BEST RUN STATE

Minnesota is the best run state in the nation, according to a study published by USA Today that cites Minnesota's strong fiscal management, low unemployment and poverty rates, above-average median household income, and the state's nearly perfect credit rating.

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OFFICE OF THE LEGISLATIVE AUDITOR
STATE OF MINNESOTA • James Nobles, Legislative Auditor

Independent Auditor's Report

Members of the Board of Trustees
Public Employees Retirement Association of Minnesota

Mr. Doug Anderson, Executive Director
Public Employees Retirement Association of Minnesota

Report on the Financial Statements

We have audited the accompanying financial statements of the Public Employees Retirement Association of Minnesota (PERA), which included the Statement of Fiduciary Net Position as of June 30, 2018, the related Statement of Changes in Fiduciary Net Position, and Notes to the Financial Statements, as listed in the Financial Section of 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 controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal controls relevant to PERA'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 PERA's internal controls. 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.

Members of the Board of Trustees
Mr. Doug Anderson, Executive Director
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Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Public Employees Retirement Association of Minnesota as of June 30, 2018, and the changes in financial position for the fiscal year then ended in conformity with accounting principles generally accepted in the United States of America.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis and the other required supplementary information, as listed in the Financial Section of the Table of Contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to Management's Discussion and Analysis and the other 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 basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information Included with the Financial Statements

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise PERA's basic financial statements. The supporting schedules in the Financial Section and the Introductory, Investment, Actuarial, and Statistical Sections, as listed in the Table of Contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supporting schedules, as listed in the Financial Section of the Table of Contents, are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. The supporting schedules have been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The Introductory, Investment, Actuarial, and Statistical Sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we issued our report, also dated December 14, 2018, on our consideration of the Public Employees Retirement Association of Minnesota's internal controls

over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope and results of our testing of internal controls over financial reporting and compliance and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

Christopher Buse, CPA
Deputy Legislative Auditor

Tracy Gebhard, CPA
Audit Director

December 14, 2018
Saint Paul, Minnesota

Management Discussion and Analysis

Stakeholders of Minnesota's Public Employees Retirement Association (PERA) need information about the certainty, amount, and timing of the Agency's cash flows to make good decisions. The management of PERA offers the following Management Discussion and Analysis to help the users of our financial statements gain an understanding of PERA's overall financial condition and results of operations for the fiscal year ended June 30, 2018. The following narrative supplements the financial statements. It should be read in conjunction with the transmittal letter and notes to the statements presented elsewhere in this Comprehensive Annual Financial Report (CAFR).

Overview of PERA and its Financial Statements:

PERA is in the business of providing income security for persons who retire from local governmental units in the State of Minnesota. PERA has two primary product lines: defined benefit retirement plans and a defined contribution plan.

The defined benefit plans focus on making statutorily determined payments. All of PERA's defined benefit plans are all multiple employer plans. The plans fall into two categories: cost sharing, and agent. In the cost sharing plans, PERA pools the assets and the obligations of the participating government employers and the pooled assets can be used to pay the retirement obligations of any employer in the plan. In the agent plan, PERA pools the assets of the participating employers for investment purposes. However, a separate account is maintained for each employer. In essence, the agent plan can be thought of as a bundle of separate retirement plans with their own obligations and assets.

PERA accounts for each defined benefit plan in its own pension trust fund as follows:

Plan name	Type of Plan	Fund type
General Employees Retirement Plan	Cost sharing, multiple employer	Pension Trust
Police and Fire Plan	Cost sharing, multiple employer	Pension Trust
Correctional Plan	Cost sharing, multiple employer	Pension Trust
Statewide Volunteer Firefighter Plan	Agent, multiple employer	Pension Trust

Funding for the Statewide Volunteer Firefighter plan comes from two sources State Fire Aid derived from a tax on fire policies sold in the State and employer contributions. Sponsoring entities (usually cities) are assessed a required annual

Condensed Schedule of Fiduciary Net

	General Employees Fund
Assets	
Cash & Receivables	$46,269
Investments	21,513,315
Securities Lending Collateral	2,164,925
Capital Assets & Other	6,504
Total Assets	**$23,731,013**
Liabilities	
Accounts Payable	$7,001
Accrued Compensated Absences	959
Securities Lending Collateral	2,164,925
Bonds Payable	4,651
Total Liabilities	**$2,177,536**
Total Net Position	**$21,553,477**

contribution if State Fire Aid is insufficient to fully fund the benefit liability at the end of any given plan year. In addition, many sponsoring agencies make voluntary contributions each year.

PERA also administers one defined contribution plan that provides benefits limited to individual contributions and related earnings on the invested contributions.

Finally, PERA acts as custodial agent to account for the investments held by various entities with the State Board of Investments (SBI) to pay future Other Post-Employment Benefits (OPEB) costs. The participating entities, not PERA, are responsible for: setting and paying benefits; determining voluntary contribution amounts; ensuring withdrawals are compliant with GAAP and State Statutes; and, any related OPEB reporting requirements.

Because the financial risk to taxpayers, bond-holders, members, and their employers is centered in the cost-sharing defined benefit plans, the rest of this discussion will focus on the three cost-sharing plans.

Note 1 to the financial statements contains detailed information about each of the plans.

PERA's basic financial statements include:

1) *Statement of Fiduciary Net Position* reports, for each plan, the difference between the assets PERA holds in trust and the liabilities PERA owes third parties. Each plan is accounted for in its own fund with its own net position. Therefore, "the bottom line" of the Fiduciary Statement of Net Position ("Fiduciary net position") measures the resources PERA has available to pay retirement benefits as of the end of the fiscal year but not the aggregate pension liability owed by participating employers at that time. Fiduciary Net Position must be considered with other information to get a good understanding of the sustainability of PERA's retirement plans.

Position - Cost Sharing Plans (in thousands)

Police & Fire Fund	Correctional Fund	FY 2018 Combined Total	FY 2017 Combined Total	Change $	Change %
$22,201	$1,270	$69,740	$69,676	$64	0.1%
8,470,262	679,623	30,663,200	28,564,109	2,099,091	7.3%
852,918	68,366	3,086,209	2,953,400	132,809	4.5%
0	0	6,504	6,906	(402)	(5.8%)
$9,345,381	**$749,259**	**$33,825,653**	**$31,594,091**	**$2,231,562**	**7.1%**
$5,556	$498	$13,055	$12,475	$580	4.6%
0	0	959	970	(11)	(1.1%)
852,918	68,366	3,086,209	2,953,400	132,809	4.5%
0	0	4,651	5,328	(677)	(12.7%)
$858,474	**$68,864**	**$3,104,874**	**$2,972,173**	**$132,701**	**4.5%**
$8,486,907	**$680,395**	**$30,720,779**	**$28,621,918**	**$2,098,861**	**7.3%**

2) *The Statement of Changes in Fiduciary Net Position* reports the changes to the PERA's net position that happened during the year. Additions to net position include contributions from members, members' employers, and others as well as the net appreciation in the fair value of the investment portfolio. Deductions from net position during the year include benefit payments and administrative expenses.

3) *Notes to the Financial Statements* are an integral part of the basic financial statements and provide additional information that is necessary for understanding the financial statements.

In addition to the basic financial statements, the following required supplementary information is found after the notes to the financial statements:

1) Schedule of Changes in Net Pension Liability and Related Ratios

2) Schedule of Contributions from Employers and Non-Employers

3) Schedule of Investment Returns

Financial Highlights:

- *Fiduciary Net Position* increased by approximately $2.1 billion (7.4%) from $28.6 billion at fiscal year-end (FYE) 2017 to $30.7 billion at FYE2018.
- Net position growth was due to investment income.

The Statement of Changes in Fiduciary Net Position reports transactions affecting Net Fiduciary Position:

- Contributions to PERA's cost-sharing plans increased by approximately $39 million (3.3%) from approximately $1.19 billion in FY2017 to approximately $1.23 billion in FY2018.

Condensed Schedule of Changes in Fi

	General Employees Fund
Additions	
Employer Contributions	$488,819
State Contributions	16,000
Member Contributions	409,423
Investment Income (Loss)	2,063,582
Other Additions	56
Total Additions	**$2,977,880**
Deductions	
Benefits	$1,470,450
Refunds of Contributions	42,589
Administrative Expenses	11,943
Total Deductions	**$1,524,982**
Increase (Decrease) in Net Position	**$1,452,898**

- Investment income, including increases in fair market value and net of expense, decreased by approximately $880 Million from approximately $3.82 billion in FY2017 to approximately $2.94 billion in FY2018. Investments earned a money-weighted rate of return of 10.3% in FY2018 versus 15.1% in FY2017
- Benefit payments (including refunds) increased approximately $80 million (4%) from $1.98 billion in FY2017 to $2.06 billion in FY2018.
- Administrative expenses increased approximately $0.5 million (approximately 4%) from $12.6 million in FY2017 to $13.1 million in FY2018.

Other currently known conditions of future significance:

- Total Pension Liability is an actuarial estimate of the present value of pension benefits already earned by government employees. In FY2018, the Total Pension Liability for PERA's cost-sharing employers increased by approximately $710 million from approximately

duciary Net Position - Cost Sharing Plans (in thousands)

Police & Fire Fund	Correctional Fund	FY 2018 Combined Total	FY 2017 Combined Total	Change $	Change %
$170,781	$17,871	$677,471	$661,706	$15,765	2.4%
9,000	0	25,000	15,000	10,000	66.7%
105,479	11,956	526,858	513,854	13,004	2.5%
813,966	62,962	2,940,510	3,820,206	(879,696)	(23.0%)
58	1	115	435	(320)	(73.6%)
$1,099,284	**$92,790**	**$4,169,954**	**$5,011,201**	**($841,247)**	**(16.8%)**
$528,468	$13,183	$2,012,101	$1,936,860	$75,241	3.9%
1,902	1,364	45,855	40,831	5,024	12.3%
886	308	13,137	12,614	523	4.1%
$531,256	**$14,855**	**$2,071,093**	**$1,990,305**	**$80,788**	**4.1%**
$568,028	**$77,935**	**$2,098,861**	**$3,020,896**	**($922,035)**	**(30.5%)**

$36.6 billion in FY2017 to approximately $37.4 billion in FY2018.

- Net Pension Liability disclosed in the notes to the statement is the Association's Total Pension Liability less Fiduciary Net Position. Although Total Pension Liability increased by $710 million, because Net Fiduciary Position (net assets) increased by $2.1 billion, PERA's Net Pension Liability decreased by approximately $1.4 billion from $8 billion in FY2017 to $6.6 billion in FY2018. Information about Total and Net Pension Liability estimates are disclosed in the notes and required supplementary information of this report.

Analysis

Over the long run, a defined benefit plan must balance cash in from contributions and investment income with cash out for benefits and expenses as expressed in the equation:

Contributions + Investment Income = Benefits Paid + Expenses

$$\underbrace{C + I}_{\text{Cash in}} \qquad \underbrace{B + E}_{\text{Cash out}}$$

During any given year, one side of the equation may be larger than the other side. Differences accumulate in the Fiduciary Net Position which is a reserve for paying future benefits.

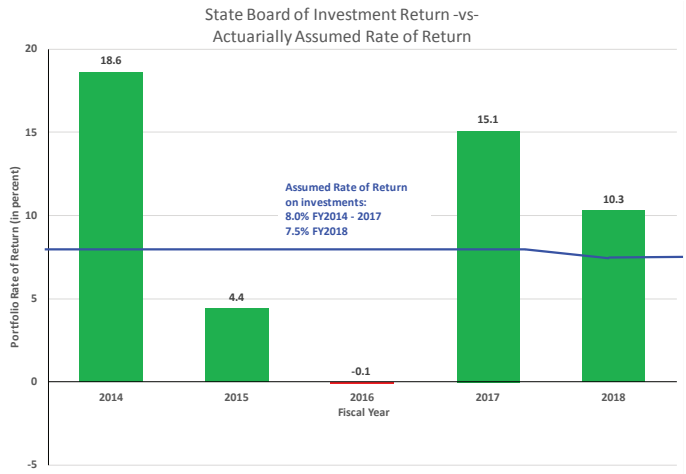
Additions to Fiduciary net Position in FY2018:

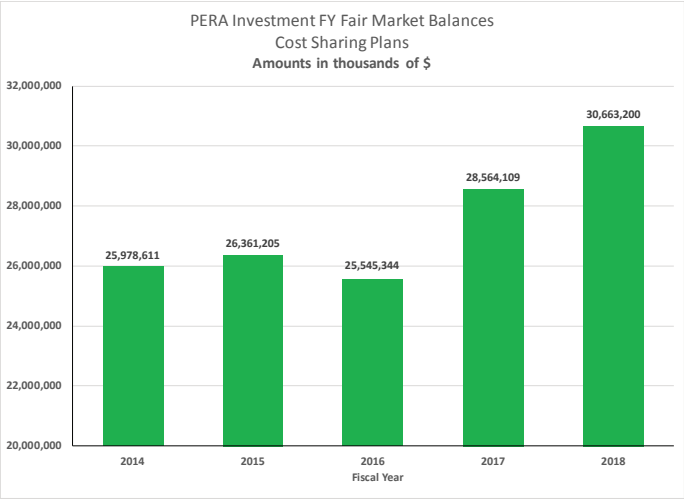
Investment income is the largest component of additions to PERA's net position. PERA's FY2018 Investment Income was approximately $2.9 Billion and represented approximately 70.5% of total additions to Fiduciary Net Position. In FY2017 investment income was approximately $3.8 Billion and represented 76% of total additions. Heavy dependence on investment income is common in pension plans. A study by the Employee Benefit Research Institute (EBRI) reported that investment earnings accounted for 71% - 82% of public pension funding.

The volume of investment income for any year is a function of the effective rate of return times the volume of invested assets. The money-weighted rate of return in FY2018 was a very strong 10.3%.

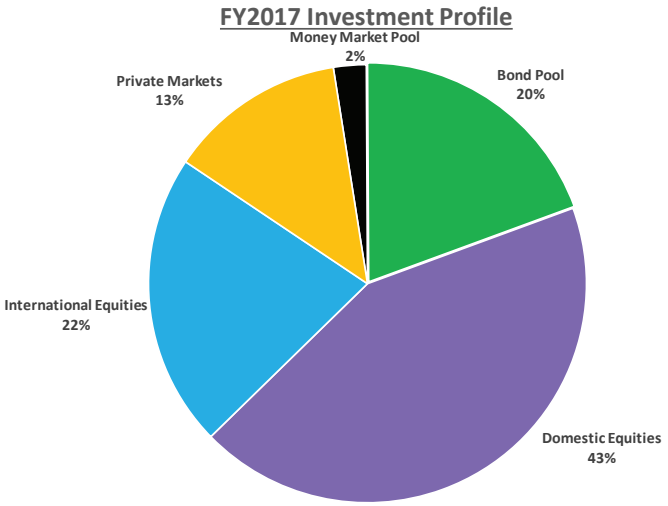
However, this is lower than the exceptionally strong money-weighted rate of return of 15.1% we enjoyed in FY2017. The rate of return times the average investment balance during the fiscal year generated approximately $2.9 Billion in investment income, most of which was retained, thus growing investments by approximately $2.1 Billion.

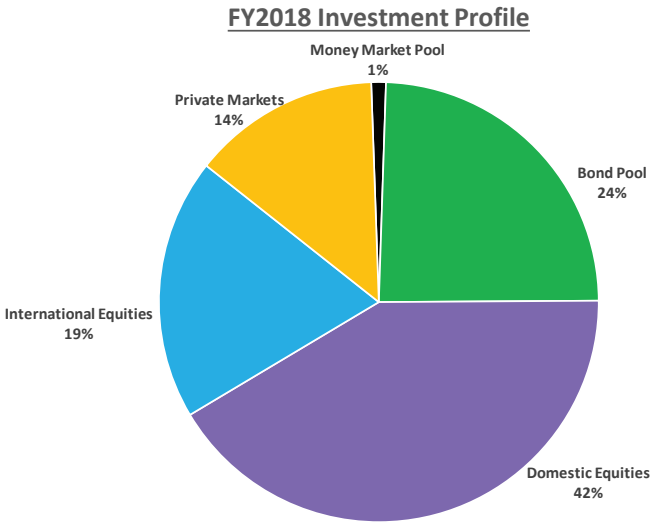
The rate of return on PERA's investments with the State Board of Investment (SBI) have exceeded the actuarially assumed rate of return in three out of the past five years. The 9.5% average rate of return for the past five years has also exceeded the assumed rate of return. In FY2018, the assumed rate of return on investments was reduced to 7.5% from 8%.





Another contributing factor to the lower rate of return in FY2018 was a change in the mix of combined investments. The changed mix de-risked the portfolio and reduced total return. At fiscal year-end 2017, domestic and international equities made up 65% of the combined portfolio while bonds accounted for 20%. At fiscal year-end 2018, equities made up 61% of the total combined investments and bonds made up 24%.





Contributions come from three sources: participating employers; covered employees; and, non-employer sources. Annual contributions to cost-sharing plans in FY2018 were approximately $1.23 billion or $39 million (about 3%) higher than FY2017 contributions of approximately $1.19 billion.

Schedule of Contributions: FY2018 versus FY2017 (in thousands)

	Employer Contributions	State Contributions	Member Contributions	Total Contributions FY 2018	Total Contributions FY 2017
General Employees Fund	$488,819	$16,000	$409,423	$914,242	$884,092
Police & Fire Fund	170,781	9,000	105,479	285,260	277,313
Correctional Fund	17,871	0	11,956	29,827	29,155
Total Contributions FY 2018	**$677,471**	**$25,000**	**$526,858**	**$1,229,329**	
Total Contributions FY 2017	$661,706	$15,000	$513,854		**$1,190,560**

One of the principal objectives of PERA's plans is stability of contributions as a percentage of payroll. Contribution rates for members and employers are set by Statute and were unchanged in FY2018 from FY2017.

Therefore, the increased total contributions in the cost-sharing plans were due almost entirely to increases in the number of covered employees and/or increased pension-eligible compensation per employee.

Schedule of Changes in Covered Members and Payroll - Multi Employer Cost Sharing Plans

	FY 2018			FY 2017			FY 2018 percent over (under) FY2017		
	Covered Payroll (in thousands)	Number of Active Employees	Average Pension-Eligible Compensation per Employee (in thousands)	Covered Payroll (in thousands)	Number of Active Employees	Average Pension-Eligible Compensation per Employee (in thousands)	Covered Payroll	Number of Active Employees	Average Pension-Eligible Compensation per Employee
General Employees Fund	$6,298,815	153,059	$41.2	$6,156,985	152,867	$40.3	2.3%	0.1%	2.2%
Police & Fire Fund	976,657	11,673	83.7	944,296	11,522	82.0	3.4%	1.3%	2.1%
Correctional Fund	205,077	3,981	51.5	200,103	3,842	52.1	2.5%	3.6%	(1.1%)
	$7,480,549	**168,713**		**$7,301,384**	**168,231**				

On a combined basis, total covered payroll grew approximately $179 million from $7.3 billion in FY2017 to approximately $7.48 Billion in FY2018. There were a combined total of 482 more active members in the three cost-sharing plans making contributions in FY2018 than in FY2017 (0.3% increase). Growth in membership accounted for approximately $27 million of the $179 million payroll growth. Growth in total per member pension-eligible compensation (wage inflation) accounted for approximately $152 million of the total covered payroll growth for the year.

Other Contributions totaling $25 million (approximately 2% of total contributions) in FY2018 are generally statutorily mandated and include contributions by the State of Minnesota to offset costs PERA incurred in the past to absorb underfunded local government retirement plans.

Deductions from Fiduciary Net Position in FY2018 (Cost Sharing Plans)

Benefit payments constitute 97% of total deductions from PERA's Fiduciary Net Position in both FY2017 and FY2018.

Schedule of Changes in Benefit Payments and Recipients - Multi Employer Cost Sharing Plans

	FY 2018			FY 2017			FY 2018 percent over (under) FY2017		
	Benefit Payments (in thousands)	Number of Benefit Recipients	Average Benefit per Recipient (in thousands)	Benefit Payments (in thousands)	Number of Benefit Recipients	Average Benefit per Recipient (in thousands)	Benefit Payments	Number of Benefit Recipients	Average Benefit per Recipient
General Employees Fund	$1,470,450	101,772	$14.4	$1,413,448	98,201	$14.4	4.0%	3.6%	0.4%
Police & Fire Fund	528,468	10,756	49.1	512,379	10,579	48.4	3.1%	1.7%	1.4%
Correctional Fund	13,183	1,193	11.1	11,033	1,085	10.2	19.5%	10.0%	8.7%
	$2,012,101	**113,721**		**$1,936,860**	**109,865**				

Annual benefit payments from cost-sharing plans in FY2018 were approximately $2.01 billion or $75 million (about 4%) higher than FY2017 payments of approximately $1.94 billion. Two factors increased benefit payments in FY2018:

1) There were 3,856 more benefit recipients in FY2018 than in FY2017 (1.7% increase). Of the $75 million increase in benefit payments, approximately $61 million was due to the increased number of persons receiving benefits.

2) Cost of living adjustments (COLA) made to retirees' benefits increased FY2018 benefit payments by approximately $14 million over FY2017's level.

Overall Financial Condition

The net fiduciary position of PERA's three cost-sharing, defined benefit plans increased from FY2017 to FY2018. Fiscal net position in all three cost-sharing plans has improved in FY2018 because of strong investment returns.

However, net fiduciary position only reflects the value of the assets held in trust less currently payable liabilities. Therefore, full understanding the sustainability of PERA's retirement plans requires an understanding of the actuarially estimated liability for future benefit payments and comparing the current level of that estimated liability with the level of net assets reported in PERA's financial statements ("funded ratio") as well as analyzing the trend of PERA's funding.

PERA's actuaries prepare two valuation reports each year for the cost-sharing, defined benefit plans: an "accounting" valuation and a "funding" valuation. The accounting valuation is to meet the requirements of the Governmental Accounting Board (GASB) standard No 67 which is meant to provide comparability and transparency of amounts reported as pension liabilities across organizations. The funding valuation is to assist the Board of Trustees to assess whether the statutorily determined contribution rates are likely to be

sufficient to meet PERA's long-term obligations to pay benefits. An important measure in the accounting valuation is the net pension liability which is the difference between the net fiduciary position and the actuary's estimate of the total pension liability for all participating employers. An important measure for the funding valuation is the Unamortized Actuarially Accrued Liability which is the difference between the actuarially valued assets and the actuarially valued (pension) liability. Another significant difference between the two valuations is that the GASB valuation requires the use of the Fair Market Value of assets at the report date whereas the funding valuation uses the Board-approved funding policy to determine "market-related" asset values which represent market values that have been smoothed over a five-year period (in PERA's case).

PERA adopted GASB 67 beginning with the fiscal year ended June 30, 2014. Comparative measures of the status of PERA's funding (asset value versus pension liability) are:

Schedule of Funding Ratios

	General Employees Fund		Police & Fire Fund		Correctional Fund	
	Accounting	Funding	Accounting	Funding	Accounting	Funding
2018	79.5%	78.0%	88.8%	87.1%	97.6%	95.6%
2017	75.9%	77.8%	85.4%	85.2%	67.9%	94.5%
2016	68.9%	75.5%	63.9%	87.7%	58.2%	95.7%
2015	78.2%	76.3%	86.6%	83.6%	97.0%	95.6%
2014	78.8%	73.5%	87.1%	80.1%	98.4%	96.2%

As can be seen in the table above, particularly in the changes from FY2015 through FY2017, the Accounting (GASB) funding ratios are more volatile than more traditional actuarial funding ratios. The GASB funding ratios have two sources of volatility built-in: GASB valuation use the market value of assets, and GASB places different requirements on the discount rates used to value the liability for future payments. PERA reported a small reduction in invested assets in FY2016 due to a virtually 0% return during that fiscal year which is reflected very dramatically in the GASB ratio of Net Fiscal position to Total Pension Liability (shown in the "accounting" columns in the table).

Except for the Correctional Plan which is in a steady-state at virtually 100% funded, the trends in the funded status of both the General and Police and Fire plans are improving toward full funding.

Additional information about funding and actuarial results are available in the notes to the financial statements, the required supplementary information, and the actuarial section of the CAFR. However, the CAFR is not a substitute for the actuarial reports available on PERA's web-site. The actuarial valuations should be read in conjunction with this CAFR.

This financial report is designed to provide a general overview of the Minnesota Public Employees Retirement Association's finances for all interested parties. An electronic copy of this report is available at the System's website, www.MNPERA.Org. Questions or requests for additional information should be directed to PERA at: 60 Empire Drive, Suite 200, St. Paul, Minnesota, 55103-2088.

Statement of Fiduciary Net Position

As of June 30, 2018 (in thousands)

	Defined Benefit Funds		
	General Employees Fund	Police and Fire Fund	Correctional Fund
Assets			
Cash	**$4,243**	**$3,470**	**$424**
Receivables			
Accounts Receivable	40,621	18,645	839
Due from Other Funds	1,405	86	7
Total Receivables	**$42,026**	**$18,731**	**$846**
Investments at Fair Value			
U.S. Stock Actively Managed Pool	$2,276,782	$896,986	$71,898
Bond Pool	5,230,420	2,060,635	165,171
U.S. Stock Index Pool	6,661,641	2,624,494	210,368
Broad International Stock Pool	4,134,848	1,629,011	130,574
Private Markets Pool	2,976,338	1,172,591	93,990
Money Market Pool	233,286	86,545	7,622
Total Investments	**$21,513,315**	**$8,470,262**	**$679,623**
Securities Lending Collateral	**$2,164,925**	**$852,918**	**$68,366**
Net Investment in Capital Assets			
Equipment Net of Accumulated Depreciation	$132	$0	$0
Property Net of Accumulated Depreciation	6,372	0	0
Total Capital Assets	**$6,504**	**$0**	**$0**
Total Assets	**$23,731,013**	**$9,345,381**	**$749,259**
Liabilities			
Accounts Payable	$6,908	$4,669	$190
Payable to Other Funds	93	887	308
Securities Lending Collateral	2,164,925	852,918	68,366
Accrued Compensated Absences	959	0	0
Bonds Payable	4,651	0	0
Total Liabilities	**$2,177,536**	**$858,474**	**$68,864**
Net Position Restricted For Pensions	**$21,553,477**	**$8,486,907**	**$680,395**

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

Volunteer Firefighter Fund	Defined Contribution Fund	Agency Fund Other Post Employment Benefits	Total
$59	**$191**	**$937**	**$9,324**
187	104	0	60,396
1	0	0	1,499
$188	**$104**	**$0**	**$61,895**
$0	$12,261	$0	$3,257,927
40,111	3,114	155,086	7,654,537
31,161	45,280	429,639	10,002,583
12,906	3,449	0	5,910,788
0	0	0	4,242,919
4,153	5,679	51,461	388,746
$88,331	**$69,783**	**$636,186**	**$31,457,500**
$0	**$0**	**$0**	**$3,086,209**
$0	$0	$0	$132
0	0	0	6,372
$0	**$0**	**$0**	**$6,504**
$88,578	**$70,078**	**$637,123**	**$34,621,432**
$16	$34	$637,123	$648,940
0	211	0	1,499
0	0	0	3,086,209
0	0	0	959
0	0	0	4,651
$16	**$245**	**$637,123**	**$3,742,258**
$88,562	**$69,833**	**$0**	**$30,879,174**

Statement of Changes in Fiduciary Net Position

For the Fiscal Year Ended June 30, 2018 (in thousands)

	Defined Benefit Funds		
	General Employees Fund	Police and Fire Fund	Correctional Fund
Additions			
Contributions			
Employer	$488,819	$170,781	$17,871
State of Minnesota	16,000	9,000	0
Member	409,423	105,479	11,956
Total Contributions	**$914,242**	**$285,260**	**$29,827**
Investment Income			
Net Appreciation in Fair Value of Investments	$2,071,684	$817,150	$63,202
Less Investment Expense	(22,664)	(8,921)	(700)
Net Investment Income	$2,049,020	$808,229	$62,502
From Securities Lending Activities:			
Securities Lending Income	$45,132	$17,780	$1,425
Borrower Rebates	(28,853)	(11,367)	(911)
Management Fees	(1,717)	(676)	(54)
Net Income From Securities Lending	$14,562	$5,737	$460
Total Net Investment Income	**$2,063,582**	**$813,966**	**$62,962**
Other Additions	**$56**	**$58**	**$1**
Total Additions	**$2,977,880**	**$1,099,284**	**$92,790**
Deductions			
Benefits	$1,470,450	$528,468	$13,183
Refunds of Contributions	42,589	1,902	1,364
Administrative Expenses	11,943	886	308
Total Deductions	**$1,524,982**	**$531,256**	**$14,855**
Net Increase (Decrease) in Net Position	**$1,452,898**	**$568,028**	**$77,935**
Net Position Restricted For Pensions			
Beginning of year	$20,100,579	$7,918,879	$602,460
End of year	**$21,553,477**	**$8,486,907**	**$680,395**

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

Volunteer Firefighter Fund	Defined Contribution Fund	Total
$938	$2,036	$680,445
3,522	0	28,522
0	1,911	528,769
$4,460	**$3,947**	**$1,237,736**
$4,859	$6,552	$2,963,447
(178)	(62)	(32,525)
$4,681	$6,490	$2,930,922
$0	$0	$64,337
0	0	(41,131)
0	0	(2,447)
$0	$0	$20,759
$4,681	**$6,490**	**$2,951,681**
$8,048	**$0**	**$8,163**
$17,189	**$10,437**	**$4,197,580**
$4,161	$0	$2,016,262
0	4,326	50,181
70	211	13,418
$4,231	**$4,537**	**$2,079,861**
$12,958	**$5,900**	**$2,117,719**
$75,604	$63,933	$28,761,455
$88,562	**$69,833**	**$30,879,174**

NOTE 1
Plan Description

A) Organization

Established by the Minnesota Legislature in 1931, the Public Employees Retirement Association (PERA) of Minnesota administers pension plans that serve current or former county, school, and local public employees, their survivors and dependents. Retirement plans administered by PERA provide a variety of retirement pensions, survivor, and disability benefits.

PERA's Board of Trustees is responsible for administering these plans in accordance with statutes passed by the Minnesota Legislature and has a fiduciary obligation to PERA's members, their governmental employers, the state, and its taxpayers. PERA's Board of Trustees is composed of 11 members. The state auditor is a member by statute. The governor appoints five trustees. Serving four-year terms, these five trustees represent cities, counties, school boards, retired annuitants, and the general public, respectively. The remaining five board members are elected by the PERA membership at large to serve four-year terms. Three trustees represent the general active membership, one represents Police and Fire Plan members, and one represents benefit recipients.

The board appoints an executive director to serve as chief administrative officer of PERA. With approval of the board, the director develops the annual administrative budget, determines staffing requirements, contracts for actuarial and other services, and directs the day-to-day operations of PERA. The director also serves as a member of the State Investment Advisory Council, which advises the Minnesota State Board of Investment (SBI) on the management and investment of public pension funds and other assets.

The following is a summary of the laws, regulations, and administrative rules governing PERA's retirement plans and should not be interpreted as a comprehensive explanation thereof. If there is any discrepancy between this summary and the laws governing PERA, the statutes and regulations shall govern.

PERA is the administrator of five separate retirement plans and an agency fund that accounts for other post-employment benefits for participating employers. Each plan has specific membership, contribution, vesting, and benefit provisions. With certain statutory exceptions, an employee performing personal services for a governmental employer whose salary is paid, in whole or in part, from revenues derived from taxation, fees, assessments, or other sources, is a member of PERA. Plan participation is dependent on the occupation of the member. The plans, including benefit provisions and the obligation to make contributions, are established and administered in accordance with *Minnesota Statutes*, Chapters 353, 353D, 353E, 353G and 356. These statutes also define financial reporting requirements.

PERA administers three cost-sharing multiple-employer retirement plans: the General Employees Retirement Plan (accounted for in the General Employees Fund), the Public Employees Police and Fire Plan (accounted for in the Police and Fire Fund), and the Public Employees Local Government Correctional Service Retirement Plan, called the Public Employees Correctional Plan (accounted for in the Correctional Fund).

In addition to the cost-sharing multiple-employer plans, PERA administers one agent multiple-employer retirement plan, the Statewide Volunteer Firefighter Retirement Plan (accounted for in the Volunteer Firefighter Fund) and one multiple-employer defined contribution plan, the Public Employees Defined Contribution Plan (accounted for in the Defined Contribution Fund). PERA also administers an agency fund to track the investments placed in a trust by various entities with SBI to cover future other postemployment benefit costs (OPEB).

Figure 1 presents summary information on each retirement plan and the agency fund. Specific details unique to certain aspects of the plans follow the summary.

Figure 1: Retirement Plan Summary

	General Employees Plan	Police and Fire Plan	Correctional Plan
STATUTORY AUTHORITY:	• *Minnesota Statutes* Chapters 353 and 356	• *Minnesota Statutes* Chapters 353 and 356	• *Minnesota Statutes* Chapters 353E and 356
DATE ESTABLISHED:	• Basic Plan 1931, Coordinated Plan 1968, and MERF as a separate division in 2010 and merged into the plan in 2015	• 1959	• 1999
TYPE OF PENSION PLAN:	• Cost-sharing multiple employer defined benefit	• Cost-sharing multiple employer defined benefit	• Cost-sharing multiple employer defined benefit
MEMBERSHIP:	• Employees of counties, cities, townships and employees of schools in non-certified positions, and other entities whose revenues are derived from taxation, fees, or assessments	• Police officers and firefighters not covered by a local relief association and all police officers and firefighters hired since 1980. • Effective July 1, 1999 the plan also covers police officers and fire fighters belonging to a local relief association that elected to merge with and transfer assets and administration to PERA.	• Correctional officers serving in county and regional adult and juvenile corrections facilities. • Participants must be responsible for the security, custody and control of the facilities and their inmates
APPROXIMATE # OF EMPLOYERS:	• 2,000	• 500	• 80

Volunteer Firefighter Plan	Defined Contribution Plan	Agency Fund
• *Minnesota Statutes* Chapter 353G and 356 for the lump sum and monthly benefit divisions and Minnesota Statutes Chapter 424A for the monthly benefit division	• *Minnesota Statutes* Chapter 353D and Chapter 356	• *Minnesota Statutes* Chapter 471.6175
• 2010 for the lump sum division and 2016 for the monthly benefit division	• 1987	• 2008
• Agent multiple-employer defined benefit	• Multiple-employer defined contribution	• PERA serves as the trust administrator for multiple-employer other post employment benefit (OPEB) plans that create a revocable or irrevocable trust with the State Board of Investment to pay future OPEB costs
• Any municipal volunteer fire department or independent non-profit firefighting corporation	• Elected and appointed local government officials (except elected county sheriffs), city managers, emergency medical service personnel, including physicians, employed by or providing service to any participating public ambulance service who are not covered by another public or private pension and any publicly-operated ambulance service that receives an operating subsidy from a governmental entity and elects to participate in the plan	• Any political subdivision or other public entity that has an OPEB liability
• 159	• 1,000	• 23

Figure 1: Retirement Plan Summary (continued)

General Employees Plan	Police and Fire Plan	Correctional Plan
VESTING:		
• 3 years for members hired prior to July 1, 2010 • 5 years for members first hired on or after July 1, 2010	• 3 years for members hired prior to July 1, 2010 • Prorated basis from 50 percent after 5 years up to 100 percent after 10 years for members first hired on or after July 1, 2010 but before July 1, 2014 • Prorated basis from 50 percent after 10 years up to 100 percent after 20 years for members first hired on or after July 1, 2014	• 3 years for members hired prior to July 1, 2010 • Prorated basis from 50 percent after 5 years up to 100 percent after 10 years for members first hired on or after July 1, 2010
FINAL AVERAGE SALARY:		
• Average monthly salary over the highest paid 60 consecutive months or all months if less than 60	• Average monthly salary over the highest paid 60 consecutive months or all months if less than 60	• Average monthly salary over the highest paid 60 consecutive months or all months if less than 60
SERVICE BENEFIT FORMULAS:		
• Members hired prior to July 1, 1989, receive the higher of Method 1 or Method 2 formulas. Only Method 2 is used for members hired after June 30, 1989. • Method 1: The accrual rate for Coordinated members is 1.2% for each of the first 10 years of service and 1.7% for each additional year. The rates are 2.2% and 2.7%, respectively, for Basic members. • Method 2: The accrual rate for Coordinated members is 1.7% for all years of service, and 2.7% for Basic members. • The accrual rates for former MERF members is 2.0% for each of the first 10 years of service and 2.5% for each additional year.	• Annuity accrual rate is 3.0% of average salary for each year of credited service	• Annuity accrual rate is 1.9% of average salary for each year of credited service

Volunteer Firefighter Plan	Defined Contribution Plan	Agency Fund
• Prorated basis from 40% at 5 years to 100% at 20 years	• No vesting requirements for member or employer contributions or earnings	• No vesting requirements for member or employer contributions or earnings
N/A	N/A	N/A
• Lump sum division benefits are based on the number of years of service multiplied by a benefit level chosen by the entity sponsoring the fire department from possible levels ranging from $500 per year of service to $10,000 per year of service • Monthly division benefits are determined at the individual plan level.	N/A	N/A

General Employees Plan

The General Employees Plan encompasses two plans — the PERA Coordinated Plan and the PERA Basic Plan. The Coordinated Plan provides retirement and other benefits in addition to those supplied by Social Security. The Basic Plan was PERA's original retirement plan and is not coordinated with the federal program. PERA's Basic Plan was closed to new membership in 1968 with the creation of the Coordinated Plan. Today, fewer than five Basic members remain active public employees. The Minneapolis Employees Retirement Fund (MERF) was included in the General Employees Plan in June 2010 as a separate division and was merged into the plan January 1, 2015. A traditional defined benefit plan, MERF was closed to new membership in 1979. It encompasses employees of the City of Minneapolis, the Metropolitan Airports Commission, Minnesota State Colleges and Universities, and non-teaching personnel at Minneapolis schools. Annual state and employer appropriations of $37 million through 2031 ensure the plan remains self-sustaining. The active membership of the Minneapolis Employees Retirement Fund is also small with less than ten members

Defined Contribution Plan

Officials first elected to a governing body, such as a city council or county board after June 30, 2002, may only participate in PERA's Defined Contribution Plan. Previously, such officials could elect Coordinated Plan participation as an alternative to the Defined Contribution Plan. City managers may participate in the Defined Contribution Plan as an alternative to Coordinated Plan membership.

Volunteer Firefighter Plan

Funding is provided through Minnesota Fire State Aid (based on insurance premiums, and administered by the Minnesota Department of Revenue) and, if required, additional municipal contributions.

Agency Fund

The various entities participating in PERA's agency fund, used to account for any political subdivision or other public entity that has an OPEB liability to create a separate trust with SBI to pay future OPEB costs, are responsible for making sure any withdrawals are done in accordance with generally accepted accounting principles and *Minnesota Statutes*. They are also responsible for setting and paying benefits, for determining voluntary contribution amounts, and for handling any OPEB reporting requirements. PERA is the trust administrator.

B) Participating Members

Shown in **Figure 2** are the membership totals in PERA's multiple-employer defined benefit

Figure 2: PERA Membership — Defined Benefit Plans

	General Employees	Police and Fire	Correctional	Volunteer Firefighter	Total
Retirees and beneficiaries receiving benefits	101,772	10,756	1,193	86	113,807
Terminated employees entitled to benefits/refunds but not yet receiving them:					
Vested	61,066	1,580	3,165	751	66,562
Non-Vested	138,768	1,188	2,811	0	142,767
Current, active employees:					
Vested	90,184	9,200	2,143	2,017	103,544
Non-Vested	62,875	2,473	1,838	1,239	68,425
Total	**454,665**	**25,197**	**11,150**	**4,093**	**495,105**

plans as of June 30, 2018. In addition, the Defined Contribution Plan serves approximately 7,900 members.

C) Benefit Provisions -

Defined Benefit Annuity Plans

PERA's defined benefit plans are tax qualified plans under Section 401(a) of the Internal Revenue Code. PERA provides retirement and disability benefits to members, as well as survivors upon the death of eligible members.

Retirement benefits are based on a member's highest average salary for 60 consecutive months of allowable service, age, and years of credit at termination of service. A reduced retirement annuity is also available to eligible members seeking early retirement. Members of PERA's defined benefit plans receive one service credit for each month which they are paid. Individuals may earn a maximum of 12 service credits per year. Salary used in retirement and disability benefit calculations is the average monthly salary over an individual's 60 highest-paid consecutive months of public service (high-five salary), or all months of service if less than 60.

Members of the PERA General Employees Plan, Police and Fire Plan, and Correctional Plan may select from several types of retirement benefits.

Single-Life Pension — A Single-Life Pension is a lifetime annuity that ceases upon the death of the retiree. No survivor benefit is payable.

Survivor Options — Upon retirement, members may choose from one of four survivor options. All of these pensions are payable for the lifetime of the retiree. At the time of the retiree's death, the designated survivor begins to receive monthly benefit payments at varying levels for his or her lifetime. Depending on the survivor option chosen by the member, survivor payments are at a 25, 50, 75, or 100 percent level of that received by the member at retirement. Selection of a survivor option will result in a reduced pension benefit from the single-life benefit level. The amount of the reduction depends on the age of both the retiring member and the survivor. Due to the passing of the 2018 Omnibus Retirement Bill, plan assumptions, including mortality and investment expectations, were updated and resulted in minimal changes to survivor option reduction factors. All PERA Plans' survivor factors will be updated for benefits beginning July 1, 2019, or later. All survivor pension options incorporate an "automatic bounce back" feature. This returns the amount of the pension to the level of the single-life benefit in the event the designated survivor predeceases the retiree. The cost of this protection is borne by the funds, not by the retiree.

Deferred Pension — A vested member who terminates public service may leave contributions in the fund(s) in which he or she participated and qualify for a pension at retirement age. For members who terminated public service prior to January 1, 2012, the benefit amount calculated as of the date of termination will increase at a rate of one percent per year, compounded annually. Benefit increases will continue to accrue until December 31, 2018, at which point all benefit increases are discontinued. For members who terminate public service after December 31, 2011, there is no benefit growth.

Beginning June 30, 2018, if a deferred member returns to the same PERA plan, pension benefit increases will no longer apply to the entire benefit calculation.

Combined Service and Proportionate Pensions — Retiring members may elect to combine service in a PERA-covered position with service in any of the other eligible Minnesota pension funds and qualify for a retirement benefit from each fund in which they participated. These funds are designated by statute. Vested members qualify for a combined service pension if they have six or more months of service in each fund and have not begun to receive a benefit from any of the designated funds. Pensions are based

upon the formula of each fund and the member's average salary over the 60 highest-paid consecutive months of service, no matter when it was earned.

Public employees who retire at or over their Social Security full retirement age with between one and ten years of service in one or more designated funds may qualify for a proportionate pension. Benefits are paid by each applicable fund in which the employee has credit and are based upon the formula of each fund and the member's average salary during the period of service covered by that fund.

General Employees Plan

Under Method 1, members are eligible for a full (unreduced) retirement annuity if they are age 65 or over with at least one year of public service or their age plus years of public service equal 90 (Rule of 90) for members who were first hired prior to July 1, 1989. A reduced retirement annuity is payable as early as age 55 with three or more years of service. The reduction is 0.25 percent for each month under age 65. A member with 30 or more years of service may retire at any age with the monthly 0.25 percent reduction made from age 62 instead of 65.

Method 2 provides for unreduced retirement benefits at age 65 for members first hired prior to July 1, 1989, or age 66 (the age for unreduced Social Security benefits) for those first hired into public service on or after that date. Early retirement may begin at age 55 with an actuarial reduction for members retiring prior to full retirement age. Benefits beginning July 1, 2019, or later, will have actuarial reduction factors phased in over five years that reflect the true actuarial cost of early retirement. These factors recognize recent updates to plan assumptions, including mortality and investment expectations, as well as the removal of the augmentation subsidy.

All members, including deferred members, will have an early retirement factor based on the benefit effective date beginning July 1, 2019, and later.

MERF members may choose a death benefit option with the death benefit being at least $500 and not more than one-half the value of the employee's total retirement benefit.

Police and Fire Plan

A full unreduced pension is earned when members meet the following conditions: age 55 and vested, or age plus years of service total at least 90 if first hired prior to July 1, 1989. A reduced retirement annuity is available to members between the ages of 50 and 55. Under legislation enacted in the 2013 legislative session, the reduction for Police and Fire Plan early retirement began increasing incrementally in July 2014. It will culminate in a five percent per year reduction in July 2019.

Correctional Plan

A full, unreduced pension is earned when members meet the following conditions: age 55 and vested, or age plus years of service total at least 90 if first hired prior to July 1, 1989. Early retirement may begin at age 50 with an actuarial reduction in a member's benefit.

Post Retirement Increases

General Employees Plan — Beginning in 2019, the COLA for the General Employees Plan will be equal to 50 percent of the increase announced by the Social Security Administration (SSA), with a minimum increase of at least 1 percent and a maximum of 1.5 percent. Post retirement increases are given each year except for annuitants who have been receiving a benefit for only 7 to 17 months. These annuitants will receive a prorated amount of the increase on a sliding scale. For members retiring on January 1, 2024, or later, the COLA will be delayed until normal retirement age (age 65 if hired prior to July 1, 1989, or age 66 for individuals hired on or after July 1, 1989). Members retiring under Rule of 90 (Step formula) are exempt from the delay to normal retirement.

Police and Fire Plan — Beginning in 2019, the COLA will be fixed at 1 percent. Under funding measurements from 2017, the 2.5 percent COLA trigger was never expected to occur and was subsequently removed from law. Post retirement increases are given each year except for annuitants who have been receiving a benefit for only 31 to 41 months. These annuitants will receive a prorated amount of the increase on a sliding scale.

Correctional Plan — Beginning in 2019, the COLA will be equal to 100 percent of the increase announced by SSA, with a minimum increase of at least 1 percent and a maximum of 2.5 percent. If the Plan's funding status declines to 85 percent or below for two consecutive years or 80 percent for one year, the maximum will be lowered from 2.5 percent to 1.5 percent. Post retirement increases are given each year except for annuitants who have been receiving a benefit for only 7 to 17 months. These annuitants will receive a prorated amount of the increase on a sliding scale.

The benefit provisions stated in the preceding paragraphs of this section are current provisions and apply to active plan participants. Vested, terminated employees who are entitled to benefits but are not receiving them yet are bound by the provisions in effect at the time they last terminated public service.

D) Benefit Provisions – Volunteer Firefighter Plan

The lump-sum retirement division account is funded by fire state aid, investment earnings, and (if necessary) employer contributions. Members do not contribute to the plan.

The service pension from the lump-sum division is based on a benefit level chosen by the entity associated with the fire department and vesting percent specified in *Minnesota Statute* 353G.09. The service pension from the monthly division is specified in the retirement benefit plan document applicable to the fire department.

E) Benefit Provisions – Defined Contribution Plan

The Defined Contribution Plan is a tax qualified plan under Section 401(a) of the Internal Revenue Code and all contributions by or on behalf of employees are tax deferred until time of withdrawal. Plan benefits depend solely on amounts contributed to the plan plus investment earnings, less administrative expenses. Employer and employee contributions are combined and used to purchase shares in one or more of the six accounts of the Minnesota Supplemental Investment Fund administered by the SBI. Investment options include the Broad International Stock Pool, U.S. Stock Actively Managed Pool, U.S. Stock Index Pool, Bond Pool, Private Markets, and Money Market Pool. PERA receives 2.0 percent of employer contributions paid during the year, plus 0.25 percent of the assets in each member's account each year for administering the plan.

At the time of retirement or termination, PERA distributes the market value of a member's account to the member or transfers it to another qualified plan or individual retirement account. Upon the member's death, PERA distributes the value of the account to the member's designated beneficiary.

F) Earnings Limitation

Retirees who return to work in a PERA- covered position are subject to the same earnings limitations as Social Security recipients. Benefits are reduced if these limits are exceeded, with the amount held in escrow. The retiree may request repayment of these funds one year after leaving the position. If reemployment extends through the end of a calendar year, the deductions from that year may be reclaimed one year later.

The earnings limitation only applies to PERA-covered employment. Self or private employment and elected official service will result in no benefit reduction for retirees. Earnings limits are waived for Coordinated Plan members who begin receiving benefits under a Phased Retirement Agreement. Phased Retirement allows members age 62 and above to begin receiving a pension without termination of public service if they accept a reduction in hours worked to less than 1,044 per year.

The agreements can be up to one year in length and can be renewed for up to five years. The program is scheduled to sunset in 2019. Because they only provide lump-sum benefits, the Defined Contribution Plan and the Volunteer Firefighter Plan lump-sum division have no earnings limits.

G) Disability Benefits

Members may be eligible for benefits from PERA if they are unable to work because of a physical or mental disability. Disability is defined by statute, and PERA may require periodic medical examinations of those receiving these benefits.

Disability benefit calculations are based upon years of service and average high-five salary for Coordinated Plan members. For Police and Fire Plan members, there is a minimum duty-related disability benefit of 60 percent of salary. The minimum duty-related disability benefit is 47.5 percent for Correctional Plan members. Disability under any other circumstances results in a minimum benefit of 45 percent of salary for Police and Fire Plan members and 19 percent for Correctional Plan members. A duty-related disability benefit will only be awarded if the disabling event occurred while the member was engaged in hazardous activities inherent to the occupation.

Coordinated Plan members qualify for disability when vested for a retirement benefit and by meeting the statutory definition. Police and Fire Plan and Correctional Plan members qualify by meeting the definition with one or more years of service if disabled outside the line of duty. If disabled in the line of duty, there is no minimum service requirement.

Neither the Defined Contribution Plan nor the Volunteer Firefighter Plan has specific disability benefits. However, the Defined Contribution Plan does allow for monthly benefit payments until the account balance is exhausted.

H) Survivor Benefits

PERA also provides survivor (death) benefits for families of members who qualify for such coverage should they die before commencing retirement benefit payments. The qualifications and types of benefits vary with each plan. As of August 1, 2013, Minnesota recognizes same-sex marriage. PERA's governing statutes make no distinction concerning the gender of a spouse, and the agency therefore follows the state's definition of a valid marriage.

A lifetime survivor benefit is available to the surviving spouse of a General Employees Plan, Correctional Plan, or Police and Fire Plan member. For Police and Fire Plan members, this benefit is based on either 50 percent of the average of the full-time monthly base salary rate in effect during the last six months of allowable service or a formula using the member's total years of service, high-five salary, age at death, and age of the spouse. The surviving spouse benefit for General Employees Plan and Correctional Plan members is only based on the formula. This benefit is payable to the spouse of a deceased member for life, even upon remarriage. Automatic lifetime survivor benefits are also available to the spouse of Police and Fire Plan members who suffer total and permanent duty disability. Survivor benefits for other disabled members are only available if the member chooses a survivor option on their disability benefit.

For the surviving spouse of a General Employees Plan or Correctional Plan member, there are alternative term-certain benefits of 10, 15, or 20 years duration. The monthly payment, however,

may not exceed 75 percent of the member's average highest 60 months of consecutive salary. Survivor benefits are immediately suspended for any survivor charged with causing the death of a PERA member. The benefit is permanently revoked upon conviction of such a crime.

Dependent children of active or disabled Police and Fire Plan members are eligible for benefits until age 18, or age 23 if full-time students. In this case, the maximum family benefit is 70 percent of the member's average monthly salary. If a General Employees Plan or Correctional Plan member dies and there is no surviving spouse, any children under age 20 qualify to receive a monthly term-certain benefit.

Instead of a monthly benefit, the surviving spouse, if a designated beneficiary, may elect a refund of any remaining employee contributions in the account, plus interest. However, a refund may not be elected if there are dependent children who are eligible for benefits.

The Volunteer Firefighter Plan provides for payment of the member's accrued benefits to a surviving spouse or, if none, to minor children or, finally, the member's estate, based on retirement at age 50. Similarly, the Defined Contribution Plan provides for payment of the account balance to beneficiaries.

I) Refunds

Refunds of contributions are available at any time to members who terminate public service and have not yet begun receiving a pension. The refund includes employee contributions plus interest, compounded annually. Interest on member contributions is 6 percent prior to June 30, 2011, 4 percent July 1, 2011 through June 30, 2018, and 3 percent July 1, 2018 thereafter. Employer contributions are not refundable to the member or beneficiary; they remain with the plan to pay retirement, disability and survivor benefits.

A refund of member contributions plus interest may also be elected by the designated beneficiary of a member or former member who dies before reaching retirement. If there is no beneficiary, payment is made to the surviving spouse or, if none, to the estate of the deceased member or former member.

If a retiree and designated survivor, if any, die before all employee contributions are paid in the form of a pension or benefits, the remaining balance would be paid in the same manner outlined for beneficiaries. No interest is paid to beneficiaries on the balance in an account if the member was receiving retirement benefits.

A former member who has received a refund may repay all or a portion of the refund after having reentered public service for a minimum of six months. This restores forfeited service. Interest charged on repayment is 8.5 percent, compounded annually until June 30, 2015, 8 percent July 1, 2015 through June 30, 2018, and 7.5 percent July 1, 2018 thereafter.

NOTE 2
Summary of Significant Accounting Policies

A) Reporting Entity

PERA functions as a separate statutory entity. PERA maintains rights to sue or be sued in its own name and to hold property in its own name. For financial reporting purposes, PERA is considered a pension trust fund of the State of Minnesota and is included in the State's *Comprehensive Annual Financial Report* with its fiduciary funds. PERA does not have any component units.

B) Basis of Presentation and Basis of Accounting

The accompanying financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) that apply to governmental

accounting for fiduciary funds. Financial statements for all funds are prepared using the accrual basis of accounting. Employee and employer contributions are recognized as revenues when due, pursuant to formal commitments and statutory requirements. 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 each plan.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses. Actual results could differ from those estimates.

C) Cash

For PERA's defined benefit and defined contribution funds, cash includes cash on deposit in the state's treasury, which is commingled with other state funds. Cash on deposit consists of year-end receipts not yet processed as of the investment cutoff on June 30. In the Agency Fund, cash consists of recent receipts held by the SBI that have not yet been invested in one of the three investment pools available.

D) Receivables

Accounts receivable represents plan member and employer contributions which are received after fiscal year end for services rendered prior to fiscal year end. For the General Employees Fund, the receivable also includes an employer supplemental contribution of $21 million billed in fiscal year 2018 but not due from employers until fiscal year 2019.

Due from Other Funds represents the reallocation of administrative expenses, which is done annually in October once the fiscal year's expenses have been finalized.

E) Investments

Investment Policy

The SBI is made up of Minnesota's governor, state auditor, secretary of state and attorney general. The authority for establishing and amending investment policy decisions is granted to the SBI in *Minnesota Statutes*, Section 11A.04. The legislature has also established a 17-member Investment Advisory Council (IAC) to advise the Board and its staff on investment-related matters. PERA's executive director is a permanent member of the IAC. *Minnesota Statutes*, Section 11A.24, broadly restricts retirement fund investments to obligations and stocks of United States and Canadian governments, their agencies and their registered corporations; short term obligations of specified high quality; restricted participation as a limited partner in venture capital, real estate or resource equity investments; restricted participation in registered mutual funds; and some qualified foreign instruments. Short-term investment securities include investments that have high credit quality and are highly liquid. The securities have a low-risk, low-return profile and include U.S. Government Treasury bills, bank certificates of deposit, bankers' acceptances, corporate commercial paper, and other money market instruments.

Pursuant to *Minnesota Statutes*, Section 11A.04, the state's retirement plan assets are commingled in various pooled investment accounts, administered by SBI. As of June 30, 2018, the participation shares in the combined retirement fund at fair value totaled approximately 31.5 percent for the General Employees Fund, 12.4 percent for the Police and Fire Fund, and 1.0 percent for the Correctional Fund.

Investments in the pooled accounts, including assets of the Defined Contribution Fund and the Agency Fund, are reported at fair value. Fair value is the proportionate share of the combined market value of the investment portfolio of the SBI investment pool in which the funds participate. All

securities within the pools are valued at fair value except for U.S. Government short-term securities and commercial paper, which are valued at market less accrued interest. Accrued interest is recognized as short-term income. Note 3 provides additional disclosures on fair value reporting of investments.

Investment income is recognized as earned. Accrued investment income of the pooled investment accounts is included in participation in the accounts. Gains and losses on sales or exchanges are recognized on the transaction date.

For financial reporting purposes, the cost of security transactions is included in the transaction price. Investment expenses include administrative expenses of the SBI to manage the state's investment portfolio and investment management fees paid to the external money managers and the state's master custodian for pension plan assets. These expenses are allocated to the funds participating in the pooled investment accounts. Information on specific investments owned by the pooled accounts, investment activity, currency risk, interest rate risk, and a detailed schedule of fees and commissions by brokerage firm, along with the number of shares traded, total commissions, and commissions per share for the pooled investment accounts may be obtained from the SBI, 60 Empire Drive, Suite 355, Saint Paul, Minnesota 55103.

The SBI investment policy may be amended by a majority vote of its Board. The policy outlines the investment philosophy and guidelines within which the Combined Fund's investments will be managed.

Description of Significant Investment Policy Changes During the Year

The SBI formally adopted a set of ten Investment Beliefs for managing the assets of the Combined Funds. Additionally, the SBI approved changes to the asset allocation policy and adopted a new Strategic Asset Category Framework. The investment policy changes were recommended by the SBI staff, investments consultants, and the Investment Advisory Committee (IAC).

SBI Investment Beliefs

In September 2017, the State Board of Investment adopted a set of ten Investment Beliefs. The primary purpose of these beliefs is to guide the SBI toward sound principles related to investing on behalf of the Combined Funds. The beliefs help provide context for the SBI's actions, reflect the SBI's investment values, and acknowledge the SBI's role in supporting the State's retirement systems.

Following are the ten SBI Investment Beliefs:

1. The SBI is a long-term investor whose primary mission is to maintain the viability of the retirement systems it supports.
2. The SBI's strategic allocation policy is the primary determinant of the asset portfolio's long-term investment return and asset portfolio's risk.
3. While the SBI can sacrifice some short-term liquidity to pursue a greater long-term return, the investment portfolio's net cash flows and ability to pay benefits on a year-by-year basis are key risk considerations.
4. Diversification improves the risk-adjusted return profile of the SBI investment portfolio.
5. There are long-term benefits to the SBI managing investment costs.
6. The equity risk premium is significantly positive over a long-term investment horizon although it can vary over time.
7. Private market investments have an illiquidity premium that the SBI can capture.
8. It is extremely challenging for a large institutional investor to add significant value

over market-representative benchmarks, particularly in the highly-competitive public global equity markets.

9. The SBI benefits significantly when roles and levels of authority are clearly defined and followed.

10. Utilizing engagement initiatives to address economic, social, and governance-related (ESG) issues can lead to positive portfolio and governance outcomes.

Strategic Asset Category Framework

In December 2017, the SBI approved a Strategic Asset Category Framework for the Combined Funds. The framework defined a broader array of asset classes and assigned asset classes to Strategic Allocation Categories. Using the Strategic Asset Category approach better defines the role that asset classes play in a portfolio, identifying the relative risk levels of the asset classes, and allows the SBI to focus less on what they invest in but why they invest in it.

Following are the strategic allocation categories:

- Growth-Appreciation: This is the primary return-seeking category with the objective of generating long-term capital appreciation. Potential Growth-Appreciation asset classes include U.S Equity, Non-U.S Developed Market Equity, Emerging Market Equity, Private Equity, and Non-Core Real Estate.
- Growth-Income Oriented: This category has attributes that include generating stable levels of current income and capital appreciation at lower levels of risk than growth-appreciation assets. Asset classes in this category include Investment Grade Credit, Private Credit, and Return-Seeking Fixed Income Classes.
- Real Return: The Real Return category provides diversification through investments in assets that have inflation sensitive characteristics and the ability to hedge against inflation. This category has two sub-categories: Real Assets and Inflation Protection. Real Assets are considered to be hard whereas Inflation Protection Assets are considered to be soft. Potential asset classes include Private and Public Real Assets, Core Real Estate, Inflation-Linked Bonds, and Commodities.
- Protection: The Protection category provides stability, protection during a crisis, and can act as a hedge against deflation. Asset classes include U.S. Treasuries and U.S. Government Bonds.
- Liquidity: This category provides liquidity to meet daily obligations, primarily benefit payments and capital commitment calls. Asset classes consist of cash and cash equivalents.
- Opportunity: The opportunity category's purpose is to allow for investment in new strategies that do not fit within clearly-defined asset class lines. Classes in this category

Figure 3: SBI Strategic Allocation Framework

Strategic Allocation Category	Proposed Minimum % of Total Fund	Proposed Maximum % of Total Fund	Proposed Maximum Private Investments % of Total Fund
Growth - Appreciation	50%	75%	20%
Growth Income - Oriented	15	30	15
Real Return			
Real Assets	0	10	10
Inflation Protection	0	10	5
Protection	5	20	0
Liquidity	0	5	NA

include niche opportunities in multiple asset categories.

Additionally, the SBI approved ranges for adoption of the Strategic Allocation Category Framework, which are shown in **Figure 3**. Due to the nature of the Opportunity allocation category, no specific target ranges are assigned. Private investments, which include private equity, real estate, resource funds, and yield-oriented investments, are limited to 30 percent of the total fund.

Asset Allocation

To match the long-term nature of pension obligations, the SBI maintains an asset allocation for the Combined Funds that includes allocations to public equity (both domestic and international), fixed income (formerly, domestic bonds), private markets, and cash equivalents.

Through December 2017, the allocation was as follows:

Public Equity 58%
↳*Domestic Equity*.....*39%*
↳*International Equity*... *19%*
Fixed Income 20%
Private Markets 20%
Cash 2%

During Fiscal Year 2018, the SBI made Board approved changes to the asset allocation policy, such that the long-term asset allocation would be:

Public Equity 53%
↳*Domestic Equity*..... *36%*
↳*International Equity*... *17%*
Fixed Income 20%
Private Markets 25%
Cash 2%

The Executive Director of the SBI implemented the approved Board changes beginning January 2018. The Private Markets allocation was increased from 20 percent to 25 percent. Until the allocation to Private Markets reaches its target of 25 percent, the un-invested portion of the allocation will continue to be invested in the Public Equity pool. In order to increase the Private Markets allocation, the Public Equities target allocation was reduced from 58 percent to 53 percent.

The Combined Funds Fixed Income allocation is undergoing a transition which may continue through the end of fiscal year 2019. The target allocation for Fixed Income remains at 20 percent. However, during the transitional period from January 1, 2018, through the end of fiscal year 2019, the allocation may exceed 20 percent in aggregate. By the end of fiscal year 2019, the core Fixed Income asset class will be drawn down from its current allocation to a level such that the aggregation of the fixed income investment asset classes will total 20 percent.

Rate of Return

The SBI's long-term expected rate of return on pension plan investments was determined using a building-block method. Best estimates for expected future real rates of return (expected returns, net of inflation) were developed for each asset class using both long-term historical returns and long-term capital market expectations from a number of investment management and consulting organizations. The asset class estimates and the target allocations were then combined

Figure 4: Target Asset Allocation and Long-term Expected Real Rate of Return by Asset Class

For the Combined Funds: Asset Class	Target Allocation	Final Target Allocation	Long-term Expected Real Rate of Return (Geometric)
Domestic Stocks	33%	36%	5.10%
International Stocks	16%	17%	5.30%
Private Markets	25%	25%	5.90%
Fixed Income	24%	20%	0.75%
Unallocated Cash	2%	2%	0.00%
	100%	**100%**	

(1) Domestic Equity includes U.S. Stock Actively Managed and the U.S. Stock Index Fund.
(2) International Equity includes Broad International Stock Fund.
(3) Private Markets includes the Alternative Investment Pool.

Statewide Voluntary Firefighter Fund

Asset Class	Target Allocation	Long-term Expected Real Rate of Return (Geometric)
Domestic Stocks	35%	5.10%
International Stocks	15%	5.30%
Bonds	45%	0.75%
Unallocated Cash	5%	0.00%
Total	**100%**	

to produce a geometric, long-term expected real rate of return for the portfolio. Inflation expectations were applied to derive the nominal rate of return for the portfolio. The target asset allocation and best estimates of geometric real rates of return for each major asset class included in the plan's target asset allocation as of June 30, 2018 are summarized in **Figure 4**.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the actual cash flows that took place during the performance period. Since PERA's various funds have different cash flows throughout the year, they have different money-weighted rates of return. The money-weighted rate of return for each fund is presented in **Figure 5**.

Figure 5: Money-weighted Rate of Return

Fund	Fiscal Year 2018
General Employees Fund	10.47%
Police and Fire Fund	10.48%
Correctional Fund	10.35%
Volunteer Firefighter Fund	5.83%

F) Capital Assets

Capital assets, generally assets with a cost in excess of $30,000 and a useful life greater than one year, are capitalized at cost at the time of acquisition (see Note 4). Depreciation is computed on a straight-line basis over the estimated useful life of the related assets. The estimated useful lives are three to ten years for furniture and equipment, and forty years for the building. PERA's threshold for intangible assets is $1,000,000. PERA did not have any intangible assets in fiscal year 2018.

G) Accrued Compensated Absences

PERA's employees accrue vacation leave, sick leave and compensatory leave at various rates within limits specified in collective bargaining agreements. Accumulated amounts for compensated absences are accrued when incurred. Such leave is liquidated in cash primarily at the time of termination of employment. The total liability at June 30, 2018, is $958,849. Of this, $107,091 is considered a short-term liability and $851,757 is considered a long-term liability. The total decreased by $11,333 during fiscal year 2018.

H) Administrative Expenses

PERA's administrative expenses are paid during the year from the General Employees Fund. At year-end, a portion of the expenses are allocated to the Police and Fire Fund and the Correctional Fund, based on membership counts. The Defined Contribution Fund reimburses the General Employees Fund to the extent of fees collected for recovery of administrative costs. The Volunteer Firefighter Fund reimburses the General Employees Fund $30 per firefighter. The applicable amounts are reported as expenses and reported on the *Statement of Fiduciary Net Position* as a payable to other funds or due from other funds. Administrative costs are funded from investment income for the defined benefit plans.

NOTE 3
Deposits and Investment Risk Disclosures

A) Fair Value Reporting

GASB Statement No. 72, Fair Value Measurement and Application, sets forth the framework for measuring the fair value of investments based on a hierarchy of valuation inputs. The hierarchy has three levels:

Level 1: Market valuation approach using quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

Level 2: Market valuation approach using inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Inputs for level 2 include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability;
- Inputs derived principally from or corroborated by observable market data by correlation or other means.

Level 3: Unobservable inputs for the asset or liability. Unobservable inputs reflect the SBI's assumptions about the inputs that market participants would use in pricing an asset or liability. Assets classified as a level 3 typically use the cost approach, income approach, or consensus pricing for a valuation technique.

Net Asset Value (NAV): Investments that do not have a readily determinable fair value are measured using NAV per share (or its equivalent) as a practical expedient, and are not classified in the fair value hierarchy.

Figure 6: Fair Value of PERA Investments
As of June 30, 2018 (in thousands)

Equity Investments	Fair Value	Level 1	Level 2	Level 3
Common Stock	$17,724,811	$17,691,457	$33,067	$287
Real Estate Investment Trust	537,386	537,111	275	0
Other Equity	602,751	400,613	54,961	147,177
Equity Total	**$18,864,948**	**$18,629,181**	**$88,303**	**$147,464**
Fixed Income Investments				
Government Issues	$5,418,737	$0	$5,408,075	$10,662
Corporate Bonds	1,712,111	0	1,704,631	7,480
Mortgage-Backed Securities	401,635	0	372,033	29,602
Asset-Backed Securities	310,263	0	294,425	15,838
Other Debt Instruments	7,671	0	7,671	0
Fixed Income Total	**$7,850,417**	**$0**	**$7,786,835**	**$63,582**
Investment Derivatives - Options	-$76	-$76	$0	$0
Total Investments by Fair Value	**$26,715,289**	**$18,629,105**	**$7,875,138**	**$211,046**

Investments Measured at the Net Asset Value (in thousands)	NAV	Percent of NAV	Number of Investments	Unfunded Commitments
Private Equity	$2,543,269	61%	131	$2,289,329
Real Estate	306,761	7%	22	363,282
Resource	948,158	23%	36	411,743
Yield Oriented	382,808	9%	31	381,071
NAV total	**$4,180,996**	**100%**		**$3,445,425**

Cash and cash equivalents (investments with less than 12 months to maturity) are not leveled per GASB Statement No. 72. Therefore cash and short term investments are not included in **Figure 6**. All non-cash investments, including derivative investments that are not hedging derivatives, are required to be measured at fair value on a recurring basis. The SBI maintains investment pools that participants can invest in; participants own a proportionate share of the investment pools. The fair value of the investment pools is priced daily by the SBI custodian, when a daily price is available, by using independent pricing sources.

In **Figure 6**, Level 3 investments primarily consist of assets where the asset is distressed, or there is not an active market. The fair value of the assets measured at NAV have been determined using the March 31, 2018, values, adjusted for cash flows. The investments measured at NAV are typically not eligible for redemption. Distributions are received as underlying investments when the funds are liquidated, which occur over the life of the investment.

The SBI has 52 investments that are valued at NAV that are currently in the liquidation mode, totaling 3% of the NAV value. The majority of the remaining value of investments in liquidation mode will be returned to the SBI within a time period of three to five years. PERA's proportionate share of the unfunded commitments (funds committed to an investment but not yet transferred to the General Partner (Investor)) valued at NAV total $3,445,425,000.

The following are explanations of investment types listed in **Figure 6**.

Equity Investments

Common Stock: Securities representing equity ownership in a corporation, providing voting rights, and entitling the holder to a share of the company's success through dividents and/or capital appreciation.

Real Estate Investment Trust (REIT): An investment pool established by a group of investors for the purpose of investing in real estate or mortgages. REITs are generally exempt from federal taxes, provided that 95 percent of earned income is distributed and that the various investors are not treated differently.

Other Equity: Includes Preferred Stock, Depository Receipts, Limited Partnerships Units, Common Stock Units, and Mutual Funds.

Fixed Income Investments

Asset-Backed Securities: Bonds or notes backed by financial assets, including auto loans and credit card receivables.

Mortgage-Backed Securities: An asset-backed security that is secured by a mortgage or collection of mortgages. The mortgages are sold to a government agency or investment bank that will package the loans together into a security that can be purchased by investors.

Corporate Bonds: Debt obligations issued by corporations as an alternative to offering equity ownership by issuing stock. Like most municipal bonds and Treasuries, most corporate bonds pay semi-annual interest and promise to return the principal when the bonds mature. Maturities range from 1 to 30 years.

Government Issue: Securities or bonds issued by any of the 50 states, the territories and their subdivisions, counties, cities, towns, villages and school districts, agencies (such as authorities and special districts created by the states), and certain federally-sponsored agencies such as local housing authorities.

Other Debt Instruments: Includes Short Term Investmeent Funds (STIF) type instruments.

Investment Derivatives: Options -- Futures. A contract that gives the holder the right to buy from or sell to the writer a specified amount of securities at a specified price, good for a specified period of time.

Investments Measured at Net Asset Value (NAV)

Private Equity: The private equity investment strategy is to establish and maintain a broadly diversified private equity portfolio composed of investments that provide diversification by industry type, stage of corporate development and location. The SBI has 131 Private Equity investments representing 61% of the NAV value.

Real Estate: The real estate investment strategy calls for the establishment and maintenance of a broadly diversified real estate portfolio composed of investments that provide overall diversification by property type and location. The main components of this portfolio consist of investments in closed-end commingled funds. The remaining portion of the portfolio may include investments in less diversified, more focused (specialty) commingled funds and REITs. The SBI has 22 Real Estate investments representing 7% of the NAV value.

Resource Funds: The strategy for resource investments is to establish and maintain a portfolio of resource investment vehicles that provide an inflation hedge and additional diversification. Resource investments will include oil and gas investments and energy service industry

investments that are diversified by geographic area as well as by type. The SBI has 36 Resource Funds' investments representing 23% of the NAV value.

Yield Oriented: The strategy for yield-oriented investments is to target funds that typically provide a current return and may have an equity component. Structures such as subordinated debt investments and mezzanine investments are typical yield-oriented investments. The SBI has 31 Yield Oriented Funds' investments representing 9% of the NAV value.

B) Custodial Credit Risk

Custodial credit risk for cash deposits and investments is the risk that, in the event of a bank or custodian failure, PERA will not be able to recover the value of its investments or collateral securities. *Minnesota Statutes*, Section 9.031, requires that cash deposits be secured by depository insurance or a combination of depository insurance and collateral securities held in the state's name by an agent of the state. Such insurance and collateral shall be in amounts sufficient to ensure that deposits do not exceed 90 percent of the sum of the insured amount and the market value of the collateral. Throughout fiscal year 2018, the combined depository insurance and collateral was sufficient to meet legal requirements and secure all PERA deposits, eliminating exposure to custodial credit risk.

C) Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will be unable to fulfill its obligations to the holder of the investment. The SBI has policies designed to minimize credit risk. They may invest funds in governmental obligations provided the issue is backed by the full faith and credit of the issuer or the issue is rated among the top four quality rating categories by a nationally recognized rating agency. They may invest funds in corporate obligations provided the issue is rated among the top four quality categories by a nationally recognized rating agency. They may also invest in unrated corporate obligations or in corporate obligations that are not rated among the top four quality categories provided that:

-The aggregate value of these obligations may not exceed 5 percent of the fund for which the state board is investing;

-Participation is limited to 50 percent of a single offering; and

-Participation is limited to 25 percent of an issuer's obligations.

The SBI may also invest in bankers' acceptances, deposit notes of U.S. banks, certificates of deposit, mortgage securities, and asset-backed securities rated in the top four quality categories by a nationally recognized rating agency. Commercial paper must be rated in the top two quality categories.

Figure 7: Credit Risk Exposure (in thousands)

Quality Rating	Fair Value as of June 30, 2018
AAA	$330,085
AA	$5,611,027
A	$287,838
BBB	$1,056,764
BB	$477,710
B	$30,566
CCC	$12,472
CC	$11,696
C	$2,549
D	$345
Unrated Agency	$68,547
Unrated Corporate	$867,264
Total	$8,756,863

PERA's share of SBI's exposure to credit risk, based on the lower of Moody's or S&P Quality Ratings for debt securities and short-term investments, is shown in **Figure 7**. If a security is rated by only Moody's or S&P that rating will be used. Agency securities consist of implicitly guaranteed investments of the U.S. Government. As of June 30, 2018, one agency and three US Treasury securities did not receive a rating by the SBI's rating provider.

D) Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issuer. The SBI determined concentration of credit risk based on security identification number. PERA does not have exposure to a single issuer that equals or exceeds 5% of the overall portfolio and, therefore, there is no material concentration of credit risk.

E) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt investments could adversely affect the fair value of an investment. The SBI does not have a policy on interest rate risk. Retirement plan and OPEB debt securities are held in external investment pools and PERA's share has the weighted average maturities shown in **Figure 8.**

F) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates between the U.S. dollar and foreign currencies could adversely affect the fair value of an investment. Most foreign currency risk resides within the SBI's international equity investment holdings. In order to reduce foreign currency risk, the SBI has developed the following policies. Government obligations, including guaranteed or insured issues of the International Bank for Reconstruction and Development, the Inter-American Development Bank, the Asian Development Bank, and the African Development Bank, must pay interest and principal in U.S. dollars. The principal and interest of obligations of corporations, including those corporations incorporated or organized under the laws of the Dominion of Canada or any province thereof, must also be paid in U.S. dollars. PERA's share of foreign security investments at June 30, 2018,

Figure 8: Interest Rate Risk

Security	Weighted Average Maturity (in years)
Short-Term Investment Securities	0.35
Commercial Mortgage-Backed Securities	3.28
Agency Securities	5.78
Mortgage-Backed Securities	6.61
Asset-Backed Securities	6.97
Collateralized Mortgage Obligations	9.58
U.S. Treasuries	10.84
Yankee Bonds	11.91
Corporate Debt Obligations	12.11
Municipal Debt Obligations	18.39
Foreign County Bonds	23.47

was distributed among the currencies shown in **Figure 9.**

G) Derivative Financial Instruments

On behalf of PERA, the SBI invests in various types of derivative financial instruments. Derivatives are defined as any financial arrangement between two parties that has value based on or derived from future price fluctuations. The derivative financial instruments that the SBI enters into include futures, options, stock warrants and rights, currency forwards, and synthetic guaranteed investment contracts.

Figure 9: Foreign Currency Risk (fair value in thousands)

Currency	Cash	Equity	Fixed Income
Euro Currency	$9,146	$1,643,655	$2,048
Japanese Yen	$6,301	$936,366	$2,384
Pound Sterling	$11,745	$747,161	$5,464
Hong Kong Dollar	$1,729	$417,835	$0
Canadian Dollar	$5,383	$391,230	$140
Swiss Franc	$11	$290,810	$0
Australian Dollar	$4,882	$267,139	$0
South Korean Won	-$100	$176,569	$0
New Taiwan Dollar	$970	$130,263	$0
Swedish Krona	$158	$98,094	$0
Danish Krone	$114	$78,114	$0
South African Rand	$66	$68,794	$0
Singapore Dollar	$1,210	$61,062	$0
Brazilian Real	$32	$57,007	$0
Indian Rupee	$73	$49,167	$0
Norwegian Krone	$79	$32,139	$0
Mexican Peso	$73	$31,917	$0
Indonesian Rupiah	$41	$29,508	$0
Malaysian Ringgit	$92	$27,432	$0
Thailand Baht	$29	$19,072	$0
Polish Zloty	$5	$17,852	$0
New Israeli Sheqel	$76	$16,291	$0
Philippine Peso	$8	$13,304	$0
Hungarian Forint	$0	$11,359	$0
Chilean Peso	$40	$10,202	$0
Turkish Lira	$3	$10,085	$0
New Zealand Dollar	$395	$9,078	$0
Czech Koruna	$0	$7,042	$0
Colombian Peso	$0	$4,083	$0
Uae Dirham	$21	$3,316	$0
Qatari Rial	$9	$2,763	$0
Yuan Renminbi	$122	$2,182	$0
Egyptian Pound	$2	$2,089	$0
Philippine Piso	$0	$0	$0
Moroccan Dirham	$0	$0	$0
Total	**$42,715**	**$5,662,980**	**$10,036**

Minnesota Statutes, Section 11A.24, provides that any agreement for put and call options and futures contracts may only be entered into with a fully offsetting amount of cash or securities. This provision applies to foreign currency forward contracts used to offset the currency risk of a security. All other derivatives are exchange-traded. The purpose of the SBI derivative activity is to equitize cash in the portfolio, to adjust the duration of the portfolio, or to off-set current futures positions.

The fair value balances and notional amounts (or face value) at June 30, 2018, classified by derivative instrument type (futures, options, currency forward contracts, and stock warrants and rights), and the changes in fair value for fiscal year 2018 are shown in **Figure 10.** Explanations of each derivative instrument type are presented below.

Derivative Investment Type

Futures: Futures are contract commitments to purchase (asset) or sell (liability) at a future date. The net change in the values of futures contracts is settled on a regular basis and gains and losses are included in investment income.

Options: Options are contracts that give buyers or sellers the right to buy (calls) or sell (puts) a security at a predetermined price on a future date. Gains and losses result from variances in the market value of the security that is the subject of the contract that occur prior to or on the contract specified date. The gains and losses are included in investment income.

Currency Forward Contracts: Foreign currency forward contracts are used to manage portfolio foreign currency risk. The provisions of the contract vary based on what is negotiated between the two parties to the contract.

Stock Warrants and Rights: Stock warrants, similar to options, are the right to purchase shares of a stock at a certain price by a certain date. They usually have a longer term before expiration, e.g. five years or more. When stock warrants are exercised, new shares are issued by the company. Rights are the same but are issued to current stock owners to enable them to retain their relative ownership share. Gains and losses from the sale or exercise of stock warrants and rights are included in investment income.

Figure 10: Derivative Financial Instruments (in thousands)

Derivative Investment Type	Changes in Fair Value During Fiscal Year 2018	Fair Value at June 30, 2018	Notional Amount
Futures:			
Equity Futures–Long	$34,838	$0	$1,861
Equity Futures–Short	(1,754)	0	(34)
Fixed Income Futures–Long	(7,732)	0	1,443,829
Fixed Income Futures–Short	12,017	0	(899,705)
Options:			
Futures Options Bought	(2,672)	381	1,533
Futures Options Written	2,014	(457)	(3,114)
Foreign Currency Forwards	(3,489)	(521)	253,312
Stock Warrants and Rights:			
Stock Warrants	(693)	32	69
Stock Rights	128	314	3,867

The SBI maintains a fully benefit-responsive synthetic guaranteed investment contract for the Supplemental Investment Fund - Fixed Interest Account. The investment objective of the Fixed Interest Account is to protect investors from loss of their original investment and to provide a competitive interest rate. On June 30, 2018, the Fixed Interest Account portfolio of well-diversified high quality investment grade fixed income securities had a fair value of $1,460,451,000 that is $18,702,550 below of the value protected by the wrap contract. The Fixed Income Account also includes liquid investment pools with a combined fair value of $74,579,196.

Risks

The SBI is exposed to credit risk through the counterparties in foreign currency forward contracts used to offset the currency risk of a security. PERA's proportionate share of the maximum loss that the SBI would have recognized as of June 30, 2018, if all counterparties failed to perform as contracted is $814,381.

H) Securities Lending

PERA does not own specific securities, but instead owns shares in pooled funds invested by the SBI. The SBI is authorized to enter into securities lending transactions in accordance with *Minnesota Statutes*, Chapter 356A.06, Subd. 7 and has, pursuant to a Securities Lending Authorization Agreement, authorized State Street Bank and Trust Company (State Street) to lend its securities to broker-dealers and banks pursuant to a form of loan agreement.

During the fiscal year, State Street lent, at the direction of the SBI, certain securities held by State Street as custodian and received cash or other collateral including securities issued or guaranteed by the United States government. State Street does not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to at least 100% of the market value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, State Street had an obligation to indemnify the SBI in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration or notice of default of the borrower.

During the fiscal year, the SBI and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested in a collective investment pool. As of June 30, 2018, the investment pool had an average duration of 14.42 days and an average weighted final maturity of 99.84 days for USD collateral. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. On June 30, 2018, the SBI had no credit risk exposure to borrowers. The market value of collateral held and the fair value of securities on loan from the SBI as of June 30, 2018 was $4,579,037,000 and $4,420,705,000 respectively. Cash collateral of $3,086,209,000 is reported on the *Statement of Fiduciary Net Position* as an asset. Liabilities resulting from these securities lending transactions are also reported on the *Statement of Fiduciary Net Position*.

NOTE 4
Capital Assets, Building and Land

Capital assets are presented on the June 30, 2018, *Statement of Fiduciary Net Position* at historical cost, net of accumulated depreciation, as summarized in **Figure 11**. There were no significant leases as of June 30, 2018.

Legislation was passed in 1999 allowing PERA, the Minnesota Teacher's Retirement Association (TRA) and the Minnesota State Retirement System (MSRS) to purchase land and construct a 140,000 square foot building to house all three retirement systems. Ownership of the facility is prorated based on the amount of square footage each retirement system occupies in the building. PERA's ownership share is 36.5 percent. PERA's share of the cost to purchase the 4.3 acres of land was $170,308.

In June 2000 the State of Minnesota, under the authority of the Commissioner of Finance (currently known as Minnesota Management and Budget), issued revenue bonds totaling $29 million on behalf of the three retirement systems to pay for the construction of the facility. In August, 2012, the remaining bonds were refunded with the proceeds of a new, lower interest rate bond issue. The new bonds are secured by the value of the total assets of the largest defined benefit plans in the three statewide retirement systems. Through the issuance of the refunding bonds, which received a AAA rating, the bond term was reduced by five years and the present value of the savings to the retirement systems was $9,582,538. PERA's portion of the savings was $3,497,626.

Figure 11: Capital Assets (in thousands)

	Balance June 30, 2017	Additions	Disposals	Balance June 30, 2018
Capital assets, not being depreciated:				
Land	**$170**	**$0**	**$0**	**$170**
Capital assets, being depreciated:				
Building (includes generator)	10,893	0	0	10,893
Equipment, Furniture & Fixtures	1,164	504	0	1,668
Total capital assets being depreciated	**$12,057**	**$504**	**$0**	**$12,561**
Less accumulated depreciation for:				
Building (includes generator)	(4,410)	(281)	0	(4,691)
Equipment, Furniture & Fixtures	(911)	(625)	0	(1,536)
Total accumulated depreciation	**$(5,321)**	**$(906)**	**$0**	**$(6,227)**
Total capital assets, net of accum. depr.	**$6,906**	**$(402)**	**$0**	**$6,504**

Figure 12: Debt Repayment Schedule by Fiscal Year

Fiscal Year	Principal	Interest	Premium	Total
2019	642,400	72,713	49,745	764,858
2020	651,525	62,062	47,548	761,135
2021	669,775	51,259	45,320	766,354
2022	684,375	40,154	43,029	767,558
2023	698,975	28,807	40,689	768,471
2024	673,425	17,218	24,319	714,962
2025	365,000	6,052	8,548	379,600
	4,385,475	**278,265**	**259,198**	**4,922,938**
Total Unpaid Principal, 06/30/18				$4,385,475
Total Unpaid Premium, 06/30/18				259,198
Accrued Interest, June 2018				6,059
Total Bonds Payable on Financial Statements				**$4,650,732**

Figure 12 shows the debt service amounts for which PERA is directly responsible. Pursuant to the joint and several liability clause in the bond sale official statement, in the event of default, PERA could be liable for the entire remaining outstanding principal and premium balances of the bonds, plus the interest accrued for the month of June, totaling $13,487,500. Bonds payable on the Statement of Fiduciary Net Position is PERA's share of outstanding debt at the current ownership interest. It includes the principal balance as of June 30, 2018, the premium balance as of June 30, 2018, and interest accrued for the month of June.

NOTE 5
Contribution Requirements

Minnesota Statutes, Chapters 353, 353E, 353G and 356 set the rates for employer and employee contributions. Contribution rates are shown in **Figure 13**. Legislation was passed in 2018 to extend the full funding date for the General Employees Plan, Police and Fire Plan, and Correctional Plan to 2048. The legislation also increased both employee and employer contribution rates in the Police and Fire Plan. Employee rates increase from 10.80 percent of pay to 11.30 percent and employer rates increase from 16.20 percent to 16.95 percent on January 1, 2019. On January 1, 2020 employee rates increase to 11.80 percent and employer rates increase to 17.70 percent. As a result of these changes, contribution rates in the General Employees Plan and the Police and Fire Plan are now sufficient to fund the plan by the full funding date of 2048. Contribution rates in the Correctional Plan are not yet sufficient to fully fund the plan by the full funding dates of 2048. The actuarially required contributions are expressed as a level percentage of covered payroll and are determined using an individual entry-age actuarial *cost method*.

Beginning in fiscal year 2014, the State of Minnesota was also required to begin contributing $9 million to the Police and Fire Fund each

Figure 13: Retirement Plan Contribution Rates

Effective Date	Contributor	General Employees Fund Basic	General Employees Fund Coordinated	General Employees Fund MERF	Police & Fire Fund	Correctional Fund
01/01/2018	Member	9.10%	6.50%	9.75%	10.80%	5.83%
	Employer	11.78%	7.50%	9.75%	16.20%	8.75%
01/01/2019	Member	9.10%	6.50%	9.75%	11.30%	5.83%
	Employer	11.78%	7.50%	9.75%	16.95%	8.75%
01/01/2020	Member	9.10%	6.50%	9.75%	11.80%	5.83%
	Employer	11.78%	7.50%	9.75%	17.70%	8.75%

year. This state aid will continue until the fund is 90 percent funded, or until the State Patrol Plan (administered by the Minnesota State Retirement System) is 90 percent funded, whichever occurs later.

The MERF was fully merged into the General Employees Fund in fiscal year 2015. Supplemental contribution amounts were recalculated after the merger based on the amount of MERF's unfunded liability as of the merger date. The State of Minnesota will be contributing $16 million and the MERF employers will be contributing $21 million in fiscal years 2016 through 2019 to the General Employees Fund. Thereafter, the state will contribute $6 million and the MERF employers will contribute $31 million through calendar year 2031.

Minnesota Statutes, Section 353D.03, specifies contribution rates for those who participate in the Defined Contribution Plan. An eligible elected official or physician who decides to participate contributes 5 percent of salary, which is matched by the employer. For ambulance service personnel, employer contributions are determined by the employer, and for salaried employees must be a fixed percentage of salary. Employer contributions for volunteer personnel may be a unit value for each call or period of alert duty. Employees who are paid for their services may elect to make member contributions in an amount not to exceed the employer share.

Employer required contributions are calculated annually for each employer in the Volunteer Firefighter Plan. If fire state aid (based on income generated from insurance policies) plus expected investment income are not enough to cover the expected normal cost of benefits during the next calendar year, an employer contribution is calculated and payable by the end of the next calendar year.

NOTE 6
Net Pension Liability of Employers and Nonemployer Contributing Entity

The components of the net pension liability of the defined benefit cost-sharing plans for participating employers and the State of Minnesota (a nonemployer contributing entity in the General Employees Fund) as of June 30, 2018, calculated in accordance with GASB Statement No. 67, are shown in **Figure 14.**

A) Actuarial Methods and Assumptions

The total pension liability for each of the defined benefit cost-sharing plans was determined by an actuarial valuation as of June 30, 2018, using the entry age normal actuarial cost method. Inflation is assumed to be 2.50 percent for the General Employees and Police and Fire Plans. Inflation is assumed to be 2.0 percent for the Correctional Plan. Salary growth assumptions in the General Employees Plan decrease in annual increments from 11.25 percent after one year of service, to 3.25 percent after 26 years of service. In the Police and Fire Plan, salary growth assumptions decrease from 12.25 percent after one year of service to 3.25 percent after 25 years of service. In the Correctional Plan, salary growth assumptions decrease from 8.50 percent at age 20 to 3.50 percent at age 65. Mortality rates for all plans are based on RP-2014 mortality tables. The tables are adjusted slightly to fit PERA's experience.

Actuarial assumptions for the General Employees Plan are reviewed every four to six years. The most recent six-year experience study for the General Employees Plan was completed in 2015. The most recent four-year experience study for the Police and Fire Plan was completed in 2016. The most recent five-year experience study for the Correctional Plan, prepared by a former actuary, was completed in 2012. Economic assumptions were updated in 2014 based on a review of inflation and investment return assumptions.

B) Discount Rate

The discount rate used to measure the total pension liability in 2018 was 7.50 percent. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and employers will be made at rates set in *Minnesota Statutes*. Based on these assumptions, the fiduciary net positions of the General Employees Fund, the Police and Fire Fund, and the Correctional Fund were projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Figure 14: NPL Components (in thousands)

	General Employees Fund	Police and Fire Fund	Correctional Fund
Total Pension Liability (A)	$27,101,067	$9,552,804	$696,842
Fund Fiduciary Net Position (B)	(21,553,477)	(8,486,907)	(680,395)
Net Pension Liability (A-B)	$5,547,590	$1,065,897	$16,447
Fund Fiduciary Net Position as a Percentage of the **Total Pension Liability (B/A)**	**79.5%**	**88.8%**	**97.6%**

Figure 15: Sensitivity Analysis (in thousands)

Net Pension Liability (Asset) at Different Discount Rates

	General Employees Fund		Police and Fire Fund		Correctional Fund	
1% Decrease	6.50%	$9,015,544	6.50%	$2,285,350	6.50%	$140,758
Current Discount Rate	7.50%	5,547,590	7.50%	1,065,897	7.50%	16,447
1% Increase	8.50%	2,684,893	8.50%	57,460	8.50%	(82,998)

C) Sensitivity Analysis

Figure 15 presents the net pension liability of employers and the State of Minnesota for PERA's defined benefit cost-sharing plans as of June 30, 2018, calculated using the current discount rate of 7.5 percent, as well as what each plan's net pension liability would be if it were calculated using a discount rate that is 1 percent lower and 1 percent higher than the current rate.

NOTE 7

Other Notes

A) New Asset Transfers

The Volunteer Firefighter Plan was created by the Minnesota Legislature in 2009. The plan is an agent multiple-employer defined benefit plan. Seventeen fire departments joined the plan in fiscal year 2018, bringing the total number of fire departments in the Volunteer Firefighter Plan to 159. The amount of assets transferred, $8,048,320 is shown as an *Other Addition* in PERA's *Statement of Changes in Fiduciary Net Position*. Each fire department has a separate account and retains its own assets and liabilities.

B) Participating Pension Plan

All employees of PERA are covered by the General Employees Plan and eligible for the plan provisions described in Note 1.D. *Minnesota Statutes,* Section 353.27 sets the rates for employee and employer contributions. These statutes are established and amended by the Minnesota Legislature. Contribution rates were shown previously in Figure 13. Total covered payroll for PERA employees during fiscal year 2018 was approximately $6.8 million.

Employer pension contributions for PERA employees for the fiscal years ending June 30, 2018, 2017, and 2016 were $512,920, $481,841, and $460,443 respectively. Employer contributions were equal to the required contributions for each year as set by state statute. Employer contributions paid by PERA on behalf of these employees are funded by General Employees Fund investment income.

Schedule of Changes in Net Pension Liabilities and Related Ratios*

Required Supplementary Information (unaudited, in thousands)

General Employees Fund

	Fiscal Year				
	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	$513,422	$471,706	$434,551	$421,602	$388,391
Interest on the Total Pension Liability	1,948,853	1,921,869	1,839,388	1,712,534	1,591,756
Change of Benefit Terms	(79,217)	-	-	1,147,198	-
Difference between Expected and Actual Experience	8,763	280,527	(647,197)	(348,383)	96,123
Assumption Changes	(262,228)	(853,320)	2,119,742	-	645,499
Benefit Payments	(1,470,450)	(1,413,448)	(1,359,176)	(1,235,303)	(1,109,866)
Refund Payments	(42,589)	(37,234)	(37,209)	(35,655)	(38,264)
Net Change in Total Pension Liability	$616,554	$370,100	$2,350,099	$1,661,993	$1,573,639
Total Pension Liability–Beginning	26,484,513	26,114,413	23,764,314	22,102,321	20,528,682
Total Pension Liability–Ending (a)	$27,101,067	$26,484,513	$26,114,413	$23,764,314	$22,102,321
Plan Fiduciary Net Position					
Contributions--Employer	$488,819	$477,888	$459,978	$435,115	$382,251
Contributions--Member	409,423	400,204	375,291	353,765	334,495
Contributions–Nonemployer Contributing Entity	16,000	6,000	6,000	-	-
Net Investment Income	2,063,582	2,682,901	(20,851)	777,504	2,760,854
Benefit Payments	(1,470,450)	(1,413,448)	(1,359,176)	(1,235,303)	(1,109,866)
Refund Payments	(42,589)	(37,234)	(37,209)	(35,655)	(38,264)
Administrative Expenses	(11,943)	(11,292)	(11,350)	(10,367)	(9,861)
Other**	56	411	671	891,914	605
Net Change in Plan Fiduciary Net Position	$1,452,898	$2,105,430	$(586,646)	$1,176,973	$2,320,214
Plan Fiduciary Net Position--Beginning	20,100,579	17,995,149	18,581,795	17,404,822	15,084,608
Plan Fiduciary Net Position--Ending (b)	$21,553,477	$20,100,579	$17,994,909	$18,581,795	$17,404,822
Net Pension Liability (a)-(b)	$5,547,590	$6,383,934	$8,119,504	$5,182,519	$4,697,499
Plan Fiduciary Net Position as a (b)/(a) Percentage of Total Pension Liability	79.53%	75.90%	68.91%	78.19%	78.75%
Covered-Employee Payroll	$6,298,815	$6,156,985	$5,773,708	$5,549,255	$5,351,920
Net Pension Liability as a Percentage of Covered Employee Payroll	88.07%	103.69%	140.63%	93.39%	87.77%

*This schedule is intended to show information for ten years; additional years will be displayed as the information becomes available.
**Restated 2017 and 2016 for rounding and other differences; no effect on Plan Fiduciary Net Position.

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

General Employees Fund

2018 Changes

Changes in Actuarial Assumptions:

The morality projection scale was changed from MP-2015 to MP-2017

The assumed benefit increase was changed from 1.00% per year through 2044 and 2.50% per year thereafter to 1.25% per year.

2017 Changes

Changes in Actuarial Assumptions:

The Combined Service Annuity (CSA) loads were changed from 0.8% for active members and 60% for vested and non-vested deferred members. The revised CSA load are now 0.0% for active member liability, 15.0 % for vested deferred member liability, and 3.0% for non-vested deferred member liability.

The assumed post-retirement benefit increase rate was changed for 1.0% per year for all years to 1.0% per year through 2044 and 2.5% per year therafter.

2016 Changes

Changes in Actuarial Assumptions:

The assumed post-retirement benefit increase rate was changed from 1.0% per year through 2035 and 2.5% per year thereafter to 1.0% per year for all years.

The assumed investment return was changed from 7.9% to 7.5%. The single discount rate changed from 7.9% to 7.5%.

Other assumptions were changed pursuant to the experience study June 30, 2015. The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.5% for inflation.

2015 Changes

Changes in Plan Provisions:

On January 1, 2015, the Minneapolis Employees Retirement Fund was merged into the General Employees Fund, which increased the total pension liability by $1.1 billion and increase the fiduciary plan net position by $892 million. Upon consolidation, state and employer contributions were revised.

Changes in Actuarial Assumptions:

The assumed post-retirement benefit increase rate was changed from 1.0% per year through 2030 and 2.5% per year thereafter to 1.0% per year through 2035 and 2.5% per year thereafter.

Continued

Schedule of Changes in Net Pension Liabilities and Related Ratios*

Required Supplementary Information (unaudited, in thousands)

Police and Fire Fund

	Fiscal Year				
	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	$203,131	$318,401	$194,352	$187,959	$169,124
Interest on the Total Pension Liability	682,903	616,740	658,198	648,233	598,165
Change of Benefit Terms	(50,771)	-	-	-	-
Difference between Expected and Actual Experience	21,720	37,292	(375,575)	(221,112)	1,813
Assumption Changes	(42,807)	(2,300,201)	2,650,350	-	323,945
Benefit Payments	(528,468)	(512,379)	(498,608)	(481,330)	(452,462)
Refund Payments	(1,902)	(2,119)	(2,391)	(1,953)	(1,633)
Net Change in Total Pension Liability	$283,806	$(1,842,266)	$2,626,326	$131,797	$638,952
Total Pension Liability--Beginning	9,268,998	11,111,264	8,484,938	8,353,141	7,714,189
Total Pension Liability--Ending (a)	$9,552,804	$9,268,998	$11,111,264	$8,484,938	$8,353,141
Plan Fiduciary Net Position					
Contributions--Employer	$170,781	$166,329	$156,065	$144,317	$132,632
Contributions--Member	105,479	101,984	95,172	88,733	81,213
Contributions--Nonemployer Contributing Entity	9,000	9,000	9,000	9,000	9,000
Net Investment Income	813,966	1,058,942	(8,949)	317,556	1,158,389
Benefit Payments	(528,468)	(512,379)	(498,608)	(481,330)	(452,462)
Refund Payments	(1,902)	(2,119)	(2,391)	(1,953)	(1,633)
Administrative Expenses	(886)	(992)	(906)	(803)	(798)
Other	58	24	3	84	18
Net Change in Plan Fiduciary Net Position	$568,028	$820,789	$(250,614)	$75,604	$926,359
Plan Fiduciary Net Position--Beginning	7,918,879	7,098,090	7,348,704	7,273,100	6,346,741
Plan Fiduciary Net Position--Ending (b)	$8,486,907	$7,918,879	$7,098,090	$7,348,704	$7,273,100
Net Pension Liability (a)-(b)	$1,065,897	$1,350,119	$4,013,174	$1,136,234	$1,080,041
Plan Fiduciary Net Position as a (b)/(a) Percentage of Total Pension Liability	88.84%	85.43%	63.88%	86.61%	87.07%
Covered-Employee Payroll	$976,657	$944,296	$881,222	$845,076	$820,333
Net Pension Liability as a Percentage of Covered Employee Payroll	109.14%	142.98%	455.41%	134.45%	131.66%

*This schedule is intended to show information for ten years; additional years will be displayed as the information becomes available.

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

Police and Fire Fund

2018 Changes:
Changes in Actuarial Assumptions:

The morality projection scale was changed from MP-2016 to MP-2017

2017 Changes:
Changes in Actuarial Assumptions:

Assumed salary increases were changed as recommended in the June 30, 2016 experience study. The net effect is proposed rates that average 0.34% lower than the previous rates.

Assumed rates of retirement were changed, resulting in fewer retirements.

The Combined Service Annuity (CSA) load was 30% for vested and non-vested, deferred members. The CSA has been changed to 33% for vested members and 2% for non-vested members.

The base mortality table for healthy annuitants was changed from the RP-2000 fully generational table to the RP-2014 fully generational table (with a base year of 2006), with male rates adjusted by a factor of 0.96. The mortality improvement scale was changed from Scale AA to Scale MP-2016. The base mortality table for disabled annuitants was changed from the RP-2000 disabled mortality table to the mortality tables assumed for healthy retirees.

Assumed termination rates were decreased to 3.0% for the first three years of service. Rates beyond the select period of three years were adjusted, resulting in more expected terminations overall.

Assumed percentage of married female members was decreased from 65% to 60%.

Assumed age difference was changed from separate assumptions for male members (wives assumed to be three years younger) and female members (husbands assumed to be four years older) to the assumption that males are two years older than females.

The assumed percentage of female members electing Joint and Survivor annuities was increased.

The assumed post-retirement benefit increase rate was changed from 1.00% for all years to 1.00% per year through 2064 and 2.50% thereafter.

2016 Changes:
Changes in Actuarial Assumptions:

The assumed post-retirement benefit increase rate was changed from 1.0% per year through 2037 and 2.5% per year thereafter to 1.0% per year for all future years.

The assumed investment return was changed from 7.9% to 7.5%. The single discount rate changed from 7.9% to 5.6%.

The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.5% for inflation.

2015 Changes:
Changes in Plan Provisions:

The post-retirement benefit increase to be paid after the attainment of the 90% funding threshold was changed from inflation up to 2.5%, to a fixed rate of 2.5%.

Changes in Actuarial Assumptions:

The assumed post-retirement benefit increase rate was changed from 1.0% per year through 2030 and 2.5% per year thereafter to 1.0% per year through 2037 and 2.5% per year thereafter.

Schedule of Changes in Net Pension Liabilities and Related Ratios*

Required Supplementary Information (unaudited, in thousands)

Correctional Fund

	Fiscal Year				
	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	$45,378	$49,202	$25,950	$25,098	$26,488
Interest on the Total Pension Liability	53,811	47,336	40,605	37,043	33,955
Change of Benefit Terms	(66,822)	-	-	-	-
Difference between Expected and Actual Experience	1,018	(3,516)	382	(7,892)	(5,327)
Assumption Changes	(209,457)	(66,147)	310,332	-	(34,168)
Benefit Payments	(13,183)	(11,033)	(9,381)	(7,777)	(6,711)
Refund Payments	(1,364)	(1,478)	(982)	(1,057)	(1,105)
Net Change in Total Pension Liability	$(190,619)	$14,364	$366,906	$45,415	$13,132
Total Pension Liability--Beginning	887,461	873,097	506,191	460,776	447,644
Total Pension Liability--Ending (a)	$696,842	$887,461	$873,097	$506,191	$460,776
Plan Fiduciary Net Position					
Contributions--Employer	$17,871	$17,489	$16,490	$15,736	$15,054
Contributions--Member	11,956	11,666	11,008	10,472	10,030
Contributions--Nonemployer Contributing Entity	-	-	-	-	-
Net Investment Income	62,962	78,363	209	20,373	69,451
Benefit Payments	(13,183)	(11,033)	(9,381)	(7,777)	(6,711)
Refund Payments	(1,364)	(1,478)	(982)	(1,057)	(1,105)
Administrative Expenses	(308)	(330)	(290)	(247)	(236)
Other	1	-	(2)	(1)	(1)
Net Change in Plan Fiduciary Net Position	$77,935	$94,677	$17,052	$37,499	$86,482
Plan Fiduciary Net Position--Beginning	602,460	507,783	490,731	453,232	366,750
Plan Fiduciary Net Position--Ending (b)	$680,395	$602,460	$507,783	$490,731	$453,232
Net Pension Liability (a)-(b)	$16,447	$285,001	$365,314	$15,460	$7,544
Plan Fiduciary Net Position as a Percentage of Total Pension Liability (b)/(a)	97.64%	67.89%	58.16%	96.95%	98.36%
Covered-Employee Payroll	$205,077	$200,103	$188,816	$179,623	$172,041
Net Pension Liability as a Percentage of Covered Employee Payroll	8.02%	142.43%	193.48%	8.61%	4.39%

*This schedule is intended to show information for ten years; additional years will be displayed as the information becomes available.

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

Correctional Fund

2018 Changes:
Changes in Actuarial Assumptions:

The Single Discount Rate was changed from 5.96% per annum to 7.50% per annum.

The morality projection scale was changed from MP-2016 to MP-2017

The assumed post-retirement benefit increase was changed from 2.50% per year to 2.00% per year.

2017 Changes:
Changes in Actuarial Assumptions:

The base mortality table for healthy annuitants was changed from the RP-2000 fully generational table to the RP-2014 fully generational table (with a base year of 2006), with male rates adjusted by a factor of 0.96. The mortality improvement scale was changed from Scale AA to Scale MP-2016, and is applied to healthy and disabled members. The base mortality table for disabled annuitants was changed from the RP-2000 disabled mortality table to the RP-2014 disabled annuitant mortality table (with future mortality improvement according to MP-2016).

The Combined Service Annuity (CSA) load was 30% for vested and non-vested, deferred members. The CSA has been changed to 35% for vested members and 1% for non-vested members.

The Single Discount Rate was changed from 5.31% per annum to 5.96% per annum.

2016 Changes:
Changes in Actuarial Assumptions:

The assumed investment return was changed from 7.9% to 7.5%. The single discount rate changed from 7.9% to 5.31%.

The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.5% for inflation.

Schedule of Contributions from Employers and Nonemployers

Required Supplementary Information (unaudited, in thousands)

General Employees Fund

Year Ended June 30	Actuarially Determined Contribution (A)	Statutorily Determined Contribution (B)	Actual Contributions (C)	Contribution Deficiency (Excess) (A)-(C)	Covered Payroll (D)	Actual Contribution as a % of Covered Payroll (C)/(D)
2018	$609,725	$504,819	$504,819	$104,906	$6,298,815	8.01%
2017	615,083	483,888	483,888	131,195	6,156,985	7.86%
2016	542,151	465,978	465,978	76,173	5,773,708	8.07%
2015	523,017	435,115	435,115	87,902	5,549,255	7.84%
2014	476,321	382,251	382,251	94,070	5,351,920	7.14%
2013	430,773	372,652	372,652	58,121	5,246,928	7.10%
2012	371,295	368,037	368,037	3,258	5,142,592	7.16%
2011	321,782	357,596	357,596	(35,814)	5,079,429	7.04%
2010	443,548	342,678	342,678	100,870	4,804,627	7.13%
2009	381,151	328,603	328,603	52,548	4,778,708	6.88%

Notes to Schedule of Contributions

Required Supplementary Information

Methods and Assumptions

The following methods and assumptions are used to calculate actuarially determined contributions and are, in a few cases, different from the methods and assumptions used to calculate the net pension liability in accordance with Governmental Accounting Standards Board requirements.

Valuation Date: June 30, 2017

Actuarially determined contribution rates are calculated as of each June 30 and apply to the fiscal year beginning on the day after the measurement date.

Actuarial Cost Method: Entry Age Normal

Amortization Method: Level percentage of payroll, closed

Remaining Amortization Period: 16 years

Asset Valuation Method: 5-year smoothed market, no corridor

Inflation: 2.75%

Payroll Growth Rate: 3.50%

Salary Increases: 3.50% to 11.50%, including inflation

Investment Rate of Return: 8.00%

Retirement Age: Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2016 valuation pursuant to an experience study of the period 2008 - 2014

Mortality: RP-2014 annuitant generational mortality table, projected with scale MP-2015 from a base year of 2014, white collar adjustment, set forward two years for males and rates adjusted by a factor of 0.90 for females

Cost of Living Increase: The plan is assumed to pay a 2.5% post retirement benefit increase beginning January 1, 2036.

Schedule of Contributions from Employers and Nonemployers

Required Supplementary Information (unaudited, in thousands)

Police and Fire Fund

Year Ended June 30	Actuarially Determined Contribution (A)	Statutorily Determined Contribution (B)	Actual Contributions (C)	Contribution Deficiency (Excess) (A)-(C)	Covered Payroll (D)	Actual Contribution as a % of Covered Payroll (C)/(D)
2018	$193,183	$179,781	$179,781	$13,402	$976,657	18.41%
2017	165,252	175,329	175,329	(10,077)	944,296	18.57%
2016	189,375	165,065	165,065	24,310	881,222	18.73%
2015	197,325	153,317	153,317	44,008	845,076	18.14%
2014	163,985	141,632	141,632	22,353	820,333	17.27%
2013	189,254	125,995	125,995	63,259	796,188	15.82%
2012	152,369	121,891	121,891	30,478	794,417	15.34%
2011	124,284	109,604	109,604	14,680	775,806	14.13%
2010	150,220	107,066	107,066	43,154	740,101	14.47%
2009	140,591	101,548	101,548	39,043	733,164	13.85%

Notes to Schedule of Contributions

Required Supplementary Information

Methods and Assumptions

The following methods and assumptions are used to calculate actuarially determined contributions and are, in a few cases, different from the methods and assumptions used to calculate the net pension liability in accordance with Governmental Accounting Standards Board requirements.

Valuation Date:	June 30, 2017 Actuarially determined contribution rates are calculated as of each June 30 and apply to the fiscal year beginning on the day after the measurement date.
Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	26 years
Asset Valuation Method:	5-year smoothed market, no corridor
Inflation:	2.75%
Payroll Growth Rate:	3.50%
Salary Increases:	3.50% to 12.50%, including inflation
Investment Rate of Return:	8.00%
Retirement Age:	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2017 valuation pursuant to an experience study of the period 2011 - 2015 prepared by a former actuary.
Mortality:	RP-2014 annuitant generational mortality table, projected with mortality improvement scale MP-2016, from a base year of 2006. Male rates adjusted by a factor of 0.96.
Cost of Living Increase:	The plan is assumed to pay a 2.50% post retirement benefit increase beginning January 1, 2034.

Schedule of Contributions from Employers and Nonemployers

Required Supplementary Information (unaudited, in thousands)

Correctional Fund

Year Ended June 30	Actuarially Determined Contribution (A)	Statutorily Determined Contribution (B)	Actual Contributions (C)	Contribution Deficiency (Excess) (A)-(C)	Covered Payroll (D)	Actual Contribution as a % of Covered Payroll (C)/(D)
2018	$19,031	$17,871	$17,871	$1,160	$205,077	8.71%
2017	17,269	17,489	17,489	(220)	200,103	8.74%
2016	16,446	16,490	16,490	(44)	188,816	8.73%
2015	13,759	15,736	15,736	(1,977)	179,623	8.76%
2014	14,606	15,054	15,054	(448)	172,041	8.75%
2013	14,207	14,498	14,498	(291)	164,820	8.80%
2012	12,473	14,320	14,320	(1,847)	164,340	8.71%
2011	12,183	14,289	14,289	(2,106)	165,077	8.66%
2010	12,273	14,170	14,170	(1,897)	154,777	9.16%
2009	11,469	14,124	14,124	(2,655)	154,650	9.13%

Notes to Schedule of Contributions

Required Supplementary Information

Methods and Assumptions

The following methods and assumptions are used to calculate actuarially determined contributions and are, in a few cases, different from the methods and assumptions used to calculate the net pension liability in accordance with Governmental Accounting Standards Board requirements.

Valuation Date:	June 30, 2017 Actuarially determined contribution rates are calculated as of each June 30 and apply to the fiscal year beginning on the day after the measurement date.
Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	21 years
Asset Valuation Method:	5-year smoothed market, no corridor
Inflation:	2.75%
Payroll Growth Rate:	3.50%
Salary Increases:	3.75% to 8.75%, including inflation
Investment Rate of Return:	8.00%
Retirement Age:	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2006 - 2011 prepared by a former actuary.
Mortality:	RP-2014 annuitant generational mortality table, projected with mortality improvement scale MP-2016, from a base year of 2006. Male rates adjusted by a factor of 0.96.
Cost of Living Increase:	The plan is assumed to pay a 2.50% post retirement benefit for all years.

Schedule of Investment Returns*

Required Supplementary Information (unaudited)

Year	General Employees Fund	Police and Fire Fund	Correctional Fund	Volunteer Firefighter Fund
2018	10.47%	10.48%	10.35%	5.83%
2017	15.23%	15.22%	15.22%	10.31%
2016	-0.07%	-0.09%	0.08%	2.82%
2015	4.45%	4.46%	4.42%	2.83%
2014	18.66%	18.66%	18.56%	13.12%

*The annual money-weighted rate of return for each plan is net of pension expense.

This schedule is intended to show information for ten years; additional years will be displayed as the information becomes available.

Statement of Changes in Assets and Liabilities—Agency Fund

For the Fiscal Year Ended June 30, 2018 (in thousands)

	Beginning Balance 07/01/2017	Additions	Deductions	Ending Balance 06/30/2018
ASSETS				
Cash	$872	$167,800	$167,735	$937
Investments				
Bond Pool	105,836	60,853	11,603	155,086
Index Stock Pool	452,823	107,049	130,232	429,640
Money Market	16,501	86,964	52,005	51,460
Total Assets	**$576,032**	**$422,666**	**$361,575**	**$637,123**
LIABILITIES				
Accounts Payable	$576,032	$422,666	$361,575	$637,123
Total Liabilities	**$576,032**	**$422,666**	**$361,575**	**$637,123**

Schedule of Investment Expenses

For the Fiscal Year Ended June 30, 2018 (in thousands)

	General Employees	Police & Fire Plan	Correctional Plan	SVF	DCP	Total
Source of Expenses						
Outside Money Managers–Equities	$17,448	$6,880	$540	$30	$33	$24,931
Outside Money Managers–Fixed Income	3,628	1,431	112	34	23	5,228
Minnesota State Board of Investment	1,200	473	37	114	3	1,827
Callan Investment	162	64	5	0	0	231
QED Consulting	97	38	3	0	0	138
Other Investments	40	0	0	0	3	43
Pension Consulting Alliance	89	35	3	0	0	127
	$22,664	$8,921	$700	$178	$62	$32,525

A *Schedule of Investment Fees* paid to money managers is provided in the *Investment Section* of this report.

Schedule of Payments to Consultants

For the Fiscal Year Ended June 30, 2018 (in thousands)

Individual or Firm Name	Fee Paid	
Actuary		
Gabriel Roeder Smith & Co.	$244	**$244**
Financial Services		
Clifton Larson Allen LLP	$109	
MMB / OLA Audit Fees	134	
SVF Audit Fees	70	**$313**
Legal		
Attorney General	$28	**$28**
Management Consultants		
MINNCOR	$37	
Berwyn Group	7	
Kusske Financial Mgmt	3	
Other	6	**$53**
Medical Evaluations		
MMRO	$369	
MMB	22	
Office of Administrative Hearings	8	**$399**
System Development		
Toshiba Business Solutions USA	$45	
Works Computing Inc	12	
Software House Intl Inc	2	**$59**
Total Professional Service Fees		**$1,096**

Schedule of Administrative Expenses

For the Fiscal Year Ended June 30, 2018 (in thousands)

Personal Services		
Staff Salaries	$9,219	
Part-Time, Seasonal Labor	76	
Other Benefits	91	
Total Personal Services		**$9,386**
Professional Services		
Actuary	$244	
Financial	313	
Legal	28	
Management Consultants	53	
Medical Evaluations	399	
System Development	59	
Total Professional Services		**$1,096**
Communications		
Mail & Telephone Services	$527	
Printing & Advertising	116	
Total Communications		**$643**
Office Building and Maintenance		
Building	$298	
Depreciation - Building	270	
Bond Interest	82	
Total Office Building and Maintenance		**$650**
Other		
Depreciation - Equipment	$133	
Employee Development	172	
Equipment Maintenance	295	
Indirect Costs	44	
Operating Costs	149	
Supplies & Materials	774	
Travel	76	
Total Other		**$1,643**
Total Administrative Expenses		**$13,418**

Allocation of Administrative Expenses

Defined Benefit Plans		
Public Employees Retirement Fund	$11,943	
Public Employees Police and Fire Fund	886	
Public Employees Correctional Fund	308	
Statewide Volunteer Firefighter	70	
Defined Contribution Plans		
Defined Contribution Fund	211	
Total Administrative Expenses		**$13,418**