to 75. Employees hired prior to January 1, 2009 who terminate after January 1, 2009 and who do not elect the alternate benefit formula described below may retire after attainment of age 50 with 5 years of Creditable Service. |
| <u>Member Contributions</u>   | 9.25% of Compensation is required to be paid by the members. Between December 17, 2017 and December 15, 2018, 9.00% of Compensation was required to be paid by the members. Between August 31, 2014 and December 16, 2017, 8.25% of Compensation was required to be paid by the members. Prior to September 1, 2014, 7.75% of Compensation was required to be paid by the members. These contributions are credited with 2.5% interest annually, compounded quarterly.   |

**Table 23****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

|   |  |
|---|--|
| <b>Service Retirement Eligibility:</b>    | A member is eligible for normal retirement on his Normal Retirement Date. For members hired after January 1, 2018, early retirement is permitted at any time after attaining age 50 if the sum of age plus Creditable Service is greater than or equal to 90. For members hired between January 1, 2015 and December 31, 2017, early retirement is permitted at any time after attaining age 50 if the sum of age plus Creditable Service is greater than or equal to 80. For member hired between January 1, 2009 and December 31, 2014, early retirement is permitted at any time after attaining age 50 if the sum of age plus Creditable Service is greater than or equal to 75. Early retirement is permitted at any time after attaining age 50 with 5 years of Credited Service for employees hired prior to January 1, 2009 who terminate after January 1, 2009 and who do not elect the alternate benefit formula described below.  |
| <b>Service Retirement Allowance:</b>      | <p>Upon service retirement, a member becomes eligible to receive an annual allowance, payable in equal monthly installments. The annual allowance is computed as follows:</p> <p><b><u>Normal Retirement Allowance</u></b><br/> <b>Applies to all employees hired after December 31, 2017. Employees hired before January 1, 2018 who terminate after January 1, 2018 may elect this formula at retirement.</b></p> <p>An amount equal to 2.00% of the member's Final Compensation, multiplied by the number of years of Creditable Service up to 40 years. The maximum annual benefit is 80.0% of Final Compensation.</p> <p><b><u>Normal Retirement Allowance under Alternate Benefit Formula</u></b><br/> <b>Applies to all employees hired between January 1, 2009 and December 31, 2017. Employees hired before January 1, 2009 who terminate after January 1, 2009 may elect this formula at retirement.</b></p> <p>An amount equal to 2.00% of the member's Final Compensation, multiplied by the number of years of Creditable Service up to 35 years. The maximum annual benefit is 70.0% of Final Compensation.</p> <p><b><u>Normal Retirement Allowance under Benefit Formula in SMC 3.05.160</u></b><br/> <b>Employees hired before January 1, 2009 who terminate after January 1, 2009 may elect this formula at retirement.</b></p> <p>An amount equal to 2.15% of the member's Final Compensation, multiplied by the number of years of Creditable Service up to 30 years. The maximum annual benefit is 64.5% of Final Compensation.</p> <p><b>Early Retirement Allowance</b><br/> The Normal Retirement Allowance calculated using Creditable Service and Final Compensation as of the member's Early Retirement Date. For employees hired after January 1, 2018, a reduction of 2.5% will be applied for each year under age 65.</p> |
| <b>Disability Retirement Eligibility:</b> | Permanent and total disability, as determined by the Board, prior to Normal Retirement Age provided the member has at least 7 years (5 years for employees hired prior to January 1, 2015) of City service in the ten-year period prior to disability. The 7 (or 5) year service requirement does not apply if the disability is due to accidental causes while engaged in City service.   |
| <b>Disability Retirement Allowance:</b>   | An amount equal to 1.25% of the member's Final Compensation, multiplied by the number of years of Creditable Service projected to Normal Retirement Age. The minimum annual benefit is \$2,400 per year for "Duty Related" disability and \$1,200 per year for "Non-duty Related" disability.  |



**Table 23****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS****Withdrawal Benefits:**

If termination occurs after seven years of service (five years of service for members hired prior to January 1, 2015), a member is entitled to a retirement allowance commencing on his Early Retirement Date or later, up to his Normal Retirement Date, based on his years of Creditable Service and Final Compensation as of his termination date provided he has not withdrawn his Member Contributions.

**Death Benefit Before Retirement:**

**Not married or not completed 7 years of service (5 years of service if hired prior to January 1, 2015)**

Beneficiary will receive a refund of the member's contributions with interest.

**Married with 7 years of service (5 years of service if hired prior to January 1, 2015)**

The surviving spouse of a member may elect to receive the survivor's portion of the benefit that would have been payable if the member had survived to his earliest retirement date and elected the 100% Joint & Survivor option in lieu of a refund of the member's contribution account.

**Post-retirement Death:**

An amount determined in accordance with the optional form of payment elected at retirement, but not less than the accumulated value of the member's contributions with interest less actual payments made.

**Appendix I - Plan Risks (ASOP 51 Compliance)**

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Risk may be broadly defined as the chance an outcome or result will differ from the expected outcome or result. In the context of defined benefit pension plans risk is the potential for the future financial condition of the plan to deviate from that expected due to future actual experience different from assumed or expected experience. ASOP 51 requires the actuary to identify and assess risks that may reasonably be expected to impact the plan. Some of the more significant risks are described below. Please let us know if you would like us to quantify or model these risks or any others in more detail.

**A. Investment Risk**

Investment risk is the risk that actual investment returns differ from the assumed rate of return. Investment returns can be very volatile. Even if the assumed rate of return is realized over the long term, this volatility can lead to significant swings in the plan's funded status and contribution requirement from year to year. Furthermore there is the risk that the assumed rate of return may not be realized.

The assumed rate of return for the plan was 7.50% for 2018. Investment returns below the assumed rate of return increase plan costs and decrease the plan's funded status while investment returns in excess of the assumed rate of return decrease plan costs and improve the plan's funded status.

**B. Interest Rate Risk**

Interest rate risk is the risk that future interest rates differ from expected interest rates. The interest rate is used to discount future expected benefit payments in order to determine a plan's liability as of the measurement date. Higher interest rates result in lower liabilities and lower interest rates result in higher liabilities.

The liability of your plan has a duration of 9.74 as of December 31, 2018. This means a 1% change in interest rates would result in approximately a 10% change in liability. A 1% increase in interest rates would lower plan liability and vice versa.

**C. Asset/Liability Mismatch Risk**

Asset/Liability mismatch risk is the risk that changes in future asset values are not matched by changes in the value of plan liabilities. Both assets and liabilities are sensitive to interest rates however the same change in interest rates may have differing impact on assets versus liabilities both in terms of direction and magnitude. Matching the duration of interest rate sensitive assets in the plan's portfolio with the duration of the plan's liabilities (see Interest Rate Risk above) is a method that can be employed to protect the plan's funded status from interest rate fluctuations.

**D. Longevity Risk**

Longevity risk is the risk that mortality experience will be different than expected. Since the plan is not large enough to have credible mortality experience, standard tables are used. The standard tables are comprised of "base rates" and a mortality improvement projection scale which anticipates continued improvement in mortality in the future. If plan participants live longer than expected, the cost of providing lifetime benefits increases and vice versa.

**E. Contribution Risk**

Contribution risk is the risk that required contributions as determined by the actuary are not made. A comparison of the actuarially determined contribution (ADC) to employer contributions actually made may be found in Table 12.

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*Appendix I - Plan Risks (ASOP 51 Compliance) (continued)*

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**F. Plan Maturity Measures**

Plan maturity measures are ratios intended to measure the maturity level of a plan. As a plan becomes more mature contribution requirements become more sensitive to investment volatility and more conservative investment strategies may be considered. A high ratio indicates a mature plan.

1. Ratio of retired life liability to total liability: 0.58

A high ratio of retired life liability to total liability indicates a larger proportion of the liability is due to "fixed" benefit amounts. As a result, attempts to mitigate fluctuating contribution requirements through plan amendments affecting future benefit accruals will have less of an impact.

2. Ratio of net cash flow to market value of assets: (0.04)

Net cash flow represents contributions received for the year less benefit payments and expenses. Investment income is excluded. A large negative ratio indicates a significant percentage of the assumed rate of return must be realized to cover the annual cash outflow.

3. Ratio of benefit payments to contributions: 1.57

A high ratio of benefit payments to contributions indicates the extent to which investment return is relied upon to improve the funded status and reduce future costs. A fully funded plan would expect benefit payments to equal or exceed contributions.

*Appendix II - Data Tables*

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|           |  |
|-----------|--|
| Exhibit A | Summary of Membership Data as of December 31, 2018 |
| Exhibit B | 20 Year Benefit Payment Projections                |
| Exhibit C | Age and Service Distributions                      |
| Exhibit D | Age, Salary and Service Distributions              |
| Exhibit E | Average Benefits for Service Retirement            |
| Exhibit F | Average Benefits for Survivor Beneficiary          |
| Exhibit G | Average Benefits for Disability Retirement         |
| Exhibit H | Average Benefits for Vested Terminations           |
| Exhibit I | Average Benefits for Portables                     |

**EXHIBIT A**

**Summary of Membership Data as of December 31, 2018**

**Active Members**

| Item              | Male         | Female       | Total         |
|-------------------|--------------|--------------|---------------|
| Number of Members | 998          | 483          | 1,481         |
| Annual Salaries   | \$70,446,973 | \$31,269,882 | \$101,716,855 |
| Average Age       | 47.6         | 47.4         | 47.5          |
| Average Service   | 11.6         | 10.5         | 11.3          |

**EXHIBIT A**  
(continued)

**Summary of Membership Data as of December 31, 2018**

**Retirees and Beneficiaries**

| Item                | Number | Annual Annuities | Average Annuities |
|---------------------|--------|------------------|-------------------|
| Retired Members     | 1,253  | \$26,571,337     | \$21,206          |
| Survivor Annuitants | 162    | \$2,243,520      | \$13,849          |
| Disabled Annuitants | 9      | \$125,328        | \$13,925          |
| Total Annuitants    | 1,424  | \$28,940,185     | \$20,323          |

**EXHIBIT A**  
(continued)

**Summary of Membership Data as of December 31, 2018**

**Vested Terminations and Portables**

| Item                | Number | Annual Annuities | Average Annuities |
|---------------------|--------|------------------|-------------------|
| Vested Terminations | 71     | \$838,597        | \$11,811          |
| Portables*          | 52     | \$402,962        | \$7,749           |

\* Annuity amounts are estimates based on last known earnings projected to retirement. Actual annuity amounts will be calculated using actual earnings at retirement.

**EXHIBIT B**

**20 Year Benefit Payment Projection**

**Spokane Employees' Retirement System**

| Year Ended<br>December 31 | Current and<br>Future Retirees | Current Retirees<br>Only |
|---------------------------|--------------------------------|--------------------------|
| 2019                      | \$32,471,314                   | \$28,747,955             |
| 2020                      | 34,036,015                     | 28,314,645               |
| 2021                      | 35,550,141                     | 27,849,041               |
| 2022                      | 37,044,230                     | 27,353,189               |
| 2023                      | 38,463,107                     | 26,824,516               |
| 2024                      | 39,682,985                     | 26,259,879               |
| 2025                      | 40,856,524                     | 25,661,371               |
| 2026                      | 41,986,151                     | 25,024,851               |
| 2027                      | 42,957,938                     | 24,351,480               |
| 2028                      | 43,873,001                     | 23,638,753               |
| 2029                      | 44,686,287                     | 22,887,890               |
| 2030                      | 45,448,757                     | 22,098,078               |
| 2031                      | 46,093,925                     | 21,268,933               |
| 2032                      | 46,808,315                     | 20,406,088               |
| 2033                      | 47,281,604                     | 19,506,828               |
| 2034                      | 47,733,058                     | 18,579,880               |
| 2035                      | 48,131,651                     | 17,625,496               |
| 2036                      | 48,353,076                     | 16,635,703               |
| 2037                      | 48,476,948                     | 15,637,093               |
| 2038                      | 48,524,186                     | 14,624,613               |



**EXHIBIT C**

**Age and Service Distribution**

**Spokane Employees' Retirement System**

| Attained Age      | Years of Creditable Service |              |              |              |              |             |             |             |             |             | Total         |     |
|-------------------|-----------------------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|---------------|-----|
|                   | Under 1                     | 1 to 4       | 5 to 9       | 10 to 14     | 15 to 19     | 20 to 24    | 25 to 29    | 30 to 34    | 35 to 39    | 40 & Up     |               |     |
| Under 25          | 11                          | 11           | 0            | 0            | 0            | 0           | 0           | 0           | 0           | 0           | 0             | 22  |
| 25 to 29          | 29                          | 46           | 4            | 1            | 0            | 0           | 0           | 0           | 0           | 0           | 0             | 80  |
| 30 to 34          | 25                          | 62           | 30           | 24           | 0            | 0           | 0           | 0           | 0           | 0           | 0             | 141 |
| 35 to 39          | 26                          | 71           | 41           | 42           | 7            | 0           | 0           | 0           | 0           | 0           | 0             | 187 |
| 40 to 44          | 16                          | 50           | 36           | 49           | 34           | 3           | 0           | 0           | 0           | 0           | 0             | 188 |
| 45 to 49          | 18                          | 49           | 33           | 42           | 41           | 23          | 8           | 1           | 0           | 0           | 0             | 215 |
| 50 to 54          | 12                          | 33           | 32           | 41           | 29           | 30          | 24          | 5           | 1           | 0           | 0             | 207 |
| 55 to 59          | 8                           | 28           | 32           | 33           | 33           | 34          | 40          | 12          | 3           | 0           | 0             | 223 |
| 60 to 64          | 4                           | 16           | 20           | 26           | 24           | 22          | 29          | 7           | 7           | 1           | 1             | 156 |
| 65 to 69          | 0                           | 3            | 6            | 15           | 8            | 6           | 4           | 2           | 4           | 2           | 2             | 50  |
| 70 & Up           | 0                           | 0            | 0            | 3            | 2            | 2           | 1           | 0           | 2           | 2           | 2             | 12  |
| <b>Total</b>      | <b>149</b>                  | <b>369</b>   | <b>234</b>   | <b>276</b>   | <b>178</b>   | <b>120</b>  | <b>106</b>  | <b>27</b>   | <b>17</b>   | <b>5</b>    | <b>1,481</b>  |     |
| <b>Freq. Pct.</b> | <b>10.1%</b>                | <b>24.9%</b> | <b>15.8%</b> | <b>18.6%</b> | <b>12.0%</b> | <b>8.1%</b> | <b>7.2%</b> | <b>1.8%</b> | <b>1.2%</b> | <b>0.3%</b> | <b>100.0%</b> |     |

**EXHIBIT D**

**Age, Salary and Service Distribution**

**Spokane Employees' Retirement System**

| Attained Age      | Years of Creditable Service |                   |                   |                   |                   |                  |                  |                  |                  |                | Total              |            |
|-------------------|-----------------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|----------------|--------------------|------------|
|                   | Under 1                     | 1 to 4            | 5 to 9            | 10 to 14          | 15 to 19          | 20 to 24         | 25 to 29         | 30 to 34         | 35 to 39         | 40 & Up        |                    |            |
| Under 25          | 400,312                     | 489,623           | 0                 | 0                 | 0                 | 0                | 0                | 0                | 0                | 0              | 0                  | 889,935    |
| 25 to 29          | 1,264,776                   | 2,461,132         | 228,680           | 61,765            | 0                 | 0                | 0                | 0                | 0                | 0              | 0                  | 4,016,353  |
| 30 to 34          | 1,125,729                   | 3,696,651         | 2,106,432         | 1,592,745         | 0                 | 0                | 0                | 0                | 0                | 0              | 0                  | 8,521,557  |
| 35 to 39          | 1,329,468                   | 4,772,781         | 3,032,778         | 3,058,020         | 479,896           | 0                | 0                | 0                | 0                | 0              | 0                  | 12,672,942 |
| 40 to 44          | 763,365                     | 3,238,518         | 2,698,845         | 3,441,550         | 2,622,914         | 230,175          | 0                | 0                | 0                | 0              | 0                  | 12,995,367 |
| 45 to 49          | 1,122,553                   | 3,273,596         | 2,409,093         | 3,069,011         | 3,359,873         | 1,825,673        | 489,113          | 49,719           | 0                | 0              | 0                  | 15,598,630 |
| 50 to 54          | 607,642                     | 2,391,940         | 2,346,852         | 3,131,355         | 2,143,736         | 2,342,261        | 1,795,898        | 377,621          | 79,860           | 0              | 0                  | 15,217,166 |
| 55 to 59          | 424,625                     | 2,003,090         | 2,296,063         | 2,400,118         | 2,359,056         | 2,646,261        | 3,008,004        | 882,556          | 204,113          | 0              | 0                  | 16,223,886 |
| 60 to 64          | 245,298                     | 1,217,342         | 1,439,632         | 1,784,113         | 1,815,339         | 1,546,021        | 2,077,531        | 510,963          | 517,586          | 63,676         | 0                  | 11,217,500 |
| 65 to 69          | 0                           | 198,071           | 361,707           | 1,029,399         | 550,805           | 419,791          | 314,125          | 122,138          | 281,095          | 258,935        | 0                  | 3,536,066  |
| 70 & Up           | 0                           | 0                 | 0                 | 273,986           | 104,164           | 119,616          | 51,041           | 0                | 149,365          | 129,282        | 0                  | 827,453    |
| <b>Total</b>      | <b>7,283,768</b>            | <b>23,742,743</b> | <b>16,920,082</b> | <b>19,842,061</b> | <b>13,435,782</b> | <b>9,129,798</b> | <b>7,735,713</b> | <b>1,942,997</b> | <b>1,232,019</b> | <b>451,893</b> | <b>101,716,855</b> |            |
| <b>Freq. Pct.</b> | <b>7.2%</b>                 | <b>23.3%</b>      | <b>16.6%</b>      | <b>19.5%</b>      | <b>13.2%</b>      | <b>9.0%</b>      | <b>7.7%</b>      | <b>1.9%</b>      | <b>1.2%</b>      | <b>0.4%</b>    | <b>100.0%</b>      |            |
| <b>Avg. Sal.</b>  | <b>48,884</b>               | <b>64,343</b>     | <b>72,308</b>     | <b>71,892</b>     | <b>75,482</b>     | <b>76,082</b>    | <b>72,978</b>    | <b>71,963</b>    | <b>72,472</b>    | <b>90,379</b>  | <b>68,681</b>      |            |

**EXHIBIT E**

**Average Benefits for Service Retirement  
Spokane Employees' Retirement System**

| Attained Age       | Male         |               | Female       |               | Total         |               |
|--------------------|--------------|---------------|--------------|---------------|---------------|---------------|
|                    | Number       | Avg. Ben.     | Number       | Avg. Ben.     | Number        | Avg. Ben.     |
| Under 50           | 0            | 0             | 0            | 0             | 0             | 0             |
| 50 to 54           | 28           | 23,206        | 17           | 21,636        | 45            | 22,613        |
| 55 to 59           | 51           | 24,948        | 42           | 23,128        | 93            | 24,126        |
| 60 to 64           | 113          | 26,444        | 96           | 22,558        | 209           | 24,659        |
| 65 to 69           | 210          | 25,744        | 131          | 19,421        | 341           | 23,315        |
| 70 to 74           | 166          | 23,670        | 95           | 16,054        | 261           | 20,898        |
| 75 to 79           | 88           | 19,579        | 67           | 13,376        | 155           | 16,898        |
| 80 to 84           | 47           | 18,987        | 38           | 12,651        | 85            | 16,155        |
| 85 to 89           | 21           | 13,735        | 16           | 9,383         | 37            | 11,853        |
| 90 to 94           | 10           | 12,790        | 11           | 12,670        | 21            | 12,727        |
| 95 & Up            | 2            | 12,268        | 4            | 7,206         | 6             | 8,893         |
| <b>Total</b>       | <b>736</b>   | <b>23,508</b> | <b>517</b>   | <b>17,929</b> | <b>1253</b>   | <b>21,206</b> |
| <b>Average Age</b> | <b>69.8</b>  |               | <b>69.9</b>  |               | <b>69.8</b>   |               |
| <b>Freq. Pct.</b>  | <b>58.7%</b> |               | <b>41.3%</b> |               | <b>100.0%</b> |               |

**EXHIBIT F**

**Average Benefits for Survivor Beneficiary  
Spokane Employees' Retirement System**

| Attained Age       | Male        |               | Female       |               | Total         |               |
|--------------------|-------------|---------------|--------------|---------------|---------------|---------------|
|                    | Number      | Avg. Ben.     | Number       | Avg. Ben.     | Number        | Avg. Ben.     |
| Under 50           | 0           | 0             | 0            | 0             | 0             | 0             |
| 50 to 54           | 0           | 0             | 2            | 16,325        | 2             | 16,325        |
| 55 to 59           | 1           | 11,020        | 5            | 12,335        | 6             | 12,116        |
| 60 to 64           | 3           | 20,326        | 19           | 19,444        | 22            | 19,564        |
| 65 to 69           | 1           | 4,404         | 29           | 18,792        | 30            | 18,313        |
| 70 to 74           | 0           | 0             | 11           | 14,400        | 11            | 14,400        |
| 75 to 79           | 0           | 0             | 27           | 13,524        | 27            | 13,524        |
| 80 to 84           | 2           | 8,243         | 29           | 11,078        | 31            | 10,895        |
| 85 to 89           | 0           | 0             | 15           | 11,652        | 15            | 11,652        |
| 90 to 94           | 1           | 2,339         | 14           | 7,183         | 15            | 6,860         |
| 95 & Up            | 0           | 0             | 3            | 6,470         | 3             | 6,470         |
| <b>Total</b>       | <b>8</b>    | <b>11,903</b> | <b>154</b>   | <b>13,950</b> | <b>162</b>    | <b>13,849</b> |
| <b>Average Age</b> | <b>71.2</b> |               | <b>76.1</b>  |               | <b>75.8</b>   |               |
| <b>Freq. Pct.</b>  | <b>4.9%</b> |               | <b>95.1%</b> |               | <b>100.0%</b> |               |

**EXHIBIT C**

**Average Benefits for Disability Retirement  
Spokane Employees' Retirement System**

| Attained Age       | Male         |               | Female       |               | Total         |               |
|--------------------|--------------|---------------|--------------|---------------|---------------|---------------|
|                    | Number       | Avg. Ben.     | Number       | Avg. Ben.     | Number        | Avg. Ben.     |
| Under 50           | 0            | 0             | 0            | 0             | 0             | 0             |
| 50 to 54           | 1            | 18,583        | 1            | 19,080        | 2             | 18,831        |
| 55 to 59           | 0            | 0             | 0            | 0             | 0             | 0             |
| 60 to 64           | 3            | 14,293        | 0            | 0             | 3             | 14,293        |
| 65 to 69           | 0            | 0             | 2            | 9,296         | 2             | 9,296         |
| 70 to 74           | 1            | 13,295        | 1            | 12,898        | 2             | 13,096        |
| 75 to 79           | 0            | 0             | 0            | 0             | 0             | 0             |
| 80 to 84           | 0            | 0             | 0            | 0             | 0             | 0             |
| 85 to 89           | 0            | 0             | 0            | 0             | 0             | 0             |
| 90 to 94           | 0            | 0             | 0            | 0             | 0             | 0             |
| 95 & Up            | 0            | 0             | 0            | 0             | 0             | 0             |
| <b>Total</b>       | <b>5</b>     | <b>14,952</b> | <b>4</b>     | <b>12,643</b> | <b>9</b>      | <b>13,925</b> |
| <b>Average Age</b> | <b>62.6</b>  |               | <b>65.4</b>  |               | <b>63.8</b>   |               |
| <b>Freq. Pct.</b>  | <b>55.6%</b> |               | <b>44.4%</b> |               | <b>100.0%</b> |               |

**EXHIBIT H**

**Average Benefits for Vested Terminations  
Spokane Employees' Retirement System**

| Attained Age       | Male         |               | Female       |               | Total         |               |
|--------------------|--------------|---------------|--------------|---------------|---------------|---------------|
|                    | Number       | Avg. Ben.     | Number       | Avg. Ben.     | Number        | Avg. Ben.     |
| Under 30           | 0            | 0             | 0            | 0             | 0             | 0             |
| 30 to 34           | 5            | 13,144        | 1            | 8,529         | 6             | 12,375        |
| 35 to 39           | 3            | 9,976         | 3            | 7,661         | 6             | 8,819         |
| 40 to 44           | 7            | 12,172        | 12           | 12,129        | 19            | 12,145        |
| 45 to 49           | 15           | 12,741        | 10           | 11,677        | 25            | 12,315        |
| 50 to 54           | 1            | 6,170         | 4            | 12,550        | 5             | 11,274        |
| 55 to 59           | 4            | 10,022        | 0            | 0             | 4             | 10,022        |
| 60 to 64           | 3            | 15,348        | 3            | 10,096        | 6             | 12,722        |
| 65 & Up            | 0            | 0             | 0            | 0             | 0             | 0             |
| <b>Total</b>       | <b>38</b>    | <b>12,218</b> | <b>33</b>    | <b>11,343</b> | <b>71</b>     | <b>11,811</b> |
| <b>Average Age</b> | <b>46.5</b>  |               | <b>46.6</b>  |               | <b>46.5</b>   |               |
| <b>Freq. Pct.</b>  | <b>53.5%</b> |               | <b>46.5%</b> |               | <b>100.0%</b> |               |

**EXHIBIT I**

**Average Benefits for Portables**

**Spokane Employees' Retirement System**

| Attained Age       | Male         |              | Female       |              | Total         |              |
|--------------------|--------------|--------------|--------------|--------------|---------------|--------------|
|                    | Number       | Avg. Ben.*   | Number       | Avg. Ben.*   | Number        | Avg. Ben.*   |
| Under 30           | 0            | 0            | 1            | 760          | 1             | 760          |
| 30 to 34           | 1            | 3,462        | 0            | 0            | 1             | 3,462        |
| 35 to 39           | 3            | 3,510        | 6            | 4,474        | 9             | 4,153        |
| 40 to 44           | 4            | 5,522        | 1            | 1,754        | 5             | 4,768        |
| 45 to 49           | 8            | 12,890       | 5            | 9,284        | 13            | 11,503       |
| 50 to 54           | 8            | 6,429        | 1            | 60,841       | 9             | 12,475       |
| 55 to 59           | 1            | 6,378        | 7            | 7,726        | 8             | 7,557        |
| 60 to 64           | 2            | 4,896        | 2            | 304          | 4             | 2,600        |
| 65 & Up            | 2            | 2,427        | 0            | 0            | 2             | 2,427        |
| <b>Total</b>       | <b>29</b>    | <b>7,298</b> | <b>23</b>    | <b>8,318</b> | <b>52</b>     | <b>7,749</b> |
| <b>Average Age</b> | <b>49.6</b>  |              | <b>48.9</b>  |              | <b>49.3</b>   |              |
| <b>Freq. Pct.</b>  | <b>55.8%</b> |              | <b>44.2%</b> |              | <b>100.0%</b> |              |

\* Annuity amounts are estimates based on last known earnings projected to retirement. Actual annuity amounts will be calculated using actual earnings at retirement.

# Statistical Section



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## Schedule of Revenues by Source

| <b>Fiscal Year</b> | <b>Employer Contribution</b> | <b>Employer Contributions</b> | <b>Member Contributions</b> | <b>Net Investment Income</b> | <b>Total Revenues</b> |
|--------------------|------------------------------|-------------------------------|-----------------------------|------------------------------|-----------------------|
| 2009               | 7.75%                        | 6,474,432                     | 6,637,872                   | 38,442,846                   | 51,555,150            |
| 2010               | 7.75%                        | 6,580,795                     | 6,618,558                   | 27,752,165                   | 40,951,518            |
| 2011               | 7.75%                        | 6,799,258                     | 6,831,742                   | (6,440,146)                  | 7,190,854             |
| 2012               | 7.75%                        | 6,937,750                     | 7,019,684                   | 25,667,673                   | 39,625,107            |
| 2013               | 7.75%                        | 6,715,376                     | 6,715,376                   | 45,323,533                   | 58,754,285            |
| 2014 <sup>1</sup>  | 7.92%                        | 6,822,279                     | 6,822,279                   | 14,497,901                   | 28,142,459            |
| 2015               | 8.25%                        | 7,398,945                     | 7,402,905                   | (3,228,439)                  | 11,573,411            |
| 2016               | 8.25%                        | 7,586,362                     | 7,586,362                   | 16,802,274                   | 31,974,998            |
| 2017 <sup>2</sup>  | 8.25%                        | 8,113,319                     | 8,113,319                   | 43,085,572                   | 59,312,210            |
| 2018               | 9.00%                        | 9,187,420                     | 9,188,781                   | (18,715,945)                 | (339,744)             |

<sup>1</sup> Effective September 1, 2014, the annual Contribution Rate changed from 7.75% to 8.25%. 7.92% represents the average rate of contributions received during 2014.

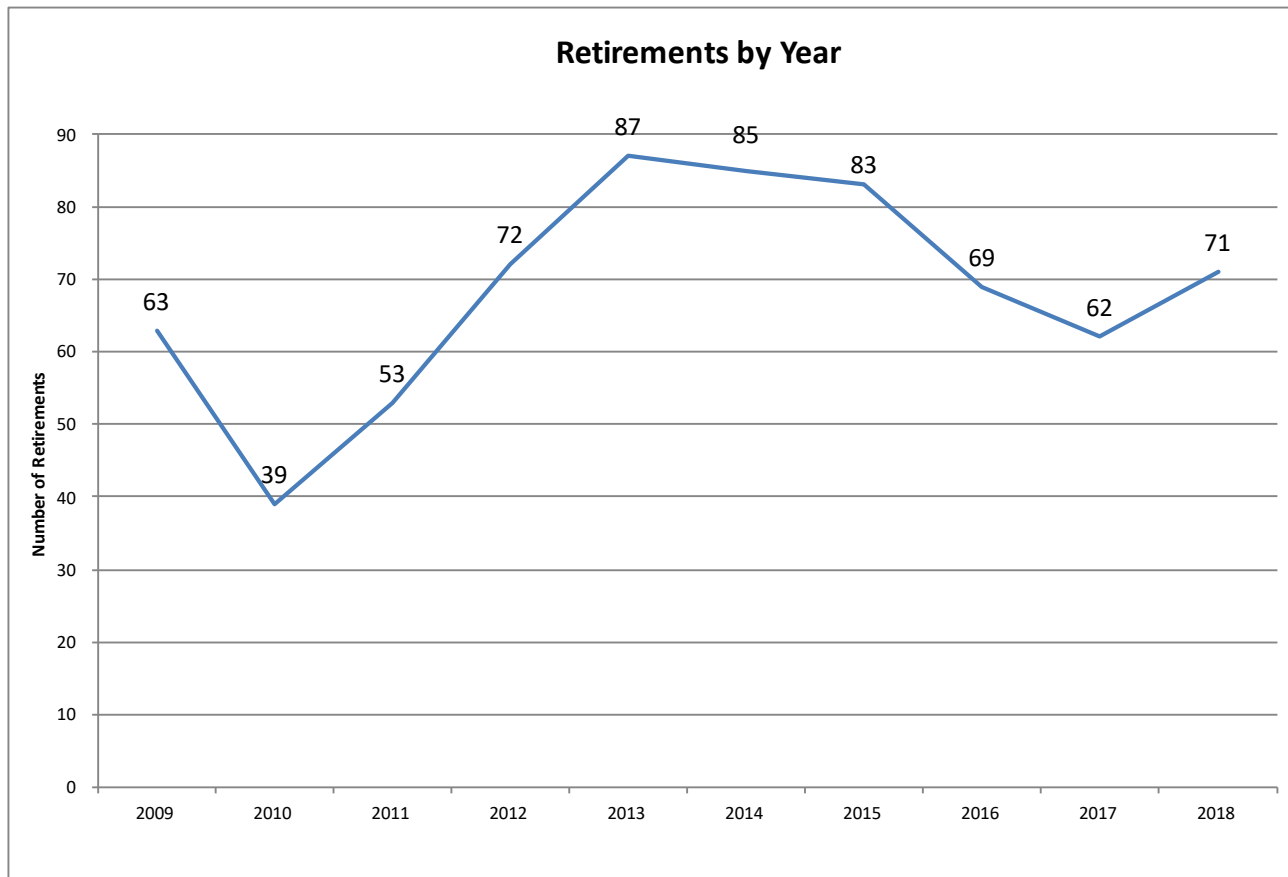
<sup>2</sup> Effective December 17, 2017, the annual Contribution Rate changed from 8.25% to 9.0%. 8.25% represents the average rate of contributions received during 2017.

## Schedule of Expenses by Type

| <b>Fiscal Year</b> | <b>Benefits</b> | <b>Refunds</b> | <b>Net Administrative</b> | <b>Total Expenses</b> |
|--------------------|-----------------|----------------|---------------------------|-----------------------|
| 2009               | 15,509,868      | 315,919        | 563,408                   | 16,389,195            |
| 2010               | 16,547,561      | 493,911        | 505,222                   | 17,546,694            |
| 2011               | 17,216,853      | 502,566        | 490,611                   | 18,210,030            |
| 2012               | 18,554,194      | 569,058        | 520,955                   | 19,644,207            |
| 2013               | 20,346,281      | 393,954        | 385,675                   | 21,125,910            |
| 2014               | 22,258,842      | 625,184        | 386,713                   | 23,270,739            |
| 2015               | 23,959,198      | 637,822        | 447,921                   | 25,044,941            |
| 2016               | 25,737,515      | 729,741        | 477,252                   | 26,944,508            |
| 2017               | 26,891,785      | 551,908        | 563,078                   | 28,006,771            |
| 2018               | 28,309,344      | 554,422        | 554,484                   | 29,418,250            |

## Schedule of Benefit Expenses by Type

| Year | Service Retiree Benefits | Survivor Benefits | Benefits | Disability Retiree Refunds | Total      |
|------|--------------------------|-------------------|----------|----------------------------|------------|
| 2009 | 14,341,682               | 1,037,317         | 130,868  | 315,919                    | 15,825,786 |
| 2010 | 15,302,791               | 1,124,509         | 120,261  | 493,911                    | 17,041,472 |
| 2011 | 15,863,198               | 1,240,384         | 113,271  | 502,566                    | 17,719,419 |
| 2012 | 17,161,187               | 1,283,885         | 109,122  | 569,058                    | 19,123,252 |
| 2013 | 18,887,269               | 1,333,659         | 125,353  | 393,954                    | 20,740,235 |
| 2014 | 20,659,575               | 1,473,938         | 125,329  | 625,184                    | 22,884,026 |
| 2015 | 22,192,756               | 1,641,114         | 125,328  | 637,822                    | 24,597,020 |
| 2016 | 23,765,713               | 1,846,474         | 125,328  | 729,741                    | 26,467,256 |
| 2017 | 24,852,640               | 1,913,817         | 125,328  | 551,908                    | 27,443,693 |
| 2018 | 26,202,801               | 1,981,215         | 125,328  | 554,422                    | 28,863,766 |



## Retirements During 2018

| Date Name               | Department                     | Yrs Position                                    | Retired    | Option | Serv Yrs | Age |
|-------------------------|--------------------------------|---|------------|--------|----------|-----|
| Ronda A. Stapleton *    | Solid Waste Collections        | Laborer II                                      | 1/1/2018   | ST     | 9.9      | 53  |
| Robert M. West          | Probation Services             | Clerk II  | 1/3/2018   | E      | 19.3     | 64  |
| Eric M. Townsend        | Library                        | Senior Information Technology Specialist        | 1/6/2018   | ST     | 17.4     | 50  |
| Andrew J. McElvaney     | Street                         | Street Maintenance Operator II                  | 1/7/2018   | E      | 20.1     | 62  |
| Virgil L. Stratton      | Street                         | Laborer II                                      | 1/8/2018   | E      | 28.0     | 63  |
| Daniel L. Hagerman      | Public Works & Utilities       | Clerk III                                       | 1/9/2018   | E      | 14.3     | 64  |
| Raymond E. Rouse        | Advanced Wastewater Treatment  | Wastewater Treatment Plant Operator II          | 1/13/2018  | ST     | 8.8      | 66  |
| Carla J. Pearson        | My Spokane                     | Customer Service Assistant                      | 1/13/2018  | ST     | 9.8      | 63  |
| Lu A. Glasser           | Public Works & Utilities       | Utility Service Representative                  | 1/20/2018  | E      | 30.0     | 62  |
| Donna E. Mann *         | Combined Communications Center | Fire Dispatcher                                 | 2/1/2018   | A      | 12.2     | 58  |
| Sharon J. Lukich        | Public Works & Utilities       | Clerk III                                       | 2/2/2018   | D      | 16.8     | 66  |
| Chris J. Lampe #        | Engineering Services           | Engineering Technician II                       | 2/3/2018   | ST     | 3.7      | 69  |
| Tia L. Tauscher         | Solid Waste Disposal           | Office Manager                                  | 2/3/2018   | D      | 27.5     | 56  |
| Jack L. Flores          | Water                          | Laborer II                                      | 2/10/2018  | E      | 24.5     | 62  |
| Patricia L. Moulton     | Police                         | Computer System Administrator                   | 3/2/2018   | ST     | 20.9     | 60  |
| Robert E. Cabbage       | EMS Fund                       | Clerk II  | 3/9/2018   | E      | 15.0     | 71  |
| Joyce L. Brede Stiles   | IT                             | Mail Center Specialist                          | 3/31/2018  | ST     | 23.8     | 66  |
| Janice A. Ahmann        | Library                        | Senior Office Assistant                         | 4/3/2018   | E      | 25.6     | 60  |
| Ned Pauling             | Solid Waste Management         | Refuse Collector III                            | 4/4/2018   | E      | 23.0     | 62  |
| Gita S. George-Hatcher  | Civil Service                  | Chief Examiner                                  | 4/7/2018   | B      | 27.0     | 60  |
| Daniel J. Skindzier     | Development Services Center    | Inspector Supervisor                            | 4/7/2018   | E      | 25.1     | 65  |
| Larry K. White          | Parks & Recreation             | Laborer II                                      | 4/7/2018   | E      | 40.5     | 70  |
| Dann A. Douglas         | Engineering Services           | Materials Testing Supervisor                    | 4/12/2018  | E      | 17.0     | 67  |
| William P. Craver       | Laborer II                     | Sewer Maintenance                               | 4/13/2018  | D      | 10.4     | 63  |
| Victoria L. Nicodemus ^ | Public Works & Utilities       | Credit and Collections Manager                  | 4/14/2018  | E      | 36.9     | 59  |
| Joseph G. Blazek        | Water                          | Water Service Foreperson                        | 5/2/2018   | E      | 28.0     | 57  |
| Janet M. Worley         | Solid Waste Management         | Clerk IV  | 5/2/2018   | E      | 31.0     | 62  |
| Christine L. Kopple     | Library                        | Librarian                                       | 5/4/2018   | E      | 12.0     | 50  |
| Donald E. McIntyre      | Parking Meter                  | Parking Enforcement Specialist I                | 5/4/2018   | E      | 15.6     | 68  |
| Dennis L. McConkey      | Development Services Center    | Certified Combination Inspector                 | 5/5/2018   | E      | 17.3     | 69  |
| Gregory J. Butz         | Stormwater                     | Laborer II                                      | 5/9/2018   | E      | 10.6     | 62  |
| George M. Eitz          | Advanced Wastewater Treatment  | Chemist   | 5/17/2018  | ST     | 19.0     | 74  |
| Jeffrey T. Peer *       | Fleet Services                 | Certified Automotive Mechanic                   | 6/1/2018   | ST     | 17.8     | 50  |
| Shirley M. Pippenger    | City Clerk                     | Clerk III                                       | 6/1/2018   | A      | 20.7     | 69  |
| Samuel R. McKee         | Integrated Capital Management  | Engineering Technician IV                       | 6/2/2018   | B      | 17.1     | 62  |
| Kenneth M. Brown        | Engineering Services           | Principal Engineer                              | 6/2/2018   | E      | 29.7     | 63  |
| Margarethe C. Fulkerson | Municipal Court                | Administrative Assistant-Exempt                 | 6/9/2018   | E      | 9.1      | 64  |
| Rodney J. Minarik       | Neighborhood Services          | Community Programs Coordinator                  | 6/9/2018   | D      | 21.9     | 66  |
| Patricia A. Bonner      | Library                        | Community Engagement Manager                    | 6/16/2018  | ST     | 33.6     | 65  |
| Marion T. Haine         | Public Defender                | Clerk II  | 6/29/2018  | E      | 15.8     | 57  |
| Cecilia P. McGowan #    | Library                        | Librarian III                                   | 7/1/2018   | C-20   | 5.4      | 66  |
| Scott W. Thomas *       | Advanced Wastewater Treatment  | Wastewater Treatment Plant Maintenance Mechanic | 7/1/2018   | E      | 5.1      | 50  |
| Michael J. Look         | Sewer Maintenance              | Laborer II                                      | 7/3/2018   | E      | 25.9     | 62  |
| Timothy R. Dunivant     | Finance                        | Director of Finance & Administration            | 7/6/2018   | E      | 16.8     | 54  |
| Thomas C. Kestell       | IT                             | Supervisory Database Administrator              | 7/7/2018   | D      | 19.0     | 63  |
| John A. Walters         | IT                             | Senior Network Administrator                    | 7/7/2018   | E      | 20.0     | 63  |
| Wendy L. Quinnan        | Public Works & Utilities       | Clerk IV  | 7/7/2018   | ST     | 22.5     | 62  |
| Susan M. Rudder         | Library                        | Customer Experience Manager                     | 7/10/2018  | ST     | 22.3     | 58  |
| Jeffrey B. Lindholm     | Advanced Wastewater Treatment  | Wastewater Treatment Plant Operator II          | 7/14/2018  | E      | 37.8     | 63  |
| Gary S. Bussiere        | Advanced Wastewater Treatment  | Laboratory Technician                           | 7/21/2018  | E      | 24.1     | 70  |
| Anjanette Hughes *      | Probation Services             | Probation Officer I                             | 8/1/2018   | E      | 10.4     | 50  |
| John W. Halsey          | Development Services Center    | Certified Plan Examiner                         | 8/2/2018   | E      | 23.5     | 61  |
| Rashel R. Richard       | Engineering Services           | Clerk III                                       | 8/4/2018   | ST     | 10.1     | 61  |
| Adranig W. Torosian     | Solid Waste Disposal           | Heavy Equipment Operator                        | 8/4/2018   | C-15   | 25.6     | 50  |
| Louie W. Aquino         | Solid Waste Disposal           | Heavy Equipment Operator                        | 8/7/2018   | E      | 27.8     | 62  |
| Steven L. Theodorson    | Street                         | Street Maintenance Operator I                   | 8/18/2018  | C-5    | 18.9     | 65  |
| William A. Hansen       | Fleet Services                 | Automotive Mechanic                             | 8/24/2018  | E      | 30.0     | 56  |
| Robert A. Durham *      | Water                          | Certified Water Service Specialist              | 9/4/2018   | C-20   | 25.8     | 54  |
| Thomas E. Bell          | Police                         | Police Evidence Technician II                   | 9/5/2018   | E      | 18.3     | 62  |
| Michael H. Gibbons      | Water                          | Water Service Specialist                        | 9/5/2018   | E      | 40.3     | 63  |
| Laurene L. Obenland     | Police                         | Police Records Specialist                       | 9/11/2018  | ST     | 12.1     | 50  |
| Patrick J. Kenney       | Asset Management Fund OPS      | Custodian II                                    | 9/22/2018  | ST     | 5.1      | 62  |
| Michael B. Penkunis     | Development Services Center    | Certified Plan Examiner                         | 9/29/2018  | E      | 20.7     | 53  |
| Jacqueline R. Faught    | City Clerk                     | Clerk III                                       | 10/2/2018  | ST     | 15.1     | 51  |
| John R. Paikuli         | Advanced Wastewater Treatment  | Laborer II                                      | 10/6/2018  | E      | 25.8     | 71  |
| Gary D. Hocking         | Water                          | Laborer II                                      | 11/2/2018  | E      | 40.3     | 63  |
| William M. Reinken      | Legal                          | Assistant Prosecutor                            | 11/2/2018  | E      | 19.1     | 55  |
| Terry S. Savage         | Development Services Center    | Public Works Journey Level Inspector            | 11/5/2018  | ST     | 18.0     | 63  |
| Christopher P. Galvin   | Water                          | Water Service Specialist                        | 12/4/2018  | E      | 39.4     | 62  |
| Brenda L. Corbett       | Municipal Court                | Court Clerk II                                  | 12/5/2018  | ST     | 22.3     | 66  |
| Michael C. Owen         | Development Services Center    | Certified Inspector                             | 12/29/2018 | E      | 12.8     | 65  |

\* Retired as vested employee # Retired under membership through Portability ^ Retired as spouse of deceased vested employee

## Retiree Deaths During 2018

| Name                | Date Retired | Date of Death | Age | Retirement Option |
|---------------------|--------------|---------------|-----|-------------------|
| Michael R. Jobe     | 10/02/2015   | 01/13/2018    | 56  | ST                |
| Edward H. Davis     | 05/04/2003   | 01/26/2018    | 71  | ST                |
| Marlene A. Stehr    | 06/20/2004   | 01/28/2018    | 74  | ST                |
| Ronald H. Thomas    | 07/27/1999   | 01/31/2018    | 72  | E                 |
| Wallace W. Berry    | 07/02/1997   | 01/31/2018    | 77  | ST                |
| John P. Lynch       | 03/10/2007   | 02/07/2018    | 70  | E                 |
| Ida M. Cross        | 04/25/2017   | 04/06/2018    | 95  | E                 |
| Wilma C. Beddow     | 06/08/2013   | 04/08/2018    | 58  | E                 |
| George S. Volesky   | 05/02/1987   | 04/29/2018    | 87  | A                 |
| Myrna E. Davis      | 05/02/2003   | 05/20/2018    | 78  | ST                |
| James L. Murray     | 10/03/2009   | 05/26/2018    | 69  | E                 |
| Pamela K. Krisucnas | 11/27/2000   | 06/07/2018    | 67  | ST                |
| Lawrence V. Duffy   | 06/23/2006   | 06/09/2018    | 74  | E                 |
| Carl D. Lamphier    | 03/01/2005   | 06/28/2018    | 77  | E                 |
| Jeffrey B. Lindholm | 07/14/2018   | 07/27/2018    | 63  | E                 |
| Ivan E. Utt         | 01/03/1997   | 08/18/2018    | 80  | ST                |
| Aubrey L. Williams  | 04/06/1994   | 08/20/2018    | 79  | E                 |
| Larry W. Treffry    | 07/13/2002   | 08/30/2018    | 81  | E                 |
| Arthur E. Tatro     | 08/04/1991   | 09/08/2018    | 86  | ST                |
| Helen A. Sanger     | 03/07/1998   | 09/10/2018    | 84  | E                 |
| Stephen J. Higuera  | 03/03/1990   | 09/11/2018    | 90  | E                 |
| Lantia Passmore     | 12/30/1985   | 09/20/2018    | 85  | ST                |
| Oroville J. Poole   | 12/27/1997   | 10/05/2018    | 83  | E                 |
| Harold G. Piper     | 03/26/1983   | 10/13/2018    | 92  | A                 |
| Carol K. Taylor     | 06/04/2010   | 10/17/2018    | 85  | D                 |
| Evelyn L. Lund      | 11/01/2011   | 10/25/2018    | 91  | E                 |
| Peggy A. Edwards    | 11/04/2003   | 10/25/2018    | 80  | ST                |
| Ralph E. Bush       | 07/10/1999   | 12/09/2018    | 70  | E                 |
| Deloris J. Ellis    | 09/07/1985   | 12/22/2018    | 95  | ST                |
| Karen S. Thornton   | 01/01/2017   | 12/23/2018    | 64  | E                 |
| Gregory A. Smith    | 02/02/2013   | 12/25/2018    | 71  | ST                |
| Howard J. Brendel   | 03/26/1983   | 12/30/2018    | 92  | A                 |

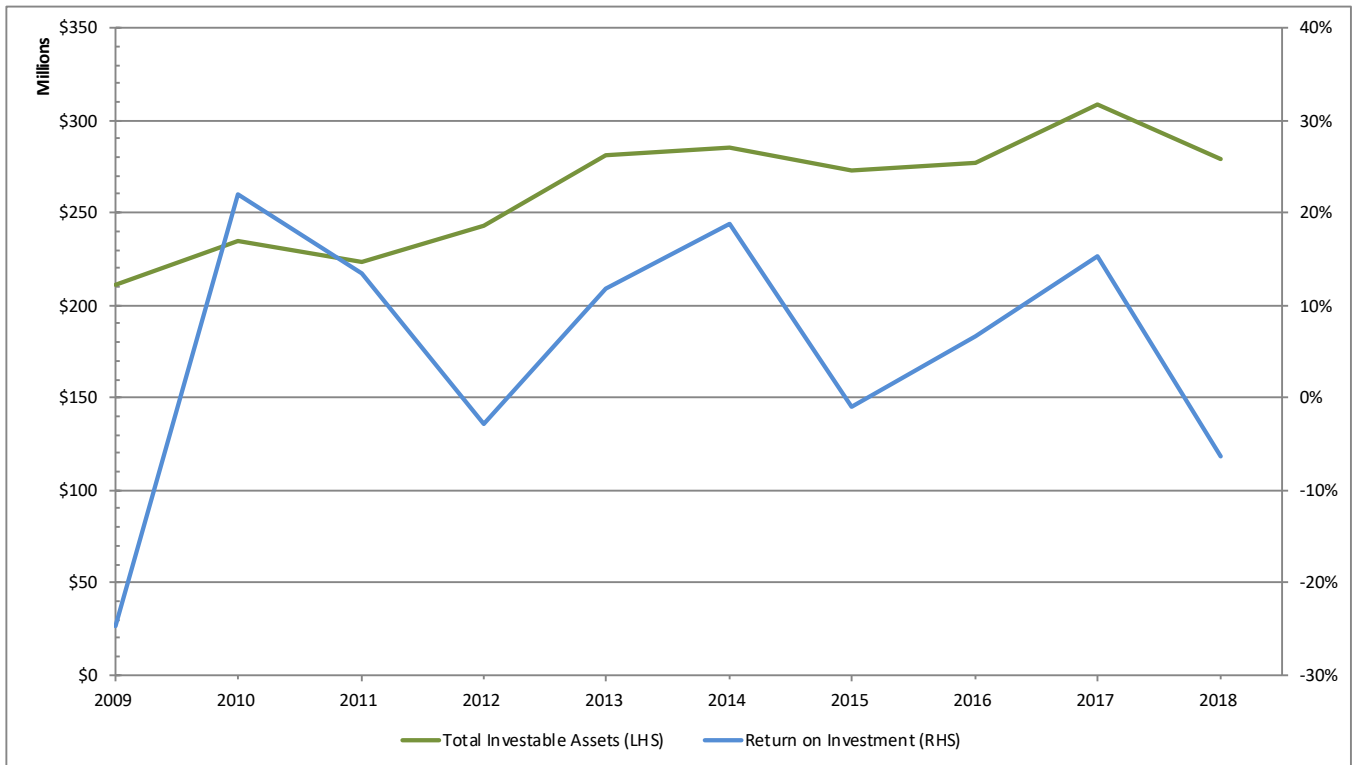
## Active Member Deaths During 2018

| Name                | Department               | Date of Death | Age | Years of Service |
|---------------------|--------------------------|---------------|-----|------------------|
| Ronald E. Nicodemus | Public Works & Utilities | 04/13/2018    | 71  | 36.9             |

# Investment Section

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## Total Retirement Assets A 10 year look

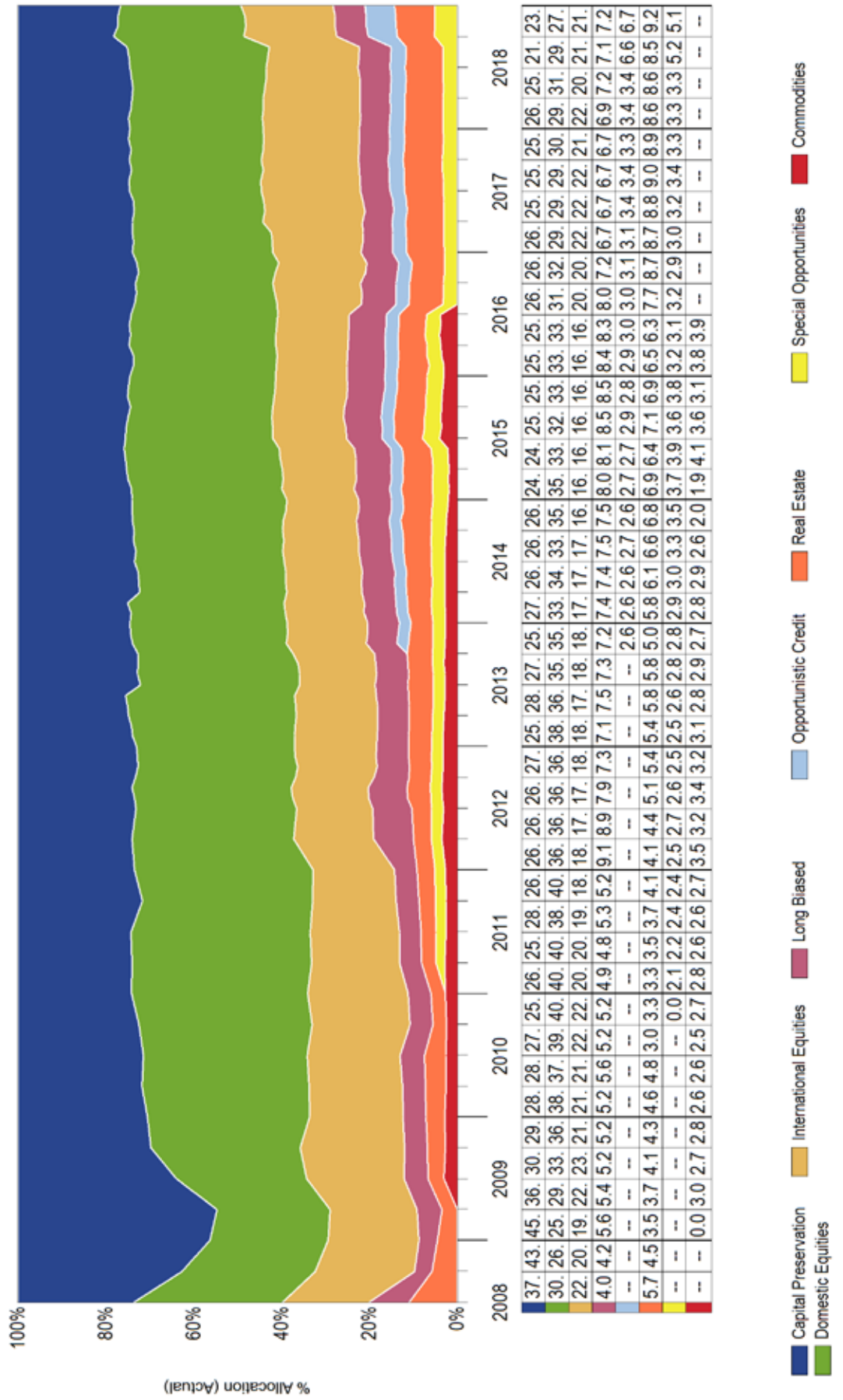


## Schedule of Investment Results

|      | Market Value<br>of Investments | Net Investment<br>Income | Investment<br>Rate of Return<br>(net of fees) |
|------|--------------------------------|--------------------------|---|
| 2009 | 211,055,762                    | 38,442,846               | 21.99%  |
| 2010 | 234,404,883                    | 27,752,165               | 13.47%  |
| 2011 | 222,991,899                    | (6,440,146)              | -2.80%  |
| 2012 | 243,036,215                    | 25,667,673               | 11.70%  |
| 2013 | 280,670,090                    | 45,323,533               | 18.89%  |
| 2014 | 285,567,005                    | 14,497,901               | 5.34%   |
| 2015 | 272,332,285                    | (3,228,439)              | -0.94%  |
| 2016 | 276,992,752                    | 16,802,274               | 6.71%   |
| 2017 | 308,520,137                    | 43,084,584               | 15.40%  |
| 2018 | 278,768,297                    | (18,715,945)             | -6.27%  |



# Investment Allocation History



## Investments Listed by Type

As of December 31, 2018

|   | <b>Market Value</b> |
|---|---------------------|
| <b>Capital Preservation:</b>              |                     |
| Cash Held by Treasurer                    | \$108,124           |
| Fidelity Government Money Market          | 24,864              |
| Sterling Capital Core Bond                | 23,898,706          |
| Hotchkis & Wiley High Yield               | 11,491,293          |
| Polar Long/Short Fund                     | 6,708,294           |
| Castine Partners                          | 7,162,894           |
| Post Limited Term High Yield              | 6,013,411           |
| Rimrock Low Volatility                    | 9,869,620           |
| <b>Domestic Equities:</b>                 |                     |
| Hotchkis & Wiley Large Cap Value          | 13,595,216          |
| Jackson Square Large Cap Growth           | 14,398,382          |
| MFS Blended Research Core                 | 12,959,766          |
| Vanguard S&P 500 Index                    | 9,916,898           |
| Sterling Mid Cap Value                    | 3,934,337           |
| Vanguard Mid Cap Growth                   | 3,486,515           |
| Vanguard Mid Cap Index                    | 3,569,353           |
| Champlain Small Cap                       | 5,493,418           |
| Frontier Phocas Small Cap Value           | 3,326,052           |
| Bridge City Small Cap Growth              | 4,995,054           |
| Vanguard Small Cap Index                  | 780,462             |
| <b>International Equities:</b>            |                     |
| Artisan International Value               | 19,388,190          |
| EuroPacific Growth                        | 19,042,804          |
| Victory Trivalent International Small Cap | 10,600,384          |
| Berens Global Value                       | 936,212             |
| <b>Emerging Markets:</b>                  |                     |
| ABS Emerging Markets Strategic Portfolio  | 7,515,379           |
| Vanguard Emerging Market Equity           | 1,065,084           |
| <b>Real Estate:</b>                       |                     |
| Legacy Partners Realty Fund III           |                     |
| Metropolitan Real Estate Partners         | 198,679             |
| Morrison Street Fund V                    | 4,128,162           |
| Morrison Street Debt Opportunities        | 4,146,895           |
| Morgan Stanley PRIME Fund                 | 7,322,492           |
| Principal (REITs)                         | 9,723,771           |
| <b>Long Biased Hedge Funds:</b>           |                     |
| Weatherlow Offshore                       | 14,964,642          |
| Royalty Opportunities I                   | 2,293,451           |
| Royalty Opportunities II                  | 2,730,281           |
| <b>Opportunistic Credit:</b>              |                     |
| Beach Point Select Fund                   | 10,322,051          |
| Contrarian Capital Fund I                 | 8,464,803           |
| <b>Special Opportunities:</b>             |                     |
| OrbiMed Partners II                       | 8,192,679           |
| Contrarian Emerging Markets               | 5,999,679           |
| Total Cash and Investments                | \$278,768,297       |

Note: Totals may not add due to rounding

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