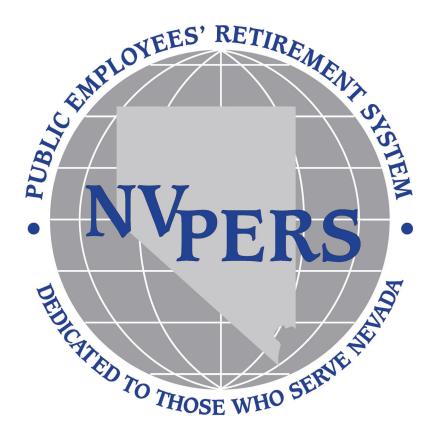
# PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEVADA

# A COMPONENT UNIT of the STATE of NEVADA

#### **COMPREHENSIVE ANNUAL FINANCIAL REPORT**



For the Fiscal Year Ended June 30, 2017

# PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEVADA

#### A COMPONENT UNIT of the STATE of NEVADA

#### COMPREHENSIVE ANNUAL FINANCIAL REPORT

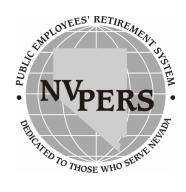
For the Fiscal Year Ended June 30, 2017

Tina Leiss Executive Officer

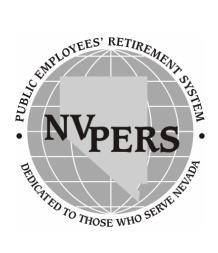
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#### MISSION STATEMENT

It is the mission of the Public Employees' Retirement System to:

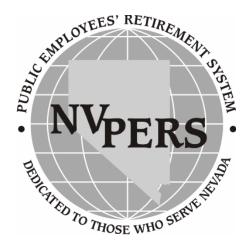
- Provide public workers and their dependents with a retirement program that provides a reasonable base income for retirement or for periods where a disability has removed a worker's earning capacity.
- Encourage those workers to enter into and remain in government service for such periods of time to give public employers and the people of the State of Nevada the full benefit of their training and experience.
- Provide an orderly method of promoting and maintaining a high level of service to the public through an equitable separation procedure available to employees at retirement or upon becoming disabled.

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#### INTRODUCTORY SECTION

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#### CEMPLOYEES' RETIREMENT. **Retirement Board Executive Staff** Mark R. Vincent Tina Leiss Chair Executive Officer Katherine Ong Vice Chair Cheryl Price Operations Officer Lee-Ann Easton Steve Edmundson Scott M. Gorgon Yolanda T. King Investment Officer Timothy M. Ross Brian A. Wallace

December 7, 2017

#### Dear Chairman and Members of the Board:

It is a pleasure to present the Comprehensive Annual Financial Report (CAFR) of the Public Employees' Retirement System of Nevada (System or PERS), a component unit of the State of Nevada, for the fiscal year ended June 30, 2017.

The financial statements included in this report are the responsibility of the System's management and have been prepared in accordance with generally accepted accounting principles as promulgated or adopted by the Governmental Accounting Standards Board (GASB). In management's opinion, the financial statements present fairly the financial position of the System at June 30, 2017, and changes in fiduciary net position for the year then ended.

The System was established by the Nevada Legislature in 1947. By July 1, 1949, the System had approximately 3,000 members and 64 retirees. At the end of fiscal year 2017, the System had 206 participating employers, 105,801 active members, and 64,130 benefit recipients. The System is comprised of two sub-funds, Regular, consisting of members who are not police or fire employees, and Police and Firefighters (Police/Fire). The Regular sub-fund was established to provide retirement, disability, and survivor benefits for public employees with the exception of those who are police officers or firefighters. The Police/Fire sub-fund was established to segregate accounting for retirement and survivor benefits related to members who are police officers or firefighters. All services provided by staff are performed in order to meet those objectives. For more specific information on plan provisions, please refer to the Plan Summary, beginning on page 131.

Included in the Financial Section of this CAFR, beginning on page 24, is Management's Discussion and Analysis (MD&A). Users of the financial statements are encouraged to review the MD&A, which contains a statement overview, highlights for the year, and a short analysis of the statements comparing the current and previous year.

We hope that you and the members of the System will find this CAFR helpful in understanding your public employees' retirement system.

693 W. Nye Lane Carson City, NV 89703 (775) 687-4200 Fax: (775) 687-5131 Toll Free: 1-866-473-7768 Website: www.nvpers.org

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#### **Major Initiatives**

#### Legislation

The Nevada Legislature convenes on a biennial basis in odd-numbered years. During the interim between legislative sessions, PERS worked with legislative staff on pension-related issues. Following the 2017 legislative session, the Public Employees' Retirement Board (Retirement Board or Board) continues to review the System's Official Policies and make necessary modifications to ensure compliance with applicable law.

There were two bills that passed in the 2017 Legislative session that affected PERS. Senate Bill 26 provides that the Public Employees' Retirement System will identify certain companies that boycott Israel and prepare a report to be submitted to the Governor's office and Legislature concerning investments in such companies. Assembly Bill 464 requires the Public Employees' Retirement System to report investments with certain scrutinized companies on the PERS website instead of preparing an annual report to be sent to the Governor's office and Legislature.

#### **System Governance**

The System's existing governance principles, policies, and charters define the role of the Retirement Board and executive management, guide the conduct and decision-making of the Retirement Board, and document and preserve the System's policies.

Managing the funding issue internally to PERS is paramount to overall success of the System. Contribution rate stability and responsible funding are key goals of the System. The System continually reviews trends in actuarial liabilities and maintains a realistic recognition of plan costs in order to govern the plan in a fiscally sound manner. Staff will work to manage expectations of stakeholders and other interested parties on funding issues and contribution rates through continued public relations outreach and education regarding the financing and management of the System.

A positive, open working relationship promotes sound fiduciary administration of the trust. All parties work together for the exclusive benefit of the members and beneficiaries of the System and Board governance practices promote this directive. Adhering to the responsibilities of the charters for the Board, Board Chairman and Executive Officer lay the framework for success, defining the objectives of each. Executive staff keeps Board members abreast of issues affecting the System both in the State and on a national level. Communication is designed to be helpful, organized and not overwhelming to assist the Board in the discharge of fiduciary duties by ensuring pertinent information is delivered in a timely and coherent fashion.

The System shall maintain effective internal controls over financial reporting and observe the highest standards in financial reporting. Staff will continue to diligently monitor and update internal controls as necessary as well as continue to evaluate enterprise-wide risk through an assessment process. The System will continue to maintain the standards necessary to receive the Public Pension Coordinating Council award in recognition of meeting professional standards for plan design and administration as set forth in the Public Pension Standards, the Government Finance Officers Award (GFOA) for excellence in financial reporting for the Comprehensive Annual Financial Report, and the Government Finance Officers Award (GFOA) for excellence in financial reporting for the Popular Annual Financial Report.

#### **Information Technology**

The System is dedicated to maintaining an efficient pension management system that is capable of providing for all operational needs. Technology efforts are driven by business goals as well as statutory and pension fund industry mandates. Highlights in the area of information technology this year include successful completion of disaster recovery site testing including business processing and functionality testing. Ongoing computer and network security measures are a part of daily processes. Final computer system changes were put into production to implement benefit modifications passed in prior legislative sessions. The secure file transfer for agencies and vendors to securely send documents to PERS was enhanced. The Information Technology department has continued to streamline and strengthen policies and procedures for completion of work orders and change management.

#### **Strategic Planning**

Annually, PERS' executive staff reviews the System's strategic plan for updates, including both additions and deletions. The Strategic Plan covers a five-year period and is updated annually by the Executive Officer in consultation with the Board. Strategic Plan revisions are prepared in conjunction with the Operational Yearly Plan and management plans for the individual departments. The Operational Yearly Plan supports the Strategic Plan by setting forth the business plan for the System for the year.

#### **Summary of Financial Information**

The System's management is responsible for maintaining internal controls designed to provide reasonable assurance that transactions are executed according to management's authorization, recorded to maintain accountability for assets, and to allow the preparation of financial statements in accordance with generally accepted accounting principles. The internal controls include written policies and procedures and are reviewed periodically by independent auditors and the System's internal audit staff.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Because the cost of the control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance, that the financial statements are free of any material misstatements. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk. We believe our internal control structure considers these risks and that we maintain a system of internal controls designed to provide reasonable assurance that assets are properly safeguarded, transactions are properly executed, and financial statements are reliable. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived. The valuation of costs and benefits requires estimates and judgments by management.

The Retirement Act requires a biennial financial audit of the System by a certified public accountant. The Board chooses to conduct such audits on an annual basis, rather than biennially, to ensure proper financial controls are in place. The System is also required by statute to submit a biennial budget proposal to the Budget Division of the State of Nevada, which must be incorporated with the State Executive Budget and approved by the Nevada Legislature.

#### INTRODUCTORY SECTION

The following schedule is a summary of the pension trust funds' additions and deductions for the years ended June 30:

	 2017	2016
Additions	\$ 5,983,128,583	\$ 2,541,875,457
Deductions	 2,298,904,081	2,150,566,735
Change in net position	\$ 3,684,224,502	\$ 391,308,722

Additions increased approximately \$3.4 billion from fiscal year 2016, due primarily to an increase in net investment income. Deductions increased by \$148.3 million between 2016 and 2017 due to increases in benefit payouts and refunds.

#### **Funding**

The System's basic funding policy provides for periodic contributions at a level pattern of cost as a percentage of salary throughout an employee's working lifetime in order to accumulate sufficient assets to pay benefits when due. Although the System receives an annual actuarial valuation indicating the contribution rates required to fund the System on an actuarial reserve basis, contributions actually made are in accordance with the rates derived from the actuarial rates and then rounded according to statute.

The actuarial funding method used is the Entry Age Normal Cost Method. This method is used to calculate liabilities using a year-by-year closed amortization period where each amortization period is set at 20 years, in addition to using other significant actuarial assumptions detailed beginning on page 83. Plan rates in effect for fiscal year ended June 30, 2017, are presented on page 36 in the Financial Section of this report. In addition, Required Supplementary Information on page 48 shows changes in employers' net pension liability, related ratios, and ten-year schedules of employer contributions and the money-weighted rate of return on investments. The ten-year schedules of funding progress are on page 97 of the Actuarial Section. The actuarial funded ratio for all members is 74.5% in 2017, an increase from 74.1% in fiscal year 2016.

#### **Investments**

Investment performance plays an important role in the System's ability to provide retirement benefits to its members. The Board's investment philosophy centers on time tested investment principles and efficient, cost-effective portfolio management.

The investment portfolio is designed to meet the funding objectives of the System while taking the least possible risk. Investment of the System's assets is governed by the prudent person standard. This standard states that the Board may invest the System's funds in every type of investment which persons of prudence, discretion, and intelligence acquire or retain for their own account.

The System's investment portfolio is well diversified by asset class, investment structure, and individual security. In fact, the System's portfolio currently holds over 1,700 individual securities from 22 different countries. The Board uses these portfolio components to maintain strict control of the fund's risk/return profile.

Asset allocation is the most significant factor influencing the risk and return of the investment program. Since inception, more than 90% of the System's investment performance is explained by asset allocation. Determination of the fund's long-term asset allocation involves estimating the expected return and risk of major types of investments and blending them into a portfolio which meets the System's risk/return objectives.

The fair value of the System's investment assets at the end of fiscal year 2017 was \$38.3 billion. The portfolio return objective includes a premium over the Consumer Price Index (CPI). The System's investment return objective over calculated CPI in fiscal year 2017 was 6.1%. The System's total return (gross of fees) on investments for that same time period was 11.9%, which includes both realized and unrealized gains. Fiscal year 2017 investment performance was primarily driven by strong returns from global equity markets while rising interest rates dampened returns from bonds.

The fund's annualized rate of return (gross of fees) is 9.5% since inception (33 years) exceeding the long-term actuarial funding objective. The fund is competitive on a risk-adjusted basis, ranking in the top 10% of public funds for that same time frame. The investment section, beginning on page 62, addresses specific activity and results in the portfolio.

#### **GFOA** Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the System for its comprehensive annual financial report for the fiscal year ended June 30, 2016 (see page 17). This was the 27th consecutive year the System achieved this prestigious award.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current report continues to meet the Certificate of Achievement Program requirements and are submitting it to the GFOA for consideration again this year.

#### **PPCC Award**

The Public Pension Coordinating Council awarded the Public Pension Standards Award to the System for the fiscal year ended June 30, 2017 (see page 18). The award is designed to commend public employee retirement systems for implementing and maintaining high professional standards. PERS has received the award every year it has been offered.

#### **Professional Services**

Professional consultants are hired to perform services essential to the efficient operation of the System. The Report of Independent Auditors, Consultant's Report of Investment Activity, and the actuary's certifications are included in this report. The System's consultants are listed on pages 15 and 62.

#### Acknowledgements

This report reflects the combined effort of the System's administrative staff. It is intended to provide both complete and reliable information as a basis for making management decisions, determining compliance with legal provisions, and determining the responsible stewardship of assets contributed by the members and their employers.

I would like to express my appreciation to the staff, consultants, Board, and other associates whose efforts ensured the successful operation of the System in 2017.

Respectfully submitted,

Tina Leiss

**Executive Officer** 

#### ADMINISTRATIVE PERSONNEL Current

#### PUBLIC EMPLOYEES' RETIREMENT BOARD

Mark R. Vincent	Chair	2018
Katherine Ong	Vice Chair	2019
Lee-Ann Easton	Member	2021
Scott M. Gorgon	Member	2019
Yolanda T. King	Member	2021
Timothy Ross	Member	2018
Brian A. Wallace	Member	2021

Terms expire on June 30 of year noted.

#### RETIREMENT STAFF

Tina Leiss	<b>Executive Officer</b>
Steve Edmundson	Investment Officer
Cheryl Price	Operations Officer
Lauren Larson	Chief Financial Officer
Christopher Nielsen	General Counsel
Kabrina Feser	Administrative Analyst

#### **Division Supervisors:**

John Van Horn	Accounting
---------------	------------

Sonya Hellwinkel Employer, Production & Pension Services

Charlie Park Information Technology

Carrie Harrison Internal Audit

Teresa Chalmers Member & Retiree Services

Walter Zeron Support Services

#### MEDICAL ADVISORS

B Bottenberg, D.O., Carson City, Nevada Kathy Stoner, RN, CCM, Minden, Nevada

#### POLICE AND FIREFIGHTERS' RETIREMENT FUND ADVISORY COMMITTEE

Richard Tiran	Chairman	2018
Brian Wolfgram	Vice Chairman	2020
Bill Ames	Member	2020
Brett Fields	Member	2019
Scott Vivier	Member	2019

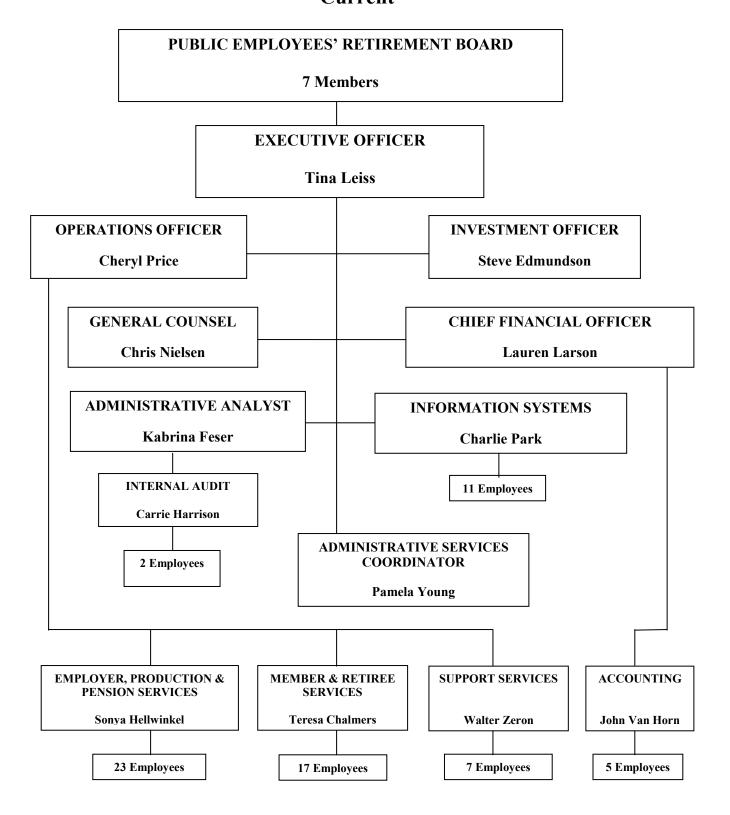
Terms expire on June 30 of year noted.

#### THE SYSTEM'S ADVISORS

Consulting Actuary – Segal Consulting, San Francisco, California Independent Auditors – CliftonLarsonAllen LLP, Baltimore, Maryland Investment Consultants – Callan Associates, Atlanta, Georgia Jobs Peak Advisors, Minden, Nevada

Note: A list of investment professionals who provide services to PERS can be found on page 62. A schedule of fees and commissions paid to investment professionals can be found beginning on page 75.

## **ORGANIZATIONAL CHART Current**





Government Finance Officers Association

# Certificate of Achievement for Excellence in Financial Reporting

Presented to

# Public Employees' Retirement System of Nevada

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2016

**Executive Director/CEO** 



## **Public Pension Coordinating Council**

# Public Pension Standards Award For Funding and Administration 2017

Presented to

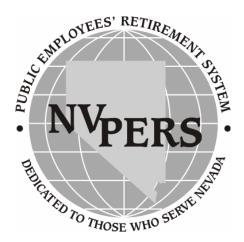
## Public Employees' Retirement System of Nevada

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

Presented by the Public Pension Coordinating Council, a confederation of

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

> Alan H. Winkle Program Administrator



### FINANCIAL SECTION

**FINANCIAL SECTION** 

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CliftonLarsonAllen LLP CLAconnect.com

#### INDEPENDENT AUDITORS' REPORT

Public Employees' Retirement Board Of the State of Nevada Carson City. Nevada

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

We have audited the accompanying financial statements of the Public Employees' Retirement System of Nevada (the System) a component unit of the State of Nevada, which comprise the statement of fiduciary net position as of June 30, 2017, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, as listed in the table of contents.

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

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

#### Auditors' Responsibility

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

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

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

#### **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System as of June 30, 2017, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### **Emphasis of Matter**

As discussed in Note 1, the financial statements of the System are intended to present the fiduciary net position and changes in fiduciary net position of only that portion of the State of Nevada which are attributable to the transactions of the System. They do not purport to, and do not present fairly the financial position of the State of Nevada as of June 30, 2017, and the changes in its financial position, for the year then ended in accordance with accounting principles general accepted in the United States of America. Our opinion is not modified with respect to this matter.



Public Employees' Retirement Board Of the State of Nevada

#### Other Matters

#### Prior-Year Comparative Information

We have previously audited the System's 2016 financial statements, and we expressed an unmodified opinion on the statement of fiduciary net position as of June 30, 2016, and the related statement of changes in fiduciary net position for the year then ended in our report dated December 7, 2016. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2016, is consistent, in all material respects, with the audited financial statements from which it has been derived.

The financial statements include partial prior-year comparative information. Such information does not include all of the information required to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended June 30, 2016, from which such partial information was derived.

#### Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of changes in net pension liability and related ratios, employer contributions and investment returns and related notes, as listed in the table of contents, 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 Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's financial statements. The schedule of administrative expenses - GAAP basis, schedule of administrative expenses – non-GAAP budgetary basis, reconciliation of GAAP basis administrative expenses to non-GAAP budgetary basis, schedule of investment expenses, schedule of payments to consultants and the combining schedules of fiduciary net position and changes in fiduciary net position, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the financial statements for the year ended June 30, 2017.

These schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. Such information has 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 information is fairly stated, in all material respects, in relation to the financial statements as a whole.

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

CliftonLarsonAllen LLP

CliftonLarson Allen LLP

Baltimore, Maryland December 7, 2017

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This Management's Discussion and Analysis (MD&A) of the financial performance of the Public Employees' Retirement System of Nevada (System or PERS) provides an overview of the System's financial activities for the fiscal year ended June 30, 2017. The MD&A is designed to focus on the current year's activities, resulting changes, and currently known facts while also showing three-year trends. Readers are encouraged to consider the information presented in conjunction with the financial statements as a whole, which follow the MD&A.

The System is responsible for administering retirement, disability, and survivor benefits for Regular members (consisting of employees within the State of Nevada and local governments which include schools, counties, cities, special districts, etc.) as well as Police/Fire members throughout the state.

#### **Overview of Financial Statements**

The financial statements consist of: (1) the Statement of Fiduciary Net Position, (2) the Statement of Changes in Fiduciary Net Position, (3) the Notes to the Financial Statements, and (4) the Required Supplementary Information. Other supplementary information is also presented.

The **Statement of Fiduciary Net Position** includes all of the System's pension trust fund assets, liabilities, and the net position at the end of the fiscal year.

The **Statement of Changes in Fiduciary Net Position** reports additions to and deductions from the pension trust fund during the fiscal year presented. Over time the increase or decrease in net position serves as a useful indicator of the health of the System's financial position.

The **Notes to the Financial Statements** provide additional information that is required by generally accepted accounting principles.

The **Required Supplementary Information** following the notes to the financial statements consists of schedules and related notes pertaining to changes in employers' net pension liability, employers' contributions, investment returns, and actuarial assumptions. These schedules are intended to provide additional information useful in evaluating the condition of the defined benefit pension plan.

**Other Supplementary Information** details administrative expenses, investment expenses, consultant and professional service expenses, in addition to Schedules of Fiduciary Net Position and Changes in Fiduciary Net Position broken down between Regular and Police/Fire members.

#### **Financial Highlights**

# As of and For the Years Ended June 30 (in millions)

	2017	2016	2015
Total investments	\$ 38,261.4	\$ 34,617.2	\$ 34,148.2
Net investment income	4,110.3	778.7	1,395.3
Contributions	1,870.7	1,761.2	1,633.4
Benefit payments	2,258.2	2,111.9	1,958.2
Refunds of contributions	30.4	26.8	25.6
Transfers of contributions	0.4	-	2.4
Administrative expenses	9.9	10.6	9.6
Plan fiduciary net position	\$ 38,686.3	\$ 35,002.0	\$ 34,610.7
Actuarial funded ratio	74.5%	74.1%	73.2%

Total pension liability as of June 30, 2017, was \$51,986,097,492.

Plan fiduciary net position as a percentage of total pension liability was 74.4%.

#### **Financial Analysis**

The fair value of investments for fiscal year 2017 increased by 10.5% to \$38,261.4 million from \$34,617.2 million in 2016. Investment income for 2017 was \$4,110.3 million compared to \$778.7 million for 2016. The PERS investment program returned 11.9% in fiscal year 2017. The 9.5% annualized return since inception (33 years) exceeds the actuarial objective.

The following are summary comparative statements of the System.

#### CONDENSED STATEMENT OF FIDUCIARY NET POSITION

							Percentage Increase/ (Decrease)
		As of		As of		As of	from 2016
	_	June 30, 2017		June 30, 2016		June 30, 2015	to 2017
Cash and cash equivalents	\$	155,681,189	\$	209,333,614	\$	264,196,276	(25.6) %
Receivables	Ψ	272,197,711	Ψ	232,182,181	Ψ	212,623,231	17.2
Pending trades receivable		198,725,111		120,155,081		129,448,044	65.4
Investments, at fair value		38,261,391,567		34,617,238,271		34,148,195,967	10.5
Collateral on loaned securities,		, , ,					
at fair value		377,917,975		411,128,913		373,833,323	(8.1)
Property and equipment, net		4,614,071		3,872,142		3,950,191	19.2
Other assets		3,352,174		2,916,621		3,633,781	14.9
Total assets	-	39,273,879,798		35,596,826,823		35,135,880,813	10.3
Accounts payable							
and accrued expenses		12,909,341		11,279,040		10,447,899	14.5
Pending trades payable		196,799,074		172,389,964		140,879,407	14.2
Obligations under securities				, ,			
lending activities		377,917,975		411,128,913		373,833,323	(8.1)
Total liabilities	-	587,626,390		594,797,917		525,160,629	(1.2)
Net position restricted							
for pensions	\$	38,686,253,408	\$	35,002,028,906	\$	34,610,720,184	10.5 %

Pending trades receivable and payable increased by 65.4% and 14.2% between 2016 and 2017. Pending trades fluctuate from year to year and are unpredictable.

The net position increased between 2016 and 2017 by 10.5% and increased 1.1% between 2015 and 2016.

# CONDENSED STATEMENT OF CHANGES IN FIDUCIARY NET POSITION For the Years Ended June 30,

_	2017		2016		2015	Increase/ (Decrease) from 2016 to 2017
Contributions \$	1,870,718,846	\$	1,761,234,219	\$	1,633,441,048	6.2 %
Net investment gain	4,110,266,059		778,696,864		1,395,292,096	427.8
Other income	2,143,678		1,944,374		2,786,066	10.3
Total additions	5,983,128,583		2,541,875,457	_	3,031,519,210	135.4
Benefit payments	2,258,225,215		2,111,858,380		1,958,237,104	6.9
Refunds of contributions	30,388,174		26,757,635		25,637,753	13.6
Transfer of contributions	418,673		-		2,356,700	-
Administrative expenses	9,870,284		10,573,149		9,648,626	(6.6)
Other expenses	1,735	_	1,377,571		-	(99.9)
Total deductions _	2,298,904,081		2,150,566,735		1,995,880,183	6.9
Change in net position	3,684,224,502		391,308,722		1,035,639,027	
Net position, beginning of year	35,002,028,906	_	34,610,720,184		33,575,081,157	1.1
Net position, end of year \$	38,686,253,408	\$	35,002,028,906	\$	34,610,720,184	10.5 %

Contributions increased between 2016 and 2017 by 6.2% as compared to 2015 and 2016, which increased 7.8%. Breaking this down into its components reveals that both employer and plan member contributions increased by 6.1% and repayments and purchases of service increased by 8.9% in fiscal year 2017.

Benefit payments rose 6.9% in fiscal year 2017 and 7.8% in fiscal year 2016. The increase in benefit payments can be attributed to cost of living increases and retirement inceptions. As of June 30, 2017, there were 57,199 retired members.

Refunds of contributions increased 13.6% in fiscal year 2017, compared to a 4.4% increase in fiscal year 2016. Members no longer employed in a position eligible for membership in the System, who are eligible for a refund, may apply for a refund of contributions, making this number unpredictable from year to year.

Transfers of contributions consist of contributions associated with judges who choose to transfer from PERS to the Judicial Retirement System (JRS). Transfers of contributions totaled \$418,673 in fiscal year 2017. There were no transfers in 2016. Similar to refund requests, the transfers of members and associated contributions from PERS to JRS are unpredictable from year to year.

The fiscal year 2017 net position restricted for pensions increased by 10.5% from fiscal year 2016. This is the eighth year in a row the System has increased its net position.

#### STATEMENT OF FIDUCIARY NET POSITION

June 30, 2017

(With Comparative Totals for June 30, 2016)

ASSETS	_	2017		2016
Cash and cash equivalents	\$	155,681,189	\$	209,333,614
Receivables:				
Contributions receivable		163,139,100		134,973,348
Pending trades receivable		198,725,111		120,155,081
Accrued investment income	_	109,058,611		97,208,833
Total receivables	_	470,922,822	_	352,337,262
Investments, at fair value:				
Fixed income securities		10,504,305,561		9,815,487,784
Marketable equity securities		16,031,517,896		15,156,704,122
International securities		8,259,056,692		6,627,477,668
Real estate		1,789,219,998		1,584,377,325
Private equity	_	1,677,291,420		1,433,191,372
Total investments		38,261,391,567		34,617,238,271
Collateral on loaned securities		377,917,975		411,128,913
Property and equipment		43,608,737		41,550,920
Accumulated depreciation		(38,994,666)		(37,678,778)
Net property and equipment	_	4,614,071		3,872,142
Other assets	_	3,352,174	_	2,916,621
Total plan assets	_	39,273,879,798	_	35,596,826,823
LIABILITIES				
Accounts payable and accrued expenses		12,909,341		11,279,040
Pending trades payable		196,799,074		172,389,964
	_	209,708,415		183,669,004
Obligations under securities lending activities	_	377,917,975		411,128,913
Total plan liabilities	_	587,626,390	_	594,797,917
NET POSITION				
Net position restricted for pensions	\$ _	38,686,253,408	\$_	35,002,028,906

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

#### STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

For the Year Ended June 30, 2017 (With Comparative Totals For the Year Ended June 30, 2016)

	 2017	 2016
ADDITIONS		
Contributions:		
Employer	\$ 901,744,209	\$ 849,748,895
Plan members	901,744,209	849,748,896
Repayment and purchase of service	 67,230,428	 61,736,428
Total contributions	 1,870,718,846	 1,761,234,219
Investment income:		
Net appreciation (depreciation) in fair value		
of investments	3,247,916,381	(72,040,745)
Interest	210,880,421	191,695,946
Dividends	571,620,668	552,629,496
Other investment income	120,178,514	139,896,529
	4,150,595,984	812,181,226
Less investment fees and other expense:	(45,536,108)	(39,307,761)
Net investment income	 4,105,059,876	772,873,465
Securities lending income	8,565,263	8,315,687
Less securities lending expense	(3,359,080)	(2,492,288)
Net securities lending income	 5,206,183	 5,823,399
Total net investment income	4,110,266,059	 778,696,864
Other income	2,143,678	1,944,374
Total additions	5,983,128,583	2,541,875,457
DEDUCTIONS		
Benefit payments:		
Retirement and survivor benefits	2,152,867,841	2,007,732,522
Disability	105,357,374	104,125,858
Refunds of contributions	30,388,174	26,757,635
Transfers of contributions	418,673	-
Administrative expenses	9,870,284	10,573,149
Other expenses	 1,735	 1,377,571
Total deductions	2,298,904,081	2,150,566,735
Change in net position	3,684,224,502	391,308,722
Net position:		
Beginning of year	 35,002,028,906	 34,610,720,184
End of year	\$ 38,686,253,408	\$ 35,002,028,906

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

#### NOTE 1 - Summary of Significant Accounting Policies and Plan Asset Matters

#### **Financial Reporting Entity**

The Board is the governing body of the Public Employees' Retirement System of Nevada (System or PERS) with responsibility for administration and management. This autonomous, seven-member Board is appointed by the Governor of the State of Nevada.

The System has developed criteria in accordance with standards issued by GASB to determine whether other state agencies, boards, and commissions, which benefit the members of the System, should be included within its financial reporting entity as component units. A component unit is defined as a legally separate organization for which officials of the System are financially accountable. In addition, component units can be other organizations for which the nature and significance of their relationship with the System are such that exclusion would cause the System's financial statements to be misleading or incomplete.

In accordance with GASB, the following criteria are used when evaluating financial accountability: The ability of the System to appoint a voting majority of the organization's governing body and (1) the ability to impose its will on the other organization or (2) the potential for the organization to provide specific financial benefits to or impose specific financial burdens on the System. In addition, the System may be financially accountable if an organization is fiscally dependent on the System regardless of whether the organization has a separately elected governing board, a governing board appointed by a higher level of government, or a jointly appointed board.

The System has no relationship with another entity that meets the above criteria and has not included any other entity as a component unit of its financial reporting entity.

The System is classified as a component unit of the State of Nevada for financial reporting purposes in accordance with the provisions of GASB because the State Legislature retains certain significant governing powers over the System.

#### **Basis of Accounting**

The accompanying financial statements of the System have been prepared in conformity with generally accepted accounting principles (GAAP) in the United States of America. The System has adopted the pronouncements of GASB, which is the accepted standard-setting body for establishing governmental accounting and financial reporting principles.

The System uses the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded in the accounting period in which they are earned and become measurable. Per statute, employee and employer contributions are recognized in the reporting period for which they are due. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Unfunded portions of actuarially determined liabilities for retirement benefits are not recorded in the financial statements.

#### **Organization**

The System is comprised of two sub-funds.

<u>Regular sub-fund</u> – Established to provide retirement, disability, and survivor benefits for public employees with the exception of those who are police officers or firefighters.

<u>Police/Fire sub-fund</u> – Established to segregate accounting for benefits related to members who are police officers or firefighters.

Assets of the System can legally be used to pay both Regular and Police/Fire beneficiaries.

#### Cash and Cash Equivalents

Cash and cash equivalents include both operating cash on deposit with the System's commercial bank and cash on deposit with the custodial bank. Cash on deposit at the System's custodial bank includes investments in Invesco Treasury Portfolio Short-Term Investments Trust. This fund invests in short-term, high credit quality money market instruments. These instruments are direct obligations of the U.S. Treasury and repurchase agreements backed by Treasury obligations.

#### Contributions Receivable

No allowance for doubtful accounts has been established since the System anticipates no material collection loss with respect to contribution receivables.

#### Benefits Payable

Benefits are paid during the month they are due; therefore, no benefit payable is recorded each month or at year-end.

#### Federal Income Tax

The System is a qualified pension plan under Section 401(a) of the Internal Revenue Code (IRC) and, as such, is required to withhold federal income tax from member and benefit recipient payments in accordance with IRC. As a public entity, the System is not required to file a federal income tax return with the Internal Revenue Service.

#### <u>Investments</u>

The Regular sub-fund and the Police/Fire sub-fund are accounted for separately, based upon actual funds contributed and an allocation of the combined investment earnings. Individual investments are not specifically identified as belonging to either the Regular sub-fund or the Police/Fire sub-fund.

Plan investments are reported at fair value. Fair value is defined as the price at which an asset passes in a current transaction from a willing seller to a willing buyer, other than in a forced liquidation or sale. It is assumed that both buyer and seller are rational and have a reasonable knowledge of relevant facts. Securities traded on national or international exchanges are valued at the last reported sales price at current exchange rates. In general, however, fixed income securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings. The fair value of real estate investments is established by an independent third party valuation firm in conjunction with Member Appraisal Institute (MAI) independent appraisals. For private equity partnership investments, estimated fair value is determined in good faith and provided by the general partner of the respective investment partnership, based on the most recent financial information available for the underlying companies at the measurement date adjusted for subsequent cash flow activities through June 30, 2017. In addition, each partnership undergoes an independent audit on an annual basis.

Investment purchases and sales are recorded as of the trade date. Dividend income is recognized on the exdividend date. Investment income is recognized as earned. Net change in the fair value of investments is determined by calculating the change in fair value of investments between the beginning of the fiscal year and the end of the fiscal year, less purchases of investments at cost, plus sales of investments at fair value.

There are certain market risks, credit risks, foreign exchange currency risks, or event risks which may subject the System to economic changes occurring in certain industries, sectors, or geographies.

#### **Property and Equipment**

Property and equipment consists of furniture, equipment, computer hardware, and software at cost with accumulated depreciation. Assets are capitalized when the expected life is greater than one year and the initial cost is \$5,000 or more per unit. Intangible assets are capitalized for the development stage only (design, configuration, installation, and testing). Depreciation is calculated using the straight-line depreciation method over five years. The term "depreciation" includes amortization of intangible assets.

#### Administrative Expenses

The funds for administering the System are provided by assessment of an administrative fee for each member and benefit recipient. Monthly fees at June 30, 2017, were \$3.30 for each Regular member and benefit recipient and \$3.57 for each Police/Fire member and benefit recipient. PERS is required by statute to submit a biennial budget proposal to the Budget Division of the State of Nevada, which must be incorporated with the State Executive Budget and approved by the Nevada Legislature.

#### **Financial Statement Presentation**

Comparative data shown for the prior year has been extracted from the June 30, 2016, financial statements. Employer and plan member contributions have been reclassified for comparability with fiscal year 2017 in compliance with GASB 82. Also, post-retirement increases have been reclassified as retirement and survivor benefits for comparability with fiscal year 2017. Fiscal year 2016 data has been presented to facilitate financial analysis but is not considered full disclosure of transactions for that year.

#### New Accounting Pronouncement

For the year ended June 30, 2017, the System adopted Governmental Accounting Standards Board (GASB) Statement No. 82, An Amendment of GASB Statements No. 67, No. 68, and No. 73. This Statement addresses classification of employer-paid contributions. This statement requires certain contribution payments made by the employer to be classified as member contributions.

#### **NOTE 2 – Plan Description**

#### **History and Purpose**

PERS administers a cost-sharing, multiple-employer, defined benefit public employees' retirement system which includes both Regular and Police/Fire members. The System was established by the Nevada Legislature in 1947, effective July 1, 1948. The System is administered to provide a reasonable base income to qualified employees who have been employed by a public employer and whose earning capacities have been removed or substantially impaired by age or disability.

#### **Membership**

At June 30, 2017, the number of participating public employers and active members was:

	Number of	Number of
<b>Entity Type</b>	<b>Employers</b>	Members
State of Nevada and Related Agencies	23	18,405
University of Nevada System	2	3,676
Schools	59	48,913
Counties	16	12,282
Cities	19	9,073
Hospitals	8	4,055
Utility, Irrigation, and Sanitation Districts	18	833
Special Districts and Agencies	61	8,564
	206	105,801

A complete list of participating employers can be found in the Statistical Section.

Any public employer in the State of Nevada may have its Regular or Police/Fire employees covered by the System. Retired, active, and inactive membership at June 30 was as follows:

	2017	2016
Regular retired members:		
Service retirees	50,091	47,899
Beneficiaries and survivors	5,884	5,585
	55,975	53,484
Police/Fire retired members:		
Service retirees	7,108	6,716
Beneficiaries and survivors	1,047	980
	8,155	7,696
Total benefit recipients	64,130	61,180
Inactive members:		
Regular	15,763	14,795
Police/Fire	905	844
Total inactive members	16,668	15,639
Active members:		
Regular	93,276	93,030
Police/Fire	12,525	12,137
Total active members	105,801	105,167
Total retired, active, and inactive membership	186,599	181,986

#### Benefits

Benefits, as required by the Nevada Revised Statutes (NRS or statute), are determined by the number of years of accredited service at time of retirement and the member's highest average compensation in any 36 consecutive months with special provisions for members entering the System on or after January 1, 2010. Benefit payments to which participants or their beneficiaries may be entitled under the plan include pension benefits, disability benefits, and survivor benefits.

Monthly benefit allowances for members are computed at 2.5% of average compensation for each accredited year of service prior to July 1, 2001. For service earned on and after July 1, 2001, this multiplier is 2.67% of average compensation. For members entering the System on or after January 1, 2010, there is a 2.5% multiplier for all years of service. Regular members entering the System on or after July 1, 2015, have a 2.25% multiplier. The System offers several alternatives to the unmodified service retirement allowance which, in general, allow the retired employee to accept a reduced service retirement allowance payable monthly during his or her lifetime and various optional monthly payments to a named beneficiary after his or her death.

Post-retirement increases are provided by authority of NRS 286.575–.579. See Plan Summary for details.

#### Vesting

Regular members are eligible for retirement at age 65 with five years of service, at age 60 with ten years of service, or at any age with thirty years of service. Regular members entering the System on or after January 1, 2010, are eligible for retirement at age 65 with five years of service, or age 62 with ten years of service, or any age with thirty years of service. Regular members entering the System on or after July 1, 2015, are eligible for retirement at age 65 with five years of service, at age 62 with ten years of service, at age 55 with 30 years of service, and at any age with 33 1/3 years of service.

Police/Fire members are eligible for retirement at age 65 with five years of service, at age 55 with ten years of service, at age 50 with twenty years of service, or at any age with twenty-five years of service. Police/Fire members entering the System on or after January 1, 2010, are eligible for retirement at age 65 with five years of service, or age 60 with ten years of service, or age 50 with twenty years of service, or at any age with thirty years of service. Police/Fire members entering the System on or after July 1, 2015, are eligible for retirement at age 65 with five years of service, at age 60 with ten years of service, at age 50 with twenty years of service and at any age with 33 1/3 years of service. Only service performed in a position as a police officer or firefighter may be counted towards eligibility for retirement as Police/Fire accredited service

The normal ceiling limitation on monthly benefit allowances is 75% of average compensation. However, a member who has an effective date of membership before July 1, 1985, is entitled to a benefit of up to 90% of average compensation. Both Regular and Police/Fire members become fully vested as to benefits upon completion of five years of service.

#### Member Contributions

The authority for establishing and amending the obligation to make contributions, and member contribution rates, is set by statute. New hires, in agencies which did not elect the Employer-Pay Contribution (EPC) plan prior to July 1, 1983, have the option of selecting one of two contribution plans. One plan provides for matching employee and employer contributions, while the other plan provides for employer-pay contributions only. Under the matching Employee/Employer Contribution plan a member may, upon termination of service for which contribution is required, withdraw employee contributions which have been credited to their account. All membership rights and active service credit in the System are canceled upon withdrawal of contributions from the member's account. If EPC was elected, the member cannot convert to the Employee/Employer Contribution plan.

#### **Termination**

Upon termination or partial termination of the System, all accrued benefits that are funded become 100% vested and non-forfeitable.

#### **NOTE 3 – Contributions Required and Contributions Made**

The System's basic funding policy provides for periodic contributions at a level pattern of cost as a percentage of salary throughout an employee's working lifetime in order to accumulate sufficient assets to pay benefits when due.

Although the System receives an actuarial valuation on an annual basis indicating the contribution rates required to fund the System on an actuarial reserve basis, contributions actually made are in accordance with the required rates established by the Nevada Legislature. These statutory rates are increased/decreased pursuant to NRS 286.421 and 286.450.

## Rates in effect for fiscal year ended June 30, 2017, were as follows:

Regular Employees	Funding Basis*	Statutory Rate
Employer-pay plan Employee/employer plan (matching rate)	28.02% 14.57	28.00% 14.50
Police/Fire Employees		
Employer-pay plan Employee/employer plan (matching rate)	39.88% 20.54	40.50% 20.75

<sup>\*</sup> From June 30, 2016, actuarial valuation

The Public Employees' Retirement Act requires an adjustment in the statutory contribution rates on July 1 of each odd-numbered year, based on the actuarially determined rates indicated in the actuarial valuation report for the immediately preceding year. Rates are only adjusted upward if the new rates are more than 0.50% higher than the existing rate for Employer-Pay and more than 0.25% higher for Employee/Employer. Rates are only adjusted downward if the new rates are more than 2.00% lower than the existing rate for Employer-Pay (and adjusted only by the amount in excess of 2.00%) and more than 1.00% lower than the existing rate for Employee/Employer (and adjusted only by the amount in excess of 1.00%). Rates are rounded to the nearest 0.25% of payroll.

Under the Employer-Pay provisions, the contributions made by employers on behalf of employees are not credited to the member's account and are not refunded upon termination. For employees covered by the Employer-Pay provisions, average compensation is increased by half the total contributions made by the public employer and may not be less than it would have been if contributions had been made by the member and the employer separately.

The Judicial Retirement System (JRS) was established in 2001 to provide benefits for the retirement, disability, or death of all justices of the Supreme Court and district judges. In fiscal year 2006 justices of the peace and municipal court judges began participating in JRS on a voluntary, employer-by-employer basis. Each participating individual who has service credit in PERS may transfer, subject to statutory time frames and requirements, to JRS. At the time of transfer all of the individual's contributions and the related liability to the System for that individual are moved from PERS to JRS.

## **NOTE 4 – Retirement Fund Contributions of PERS' Employees**

Administrative employees of PERS (as a participating employer) are members of the System. All participating public employers make contributions to the System at the same percentage of salary rate for Regular members as required by statute. Actuarially determined contribution requirements for administrative employees of the System are the same as all other employers within the System. Employer contributions for administrative employees were \$520,513 for the year ended June 30, 2017.

## **NOTE 5 – Deposit and Investment Disclosures**

The investments of the System are governed primarily by the "prudent person" standard. The prudent person standard, as set forth in NRS 286.682, authorizes the Board to invest the System's funds in "every kind of investment which persons of prudence, discretion and intelligence acquire or retain for their own account." Additionally, the System has established limits on the concentration of investments in any single issuer or class of issuer or managed by a single investment firm.

## **Investment Policy**

The System's policies\* which determine the investment portfolio target asset allocation are established by the Board. The asset allocation is reviewed annually and is designed to meet the future risk and return needs of the System. The following was the Board adopted policy target asset allocation as of June 30, 2017:

Asset Class	Target Allocation
Domestic equity	42%
International equity	18
Domestic fixed income	30
Private markets**	10
Total	100%

<sup>\*</sup>The System's current Investment Objectives and Policies may be found on the PERS website www.nvpers.org.

## Rate of Return

For the year ended June 30, 2017, the annual money-weighted return on pension plan investments was 11.84%. The money-weighted rate of return expresses investment performance adjusted for cash flows.

The majority of the System's investments are held by the Depository Trust Company (DTC) in DTC's nominee name, and trading is conducted through DTC's book-entry system. The holder of record for the System is The Bank of New York Mellon.

<sup>\*\*</sup>As of June 30, 2017, the Private Markets allocation includes 5% Private Real Estate and 5% Private Equity.

## Custodial Credit Risk - Deposits

Custodial credit risk for deposits is the risk that, in the event of the failure of its depository financial institution, the System will not be able to recover its deposits.

At June 30, 2017, the carrying amount of the System's commercial cash deposits was \$6,831,487 and the commercial bank balance was \$12,856,390. Of the bank balance, \$250,000 was insured by the Federal Deposit Insurance Corporation (FDIC). The remaining commercial bank balance is, per a depository pledge agreement between the System and the System's commercial bank, collateralized at 102% of the collected funds on deposit (increased by the amount of accrued but uncredited interest, reduced by deposits covered by FDIC). These collateral securities are held by the System's agent in the System's name.

Custodial cash is swept nightly from the custodial bank to an overnight short-term investment fund held outside the bank. Funds arriving at the bank after the overnight sweep deadline are part of the custodial bank cash reserve and are covered up to the FDIC limit, any amount in the cash reserve in excess of this limit is subject to custodial credit risk. The custodial bank carries insurance covering destruction of cash or securities on or off premises (including securities or others held in custody) with a limit of \$850,000,000 per occurrence.

## <u>Credit Risk – Investments</u>

*Credit risk for investments* is the risk that an issuer or other counterparty will not fulfill its obligations to the System and *custodial credit risk for investments* is the risk that, in the event of the failure of the counterparty to a transaction, the System will not be able to recover the value of investment or collateral securities that are in the possession of an outside party.

System policies provide protection from undue investment credit risk as follows:

- Direct obligations of the U.S. Treasury including bills, bonds, and repurchase agreements secured by those obligations.
- U.S. Treasury money market mutual funds must be SEC registered 2(a)–7 and AAA rated by at least two of Moody's, Standard & Poor's, or Fitch and whose investment guidelines are substantially equivalent to and consistent with the System's overall short-term investment criteria.
- Short selling and the use of leverage is not permitted.

There is no credit risk assigned to U.S. Treasury securities as these are explicitly guaranteed by the U.S. Government. It is important to note, however, that the value of U.S. Treasury obligations fluctuate based on non-credit-related factors, such as interest-rate movements, which could cause future price declines despite government backing.

## **Quality Rating**

Cash equivalents consist of \$109.2 million investment in Invesco Treasury Portfolio Short-Term Investments Trust and are not rated. The System additionally holds \$10,504.3 million in treasury securities which are explicitly guaranteed by the U.S. Government.

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of an investment in a single issuer. As of June 30, 2017, the PERS portfolio has no single issuer exposure that comprises 5% or more of the overall portfolio, excluding investments issued or explicitly guaranteed by the U.S. government. Therefore, there is no concentration of credit risk.

Equity portfolios shall be suitably diversified to the extent that an adversity affecting a particular sector or issuer will not impact a disproportionate share of the investment manager portfolio.

In addition, the investment policy requires that no more than 10% of the System's assets shall be managed on a permanent basis by a single investment firm in active strategies. A single firm may manage up to 30% of the System's assets on a permanent basis in index strategies. No asset manager may oversee more than 30% of the System's assets. The System's assets shall not permanently constitute more than 20% of any firm's assets within the asset class (equity, bonds, real estate, or private equity) managed for PERS.

Staff shall provide an annual report to the Board of assets under management consistent with this policy.

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment or a deposit. The System mitigates interest rate risk through portfolio diversification as discussed previously. The System's investment policy and investment portfolio counsel mandates permit investment only in bonds within the Barclays U.S. Treasury Index.

The actual years to maturity method is used to determine investment maturity time horizons. The following table shows the fair value of fixed income and short-term securities and the applicable investment maturities as of June 30, 2017.

## **INVESTMENT MATURITIES**

(in years)

<b>Investment Type</b>	Less			More	
(in millions)	than 1	1 to 5	6 to 10	than 10	Total
Cash equivalents*	\$ 109.2 \$	- \$	- \$	- \$	109.2
Treasury securities	 20.0	6,681.4	2,105.0	1,697.9	10,504.3
Total	\$ 129.2 \$	6,681.4 \$	2,105.0 \$	1,697.9 \$	10,613.5

<sup>\*</sup>Cash equivalents consist of investments in Invesco Treasury Portfolio Short-Term Investments Trust.

Investment maturities above have been provided by the System's custodial bank, The Bank of New York Mellon.

The above table does not include commercial cash of \$6.8 million and cash in custodial bank of \$39.1 million

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The System mitigates foreign currency risk through portfolio diversification as discussed previously, along with asset allocation policy limits on international assets. The System's investment policy maintains a target allocation to international stocks of 18%. All international stocks shall be invested in the MSCI EAFE Index.

The System's exposure to foreign currency risk in U.S. dollars as of June 30, 2017, is summarized in the following table.

## CURRENCY BY INVESTMENT AND FAIR VALUE

(in millions)

			Pending			
<b>Currency Type</b>	Equity	T	ransactions	Cash		Total
Australian Dollar	\$ 529.1		(0.4)	\$ -	\$	528.7
British Pound Sterling	1,328.2		0.1	2.4		1,330.7
Danish Krone	135.4		-	-		135.4
Euro	2,447.5		(0.9)	0.7		2,447.3
Hong Kong Dollar	242.1		-	0.3		242.4
Israeli Shekel	24.3		-	0.2		24.5
Japanese Yen	1,761.6		(3.9)	4.5		1,762.2
New Zealand Dollar	12.8		-	0.1		12.9
Norwegian Krone	45.6		-	0.4		46.0
Singapore Dollar	97.0		-	0.2		97.2
Swedish Krona	219.3		-	-		219.3
Swiss Franc	637.9	_			_	637.9
Total	\$ 7,480.8	\$	(5.1)	\$ 8.8	\$	7,484.5

## Derivatives

The System held no derivative transactions during the current fiscal year.

## Securities Lending

The System maintains a securities lending program by authorization of NRS 286.682, the "prudent person" standard previously described. Securities loaned under this program consist of U.S. Treasury Obligations, U.S. equity securities, and international equity securities. Collateral received consists of cash and securities issued by the U.S. Government, its agencies, or instrumentalities. The System has no discretionary authority to sell or pledge collateral received.

At June 30, 2017, the weighted average maturities were 1 day for loans outstanding and 3 days for collateral/reinvestments. Collateral received for the lending of U.S. securities must equal at least 102% of fair value, plus accrued interest in the case of fixed income securities. Collateral received for the lending of international securities must equal at least 105% of fair value, plus accrued interest in the case of fixed income securities. The securities lending program allows only overnight repurchase agreements collateralized by U.S. government obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities within the reinvestment portfolio. In addition, PERS' securities lending agent provides full indemnification against losses incurred in the collateral reinvestment program.

The System has no credit risk exposure to borrowers because the associated value of the collateral held exceeds the value of the securities borrowed. At June 30, 2017, the System had collateral, on an operational basis, of 103%. Collateral consisted of cash and securities issued by the U.S. Government, its agencies, or instrumentalities. In addition, securities loaned may not exceed 33½% of the total portfolio. Loss indemnification due to borrower default is provided by PERS' securities lending agent. There were no losses during the period resulting from borrower default.

The fair value of securities loaned at June 30, 2017, was \$5,022,445,189. Cash collateral received in securities lending arrangements is reported on the Statement of Fiduciary Net Position as an asset with a related liability.

The following table represents the collateral received for the outstanding securities lending transactions as of June 30, 2017.

	Cash	Non-Cash	Total
Collateral Received	\$ 377,917,975	\$ 4,777,076,897	\$ 5,154,994,872

For fiscal year 2017 the net income from security lending was \$5,206,183.

#### **NOTE 6 – Fair Value**

The System holds investments that are measured at fair value on a recurring basis. The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. Investments measured and reported at fair value using Level inputs are classified and disclosed in one of the following categories:

Level 1 – Quoted prices are available in active markets for identical investments as of the reporting date. The types of investments included in Level 1 include U.S. Treasuries securities and listed equities.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable.

Level 3 – Valuations derived from valuation techniques in which significant inputs or significant value drivers are unobservable.

The following table presents fair value measurements as of June 30, 2017:

## FAIR VALUE LEVELS

(in millions)

	_	6/30/2017		Level 1	 Level 2		Level 3	_	Total
Fixed income	\$	10,504.3	\$	10,504.3	\$ -	\$	- :	\$	10,504.3
Equities									_
Common stock		24,251.3		24,251.3	-		-		24,251.3
Preferred securities	_	39.3		39.3	-			_	39.3
Total equity securities		24,290.6		24,290.6	-		_		24,290.6
Total investments by									
fair value level	\$	34,794.9	\$	34,794.9	\$ -	\$		\$_	34,794.9
Investments measured at	_					•			
the net asset value (NAV)									
Private equity		1,677.3							
Real estate		1,789.2							
Total investments measured at the NAV	_	3,466.5	_						
Total investments	\$	38,261.4	-						

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities

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

The following table presents investments measured at the NAV as of June 30, 2017: (millions)

	_	Fair Value		Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Private equity* Real estate separate accounts**	\$	1,677.3 1,789.2	\$	1,119.1		
Total investments measured at the NAV	\$	3,466.5	\$_	1,119.1		

<sup>\*</sup>Private equity. This type includes a single portfolio investing in and acquiring private equity investment partnerships located in the United States and Europe. The System does not have the ability to withdraw its investments from these investment partnerships. Interest in an investment partnership can be transferred or sold only upon the approval of the general partner of the respective investment partnership.

For private equity investment partnerships, fair value considers, among other factors, the reported net asset value (NAV) of the investment as determined in good faith by the general partner of the respective investment partnership. Because of the inherent uncertainty in valuing investments in investment partnerships for which no active, public market exists, or where the net realizable value may be significantly affected by a lack of liquidity or other market conditions, the fair value reported is an estimate and could significantly differ from the value that could be realized in a secondary market transaction and/or from the amounts ultimately realized.

The general partners of the investment partnerships generally report NAV based on the fair value of the underlying portfolio companies, as well as the other assets and liabilities held by the investment partnership. Investments that have a negative fair value have losses allocated to the portfolio that exceed the amounts invested. Owing to the general partners' expertise and proprietary knowledge of the portfolio company investments, the System generally utilizes the NAV as the basis for the reported investment values. The System may, in good faith, apply an appropriate adjustment to the NAV reported by the general partner of the respective investment partnership, if deemed necessary.

Due to the reporting time frame of private investment fund managers, which report performance on a one-quarter lag from the end of the performance quarter, estimated market values as of June 30, 2017, are based on actual March 31, 2017, market values, adjusted for cash flows and common stock that was distributed but not yet sold as of June 30, 2017.

\*\*Real estate separate accounts. This type includes two core real estate separate accounts that invest in U.S. industrial, multi-family, office, and retail properties. The fair values of the investments in this type have been determined using the NAV per share. The property values are managed by the Altus Group which values the real estate assets on a quarterly basis and oversees the engagement of and management of third-party appraisers who value the properties annually. The System wholly owns the properties held in each separate account. The properties can be put up for sale at any time.

## **NOTE 7 – Net Pension Liability**

The components of the net pension liability at June 30, 2017, were as follows:

Total pension liability	\$ 51,986,097,492
Plan fiduciary net position	(38,686,253,408)
Net pension liability	\$ 13,299,844,084
Plan fiduciary net position as a percentage	
of the total pension liability	74.4%

## **Actuarial Assumptions**

The total pension liability was determined as part of the GASB Statement No. 67 actuarial valuation as of June 30, 2017. It is important to note that the GASB rules only redefine pension liability for financial reporting purposes. The System continues to develop and adopt funding policies under current practices. The actuarial assumptions were based on the results of an experience study for the period from July 1, 2012, through June 30, 2016.

The following assumptions were applied to all periods included in the measurement:

2.75%
4.25% to 9.15% for Regular members and
4.55% to 13.90% for Police/Fire members,
vary by service, including inflation
7.50%, including inflation

The Board evaluates and establishes expected real rates of return (expected returns, net of investment expenses and inflation) for each asset class. The Board reviews these capital market expectations annually. The System's current long-term geometric expected real rates of return for each asset class included in the fund's investment portfolio as of June 30, 2017, are included in the following table:

Asset Class	Long-Term Geometric Expected Real Rate of Return
Domestic Equity	5.50%
International Equity	5.75%
Domestic Fixed Income	0.25%
Private Markets	6.80%

## Discount Rate

The discount rate used to measure the total pension liability was 7.50% as of June 30, 2017. The projection of cash flows used to determine the discount rate assumed plan contributions will be made in amounts consistent with statutory provisions and recognizing the plan's current funding policy and cost-sharing

mechanism between employers and members. For this purpose, all contributions that are intended to fund benefits for all plan members and their beneficiaries are included, except that projected contributions that are intended to fund the service costs for future plan members and their beneficiaries are not included.

Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2017.

## Future Payroll Growth

In projecting plan contributions as described above, Fund experience was projected to be consistent with the valuation assumptions, except that payroll was projected to grow at 5% per year.

## Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	Current	
1% Decrease	Discount Rate	1% Increase
(6.50%)	(7.50%)	(8.50%)
\$ 20,105,650,986	\$ 13,299,844,084	\$ 7,647,514,976

## **NOTE 8 – Risk Management**

The System is exposed to various risks of loss related to theft of, damage to, and destruction of assets; injuries to employees and others; and court challenges to fiduciary decisions. To cover these risks, the System maintains commercial building and contents insurance, vehicle liability and collision/comprehensive insurance, general liability insurance, worker's compensation insurance, and employee fidelity bonds. For coverage included within the State of Nevada's policies, the System pays its premium directly to the State. The System's building/contents insurance is placed with a private insurance company. There have never been any insurance settlements which exceeded insurance coverage.

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## REQUIRED SUPPLEMENTARY INFORMATION

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

2013 to 2017 (in millions)

		2017
Total pension liability		
Service cost	\$	1,107.5
Interest		3,873.7
Change of plan provisions		-
Difference between expected and actual experience		(211.3)
Change of assumptions		1,046.0
Benefit payments, including refunds		(2,288.6)
Other changes		(0.4)
Net change in total pension liability		3,526.9
Total pension liability-beginning		48,459.2
Total pension liability-ending (a)	\$	51,986.1
Plan fiduciary net position		
Contributions-employer	\$	901.7
Contributions-employee		952.8
Net investment income		4,110.3
Benefit payments, including refunds		(2,288.6)
Administration expenses		(9.9)
Purchase of Service		16.2
Other		1.7
Net change in plan fiduciary net position	_	3,684.2
Plan fiduciary net position-beginning		35,002.0
Plan fiduciary net position-ending (b)	\$	38,686.2
Net pension liability-ending (a) - (b)	\$	13,299.9
Plan fiduciary net position		
as a percentage of total pension liability		74.42%
Covered employee payroll	\$	6,237.2
Net pension liability as a percentage		
of covered employee payroll		213.2%

Note: Complete data for this schedule is not available prior to 2013.

_	2016	2015	_	2014	_	2013
\$	1,086.5 \$	1,063.5	\$	1,058.8	\$	1,038.7
·	3,687.0	3,525.4		3,369.8		3,103.2
	-	_		10.0		_
	(245.8)	(529.6)		(585.2)		(514.3)
	-	-		·		1,459.8
	(2,138.6)	(1,983.9)		(1,839.8)		(1,707.8)
	-	(2.4)		(1.0)		-
_	2,389.1	2,073.0		2,012.6		3,379.6
	46,070.1	43,997.1		41,984.5		38,604.9
\$	48,459.2 \$	46,070.1	\$ _	43,997.1	\$ _	41,984.5
\$	849.8 \$	1,436.6	\$	1,405.0	\$	1,310.1
	850.2	114.3		109.7		99.2
	778.7	1,395.3		5,031.4		3,193.9
	(2,138.6)	(1,983.9)		(1,839.8)		(1,706.9)
	(10.6)	(9.6)		(9.6)		(9.6)
	61.2	80.1		41.8		46.5
	0.6	2.8	_	1.9		1.7
	391.3	1,035.6		4,740.4		2,934.9
_	34,610.7	33,575.1	_	28,834.7	_	25,899.8
\$ _	35,002.0 \$	34,610.7	\$ _	33,575.1	\$ _	28,834.7
\$ _	13,457.2 \$	11,459.4	\$ _	10,422.0	\$ _	13,149.8
	72.23%	75.13%		76.31%		68.68%
\$	6,081.1 \$	5,753.1	\$	5,715.3	\$	5,574.6
	221.3%	199.2%		182.4%		235.9%

## REQUIRED SUPPLEMENTARY INFORMATION

## SCHEDULE OF EMPLOYER CONTRIBUTIONS

2008 to 2017 (in millions)

Year Ended June 30	D	actuarially etermined ontributions	R	ontributions in delation to the Actuarially Determined Contributions*	D	ontribution eficiency Excess)	Covered Employee Payroll**	Contributions as a Percentage of Covered Employee Payroll
2008	\$	1,123.5	\$	1,167.4	\$	(43.9)	\$ 5,347.1	21.8 %
2009		1,202.1		1,213.1		(11.0)	5,724.8	21.2
2010		1,339.5		1,281.7		57.8	5,958.9	21.5
2011		1,326.8		1,264.8		62.0	5,911.9	21.4
2012		1,425.8		1,332.3		93.5	5,817.6	22.9
2013		1,370.0		1,310.1		59.9	5,574.6	23.5
2014		1,508.8		1,405.0		103.8	5,715.3	24.6
2015		1,499.8		1,436.7		63.1	5,753.1	25.0
2016		888.6		849.8		38.8	5,921.6	14.4
2017		912.6		901.7		10.9	6,081.1	14.8

<sup>\*</sup>Includes employer contributions towards administrative expenses.

Notes: Beginning with the year-ended 2016, all contributions shown reflect employer-paid contributions only, and employer-paid member contributions are excluded. Actuarially Determined Contributions above are based on actuarially determined contributions rates (employer portion only) from most recent rate-setting year prior to year shown, applied to covered payroll for year shown.

Information provided by Segal Consulting, the System's actuary.

## SCHEDULE OF INVESTMENT RETURNS

2008 to 2017

For Fiscal Year	Annual Money-Weighted Rate of Return,
Ended June 30	Net of Investment Expenses
2008	(3.26)%
2009	(15.57)
2010	11.12
2011	21.08
2012	3.05
2013	12.39
2014	17.60
2015	4.18
2016	2.27
2017	11.84

<sup>\*\*</sup> Measurement as of beginning of year.

## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION FOR THE YEAR ENDED JUNE 30, 2017

Legislation passed in the 2015 Legislative session made changes to a number of plan provisions. These changes were effective July 1, 2015, and apply only to members whose effective date of membership is on or after July 1, 2015. Changes to certain survivor benefit provisions were made effective for survivors of members killed in the line of duty or in the course of employment on or after July 1, 2013, for payments on or after July 1, 2015. The July 1, 2015, sunset on the critical labor shortage exception to the reemployment restrictions was repealed.

## Methods and Assumptions Used in Calculations of Actuarially Determined Contributions

The actuarially determined contribution rates in the schedule of contributions are calculated as of June 30, 2017. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule.

Actuarial Cost Method: Entry age normal

Amortization Method: Level percent of payroll

Remaining Amortization Period

The UAAL as of June 30, 2011, shall continue to be amortized over separate 30-year period amortization layers based on the valuations during which the separate layer was previously established.

Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period equal to the truncated average remaining amortization period of all prior UAAL layers. This will occur until the average remaining amortization period is less than 20 years. At that point, amortization periods of 20 years would be used for actuarial gains and losses.

Any new UAAL as a result of a change in actuarial assumptions or methods or a change in plan provisions will be amortized over a period equal to the truncated average remaining amortization period of all prior UAAL layers. This would occur until the average remaining amortization period is less than 20 years. At that point, amortization periods of 20 years would be used for assumption or method changes.

## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION FOR THE YEAR ENDED JUNE 30, 2017

Asset Valuation Method: 5-year smoothed market

Assumed Inflation Rate: 2.75%

Payroll Growth Assumption for Future 5.5% per year for regular employees and

Years: 6.5% per year for police/fire employees

Investment Return: 7.5% (including 2.75% for inflation)

Mortality Rates (Regular and Police/Fire):

Headcount–Weighted RP-2014 Healthy Annuitant

Table projected to 2020 with Scale MP-2016, set forward one year for spouses and beneficiaries.

For ages less than 50, mortality rates are based on the Headcount–Weighted RP-2014 Employee

Mortality Tables. Those mortality rates are adjusted

by the ratio of the mortality rate for healthy annuitants at age 50 to the mortality rate for employees at age 50. The mortality rates are then

projected to 2020 with Scale MP-2016.

Disabled: Headcount–Weighted RP-2014 Disabled Retiree

Table, set forward four years.

Pre-Retirement: Headcount–Weighted RP-2014 Employee Table,

projected to 2020 with Scale MP-2016.

The RP-2014 Headcount—Weighted Mortality Tables, set forward one year for spouses and beneficiaries, reasonably reflect the projected mortality experience of the Plan as of the measurement date. The additional projection of 6 years is a provision made for future mortality improvement.

## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION FOR THE YEAR ENDED JUNE 30, 2017

Salary Increases:

Inflation: 2.75% Plus

Productivity pay increases: 0.50% Plus

Promotional and merit salary

increases:

Years of Service	Regular	Police/Fire
Less than 1	5.90%	10.65%
1	4.80	7.15
2	4.00	5.20
3	3.60	4.60
4	3.30	4.30
5	3.00	4.15
6	2.80	3.90
7	2.70	3.50
8	2.50	3.15
9	2.35	2.90
10	2.15	2.50
11	1.75	1.90
12	1.50	1.50
13	1.25	1.30
14	1.10	1.30
15 or more	1.00	1.30

Changes in Actuarial Assumptions and Methods:

Based on the June 30, 2016 Actuarial Experience Study, the following assumptions were changed. Previously, these assumptions were as follows:

*Net Investment Return:* 8.00% (including 3.50% for inflation).

Consumer Price Index: Increase of 3.50% per year.

Salary Increases: Inflation: 3.50% Plus

*Productivity pay increases:* 0.75% Plus

## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION FOR THE YEAR ENDED JUNE 30, 2017

Promotional and merit salary increases:

Years of Service	Regular	Police/Fire
Less than 1	5.50%	10.25%
1	4.25	6.55
2	3.50	5.15
3	3.25	4.55
4	3.00	4.25
5	2.75	4.05
6	2.40	3.75
7	2.25	3.25
8	1.85	2.75
9	1.75	2.25
10	1.50	1.75
11	1.00	1.50
12	0.80	1.25
13 or More	0.35	1.00

Total Payroll Growth: Regular: 6.50% Police/Fire: 7.50%

Post-Retirement Benefit Increases: For current retirees and beneficiaries, future Post-

Retirement Benefit Increases reflect actual changes in historical CPI and are assumed to follow the formulas described in Exhibit III of this section. For future retirees, those hired prior to 2010 are assumed to reach the cap after 24 years of retirement. Those hired in 2010 or later are assumed to reach the cap after 39 years of retirement. Underlying all of these assumptions is that CPI will grow over time at a rate

of 3.50% per year.

*Mortality Rates:* 

Healthy: Regular: RP-2000 Combined Healthy Mortality Table

projected to 2013 with Scale AA, set back one year

for females (no age setback for males).

*Police/Fire:* RP-2000 Combined Healthy Mortality Table

projected to 2013 with Scale AA, set forward one

year.

Disabled: Regular and RP-2000 Disabled Retiree Mortality Table projected

*Police/Fire:* to 2013 with Scale AA, set forward three years.

The assumptions for retirement rates and termination rates before retirement changed but are not included.

## SCHEDULE OF ADMINISTRATIVE EXPENSES For the Year Ended June 30, 2017 (GAAP Basis)

Personnel services:			
Staff payroll and benefits	\$	5,380,569	
Board fees		12,000	
Total personnel services			\$ 5,392,569
Out-of-state travel:			
Staff		18,378	
Board		1,835	
Police/Fire committee		2,513	
Total out-of-state travel			22,726
In-state travel:			
Staff		61,475	
Board		20,596	
Police/Fire committee	_	2,775	
Total in-state travel			84,846
Operating:			
Office supplies		19,227	
Equipment less than \$1,000		11,271	
Postage and freight		366,423	
Communications		41,000	
Printing		221,133	
Publications and periodicals		3,151	
Bonds and insurance premiums		13,325	
Contract services		968,493	
Vehicle expense		810	
Equipment rental and repair		16,142	
Building rental		263,681	
License and fees		1,575	
Client communication		79,972	
Dues and registration		39,078	
Medical expenses		37,878	
Host expense		140	
Litigation expense	_	168,678	
Total operating			2,251,977
Equipment and office furniture, net			13,120
Information technology, net			1,694,062
Training			29,247
Attorney General Allocation			 381,737
Total administrative expenses			\$ 9,870,284

## SCHEDULE OF ADMINISTRATIVE EXPENSES

For the Year Ended June 30, 2017 (Non-GAAP Budgetary Basis) Budget vs. Actual

				Actual		Variance Under
		Budget		Expenditures		(Over)
Personnel services	\$	5,614,030	\$	5,358,345	\$	255,685
Out-of-state travel		47,324		22,727		24,597
In-state travel		90,555		84,846		5,709
Operating		2,158,274		2,251,977		(93,703)
Equipment and office furniture		-		4,570		(4,570)
Information technology		2,881,827		2,444,541		437,286
Training		79,715		29,247		50,468
Attorney general allocation		-		381,737		(381,737)
Unallocated budgetary authority	_	200,000	_	<u>-</u>	_	200,000
Total administrative expenses	\$_	11,071,725	\$_	10,577,990	\$_	493,735

## Reconciliation of GAAP Basis Administrative Expenses to Non-GAAP Budgetary Basis For the Year Ended June 30, 2017

The budget and actual (non-GAAP budgetary basis) schedules present comparisons of the legally adopted budget with actual data on a budgetary basis. Since accounting principles applied for purposes of developing data on a budgetary basis sometimes differ significantly from those used to present financial statements in conformity with generally accepted accounting principles, a reconciliation of resulting differences is presented for the year ended June 30, 2017.

Administrative Expenses (Non-O	GAAP Budgetary Basis)	\$ 10,577,990
Adjustments:		
A	accrued payroll	34,223
D	Depreciation expense	1,315,888
C	Capitalization of system projects	 (2,057,817)
Administrative Expenses (GAAl	P Basis)	\$ 9,870,284

## SCHEDULE OF INVESTMENT EXPENSES

For the Year Ended June 30, 2017

Investment management fees	\$	44,442,465
Investment consulting fees	_	675,542
Subtotal investment management and consulting fees		45,118,007
Investment monitoring expenses		4,858
Administrative investment expenses		413,243
	_	
Total investment expenses	\$	45,536,108

## SCHEDULE OF PAYMENTS TO CONSULTANTS

For the Year Ended June 30, 2017

Actuary	
The Segal Company	\$ 525,222
Independent Auditors	
CliftonLarsonAllen LLP	156,500
Administrative Legal Counsel	
Groom Law Group	553
Woodburn and Wedge	74,954
McDonald Carano	94,067
State Attorney General	381,737
Medical Consultant	
B Bottenberg, D.O.	36,204
Kathleen Stoner, R.N.	1,674
Total payments to consultants	\$ 1.270.911

Note: Information on payments made to investment professionals can be found in the Investment Section.

## COMBINING SCHEDULE OF FIDUCIARY NET POSITION

June 30, 2017

(With Comparative Totals for June 30, 2016)

		Dec 1se	D.P/E'	Etatoston	Total Pension Trust Fund	Total Pension Trust Fund
ASSETS	_	Regular	Police/Fire	Eliminations	2017	2016
Cash and cash equivalents	\$	155,681,189 \$	- \$	- \$	155,681,189 \$	209,333,614
Contributions receivable		163,139,100	-	-	163,139,100	134,973,348
Pending trades receivable		198,725,111	-	-	198,725,111	120,155,081
Accrued investment income		109,058,611	-	-	109,058,611	97,208,833
Investments, at fair value Collateral on loaned securities,		38,261,391,567	-	-	38,261,391,567	34,617,238,271
at fair value		377,917,975	-	-	377,917,975	411,128,913
Property and equipment		43,608,737	_	_	43,608,737	41,550,920
Accumulated depreciation		(38,994,666)	-	-	(38,994,666)	(37,678,778)
Net property and equipment	_	4,614,071	-	-	4,614,071	3,872,142
Other assets Due from other funds-		3,352,174	-	-	3,352,174	2,916,621
equity in investments	_	<del>-</del>	8,651,642,735	(8,651,642,735)	<u> </u>	
Total plan assets	_	39,273,879,798	8,651,642,735	(8,651,642,735)	39,273,879,798	35,596,826,823
LIABILITIES						
Accounts payable and						
accrued expenses		12,909,341	-	-	12,909,341	11,279,040
Pending trades payable		196,799,074	-	-	196,799,074	172,389,964
Due to other funds - equity						
in investments		8,651,642,735	-	(8,651,642,735)	-	-
Obligations under securities						
lending activities	_	377,917,975	<u> </u>		377,917,975	411,128,913
Total plan liabilities	_	9,239,269,125	<u> </u>	(8,651,642,735)	587,626,390	594,797,917
Net position restricted						
for pensions	\$_	30,034,610,673 \$	8,651,642,735 \$	\$	38,686,253,408 \$	35,002,028,906

## COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

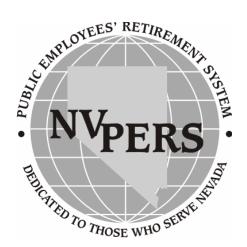
For the Year Ended June 30, 2017

(With Comparative Totals for the Year Ended June 30, 2016)

		Regular	Police/Fire	Total Pension Trust Fund 2017	Total Pension Trust Fund 2016
ADDITIONS	_	Regular	1 once/ Tire	2017	2010
Contributions:					
Employer	\$	703,045,853 \$	198,698,356 \$	901,744,209 \$	849,748,895
Plan members		703,110,419	198,633,790	901,744,209	849,748,896
Repayment and purchase of service		42,508,492	24,721,936	67,230,428	61,736,428
Total contributions	_	1,448,664,764	422,054,082	1,870,718,846	1,761,234,219
Investment income:					
Net appreciation (depreciation) in fair					
value of investments		3,247,916,381	-	3,247,916,381	(72,040,745)
Interest		210,880,421	-	210,880,421	191,695,946
Dividends		571,620,668	-	571,620,668	552,629,496
Other investment income	_	120,178,514	<u> </u>	120,178,514	139,896,529
		4,150,595,984	-	4,150,595,984	812,181,226
Less investment fees and other expense	_	(45,536,108)	<u> </u>	(45,536,108)	(39,307,761)
Net investment income	_	4,105,059,876	<del>-</del> -	4,105,059,876	772,873,465
Securities lending income		8,565,263	-	8,565,263	8,315,687
Less securities lending expense	_	(3,359,080)	<u> </u>	(3,359,080)	(2,492,288)
Net securities lending income	_	5,206,183	<u> </u>	5,206,183	5,823,399
Total net investment income	_	4,110,266,059	<u>-</u> -	4,110,266,059	778,696,864
Other income	_	1,577,874	565,804	2,143,678	1,944,374
Total additions	_	5,560,508,697	422,619,886	5,983,128,583	2,541,875,457
DEDUCTIONS					
Benefit payments:					
Retirement and survivor benefits		1,720,012,931	432,854,910	2,152,867,841	2,007,732,522
Disability		81,509,847	23,847,527	105,357,374	104,125,858
Refunds of contributions		24,452,029	5,936,145	30,388,174	26,757,635
Transfer of contributions		418,673	-	418,673	0
Administrative expenses		9,870,284	-	9,870,284	10,573,149
Other expenses  Total deductions	_	1,734 1,836,265,498	462,638,583	1,735 2,298,904,081	1,377,571 2,150,566,735
Increase (decrease) in net position	_	3,724,243,199	(40,018,697)	3,684,224,502	391,308,722
•		2,72 ,,2 12,123	(10,010,057)	3,00 1,22 1,002	371,300,722
Transfers:		1.004.016	(1.004.01.0		
Interfund transfers		1,824,016	(1,824,016)	-	-
Transfer of annual investment income		(916,589,331)	916,589,331	-	-
Trans fer of administrative fees Total trans fers	_	1,053,150 (913,712,165)	(1,053,150) 913,712,165		-
Not west in restricted for west	_				
Net position restricted for pensions:  Beginning of year		27,224,079,639	7,777,949,267	35,002,028,906	34,610,720,184
End of year	\$	30,034,610,673 \$	8,651,642,735 \$	38,686,253,408 \$	35,002,028,906
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**FINANCIAL SECTION** 

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## **INVESTMENT SECTION**

## **CURRENT INVESTMENT ADVISORS**

## **INVESTMENT CONSULTANTS**

Callan Associates, Inc. Jobs Peak Advisors

## **INVESTMENT COUNSEL**

**Domestic Equities**: AB BlackRock

<u>International Equities</u>: Mellon Capital State Street Global Advisors

**Domestic Fixed Income**: Payden & Rygel **UBS** Global Asset Management

**Private Equity**: Pathway Capital Management

> Private Real Estate: **AEW** Invesco Real Estate

Securities Lending: The Bank of New York Mellon



November 21, 2017

The Public Employees' Retirement System of Nevada (PERS) investment portfolio successfully concluded the 2017 fiscal year on June 30, 2017.

This fiscal year began with the global equity markets' tumultuous response to the Brexit vote but ended strong as economic growth in the U.S. continued and previously anemic growth in Europe began to rebound. Interest rates remain at depressed levels as the 10-year U.S. Treasury yield ended 2016 below 2.0% but rose to as high as 2.7% during the second half of the fiscal year dragging down bond portfolio returns.

As of fiscal year end, assets of the Nevada PERS portfolio were \$38.5 billion representing an increase of over \$3 billion. The total return for the portfolio, net of fees, was 11.9%, a gain of 3.9% over the long-term actuarial discount rate of 8.0%. The strong performance of the fund over 10 years places PERS in the 10<sup>th</sup> percentile of all large public defined benefit plans. Since inception, over the past 33 years, the Nevada PERS portfolio has earned 9.3% on a net of fee basis, ranking the plan higher than 63% of large public plans.

The investment process for the Nevada PERS portfolio follows the research-proven principle that asset allocation decisions drive over 90% of the variation in a total fund's investment returns. The portfolio is managed using a disciplined, focused strategy that employs low cost index funds to gain exposure to liquid asset classes (public equities and U.S. Treasuries), and separate account structures to invest directly in private, less liquid, asset classes (private equity and private real estate.)

Asset Allocation for Nevada PERS as of fiscal year-end 2017 was 43.7% in U.S. stocks, 19.6% in International stocks, 27.7% in U.S. bonds, 4.7% in Private Real Estate, and 4.3% in Private Equity. The diversified portfolio is positioned for growth but counterbalanced by the large allocation to U.S. Treasury securities.

Julia Bonafede, CFA

President

## **INVESTMENT REVIEW**

## Introduction

The investment program is designed to generate a long-term return that meets the System's objective while minimizing risk. The structure and administration of the portfolio is defined by the prudent person standard. The standard states that the Board may invest the System's funds in every type of investment which persons of prudence, discretion, and intelligence acquire or retain for their own account under similar circumstances. The Board's investment philosophy centers on time tested investment principles such as maintaining consistent exposure to the capital markets, buying assets at lower prices and selling them at higher prices through disciplined rebalancing, and keeping costs low by utilizing index management. Developing a sound long-term investment strategy and faithfully adhering to that strategy in both strong and weak market environments has been a key element in the fund's success.

The System's investment assets reported in the Investment Section are presented on the same basis of accounting as described in Note 1 of the Notes to Financial Statements, fair value.

The System's Investment Objectives and Policies detail the fund's long-term investment goals, management responsibilities, return/risk expectations, and monitoring requirements. These policies are subject to change at any time by the Board and are reviewed thoroughly at least annually to ensure that they continue to reflect the System's expectations.

## Objective

The investment objective of the System is to:

- Generate an 8% long-term investment return which exceeds the rate of inflation (CPI) by 4.5% by capturing market returns within each asset class.
- Invest so that the short-term volatility of returns will not cause the System to alter its long-term strategy.
- Structure an investment program which is sufficiently uncomplicated to control the ability to consistently meet return and risk objectives.

In October 2017, the System's actuary presented the results of an experience study which included recommended assumption changes affecting fiscal year 2017 forward. The recommended changes to PERS' actuarial assumptions were adopted by the PERS Board and are reflected on page 51. Included in the adopted changes was a reduction of PERS' investment return assumption from 8.0% to 7.5%. The System will undergo an asset allocation review in fiscal year 2018 to incorporate the assumption changes into the investment policies.

Chart 1, on page 68, demonstrates that the investment portfolio, over the last ten years, has captured the blended real return (inflation) objective in five of those years. The objective was CPI + 3.0% until September 30, 2000; CPI + 3.5% from October 1, 2000 through September 30, 2002; CPI + 3.75% from October 1, 2002 through September 30, 2003; and CPI + 4.5% thereafter. Chart 2, on page 68, details annualized returns for long-term periods ended June 30, 2017. The System's 11.9% return for fiscal year 2017 was driven primarily by strong returns from global equity markets while rising interest rates dampened returns from bonds.

Note: Inception on Chart 2 refers to July 1, 1984, the date the System began calculating total return versus annual yield. For all other charts, inception refers to the point at which the System began including that particular investment vehicle in the portfolio.

## **Asset Allocation**

Asset allocation is the most significant factor influencing the risk and return of the investment program. Since inception more than 90% of the System's investment performance is explained by asset allocation. Determination of the fund's long-term asset allocation involves estimating the expected return and risk of major types of investments and blending them into a portfolio which meets the System's risk/return objectives.

To establish an appropriate long-term asset allocation strategy, the Board evaluates expected return and risk for each of the major asset types (stocks, bonds, private markets). These asset classes are then combined in the most efficient manner possible to construct a portfolio that matches the risk and return needs of the fund. By diversifying the System's investments in multiple asset classes the Board is able to reduce the volatility of annual investment earnings. The Board reviews capital market expectations and asset allocation annually. In addition, the Board employs a disciplined rebalancing policy to manage market volatility and to ensure the portfolio's exposures are consistent with the System's long-term asset targets.

The long-term target allocation for the fund as of June 30, 2017, was 30% U.S. Fixed Income, 42% U.S. Equity, 18% International Equity, and 10% Private Markets. The June 30, 2017, asset class allocation by Manager Directive is shown in Chart 3, page 69.

## Diversification

After the asset allocation strategy is established, the Board implements a portfolio management structure that is designed to capture the market objective in each asset class. The most efficient and cost effective way to capture market returns is by gaining market exposures through fully replicated index funds. As a result, the System employs a 100% index structure in all public market asset classes. The U.S. Stock allocation is indexed to the S&P 500 Index, which represents roughly 80% of the total U.S. stock market capitalization. Similarly, the International Stock allocation is 100% indexed to the MSCI EAFE Index which represents 85% of the market capitalization within the 21 developed market countries included in the index. Combined, the System's total stock exposure represents more than 80% of the global public equity market.

The System's fixed income allocation has historically emphasized index management and in fiscal year 2015 the Board elected to move to a 100% Barclays U.S. Treasury Index structure. The transition to a 100% Treasury Index structure removed credit risk from the fixed income allocation and increased total fund diversification. The System's overall portfolio is well diversified by asset class, investment structure, and individual security. The System's portfolio currently holds over 1,700 individual securities from 22 different countries.

Chart 4, on page 70, shows the fair value of the assets under management by investment type, category, and manager. A list of the ten largest Equity and Fixed Income holdings based on fair value at June 30, 2017, is included in Chart 5 on page 71. A complete list of security holdings is available upon request.

## **INVESTMENT SECTION**

## **Investment Class Objectives**

In order to achieve the total fund objectives, each asset type is assigned return objectives (listed below). Progress toward those benchmarks is closely monitored.

U.S. Equity - Produce a total return that captures the Standard & Poor's 500 Common Stock Index over rolling 10-year periods with commensurate volatility.

International Equity

- Produce a total return that captures the unhedged Morgan Stanley Capital International Europe, Australia, Far East (MSCI EAFE) Index over rolling 10-year periods with commensurate volatility.

U.S. Fixed Income

- Produce a total return that captures the Barclays U.S. Treasury Index over rolling 10-year periods with commensurate volatility.

Private Markets

Produce a total return that captures the blended return (based on PERS actual allocation) of: the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index -0.75%, and S&P 500 Index + 4% over rolling 10-year periods with commensurate volatility.

Each of the System's investment managers agrees to a performance benchmark which, when all the benchmarks in an investment class are combined, is expected to produce the class objective.

## **Investment Performance**

The System's custody bank calculates performance for the total fund, each asset class, and individual investment management firms employed by the Board. Performance calculations are prepared using time-weighted rate of return based on fair values. Returns in this report are gross of fees.

Chart 6, shown on page 72, shows a year-by-year comparison of how the total fund and each investment class compared with its corresponding objective.

Charts 7-9, on pages 73-74, compare 1, 3, 5, 10-year, and since-inception returns for each asset class to the corresponding objective for periods ended June 30, 2017.

Chart 10, on page 74, shows Private Markets returns for the fiscal year ended June 30, 2017, compared to since-inception returns using a blended objective.

The bull market in U.S. Equity continued through fiscal year 2017 producing strong returns from the asset class. The U.S. Equity allocation experienced a 17.8% return for the fiscal year and is up 14.8% for the five-year period ending June 30, 2017. The System employs a 100% indexed structure in the asset class which keeps costs low and minimizes the variability of returns that is traditionally associated with active management.

After experiencing negative returns in fiscal year 2016, the International Equity portfolio rebounded in fiscal year 2017 returning 20.6% for the period. Country exposure in the international equity allocation is entirely in developed markets, and like the U.S. Equity portfolio, the allocation employs a 100% indexed structure.

The U.S. fixed income allocation is 100% indexed to the Bloomberg Barclays U.S. Treasury Index. Limiting the fixed income allocation to U.S. Treasury securities eliminates credit risk from the allocation which increases diversification at the total fund level. However, despite the lack of credit risk in the allocation, the bond portfolio remains sensitive to the direction of interest rates. Fiscal year 2017 witnessed 10-year U.S. Treasury yields increase from below 2.0% to as high as 2.7% during the second half of the fiscal year. Bond prices have an inverse relationship to the direction of interest rates, so a rising rate environment puts pressure on fixed income returns. As a result of the rising interest rate environment, the U.S. fixed income allocation experienced a negative 2.4% return for the fiscal year.

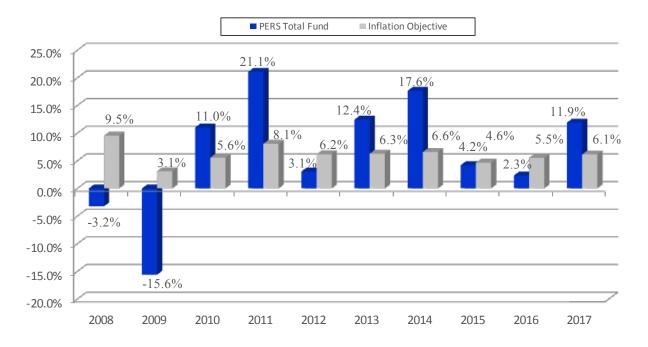
The Private Markets portfolio, which is comprised of private real estate and private equity, has 13<sup>3</sup>/<sub>4</sub> years of performance history as an asset class. The allocation experienced positive absolute returns during fiscal year 2017. While the Private Markets allocation underperformed the objective over the 2017 fiscal year, the portfolio remains above the market objective over the 10-year period and since inception.

This report has been prepared in conjunction with the System's investment consultants, Jobs Peak Advisors and Callan Associates.

## INVESTMENT PERFORMANCE VS. OBJECTIVE

## **CHART 1**

## Individual Fiscal Year Return vs. Inflation Objective Periods Ended June 30



## **CHART 2**

## Annualized Total Returns vs. Market Objective and Inflation Objectives \* As of June 30, 2017

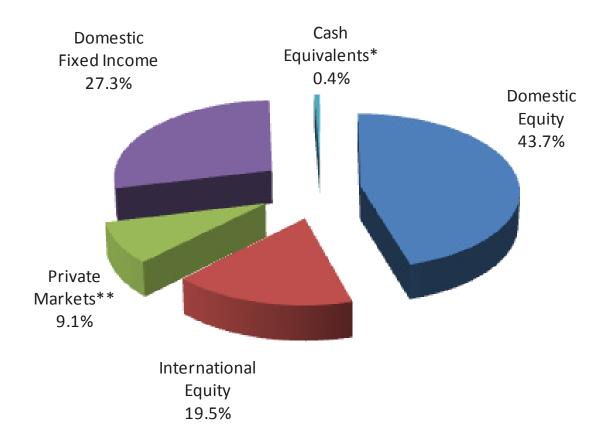


\*CPI + 3.0% until September 2000, CPI + 3.5% from October 1, 2000 through September 30, 2002, CPI + 3.75% from October 1, 2002 through September 30, 2003, and CPI + 4.5% thereafter.

Performance calculations are prepared using time-weighted rate of return (gross of fees) based on fair values.

# CHART 3 ASSET MIX

**JUNE 30, 2017** 



<sup>\*</sup>Includes cash held by investment managers.

<sup>\*\*</sup>Includes 4.4% Private Equity and 4.7% Private Real Estate.

## **CHART 4**

## Fair Value of Assets by Investment Directive June 30, 2017

	Fair Value		Percent of Total Fair Value
EQUITIES	Tun value		Tun value
Domestic Index Managers			
AB - S&P	8,385,960,018		
BlackRock - S&P 500	8,390,664,012		
Subtotal	16,776,624,030		43.7
International Index Managers			
Mellon Capital	4,853,576,302		19.5
State Street Global Advisors	2,660,374,256		
Subtotal	7,513,950,558		
Private Equity			
Pathway Capital Management	1,677,291,420		4.4
Total Equities		\$ 25,967,866,008	67.6
FIXED INCOME			
Domestic Index Managers			
Mellon Capital	-		
Payden & Rygel - US Bond Index	5,262,340,150		
UBS Global Asset Management - US Bond	5,241,965,411		
Subtotal	10,504,305,561		27.3
Total Fixed Income		10,504,305,561	27.3
PRIVATE REAL ESTATE			
AEW Realty	765,225,721		
Invesco Realty Advisors	1,021,558,633		
Invesco Realty Advisors Takeover	2,435,644		
Total Real Estate		1,789,219,998	4.7
SHORT-TERM INVESTMENTS			
Cash Equivalents	148,849,702		
Total Short-Term Investments		148,849,702	0.4
TOTAL PORTFOLIO		\$ 38,410,241,269	100.0 %

Total portfolio does not include pending trades receivable of \$197,725,111, accrued interest income of \$109,058,611, and pending trades payable of \$196,799,074.

The Statement of Fiduciary Net Position contains \$6,831,487 in administrative cash, which does not appear on this schedule.

## **CHART 5**

## LIST OF LARGEST ASSETS HELD

## **Largest Equity Holdings**

June 30, 2017

Ranking	Name	Fair Value
1	APPLE INC	\$ 604,514,445
2	MICROSOFT CORP	428,433,243
3	AMAZON.COM INC	309,200,496
4	FACEBOOK INC	287,313,279
5	JOHNSON & JOHNSON	286,896,132
6	EXXON MOBIL CORP	275,392,796
7	JP MORGAN CHASE & CO.	261,426,302
8	BERKSHIRE HATHAWAY INC	259,012,460
9	ALPHABET INC-CL A	222,808,968
10	ALPHABET INC-CL C	218,376,906

## **Largest Fixed Income Holdings**

June 30, 2017

Ranking	Name			Fair Value
1	U S TREASURY NOTE	2.625%	11/15/2020	\$ 176,816,785
2	U S TREASURY NOTE	1.375%	06/30/2023	152,690,984
3	U S TREASURY NOTE	1.500%	08/31/2018	144,862,516
4	U S TREASURY NOTE	2.375%	08/15/2024	142,498,244
5	U S TREASURY NOTE	1.625%	12/31/2019	136,185,789
6	U S TREASURY NOTE	0.875%	07/31/2019	135,046,719
7	U S TREASURY NOTE	1.375%	03/31/2020	131,564,944
8	U S TREASURY NOTE	2.250%	11/15/2024	129,758,796
9	U S TREASURY NOTE	0.875%	07/15/2018	127,893,009
10	U S TREASURY NOTE	2.500%	05/15/2024	126,034,405

Note: A complete list of the portfolio's holdings can be obtained upon request.

**CHART 6** SUMMARY OF ACTUAL PERFORMANCE VS. OBJECTIVES (% Returns)

	U.S.	INT'L	U.S.	INT'L	PRIVATE	TOTAL
	<u>EQUITY</u>	<u>EQUITY</u>	<u>FIXED INC.</u>	<u>FIXED INC.</u>	<u>MARKETS</u>	<u>FUND</u>
Fiscal Year 2008 Total Return Objective	-11.7	-10.9	6.4	18.4	3.5	-3.2
	-13.1	-10.6	7.1	18.7	-2.5	-4.0
Fiscal Year 2009 Total Return Objective	-25.4	-31.5	5.9	3.4	-27.6	-15.6
	-26.2	-31.4	6.1	3.5	-23.8	-16.1
Fiscal Year 2010 Total Return Objective	13.8	6.1	10.6	1.5	6.2	11.0
	14.4	5.9	9.5	1.5	7.8	10.7
Fiscal Year 2011 Total Return Objective	31.8 30.7	30.5 30.4	4.2 3.9	14.1 14.0	22.9 24.0	21.1 20.8
Fiscal Year 2012 Total Return Objective	4.7	-13.6	7.5	0.4	10.4	3.1
	5.5	-13.8	7.5	0.4	12.3	3.6
Fiscal Year 2013 Total Return Objective	21.3	19.4	-0.3	-5.8	7.7	12.4
	20.6	18.6	-0.7	-5.7	15.8	12.6
Fiscal Year 2014 Total Return Objective	24.8	23.5	4.6	N/A	14.2	17.6
	24.6	23.9	4.4	N/A	17.9	17.6
Fiscal Year 2015 Total Return Objective	7.4	-3.9	2.0	N/A	13.9	4.2
	7.4	-4.2	2.0	N/A	11.8	4.1
Fiscal Year 2016 Total Return Objective	4.0	-9.8	6.3	N/A	8.6	2.3
	4.0	-10.2	6.2	N/A	9.3	2.8
Fiscal Year 2017 Total Return Objective	17.8	20.5	-2.4	N/A	13.3	11.9
	17.9	20.3	-2.3	N/A	13.5	11.5

#### **Objectives**

U.S. Equity – S&P 500

Int'l Equity – MSCI-EAFE

U.S. Fixed Income - Barclays U.S. Treasury Index

Private Markets - Portfolio weighted blend of NCREIF -0.75% and S&P 500 + 4%

#### Total Fund:

Until September 30, 2000 – CPI + 3%

October 1, 2000 – September 30, 2002 – CPI + 3.5%

October 1, 2002 – September 30, 2003 – CPI + 3.75%

October 1, 2003 thereafter - CPI + 4.5%

Performance calculations are prepared using time-weighted rate of return (gross of fees) based on fair values.

#### INVESTMENT PERFORMANCE VS. OBJECTIVE

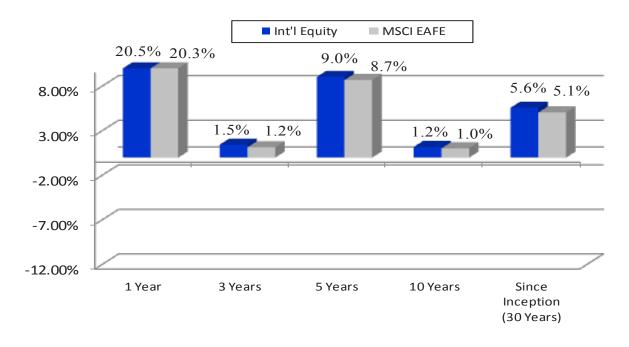
#### **CHART 7**

## U.S. Equity vs. S&P 500 As of June 30, 2017



CHART 8

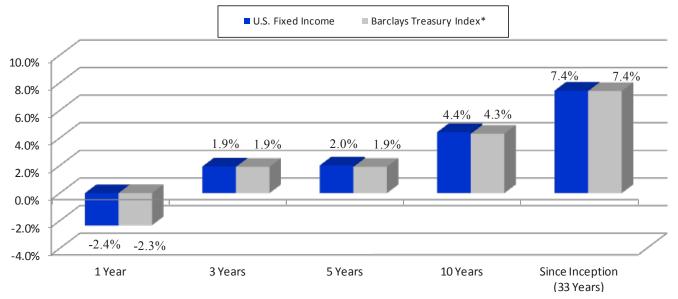
# International Equity vs. MSCI EAFE As of June 30, 2017



#### INVESTMENT PERFORMANCE VS. OBJECTIVE

#### **CHART 9**

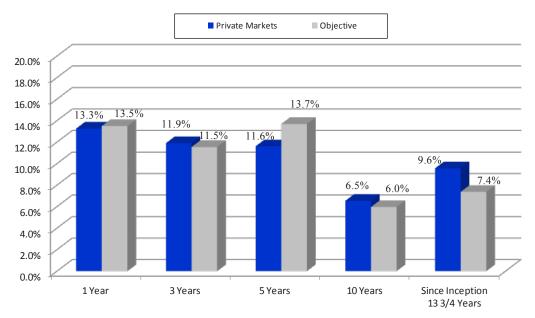
# U.S. Fixed Income vs. Barclays Treasury Index As of June 30, 2017



<sup>\*</sup>US Bonds Benchmark is the Barclays US Aggregate Index until 3/31/2015 and the Barclays Treasury Index thereafter.

#### **CHART 10**

## Private Markets vs. Blended Objective\* As of June 30, 2017



#### \* Blended Objective:

51.1% NCREIF -0.75% 48.9% S&P 500 + 4.0%

Target adjusted quarterly, based on beginning fair values.

#### CHART 11

## SCHEDULE OF FEES AND COMMISSIONS

For Year Ended June 30, 2017 (Page 1 of 2)

Name/Firm	Investment Mandate	Amount Under Management at June 30, 2017		Fees Incurred
Investment Management Fees				
Domestic and International Equity Mana	gers _			
AB S&P 500 BlackRock S&P 500	U.S. Index U.S. Index	\$ 8,410,116,744 8,413,794,322	\$	515,373 519,536
Mellon Capital State Street Global Advisors	Int'l Index Int'l Index	4,884,450,844 2,678,702,614		691,380 481,419
Domestic and International Fixed Income	e Managers			
Payden & Rygel UBS Global Asset Management	U. S. Index U. S. Index	5,292,355,099 5,285,611,212		501,541 509,916
Private Equity Manager Pathway Capital Management Private Equity General Partner Fe	es	1,707,527,694		4,393,515 29,077,728
Private Real Estate Managers  AEW Realty Invesco Realty Advisors Invesco Realty Advisors Takeove	r	764,380,359 1,020,412,873 2,432,909		3,213,353 4,527,688 11,016
Subtotal investment management fees			<del>-</del>	44,442,465
<b>Investment Consulting Fees</b>				
Investment Consultants				
Callan Associates				316,872
Peavine Capital Jobs Peak Advisors			_	163,231 195,439
Subtotal investment consulting fees			=	675,542
Total investment management and consu	lting fees		\$	45,118,007

Other investment expenses of \$418,101 are not included in the fees listed above.

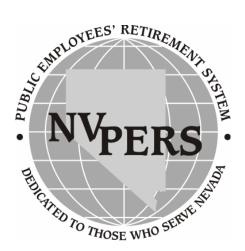
## CHART 11

## SCHEDULE OF FEES AND COMMISSIONS

For Year Ended June 30, 2017 (Page 2 of 2)

	(1 uge 2 012)	•	
	Number of	Commissions	Commission Per Share
Brokerage Firm	Shares Traded	Paid	(rounded)
Banque Paribas	1,700	43	\$ 0.03
Barclays	1,991,113	8,432	0.00 *
BMO Capital Markets	9,525	29	0.00 *
Cantor Fitzgerald	17,110	69	0.00 *
CIMB	35,000	54	0.00 *
Citation Group	1,154,800	5,774	0.01
Citigroup	6,098,063	28,012	0.00 *
CLSA	1,353,855	10,564	0.01
Credit Lynnais	1,278,171	4,825	0.00 *
Credit Suisse	2,231,708	8,026	0.00 *
Daiwa	151,000	273	0.00 *
Deutsche Bank	7,493,894	29,563	0.00 *
Goldman Sachs	4,999,048	18,820	0.00 *
HSBC Bank	746,683	2,917	0.00 *
ICBC Financial Services	5,958,458	17,876	0.00 *
Instinet	5,966,962	16,495	0.00 *
ITG	2,723,199	6,659	0.00 *
JP Morgan	11,897,550	52,949	0.00 *
Jefferies & Co	124,778	237	0.00 *
Knight Capital	15,352,481	53,277	0.00 *
MacQuarie Bank	6,593,803	18,057	0.00 *
Merrill Lynch	9,255,036	51,697	0.01
Morgan Stanley	6,149,541	11,100	0.00 *
National Financial Services	5,137	15	0.00 *
Pershing	525,976	2,353	0.00 *
Sanford C Bernstein	1,624,419	6,292	0.00 *
SG Securities	943,278	7,291	0.01
SMBC	11,500	352	0.03
UBS	8,789,818	43,224	0.00 *
Wells Fargo	1,461,547	4,386	0.00 *
Subtotal commissions		409,661	
Total fees and comissions		\$ 45,527,668	

<sup>\*</sup> Commission is less than one cent per share



**ACTUARIAL SECTION** 

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# \*Segal Consulting

100 Montgomery Street Suite 500 San Francisco, CA 94104-4308 T 415.263.8200 www.segalco.com

November 22, 2017

Public Employees' Retirement Board State of Nevada 693 West Nye Lane Carson City, Nevada 89703

Re: Certification Letter for Actuarial Section of Financial Report for Fiscal Year Ended June 30, 2017

Dear Retirement Board Members:

This letter is to certify that Segal has prepared an actuarial valuation of the Public Employees' Retirement System of the State of Nevada as of June 30, 2017 and that such valuation is accurate and fairly presents the actuarial position of the Public Employees' Retirement System of Nevada.

The unfunded actuarial accrued liability is being amortized by level percentage-of-payroll payments over a year-by-year closed amortization period where each amortization period will be set at the truncated average remaining period of all prior amortization layers until the average remaining amortization period is less than 20 years. At that point, amortization periods of 20 years will be used. As of June 30, 2017, the funded ratios are 73.9% for regular employees and 76.4% for police/fire employees.

Actuarial valuations are prepared annually by the independent actuary for the Public Employees' Retirement Board. The basic purposes of annual actuarial valuations are to determine the Retirement System's actuarial liabilities and the level percentage-of-payroll contribution rates required to fund the Retirement System on an actuarial reserve basis.

For funding purposes, to amortize the unfunded portion of actuarial accrued liability under the level percentage-of-payroll amortization method, the dollar amounts of calculated amortization payments increase in direct proportion to the assumed payroll growth rates of 5.5% per year for regular employees and 6.5% per year for police and firefighters. These payroll growth rates are based on a 2.75% per year inflation assumption.

The payroll growth assumptions are set by the Board and affect the timing of payments toward the unfunded liabilities. Considerations for setting these assumptions include future financial conditions that are difficult for Segal to evaluate. In recent years, payroll growth has been less than assumed. This has the effect of delaying contributions toward the unfunded liabilities and could result in increases to required contributions in future years. We recommend that the Board closely monitor actual payroll growth to verify that the assumptions remain valid.

#### ACTUARIAL SECTION

Public Employees' Retirement Board State of Nevada November 22, 2017 Page 2

The most recent actuarial valuation prepared as of June 30, 2017 is based on the following major elements:

- > Current benefit provisions (as specified in the Public Employees' Retirement Act).
- Membership data as of June 30, 2017 obtained from electronic files provided by the Retirement System. Membership data contained on the electronic files is examined and tested for reasonableness, but is not audited by the actuary.
- > Assets as of June 30, 2017 obtained from the System's unaudited financial statements.
- > Trend schedules for financial and actuarial sections of the Comprehensive Annual Financial Report (CAFR) as of June 30, 2017 (based upon data from the System, accepted without verification or audit, and upon results of the annual actuarial valuation).
- > Actuarial assumptions and methods adopted by the Public Employees' Retirement Board.

A complete copy of the June 30, 2017 actuarial valuation is available from the System.

Each annual actuarial valuation involves a projection of the benefits expected to be paid in the future to all members of the Retirement System. The projection of expected future benefit payments is based on the benefit provisions in effect on the actuarial valuation date. (See the Plan Summary section of this Annual Financial Report for a summary of current benefit and contribution provisions.)

#### LIST OF SUPPORTING SCHEDULES

The following schedules and summaries prepared by Segal are included within this Actuarial Section:

- > Summary of Actuarial Assumptions and Methods
- Schedules of Funding Progress
- > Schedule 1 Retirement System Membership
- Schedule 2 Active Member Valuation Data
- > Schedule 3 Pay Status Participants Added to and Removed from the Rolls
- Schedule 4 Solvency Test
- Schedule 5 Analysis of Actuarial Experience
- > Schedule 6 Schedule of Employer Contributions

Public Employees' Retirement Board State of Nevada November 22, 2017 Page 3

We have also included the following two items:

- Distribution of Retired Members and Beneficiaries by Type as of June 30, 2017
- New Retired Members for Year Ended June 30, 2017

The Public Employees' Retirement Act requires an adjustment in the statutory contribution rates on July 1 of each odd-numbered year, based on the actuarially determined rates indicated in the actuarial valuation report for the immediately preceding year. Rates are only adjusted upward if the new rates are more than 0.50% higher than the existing rate for Employer-Pay and more than 0.25% higher for Employee/Employer. Rates are only adjusted downward if the new rates are more than 2.00% lower than the existing rate for Employer-Pay (and adjusted only by the amount in excess of 2.00%) and more than 1.00% lower than the existing rate for Employee/Employer (and adjusted only by the amount in excess of 1.00%). Rates are rounded to the nearest 0.25% of payroll.

Since this valuation year is an odd-numbered year, no adjustment in the statutory contribution rates is required as a result of this valuation.

Employer-Pay	Regular <u>Employees</u>	Police/Fire Employees
Statutory Rate for Fiscal Years July 1, 2017 through June 30, 2019	28.00%	40.50%
Actuarially Determined Contribution Rate per June 30, 2017 Actuarial Valuation	29.19%	41.97%
Employee/Employer	Regular <u>Employees</u>	Police/Fire Employees
Employee/Employer  Statutory Rate for Fiscal Years July 1, 2017 through June 30, 2019	O	

The actuarial calculations prepared for funding purposes were made in accordance with generally accepted actuarial principles and practices. The information supplied in this letter is based on the current provisions of the Public Employees' Retirement Act and on the actuarial assumptions and methods adopted by the Public Employees' Retirement Board. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

#### ACTUARIAL SECTION

Public Employees' Retirement Board State of Nevada November 22, 2017 Page 4

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

Brad Ramirez, FSA, MAAA, EA Vice President & Consulting Actuary Mark Hamwee, FSA, MAAA, EA Vice President & Actuary

Thomas D. Levy, FSA, MAAA, EA

Thomes D. Lung

Senior Vice President & Chief Actuary Emeritus

MAM/gxk **Enclosures** 

#### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions and methods used in the June 30, 2017 actuarial valuation were adopted by the Public Employees' Retirement Board and were based on the results of the experience review issued October 16, 2017.

#### **ECONOMIC ASSUMPTIONS**

The economic assumptions for the 2017 actuarial valuation.

Investment return\* - 7.50% per year.

Administrative expenses - 0.15% of payroll added to Normal Cost.

Salary increases -

Inflation: 2.75% Plus Productivity pay increases: 0.50% Plus

Promotional and merit salary increases:

<b>Years of Service</b>	Regular	Police/Fire
Less than 1	5.90%	10.65%
1	4.80	7.15
2	4.00	5.20
3	3.60	4.60
4	3.30	4.30
5	3.00	4.15
6	2.80	3.90
7	2.70	3.50
8	2.50	3.15
9	2.35	2.90
10	2.15	2.50
11	1.75	1.90
12	1.50	1.50
13	1.25	1.30
14	1.10	1.30
15 or More	1.00	1.30

Rate Payroll

- The payroll for the coming year is based on actual annualized payroll for the actives as of the valuation date and projected by the salary scale.

Payroll growth\* (Funding)

5.5% per year for Regular employees and 6.5% per year for Police/Fire employees.

<sup>\*</sup> Includes inflation at 2.75% per year.

#### Post-retirement Benefit increases

For current retirees and beneficiaries, future Post-Retirement Benefit Increases reflect actual changes in historical CPI and are assumed to follow the formulas described below. For future retirees, those hired prior to 2010 are assumed to reach the cap after 16 years of retirement. Those hired in between 2010 and 2015 are also assumed to reach the cap after 16 years of retirement. Those hired after 2015 will never receive an annual increase that exceeds 2.75%. Underlying all of these assumptions is that CPI will grow over time at a rate of 2.75% per year.

For members with an effective date of membership before January 1, 2010:

The lesser of:

- (a) 2% per year following the third anniversary of the commencement of benefits, 3% per year following the sixth anniversary, 3 ½% per year following the ninth anniversary, 4% per year following the twelfth anniversary and 5% per year following the fourteenth anniversary, or
- (b) The annual benefit increase is equal to the average percentage increase in the Consumer Price Index (or other Board approved index) for the three preceding years.

In any event, a member's benefit must be increased by the percentages in paragraph (a) if the benefit of a member has not been increased at a rate greater than or equal to the average of the Consumer Price Index (All Items) (or other Board approved index) for the period between retirement and the date of increase.

For members with an effective date of membership on or after January 1, 2010 and before July 1, 2015:

Same as above, except the increases do not exceed 4% per year.

For members with an effective date of membership on or after July 1, 2015:

2% per year following the third anniversary of the commencement of benefits, 2.5% per year following the sixth anniversary, the lesser of 3% or the CPI for the preceding calendar year following the ninth anniversary.

## NON-ECONOMIC ASSUMPTIONS

The assumed retirement rates, which project the percentage of eligible employees who will retire, are shown below:

	Regular employees with a date of membership before July 1, 2015					
			Years	of Service		
Age	5 - 9	10 - 19	20 - 24	25 - 29	30 - 32	33 or More
45 – 49			0.75%	6.50%	16.00%	16.00%
50 – 54	0.50%	1.50%	1.50%	8.50%	18.00%	18.00%
55 – 59	1.50%	3.50%	5.00%	12.00%	20.00%	20.00%
60 – 61	6.50%	11.00%	17.00%	22.00%	22.00%	22.00%
62 - 64	9.00%	13.00%	17.00%	22.00%	22.00%	22.00%
65 - 69	20.00%	20.00%	22.00%	25.00%	25.00%	25.00%
70 – 74	30.00%	30.00%	40.00%	40.00%	40.00%	40.00%
75 & older	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

	Regular employees with a date of membership on or after July 1, 2015					
			Years	of Service		
Age	5 - 9	10 - 19	20 - 24	25 - 29	30 - 32	33 or More
45 – 49			0.75%	6.50%	6.50%	16.00%
50 – 54	0.50%	1.50%	1.50%	8.50%	8.50%	18.00%
55 – 59	1.50%	3.50%	5.00%	12.00%	20.00%	20.00%
60 - 61	6.50%	11.00%	17.00%	22.00%	22.00%	22.00%
62 – 64	9.00%	13.00%	17.00%	22.00%	22.00%	22.00%
65 – 69	20.00%	20.00%	22.00%	25.00%	25.00%	25.00%
70 – 74	30.00%	30.00%	40.00%	40.00%	40.00%	40.00%
75 & older	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Police/Fire Employees						
Years of Service						
Age	5 - 9	10 - 19	20 - 24	25 - 29	30 or more	
Less than 40						
40 - 44		0.50%	3.50%			
45 - 49		1.00%	6.50%	18.00%	18.00%	
50 - 54	1.50%	4.50%	13.00%	20.00%	24.00%	
55 - 59	3.50%	10.00%	20.00%	25.00%	28.00%	
60 - 64	9.00%	18.00%	25.00%	35.00%	35.00%	
65 - 69	50.00%	50.00%	60.00%	60.00%	60.00%	
70 & older	100.00%	100.00%	100.00%	100.00%	100.0%	

The retirement age for inactive vested members is equal to their earliest unreduced retirement age.

The assumed withdrawal rates are shown below:

	Withdray	wal Rates
Years of Service	Regular	Police/Fire
0 – 1	16.00%	15.00%
1 – 2	12.50%	8.00%
2 - 3	10.25%	7.50%
3 – 4	8.00%	6.00%
4 – 5	7.50%	5.00%
5 – 6	6.00%	3.75%
6 – 7	5.25%	3.50%
7 – 8	4.25%	2.50%
8 – 9	4.00%	2.25%
9 – 10	3.75%	1.90%
10 – 11	3.25%	1.50%
11 – 12	3.00%	1.30%
12 – 13	2.75%	1.00%
13 – 14	2.50%	0.90%
14 – 15	2.25%	0.80%
15 – 16	2.00%	0.70%
16 – 17	2.00%	0.60%
17 – 18	1.75%	0.50%
18 – 19	1.75%	0.50%
19 – 20	1.75%	0.50%
20 & Over	1.75%	0.45%

No withdrawal is assumed after a member reaches earliest unreduced retirement age.

The assumed disability rates are shown below for selected ages:

Age	Regular Employees	Police/Fire Employees
22	0.01%	0.00%
27	0.03%	0.06%
32	0.06%	0.12%
37	0.10%	0.30%
42	0.21%	0.45%
47	0.35%	0.65%
52	0.60%	0.80%
57	0.75%	0.65%
62	0.35%	0.50%

No disability rates are assumed after age 65.

Disability rates are applied only for members with more than 5 years of service and less than 30 years of service for Regular members with an effective date of membership before July 1, 2015, less than 33 1/3 years of service for Regular members with an effective date of membership on or after July 1, 2015, or 25 years for Police/Fire members.

#### Mortality Tables:

Healthy: Headcount-Weighted RP-2014 Healthy Annuitant Table projected to 2020 with

Scale MP-2016, set forward one year for spouses and beneficiaries.

For ages less than 50<sup>(1)</sup>, mortality rates are based on the Headcount-Weighted RP-2014 Employee Mortality Tables. Those mortality rates are adjusted by the ratio of the mortality rate for healthy annuitants at age 50 to the mortality rate for employees at age 50. The mortality rates are then projected to 2020 with Scale

MP-2016.

Disabled: Headcount-Weighted RP-2014 Disabled Retiree Table, set forward four years.

Pre-Retirement: Headcount-Weighted RP-2014 Employee Table, projected to 2020 with Scale

MP-2016.

The schedules below show the assumed healthy retiree mortality rates and projected life expectancies for selected ages:

	Regular and Police/Fire Members				
	Mortali		ted Years Remaining		
Age	Males	Females	Males	Females	
40	0.20%	0.14%	40.4	43.6	
50	0.49%	0.38%	31.4	34.5	
60	0.90%	0.59%	23.2	25.9	
70	1.81%	1.26%	15.6	17.7	
80	4.55%	3.42%	9.1	10.5	

The RP-2014 Headcount-Weighted Mortality Tables, set forward one year for spouses and beneficiaries, reasonably reflect the projected mortality experience of the Plan as of the measurement date. The additional projection of 6 years is a provision made for future mortality improvement.

<sup>(1)</sup> The RP-2014 Healthy Annuitant Mortality Tables have rates only for ages 50 and later

#### PRESENCE AND AGE OF BENEFICIARY

It is assumed for purposes of the actuarial valuation that beneficiaries of female members are two years older than the female member. Beneficiaries of male members are assumed to be three years younger than the male member. Spouses are assumed to be of the opposite sex of the member.

Since pre-retirement death benefits are payable to a surviving beneficiary of an unmarried member, all members are assumed to have a beneficiary upon pre-retirement death.

The unmodified option is a straight life annuity except for "employer-pay" Police/Fire retirees, for whom it is a 50% joint and survivor annuity. Existing "employer-pay" Police/Fire retirees with an unmodified option who retired after June 30, 1981 and before July 1, 2011 have been valued assuming no surviving spouse, pending the results of an analysis and verification of spousal information.

70% of "employer-pay" police/fire male members and 55% of "employer-pay" police/fire female members are assumed to be married at retirement.

#### **DEPENDENT CHILDREN**

The assumption for dependent children in the actuarial valuation is one dependent child who is 28 years younger than the employee.

#### **ACTUARIAL VALUE OF ASSETS**

Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five-year period, further adjusted, if necessary, to be within 30% of the market value.

#### ACTUARIAL COST METHOD

Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of salary, with Normal Cost determined based on the plan provisions and benefit accrual rate applicable to that individual.

#### **AMORTIZATION POLICY**

For funding purposes, the UAAL, (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2011 shall continue to be amortized over separate 30-year period amortization layers based on the valuations during which each separate layer was previously established.

Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period equal to the truncated average remaining amortization

period of all prior UAAL layers. This will occur until the average remaining amortization period is less than 20 years. At that point, amortization periods of 20 years will be used for actuarial gains and losses.

Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period equal to the truncated average remaining amortization period of all prior UAAL layers. This would occur until the average remaining amortization period is less than 20 years. At that point, amortization periods of 20 years would be used for assumption or method changes.

Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis:

- a. with the exception noted in b., below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 15 years;
- b. the increase in UAAL that would result from a temporary retirement incentive will be pre-funded by the participating employer(s).

UAAL layers shall be amortized over "closed" amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation.

UAAL layers shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase.

If an overfunding exists (i.e., the total of all UAAL becomes negative so that there is a surplus), such surplus and any subsequent surpluses will be amortized over an "open" amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL will be amortized over 20 years as the first of a new series of amortization layers.

These amortization policy components will apply separately to each of the Regular and Police/Fire UAAL cost groups.

#### CHANGES IN ACTUARIAL ASSUMPTIONS AND METHODS SINCE THE PREVIOUS YEAR

Based on the June 30, 2016 Actuarial Experience Study, the following assumptions were changed. Previously, these assumptions were as follows:

Investment return\* - 8.00% per year.

Salary increases -

Inflation: 3.50% Plus Productivity pay increases: 0.75% Plus Promotional and merit salary increases:

Years of Service	Regular	Police/Fire
Less than 1	5.50%	10.25%
1	4.25	6.55
2	3.50	5.15
3	3.25	4.55
4	3.00	4.25
5	2.75	4.05
6	2.40	3.75
7	2.25	3.25
8	1.85	2.75
9	1.75	2.25
10	1.50	1.75
11	1.00	1.50
12	0.80	1.25
13 or More	0.35	1.00

Payroll growth\* (Funding)

6.5% per year for Regular employees and 7.5% per year for Police/Fire employees.

<sup>\*</sup> Includes inflation at 3.5% per year.

Post-retirement Benefit increases

For current retirees and beneficiaries, future Post-Retirement Benefit Increases reflect actual changes in historical CPI and are assumed to follow the formulas described below. For future retirees, those hired prior to 2010 are assumed to reach the cap after 24 years of retirement. Those hired in 2010 or later are assumed to reach the cap after 39 years of retirement. Underlying all of these assumptions is that CPI will grow over time at a rate of 3.50% per year.

#### Assumed retirement rates:

	Regular employees with a date of membership before July 1, 2015							
	Years of Service							
Age	5 - 9	10 - 19	20 - 24	25 - 29	30 - 32	33 or More		
45 – 49			1%	7%	20%	20%		
50 - 54	1%	2%	2%	10%	20%	20%		
55 – 59	2%	4%	6%	13%	25%	25%		
60 - 61	8%	12%	18%	25%	25%	25%		
62 - 64	10%	14%	18%	25%	25%	25%		
65 - 69	20%	20%	22%	25%	25%	25%		
70 - 74	40%	40%	60%	60%	60%	60%		
75 & older	100%	100%	100%	100%	100%	100%		

	Regular employees with a date of membership on or after July 1, 2015							
	Years of Service							
Age	5 - 9	10 - 19	20 - 24	25 - 29	30 - 32	33 or More		
45 – 49			1%	7%	7%	20%		
50 - 54	1%	2%	2%	10%	10%	20%		
55 – 59	2%	4%	6%	13%	25%	25%		
60 - 61	8%	12%	18%	25%	25%	25%		
62 - 64	10%	14%	18%	25%	25%	25%		
65 - 69	20%	20%	22%	25%	25%	25%		
70 - 74	40%	40%	60%	60%	60%	60%		
75 & older	100%	100%	100%	100%	100%	100%		

Police/Fire Employees									
Years of Service									
Age 5 - 9 10 - 19 20 - 24 25 - 29 30 or m									
Less than 40									
40 - 44		0.75%	3.00%						
45 - 49		1.00%	5.00%	15.00%	15.00%				
50 - 54	1.50%	5.00%	13.00%	18.00%	27.00%				
55 - 59	3.50%	11.00%	20.00%	25.00%	35.00%				
60 - 64	10.00%	18.00%	25.00%	32.00%	35.00%				
65 - 69	60.00%	60.00%	65.00%	70.00%	70.00%				
70 & older	100.00%	100.00%	100.00%	100.00%	100.0%				

## Assumed withdrawal rates:

Regular Employees						
Years of Service	Rate					
0 – 1	16.50%					
1 - 2	12.50%					
2 - 3	9.70%					
3 - 4	7.30%					
4 – 5	6.60%					
5 – 6	5.00%					
6 – 7	4.00%					
7 - 8	3.50%					
8 - 9	3.25%					
9 – 10	3.00%					
10 – 11	2.75%					
11 - 12	2.50%					
12 - 13	2.25%					
13 – 14	2.00%					
14 - 15	1.75%					
15 & over	1.50%					

Police/Fire Employees						
Years of Service	Rate					
0 – 1	14.00%					
1 - 2	6.50%					
2 - 3	5.75%					
3 - 4	4.75%					
4 - 5	4.25%					
5 - 6	3.50%					
6 - 7	3.00%					
7 - 8	2.25%					
8 - 9	1.90%					
9 - 10	1.75%					
10 - 11	1.50%					
11 - 12	1.25%					
12 - 13	1.00%					
13 - 14	0.90%					
14 - 15	0.80%					
15 & over	0.50%					

#### Assumed disability rates:

Age	Regular Employees	Police/Fire Employees
22	0.01%	0.00%
27	0.02%	0.06%
32	0.06%	0.10%
37	0.09%	0.18%
42	0.21%	0.35%
47	0.35%	0.56%
52	0.57%	0.75%
57	0.75%	0.50%
62	0.40%	0.50%

Disability rates are applied only for members with more than 5 years of service and less than 30 years of service for Regular members with an effective date of membership before June 30, 2015, less than 33 1/3 years of service for Regular members with an effective date of membership on or after July 1, 2015, or 25 years for Police/Fire members.

#### Mortality Table:

For non-disabled male regular members it is the RP-2000 Combined Healthy Mortality Table projected to 2013 with Scale AA. For non-disabled female regular members it is the RP-2000 Combined Healthy Mortality Table, projected to 2013 with Scale AA, set back one year. For all non-disabled police/fire members it is the RP-2000 Combined Healthy Mortality Table projected to 2013 with Scale AA, set forward one year. The schedules below show the assumed mortality rates and projected life expectancies for selected ages:

Regular Members							
	Mortali	ty Rates		ted Years Remaining			
Age	Males	Females	Males	Females			
40	0.10%	0.05%	41.1	44.4			
50	0.17%	0.12%	31.6	34.7			
60	0.55%	0.42%	22.4	25.4			
70	1.82%	1.39%	14.3	17.0			
80	5.65%	3.79%	7.7	10.1			

	Police/Fire Members							
	Mortali	ty Rates	Expected Years of Life Remaining					
Age	Males	Females	Males	Females				
40	0.10%	0.06%	40.2	42.5				
50	0.19%	0.15%	30.7	32.8				
60	0.63%	0.54%	21.5	23.6				
70	2.02%	1.72%	13.5	15.5				
80	6.41%	4.63%	7.1	9.0				

The mortality table used in the actuarial valuation to project mortality rates for all disabled regular members and all disabled police/fire members is the RP-2000 Disabled Retiree Mortality Table projected to 2013 with Scale AA, set forward three years.

#### Presence and Age of Beneficiary:

It is assumed for purposes of the actuarial valuation that beneficiaries of female members are three years older than the female member. Beneficiaries of male members are assumed to be three years younger than the male member. Spouses are assumed to be of the opposite sex of the member.

75% of "employer-pay" police/fire male members and 60% of "employer-pay" police/fire female members are assumed to be married at retirement.

## REQUIRED SUPPLEMENTARY INFORMATION **SCHEDULES OF FUNDING PROGRESS** 2008 to 2017

(dollars in millions)

Actuarial Valuation Date June 30	Actuarial Value of Assets (AVA)	Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of AVA to AAL	Annual Covered Payroll	UAAL as a % of Annual Covered Payroll
2008	\$23,237.7	\$30,495.9	\$7,258.2	76.2%	\$5,194.4	139.7%
2009	23,971.9	33,075.2	9,103.3	72.5	5,373.1	169.4
2010	24,725.5	35,077.7	10,352.3	70.5	5,365.5	192.9
2011	25,871.1	36,876.2	11,005.1	70.2	5,214.6	211.0
2012	27,399.0	38,604.9	11,205.9	71.0	5,087.8	220.3
2013	29,108.5	41,984.5	12,875.9	69.3	5,100.2	252.5
2014	31,465.6	43,997.1	12,531.5	71.5	5,113.5	245.1
2015	33,717.9	46,070.1	12,352.2	73.2	5,227.2	236.3
2016	35,896.2	48,459.2	12,562.9	74.1	5,346.3	235.0
2017	38,719.3	51,986.1	13,266.8	74.5	5,542.2	239.4

Unfunded **Actuarial Accrued Liability (millions)** 

Unfunded **Accrued Liability as** % of Payroll

**Actuarial Value of** Assets as % of **Total Actuarial Accrued Liability** 

Regular	Police/ Fire	Regular	Police/ Fire	Regular	Police/ Fire
\$5,363.0	\$1,895.2	123.8%	219.4%	77.7%	70.8%
6,929.3	2,173.9	155.1	240.1	73.4	68.9
7,950.5	2,401.8	178.4	264.5	71.2	67.8
8,514.1	2,491.0	196.5	282.4	70.6	68.4
8,729.4	2,476.5	206.2	289.5	71.2	70.1
10,331.9	2,544.0	243.7	295.7	68.9	71.1
10,160.0	2,371.5	238.3	278.9	70.8	74.3
10,041.1	2,311.1	230.3	266.3	72.4	76.3
10,197.9	2,365.0	228.7	266.3	73.2	77.1
10,590.9	2,675.9	229.4	289.3	73.9	76.4
	\$5,363.0 6,929.3 7,950.5 8,514.1 8,729.4 10,331.9 10,160.0 10,041.1 10,197.9	Regular         Fire           \$5,363.0         \$1,895.2           6,929.3         2,173.9           7,950.5         2,401.8           8,514.1         2,491.0           8,729.4         2,476.5           10,331.9         2,544.0           10,160.0         2,371.5           10,041.1         2,311.1           10,197.9         2,365.0	Regular         Fire         Regular           \$5,363.0         \$1,895.2         123.8%           6,929.3         2,173.9         155.1           7,950.5         2,401.8         178.4           8,514.1         2,491.0         196.5           8,729.4         2,476.5         206.2           10,331.9         2,544.0         243.7           10,160.0         2,371.5         238.3           10,041.1         2,311.1         230.3           10,197.9         2,365.0         228.7	Regular         Fire         Regular         Fire           \$5,363.0         \$1,895.2         123.8%         219.4%           6,929.3         2,173.9         155.1         240.1           7,950.5         2,401.8         178.4         264.5           8,514.1         2,491.0         196.5         282.4           8,729.4         2,476.5         206.2         289.5           10,331.9         2,544.0         243.7         295.7           10,160.0         2,371.5         238.3         278.9           10,041.1         2,311.1         230.3         266.3           10,197.9         2,365.0         228.7         266.3	Regular         Fire         Regular         Fire         Regular           \$5,363.0         \$1,895.2         123.8%         219.4%         77.7%           6,929.3         2,173.9         155.1         240.1         73.4           7,950.5         2,401.8         178.4         264.5         71.2           8,514.1         2,491.0         196.5         282.4         70.6           8,729.4         2,476.5         206.2         289.5         71.2           10,331.9         2,544.0         243.7         295.7         68.9           10,160.0         2,371.5         238.3         278.9         70.8           10,041.1         2,311.1         230.3         266.3         72.4           10,197.9         2,365.0         228.7         266.3         73.2

SCHEDULE 1

RETIREMENT SYSTEM MEMBERSHIP
2008 to 2017

<u>June 30</u>	Active <u>Members</u>	Inactive <u>Members</u>	Retired and Disabled <u>Members</u>	Beneficiaries <u>&amp; Survivors</u>	Total <u>Membership</u>
2008	106,123	11,593	33,479	4,651	155,846
2009	105,417	11,574	37,095	4,810	158,896
2010	102,594	11,807	38,841	5,078	158,320
2011	99,911	12,632	41,259	5,319	159,121
2012	98,512	12,962	44,012	5,534	161,020
2013	99,038	13,739	46,653	5,777	165,207
2014	100,522	14,633	49,170	6,038	170,363
2015	103,108	15,032	51,853	6,306	176,299
2016	105,167	15,639	54,615	6,565	181,986
2017	105,801	16,668	57,199	6,931	186,599

SCHEDULE 2
ACTIVE MEMBER VALUATION DATA
2008 to 2017

	Number of <u>Active Members</u>			Annual Salary (millions)		Annual <u>Average Salary</u>		Percent Increase Average Salary	
<u>June 30</u>	<u>Regular</u>	Police/ <u>Fire</u>	<u>Regular</u>	Police/ <u>Fire</u>	<u>Regular</u>	Police/ <u>Fire</u>	Regular	Police/ <u>Fire</u>	
2008	93,816	12,307	\$4,330.5	\$863.9	\$46,159	\$70,194	6.5%	5.8%	
2009	92,784	12,633	4,467.7	905.4	48,151	71,669	4.3	2.1	
2010	90,219	12,375	4,457.5	908.0	49,407	73,373	2.6	2.4	
2011	87,975	11,936	4,332.6	882.0	49,248	73,895	(0.3)	0.7	
2012	86,719	11,793	4,232.5	855.3	48,808	72,523	(0.9)	(1.9)	
2013	87,193	11,845	4,239.8	860.4	48,626	72,637	(0.4)	0.2	
2014	88,709	11,813	4,263.1	850.4	48,057	71,990	(1.2)	(0.9)	
2015	91,124	11,984	4,359.4	867.8	47,840	72,417	(0.5)	0.6	
2016	93,030	12,137	4,458.2	888.2	47,922	73,179	0.2	1.1	
2017	93,276	12,525	4,617.4	924.9	49,502	73,841	3.3	0.9	

#### **SCHEDULE 3**

## PAY STATUS PARTICIPANTS ADDED TO AND REMOVED FROM THE ROLLS 2008 to 2017

#### **RETIREES AND BENEFICIARIES**

		<u>Adde</u>	d to Rolls	Remove	d from Rolls	Rolls a	t End of Year		
	Beginning		Annual		Annual		Annual	% Increase in Annual	Average Annual
June 30	Balance	Number	Allowances	Number	Allowances	Number	Allowances	Allowances	Allowances
2008	31,923	3,118	\$98,180,394	(875)	(\$18,596,824)	34,166	\$1,010,049,395	11.4%	\$29,563
2009	34,166	4,395	153,318,503	(809)	(19,096,137)	37,752	1,172,786,193	16.1	31,066
2010	37,752	2,717	89,297,524	(915)	(22,834,942)	39,554	1,265,227,334	7.9	31,988
2011	39,554	3,443	114,677,405	(1,016)	(27,214,007)	41,981	1,379,326,118	9.0	32,856
2012	41,981	3,687	121,192,385	(932)	(24,956,200)	44,736	1,507,827,860	9.3	33,705
2013	44,736	3,665	115,060,841	(1,050)	(27,984,633)	47,351	1,632,417,296	8.3	34,475
2014	47,351	3,732	119,871,171	(1,142)	(34,060,824)	49,941	1,757,076,989	7.6	35,183
2015	49,941	4,110	143,218,449	(1,250)	(37,461,678)	52,801	1,901,374,760	8.2	36,010
2016	52,801	4,454	158,933,124	(1,328)	(41,066,707)	55,927	2,050,852,866	7.9	36,670
2017	55,927	4,431	162,467,577	(1,530)	(47,186,158)	58,828	2,196,500,865	7.1	37,338

#### **DISABILITY RECIPIENTS**

		<u>Adde</u>	d to Rolls	Remove	d from Rolls	Rolls at	End of Year		
June 30	Beginning Balance	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
2008	2,143	223	\$5,162,630	(121)	(\$2,175,505)	2,245	\$44,738,669	9.7%	\$19,928
2009	2,245	267	6,957,349	(109)	(1,997,230)	2,403	50,775,027	13.5	21,130
2010	2,403	218	5,437,237	(106)	(2,128,188)	2,515	55,151,437	8.6	21,929
2011	2,515	266	7,149,107	(113)	(2,423,831)	2,668	61,000,876	10.6	22,864
2012	2,668	279	7,576,925	(122)	(2,462,375)	2,825	67,473,905	10.6	23,885
2013	2,825	323	8,863,323	(117)	(2,950,968)	3,031	74,890,587	11.0	24,708
2014	3,031	286	8,346,444	(133)	(3,001,371)	3,184	81,828,716	9.3	25,700
2015	3,184	279	7,843,123	(238)	(6,031,122)	3,225	85,166,914	4.1	26,408
2016	3,225	224	6,630,290	(375)	(9,669,332)	3,074	83,459,531	(2.0)	27,150
2017	3,074	238	7,401,370	(242)	(6,949,748)	3,070	85,154,508	2.0	27,738

#### **SURVIVOR ANNUITANTS**

		<u>Adde</u>	d to Rolls	Remove	ed from Rolls	Rolls a	t End of Year		
June 30	Beginning Balance	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
2008	1,621	161	\$1,905,857	(63)	(\$512,942)	1,719	\$22,920,123	9.4%	\$13,333
2009	1,719	124	1,449,221	(93)	(751,205)	1,750	24,257,755	5.8	13,862
2010	1,750	174	1,977,291	(74)	(710,074)	1,850	26,115,812	7.7	14,117
2011	1,850	162	1,999,587	(83)	(825,074)	1,929	27,852,395	6.6	14,439
2012	1,929	140	1,764,977	(84)	(826,587)	1,985	29,436,963	5.7	14,830
2013	1,985	132	1,877,979	(69)	(706,398)	2,048	31,357,319	6.5	15,311
2014	2,048	139	1,699,773	(104)	(935,578)	2,083	32,868,928	4.8	15,780
2015	2,083	144	2,339,825	(94)	(1,085,422)	2,133	34,817,928	5.9	16,323
2016	2,133	161	2,474,940	(115)	(1,338,740)	2,179	36,659,755	5.3	16,824
2017	2,179	138	2,365,400	(85)	(961,809)	2,232	38,583,162	5.2	17,286

#### **SCHEDULE 4**

# SOLVENCY TEST (millions)

#### 2008 to 2017

**Actuarial Accrued Liabilities** 

Active Member Contributions (1)	Inactive and Pay- Status Members*	Active Members Employer Financed Portion (3)	Actuarial Value of <u>Assets</u>	Accrue	d Liabi	ilities
\$574.8	\$14,258.6	\$15,662.5	\$23,237.7	100%	100%	53.7%
606.0	16,367.0	16,102.2	23,971.9	100	100	43.5
650.5	17,574.5	16,852.7	24,725.5	100	100	38.6
679.9	19,206.9	16,989.4	25,871.1	100	100	35.2
708.5	20,519.7	17,376.7	27,399.0	100	100	35.5
743.2	23,132.1	18,109.2	29,108.5	100	100	28.9
775.4	24,781.5	18,440.1	31,465.6	100	100	32.0
822.7	26,302.7	18,944.8	33,717.9	100	100	34.8
872.8	28,068.7	19,517.7	35,896.2	100	100	35.6
920.8	30,492.8	20,572.5	38,719.3	100	100	35.5
	Member Contributions (1) \$574.8 606.0 650.5 679.9 708.5 743.2 775.4 822.7 872.8	Member Contributions (1)Inactive and Pay- Status Members* (2)\$574.8\$14,258.6606.016,367.0650.517,574.5679.919,206.9708.520,519.7743.223,132.1775.424,781.5822.726,302.7872.828,068.7	Active Member Contributions (1)Inactive and Pay- Status Members*Employer Financed Portion (3)\$574.8\$14,258.6\$15,662.5606.016,367.016,102.2650.517,574.516,852.7679.919,206.916,989.4708.520,519.717,376.7743.223,132.118,109.2775.424,781.518,440.1822.726,302.718,944.8872.828,068.719,517.7	Active Member Contributions (1)Inactive and Pay- Status Members* (2)Employer Financed Portion (3)Actuarial Value of Assets\$574.8\$14,258.6\$15,662.5\$23,237.7606.016,367.016,102.223,971.9650.517,574.516,852.724,725.5679.919,206.916,989.425,871.1708.520,519.717,376.727,399.0743.223,132.118,109.229,108.5775.424,781.518,440.131,465.6822.726,302.718,944.833,717.9872.828,068.719,517.735,896.2	Active Member Contributions (1)Inactive and Pay-Status Members* (2)Employer Financed (3)Actuarial Accrue Covered (3)Actuarial Accrue Covered (3)\$574.8\$14,258.6\$15,662.5\$23,237.7100%606.016,367.016,102.223,971.9100650.517,574.516,852.724,725.5100679.919,206.916,989.425,871.1100708.520,519.717,376.727,399.0100743.223,132.118,109.229,108.5100775.424,781.518,440.131,465.6100822.726,302.718,944.833,717.9100872.828,068.719,517.735,896.2100	Active Member ContributionsInactive and Pay-Status Members*Employer Financed Portion (3)Actuarial Value of Covered by A Covered by

<sup>\*</sup> Includes liability for post-retirement benefit increases.  $5515186 \mathrm{v} 1/01068.001$ 

#### **SCHEDULE 5**

#### ANALYSIS OF ACTUARIAL EXPERIENCE

Gains and Losses in Actuarial Accrued Liabilities (AAL) During Year Ended June 30, 2017 Resulting from Differences Between Assumed Experience and Actual Experience (Dollar Amounts in Millions)

	Regular		Police/Fire		
		As Pct		As Pct	
Type of Activity	Amount	of AAL	Amount	of AAL	
Age and Service Retirements. If members retire at older ages or with lower final average pay than assumed, there is a gain. If retirements occur at younger ages with higher average pay, there is a loss.	(\$187.7)	(0.46%)	(\$61.4)	(0.56%)	
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If there are more claims, there is a loss.	(9.8)	(0.02%)	(4.8)	(0.04%)	
<b>Pre- and Post-Retirement Mortality.</b> If retirees live longer than assumed, there is a loss. If retirees live shorter than assumed, there is a gain.	22.3	0.05%	(29.0)	(0.26%)	
<b>Post-Retirement Benefit Increases.</b> If increases are more than assumed, there is a loss. If increases are less than assumed, there is a gain.	242.3	0.61%	63.3	0.57%	
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If less liabilities are released, there is a loss.	71.9	0.18%	(1.5)	(0.01%)	
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If there are greater increases, there is a loss.	182.6	0.46%	10.0	0.09%	
Active New Entrants. Cost due to new hires.	(54.3)	(0.14%)	(7.3)	(0.07%)	
<b>Active Rehires.</b> Some new active members have past service credits reinstated, thereby increasing costs due to the unanticipated liabilities.	(20.6)	(0.05%)	(1.2)	(0.01%)	
Retirees Return to Actives.	25.4	0.06%	1.0	0.01%	
<b>Inactive and Retiree Showups.</b> Persons in inactive or pay status who are added to the valuation data during the year.	(59.5)	(0.15%)	(7.0)	(0.06%)	
<b>Other.</b> Miscellaneous gains and losses result from data changes and adjustments, and other miscellaneous impacts on the valuation results. Includes actual purchase of service contributions.	89.0	0.22%	17.5	0.16%	
Total Liability Experience Gain (Loss) During Year.	301.6	0.76%	(20.4)	(0.18%)	
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If there is less income, there is a loss.	311.1	0.77%	85.6	0.77%	
Total Experience Gain (Loss) During the Year.	612.7	1.53%	65.2	0.59%	

Note: Does not include increases in AAL of \$727 million for Regular and \$319 million for Police/Fire due to changes in valuation assumptions.

**SCHEDULE 6** 

# SCHEDULE OF EMPLOYER CONTRIBUTIONS 2008 to 2017

	REGUI	LAR	POLICE	/FIRE	TOT	AL
Fiscal Year Ended <u>June 30</u>	Annual Required <u>Contribution</u> *	Percentage Contributed	Annual Required <u>Contribution</u> *	Percentage Contributed	Annual Required <u>Contribution</u> *	Percentage Contributed
2008	\$924,842,900	96%	\$333,828,000	85%	\$1,258,670,900	93%
2009	993,985,400	93	346,562,200	85	1,340,547,600	90
2010	1,030,796,200	93	358,761,400	91	1,389,557,600	92
2011	1,057,566,978	89	372,888,833	88	1,430,455,811	88
2012	1,028,518,922	96	356,627,690	96	1,385,146,612	96
2013	1,140,004,053	86	377,692,041	88	1,517,696,095	86
2014	1,223,519,948	87	354,604,416	96	1,578,124,364	89
2015	1,243,009,888	87	357,365,587	98	1,600,375,475	90
2016	1,235,466,166	98	360,063,071	100	1,595,529,237	98
2017	684,350,580	103	194,707,470	102	879,058,050	103

<sup>\*</sup> Reflects employer contributions only. Determined using 5% assumed payroll growth and 30-year frozen period for amortizing unfunded actuarial accrued liability.

Starting in the year ended June 30, 2017, pursuant to GASB Statement No. 82, the financial statements and annual required contributions recognize half of the employer contributions made on behalf of Employer-Pay members as member contributions.

## **DISTRIBUTION OF RETIRED MEMBERS** AND BENEFICIARIES BY TYPE AS OF **JUNE 30, 2017**

#### **REGULAR**

	<u>Total</u>	<u>Service</u>	<b>Disability</b>	<b>Beneficiary</b>	<u>Survivor</u>
Under \$1,000	12,670	9,586	649	1,219	1,216
1,000 - 1,999	13,007	10,803	725	1,202	277
2,000 - 2,999	9,241	7,771	553	700	217
3,000 - 3,999	6,741	5,931	324	351	135
4,000 - 4,999	6,019	5,535	164	241	79
5,000 - 5,999	4,295	4,093	65	104	33
6,000 - 6,999	1,860	1,774	20	60	6
7,000 - 7,999	1,081	1,044	14	19	4
8,000 - 8,999	545	525	5	13	2
9,000 - 9,999	241	238	1	2	0
10,000 & over	<u>275</u>	<u>271</u>	0	3	1
Total	55,975	47,571	2,520	3,914	1,970

#### **POLICE/FIRE**

	<u>Total</u>	<u>Service</u>	<u>Disability</u>	<u>Beneficiary</u>	<u>Survivor</u>
Under \$1,000	611	280	35	146	150
1,000 - 1,999	985	599	126	229	31
2,000 - 2,999	959	652	107	185	15
3,000 - 3,999	1,021	777	109	109	26
4,000 - 4,999	997	830	90	59	18
5,000 - 5,999	915	818	54	30	13
6,000 - 6,999	865	828	20	11	6
7,000 - 7,999	610	598	4	5	3
8,000 - 8,999	438	430	3	5	0
9,000 - 9,999	262	261	0	1	0
10,000 & over	<u>492</u>	<u>485</u>	2	<u>5</u>	0
Total	8,155	6,558	550	785	262

## NEW RETIRED MEMBERS FOR YEAR ENDED JUNE 30, 2017

## Regular

	Years of Credited Service							
•	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Average monthly benefit	\$298	\$720	\$1,458	\$2,367	\$3,383	\$4,528	\$5,386	
Average salary	\$35,079	\$50,398	\$62,982	\$68,682	\$76,932	\$81,449	\$86,777	
Number of new retirees	28	611	806	598	539	518	530	

#### Police/Fire

		Years of Credited Service						
•	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Average monthly benefit	N/A	\$945	\$1,964	\$3,638	\$5,019	\$7,263	\$10,022	
Average salary	N/A	\$76,891	\$84,940	\$103,184	\$110,221	\$126,582	\$144,234	
Number of new retirees	0	22	61	71	151	195	41	



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November 21, 2017

Public Employees' Retirement Board 693 West Nye Lane Carson City, Nevada 89703

Dear Retirement Board Members:

We are pleased to submit this Governmental Accounting Standards Board (GASB) Statement No. 67 Actuarial Valuation as of June 30, 2017. It contains various information that will need to be disclosed in order to comply with GASB Statement No. 67.

This report was prepared in accordance with applicable Actuarial Standards of Practice at the request of the Board to assist in administering the Plan. We are not accountants, but are familiar with the GASB requirements and believe that the calculations are consistent with those requirements. The census and financial information on which our calculations were based was prepared by the Retirement Office. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

The actuarial cost method used in the calculation of the Total Pension Liability (Entry Age Method) is the same cost method used for funding purposes. All actuarial assumptions for these calculations are the same as for funding purposes, with the exception of the payroll growth assumption, which is 5% per year for GASB 67 calculations.

The assumed rate of return on assets for funding purposes is 7.5% per year, net of investment fees, and this is also the assumed rate used to discount the Total Pension Liability.

The following supporting schedules were prepared by Segal:

- Schedule of Net Pension Liability
- Schedule of Sensitivity of the Net Pension Liability to Changes in the Discount Rate
- Schedule of Changes in Net Pension Liability
- Schedule of Contributions

The actuarial calculations were completed under the supervision of Mark Hamwee, FSA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Plan.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

Brad Ramirez, FSA, MAAA, EA

Vice President & Consulting Actuary

Thomas D. Levy, FSA, MAAA, EA Senior Vice President &

Chief Actuary Emeritus

Mark Hamwee, FSA, MAAA, EA Vice President & Actuary

MAM/gxk Enclosures

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#### **Schedule of Net Pension Liability**

The components of the net pension liability are as follows:

	June 30, 2017	June 30, 2016
Total pension liability	\$51,986,097,492	\$48,459,161,570
Plan fiduciary net position	38,686,253,408	35,002,028,906
Net pension liability	\$13,299,844,084	\$13,457,132,664
Plan fiduciary net position as a percentage of the total pension liability	74.42%	72.23%

The net pension liability was measured as of June 30, 2017 and 2016 and determined based upon the Plan fiduciary net position (plan assets) and total pension liability from actuarial valuations as of July 1, 2017 and 2016, respectively.

#### Schedule of Sensitivity of the Net Pension Liability to Changes in the Discount Rate.

The following presents the net pension liability of the NVPERS as of June 30, 2017, calculated using the discount rate of 7.50%, as well as what the NVPERS net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.50%) or 1 percentage point higher (8.50%) than the current rate:

		Current	
	1% Decrease (6.50%)	Discount Rate (7.50%)	1% Increase (8.50%)
Net pension liability as of June 30, 2017	\$20,105,650,986	\$13,299,844,084	\$7,647,514,976

#### Schedule of Changes in Net Pension Liability - Last Two Fiscal Years

	2017	2016
Total pension liability		
Service cost	\$1,107,509,743	\$1,086,454,356
Interest	3,873,772,423	3,686,984,270
Change of assumptions	1,046,013,445	0
Differences between expected and actual experience*	-211,327,627	-245,818,070
Change of plan provisions	0	0
Benefit payments, including refunds of member contributions	-2,288,613,389	-2,138,616,015
Other Changes	<u>-418,673</u>	0
Net change in total pension liability	\$3,526,935,922	\$2,389,004,541
Total pension liability – beginning	48,459,161,570	46,070,157,029
Total pension liability – ending (a)	<u>\$51,986,097,492</u>	<u>\$48,459,161,570</u>
Plan fiduciary net position		
Contributions – employer (including those for administrative expenses)**	\$901,744,209	\$849,748,895
Contributions – employee (including purchase of service)**	968,974,637	911,485,324
Net investment income	4,110,266,059	778,696,864
Benefit payments, including refunds of member contributions	-2,288,613,389	-2,138,616,015
Administrative expense	-9,870,284	-10,573,149
Other	<u>1,723,270</u>	<u>566,803</u>
Net change in plan fiduciary net position	\$3,684,224,502	\$391,308,722
Plan fiduciary net position – beginning	<u>35,002,028,906</u>	34,610,720,184
Plan fiduciary net position – ending (b)	\$38,686,253,408	\$35,002,028,906
Net pension liability – ending (a) – (b)	<u>\$13,299,844,084</u>	<u>\$13,457,132,662</u>
Plan fiduciary net position as a percentage of the total pension liability	74.42%	72.23%
Covered employee payroll	\$6,237,158,079	\$6,081,072,010
Plan net pension liability as percentage of covered employee payroll	213.2%	221.3%

<sup>\*</sup> Includes new liability resulting from purchase of service.

<sup>\*\* 2016</sup> values are restated due to GASB No. 82, which classifies contributions as member contributions for the purposes of GASB No. 67 if they are made by an employer to satisfy what are actually deemed to be member contribution requirements.

#### Schedule of Contributions - Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions*	Contribution Deficiency (Excess)	Covered-Employee Payroll**	Contributions as a Percentage of Covered Employee Payroll
2008	\$1,123,540,833	\$1,167,392,913	(\$43,852,080)	\$5,347,066,098	21.83%
2009	1,202,077,571	1,213,067,534	(10,989,963)	5,724,801,269	21.19%
2010	1,339,528,091	1,281,714,847	57,813,244	5,958,931,742	21.51%
2011	1,326,777,889	1,264,759,603	62,018,286	5,911,919,210	21.39%
2012	1,425,790,188	1,332,320,660	93,469,528	5,817,634,985	22.90%
2013	1,369,998,167	1,310,082,859	59,915,308	5,574,616,761	23.50%
2014	1,508,752,536	1,405,006,553	103,745,983	5,715,259,174	24.58%
2015	1,499,751,865	1,436,652,815	63,099,050	5,753,148,095	24.97%
2016	888,592,224	849,748,895	38,843,329	5,921,618,314	14.35%
2017	912,688,843	901,744,209	10,944,634	6,081,072,010	14.83%

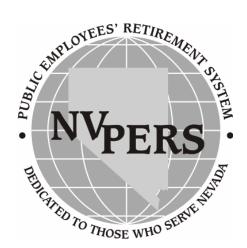
<sup>\*</sup> Includes employer contributions towards administrative expenses.

#### Notes:

All contributions shown reflect employer-paid contributions only. Member contributions are excluded. 2016 values are restated due to GASB No. 82, which classifies contributions as member contributions for the purposes of GASB No. 67 if they are made by an employer to satisfy what are actually deemed to be member contribution requirements.

Actuarially Determined Contributions above are based on actuarially determined contribution rates (employer portion only) from most recent ratesetting year prior to year shown, applied to covered-employee payroll for year shown.

<sup>\*\*</sup> Measurement as of beginning of year.



## STATISTICAL SECTION

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#### **OVERVIEW**

This section of the Public Employees' Retirement System of Nevada's Comprehensive Annual Financial Report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary says about the System's overall financial health.

#### FINANCIAL TRENDS

These schedules contain trend information to help the reader understand how the System's financial performance has changed over time.

- Schedule 1 Changes in Net Position – Last Ten Years
- Schedule 2 Benefit and Refund Deductions from Net Position – Last Ten Years

#### REVENUES

This schedule contains information to help the reader understand the System's funding over the last ten years.

> Schedule 3 Contribution Rates – Last Ten Years

#### **OPERATIONS**

These schedules contain information about the System's operations.

- Schedule 4 Retired Members by Type of Benefit
- Average Benefit Payments Schedule 5
- Schedule 5-A New Retired Members Average Benefit Payments
- Average Age at Retirement Last Ten Years Schedule 6
- Number of Active Members per Retiree Last Ten Years Schedule 7
- Schedules of Funding Progress Last Ten Years Schedule 8
- Schedule 9 **Participating Employers**
- Schedule 10 Principal Participating Employers – Current Year and Nine Years Ago
- Average Age and Service Statistics for Members Last Ten Years Schedule 11
- Average Salaries for Members Last Ten Years Schedule 12

#### FINANCIAL TRENDS

SCHEDULE 1 CHANGES IN NET POSITION - LAST TEN FISCAL YEARS (in millions)

	2008	2009	2010
Additions			
Employer contributions	\$ 627.7	\$ 653.4	\$ 690.7
Plan member contributions	627.7	653.3	690.7
Repayment and purchase of service	43.3	28.1	26.9
Investment income (net of expenses)	(743.1)	(3,543.4)	2,059.4
Other income	2.4	2.4	1.9
Total additions to plan net position	558.0	(2,206.2)	3,469.6
Deductions			
Benefit payments	1,033.3	1,189.6	1,301.6
Refunds	16.8	18.6	20.3
Administrative and other expenses	8.7	9.7	11.1
Transfers of contributions	2.6	3.8	0.5
Total deductions from plan net position	1,061.4	1,221.7	1,333.5
Change in net position	\$ (503.4)	\$ (3,427.9)	\$ 2,136.1

Notes: Information is from internal System records

Both the employer and plan members contributions have been restated in this schedule for fiscal years 2008 through 2016 as a result of implementing GASB 82. Refer to page 33 for more information on GASB 82.

## Fiscal Year

_	2011	_	2012	_	2013	_	2014	2014 20				_	2017
\$	680.9	\$	715.3	\$	704.7	\$	757.4	\$	775.5	\$	849.7	\$	901.8
	680.9		715.2		704.6		757.3		775.4		849.8		901.7
	31.5		38.0		46.5		42.8		82.5		61.7		67.2
	4,402.4		766.1		3,193.9		5,031.4		1,395.3		778.7		4,110.3
_	2.2	_	2.1	_	2.5		1.9	_	2.8	_	2.0	_	2.1
_	5,797.9	_	2,236.7	_	4,652.2	_	6,590.8	_	3,031.5	_	2,541.9	_	5,983.1
	1,412.1		1,552.7		1,680.8		1,816.7		1,958.3		2,111.9		2,258.2
	24.8		27.8		26.1		23.1		25.6		26.8		30.4
	10.6		10.0		9.6		9.6		9.6		11.9		9.9
_	1.5	_	1.7	_	0.9	_	1.0	_	2.4	_		_	0.4
_	1,449.0	_	1,592.2	_	1,717.4	_	1,850.4	_	1,995.9	_	2,150.6	_	2,298.9
\$_	4,348.9	\$_	644.5	\$_	2,934.8	\$_	4,740.4	\$_	1,035.6	\$_	391.3	\$_	3,684.2

## FINANCIAL TRENDS

SCHEDULE 2
BENEFIT AND REFUND DEDUCTIONS FROM NET POSITION
(in millions)

	2008	2009	2010
Regular Members:			
Benefits			
Retirement and survivor	\$ 797.7	\$ 924.7	\$ 1,008.3
Disability	44.0	48.8	52.9
Total benefits	\$ 841.7	\$ 973.5	\$ 1,061.2
Refunds			
Refunds due to separation	\$ 12.3	\$ 14.0	\$ 14.6
Refunds due to death	-	-	-
Mandatory employer distributions	0.2	0.5	0.5
Total refunds	\$ 12.5	\$ 14.5	\$ 15.1
Police/Fire Members:			
Benefits			
Retirement and survivor	\$ 181.6	\$ 204.9	\$ 227.9
Disability	9.9	11.2	12.5
Total benefits	\$ 191.5	\$ 216.1	\$ 240.4
Refunds			
Refunds due to separation	\$ 4.3	\$ 4.1	\$ 5.2
Refunds due to death	<u></u> _		
Total refunds	\$ 4.3	\$4.1	\$5.2_
Total Members:			
Benefits			
Retirement and survivor	\$ 979.3	\$ 1,129.6	\$ 1,236.2
Disability	53.9	60.0	65.4
Total benefits	\$ 1,033.2	\$ 1,189.6	\$1,301.6
Refunds			
Refunds due to separation	\$ 16.6	\$ 18.1	\$ 19.8
Refunds due to death	-	-	-
Mandatory employer distributions	0.2	0.5	0.5
Total refunds	\$ 16.8	\$ 18.6	\$ 20.3

Notes: Police/Fire received post-retirement increases each year. Amounts are immaterial for purposes of this schedule. Information is from internal System records.

## Fiscal Year

2011	2012	2013	2014	2015	2016	2017
\$ 1,085.8	\$ 1,187.8 63.6 \$ 1,251.4 \$ 19.1 - 0.3 \$ 19.4	\$ 1,283.6 69.4 \$ 1,353.0 \$ 18.2 0.5 0.3 \$ 19.0	\$ 1,385.3 75.5 \$ 1,460.8 \$ 17.0 0.4 0.1 \$ 17.5	\$ 1,491.2 81.3 \$ 1,572.5 \$ 18.1 0.8 0.1 \$ 19.0	\$ 1,609.6	\$ 1,720.0 81.5 \$ 1,801.5 \$ 21.9 1.7 0.9 \$ 24.5
\$ 254.4 13.6 \$ 268.0 \$ 6.2 \$ 6.2	\$ 286.1 15.2 \$ 301.3 \$ 8.4 \$ 8.4	\$ 310.5 17.3 \$ 327.8 \$ 7.0 0.1 \$ 7.1	\$ 336.4 19.5 \$ 355.9 \$ 5.5 0.1 \$ 5.6	\$ 364.2 21.6 \$ 385.8 \$ 6.6 \$ 6.6	\$ 398.1 22.5 \$ 420.6 \$ 4.8 \$ 4.8	\$ 432.9 23.8 \$ 456.7 \$ 5.7 0.2 \$ 5.9
\$ 1,340.2 71.9 \$ 1,412.1	\$ 1,473.9	\$ 1,594.1 86.7 \$ 1,680.8	\$ 1,721.7 95.0 \$ 1,816.7	\$ 1,855.4 102.9 \$ 1,958.3	\$ 2,007.7 104.2 \$ 2,111.9	\$ 2,152.9 105.3 \$ 2,258.2
\$ 24.6 - 0.2 \$ 24.8	\$ 27.5 - 0.3 \$ 27.8	\$ 25.2 0.6 0.3 \$ 26.1	\$ 22.5 0.5 0.1 \$ 23.1	\$ 24.7 0.8 0.1 \$ 25.6	\$ 25.2 1.3 0.3 \$ 26.8	\$ 27.6 1.9 0.9 \$ 30.4

## **REVENUES**

# SCHEDULE 3 CONTRIBUTION RATES

	Regular F	Employees	Police/Fire Employees						
	Employer-Pay Plan	Employee/ Employer Plan (matching rate)	Employer-Pay Plan	Employee/ Employer Plan (matching rate)					
Fiscal year ended June 30,									
2008	20.50 %	10.50 %	33.50	% 17.25 %					
2009	20.50	10.50	33.50	17.25					
2010	21.50	11.25	37.00	19.00					
2011	21.50	11.25	37.00	19.00					
2012	23.75	12.25	39.75	20.25					
2013	23.75	12.25	39.75	20.25					
2014	25.75	13.25	40.50	20.75					
2015	25.75	13.25	40.50	20.75					
2016	28.00	14.50	40.50	20.75					
2017	28.00	14.50	40.50	20.75					

**SCHEDULE 4** 

## RETIRED MEMBERS BY TYPE OF BENEFIT As of June 30, 2017 (Page 1 of 2)

## **Regular Retired Members**

Amount of	Number of Retired		Type of F	Retirement	
Monthly Benefit	Members	Service	Disability	Beneficiary	Survivor
Under \$1,000	12,670	9,586	649	1,219	1,216
\$1,000 - \$1,999	13,007	10,803	725	1,202	277
\$2,000 - \$2,999	9,241	7,771	553	700	217
\$3,000 - \$3,999	6,741	5,931	324	351	135
\$4,000 - \$4,999	6,019	5,535	164	241	79
\$5,000 - \$5,999	4,295	4,093	65	104	33
\$6,000 - \$6,999	1,860	1,774	20	60	6
\$7,000 - \$7,999	1,081	1,044	14	19	4
\$8,000 - \$8,999	545	525	5	13	2
\$9,000 - \$9,999	241	238	1	2	-
\$10,000 & Over	275_	271		3	1
Total	55,975	47,571	2,520	3,914	1,970

#### **SCHEDULE 4**

## RETIRED MEMBERS BY TYPE OF BENEFIT As of June 30, 2017 (Page 2 of 2)

#### **Police/Fire Retired Members**

Amount of	Number of Retired		Type of F	Retirement			
Monthly Benefit	Members	Service	Disability	Beneficiary	Survivor		
Under \$1,000	611	280	35	146	150		
\$1,000 - \$1,999	985	599	126	229	31		
\$2,000 - \$2,999	959	652	107	185	15		
\$3,000 - \$3,999	1,021	777	109	109	26		
\$4,000 - \$4,999	997	830	830 90		18		
\$5,000 - \$5,999	915	818	54	30	13		
\$6,000 - \$6,999	865	828	20	11	6		
\$7,000 - \$7,999	610	598	4	5	3		
\$8,000 - \$8,999	438	430	3	5	-		
\$9,000 - \$9,999	262	261	-	1	-		
\$10,000 & Over	492	485	2	5			
Total	8,155	6,558	550	785	262		

The values in these tables represent the number of individuals receiving benefit payments.

Individuals receiving service retirement are members of the System that received a benefit payment during fiscal year 2017 which was not a disability retirement.

Members with five or more years of service who become totally unable to perform their job or any comparable job because of injury or mental or physical illness are eligible to apply for disability retirement. Once approved by the Board, members receive a monthly disability retirement payment.

When a member retires there are seven retirement options. Option 1 pays the full monthly benefit but provides no income protection for a beneficiary after death for Regular members. Beneficiary retirements are paid to beneficiaries of retired members who have passed away with a retirement of Option 1 (Police/Fire members only) and Options 2 through 7 for all members.

Survivor retirements are paid when a member dies prior to retirement.

For more information regarding the various retirement types, refer to the Plan Summary starting on page 131.

Information provided by Segal Consulting, the System's actuary.

**SCHEDULE 5** 

#### AVERAGE BENEFIT PAYMENTS

<u>June 30</u>		Regular Members	Police/Fire Members
2008	Average monthly benefit Average monthly compensation at retirement Number of new retirees Average years of service at retirement	\$2,306 \$5,054 2,710 19.04	\$3,740 \$7,458 345 22.30
2009	Average monthly benefit Average monthly compensation at retirement Number of new retirees Average years of service at retirement	\$2,428 \$5,139 3,996 19.80	\$3,926 \$7,710 379 22.21
2010	Average monthly benefit Average monthly compensation at retirement Number of new retirees Average years of service at retirement	\$2,486 \$5,309 2,252 18.15	\$4,141 \$8,250 357 23.01
2011	Average monthly benefit Average monthly compensation at retirement Number of new retirees Average years of service at retirement	\$2,539 \$4,890 2,933 19.38	\$4,348 \$7,343 433 22.53

Number of new retirees excludes survivors and beneficiaries.

The average monthly benefit and number of new retirees is from Segal Consulting, the System's actuarial firm. All other data is from internal System records.

Note: Average age at retirement is now shown on Schedule 6.

For GASB reporting purposes, beginning in 2012 Schedule 5-A is organized by years of credited service.

#### **SCHEDULE 5-A**

# NEW RETIRED MEMBERS AVERAGE BENEFIT PAYMENTS (Page 1 of 2)

## Regular

						Year	of	Credited	Ser	vice				
		0-4		5-9		10-14		15-19		20-24		25-29		30+
FY2012	-		•		•		•		•		•		•	
Average														
monthly benefit	\$	316	\$	708	\$	1,492	\$	2,253	\$	3,133	\$	4,207	\$	5,334
Average salary	\$	31,100	\$	53,851	\$	65,168	\$	67,022	\$	73,116	\$	77,811	\$	82,864
New retirees		67		638		686		546		540		283		466
FY2013														
Average														
monthly benefit	\$	392	\$	732	\$	1,445	\$	2,302	\$	3,208	\$	4,180	\$	5,533
Average salary	\$	40,715	\$	55,919	\$	62,673	\$	67,832	\$	73,088	\$	76,158	\$	84,003
New retirees		63		742		729		563		517		274		353
FY2014														
Average														
monthly benefit	\$	307	\$	698	\$	1,433	\$	2,351	\$	3,227	\$	4,266	\$	5,361
Average salary	\$	39,526	\$	53,111	\$	63,395	\$	70,463	\$	73,299	\$	76,178	\$	82,142
New retirees		57		698		673		583		510		331		402
FY2015														
Average														
monthly benefit	\$	281	\$	762	\$	1,441	\$	2,408	\$	3,245	\$	4,287	\$	5,565
Average salary	\$	13,318	\$	52,524	\$	63,031	\$	70,500	\$	73,071	\$	77,750	\$	87,364
New retirees		40		721		746		573		558		446		471
FY2016														
Average														
monthly benefit	\$	363	\$	745	\$	1,412	\$	2,412	\$	3,332	\$	4,412	\$	5,357
Average salary	\$	36,513	\$	51,414	\$	60,663	\$	70,429	\$	74,821	\$	78,473	\$	83,261
New retirees		24		664		784		684		600		459		531
FY2017														
Average														
monthly benefit	\$	298	\$	720	\$	1,458	\$	2,367	\$	3,383	\$	4,528	\$	5,386
Average salary	\$	35,079	\$	50,398	\$	62,982	\$	68,682	\$	76,932	\$	81,449	\$	86,777
New retirees		28		611		806		598		539		518		530

#### **SCHEDULE 5-A**

# NEW RETIRED MEMBERS AVERAGE BENEFIT PAYMENTS (Page 2 of 2)

#### Police/Fire

			•	Yea	r of Credit	ed S	Service		
	0-4	5-9	10-14		15-19	_	20-24	25-29	30+
FY2012									
Average									
monthly benefit	N/A	\$ 894	\$ 1,776	\$	3,357	\$	4,783	\$ 6,809	\$ 8,451
Average salary	N/A	\$ 63,123	\$ 79,808	\$	94,892	\$	105,111	\$ 119,107	\$ 128,952
New retirees	0	27	67		61		128	122	35
FY2013									
Average									
monthly benefit	N/A	\$ 1,098	\$ 1,836	\$	3,287	\$	5,056	\$ 7,103	\$ 8,677
Average salary	N/A	\$ 67,352	\$ 85,941	\$	92,347	\$	105,667	\$ 124,569	\$ 123,411
New retirees	0	25	54		72		107	123	28
FY2014									
Average									
monthly benefit	N/A	\$ 791	\$ 1,807	\$	3,379	\$	5,012	\$ 6,710	\$ 8,741
Average salary	N/A	\$ 68,430	\$ 77,952	\$	99,204	\$	107,261	\$ 120,215	\$ 130,369
New retirees	0	14	48		55		94	113	36
FY2015									
Average									
monthly benefit	N/A	\$ 1,134	\$ 1,762	\$	3,419	\$	5,276	\$ 7,185	\$ 8,815
Average salary	N/A	\$ 68,715	\$ 78,453	\$	93,265	\$	112,151	\$ 125,093	\$ 128,100
New retirees	0	13	47		53		128	149	47
FY2016									
Average									
monthly benefit	N/A	\$ 797	\$ 1,864	\$	3,414	\$	5,230	\$ 7,117	\$ 8,275
Average salary	N/A	\$ 65,601	\$ 80,772	\$	92,602	\$	109,171	\$ 124,280	\$ 125,158
New retirees	0	21	68		59		136	195	42
FY2017									
Average									
monthly benefit	N/A	\$ 945	\$ 1,964	\$	3,638	\$	5,019	\$ 7,263	\$ 10,022
Average salary	N/A	\$ 76,891	\$ 84,940	\$	103,184	\$	110,221	\$ 126,582	\$ 144,234
New retirees	0	22	61		71		151	195	41

Information provided by Segal Consulting, the System's actuary.

SCHEDULE 6
AVERAGE AGE AT RETIREMENT

June 30	Regular	Police/Fire
2008	60	55
2009	61	54
2010	61	55
2011	64	58
2012	64	59
2013	65	59
2014	66	59
2015	66	60
2016	67	60
2017	67	60

Information is from internal System records.

SCHEDULE 7

NUMBER OF ACTIVE MEMBERS PER RETIREE

		Number of Active Members		er of embers*	Active Members  per Retiree	
<u>June 30</u>	Regular	Police/ <u>Fire</u>	<u>Regular</u>	Police/ <u>Fire</u>	<u>Regular</u>	Police/ <u>Fire</u>
2008	93,816	12,307	29,270	4,209	3.2	2.9
2009	92,784	12,633	32,578	4,517	2.8	2.8
2010	90,219	12,375	34,047	4,794	2.6	2.6
2011	87,975	11,936	36,123	5,136	2.4	2.3
2012	86,719	11,793	38,528	5,484	2.3	2.2
2013	87,193	11,845	40,854	5,799	2.1	2.0
2014	88,709	11,813	43,136	6,034	2.1	2.0
2015	91,124	11,984	45,508	6,345	2.0	1.9
2016	93,030	12,137	47,899	6,716	1.9	1.8
2017	93,276	12,525	50,091	7,108	1.9	1.8

<sup>\*</sup> Excluding survivors and beneficiaries Information provided by Segal Consulting, the System's actuary.

## **SCHEDULE 8**

## SCHEDULES OF FUNDING PROGRESS\* 2008 to 2017

(in millions)

as a % of Annual Covered
Payroll
139.7%
169.4
192.9
211.0
220.3
252.5`
245.1
236.3
235.0
239.4

					Actuarial	Value of	
	Unfunded		Unfunded.	Unfunded Actuarial		Assets as % of	
Actuarial	Actuarial Accrued		Accrued Li	Accrued Liability as		Total Actuarial	
Valuation	Liability (in	Liability (in millions)		% of Payroll		Accrued Liability	
Date		Police/		Police/		Police/	
June 30	Regular	Fire	Regular	Fire	Regular	Fire	
2008	\$5,363.0	\$1,895.2	123.8%	219.4%	77.7%	70.8%	
2009	6,929.3	2,173.9	155.1	240.1	73.4	68.9	
2010	7,950.5	2,401.8	178.4	264.5	71.2	67.8	
2011	8,514.1	2,491.0	196.5	282.4	70.6	68.4	
2012	8,729.4	2,476.5	206.2	289.5	71.2	70.1	
2013	10,331.9	2,544.0	243.7	295.7	68.9	71.1	
2014	10,160.0	2,371.5	238.3	278.9	70.8	74.3	
2015	10,041.1	2,311.1	230.3	266.3	72.4	76.3	
2016	10,197.9	2,365.0	228.7	266.3	73.2	77.1	
2017	10,590.9	2,675.9	229.4	289.3	73.9	76.4	

<sup>\*</sup>Information provided by Segal Consulting, the System's actuary.

## SCHEDULE 9 PARTICIPATING EMPLOYERS

(Page 1 of 3)

**State of Nevada and Related Agencies** 

Board of Examiners for Alcohol & Drug Abuse Counselors Douglas County School District

Legislative Counsel Bureau Liquefied Petroleum Gas Board

Nevada Rural Housing Authority Public Employees' Retirement System

State Board of Accountancy State Board of Architecture

State Board of Chiropractic Examiners

State Board of Cosmetology State Board of Dental Examiners State Board of Dispensing Opticians

State Board of Examiners for Marriage & Family Therapists and Clinical Professional Counselors

State Board of Examiners for Social Workers

State Board of Massage Therapy State Board of Medical Examiners

State Board of Nursing State Board of Optometry

State Board of Osteopathic Medicine

State Board of Pharmacy

State Board of Physical Therapy Examiners State Board of Psychological Examiners State Board of Veterinary Medical Examiners

State Personnel

University of Nevada System

University of Nevada, Las Vegas University of Nevada, Reno

**Schools** 

100 Academy of Excellence Academy for Career Education Alpine Academy Charter School

American Preparatory Academy of Nevada Andre Agassi College Preparatory Academy

Bailey Charter Elementary School Beacon Academy of Nevada Carson City School District Carson Montessori School Churchill County School District Clark County School District

Coral Academy of Science Charter School

Delta Academy

Discovery Charter School

Coral Academy Las Vegas

Doral Academy of Nevada
Douglas County School District
Elko County School District

Elko Institute for Academic Achievement

Esmeralda County School District

Equipo Academy

Eureka County School District Explore Knowledge Charter School Founders Academy of Las Vegas High Desert Montessori School Honors Academy of Literature Humboldt County School District

ICDA Charter High School

Imagine School at Mountain View

Innovations Charter School Lander County School District

Las Vegas Charter School of the Deaf Leadership Academy of Nevada Learning Bridge Charter School Legacy Traditional School of Nevada Lincoln County School District

Lyon County School District Mater Academy of Nevada

Mariposa Academy of Language and Learning

Mineral County School District Nevada Connections Academy Nevada State High School Nevada Virtual Academy Nye County School District

Oasis Academy

**Odyssey Charter School** 

Pershing County School District Pinecrest Academy of Nevada

**Quest Academy** 

Rainbow Dreams Academy Rainshadow Charter School Sierra Nevada Academy

Silver Sands Montessori Charter School

Silver State High School SLAM Academy of Nevada Somerset Academy of Las Vegas Storey County School District Washoe County School District White Pine County School District

## SCHEDULE 9 PARTICIPATING EMPLOYERS

(Page 2 of 3)

#### **Counties**

Churchill County Clark County Douglas County Elko County

Esmeralda County Eureka County Humboldt County Lander County

Lincoln County
Lyon County
Mineral County
Nye County
Pershing County

Washoe County White Pine County

**Storey County** 

#### Cities

City of Boulder
City of Caliente
City of Carlin
City of Carson
City of Elko
City of Ely
City of Fallon
City of Fernley
City of Henderson
City of Las Vegas
City of Lovelock
City of Mesquite
City of North Las Vegas

City of Reno
City of Sparks
City of Wells
City of West Wendover
City of Winnemucca

City of Winnemucca City of Yerington

#### **Hospitals**

Battle Mountain General Hospital Grover C. Dils Medical Center Humboldt General Hospital Mount Grant General Hospital Pershing General Hospital Silver Springs Stagecoach Hospital District University Medical Center of Southern Nevada William Bee Ririe Hospital

#### Utility, Irrigation, and Sanitation Districts

Alamo Sewer & Water General Improvement District

Beatty Water and Sanitation District

**CC** Communications

Clark County Water Reclamation District Douglas County Sewer and Water District

Lander County Sewer and Water Lincoln County Power District Lovelock Meadows Water District

McGill-Ruth Consolidated Sewer and Water District

Minden-Gardnerville Sanitation District

Moapa Valley Water District Overton Power District

Pershing County Water Conservation District

Truckee Meadows Water Authority Truckee-Carson Irrigation District Virgin Valley Water District Walker River Irrigation District Washoe County Water District

### **Special Districts and Agencies**

Austin Volunteer Fire Department

Battle Mountain Volunteer Fire Department

Canyon General Improvement District

Carson City Airport Authority

Central Dispatch Administrative Authority Central Lyon County Fire Protection District Churchill County Volunteer Fire Department Churchill Mosquito Abatement District City of Wells Volunteer Fire Department

Conservation District of Southern Nevada Douglas County Mosquito District East Fork Fire Protection District

East Fork Swimming Pool District Elko Convention and Visitors Authority Elko County Agricultural Association

Elko Volunteer Fire Department Fernley Swim Pool District

Gardnerville Ranchos General Improvement District

Gerlach General Improvement District Grass Valley Volunteer Fire Department Henderson District Public Libraries

Incline Village Visitor's/Convention Bureau

## SCHEDULE 9 PARTICIPATING EMPLOYERS

(Page 3 of 3)

## **Special Districts and Agencies (continued)**

Indian Hills Improvement District

Kingsbury General Improvement District

Lahontan Conservation District

Lander County Convention & Tourism

Las Vegas Convention/Visitors Authority

Las Vegas/Clark County Library District

Las Vegas Metropolitan Police Department

Lovelock Volunteer Fire Department

Mason Valley Fire District

Mineral County Housing Authority

Mt. Charleston Fire Protection District

Nevada Association of Counties

Nevada Tahoe Conservation District

North Lake Tahoe Fire Protection District

North Lyon County Fire District

Palomino Valley General Improvement District

Pershing County Volunteer Fire Department

Regional Transportation Commission

Reno Housing Authority

Reno/Sparks Convention and Visitors Authority

Reno-Tahoe Airport Authority

Round Hill General Improvement District

RTC of Southern Nevada

Rye Patch Volunteer Fire Department

Southern Nevada Health District

Southern Nevada Housing Authority

Stagecoach General Improvement District

Storey County Fire Protection District

Sun Valley General Improvement District

Tahoe-Douglas District

Tahoe-Douglas Fire Protection District

Town of Kingston

Truckee Meadows Fire Protection District

Truckee Meadows Regional Planning Agency

White Pine County 474 Fire Protection District

White Pine County Tourism and Recreation Board

Winnemucca Rural Volunteer Fire

Winnemucca Volunteer Fire Department

**Workforce Connections** 

## **SCHEDULE 10** PRINCIPAL PARTICIPATING EMPLOYERS

		2008	
	•		Percentage
	Covered		of Total
Participating Agencies	<u>Employees</u>	Rank	System
Clark County School District	32,719	1	30.8%
State of Nevada	15,252	2	14.4
Clark County	7,579	3	7.1
Washoe County School District	7,291	4	6.9
Las Vegas Metropolitan Police Department	5,042	5	4.7
University Medical Center of Southern Nevada	3,582	6	3.4
City of Las Vegas	2,926	7	2.8
Washoe County	2,865	8	2.7
University of Nevada, Reno	2,191	9	2.1
City of Henderson	2,116	10	2.0
Subtotal	81,563		76.9
All other	24,560		23.1
Total 2008 (173 Agencies)	106,123		100.0%
		2017	
			Percentage
	Covered		of Total
Participating Agencies	Employees	Rank	System
Clark County School District	32,407	1	30.6%
State of Nevada	17,871	2	16.9
Washoe County School District	7,539	3	7.1
Clark County	7,121	4	6.7
Las Vegas Metropolitan Police Department	5,292	5	5.0
University Medical Center of Southern Nevada	3,338	6	3.2
City of Las Vegas	2,670	7	2.5
Washoe County	2,443	8	2.3
City of Henderson	2,198	9	2.1
University of Nevada, Reno	1,864	10	1.8
Subtotal	82,743		78.2
All other <sup>a</sup>	23,058		21.8
Total 2017 (206 Agencies)	105,801		100.0%

<sup>a</sup> In 2017 "All other" consisted of:  Agency Type	Number of Agencies	Covered Employees
State of Nevada and Related Agencies	22	534
University of Nevada System	1	1,812
Schools	57	8,967
Counties	14	2,718
Cities	17	4,205
Hospitals	7	717
Utility, Irrigation, and Sanitation Districts	18	833
Special Districts and Agencies	60	3,272
Subtotal	196	23,058
Largest Ten Participating Employers	10	82,743
Total	206	105,801

SCHEDULE 11

AVERAGE AGE AND SERVICE STATISTICS FOR MEMBERS\*

	Reg	ular	Police/Fire			
		Average		Average		
	Average	Years of	Average	Years of		
As of June 30	Age	Service	Age	Service		
2008	45.1	8.4	39.3	9.8		
2009	45.2	8.6	39.4	9.8		
2010	45.8	9.2	39.8	10.3		
2011	46.1	9.6	40.1	10.7		
2012	46.4	10.0	40.4	11.1		
2013	46.5	10.1	40.6	11.3		
2014	46.4	10.1	40.8	11.5		
2015	46.2	10.0	40.8	11.6		
2016	46.0	9.9	40.7	11.5		
2017	45.9	9.8	40.2	11.2		

SCHEDULE 12

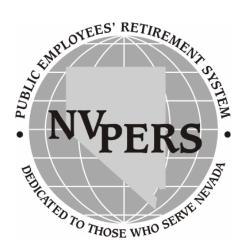
AVERAGE SALARIES FOR MEMBERS\*

				Increase			Increase	
	As of June 30		Regular	(Decrease)		Police/Fire	(Decrease)	_
	2008	\$	46,159	6.5		\$ 70,194	5.8	=
	2009		48,151	4.3	%	71,669	2.1	<b>%</b>
	2010		49,407	2.6		73,373	2.4	
	2011		49,248	(0.3)		73,895	0.7	
	2012		48,808	(0.9)		72,523	(1.9)	
	2013		48,626	(0.4)		72,637	0.2	
	2014		48,057	(1.2)		71,990	(0.9)	
	2015		47,840	(0.5)		72,417	0.6	
	2016		47,922	0.2		73,179	1.1	
	2017		49,502	0.3		73,841	0.9	
Average a	everage annual increase 2008 – 2017			0.4 %	⁄o		0.6	%

<sup>\*</sup> Information provided by Segal Consulting

Fiscal Year 2017 Consumer Price All Urban Index (CPI)

0.77%



## **PLAN SUMMARY**

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#### **Administration**

PERS provides retirement, disability, and death benefits to long-term public employees. The System includes the employees of Nevada counties, cities, schools, state government, and other local public employers.

The governing authority of the System is a 7-member board appointed by the Governor. Day-to-day operations are managed by the Executive Officer. Operating funds are provided by transfer of an administrative fee assigned to each member and benefit recipient. Monthly fees at June 30, 2017, were \$3.30 for each Regular member and benefit recipient and \$3.57 for each Police/Fire member and benefit recipient.

## **Membership**

An employee of a participating public employer is required to be a member of the System from the first day of service if he or she is employed in a position which is normally considered to be half-time or more according to the full-time work schedule established by the public employer. Persons employed in an approved police or fire position are covered under the Police/Fire sub-fund. Persons who are not police or fire employees are covered under the Regular sub-fund. Membership is canceled upon refund, retirement, or death. Membership is not canceled automatically upon termination of employment. A member must apply for a refund, distribution, or retirement to cancel membership.

## **Types of Contribution Plans**

All pay that meets the definition of compensation as defined in NRS 286.025(2) is subject to retirement contribution. New hires (in agencies which did not elect the Employer-Pay Contribution Plan (EPC) prior to July 1, 1983) have the option of selecting EPC or the Employee/Employer Contribution Plan. Each plan is described below.

#### **Employer-Pay Contribution Plan (EPC)**

Under EPC, contributions are paid on the employee's behalf by their public employer. However, the employee shares equally in the cost of the contribution rate either through salary reduction or in lieu of a promised pay increase. EPC contributions are not deposited to the individual member's account and are not available for refund upon termination of employment. Effective July 1, 2015, the EPC contribution rates are 28.00% for Regular members and 40.50% for Police/Fire members.

#### **Employee/Employer Contribution Plan**

Effective July 1, 2015, under this plan, the Regular member and the employer each contribute 14.50% of compensation to the System. Police/Fire members and their employers each contributed 20.75% of compensation. Employee contributions made under this plan are refundable upon termination of employment. Employer contributions are not refundable.

#### **Service**

Public employees, other than school employees, earn service credit for years, months, and days actually worked. School employees, who are not regular 12-month employees, receive service credit on the basis of a full year if they work full-time for the entire school year. For these same school employees, service for a part of the school year is credited on a ratio of one and one-third days for each day worked.

#### **Purchase of Service**

Members with five years of creditable service may purchase up to five years of service credit. The member must pay the full actuarial cost associated with age and average compensation at the time of purchase. Members entering the System on or after July 1, 2015, may purchase service; however, the service will not count towards retirement eligibility unless the member has a family medical emergency.

#### **Refund of Contributions**

Members who have contributed under the Employee/Employer Contribution plan may withdraw employee contributions if terminating all employment for which contribution is required or if employed in a position ineligible for membership for at least 90 days. A refund cancels all rights of membership.

#### **Repayment of Refunded Contributions**

Members who receive a refund of employee contributions and later return to work and re-establish active membership for a period of at least six months may repay the refunded contributions and restore service credit. Repayment, including interest at the actuarially determined rate, may be in the form of a lump-sum payment or by monthly installments. Service will not be restored until repayment is complete.

## **Benefits**

The 2009 Legislature passed Senate Bill 427 which provided for various changes to the System and members newly hired into the System on or after January 1, 2010. The 2015 Legislature passed Senate Bill 406 which applies to members newly hired on or after July 1, 2015. Such changes are noted within each subject area below.

#### **Service Retirement Vesting**

Contributing members of the System earn the right to receive a retirement benefit after five years of service.

#### **Service Retirement**

Requirements for Regular members to retire with an unreduced benefit – age 65 with five years of service, **or** age 60 with ten years of service, **or** any age with thirty years of service.

For Regular members who enter the System on or after January 1, 2010, to retire with an unreduced benefit – age 65 with five years of service, **or** age 62 with ten years of service, **or** any age with thirty years of service.

For Regular members who enter the System on or after July 1, 2015, to retire with an unreduced benefit – age 65 with five years of service, or age 62 with ten years of service, or age 55 with 30 years of service, or at any age with 33 1/3 years of service.

Requirements for Police/Fire members to retire with an unreduced benefit – age 65 with five years of service, **or** age 55 with ten years of Police/Fire service, **or** age 50 with twenty years of Police/Fire service, **or** at any age with twenty-five years of Police/Fire service.

For Police/Fire members who enter the System on or after January 1, 2010, to retire with an unreduced benefit – age 65 with five years of service, or age 60 with ten years of Police/Fire service, or age 50 with twenty years of Police/Fire service or any age with thirty years of total service.

Only service performed in a position as a police officer or firefighter may be counted towards eligibility for retirement as Police/Fire accredited service.

## **Early Retirement Penalty**

Members with the years of service necessary to receive a retirement benefit but who have not reached the age for an unreduced benefit may retire at any age with the benefit reduced by 4% for each full year they are under the required age.

Members entering the System on or after January 1, 2010, with the years of service necessary to receive a retirement benefit but who have not reached the age for an unreduced benefit may retire at any age with the benefit reduced by 6% for each full year they are under the required age.

#### **Important Factors for Determining Retirement Benefits**

Benefit amounts are based on three factors:

- 1. Average compensation defined as the average of 36 highest consecutive months of compensation and, for members entering the system on or after January 1, 2010, the average of 36 highest consecutive months of compensation with a provision that each 12-month period of salary may not increase greater than 10% of the prior 12 months of salary reported. Salary increases due to promotion and assignment-related compensation are excluded from the salary cap calculation.
- 2. Service credit years, months, and days worked.
- 3. Selection of retirement plan prospective retirees may elect one of seven retirement options.

Option 1 – (the unmodified plan) for Regular members – Pays the full monthly benefit earned but provides no income protection for beneficiary after death.

Option 1 – (the unmodified plan) for Police/Fire members – Pays the full monthly benefit earned for the retiree's lifetime. A person who was the spouse or registered domestic partner at time of retirement shall be entitled, at the time of the retired employee's death or upon the attainment of age 50, whichever is later, to a benefit of 50% of the deceased retired employee's benefit earned at the time of his/her death in an eligible police/fire position. This benefit is available only if you are contributing under the employer pay contribution plan (EPC) at the time of retirement. Otherwise, no beneficiary allowance is available under this option.

Option 2 – Provides an actuarially reduced lifetime benefit. After death the same benefit continues for the lifetime of the beneficiary.

Option 3 – Provides an actuarially reduced lifetime benefit. After death 50% of the benefit continues for the lifetime of the beneficiary.

Option 4 – Provides an actuarially reduced lifetime benefit. After retiree's death and upon beneficiary reaching age 60, the same benefit continues for the lifetime of the beneficiary.

Option 5 – Provides an actuarially reduced lifetime benefit to retiree. After retiree's death and upon beneficiary reaching age 60, 50% of the benefit continues for the lifetime of the beneficiary.

Option 6 – Provides an actuarially reduced lifetime benefit to retiree. Upon death of the retiree, this option provides to the beneficiary a specific sum per month, which cannot exceed the monthly benefit paid to retiree.

Option 7 – Provides an actuarially reduced lifetime benefit to retiree. The option provides to the beneficiary, upon retiree's death and the beneficiary reaching age 60, a specific sum per month, which cannot exceed the monthly benefit paid to retiree.

#### **Post-Retirement Benefit Increases**

Retirees are eligible for annual benefit increases if they began receiving benefits at least three years before the effective date of the increase. Benefits are increased annually on the first day of the month following the anniversary of the commencement of benefits. The increases begin at 2% in years four, five, and six; increase to 3% in years seven, eight, and nine; 3.5% in years ten, eleven, and twelve; 4% for years thirteen and fourteen; and 5% in year fifteen and each year thereafter. If the benefit outpaces inflation in the period since retirement, the increase may be capped by a rolling three-year average of the Consumer Price Index (all items).

Retirees who enter the System on or after January 1, 2010, are eligible for annual benefit increases if they began receiving benefits at least three years before the effective date of the increase. Benefits are increased annually on the first day of the month following the anniversary of the commencement of benefits. The increases begin at 2% in years four, five, and six; increase to 3% in years seven, eight, and nine; 3.5% in years ten, eleven, and twelve; and 4% in year thirteen and each year thereafter. If the benefit outpaces inflation in the period since retirement, the increase may be capped by a rolling three-year average of the Consumer Price Index (all items).

Retirees who enter the System on or after July 1, 2015, are eligible for annual benefit increases if they began receiving benefits at least three years before the effective date of the increase. Benefits are increased annually on the first day of the month following the anniversary of the commencement of benefits. The increases begin at 2% in years four, five, and six; increase to 2.5% in years seven, eight, and nine; the lesser of 3% or the increase, if any, in the Consumer Price Index (all items) for the preceding calendar year following the tenth year and every year thereafter.

#### **Benefit Formula**

The formula used for calculating retirement benefits is as follows:

- Total Service Credit Earned (or purchased) before July 1, 2001 X 2.5% = Service Time Factor
- Total Service Credit Earned (or purchased) on and after July 1, 2001 X 2.67% = Service Time Factor
- Total Service Time Factors X Average Monthly Compensation (36 Highest Consecutive Months of Salary) = Unmodified benefit (Option 1).

For members entering the System on or after January 1, 2010, the formula for calculating retirement benefits is as follows:

- Total Service Credit Earned (or purchased) X 2.5% = Service Time Factor
- Total Service Time Factor X Average Monthly Compensation (36 Highest Consecutive Months of Salary with applicable limits\*) = Unmodified benefit (Option 1).

For Regular members entering the System on or after July 1, 2015, the formula for calculating retirement benefits is as follows:

- Total Service Credit Earned X 2.25% = Service Time Factor
- Total Service Time Factor X Average Monthly Compensation (36 Highest Consecutive Months of Salary with applicable limits\*) = Unmodified benefit (Option 1).

\*Each 12-month period of salary may not increase greater than 10% unless promotion or assignment related.

Maximum benefits are 90% of average compensation for individuals who became members before July 1, 1985, and 75% of average compensation for individuals who became members after June 30, 1985

Actuarial reductions are based on the member's age and the beneficiary's age at the time of retirement, determined from tables supplied by the System's actuary.

#### **Disability Retirement**

Members with five or more years of service who become totally unable to perform their current or any comparable job because of an injury or mental or physical illness of a permanent nature are eligible to apply for disability retirement. The application must be filed with the System prior to termination of employment. Disability retirement benefits are calculated in the same manner as service retirement without reduction for age.

## **Survivor Benefits**

#### **Eligibility**

Eligible survivors of a member who dies prior to retirement are entitled to a benefit if:

- 1 The member had two years of service in the two and one-half years immediately preceding death, or
- The member had more than ten years of accredited service, or 2.
- The member's death was caused by an occupational disease or an accident arising out of or in the 3. course of employment, regardless of service credit.

An additional benefit is available for a surviving spouse/registered domestic partner of an active member killed in the line of duty or in the course of employment regardless of service credit. See SB 406 below.

## Eligible survivors:

- Spouse or registered domestic partner 1.
- Each unmarried dependent child under age 18, or up to age 23 if a full-time student. 2.

#### **PLAN SUMMARY**

- 3. Dependent parents, provided there are no other eligible survivors at the time of member's death.
- 4. If the member is unmarried at the time of death, one designated survivor beneficiary. Additional payees may also be designated to receive direct payment of a portion of the survivor beneficiary benefit.

#### **Amount of Survivor Benefits**

Generally, if a member dies with less than ten years of service, the spouse, registered domestic partner, or survivor beneficiary would receive \$450 per month and each dependent child would receive \$400 per month. The spouse, registered domestic partner, or survivor beneficiary would receive survivor benefits for his or her lifetime. Each unmarried dependent child would receive monthly benefits until age 18, or age 23 if he or she is a full-time student.

If a member dies with more than ten years of service credit, the spouse, registered domestic partner, or survivor beneficiary is entitled to a lifetime benefit. The amount of the benefit is based on the member's age, years of service, and average compensation at the time of death. A dependent child would receive the same benefits as previously described.

A member is able to designate one survivor beneficiary to receive benefits (as described above) to be paid if the member is unmarried at the time of death. A member may also designate additional payees to receive direct payment of a portion of the survivor beneficiary benefit.

#### **SB 406**

If a member is killed in the line of duty or the course of employment, the spouse of the member has additional benefit options pursuant to Senate Bill 406 of the 2015 Legislative session. The new benefit entitles the spouse to receive 50% of the salary of the member on the date of death, 100% of the retirement allowance that the member was eligible to receive based on the member's years of service obtained prior to death, or benefits in place prior to July 1, 2015, at the election of the spouse. This benefit is effective for benefits paid on or after July 1, 2015, on account of members killed in the line of duty or course of employment on or after July 1, 2013.