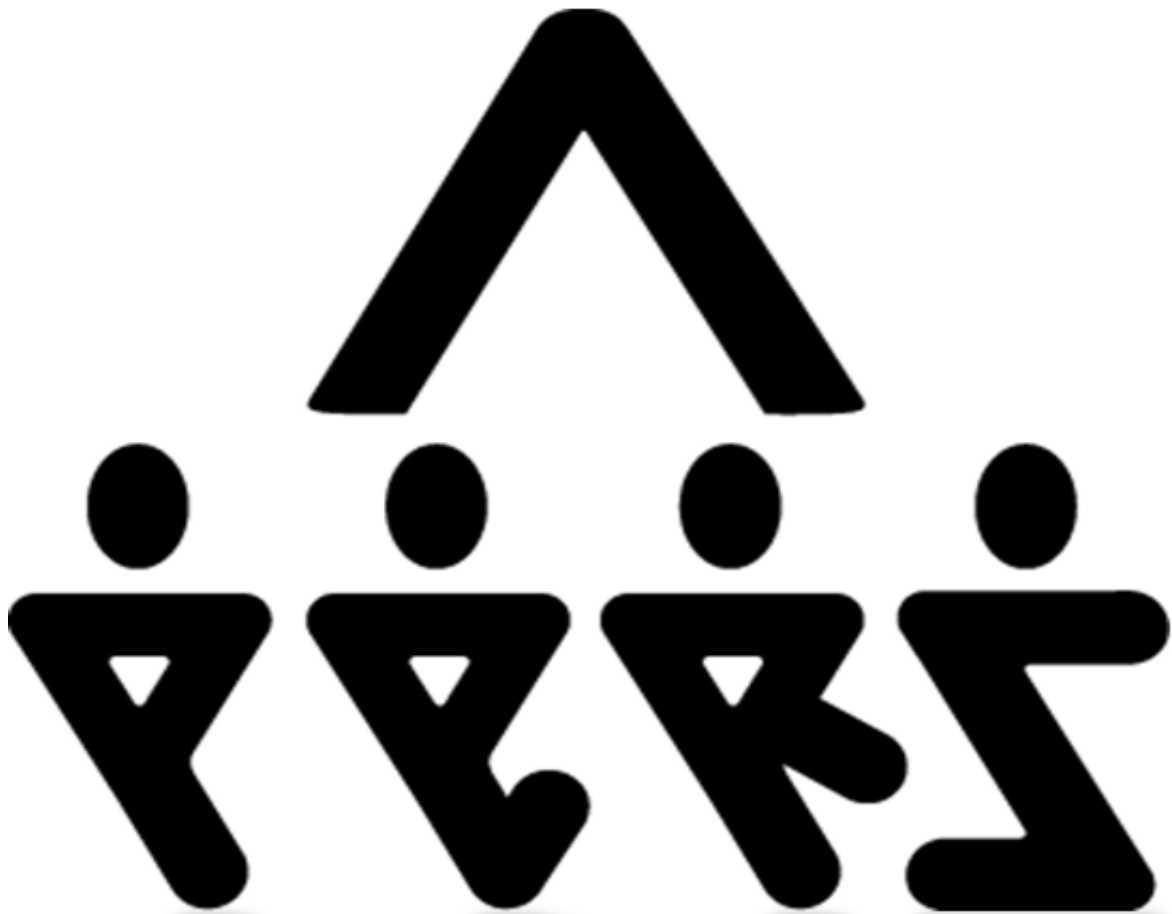


2018

FOR THE FISCAL YEARS ENDED JUNE 30, 2018 AND JUNE 30, 2017



**NORTH DAKOTA
PUBLIC EMPLOYEES RETIREMENT SYSTEM**

AN AGENCY OF THE STATE OF NORTH DAKOTA

North Dakota Public Employees Retirement System
An Agency of the State of North Dakota

Comprehensive Annual Financial Report

For the Fiscal Years Ended June 30, 2018 and June 30, 2017

Introduction.....	1
Financial.....	14
Investment.....	83
Actuarial.....	100
Statistical.....	154

Prepared by the staff of the North Dakota Public Employees Retirement System
400 East Broadway, Suite 505, Bismarck, North Dakota 58501
701-328-3900 • Toll-Free: 1-800-803-7377 • E-mail: ndpers-info@nd.gov • <https://ndpers.nd.gov>

*In compliance with the Americans with Disabilities Act, this document can be provided in alternate formats.
To request an alternate format, please call PERS ADA Coordinator at 701-328-3918, or toll-free: 1-800-803-7377.*

TABLE OF CONTENTS**North Dakota Public Employees Retirement System****Introductory Section**

PPCC Award.....	2
GFOA Certificate of Achievement.....	3
Letter of Transmittal.....	4
The Retirement Board.....	11
Administrative Organization.....	12
Consulting and Professional Services.....	13

Financial Section

Independent Auditor's Report.....	15
Management's Discussion and Analysis.....	17

Basic Financial Statements:

Fund Financial Statements:	
Statements of Net Position - Proprietary Fund.....	22
Statements of Revenues, Expenses, and Changes in Fund Net Position - Proprietary Funds.....	23
Statements of Cash Flows - Proprietary Funds.....	24
Statements of Net Position - Fiduciary Funds.....	25
Statements of Changes in Plan Net Position - Fiduciary Funds.....	29
Notes to the Financial Statements.....	31

Required Supplementary Information:

Schedule of Changes to the Net Pension Liability and Related Ratios.....	68
Schedule of Changes to the Net Other Post Employment Benefit Liability and Related Ratios.....	71
Schedule of Employer Contributions.....	72
Notes to the Required Supplementary Information.....	73
Schedule of Investment Returns.....	75

Supplementary Information:

Schedule of Investment Expenses-Fiduciary Funds.....	76
Schedule of Administrative Expenses-Fiduciary Funds.....	78
Schedule of Consultant Expenses - Fiduciary Funds.....	80
Statement of Appropriations.....	82

Investment Section:

Report on Investment Activity.....	84
Investment Policies.....	87
Investment Summaries.....	88
Investment Results.....	90
Largest Holdings.....	93
Schedule of Investment Fees.....	94
Defined Contributions Investments.....	96
Defined Contribution Investment Results.....	97

Actuarial Section:**Public Employees Retirement System:**

Actuary's Certification Letter.....	101
Actuarial Assumptions & Cost Method.....	106
Changes in Actuarial Assumptions or Cost Methods.....	109
Summary of Plan Provisions.....	110
Plan Amendments.....	113
Solvency Test.....	114
Schedule of Active Member Valuation Data.....	115

Analysis of Financial Experience.....	117
Retirees and Beneficiaries Added To and Removed From the Rolls.....	118

Highway Patrolmen's Retirement System:

Actuary's Certification Letter.....	120
Actuarial Assumptions & Cost Method.....	124
Changes in Actuarial Assumptions or Cost Methods.....	126
Summary of Plan Provisions.....	126
Plan Amendments.....	128
Schedule of Active Member Valuation Data.....	129
Retirees and Beneficiaries Added To and Removed From the Rolls.....	129
Solvency Test.....	130
Analysis of Financial Experience.....	130

Job Service Retirement Plan:

Actuary's Certification Letter.....	131
Actuarial Assumptions & Cost Method.....	135
Changes in Actuarial Assumptions or Cost Methods.....	137
Summary of Plan Provisions.....	137
Plan Amendments.....	139
Schedule of Active Member Valuation Data.....	140
Retirees and Beneficiaries Added To and Removed From the Rolls.....	140
Solvency Test.....	141
Analysis of Financial Experience.....	141

Retiree Health Insurance Credit Fund:

Actuary's Certification Letter.....	142
Actuarial Assumptions & Cost Method.....	146
Changes in Actuarial Assumptions or Cost Methods.....	149
Summary of Plan Provisions.....	150
Plan Amendments.....	152
Retired Members, Average Benefit, and Active/Retiree Comparison.....	152
Funding Progress.....	153
Analysis of Financial Experience.....	153

Statistical Section:**Retirement:**

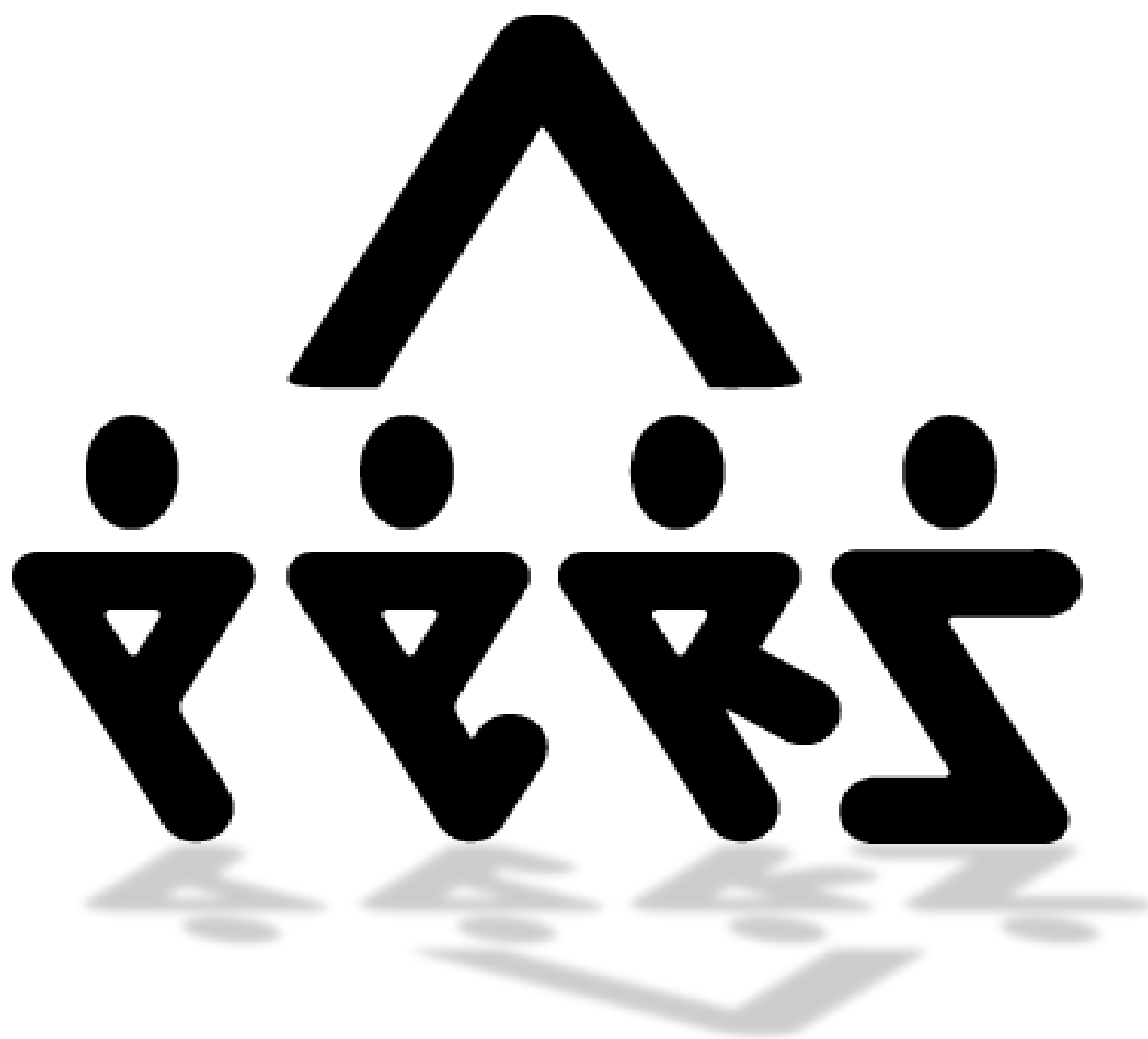
Retirement System Membership.....	155
Schedule of Benefit Expenses by Type.....	156
Changes in Net Assets.....	157
Schedule of Retired Members by Type and Schedule of Average Benefit Payments.....	159
Schedule of Participating Employers.....	169
Principle Participating Employers.....	172

Deferred Compensation:

Schedule of Assets by Provider.....	172
-------------------------------------	-----

Group Insurance:

Health Insurance Contracts in Force.....	173
Health Insurance Premiums.....	173



INTRODUCTORY SECTION



Public Pension Coordinating Council

***Recognition Award for Administration
2018***

Presented to

North Dakota Public Employees Retirement System

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

Presented by the Public Pension Coordinating Council, a confederation of

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

A handwritten signature in black ink, reading 'Alan H. Winkle'. The signature is fluid and cursive, with the first name 'Alan' being more prominent.

Alan H. Winkle
Program Administrator



Government Finance Officers Association

**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

**North Dakota Public Employees
Retirement System**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2017

Christopher P. Morill

Executive Director/CEO



**North Dakota
Public Employees Retirement System**
400 East Broadway, Suite 505 • Box 1657
Bismarck, North Dakota 58502-1657

Scott Miller
Executive Director
(701) 328-3900
1-800-803-7377

FAX: (701) 328-3920 • EMAIL: NDPERS-info@nd.gov • www.nd.gov/ndpers

December 18, 2018

Board of Trustees
Members of the System

We are pleased to present the Comprehensive Annual Financial Report for the North Dakota Public Employees Retirement System (System) for the fiscal year ended June 30, 2018. The management of the System is responsible for both the accuracy of the data and the completeness and fairness of the presentation.

Generally accepted accounting principles (GAAP) require that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The System's MD&A can be found immediately following the report of the independent auditors in the Financial Section.

Plan History and Services Provided

The System is the administrator of three defined benefit pension plans and an optional defined contribution retirement plan. The System also manages and administers the retiree health insurance credit program, the uniform group insurance program, the deferred compensation program, and the pretax benefits program. Following is a brief overview of the statistical and financial highlights for each of these programs for the fiscal year ended June 30, 2018.

Defined Benefit Pension Plans

The Public Employees Retirement System (PERS) is a cost-sharing multiple-employer retirement plan. PERS was established July 1, 1966 as a defined contribution plan and was changed to a defined benefit plan by the 1977 North Dakota Legislature. PERS covers substantially all employees of the State of North Dakota, its agencies and various participating political subdivisions. It also covers Supreme and District Court Judges, the National Guard Security Officers and Firefighters, and as of August 1, 2004, peace officers and correctional officers employed by political subdivisions. The Highway Patrolmen's Retirement System (HPRS) is a single-employer defined benefit plan established July 1, 1949 that covers substantially all sworn officers of the North Dakota Highway Patrol. The System became the administrator of this plan effective July 1, 1983. The Retirement Plan for Employees of Job Service North Dakota (Job Service Plan) is a single-employer defined benefit plan established July 1, 1961 and is limited to employees participating in the plan as of September 30, 1980. The System became the administrator of the Job Service plan effective August 1, 2003.

PERS has 23,359 contributing members and 11,712 retirees and beneficiaries currently receiving benefits. HPRS has 153 contributing members and 127 retirees and beneficiaries. The Job Service Plan has 7 contributing members and 140 retirees. The employers participating in PERS include 96 state agencies and 350 political subdivisions.

PERS, HPRS and Job Service Plan are accounted for as pension trust funds.

Defined Contribution Retirement Plan

An optional Defined Contribution Retirement Plan (DC Plan) was established effective January 1, 2000. The DC Plan was available to state employees who are in positions not classified by the Human Resource Management Services division of the State of North Dakota. Employees of the judicial branch or the Board of Higher Education and State Institutions under the jurisdiction of the Board of Higher Education are not eligible to participate in the Plan. The 2013 Legislative Assembly passed legislation to expand eligibility for the Plan to include all new state employees hired on or after October 1, 2013 through July 31, 2017. The Plan has 108 participants.

The defined contribution retirement plan is accounted for as a pension trust fund.

Retiree Health Insurance Credit Program

This program was created by the North Dakota Legislature in 1989. It is designed to provide members with a benefit that can be used to offset the cost of their health insurance premiums during their retirement years. There are 23,747 contributing members and 11,823 retired participants currently receiving benefits.

The retiree health insurance credit program is accounted for as an other employee benefit trust fund.

Uniform Group Insurance Program

Group Health Insurance. The System began administering the group health insurance plan in 1971. There are 27,094 active and retired contracts under this plan as of June 30, 2018. Total covered lives, including spouses and dependents, are 63,142. As of June 30, 2018 there were 149 political subdivisions participating in the group health program. The health insurance premiums paid to Sanford Health Plan for the fiscal year ended June 30, 2018 totaled \$330.0 million. This last year, the System continued its efforts to reduce the trend in health care costs by promoting wellness through on-line programs and supporting health club memberships and providing on-site wellness programs and premium discounts to employers that have on-site wellness programs. In addition, the System continued targeted programs that include smoking cessation, Health Pregnancy and diabetes management based on the Ashville Model. New initiatives include a Diabetes Prevention Program and opioid management program.

Another component of this plan, which is being reported in compliance with GASB Statement 43, provides health care coverage to eligible retirees who are not yet eligible for Medicare. The premiums for this group are not age-rated and do not cover the costs of the coverage; therefore, the costs of this group are being subsidized through the active group rates. There are 138 retirees currently receiving the subsidized premium.

Group Life Insurance. The System began administering the group life insurance plan in 1971. There are 18,237 active and 3,209 retired employees covered under the basic life insurance plan. Active employees have the option of purchasing additional life insurance under the employee supplemental, dependent supplemental, and spouse supplemental provisions of the plan. The life insurance premiums paid to Voya for the fiscal year ended June 30, 2018 totaled \$3.4 million. As of fiscal year end, there is \$1.771 billion of life insurance in force for all participants covered by this plan.

Voluntary Insurance Products. The 1995 North Dakota Legislature authorized the System to offer voluntary insurance products, specifically dental, vision and long term care insurance. On January 1, 1997, the System began offering a dental plan and long term care plan and on January 1, 2003, a vision plan was offered. There are 10,536 participants in the dental plan, 11,252 participants in the vision plan and 175 participants in the long term care plan.

Employee Assistance Program. The 1997 North Dakota Legislature authorized the System to administer an employer-sponsored Employee Assistance Program (EAP) for all state employees, effective August 1, 1997. The System has contracted with four EAP vendors to provide services to employees and their families. The System collects the monthly premiums from the employers and remits them to the appropriate vendor. Approximately 15,020 state employees are covered under this program.

The uniform group insurance plan is a public entity risk pool and is accounted for as an enterprise fund.

Deferred Compensation Program

This is a voluntary, supplemental retirement plan provided in accordance with Section 457 of the Internal Revenue Code. It allows eligible employees to defer and invest income on a pretax basis to be withdrawn at a later date, usually at retirement. The System has administered the Plan since 1987. Fourteen companies have agreed to provide investment services for the State's deferred compensation program. The System is the trustee for deferred compensation assets totaling \$112.8 million; provider companies hold the remaining plan assets of \$159.6 million in custodial accounts for the exclusive benefit of participants and their beneficiaries. Approximately 13,188 employees participate in this program.

The deferred compensation program is accounted for as an other employee benefit trust fund.

Pretax Benefits Program (FlexComp)

This program was established by the North Dakota Legislature in 1989 in accordance with Section 125 of the Internal Revenue Code. It allows eligible employees to elect to reduce their salaries to pay for qualified insurance premiums, medical expenses, and dependent care expenses on a pretax basis. There are 2,847 participants in the medical and dependent care spending accounts. Employee contributions to the spending accounts totaled \$5.57 million. Starting in January 2013, the System contracted with a benefits service company for processing spending account reimbursements.

The pretax benefits program is accounted for as an other employee benefit trust fund.

Major Initiatives

Retirement

- Implemented legislation passed in the 2017 session to expand eligibility in the Law Enforcement Plan to firefighters; renamed the plan to Public Safety Plan
- Implemented new benefit option factors that reflect updated actuarial assumptions
- Finalized new service purchase factors and cost calculation methodologies
- Adopted a plan document amendment to disburse small account balances for terminated members in the 457 Companion Plan
- Submitted several options for consideration to the Legislative Employee Benefits Program Committee to address the funded status of the retirement plan
- Continued to de-risk the Job Service Plan's investment portfolio by adopting a more conservative asset allocation

Group Insurance

- Added an opioid management program to the health plan
- Went out to bid for the FlexComp plan third party administrator and awarded the contract to ASIFlex effective January 1, 2019
- Completed the renewal of the retiree prescription drug plan effective January 1, 2018
- Conducted a retiree special enrollment for the Dental & Vision plans
- Began efforts to discontinue the Long Term Care plan effective January 1, 2019
- Went out to bid on the dental plan and selected the incumbent provider effective January 1, 2019
- Began researching a managed care option in the health plan
- Began providing a Diabetes Prevention Program pilot
- Went out to bid for the Retiree Health Plan Valuation actuary and selected Bolton

Administrative

- Adopted an electronic payment policy pursuant to legislation passed in the 2017 session
- Went out to bid for an executive search firm and selected EFL & Associates, who successfully recruited a new Executive Director after a nation-wide search
- Submitted administrative rule changes
- Implemented several initiatives to move towards electronic communications, pursuant to a statement of legislative intent provided in the 2017 session
- Began efforts to enhance security and develop new features for the Member Self-Service portal

Financial Information

The financial statements included in this report are the responsibility of the System's management and have been prepared in accordance with generally accepted accounting principles for governmental accounting and reporting as pronounced or adopted by the Governmental Accounting Standards Board and the Financial Accounting Standards Board. Management is also responsible for maintaining a system of adequate internal accounting controls designed to provide reasonable assurance that assets are safeguarded against loss from unauthorized use or disposition and that transactions are executed in accordance with management's authorization and are recorded properly to permit the preparation of financial statements in accordance with generally accepted accounting principles. Management has established a comprehensive framework of internal controls to provide a reasonable basis for asserting that the financial statements are fairly presented. Because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance that the financial statements are free of any material misstatements.

The expenses of the System are monitored through two budgetary controls. The majority of the administrative expenditures are appropriated each biennium by the North Dakota Legislature; certain statutorily-prescribed expenses (including benefit payments, actuarial and consulting fees and audit fees) have received a continuing appropriation from the North Dakota Legislature and are reviewed directly by the System's Board.

Revenues and Expenses

Investment earnings, together with employee and employer contributions, are the funding sources for the benefits provided through the System. The main expenses of the System are benefit payments and the cost of administering the System. The following tables show the combined revenues and expenses for the PERS, HPRS and Job Service plans for fiscal years 2018 and 2017:

(Millions) Revenue Type	Fiscal Year 2018	Fiscal Year 2017	Change in \$ s	Percentage Change
Employee Contributions	\$ 79.0	\$ 77.5	\$ 1.5	1.9%
Employer Contributions	82.9	81.1	1.8	2.2
Investments	<u>258.8</u>	<u>325.5</u>	<u>(66.7)</u>	<u>(20.5)</u>
Total	\$420.7	\$ 484.1	\$ (63.4)	(16.4)%
Expense Type				
Benefits	\$180.6	\$163.1	\$17.5	10.7%
Refunds & Transfers	11.4	9.0	2.4	26.7
Administrative Expenses	<u>2.5</u>	<u>2.7</u>	<u>(.2)</u>	<u>(7.4)</u>
Total	\$194.5	\$174.8	\$19.7	30.0%

The increase in revenues reflects stronger financial markets. The increase in expenses is primarily due to an increase in the total number of retirees who are receiving pension payments.

Funding Status

The funding goal of any retirement system is to accumulate sufficient assets to pay all of its promised benefits as they come due. The annual valuation of the System's assets and liabilities performed by the System's actuary provides the best current estimate of the System's funding status and allows the Board to monitor funding progress.

A common measure of the strength of a pension system is to express the assets as a percentage of liabilities - the greater the percentage, the stronger the funding position of the System. The July 1, 2018 actuarial valuation reports the actuarial value of assets for PERS at \$2,869 million, which is 72.5% of the actuarial accrued liabilities of \$3,959 million. The actuarial value of assets for HPRS is \$76.1 million, which is 77.4% of the actuarial accrued liabilities of \$98.4. The Job Service Plan is fully funded. The actuarial value of assets for the Job Service Plan is \$98.4 million, which is 144.1% of the actuarial present value of benefits of \$68.3 million.

The Retiree Health Insurance Credit Program is advance-funded on an actuarially-determined basis. As of fiscal year end, the program's actuarial value of assets is 61.1% of the actuarial accrued liability. The Retiree Health Implicit Subsidy is not advance funded. As of June 30, 2017, the date of the last actuarial valuation, the unfunded actuarial accrued liability for this plan is \$4.3 million.

Funding progress is covered in more detail in the actuarial section of this report.

Investments

The North Dakota State Investment Board (SIB) invests the funds for the PERS, HPRS and Job Service Plan. Chapter 21-10 of the North Dakota Century Code states that the SIB shall apply the prudent investor rule when investing funds under its supervision. The prudent investor rule means that in making investments, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation, but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. All funds must be invested exclusively for the benefit of the System's members and all investments are made in accordance with the System's long-term investment objectives and performance goals.

The combined market value of assets for PERS and HPRS as of June 30, 2018 is \$3.0 billion, which is an increase of 8.7% from the previous year. The market value of assets for Job Service as of June 30, 2018 is \$95.7 million, an increase of 1.7% from the previous year. During the fiscal year ended June 30, 2018 the System's portfolio remained broadly diversified with investments in domestic and international equities, domestic and international fixed income securities, real estate, private equity, timber, infrastructure, and cash equivalents.

The PERS and HPRS assets had an annualized rate of return of 9.19% for the fiscal year ended June 30, 2018. The annualized rate of return was 7.37% for the last three years and 8.33% for the last five years. The annualized rate of return for the fiscal year ended June 30, 2018 for the Job Service Plan was 3.15%. The annualized rate of return was 4.74% for the last three years and 6.15% for the last five years.

The assets of the Retiree Health Insurance Credit Program are also invested with the SIB. The market value of assets as of June 30, 2018 is \$126.6 million, which is 9.0% higher than the previous year. The assets earned an annualized rate of return of 7.15% for the fiscal year ended June 30, 2018. The annualized rate of return was 6.46% for the last three years and 7.70% for the last five years. During the fiscal year ended June 30, 2018, the System's portfolio remained broadly diversified with investments in domestic and international equities and fixed income securities.

The assets of the defined contribution retirement plan are invested according to the direction of each participating member. The participant can select from fifteen investment categories and a mutual fund window, as provided by the Board. The investment categories are designed to cover a broad range to allow the participant to structure an investment strategy that meets their individual return objectives and risk tolerances. The market value of assets in the defined contribution retirement plan as of June 30, 2018 is \$14.3 million, which is a 19.2% increase from the previous year.

More detailed information on investment policies, schedule of fees & commission, performance results and asset allocation can be found in the Investment Section of this report on pages 83-99.

Independent Audit

The financial statements contained in this report were audited by the accounting firm of CliftonLarsonAllen LLP, under the direction of the North Dakota State Auditor. The auditors' opinion was unmodified for the System for the year ended June 30, 2018.

Achievement Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the North Dakota Public Employees Retirement System for its comprehensive annual financial report (CAFR) for the fiscal year ended June 30, 2017. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. The CAFR must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for a period of one year only. The North Dakota Public Employees Retirement System has received a Certificate of Achievement for the last twenty-two consecutive years (fiscal years ended June 30, 1996 - 2017). We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to GFOA for their review.

Acknowledgements

The preparation of this report is the result of the combined effort of the System's staff. It is intended to provide complete and accurate information concerning the activities and results of operations. Copies of this report are available to employers, members and other interested parties upon request or it can be downloaded from the System's website.

Sincerely,



Scott Miller
Executive Director



Sharon Schiermeister, CPA
Chief Operating Officer



Derrick Hohbein, CPA, MBA
Chief Financial Officer

THE RETIREMENT BOARD

The Retirement Board is the governing authority of the Public Employees Retirement System and consists of nine persons. A North Dakota citizen who is neither a state or political subdivision employee is appointed by the Governor to serve as Chairman of the Board. A member of the Attorney General's legal staff and the State Health Officer are also appointed to serve on the Board. One Board member is elected by retired PERS members, two members are appointed by legislative management, and the remaining three Board members are elected from active employees currently contributing to PERS. Three members of the Retirement Board are included in the membership of the North Dakota State Investment Board (SIB). The Retirement Board has specified that the members who serve on the SIB are to be selected from among the four elected members.

The Board members, and their respective terms, are as follows:



Mark Dosch
Chairman
Term Expires 6/30/2020



Mylynn Tufte
Health Department
Appointee



Troy Seibel
Attorney General Appointee
Term Expires 6/30/21



Casey Goodhouse
Member Elected
Term Expires 6/30/19



Yvonne Smith
Retiree Elected
Term Expires 6/30/19



Adam Miller
Member Elected
Term Expires 6/30/22



Kim Wassim
Member Elected
Term Expires 6/30/23



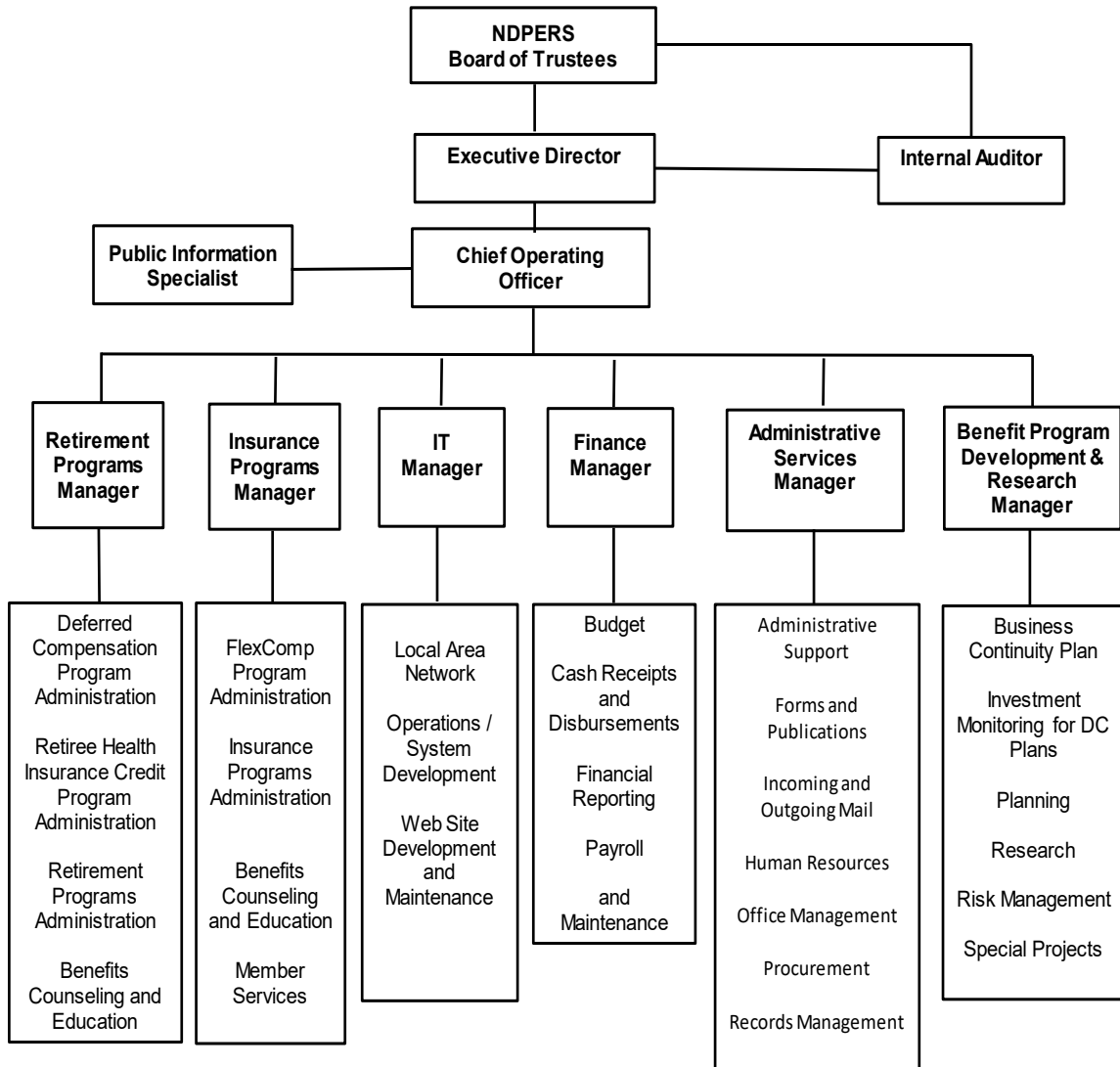
Senator Dick Dever
Appointed by
Legislative Management



Rep. Pamela Anderson
Appointed by
Legislative Management

The Board's mission is to design, communicate and efficiently administer a viable employee benefits program within a framework of prudent risk taking, applicable state and federal laws, and professional and ethical standards so as to provide an employee benefit package that is among the best available from public and private employers in the upper Midwest.

Organizational Chart



ADMINISTRATION

Scott Miller, *Executive Director*
 Aime Miller, *Public Information Specialist*
 Jamie Kinsella, CPA, CIA, *Chief Audit Executive*
 Sharon Schiermeister, CPA, *Chief Operating Officer*
 MaryJo Anderson, *Retirement Programs Manager*
 Rebecca Fricke, *Insurance Programs Manager*
 Ronald Gilliam, *IT Manager*
 Derrick Hohbein, CPA, MBA *Finance Manager*
 Janis Lund, *Administrative Services Manager*
 Bryan Reinhardt, *Benefit Program Development and Research Manager*

Consulting & Professional Services

ACTUARY:

Gabriel Roeder Smith & Company
Chicago, IL

AUDITOR:

Clifton Larson Allen LLP
Baltimore, MD

DENTAL INSURANCE CARRIER:

Delta Dental of Minnesota
Minneapolis, MN

DISABILITY CONSULTANT:

Mid Dakota Clinic
Bismarck, ND

EMPLOYEE ASSISTANCE PROGRAM VENDORS:

Deer Oaks EAP Services
San Antonio, TX

St. Alexius/Heartview
Bismarck, ND

Live Well Solutions
Fargo, ND

Village Family Services
Fargo, ND

HEALTH INSURANCE CARRIER:

Sanford Health Plan
Sioux Falls, SD

INSURANCE CONSULTANT:

Deloitte Consulting LLP
Minneapolis, MN

INVESTMENT SERVICES:

North Dakota Retirement &
Investment Office
Bismarck, ND

LEGAL COUNSEL:

North Dakota Attorney General's
Office
Bismarck, ND

LIFE INSURANCE CARRIER:

Voya Financial
New York, NY

LONG TERM CARE INSURANCE CARRIER:

UNUM
Portland, ME

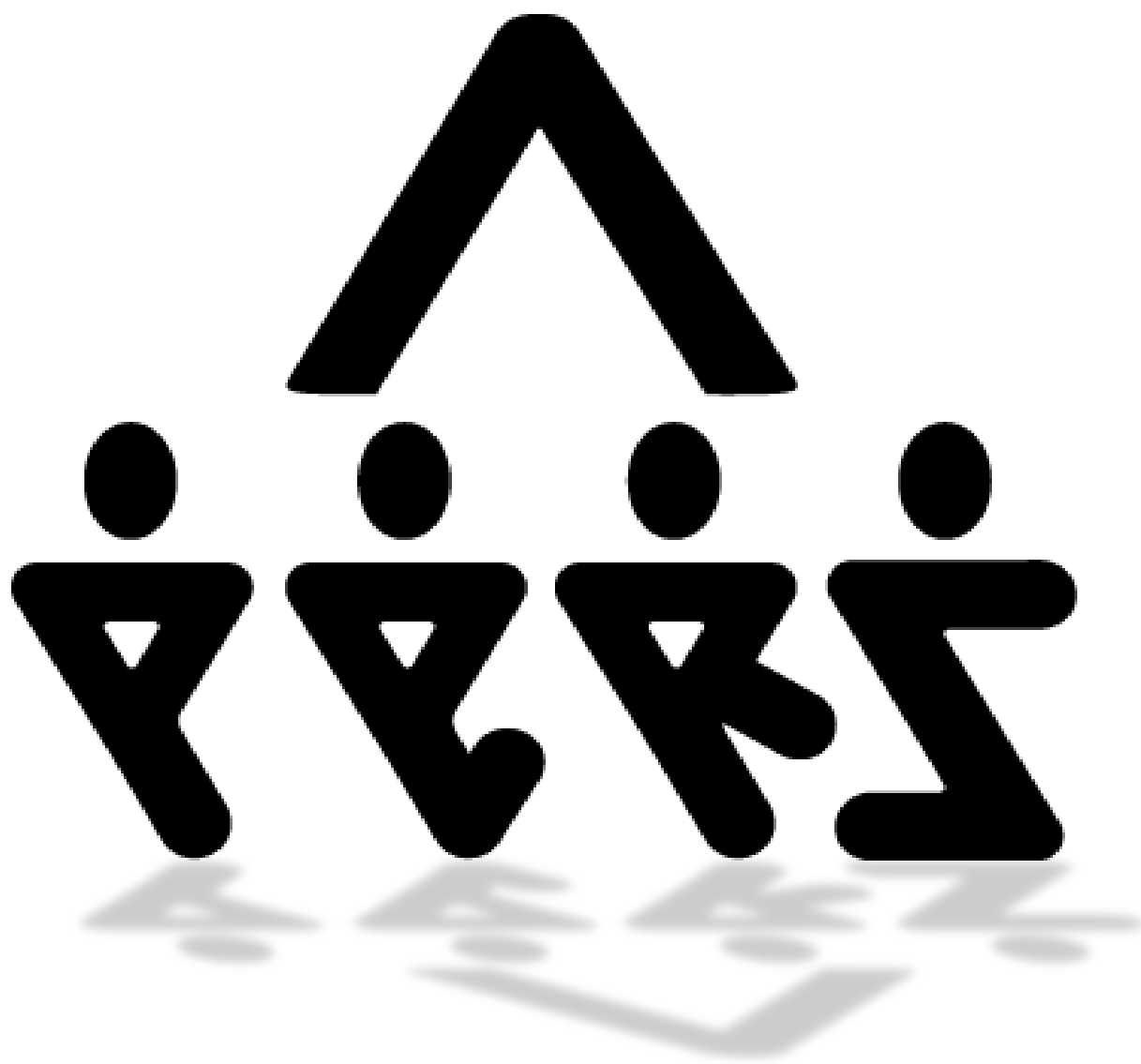
3rd PARTY PAYMENT PROCESSING:

ADP (Flexcomp Reimbursements)
Roseland, NJ

ASI Flex (RHIC Reimbursements)
Columbia, MO

VISION INSURANCE CARRIER:

Superior Vision
Rancho Cordova, CA



FINANCIAL SECTION



CliftonLarsonAllen LLP
CLAconnect.com

INDEPENDENT AUDITORS' REPORT

Governor Doug Burgum
The Legislative Assembly

Scott Miller, Executive Director
North Dakota Public Employees' Retirement System
Bismarck, North Dakota

Report on the Financial Statements

We have audited the accompanying financial statements of the proprietary fund and each of the individual fiduciary funds of the North Dakota Public Employees' Retirement System (the System), a department of the State of North Dakota, as of and for the years ended June 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express opinions 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the proprietary fund and the fiduciary net position of each of the individual fiduciary funds of the System as of June 30, 2018 and 2017, and the respective changes in financial and net position and, where applicable, cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.



**North Dakota Public Employees Retirement System – Financial Section
Management’s Discussion and Analysis
June 30, 2018 and 2017**

Emphasis of Matter

As discussed in Note 1, the financial statements of the System are intended to present the financial position and the changes in financial position of only that portion of the State of North Dakota that is attributable to the transactions of the System. They do not purport to, and do not, present fairly the financial position of the State of North Dakota as of June 30, 2018, and the changes in its financial position for the year then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of changes to the net pension liability and related ratios, changes to the net other postemployment benefits liability and related ratios, employer contributions and investment returns, and the related notes, as listed in 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 who 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 the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the 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.

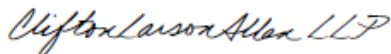
Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the System's basic financial statements. The schedules of investment expenses, administrative expenses and consulting expenses, and schedule of appropriations (supplementary information), 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 supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has 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 supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 28, 2018 with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the result of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland
November 28, 2018

North Dakota Public Employees Retirement System – Financial Section
Management's Discussion and Analysis
June 30, 2018 and 2017

Management's Discussion and Analysis (MD&A) of the North Dakota Public Employees Retirement System's (NDPERS) financial performance provides an overview of the agency's financial activities for the fiscal years ended June 30, 2018 and 2017. Please read it in conjunction with the basic financial statements, which follow this discussion.

NDPERS administers a total of seven fiduciary funds. This includes three defined benefit pension trust funds (PERS, Highway Patrol and Job Service), one defined contribution pension trust fund, the retiree health insurance credit trust fund, the deferred compensation trust fund and pretax benefits trust fund. NDPERS also administers one proprietary fund, the Uniform Group Insurance Program, which is an enterprise fund.

Financial Highlights – Pension and Other Employee Benefit Plans

- As of June 30, 2018 and 2017, the Plan Fiduciary Net Position (FNP) as a percentage of the Total Pension Liability (TPL) for each pension and OPEB fund is shown below:

	2018	2017
Public Employees Retirement System	63.5%	62.7%
Highway Patrolmen Retirement System	80.2%	78.0%
Retirement Plan for Employees of Job Service of ND	140.3%	152.9%
Retiree Health Insurance Credit Fund	61.9%	59.8%

The increase in the FNP as a percentage of the TPL for the Public Employees Retirement System, Highway Patrol Retirement System, and the Retiree Health Insurance Credit Fund was the result of positive investment earnings in the current year. The decrease in the FNP of Job Service of ND was due to changes in the investment return assumption.

- The net position for all trust funds administered by NDPERS increased \$273.5 million or 8.7% during the fiscal year ended June 30, 2018. This increase is primarily due to increased investment earnings as well as increased contributions from members and their employers.

<i>(in thousands)</i>	Change in Net Position
Public Employees Retirement System	\$ 242,345
Highway Patrolmen Retirement System	5,593
Retiree Health Insurance Credit Fund	10,312
Defined Contribution Retirement Fund	2,034
Pretax Benefits Fund	(346)
Deferred Compensation Plan	15,265
Retirement Plan for Employees of Job Service ND	(1,677)
Total Increase in Plan Net Position	<u>\$ 273,526</u>

Financial Highlights – Uniform Group Insurance Program

- Net position decreased by \$8.14 million or 18.6%. The decrease is primarily due to the buydown of premiums

**North Dakota Public Employees Retirement System – Financial Section
Management’s Discussion and Analysis
June 30, 2018 and 2017**

Overview of the Financial Statements

The MD&A is intended to serve as an introduction and overview of the basic financial statements for NDPERS, which include the fund financial statements, notes to the financial statements, required supplementary information and other supplementary information.

Financial Statements

There are two financial statements presented for the fiduciary funds. The Statements of Fiduciary Net Position as of June 30, 2018 and 2017 indicate the net position available to pay future benefits and gives a snapshot at a particular point in time. The Statements of Changes in Fiduciary Net Position for the years ended June 30, 2018 and 2017 provide a view of the current year’s additions and deductions to the individual trust funds.

There are three financial statements presented for the proprietary fund. The Statements of Net Position as of June 30, 2018 and 2017 provide a snapshot at a particular point in time of the net position available for use by this program. The Statements of Revenues, Expenses, and Changes in Fund Net Position for the years ended June 30, 2018 and 2017, provide a view of the current year’s operating and non-operating revenues and expenses for the enterprise fund. The Statements of Cash Flows for the years ended June 30, 2018 and 2017 show the cash used and provided by operating activities as well as the net increase or decrease in cash due to operating and investing activities for the years presented.

Notes to the financial statements. The notes provide additional information that is essential for a full understanding of the data provided in the fund financial statements. The notes to the financial statements can be found on pages 31-67 of this report.

Required supplementary information. The required supplementary information consists of a Schedule of Employer Contributions, Schedule of Changes to the Net Pension Liability and Related Ratios, and Schedule of Investment Returns for the defined benefit pension trust funds, Schedule of Net OPEB Liability and related ratios, Schedule of Employer Contributions and Schedule of Investment Returns for the retiree health insurance credit advance funded plan and a schedule of employer contributions.

Other supplementary schedules. The other supplementary schedules consist of a Schedule of Administrative Expenses, Schedule of Investment Expenses, Schedule of Consultant Expenses and Statement of Appropriations.

Financial Analysis

The financial results for fiscal years 2018, 2017 and 2016 are summarized on page 19. The information in the tables on the following page are condensed from the Financial Statements.

**North Dakota Public Employees Retirement System – Financial Section
Management’s Discussion and Analysis
June 30, 2018 and 2017**

Statement of Fiduciary Plan Net Position (condensed, in thousands)

	June 30, 2018	% Change	June 30, 2017	% Change	June 30, 2016
Assets					
Cash	\$ 12,325	14.7%	\$ 10,748	-1.0%	\$ 10,855
Receivables	24,063	20.1%	20,032	-7.8%	21,730
Investments	3,366,923	8.6%	3,099,718	13.1%	2,740,379
Invested Securities Lending Collateral	8,902	-44.1%	15,936	-35.5%	24,703
Software & Equipment, Net of Accumulated Depreciation	1,707	-30.0%	2,437	-23.1%	3,168
Total Assets	3,413,920	8.4%	3,148,871	12.4%	2,800,835
Liabilities					
Long-Term Liabilities	158	-17.3%	191	7.9%	177
Other Liabilities	11,111	-43.2%	19,557	-30.9%	28,304
Total Liabilities	11,269	-42.9%	19,748	-30.7%	28,481
Fiduciary Net Position	\$ 3,402,651	8.7%	\$ 3,129,123	12.9%	\$ 2,772,354

The total assets for all fiduciary funds as of June 30, 2018 were \$3.41 billion and were comprised mostly of investments. For the fiscal year ended June 30, 2018 net position increased \$274 million. The increase was primarily due to financial market gains during the fiscal year. For the fiscal year ended June 30, 2017, net position increased by \$357 million. This increase was primarily due to contributions and financial market gains during the fiscal year.

Total liabilities as of June 30, 2018 decreased \$8.4 million due to a reduction in securities lending collateral. Total liabilities as of June 30, 2017 decreased \$8.8 million over the prior year due to decreases to securities lending collateral.

Statement of Changes in Fiduciary Plan Net Position (condensed, in thousands)

	June 30, 2018	% Change	June 30, 2017	% Change	June 30, 2016
Additions					
Contributions	\$ 193,038	2.7%	\$ 187,956	1.7%	\$ 184,807
Transfers In	2,103	-15.8%	2,498	-89.7%	24,301
Net Investment Income	277,427	-20.8%	350,441	2251.8%	14,901
Other	21,895	62.8%	13,448	27.9%	10,512
Total Additions	494,463	-10.8%	554,343	136.4%	234,521
Deductions					
Benefit Payments	204,373	11.6%	183,070	6.7%	171,585
Transfers Out	716	-6.4%	765	-96.9%	24,297
Refunds	11,250	25.3%	8,981	11.4%	8,060
Administrative Expenses	4,598	-3.4%	4,758	2.4%	4,645
Total Deductions	220,937	11.8%	197,574	-5.3%	208,587
Change in Fiduciary Net Position	\$ 273,526	-23.3%	\$ 356,769	1275.7%	\$ 25,934

North Dakota Public Employees Retirement System – Financial Section
Management's Discussion and Analysis
June 30, 2018 and 2017

Additions. Contributions, transfers in and earnings on invested funds are the primary additions that are accumulated and used to pay benefits for each of the plans. Contributions and transfers in, combined, increased by \$4.7 million for the year ended June 30, 2018 and decreased \$18.7 million for the year ended June 30, 2017. This was primarily due to a one-time election in 2016 that allowed participants of the defined contribution plan a three month window to transfer back into the defined benefit plan. The plans experienced positive investment earnings of \$277.4 million for the fiscal year ending June 30, 2018, positive investment earnings of \$350.4 million for the fiscal year ending June 30, 2017, and positive investment earnings of \$14.9 million in 2016. The change in Other Additions for June 30, 2018 and June 30, 2017 is primarily due to an increase in service purchase payments received during each fiscal year.

Deductions. Total deductions increased by \$23.3 million or 11.8% for the fiscal year ended June 30, 2018. Total deductions decreased by \$11.0 million or 5.3% for the fiscal year ended June 30, 2017. This increase was due to an increase in benefit payments, which reflects the increase in the total number of retirees who are receiving pension payments, as well as the significant increase in refunds/transfers. The decrease for the year ended June 30, 2017 in refunds/transfers was due to Senate Bill 2015, which allowed a one-time election for members of the defined contribution plan to move back into the PERS defined benefit plan.

Statement of Proprietary Fund Net Position (in thousands)

	June 30, 2018	% Change	June 30, 2017	% Change	June 30, 2016
Assets					
Cash & Investments	\$ 34,767	-25.7%	\$ 46,785	-2.6%	\$ 48,033
Receivables	5,900	-4.0%	6,145	1750.9%	332
Software	688	-30.0%	983	-23.0%	1,277
Total Assets	41,355	-23.3%	53,913	8.6%	49,642
Liabilities					
Long-Term Liabilities	69	-25.8%	93	2.2%	91
Other Liabilities	5,588	-44.0%	9,981	3.6%	9,638
Total Liabilities	5,657	-43.8%	10,074	3.5%	9,729
Net Position	<u>\$ 35,698</u>	-18.6%	<u>\$ 43,839</u>	9.8%	<u>\$ 39,913</u>

The net position for the proprietary fund decreased by \$8.14 million during the fiscal year ended June 30, 2018. The decrease is primarily due to the buydown of insurance premiums for the year. The net position for the proprietary fund increased by \$3.93 million during the fiscal year ended June 30, 2017. The increase is primarily due to the recognition of the estimated revenue resulting from the suspension of the Health Insurer Tax for the 2017 calendar year.

Total assets, as of June 30, 2018, were \$41.4 million and were comprised mainly of cash and investments. Total assets decreased by \$12.5 million from the prior fiscal year primarily due to the buydown of insurance premiums. Total assets, as of June 30, 2017, were \$53.9 million and were comprised mainly of cash and investments. Total assets increased by \$3.9 million from the prior fiscal year. The increase is primarily due to the recognition of the estimated revenue resulting from the suspension of the Health Insurer Tax for the 2017 calendar year.

**North Dakota Public Employees Retirement System – Financial Section
Management’s Discussion and Analysis
June 30, 2018 and 2017**

Total liabilities, as of June 30, 2018, were \$5.7 million, \$10.1 million as of June 30, 2017 and \$9.7 million as of June 30, 2016 and were comprised mostly of unearned premiums, which represent premiums received before they are due as well as a liability to Sanford Health Plan as further explained in Note 15. The 2018 liability reduction was primarily due to a \$3.0 million payment to Sanford Health Plan to recognize the at risk loss from the 2015-2017 biennium.

The net position of the proprietary fund consists primarily of cash and is to pay administrative expenses of the uniform group insurance program, reduce premium payments/increases, or increase insurance coverage.

Statement of Changes in Proprietary Fund Net Position (in thousands)

	June 30, 2018	% Change	June 30, 2017	% Change	June 30, 2016
Operating Revenues					
Premium Revenues	\$ 347,623	4.6%	\$ 332,458	-0.7%	\$ 334,889
Administrative Fee	1,100	-2.0%	1,123	-1.3%	1,138
Miscellaneous	(273)	105.7%	4,815	240.1%	(3,438)
Total Operating Revenues	348,450	3.0%	338,396	1.7%	332,589
Non-Operating Revenues					
Net Investment Income	347	250.5%	99	-83.9%	616
Total Revenues	348,797	3.0%	338,495	1.6%	333,205
Operating Expenses					
Premium Expenses	354,958	6.8%	332,393	-0.7%	334,834
Administrative Expenses	1,841	-9.7%	2,038	8.9%	1,871
Total Operating Expenses	356,799	6.7%	334,431	-0.7%	336,705
Non-Operating Expense					
Transfer In	-	-	-	-	1
Transfer Out	138	0.0%	138	-45.9%	255
Change in Net Position	<u>\$ (8,140)</u>	307.3%	<u>\$ 3,926</u>	204.6%	<u>\$ (3,754)</u>
Total Net Position	\$ 35,698	-18.6%	\$ 43,839	9.8%	\$ 39,913

The net position for the proprietary fund decreased by \$8.14 million during the fiscal year ended June 30, 2018. The decrease is primarily due to the buydown of insurance premiums for the year. The net position for the proprietary fund increased by \$3.93 million during the fiscal year ended June 30, 2017. The increase is primarily due to the recognition of the estimated revenue resulting from the suspension of the Health Insurer Tax for the 2017 calendar year. The net position for the proprietary fund decreased by \$3.75 million during the fiscal year ended June 30, 2016. The decrease was primarily due to operating expenses exceeding operating revenues as well as a settlement of ACA fees with Blue Cross Blue Shield of North Dakota.

Contacting NDPERS Financial Management

This financial report is designed to provide our members, annuitants, employers, business partners and the general public with a general overview of the System’s financial activities. If you have questions about this report or need additional financial information, contact the North Dakota Public Employees Retirement System, PO Box 1657, Bismarck, ND 58502.

North Dakota Public Employees Retirement System – Financial Section
Statement of Net Position – Proprietary Fund
June 30, 2018 and 2017

	Uniform Group Insurance Program	
	2018	2017
ASSETS		
CURRENT ASSETS		
Cash and Cash Equivalents	\$ 3,164,129	\$ 9,074,314
Invested Cash	1,718,681	1,772,954
Commingled Domestic Fixed Income Investments	29,883,918	35,938,094
Accounts Receivable	5,900,124	6,117,866
Due from Fiduciary Funds	-	27,612
Total Current Assets	40,666,852	52,930,840
NONCURRENT ASSETS		
Capital Assets (Net of Depreciation/Amortization)	688,116	982,693
Total Noncurrent Assets	688,116	982,693
Total Assets	41,354,968	53,913,533
LIABILITIES		
CURRENT LIABILITIES		
Salaries Payable	84,041	85,583
Accounts Payable	98,693	103,933
Due to Sanford Health Plan	-	3,000,000
Due to Blue Cross Blue Shield of ND	-	1,195,703
Due to Fiduciary Funds	17,589	49,490
Due to Other State Agencies	9,746	6,668
Unearned Premiums	5,371,844	5,532,355
Accrued Compensated Absences	6,328	7,395
Total Current Liabilities	5,588,241	9,981,127
NONCURRENT LIABILITIES		
Accrued Compensated Absences	68,741	92,938
Total Liabilities	5,656,982	10,074,065
NET POSITION		
Net Investment in Capital Assets	688,116	982,693
Restricted for Benefits	-	6,000,000
Unrestricted Net Position	35,009,870	36,856,775
Total Net Position	\$ 35,697,986	\$ 43,839,468

North Dakota Public Employees Retirement System – Financial Section
Statements of Revenues, Expenses, and Changes in Fund Net Position—Proprietary Fund
June 30, 2018 and 2017

	Uniform Group Insurance Program	
	2018	2017
OPERATING REVENUES		
Premium Revenues	\$ 347,622,544	\$ 332,458,367
Administrative Fee	1,099,541	1,122,554
Underwriting Gain (Loss)	(306,283)	4,813,487
Miscellaneous	32,500	732
Total Operating Revenues	348,448,302	338,395,140
OPERATING EXPENSES		
Premium Expenses	354,958,012	332,392,809
Salaries and Wages	984,320	951,768
Operating Expenses	339,152	495,618
Professional Fees	144,166	230,689
Data Processing	79,270	65,397
Amortization	294,577	294,577
Total Operating Expenses	356,799,497	334,430,858
Operating Income (Loss)	(8,351,195)	3,964,282
NON-OPERATING REVENUES AND EXPENSES		
Investment Income	387,835	205,720
Investment Expenses	(40,622)	(106,491)
Total Non-Operating Revenues and Expenses	347,213	99,229
INCOME (LOSS) BEFORE TRANSFERS	(8,003,982)	4,063,511
TRANSFERS OUT	137,500	137,500
Change in Net Position	(8,141,482)	3,926,011
Total Net Position - Beginning of Year	43,839,468	39,913,457
TOTAL NET POSITION - END OF YEAR	\$ 35,697,986	\$ 43,839,468

North Dakota Public Employees Retirement System – Financial Section
Statements of Cash Flows – Proprietary Fund
June 30, 2018 and 2017

	Uniform Group Insurance Program	
	2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES		
Premiums Collected	\$ 347,622,544	\$ 332,458,367
Administrative Fees Collected	1,184,384	1,327,607
Payments to Suppliers	(1,792,354)	(474,495)
Premiums Paid	(354,958,012)	(332,392,809)
Payments to Employees	(1,011,126)	(940,314)
Underwriting Gain (Loss)	(3,306,283)	(1,188,559)
Miscellaneous Income	32,500	732
Net Cash Provided (Used) by Operating Activities	(12,228,347)	(1,209,471)
CASH FLOWS FROM INVESTING ACTIVITIES		
Net Purchase of Investments	6,054,176	(2,339,645)
Investment Income	387,835	205,720
Investment Expense	(40,622)	(106,491)
Net Cash Used by Investing Activities	6,401,389	(2,240,416)
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Transfers Out	(137,500)	(137,500)
Net Cash Used by Capital Financing Activities	(137,500)	(137,500)
NET CHANGE IN CASH AND CASH EQUIVALENTS	(5,964,458)	(3,587,387)
Cash and Cash Equivalents - Beginning of Year	10,847,268	14,434,655
CASH AND CASH EQUIVALENTS - END OF YEAR	<u>\$ 4,882,810</u>	<u>\$ 10,847,268</u>
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED (USED) BY OPERATING ACTIVITIES		
Operating Income (Loss)	\$ (8,351,195)	\$ 3,964,282
Adjustments to Reconcile Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:		
Amortization	294,577	294,577
Changes in Assets and Liabilities:		
Accounts Receivable	217,742	(5,799,369)
Due from Other Funds	27,612	(14,287)
Salaries Payable	(1,542)	8,673
Accrued Compensated Absences	(25,264)	2,781
Accounts Payable	(4,200,943)	632,748
Due to Fiduciary Funds	(31,901)	(310,889)
Due to Other State Agencies	3,078	(4,650)
Amounts Held in Custody for Others	(160,511)	16,663
Net Cash Provided (Used) by Operating Activities	<u>\$ (12,228,347)</u>	<u>\$ (1,209,471)</u>

North Dakota Public Employees Retirement System – Financial Section
Statement of Fiduciary Net Position – Fiduciary Funds
June 30, 2018

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Plan	Retirement Plan for Employees of Job Services North Dakota
ASSETS							
Cash	\$ 11,301,737	\$ -	\$ 526,059	\$ 125,905	\$ 138,135	\$ 228,794	\$ 4,132
Receivables:							
Contribution Receivable	14,193,652	559	1,107,605	103,758	503,151	1,595,964	2,430
Interest Receivable	6,296,252	168,481	35	-	-	-	434
Due from Other Fiduciary Funds	34,500	6,051	29,999	1,638	-	-	-
Due from Uniform Group Insurance Plan	17,589	-	-	-	-	-	-
Due from Other State Agencies	100	-	311	-	-	-	-
Total Receivables	20,542,093	175,091	1,137,950	105,396	503,151	1,595,964	2,864
Investments:							
External Investment Pool	2,939,020,149	78,746,199		-	-	-	-
Equities	-	-	76,081,795	-	-	-	30,038,541
Fixed Income	-	-	50,509,228	350,449	-	1,885,593	65,651,495
Mutual Funds	-	-		13,542,358	-	109,612,228	-
Invested Cash	-	-	14,147	141,938	-	1,328,716	-
Total Investments	2,939,020,149	78,746,199	126,605,170	14,034,745	-	112,826,537	95,690,036
Invested Securities Lending Collateral	8,669,464	232,284	-	-	-	-	-
Capital Assets (Net of Depreciation/Amortization)	911,390	8,269	87,587	6,217	229,372	458,744	5,316
Total Assets	2,980,444,833	79,161,843	128,356,766	14,272,263	870,658	115,110,039	95,702,348

North Dakota Public Employees Retirement System – Financial Section
Statement of Fiduciary Net Position – Fiduciary Funds
June 30, 2018

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Plan	Retirement Plan for Employees of Job Services North Dakota
LIABILITIES							
Salaries Payable	\$ 103,777	\$ -	\$ -	\$ -	\$ 20,855	\$ 37,344	\$ -
Accounts Payable	1,343,043	559	450,784	108	21,075	22,291	79,737
Due to Other Fiduciary Funds	37,688	-	-	-	-	-	34,500
Due to Uniform Group Insurance Plan	-	-	-	-	-	-	-
Due to Other State Agencies	14,053	-	-	99	2,793	5,305	-
Amounts Held in Custody for Others	-	-	-	-	-	35,514	-
Securities Lending Collateral	8,669,464	232,284	-	-	-	-	-
Accrued Compensated Absences	96,532	-	-	-	20,868	40,861	-
Total Liabilities	10,264,557	232,843	450,784	207	65,591	141,315	114,237
FIDUCIARY NET POSITION							
Restricted for Pensions	2,970,180,276	78,929,000	-	14,272,056	-	114,968,724	95,588,111
Restricted for Postemployment Healthcare Benefits	-	-	127,905,982	-	-	-	-
Restricted for Pretax Benefits	-	-	-	-	805,067	-	-
Total Fiduciary Net Position Held in Trust	<u>\$ 2,970,180,276</u>	<u>\$ 78,929,000</u>	<u>\$ 127,905,982</u>	<u>\$ 14,272,056</u>	<u>\$ 805,067</u>	<u>\$ 114,968,724</u>	<u>\$ 95,588,111</u>

North Dakota Public Employees Retirement System – Financial Section
Statement of Fiduciary Net Position – Fiduciary Funds
June 30, 2017

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Plan	Retirement Plan for Employees of Job Services North Dakota
ASSETS							
Cash	\$ 9,176,368	\$ -	\$ 873,447	\$ 96,893	\$ 398,792	\$ 198,573	\$ 4,420
Receivables:							
Contribution Receivable	11,982,917	2,911	920,743	88,061	496,062	862,936	2,909
Interest Receivable	5,163,165	139,681	21	-	-	-	178
Due from Other Fiduciary Funds	190,307	-	76,323	25,004	-	28,308	-
Due from Uniform Group Insurance Plan	49,490	-	-	-	-	-	-
Due from Other State Agencies	2,320	-	318	-	-	-	-
Total Receivables	<u>17,388,199</u>	<u>142,592</u>	<u>997,405</u>	<u>113,065</u>	<u>496,062</u>	<u>891,244</u>	<u>3,087</u>
Investments:							
External Investment Pool	2,702,830,591	73,219,962	-	-	-	-	-
Equities	-	-	70,214,197	-	-	-	29,008,736
Fixed Income	-	-	45,921,116	205,457	-	1,666,744	68,323,905
Mutual Funds	-	-	-	11,775,773	-	95,946,792	-
Invested Cash	-	-	15,613	60,017	-	529,302	-
Total Investments	<u>2,702,830,591</u>	<u>73,219,962</u>	<u>116,150,926</u>	<u>12,041,247</u>	<u>-</u>	<u>98,142,838</u>	<u>97,332,641</u>
Invested Securities Lending Collateral	15,515,708	420,268	-	-	-	-	-
Capital Assets (Net of Depreciation/Amortization)	<u>1,301,494</u>	<u>11,716</u>	<u>125,041</u>	<u>8,889</u>	<u>327,564</u>	<u>655,129</u>	<u>7,605</u>
Total assets	<u>2,746,212,360</u>	<u>73,794,538</u>	<u>118,146,819</u>	<u>12,260,094</u>	<u>1,222,418</u>	<u>99,887,784</u>	<u>97,347,753</u>

North Dakota Public Employees Retirement System – Financial Section
Statement of Fiduciary Net Position – Fiduciary Funds
June 30, 2017

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Plan	Retirement Plan for Employees of Job Services North Dakota
LIABILITIES							
Salaries Payable	\$ 108,984	\$ -	\$ -	\$ -	\$ 22,122	\$ 40,417	\$ -
Accounts Payable	2,499,120	559	376,785	21,603	18,937	46,923	77,180
Due to Other Fiduciary Funds	101,327	37,395	176,048	10	-	-	5,162
Due to Uniform Group Insurance Plan	27,316	-	296	-	-	-	-
Due to Other State Agencies	9,527	-	-	628	1,668	3,138	-
Amounts Held in Custody for Others	-	-	-	-	-	45,933	-
Securities Lending Collateral	15,515,708	420,268	-	-	-	-	-
Accrued Compensated Absences	114,789	-	-	-	28,563	47,798	-
Total Liabilities	<u>18,376,771</u>	<u>458,222</u>	<u>553,129</u>	<u>22,241</u>	<u>71,290</u>	<u>184,209</u>	<u>82,342</u>
FIDUCIARY NET POSITION							
Restricted for pensions	2,727,835,589	73,336,316	-	12,237,853	-	99,703,575	97,265,411
Restricted for Postemployment Healthcare Benefits	-	-	117,593,690	-	-	-	-
Restricted for Pretax Benefits	-	-	-	-	1,151,128	-	-
Total Fiduciary Net Position Held in Trust	<u>\$ 2,727,835,589</u>	<u>\$ 73,336,316</u>	<u>\$ 117,593,690</u>	<u>\$ 12,237,853</u>	<u>\$ 1,151,128</u>	<u>\$ 99,703,575</u>	<u>\$ 97,265,411</u>

North Dakota Public Employees Retirement System – Financial Section
Statement of Changes in Fiduciary Net Position – Fiduciary Funds
For the Fiscal Year Ended June 30, 2018

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Plan	Retirement Plan for Employees of Job Services North Dakota
ADDITIONS							
Contributions:							
From Employer	\$ 80,727,209	\$ 2,152,970	\$ 12,834,547	\$ 512,791	\$ -	\$ -	\$ -
From Employee	77,486,189	1,453,533	15,984	510,092	5,532,591	11,779,485	32,987
Transfers from Other Plans	-	-	-	53,227	-	662,500	-
From External Plans	-	-	-	2,345	-	1,385,416	-
Total Contributions	<u>158,213,398</u>	<u>3,606,503</u>	<u>12,850,531</u>	<u>1,078,455</u>	<u>5,532,591</u>	<u>13,827,401</u>	<u>32,987</u>
Investment Income:							
Net Change in Fair Value of Investments	190,968,511	5,146,945	5,447,995	518,566	-	9,100,025	416,382
Interest and Dividends	64,856,972	1,747,053	3,142,489	660,676	470	145,398	2,739,029
Less Investment Expense	(6,881,838)	(183,453)	(379,586)	(9,325)	-	-	(236,826)
Net Investment Income	<u>248,943,645</u>	<u>6,710,545</u>	<u>8,210,898</u>	<u>1,169,917</u>	<u>470</u>	<u>9,245,423</u>	<u>2,918,585</u>
Securities Lending Activity							
Securities Lending Income	221,536	5,980	-	-	-	-	-
Repurchase Service Credit	19,984,972	281,573	746,942	-	-	-	-
FICA Tax Savings	-	-	-	-	758,280	-	-
Transfer from Proprietary Fund	-	-	-	-	-	137,500	-
Miscellaneous Income (Expense)	(24,440)	(187)	225	9,062	-	(94)	-
Total Additions	<u>427,339,111</u>	<u>10,604,414</u>	<u>21,808,596</u>	<u>2,257,434</u>	<u>6,291,341</u>	<u>23,210,230</u>	<u>2,951,572</u>
DEDUCTIONS							
Benefits Paid to Participants	171,171,449	4,893,808	-	211,902	5,508,356	6,992,376	4,582,577
Refunds	11,159,487	87,569	2,685	-	-	-	-
Prefunded Credit Applied	-	-	11,013,375	-	-	-	-
Health Premium Paid	-	-	-	-	-	-	-
Transfers to Other Plans	190,727	-	-	-	525,000	-	-
	<u>182,521,663</u>	<u>4,981,377</u>	<u>11,016,060</u>	<u>211,902</u>	<u>6,033,356</u>	<u>6,992,376</u>	<u>4,582,577</u>
Administrative Expenses	2,472,761	30,353	480,244	11,329	604,046	952,705	46,295
Total Deductions	<u>184,994,424</u>	<u>5,011,730</u>	<u>11,496,304</u>	<u>223,231</u>	<u>6,637,402</u>	<u>7,945,081</u>	<u>4,628,872</u>
CHANGE IN FIDUCIARY NET POSITION	<u>242,344,687</u>	<u>5,592,684</u>	<u>10,312,292</u>	<u>2,034,203</u>	<u>(346,061)</u>	<u>15,265,149</u>	<u>(1,677,300)</u>
Net Position - Beginning of Year	<u>2,727,835,589</u>	<u>73,336,316</u>	<u>117,593,690</u>	<u>12,237,853</u>	<u>1,151,128</u>	<u>99,703,575</u>	<u>97,265,411</u>
FIDUCIARY NET POSITION - END OF YEAR	<u>\$ 2,970,180,276</u>	<u>\$ 78,929,000</u>	<u>\$ 127,905,982</u>	<u>\$ 14,272,056</u>	<u>\$ 805,067</u>	<u>\$ 114,968,724</u>	<u>\$ 95,588,111</u>

North Dakota Public Employees Retirement System – Financial Section
Statement of Changes in Fiduciary Net Position – Fiduciary Funds
For the Fiscal Year Ended June 30, 2017

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Plan	Retirement Plan for Employees of Job Services North Dakota
ADDITIONS							
Contributions:							
From Employer	\$ 78,933,571	\$ 2,155,944	\$ 12,575,627	\$ 446,771	\$ -	\$ -	\$ -
From Employee	76,007,456	1,455,540	16,173	433,298	5,591,603	10,300,452	39,417
Transfers from Other Plans	-	-	-	102,109	-	662,500	-
From External Plans	-	-	-	1	-	1,733,287	-
Total Contributions	154,941,027	3,611,484	12,591,800	982,179	5,591,603	12,696,239	39,417
Investment income:							
Net Change in Fair Value of Investments	259,040,633	7,062,272	10,061,109	(615,855)	-	11,388,136	3,337,293
Interest and Dividends	59,994,114	1,635,278	2,348,733	2,101,532	447	471	2,187,163
Less Investment Expense	(7,492,083)	(203,156)	(335,760)	(6,822)	-	-	(285,579)
Net Investment Income	311,542,664	8,494,394	12,074,082	1,478,855	447	11,388,607	5,238,877
Securities Lending Activity							
Securities Lending Income	218,199	5,958	-	-	-	-	-
Repurchase Service Credit	11,805,070	249,436	464,323	-	-	-	-
FICA Tax Savings	-	-	-	-	749,413	-	-
Transfer from Proprietary Fund	-	-	-	-	-	137,500	-
Miscellaneous Income	32,183	221	-	6,822	-	2,500	-
Total Additions	478,539,143	12,361,493	25,130,205	2,467,856	6,341,463	24,224,846	5,278,294
DEDUCTIONS							
Benefits Paid to Participants	153,811,029	4,768,596	-	1,348,222	5,624,239	2,972,177	4,534,153
Refunds	8,941,330	37,723	1,689	-	-	-	-
Prefunded Credit Applied	-	-	10,012,681	-	-	-	-
Health Premium Paid	-	-	-	-	-	-	-
Transfers to Other Plans	239,609	-	-	-	525,000	-	-
	162,991,968	4,806,319	10,014,370	1,348,222	6,149,239	2,972,177	4,534,153
Administrative Expenses	2,607,243	30,195	443,220	34,491	612,371	1,017,297	12,684
Total Deductions	165,599,211	4,836,514	10,457,590	1,382,713	6,761,610	3,989,474	4,546,837
CHANGE IN NET POSITION	312,939,932	7,524,979	14,672,615	1,085,143	(420,147)	20,235,372	731,457
Net Position - Beginning of Year	2,414,895,657	65,811,337	102,921,075	11,152,710	1,571,275	79,468,203	96,533,954
NET POSITION - END OF YEAR	\$ 2,727,835,589	\$ 73,336,316	\$ 117,593,690	\$ 12,237,853	\$ 1,151,128	\$ 99,703,575	\$ 97,265,411

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The Public Employees Retirement System (System) is an agency of the State of North Dakota, operating through the legislative authority of North Dakota Century Code 54-52-03. As a state agency, the System is considered to be a department of the State of North Dakota and is included in the State's Comprehensive Annual Financial Report as a pension trust fund, except for the uniform group insurance program, which is reported as a proprietary fund.

The System is governed by a nine-member board, five of the members are appointed and the remaining four are elected by the participants of the retirement plans.

The System administers three defined benefit pension plans and one defined contribution retirement plan. The System also manages and administers the retiree health insurance credit program, the uniform group insurance program, the deferred compensation program and the pretax benefits program.

For financial reporting purposes, the System has included all funds, and has considered all potential component units for which the System is financially accountable, and other organizations for which the nature and significance of their relationship with the System are such that exclusion would cause the System's financial statements to be misleading or incomplete. The Governmental Accounting Standards Board (GASB) has set forth criteria to be considered in determining financial accountability. This criteria includes appointing a voting majority of an organization's governing body and (1) the ability of the System to impose its will on that organization or (2) the potential for the organization to provide specific financial benefits to, or impose specific financial burdens on the System.

Based upon these criteria, there are no component units to be included within the System as a reporting entity and the System is part of the State of North Dakota as a reporting entity.

Fund Financial Statements

The System's only non-fiduciary activity is the administration and management of the uniform group insurance program. This program is an enterprise fund that relies to a significant extent on fees and charges for support and is shown in the separate proprietary fund financial statements.

The Statement of Net Position presents the reporting entity's non-fiduciary assets and liabilities with the difference reported as net position. Net position is reported as restricted for benefits which result when constraints on net position use are either externally imposed by creditors, grantors, contributors, and the like, or imposed by law through constitutional provisions or enabling legislation.

All other activities of the system are pension and other employee benefit trust funds and are shown in the separate fiduciary fund financial statements.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Measurement Focus, Basis of Accounting and Financial Statement Presentation

The financial statements of the System are reported using the economic resources measurement focus and the accrual basis of accounting.

This measurement focus includes all assets and liabilities associated with the operations of the proprietary and fiduciary funds on the statements of net position. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows.

The proprietary fund is used to account for the operations of the Uniform Group Insurance Program. The System has been given the responsibility to manage this public entity risk pool. The Uniform Group Insurance Program is a risk sharing pool that provides the employees of the State of North Dakota, or any of its political subdivisions, institutions, departments, or agencies, economies of scale in purchasing health, life, dental, vision, and long-term care insurance.

The fiduciary funds consists of the pension and other employee benefit trust funds that are used to account for assets held by the department in a trust capacity. These include:

Public Employees Retirement System – a cost-sharing multiple-employer defined benefit retirement plan.

Highway Patrolmen's Retirement System – a single-employer defined benefit retirement plan.

Defined Contribution Retirement Plan – an optional defined contribution retirement plan available to state employees.

Retiree Health Insurance Credit Fund – a cost-sharing multiple employer other post-employment benefit (OPEB) plan that offsets the members' cost of health insurance during their retirement

Pretax Benefits Program – allows eligible employees to elect to reduce their salaries to pay for eligible dependent care and medical expenses.

Deferred Compensation Plan – voluntary, supplemental retirement plan provided in accordance with Section 457 of the Internal Revenue Code.

Retirement Plan for Employees of Job Service North Dakota – a single-employer defined benefit retirement plan.

The System follows the pronouncements of the GASB, which is the nationally accepted standard setting body for establishing accounting principles generally accepted in the United States of America for governmental entities.

The proprietary fund is accounted for on the accrual basis of accounting. Revenues are recognized when earned, and expenses are recognized when the liability is incurred, regardless of the timing of related cash flows. The proprietary fund distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the proprietary fund are premiums and administrative fees charged to the participants in the Uniform Group Insurance Program and underwriting gains and losses. Operating expenses include premiums, salaries and wages, and administrative expenses. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The fiduciary funds are accounted for on the accrual basis of accounting. Member contributions are recognized in the period in which the contributions are due. Employer contributions to each plan are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of each system.

Budgetary Process

The System operates through a biennial appropriation provided by the State Legislature. The System prepares a biennial budget on the modified accrual basis, which is included in the Governor's budget and presented to the General Assembly at the beginning of each legislative session. The General Assembly enacts the budgets of the various state departments through passage of specific appropriation bills. Before signing the appropriation bills, the Governor has line item veto powers over legislation, subject to legislative override. Once passed and signed, the appropriation becomes the system's financial plan for the next two years. Changes to the appropriation are subject to approval by the Emergency Commission.

The Statement of Appropriations has been prepared using the accrual basis of accounting. Unexpended appropriations lapse at the end of each biennium, except certain capital expenditures covered under the North Dakota Century Code (NDCC), Section 54-44.1-11. Expenditures not subject to appropriation of a specific amount include premium expenses, professional fees, depreciation and amortization expense, benefits and refunds paid to participants, prefunded credits applied, and employee reimbursements in the Pretax Benefits Program.

There were no supplemental appropriations during the fiscal years ending June 30, 2018 and 2017. The legal level of budgetary control is at the appropriation and expenditure line item level, with administrative controls established at lower levels of detail in certain instances.

Investment Valuation and Income Recognition

The fair value of real estate investments, including timberland, is based on appraisals plus fiscal year-to-date capital transactions. Publicly traded alternative investments are valued based on quoted market prices. When not readily available, alternative investment securities are valued using current estimates of fair value from the investment manager.

Such valuations consider variables such as financial performance of the issuer, comparison of comparable companies' earnings multiples, cash flow analysis, recent sales prices of investments, withdrawal restrictions, and other pertinent information. Because of the inherent uncertainty of the valuation for these other alternative investments, the estimated fair value may differ from the values that would have been used had a ready market existed. Investments in the external investment pool are stated at fair value, which is the same as the value of the pool shares.

The net change in fair value of investments consists of the realized gains or losses and the unrealized increase or decrease in fair value of investments during the year. Realized gains and losses on sales of investments are computed based on the difference between the sales price and the original cost of the investment sold. Realized gains and losses on investments that had been held in more than one fiscal year and sold in the current fiscal year were included as a change in the fair value of investments reported in the prior year(s) and the current year. Unrealized gains and losses are computed based on changes in the fair value of investments between years. Security transactions are accounted for on a trade date basis. Interest income is recognized when earned. Dividend income is recorded on the ex-dividend date.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Derivative Securities

Derivatives are financial arrangements between two parties whose payments are based on, or “derived” from, the performance of some agreed upon benchmark. The System’s investment policy allows the use of derivative securities to hedge or replicate underlying exposures but not for speculation. All derivatives are considered investment derivative instruments. The fair value of all derivative securities is reported in the statements of fiduciary net position.

Accounts Receivable and Credit Policy

Accounts receivable primarily include amounts due for contributions, insurance premiums, employee pretax benefit deductions, and accrued interest on investments. Management reviews all receivables at year-end and assesses collectability. All remaining receivables are considered collectible.

Capital Assets and Depreciation

Capital assets, which include equipment and intangibles (software) are presented in the accompanying financial statements at cost or estimated historical cost. Donated capital assets are stated at fair value at the time of donation. Capital assets acquired via lease agreements are capitalized at the inception of the agreement. Additions, improvements and other capital outlays that significantly extend the useful life of an asset are capitalized. Other costs incurred for repairs and maintenance are expensed as incurred. For the years ending June 30, 2018 and 2017, the System capitalized equipment and software in accordance with Section 54-27-21 of the North Dakota Century Code.

The capital assets are depreciated on a straight-line basis over estimated useful lives ranging from five to 10 years.

Accrued Compensated Absences

Annual leave is a part of permanent employees’ compensation as set forth in Section 54-06-14 of the North Dakota Century Code. Employees are entitled to earn annual leave based on tenure of employment, within a range of a minimum of one working day per month of employment, to a maximum of two working days per month of employment, to be fixed by rules and regulations adopted by the employing unit. No more than 240 hours of annual leave may be carried forward beyond April 30th of each year. Employees are paid for unused annual leave upon termination or retirement. Permanent employees accrue sick leave from the first day of employment at the rate of eight hours per month with unlimited accumulation. Employees with at least 10 years of state employment are paid one-tenth of their accumulated sick leave under Section 54-06-14 of the North Dakota Century Code when the employee leaves the employ of the state.

The System’s liability for accumulated unpaid leave is reported in the applicable funds.

Amounts Held in Custody for Others

Amounts held in custody for others includes monies collected from participating employers for deferred compensation contributions that had not been forwarded to the investment provider company as of June 30.

Unearned Premiums

Unearned premiums include monies collected by the System from individuals or participating employers for insurance premiums before the premiums are due.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Transfers to/from Other Plans

Transfers to/from other plans consist of monies transferred from the Public Employees Retirement System Defined Benefit Plan to the Defined Contribution Retirement Plan pursuant to Section 54-52.6 Subsection 3 of the North Dakota Century Code. Each eligible employee who elects to terminate membership in the Defined Benefit Plan has a lump sum amount transferred to the participating member's account under the Defined Contribution Retirement Plan. For new employees electing to transfer to the Defined Contribution Retirement Plan, the lump sum transferred is the actual employee and employer contributions plus interest. In 2018 and 2017, transfers to other plans also includes operating transfers from the pretax benefits program, retirement plan, and insurance plan to the deferred compensation plan to cover general administrative expenses.

Restricted Net Position

Net position restricted for benefits consists of funds on deposit with Sanford Health Plan to pay health care benefits in the event total claims incurred during the biennium exceed total premiums. See Note 15 for additional discussion on the status of open contracts.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period.

Actual results could differ from those estimates. The System utilizes various investment instruments. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the statement of net position.

Adoption of New Accounting Standard

GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans other than Pension Plans, was issued and is effective for periods beginning after June 15, 2016. This statement establishes standard of financial reporting for separately issued financial reports and specifies the required approach to measuring the OPEB liability of employer and non-employer contributing entities for benefits provided through the OPEB plan (net OPEB liability). The System implemented GASB 74 for the fiscal year ended June 30, 2017.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS

Fair Value Measurement

The System's investments in the Defined Contribution Retirement Plan and Deferred Compensation Plan are measured and reported at fair value, and are classified according to the following hierarchy:

Level 1 – Investments that represent unadjusted quoted prices for identical instruments in active markets

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

Level 3 – Investments are based on valuation techniques in which significant inputs are unobservable.

Defined Contribution Retirement Fund

		June 30, 2018		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	June 30, 2018			
Investments at Fair Value				
Mutual Funds	\$ 13,542,358	\$ 13,542,358	\$ -	\$ -
Investments at Contract Value				
Fixed Income	350,449			
Investments at Amortized Cost				
Invested Cash	141,938			
Total Investments	<u>\$ 14,034,745</u>			
		June 30, 2017		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	June 30, 2017			
Investments at Fair Value				
Mutual Funds	\$ 11,775,773	\$ 11,775,773	\$ -	\$ -
Investments at Contract Value				
Fixed Income	205,457			
Investments at Amortized Cost				
Invested Cash	60,017			
Total Investments	<u>\$ 12,041,247</u>			

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

Deferred Compensation Plan

		June 30, 2018		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	June 30, 2018			
Investments at Fair Value				
Mutual Funds	\$109,612,228	\$ 109,612,228	\$ -	\$ -
Investments at Contract Value				
Fixed Income	1,885,593			
Investments at Amortized Cost				
Invested Cash	<u>1,328,716</u>			
Total Investments	<u>\$112,826,537</u>			
		June 30, 2017		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	June 30, 2017			
Investments at Fair Value				
Mutual Funds	\$ 95,946,792	\$ 95,946,792	\$ -	\$ -
Investments at Contract Value				
Fixed Income	1,666,744			
Investments at Amortized Cost				
Invested Cash	<u>529,302</u>			
Total Investments	<u>\$ 98,142,838</u>			

Investments Measured at the Net Asset Value – Proprietary Fund

	June 30, 2018
Commingled Domestic Fixed Income	\$ 29,883,918
	June 30, 2017
Commingled Domestic Fixed Income	\$ 35,938,094

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

Investments Measured at the Net Asset Value – Fiduciary Funds

	June 30, 2018			
	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Retirement Plan for Employees of Job Services North Dakota
Commingled External Investment Pools	\$ 2,939,020,149	\$ 78,746,199	\$ -	\$ -
Commingled Equities	-	-	76,081,795	30,038,541
Commingled Fixed Income	-	-	50,509,228	65,651,495
Total Investments Measured at the Net Asset Value	<u>\$ 2,939,020,149</u>	<u>\$ 78,746,199</u>	<u>\$ 126,591,023</u>	<u>\$ 95,690,036</u>

	June 30, 2017			
	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Retirement Plan for Employees of Job Services North Dakota
Commingled External Investment Pools	\$ 2,702,830,591	\$ 73,219,962	\$ -	\$ -
Commingled Equities	-	-	70,214,197	29,008,736
Commingled Fixed Income	-	-	45,921,116	68,323,905
Total Investments Measured at the Net Asset Value	<u>\$ 2,702,830,591</u>	<u>\$ 73,219,962</u>	<u>\$ 116,135,313</u>	<u>\$ 97,332,641</u>

Net Asset Value Measurement

The System's investments in the Uniform Group Insurance Program are held in an external investment pool with the North Dakota Retirement and Investment Office and are valued at Net Asset Value (NAV). The System's investments in commingled cash are valued at amortized cost. There are no unfunded commitments and the plan may redeem investments daily with a one day redemption notice period.

The System's investments in the Public Employees Retirement System and Highway Patrol Retirement System are held in an external investment pool with the North Dakota Retirement and Investment Office and are valued at Net Asset Value (NAV). There are no unfunded commitments and the plan may redeem investments daily with a one day redemption notice period.

The System's investments in the Retiree Health Insurance Credit Fund are directly managed and held in an individual investment account with the North Dakota Retirement and Investment Office and are valued at NAV as of June 30, 2018 and 2017. There are no unfunded commitments and the plan may redeem investments daily with a one day redemption notice period. For the year ended June 30, 2018 and 2017, the Retirement Plan for Employees of Job Service of North Dakota's investments were held in an external investment pool with the North Dakota Retirement and Investment Office and are valued at Net Asset Value (NAV). There were no unfunded commitments and the plan may redeem investments daily with a one day redemption notice period.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

Deposits

According to North Dakota Century Code 21-04-01, the System is required to bank at the state-owned and operated Bank of North Dakota. The System receives interest for funds on deposit in all accounts.

Cash and cash equivalents for reporting purposes, includes cash and short-term, highly liquid investments that are readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates. This includes investments with original maturity of three months or less.

	2018	2017
Cash Deposits at the Bank of North Dakota Recorded as Cash and Cash Equivalents	\$ 13,151,543	\$ 11,784,029
Cash Deposits at State Treasury Recorded as Cash and Cash Equivalents	2,061,248	1,803,651
Cash Held by the North Dakota Retirement and Investment Office Recorded as Cash and Cash Equivalents	1,731,894	1,772,954
Guaranteed Investment Contract with Health Plan Provider Recorded as Cash and Cash Equivalents	271,807	6,235,127
Total Cash and Cash Equivalents	<u>\$ 17,216,492</u>	<u>\$ 21,595,761</u>

Custodial Risk

For deposits, custodial risk is the risk that in the event of the failure of a depository financial institution, the System will not be able to recover the deposits. The System does not have a formal policy that limits custodial risk for deposits. Deposits at the Bank of North Dakota and the State Treasury are uncollateralized but are guaranteed by the State of North Dakota (NDCC Section 6-09-10).

At June 30, 2018 and 2017, the carrying amount of the System's cash deposits were \$47,100,410 and \$57,533,856, and the bank balances were \$47,059,234 and \$57,489,648. All of the System's deposits are uncollateralized and uninsured at June 30, 2018 and 2017.

Investments

Total investments of the fiduciary funds of the System as of June 30, 2018 and 2017, consisted of the following:

	2018	2017
Equity Securities	\$ 1,768,215,753	\$ 1,644,548,349
Fixed Income Securities	828,957,587	747,408,730
Real Estate	523,555,401	504,434,723
Alternative Investments	96,041,062	83,862,751
Mutual Funds	123,154,586	107,722,565
Invested Cash	26,998,447	11,741,087
Invested Securities Lending Collateral	8,901,748	15,935,976
	<u>\$ 3,375,824,584</u>	<u>\$ 3,115,654,181</u>

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

All investments of the fund, except for the Defined Contribution Retirement Plan and Deferred Compensation Plan, are to be made by the North Dakota State Investment Board (SIB). Chapter 21-10-07 of the North Dakota Century Code requires that all investments made by this state agency, be made using the prudent investor rule.

Investments of the Defined Contribution Retirement Plan and the Deferred Compensation Plan are participant directed and are held by TIAA.

The System's Board is responsible for establishing the investment policy for the fund assets, which includes setting investment goals and specifying the percentage of assets to be invested in various types of investments. The investment goals are viewed over the long term. The Board recognizes the plans' performance objectives, benefit projections, and capital market expectations when determining the asset allocation. The SIB is responsible for managing the System's investments in accordance with the investment policy. The following were the System's asset allocation policies for the Public Employees Retirement System, Highway Patrolmen's Retirement System, Retirement Plan for Employees of Job Service of North Dakota, and Retiree Health Insurance Credit Fund as of June 30, 2018 and 2017:

Asset Class	Target Allocation		
	PERS & HPRS	JSND	RHIC
Domestic Equities	30.00%	18.00%	46.00%
International Equities	21.00%	12.00%	14.00%
Private Equity	7.00%	6.00%	0.00%
Domestic Fixed Income	23.00%	64.00%	40.00%
International Fixed Income	0.00%	0.00%	0.00%
Global Real Assets	19.00%	0.00%	0.00%
Cash and Equivalents	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%

Rate of return – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested. The annual money-weighted rate of return on pension plan investment, net of pension plan investment expense for the years ended June 30, 2018 and 2017 are:

	2018	2017
Public Employees Retirement System	9.21%	13.01%
Highway Patrolman's Retirement System	9.16%	12.93%
Job Service Plan	3.32%	5.85%
Retiree Health Insurance Credit Fund	7.01%	11.75%

Realized gains and losses — Realized gains and losses on sales of investments are components of net change in fair value of investments and are computed as described in Note 1.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

For the years ended June 30, 2018 and 2017, the following are the net realized gains (losses):

	2018	2017
Public Employees Retirement System	\$ 126,712,660	\$ 83,608,473
Highway Patrolmen's Retirement System	3,415,135	2,279,433
Retiree Health Insurance Credit Plan	6,678,355	2,107,471
Defined Contribution Plan	65,647	56,506
Deferred Compensation Plan	4,933,808	3,884,612
Job Service Plan	1,933,894	3,087,896

Investment expense of the fund, except for the Defined Contribution Retirement Plan and the Deferred Compensation Plan, consists of those administrative and investment expenses directly related to the RIO investment operations. Investment expense of the Defined Contribution Retirement Plan and the Deferred Compensation Plan consist of administrative expenses directly related to each plan. All expenses are paid out of plan assets.

Credit Risk

All investments of the Public Employees Retirement System, Highway Patrolmen's Retirement System, and Uniform Group Insurance Program are invested in an external investment pool managed by SIB. The pool is not rated. The System does not have a formal credit risk policy that limits the credit risk of the investments.

All investments of the Retirement Plan for Employees of Job Service of North Dakota and Retiree Health Insurance Credit Fund are managed and invested by the SIB in institutional equity and fixed income mutual funds. The fixed income funds are rated AA. The System does not have a formal credit risk policy that limits the credit risk of the investments.

Investments of the Defined Contribution Retirement Plan and the Deferred Compensation Plan are invested in mutual funds directed by the participants. The mutual funds are not rated. The System does not have a formal credit risk policy that limits the credit risk of the investments.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System does not have a formal investment policy that limits investment maturities as a means of managing its exposure to potential fair value losses arising from future changes in interest rates. The SIB has chosen to use the Segmented Time Distribution disclosure method. Tables detailing the System's portion of the investment pool are reported on the next page. Readers may refer to the North Dakota Retirement and Investment Office financial statements regarding highly sensitive securities that are disclosed at the SIB level.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

PERS and HPRS Plan

Type (in thousands)	2018				
	Fair Value	Less Than 1 Year	1-6 Years	6-10 Years	Over 10 Years
Domestic Fixed Income Pool	\$ 497,443	\$ 17,261	\$ 100,346	\$ 112,738	\$ 267,098
Below Investment Grade FI Pool	90,405	1,028	36,984	38,648	13,746
International Fixed Income Pool	-	-	-	-	-
Large Cap Domestic Equity Pool	62,205	299	19,808	1,431	40,667
Small Cap Domestic Equity Pool	51,323	260	17,569	1,803	31,692
Total Debt Securities	<u>\$ 701,376</u>	<u>\$ 18,848</u>	<u>\$ 174,707</u>	<u>\$ 154,620</u>	<u>\$ 353,203</u>

Note: Table above represents fixed income investments, as well as debt securities in underlying equity funds

Type (in thousands)	2017				
	Fair Value	Less Than 1 Year	1-6 Years	6-10 Years	Over 10 Years
Domestic Fixed Income Pool	\$ 377,435	\$ 2,792	\$ 81,247	\$ 66,437	\$ 226,960
Below Investment Grade FI Pool	93,740	2,384	41,699	31,692	17,964
International Fixed Income Pool	126,354	5,055	24,958	68,657	27,684
Large Cap Domestic Equity Pool	61,762	191	14,356	2,780	44,435
Small Cap Domestic Equity Pool	51,639	674	14,351	2,182	34,432
Total Debt Securities	<u>\$ 710,930</u>	<u>\$ 11,096</u>	<u>\$ 176,611</u>	<u>\$ 171,748</u>	<u>\$ 351,475</u>

Note: Table above represents fixed income investments, as well as debt securities in underlying equity funds

Job Service Retirement Plan

Type (in thousands)	2018				
	Fair Value	Less Than 1 Year	1-6 Years	6-10 Years	Over 10 Years
Pooled Investments	\$ 65,100	\$ -	\$ 41,250	\$ 23,850	\$ -

Note: Table above represents fixed income investments, as well as debt securities in underlying equity funds

Type (in thousands)	2017				
	Fair Value	Less Than 1 Year	1-6 Years	6-10 Years	Over 10 Years
Pooled Investments	67,661	-	42,548	25,113	-

Note: Table above represents fixed income investments, as well as debt securities in underlying equity funds

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)

Retiree Health Insurance Credit Fund

Type (in thousands)	Fair Value	2018			
		Less Than 1 Year	1-6 Years	6-10 Years	Over 10 Years
Pooled Investments	\$ 50,509	\$ -	\$ 5,102	\$ 45,407	\$ -

Note: Table above represents fixed income investments, as well as debt securities in underlying equity funds

Type (in thousands)	Fair Value	2017			
		Less Than 1 Year	1-6 Years	6-10 Years	Over 10 Years
Pooled Investments	45,921	-	4,650	41,271	-

Note: Table above represents fixed income investments, as well as debt securities in underlying equity funds

Securities Lending

State statutes permit and the SIB has authorized the use of securities lending – loans of securities to broker-dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities in the future. Northern Trust is the securities lending agent for the SIB. Securities are loaned versus collateral that may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned versus collateral valued at 102% of the fair value of the securities plus any accrued interest. Non-U.S. securities are loaned versus collateral valued at 105% of the fair value of the securities plus any accrued interest.

Non-cash collateral cannot be pledged or sold unless the borrower defaults. All securities loans can be terminated on demand by either the lender or the borrower, although the average term of SIB loans was approximately 61 and 59 days as of June 30, 2018 and 2017, respectively. Cash open collateral is invested in a short term investment pool, which had an interest sensitivity of 3 days and 3 days as of June 30, 2018 and 2017. This pool is valued based on amortized cost. There were no violations of legal or contractual provisions, no borrower or lending agent default losses known to the securities lending agent. There are no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited to participating clients on approximately the fifteenth day of the following month.

Indemnification deals with the situation in which a client's securities are not returned due to the insolvency of a borrower and Northern Trust has failed to live up to its contractual responsibilities relating to the lending of those securities. Northern Trust's responsibilities include performing appropriate borrower and collateral investment credit analyses, demanding adequate types and levels of collateral, and complying with applicable Department of Labor and Federal Financial Institutions Examination Council regulations concerning securities lending.

For securities loaned at fiscal year end, the SIB has no credit risk exposure to borrowers because the amounts the SIB owes the borrowers exceeds the amounts the borrowers owe the SIB.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 3 DUE TO/FROM AND TRANSFERS IN/OUT FIDUCIARY AND PROPRIETARY FUNDS AND STATE AGENCY TRANSACTIONS

The June 30, 2018 due from/to fiduciary and proprietary funds are summarized as follows:

Fund	Due From Fiduciary and Proprietary Funds	Due to Fiduciary and Proprietary Funds
Fiduciary		
Public Employees Retirement System	\$ 52,089	\$ 37,688
Highway Patrolmen's Retirement System	6,051	-
Retiree Health Insurance Credit Fund	29,999	-
Retirement Plan for Employees of Job Service North Dakota	-	34,500
Pretax Benefits Program	-	-
Deferred Compensation Plan	-	-
Defined Contribution Plan	1,638	-
Proprietary		
Uniform Group Insurance Program	-	17,589
	<u>\$ 89,777</u>	<u>\$ 89,777</u>

The June 30, 2017 due from/to fiduciary and proprietary funds are summarized as follows:

Fund	Due From Fiduciary and Proprietary Funds	Due to Fiduciary and Proprietary Funds
Fiduciary		
Public Employees Retirement System	\$ 239,797	\$ 128,643
Highway Patrolmen's Retirement System	-	37,395
Retiree Health Insurance Credit Fund	76,323	176,344
Retirement Plan for Employees of Job Service North Dakota	-	5,162
Pretax Benefits Program	-	-
Deferred Compensation Plan	28,308	-
Defined Contribution Plan	25,004	10
Proprietary		
Uniform Group Insurance Program	27,612	49,490
	<u>\$ 397,044</u>	<u>\$ 397,044</u>

These balances are a result of a time lag between the dates the expenditures are incurred, the allocations determined, and when the transactions are entered into the accounting system.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

**NOTE 3 DUE TO/FROM AND TRANSFERS IN/OUT FIDUCIARY AND PROPRIETARY FUNDS
AND STATE AGENCY TRANSACTIONS (CONTINUED)**

June 30, 2018 due from/to state agencies are summarized as follows:

Fund	Due From State Agencies	Due to State Agencies
Fiduciary		
Public Employees Retirement System		
ITD	\$ -	\$ 10,720
Attorney General	-	3,025
Central Duplicating	-	61
RIO	-	174
Central Supply	-	73
Various Seminar Billings	100	-
Total	<u>\$ 100</u>	<u>\$ 14,053</u>
Retiree Health Insurance Credit Fund		
Job Service	\$ 311	\$ -
Total	<u>\$ 311</u>	<u>\$ -</u>
Defined Contribution Plan		
Attorney General	\$ -	\$ 99
Total	<u>\$ -</u>	<u>\$ 99</u>
Pretax Benefits Program		
ITD	\$ -	\$ 2,148
Attorney General	-	607
Central Duplicating	-	5
Central Supply	-	33
Total	<u>\$ -</u>	<u>\$ 2,793</u>
Deferred Compensation Plan		
ITD	\$ -	\$ 4,052
Attorney General	-	1,214
Central Duplicating	-	5
Central Supply	-	34
Total	<u>\$ -</u>	<u>\$ 5,305</u>
Proprietary		
Uniform Group Insurance Program		
ITD	\$ -	\$ 7,844
Central Supply	-	60
ND State Board of Accountancy	-	34
Central Duplicating	-	22
Attorney General	-	1,821
Total	<u>\$ -</u>	<u>\$ 9,781</u>

These balances are a result of a time lag between the dates that services are provided, the payments are made, and the transactions are entered into the accounting system.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

**NOTE 3 DUE TO/FROM AND TRANSFERS IN/OUT FIDUCIARY AND PROPRIETARY FUNDS
AND STATE AGENCY TRANSACTIONS (CONTINUED)**

The June 30, 2017 due from/to state agencies are summarized as follows:

Fund	Due From State Agencies	Due to State Agencies
Fiduciary		
Public Employees Retirement System		
ITD	\$ -	\$ 6,246
Attorney General	-	1,261
Central Duplicating	-	1,127
Department of Transportation		76
RIO		508
Central Supply	-	309
Various Seminar Billings	2,320	-
Total	<u>\$ 2,320</u>	<u>\$ 9,527</u>
 Retiree Health Insurance Credit Fund		
Job Service	\$ 318	\$ -
Total	<u>\$ 318</u>	<u>\$ -</u>
 Defined Contribution Plan		
ITD	\$ -	\$ 98
Attorney General	-	530
Total	<u>\$ -</u>	<u>\$ 628</u>
 Pretax Benefits Program		
ITD	\$ -	\$ 1,201
Attorney General	-	122
Central Duplicating	-	268
Central Supply	-	77
Total	<u>\$ -</u>	<u>\$ 1,668</u>
 Deferred Compensation Plan		
ITD	\$ -	\$ 2,400
Attorney General	-	239
Department of Transportation		76
Central Duplicating	-	268
Central Supply	-	155
Total	<u>\$ -</u>	<u>\$ 3,138</u>
 Proprietary		
Uniform Group Insurance Program		
ITD	\$ -	\$ 4,233
Central Supply	-	232
Central Duplicating	-	1,072
Attorney General	-	1,131
Total	<u>\$ -</u>	<u>\$ 6,668</u>

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

**NOTE 3 DUE TO/FROM AND TRANSFERS IN/OUT FIDUCIARY AND PROPRIETARY FUNDS
AND STATE AGENCY TRANSACTIONS (CONTINUED)**

The June 30, 2018 operating transfers in/out are summarized as follows:

<u>Fund Type/Fund</u>	<u>Transfers In</u>	<u>Transfers Out</u>
Fiduciary Funds		
Defined Contribution Plan	\$ 53,227	\$ -
Deferred Compensation Plan	800,000	-
Pretax Benefit Program	-	525,000
Public Employee Retirement System	-	190,727
Proprietary Funds		
Uniform Group Insurance Program	-	137,500

The June 30, 2017 operating transfers in/out are summarized as follows:

<u>Fund Type/Fund</u>	<u>Transfers In</u>	<u>Transfers Out</u>
Fiduciary Funds		
Defined Contribution Plan	\$ 102,109	\$ -
Deferred Compensation Plan	800,000	-
Pretax Benefit Program		525,000
Public Employee Retirement System		239,609
Proprietary Funds		
Uniform Group Insurance Program		137,500

The transfer to the Defined Contribution Retirement Fund is for those employees electing to transfer from the PERS plan. The transfers to the Deferred Compensation Plan are to cover administrative expenses pursuant to NDCC 54-52-04 subsection 11.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 4 CAPITAL ASSETS

A statement of changes in equipment and accumulated depreciation for the System for the year ended June 30, 2018 and 2017 is as follows:

	Balance 7/1/2017	Additions	Deletions	Balance 6/30/2018
Proprietary Funds:				
Capital Assets Being Depreciated:				
Software	\$ 2,921,416			\$ 2,921,416
Less Accumulated Amortization for:				
Software	(1,938,723)	(294,577)		(2,233,300)
Total Capital Assets Being Depreciated, Net	982,693	(294,577)	-	688,116
Proprietary Funds Capital Assets, Net	<u>\$ 982,693</u>	<u>\$ (294,577)</u>	<u>\$ -</u>	<u>\$ 688,116</u>
Fiduciary Funds:				
Capital Assets Being Depreciated:				
Software	\$ 7,244,785			\$ 7,244,785
Total Capital Assets Being Depreciated	7,244,785	-	-	7,244,785
Less Accumulated Depreciation for:				
Software	(4,807,347)	(730,543)		(5,537,890)
Total Capital Assets Being Depreciated, Net	2,437,438	(730,543)	-	1,706,895
Fiduciary Funds Capital Assets, Net	<u>\$ 2,437,438</u>	<u>\$ (730,543)</u>	<u>\$ -</u>	<u>\$ 1,706,895</u>
	Balance 7/1/2016	Additions	Deletions	Balance 6/30/2017
Proprietary Funds:				
Capital Assets Being Depreciated:				
Software	\$ 2,921,416			\$ 2,921,416
Less Accumulated Amortization for:				
Software	(1,644,146)	(294,577)		(1,938,723)
Total Capital Assets Being Depreciated, Net	1,277,270	(294,577)	-	982,693
Proprietary Funds Capital Assets, Net	<u>\$ 1,277,270</u>	<u>\$ (294,577)</u>	<u>\$ -</u>	<u>\$ 982,693</u>
Fiduciary Funds:				
Capital Assets Being Depreciated:				
Software	\$ 7,244,785			\$ 7,244,785
Total Capital Assets Being Depreciated	7,244,785	-	-	7,244,785
Less Accumulated Depreciation for:				
Software	(4,076,803)	(730,544)		(4,807,347)
Total Capital Assets Being Depreciated, Net	3,167,982	(730,544)	-	2,437,438
Fiduciary Funds Capital Assets, Net	<u>\$ 3,167,982</u>	<u>\$ (730,544)</u>	<u>\$ -</u>	<u>\$ 2,437,438</u>

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 5 LEASE OBLIGATIONS

Operating Lease

The system entered into an operating lease for office space until June 30, 2019. Expenditures for this lease were \$176,202 and \$171,307 for the years ended June 30, 2018 and 2017, respectively.

The system has also entered into an operating lease for office equipment, with expenditures totaling \$7,271 for the year ended June 30, 2018 and \$7,955 for the year ended June 30, 2017.

The lease contains clauses stating that renewal is dependent upon appropriation funding by the State Legislature. Lease obligations for operating and capital leases are payable from all funds of the System.

NOTE 6 CHANGE IN LONG-TERM LIABILITIES

	Proprietary Fund	Fiduciary Fund
	Accrued Compensated Absences	Accrued Compensated Absences
Balance - June 30, 2016	97,552	177,280
Increases	62,269	118,632
Decreases	(59,488)	(104,763)
Balance - June 30, 2017	100,333	191,149
Increases	52,951	111,632
Decreases	(78,215)	(144,520)
Balance - June 30, 2018	<u>\$ 75,069</u>	<u>\$ 158,261</u>
Balance - Due Within One Year	\$ 6,328	\$ 13,341

For the government activities, the accrued annual compensated absences is generally liquidated by excess revenue in the Uniform Group Insurance Program and the Pension Trust Funds.

NOTE 7 NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM

All eligible employees of the System, except those electing to participate in the North Dakota Defined Contribution Retirement Plan, contribute to the North Dakota Public Employees Retirement System (PERS), a state-wide cost-sharing multiple-employer defined benefit pension plan, which is detailed in the notes that follow.

The System is required to contribute to PERS at a statutorily determined rate for permanent employees. The System's contributions to PERS for the years ended June 30, 2018 and 2017, were \$209,778 and \$219,291 which were equal to the required contributions for each year.

The System is required to contribute to the North Dakota Defined Contribution Retirement Plan at a statutorily determined rate for permanent employees who have elected to participate in this plan. The System's contributions to this plan for the years ended June 30, 2018 and 2017, were \$15,631 and \$13,959.

NOTE 8 DESCRIPTION OF PLANS

General

The System administers three defined benefit pension plans and a defined contribution plan. The Public Employees Retirement System (PERS) is a cost-sharing multiple-employer retirement plan. The PERS was established July 1, 1966 as a defined contribution plan and was changed to a defined benefit plan by the 1977 North Dakota Legislature. The PERS is administered in accordance with Chapter 54-52 of the North Dakota Century Code. The Highway Patrolmen's Retirement System (HPRS) was established July 1, 1949 and is administered in accordance with Chapter 39-03 of the North Dakota Century Code. The HPRS is a single-employer defined benefit plan. The North Dakota Defined Contribution Retirement Plan was established on January 1, 2000 and is administered in accordance with Chapter 54-52.6 of the North Dakota Century Code. The Retirement Plan for Employees of Job Service North Dakota is a single-employer defined benefit public employee retirement plan administered by the Agency. The plan is established under NDCC 52-11-01 with benefit provisions established through the plan document, as amended.

The costs of administering PERS, HPRS, and the Retirement Plan for Employees of Job Service North Dakota are financed through the contributions and investment earnings of each plan. The administrative costs of the Defined Contribution Plan are funded by forfeitures of non-vested employee contributions and administrative fees charged to individual participant accounts.

The following brief description of the PERS, HPRS, Defined Contribution Plan and the Retirement Plan for Employees of Job Service North Dakota is provided for general information purposes only. Participants should refer to the applicable chapters of the North Dakota Century Code for more complete information.

The PERS covers substantially all employees of the State of North Dakota, its agencies and various participating political subdivisions (Main System). It also covers Supreme and District Court Judges, the National Guard Security Officers and Firefighters, peace officers and correctional officers employed by political subdivisions and as of August 1, 2017, firefighters employed by participating political subdivisions. Effective August 1, 2015, current and newly eligible members of the National Guard System were transferred to the Law Enforcement System. The HPRS covers substantially all sworn officers of the North Dakota Highway Patrol. An optional Defined Contribution Retirement Plan (DC Plan) was established effective January 1, 2000. The DC plan was available to state employees who are in positions not classified by the Human Resource Management Services division of the State of North Dakota. Employees under the judicial branch or the Board of Higher Education and State Institutions under the jurisdiction of the Board of Higher Education are not eligible to participate in the Plan. The 2013 Legislative Assembly passed legislation to expand eligibility to the Plan to include all new state employees hired on or after October 1, 2013 through July 31, 2017. The Retirement Plan for Employees of Job Service North Dakota is limited to employees participating in the plan as of September 30, 1980.

Responsibility for administration of the defined benefit pension plans and the defined contribution plan is assigned to a Board comprised of nine members. The Board consists of a Chairman, who is appointed by the Governor; one member appointed by the Attorney General; one member appointed by the State Health Officer; two members of the legislative assembly appointed by the chairman of the legislative management, three members elected by the active membership of the NDPERS system; and one member elected by the retired public employees.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 8 DESCRIPTION OF PLANS (CONTINUED)

The plans are not subject to the provisions of the Employee Retirement Income Security Act of 1974. The number of participating political subdivisions in the PERS was:

	2018	2017
Cities	91	89
Counties	49	49
School Districts	126	124
Other	84	81
Total Participating Political Subdivisions	350	343

Employee membership data is as follows:

	PERS		HPRS		Job Service	
	2018	2017	2018	2017	2018	2017
Retirees and Beneficiaries						
Currently Receiving Benefits	11,704	11,103	127	127	196	199
Special Prior Service Retirees	-	-	-	-	-	-
Terminated Vested Participants	6,188	5,751	31	30	1	1
Inactive Participants	5,998	5,903	11	9	-	-
Active Plan Participants						
Vested	17,023	16,397	72	69	7	8
Nonvested	6,460	6,846	82	82	-	-
Total Plan Membership	47,373	46,000	323	317	204	208

The defined contribution plan had 108 and 104 participants as of June 30, 2018 and 2017, respectively.

BENEFITS

PERS

Benefits are set by statute. The System has no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Members of the main system are entitled to unreduced monthly pension benefits beginning when the sum of age and years of credited service equal or exceed 85 (Rule of 85), or at normal retirement age (65). For members hired on or after January 1, 2016, the Rule of 85 is replaced with the Rule of 90 with a minimum age of 60. The annual pension benefit is equal to 2.00% of their average monthly salary, using the highest 36 months out of the last 180 months of service, for each year of service. The Plan permits early retirement at ages 55-64 with three or more years of service.

Supreme and District Court Judges are entitled to unreduced monthly pension benefits beginning at normal retirement age of (65) or the Rule of 85. The monthly pension benefit is equal to a percentage of average monthly salary using the highest 36 months out of the last 180 months of service. The percentage is equal to 3.50% of average monthly salary multiplied by the first ten years of service, plus 2.80% of the average monthly salary times the second ten years of service, plus 1.25% of average monthly salary times years of service in excess of twenty years. The judicial retirement formula is only applied to eligible judicial service. Non-judicial service benefits are calculated using the 2.00% multiplier. The Plan permits early retirement at ages 55-64 with five or more years of service.

NOTE 8 DESCRIPTION OF PLANS (CONTINUED)

Members of the National Guard System are entitled to unreduced monthly pension benefits at normal retirement age (55). Effective August 1, 2015, the National Guard System became part of the Law Enforcement System. Members of the Law Enforcement System are entitled to unreduced monthly pension benefits at normal retirement age (55) or the Rule of 85. The monthly pension benefit for the National Guard/Law Enforcement is equal to 2.00% of their average monthly salary, using the highest 36 months out of the last 180 months of service, for each year of service. The Plan permits early retirement at ages 50-55 with three or more years of service.

Members may elect to receive the pension benefits in the form of a single life, joint and survivor, term-certain annuity, or partial lump sum with ongoing annuity. Members may elect to receive the value of their accumulated contributions, plus interest, as a lump sum distribution upon retirement or termination, or they may elect to receive their benefits in the form of an annuity. For each member electing an annuity, total payment will not be less than the members' accumulated contributions plus interest.

HPRS

Benefits are set by statute. The System has no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Members are entitled to unreduced pension benefits upon attainment of age 55 and 10 years of eligible employment or when the sum of age and years of credited service equals or exceeds 80. The annual pension benefit is equal to a percentage of average monthly salary using the highest 36 months out of the last 180 months of service. The percentage is equal to the sum of the first 25 years of service multiplied by 3.60% and 1.75% multiplied by years of service in excess of 25, if any. The Plan permits early retirement at ages 50-54, with ten or more years of service.

Members may elect to receive the pension benefits in the form of a single life, joint and survivor, term-certain annuity, or partial lump sum with ongoing annuity. Members may elect to receive the value of their accumulated contributions, plus interest, as a lump sum distribution upon retirement or termination, or they may elect to receive their benefits in the form of an annuity. For each member electing an annuity, total payment will not be less than the members' accumulated contributions plus interest.

Defined Contribution Plan

Benefits are set by statute. Members are entitled to their vested account balance. A participating member is immediately 100% vested in the member's contributions. A participating member vests in the employer contributions made on the member's behalf as follows:

Upon completion of two years of service	50%
Upon completion of three years of service	75%
Upon completion of four years of service	100%

Members may elect to receive their account balance in a lump sum, lump sum direct rollover or periodic distribution. Legislation was passed during the 2015 session providing eligible members of the Defined Contribution Plan a special election period in which to elect to return to the PERS defined benefit plan.

NOTE 8 DESCRIPTION OF PLANS (CONTINUED)

Retirement Plan for Employees of Job Service North Dakota

Benefits are established through the plan document, as amended by the Board. The System provides a post-retirement cost-of living adjustment each year based on the Consumer Price Index. Employees are entitled to annual pension benefits beginning at normal retirement age (65). Employees may elect optional retirement eligibility at age 62 with 5 years of credited service, at age 60 with 20 years of credited service, or at age 55 with 30 years of credited service. Pension benefits are calculated based on the final average earnings (basic monthly earnings averaged over the highest three consecutive years of basic earnings) of the employee multiplied by the sum of:

- 1.5% times years of credited service up to five plus
- 1.75% times years of credited service between six and ten plus
- 2.0% times years of credited service in excess of ten years

Death and Disability Benefits

PERS

Death and disability benefits are set by statute. If an active member dies with less than three years of service for the Main System and Public Safety, or less than five years of service for Supreme and District Court Judges, a death benefit equal to the value of the member's accumulated contributions, plus interest, is paid to the member's beneficiary. If the member has earned more than three years of credited service for the Main System and Public Safety, the surviving spouse will be entitled to a single payment refund, life-time monthly payments in an amount equal to 50% of the member's accrued normal retirement benefit, or monthly payments in an amount equal to the member's accrued 100% Joint and Survivor retirement benefit if the member had reached normal retirement age prior to date of death. If the surviving spouse dies before the member's accumulated pension benefits are paid, the balance will be payable to the surviving spouse's designated beneficiary.

For Judges who have earned more than five years of credited service, the death benefit is the greater of (i) lump sum payment of accumulated contributions, or (ii) 100% of the members' accrued benefit (not reduced on account of age), payable for the spouse's lifetime.

Eligible members who become totally disabled after a minimum of 180 days of service, receive monthly disability benefits equal to 25% of their final average salary with a minimum benefit of \$100. To qualify under this section, the member has to become disabled during the period of eligible employment and apply for benefits within one year of termination. The definition for disabled is set by the System in the North Dakota Administrative Code.

For Judges only, the disability benefit formula is 70% of final average salary minus Social Security and Workers Compensation benefits.

HPRS

Death and disability benefits are set by statute. If an active member dies with less than ten years of credited service, a death benefit equal to the value of the member's accumulated contributions, plus interest is paid to the member's beneficiary. If the member has earned more than ten years of credited service, the surviving spouse, if any, will be entitled to a single payment refund or life-time monthly payments in an amount equal to 50% of the member's accrued normal retirement benefit. If the surviving spouse dies before the member's accumulated pension benefits are paid, the balance will be payable to any designated beneficiary.

NOTE 8 DESCRIPTION OF PLANS (CONTINUED)

Eligible members who become totally disabled after a minimum of 180 days of service, receive monthly disability benefits that are up to 70% of their final average salary, reduced by worker's compensation, with a minimum benefit of \$100. To qualify under this section the member must meet the criteria established by the System for being totally disabled and apply for benefits within one year of termination.

Defined Contribution Plan

Death and disability benefits are set by statute. Upon the death of a participating member or former participating member, the vested account balance of that deceased participant is available to the participant's designated beneficiary(ies).

A member who becomes totally and permanently disabled while employed by the State is eligible to receive a distribution of the vested account balance. To qualify under this section, the member must meet the criteria established by the System for being totally disabled.

Retirement Plan for Employees of Job Service North Dakota

The plan document provides disability and death benefits. If the death of a participant occurs prior to his/her annuity starting date, the surviving spouse who has been married at least two years prior to the participant's death or, if married less than two years is a parent of a child of this marriage, then the spouse shall receive monthly benefits. The amount is the greater of the benefit had the participant retired on the day before he/she died and elected the Contingent Annuitant Option with 55% of his/her retirement benefit continued to his/her spouse or 55% of the smaller of 40% of the deceased participant's average monthly earnings or the deceased participant's normal retirement benefit obtained by increasing their credited service by the period of time between their date of death and the date they would have attained age 60. Upon remarriage of the surviving spouse before age 60, the death benefits will cease.

If a participant becomes totally disabled, he/she will be eligible for a monthly disability benefit that shall be equal to the greater of 40% of the participant's average annual earnings or the accrued benefit determined as their date of disability.

Refunds of Member Contributions

Upon termination, if a member of PERS or HPRS is not vested (is not 65 or does not have three years of service for the Main System and National Guard/Law Enforcement, or five years of service for the Supreme and District Court Judges, credited for the PERS, or is not 60 or does not have ten years of service credited for the HPRS), they will receive the accumulated member contributions plus interest, or may elect to receive this amount at a later date. If a member has vested, they have the option of applying for a refund or can remain as a terminated vested participant. If a member terminated and withdrew their accumulated member contribution and is subsequently reemployed, they have the option of repurchasing their previous service.

Contributions

Contribution rates for PERS, HPRS, and the Defined Contribution Plan are set by state statute and are a percentage of salaries and wages. Contribution rates for the Job Service Retirement Plan are established in the plan document, as amended, which prescribes that they are actuarially determined using the frozen initial liability actuarial cost method which is the same as the aggregate cost method.

NOTE 8 DESCRIPTION OF PLANS (CONTINUED)

In 2011, the Legislative Assembly passed an increase in the employee and employer contribution rates for the PERS, Judges, Law Enforcement, Highway Patrol and Defined Contribution plans. Both the employee and employer contribution rates increased for each of the plans by an additional 1% (.5% for the Law Enforcement Plans for political subdivisions) effective January 2012 and January 2013. The 2013 Legislative Assembly also passed an increase in the employee and employer contribution rates for the PERS, Judges, National Guard, Law Enforcement, Highway Patrol and Defined Contribution plans. Effective January 2014, both the employee and employer contribution rates were increased for each of the plans by an additional 1% (.5% for the National Guard and Law Enforcement Plans for political subdivisions). Members that made a qualifying election under Senate Bill 2015 to move from the Defined Contribution Plan back to the Defined Benefit Plan have a 2% increase on employee contributions.

PERS

Member contributions are set by statute. During the 1983-1985 biennium the State and some of the participating political subdivisions implemented the employer pickup provision of the IRS code whereby a portion or all of the required member contributions are made by the employer. The State is paying 4% of the member contribution. Some of the political subdivisions are paying all or part of the member contributions. Employer contributions are set by statute except the contribution rates for the National Guard/Law Enforcement Plans which are set by the Board.

Contribution rates are established as a percent of covered compensation as follows:

	Member Contributions	Employer Contributions
Public Employees Retirement System*	7.00%	7.12%
Judges Retirement System	8.00%	17.52%
Law Enforcement with Previous Service		
State - BCI Plan	6.00%	9.81%
State - National Guard	5.50%	9.81%
Political Subdivisions	5.50%	9.81%
Law Enforcement without Previous Service	5.50%	7.93%

* Members making the election to move from the Defined Contribution Plan back to the Defined Benefit Plan as a result of Senate Bill 2015 pay a 9% employee contribution

The entry age normal cost method determines the amount of contributions necessary to fund; (a) the current service cost, which represents the estimated amount necessary to pay for benefits earned by employees during the current service year and, (b) the prior service cost, which represents the amount necessary to pay for benefits earned prior to the effective date of the plan.

Except for Supreme and District Court Judges, the member's account balance includes the vested employer contributions equal to the member's contributions to an eligible deferred compensation plan.

NOTE 8 DESCRIPTION OF PLANS (CONTINUED)

The minimum member contribution is \$25 and the maximum may not exceed the following:

1 to 12 months of service	Greater of one percent of monthly salary or \$25
13 to 24 months of service	Greater of two percent of monthly salary or \$25
25 to 36 months of service	Greater of three percent of monthly salary or \$25
Longer than 36 months of service	Greater of four percent of monthly salary or \$25

An open period of 20 years to fund accrued liabilities for the Public Employees Retirement System and the Supreme and District Court Judges has been adopted for the July 1, 1996 valuation and adopted for the National Guard Security Officers and Firefighters for the July 1, 1998 valuation. Currently, the present rate of contributions for the PERS plan is not sufficient to meet the actuarially determined requirement for 2017-2018.

HPRS

Member and employer contributions are set by statute as a percent of covered compensation. The state is paying 4.0% of the member contribution. The member contribution rate is 13.3% and the employer rate is 19.7%.

The entry age normal cost method determines the amount of contributions necessary to fund; (a) the current service cost, which represents the estimated amount necessary to pay for benefits earned by employees during the current service year and, (b) the prior service cost, which represents the amount necessary to pay for benefits earned prior to the effective date of the plan.

An open period of 20 years to fund accrued liabilities for the Highway Patrolmen's Retirement System has been adopted for the July 1, 1996 valuation. Currently, the present rate of contributions is not sufficient to meet the actuarially determined requirement for 2017-2018.

Defined Contribution Plan

Member and employer contributions are set by statute as a percent of covered compensation. The state is paying 4% of the member contribution. The member contribution rate is 7.00% and the employer rate is 7.12%.

Retirement Plan for Employees of Job Service North Dakota

Employees' contributions are established at 7.0% of total compensation. The funding policy of the plan provides for employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are designed to accumulate sufficient assets to pay benefits when due.

Effective July 1, 1999, the "scheduled contribution" will be zero as long as the plan's actuarial value of assets exceeds the actuarial present value of projected benefits. The "scheduled contribution" and amortization will be determined when the plan is not in surplus and will be based on a funding policy adopted by the Employer.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 9 NET PENSION LIABILITY OF THE PLANS

The components of the net pension liability (asset) of the Plans at June 30, 2018 and 2017, are as follows:

2018	PERS	HPRS	JSND
Total Pension Liability	\$ 4,675,581,755	\$ 98,385,960	\$ 68,129,211
Plan Fiduciary Net Position	2,970,180,276	78,929,000	95,588,111
Net Pension Liability (Asset)	<u>\$ 1,705,401,479</u>	<u>\$ 19,456,960</u>	<u>\$ (27,458,900)</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	63.53%	80.22%	140.30%
2017	PERS	HPRS	JSND
Total Pension Liability	\$ 4,354,371,690	\$ 94,047,078	\$ 63,629,469
Plan Fiduciary Net Position	2,727,835,589	73,336,316	97,265,411
Net Pension Liability (Asset)	<u>\$ 1,626,536,101</u>	<u>\$ 20,710,762</u>	<u>\$ (33,635,942)</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	62.65%	77.98%	152.86%

The plan provisions used in the measurement of the total pension liability are the same as those used in the PERS, HPRS and JSND Actuarial Valuation and Reviews as of July 1, 2018 and 2017.

Actuarial Assumptions

The actuarial assumptions used in the June 30, 2018 and June 30, 2017 valuations were based on the results of an actuarial experience study for the period July 1, 2009 – June 30, 2014 as adopted by the Board.

PERS and HPRS

The total pension liability was determined by an actuarial valuation as of July 1, 2018 and 2017, using the following actuarial assumptions, applied to all periods included in the measurement (unless noted otherwise):

Inflation	For June 30, 2018 and June 30, 2017, 2.5%.	
Salary Increase	For June 30, 2018 and June 30, 2017	
(Payroll Growth)	Service at Beginning of Year:	Increase Rate:
	0	15.00%
	1	10.00%
	2	8.00%
	Age*	
	Under 36	8.00%
	36 - 40	7.50%
	41 - 49	6.00%
	50+	5.00%

*Age-based salary increase rates apply for employees with three or more years of service

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 9 NET PENSION LIABILITY OF THE PLANS (CONTINUED)

Investment Rate of Return	For June 30, 2018 and June 30, 2017, 7.75%, net of investments expense, including inflation.
Mortality Rates	For June 30, 2018 and June 30, 2017, mortality rates for active members, inactive members and healthy retirees were based on the RP-2000 Combined Healthy Mortality Table, set back two years for males and three years for females, projected generationally using the SSA 2014 Intermediate Cost scale from 2014. For disabled retirees, mortality rates were based on the RP-2000 Disabled Mortality Table, set back one year for males (no setback for females) multiplied by 125%.
Discount Rates	<p>For PERS: Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year mixed maturity general obligation bonds with an average Standard & Poor's Corp.'s AA credit rating (which is published by Fidelity) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).</p> <p>For the purpose of this valuation, the expected rate of return on pension plan investments is 7.75%; the municipal bond rate is 3.62% (based on the most recent date available on or before the measurement date of the "20-year Municipal GO Index" from Fidelity); and the resulting Single Discount Rate is 6.32% for June 30, 2018.</p> <p>For the June 30, 2017 valuation, the expected rate of return on pension plan investments was 7.75%, the municipal bond rate was 3.56%, and the resulting Single Discount Rate was 6.44%</p> <p>For HPRS: For the purpose of this valuation, the expected rate of return on pension plan investments is 7.75%; the municipal bond rate is 3.56% (based on the most recent date available on or before the measurement date of the "20 year Municipal GO Index" from Fidelity); and the resulting Single Discount Rate is 7.75% for June 30, 2017.</p>

JSND

The total pension liability was determined by an actuarial valuation as of July 1, 2018 and 2017, using the following actuarial assumptions, applied to all periods included in the measurement (unless noted otherwise):

Inflation	For June 30, 2018 and June 30, 2017, 2.5%.
Salary Increase (Payroll Growth)	For June 30, 2018 and June 30, 2017, 3.5% per annum
Investment Rate of Return	For June 30, 2018, 4.75%, net of investment expense, including inflation. For June 30, 2017, 5.70%, net of investment expense, including inflation.
Cost of Living Adjustment	For June 30, 2018, 2.50% per annum. For June 30, 2017, 3.50% per annum
Mortality Rates	For June 30, 2018 and June 30, 2017, mortality rates for active members, inactive members and healthy retirees were based on the RP-2000 Combined Healthy Mortality Table, set back two years for males and three years for females, projected generationally using the SSA 2014 Intermediate Cost scale from 2014. For disabled retirees, mortality rates were based on the RP-2000 Disabled Mortality Table, set back one year for males, (no setback for females) multiplied by 125%.

NOTE 9 NET PENSION LIABILITY OF THE PLANS (CONTINUED)

Investment Rate of Return

The long-term expected investment rate of return assumption for PERS, HPRS, and JSND was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Estimates of arithmetic real rates of return, for each major asset class included in the pension plan's target asset allocation as of July 1, 2018 are summarized in the following tables:

PERS and HPRS

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic Equity	6.05%
International Equity	6.71%
Private Equity	10.20%
Domestic Fixed Income	1.45%
International Fixed Income	0.00%
Global Real Assets	5.11%
Cash Equivalents	0.00%

JSND

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic Equity	4.75%
Core Fixed Income	1.91%
Limited Duration Fixed Income	1.13%
Global Equity	5.31%
Diversified Short-Term Fixed Income	1.66%
Short-Term Corporate Fixed Income	0.49%
US High Yield	3.49%
Emerging Market Debt	4.68%

Discount Rate

For PERS, GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the System to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The current employer and employee fixed rate contributions are assumed to be made in each future year. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. In years where assets are not projected to be sufficient to meet benefit payments, which is the case for the PERS plan, the use of a municipal bond rate is required.

NOTE 9 NET PENSION LIABILITY OF THE PLANS (CONTINUED)

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.75%; the municipal bond rate is 3.62%; and the resulting Single Discount Rate is 6.32%. For the June 30, 2017 valuation, the expected rate of return on pension plan investments was 7.75%, the municipal bond rate was 3.56%, and the resulting Single Discount Rate was 6.44%.

For HPRS, the discount rate used to measure the total pension liability was 7.75% as of June 30, 2018 and June 30, 2017.

For JSND, the discount rate was 4.75% as of June 30, 2018 and 5.7% as of June 30, 2017. The projection of cash flows used to determine the discount rate assumed plan member and employer contributions will be made at rates equal to those based on the July 1, 2018 and July 1, 2017 Actuarial Valuation Reports. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions (for JSND it is assumed no future contribution will be made), the pension plans' fiduciary net position were projected to be available to make all projected future benefit payments for current plan members as of June 30, 2018. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2018 and 2017.

Sensitivity of Net Pension Liability (Asset)

The following presents the net pension liability (asset) of the Plans as of June 30, 2018, calculated using the discount rate of 6.32% for PERS (6.44% as of June 30, 2017), 7.75% for HPRS and 4.75% for JSND (5.7% as of June 30, 2017), as well as what the Plan's net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 9 NET PENSION LIABILITY OF THE PLANS (CONTINUED)

Net Pension Liability (Asset) as of June 30, 2018	1% Decrease (5.32%)	Current Discount (6.32%)	1% Increase (7.32%)
PERS	\$ 2,329,779,172	\$ 1,705,401,479	\$ 1,184,631,808
	1% Decrease (6.75%)	Current Discount (7.75%)	1% Increase (8.75%)
HPRS	32,041,790	19,456,960	8,997,526
Net Pension Liability (Asset) as of June 30, 2018	1% Decrease (3.75%)	Current Discount (4.75%)	1% Increase (5.75%)
JSND	\$ (20,228,759)	\$ (27,458,900)	\$ (33,588,893)
Net Pension Liability (Asset) as of June 30, 2017	1% Decrease (5.44%)	Current Discount (6.44%)	1% Increase (7.44%)
PERS	\$ 2,218,162,831	\$ 1,626,536,101	\$ 1,134,481,805
	1% Decrease (6.75%)	Current Discount (7.75%)	1% Increase (8.75%)
HPRS	32,746,885	20,710,762	10,712,591
Net Pension Liability (Asset) as of June 30, 2017	1% Decrease (4.70%)	Current Discount (5.70%)	1% Increase (6.70%)
JSND	\$ (27,182,597)	\$ (33,635,942)	\$ (39,131,324)

NOTE 10 RETIREE HEALTH INSURANCE CREDIT (RHIC) FUND

The Retiree Health Insurance Credit Fund, a cost-sharing multiple-employer other post-retirement benefit (OPEB) plan, is administered by the System to provide members receiving retirement benefits from the PERS, the HPRS, and Judges retired under Chapter 27-17 of the North Dakota Century Code a credit toward their monthly health insurance premium under the state health plan based upon the member's years of credited service. Effective July 1, 2015, the credit is also available to apply towards monthly premiums under the state dental, vision and long term care plan and any other health insurance plan. The Retiree Health Insurance Credit Fund is advance-funded on an actuarially determined basis.

Employee membership data is as follows:

	2018	2017
Retired Participants, Receiving Benefits	11,823	11,232
Active Participants, Not Receiving Benefits	23,747	23,497
	<u>35,570</u>	<u>34,729</u>

NOTE 10 RETIREE HEALTH INSURANCE CREDIT (RHIC) FUND (CONTINUED)

The employer contribution for the PERS, the HPRS and the Defined Contribution Plan is set by statute at 1.14% of covered compensation. Employees participating in the retirement plan as part-time/temporary members are required to contribute 1.14% of their covered compensation to the Retiree Health Insurance Credit Fund. Employees purchasing previous service credit are also required to make an employee contribution to the Fund. The benefit amount applied each year is shown as *"prefunded credit applied"* on the Statement of Changes in Plan Net Position for the pension trust funds.

Retiree health insurance credit benefits and death and disability benefits are set by statute. There are no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Employees who are receiving monthly retirement benefits from the PERS, the HPRS, the Defined Contribution Plan, the Chapter 27-17 judges or an employee receiving disability benefits, or the spouse of a deceased annuitant receiving a surviving spouse benefit or if the member selected a joint and survivor option are eligible to receive a credit toward their monthly health insurance premium under the state health plan.

Effective July 1, 2015, the credit is also available to apply towards monthly premiums under the state dental, vision and long term care plan and any other health insurance plan. The benefits are equal to \$5.00 for each of the employee's, or deceased employee's years of credited service not to exceed the premium in effect for selected coverage. The retiree health insurance credit is also available for early retirement with reduced benefits.

NOTE 11 NET OPEB LIABILITY OF THE RHIC FUND

The components of the net OPEB liability of the RHIC Plan at June 30, 2018 and June 30, 2017 are as follows:

2018	RHIC
Total OPEB Liability	\$ 206,662,795
RHIC Fiduciary Net Position	<u>127,905,982</u>
Net OPEB Liability (Asset)	<u><u>\$ 78,756,813</u></u>
RHIC Fiduciary Net Position as a Percentage of the Total OPEB Liability	61.89%
2017	RHIC
Total OPEB Liability	\$ 196,694,770
RHIC Fiduciary Net Position	<u>117,593,690</u>
Net OPEB Liability (Asset)	<u><u>\$ 79,101,080</u></u>
RHIC Fiduciary Net Position as a Percentage of the Total OPEB Liability	59.78%

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 11 NET OPEB LIABILITY OF THE RHIC FUND (CONTINUED)

Actuarial Assumptions

Inflation	For June 30, 2018 and June 30, 2017, 2.5%.
Salary Increase (Payroll Growth)	Not Applicable
Investment Rate of Return	For June 30, 2018 and June 30, 2017, 7.50%, net of investments expense, including inflation.
Mortality Rates	For June 30, 2018 and June 30, 2017, mortality rates for active members, inactive members and healthy retirees were based on the RP-2000 Combined Healthy Mortality Table, set back two years for males and three years for females, projected generationally using the SSA 2014 Intermediate Cost scale from 2014. For disabled retirees, mortality rates were based on the RP-2000 Disabled Mortality Table, set back one year for males (no setback for females) multiplied by 125%.
Other Notes:	There were no benefit changes during the year. Investment return assumption was lowered from 8.00 percent to 7.50 percent. All other actuarial assumptions were adopted by the Board and are based on an experience study covering the period July 1, 2009, through June 30, 2014. The employer rate to the System is the statutory contribution rate of 1.14% of payroll.

Investment Rate of Return

The long-term expected investment rate of return assumption for the RHIC fund was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of RHIC investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Estimates of arithmetic real rates of return, for each major asset class included in the RHIC's target asset allocation as of July 1, 2018 are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Large Cap Domestic Equities	5.80%
Small Cap Domestic Equities	7.05%
International Equities	6.20%
Core-Plus Fixed Income	1.46%

Discount Rate

The discount rate used to measure the total OPEB liability was 7.5%. The projection of cash flows used to determine the discount rate assumed plan member and statutory/Board approved employer contributions will be made at rates equal to those based on the July 1, 2018, and July 1, 2017, HPRS actuarial valuation reports. For this purpose, only employer contributions that are intended to fund benefits of current RHIC members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries are not included. Based on those assumptions, the RHIC fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on RHIC investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

NOTE 11 NET OPEB LIABILITY OF THE RHIC FUND (CONTINUED)

Sensitivity of Net OPEB Liability (Asset)

The following presents the net OPEB liability of the Plans as of June 30, 2018 and June 30, 2017, calculated using the discount rate of 7.50%, as well as what the RHIC net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

Net OPEB Liability (Asset) as of June 30, 2018	1% Decrease (6.50%)	Current Discount (7.50%)	1% Increase (8.50%)
RHIC	\$ 99,646,206	\$ 78,756,813	\$ 60,849,154
Net OPEB Liability (Asset) as of June 30, 2017	1% Decrease (6.50%)	Current Discount (7.50%)	1% Increase (8.50%)
RHIC	\$ 99,024,934	\$ 79,101,080	\$ 62,022,814

The benefit provided by the North Dakota Retiree Health Insurance Credit Fund is a fixed dollar subsidy and is not affected by healthcare cost trend. Therefore, a healthcare cost trend rate was not performed.

NOTE 12 IMPLICIT SUBSIDY UNFUNDED PLAN

The Implicit Subsidy Unfunded Plan provides health care coverage to eligible retirees who are not eligible for Medicare. The premiums for this coverage are set under North Dakota Century Code Chapter 54-52.1-02 as a percent of the active member single and family plan rates and are paid by the retiree. The premiums for this coverage are not age-rated. Currently, the premiums for this group do not cover the costs of the coverage; therefore, the costs of this group are being subsidized through the active group rates. This subsidy is not funded in advance and there is no guarantee that the subsidy for the 2017-19 biennium will continue in the future.

A retiree must be receiving a retirement allowance from NDPERS, ND TFFR or TIAA-CREF to be eligible for the retiree health care coverage. Effective July 1, 2015, eligibility for this coverage is limited to employees who retired prior to July 2015 and/or former Legislators.

The premiums for this plan are reported as premium revenue on the Statement of Revenues, Expenses, and Changes in Fund Net Position in the Uniform Group Insurance Plan. The full amount of the premiums collected are expended each year and are reported as premium expenses on the Statement of Revenues, Expenses, and Changes in Fund Net Position in the Uniform Group Insurance Plan.

Total OPEB Liability

The total net OPEB liability of the plan as of June 30, 2018, determined using a June 30, 2017 measurement date, is \$4,297,160 and the effect of this liability will be recognized on the State of North Dakota Comprehensive Annual Financial Report (CAFR) in accordance with GASB Statement No 75.

North Dakota Public Employees Retirement System – Financial Section
Notes to the Financial Statements
June 30, 2018 and 2017

NOTE 12 IMPLICIT SUBSIDY UNFUNDED PLAN (CONTINUED)

Significant actuarial assumptions employed by the actuary for funding purposes as of the June 30, 2017 actuarial valuation, the date of the latest actuarial valuation, include:

Mortality Rates:	For June 30, 2017, RP-2014 using mortality improvement scale MP-2017
Withdrawal Rates:	Rates of withdrawal from active service before retirement for reasons other than death, rates of disability and expected retirement ages developed on the basis of an investigation of actual plan experience.
Interest Rate:	6.56% per annum, net of investment expenses
Inflation:	3% per annum
Expenses:	Prior year expenses, adjusted for inflation

NOTE 13 DEFERRED COMPENSATION PLAN FOR PUBLIC EMPLOYEES

The System was given the authority by Chapter 54-52.2 to administer an employee deferred compensation plan in accordance with Internal Revenue Code Section 457. The plan allows employees of the State of North Dakota or any of its political subdivisions, institutions, departments, or agencies to participate, providing that the employee has signed a participant agreement, which permits them to defer a portion of their salary until future years. Each participant may defer the lesser of \$18,500 for calendar year 2018 (\$18,000 for 2017) or 100% of gross annual compensation. The deferred compensation is not available to employees until termination, retirement, death, or unforeseeable emergency.

All compensation deferred under the plans, all property and rights purchased with those amounts, and all income attributable to those amounts, property or rights are held in trust for the exclusive use of the employee or their beneficiary.

The deferred compensation plan had 13,188 and 12,581 participants as of June 30, 2018 and 2017, respectively.

The related investment are reported at fair value as follows:

	2018		2017	
Investment Balance by:				
State of North Dakota	\$ 99,851,591	89%	\$ 87,905,420	90%
Other Jurisdictions	12,974,946	11%	10,237,418	10%
Total Investments	<u>\$ 112,826,537</u>	100%	<u>\$ 98,142,838</u>	100%

NOTE 14 FEDERAL INCOME TAX STATUS

The System is qualified under Section 401(a) of the Internal Revenue Code (IRC) and is exempt from the payment of any federal income taxes under Section 501(a) of the IRC and by virtue of being an agency of the state of North Dakota.

NOTE 15 UNIFORM GROUP INSURANCE PROGRAM SURPLUS

The Uniform Group Insurance Program, a proprietary fund, contracted with Sanford Health Plan to provide health care insurance to the employees of the State of North Dakota, or any of its political subdivisions, institutions, departments or agencies. The contract for the 2015-2017 biennium provides for an accounting of premiums paid and claims incurred during the biennium. The final gain or loss is determined two years after the end of the biennium, which for the 2015-2017 biennium will on June 30, 2019. For this period, The System was at risk for \$3.0 million and because it was reasonably assured that claims will exceed premiums, the risk was recorded as an underwriting loss in 2016.

The System entered into a similar contract with Sanford Health Plan for the 2017-2019 biennium. The contract for the 2017-2019 biennium provides for an accounting of premiums paid and claims incurred during the biennium. The final gain or loss is determined two years after the end of the biennium, which for the 2017-2019 biennium will occur in 2021. In the event of a loss, the system does not have any risk. No other insurance contracts have a gain sharing provision.

The accumulated surplus and other invested funds in the amount of \$34.8 million are shown as cash, invested cash and commingled domestic fixed income investments on the Statement of Net Position.

NOTE 16 RISK MANAGEMENT

The System is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The following are funds/pools established by the state for risk management issues:

The 1995 Legislative Session established the Risk Management Fund (RMF), an internal service fund, to provide a self-insurance vehicle for funding the liability exposures of state agencies resulting from the elimination of the state's sovereign immunity. The RMF manages the tort liability of the state, its agencies' employees and the University System. All state agencies participate in the RMF and their fund contribution was determined using a projected cost allocation approach. The statutory liability of the State is limited to a total of \$250,000 per person and \$1,000,000 per occurrence.

The System also participates in the North Dakota Fire and Tornado Fund and the State Bonding Fund. The agency pays an annual premium to the Fire and Tornado Fund to cover property damage to building and personal property. Replacement cost coverage is provided by estimating replacement cost in consultation with the Fire and Tornado Fund. The Fire and Tornado Fund is reinsured by a third party insurance carrier for losses in excess of one million dollars per occurrence during a 120-month period. The State Bonding Fund currently provides the agency with blanket fidelity bond coverage in the amount of \$2,000,000 for its employees. The State Bonding Fund does not currently charge any premium for this coverage.

The System participates in the North Dakota Workforce Safety, an Enterprise Fund of the State of North Dakota. Workforce Safety is a state insurance fund and a "no fault" insurance system covering the State's employers and employees financed by premiums assessed to employers. The premiums are available for the payment of claims to employees injured in the course of employment.

There have been no significant reductions in insurance coverage from the prior year and settled claims resulting from these risks have not exceeded insurance coverage in any of the past three fiscal years.

NOTE 17 RELATED PARTIES

As stated in Note 1 of these financial statements, the System is a state agency of the state of North Dakota, as such, the other state agencies of the state and political subdivisions are related parties.

NOTE 18 RECLASSIFICATION

Certain amounts from the prior year financial statements have been reclassified to conform to the presentation of the current year financial statements.

NOTE 19 SUBSEQUENT EVENTS

The System evaluated subsequent events through November 20, 2017, which is the date the financial statements were available to be issued. Events or transactions occurring after June 30, 2018, but prior to November 28, 2018 that provided additional evidence about conditions that existed at June 30, 2018, have been recognized in the financial statements for the year ended June 30, 2018. Events or transactions that provided evidence about conditions that did not exist at June 30, 2018, but arose before the financial statements were available to be issued have not been recognized in the financial statements for the year ended June 30, 2018.

NOTE 20 CONTINGENCY

The State Investment Board has been named as a defendant in two cases, arising out of the Tribune and General Motors bankruptcy proceedings, relating to securities that were purchased by external investment managers in one or more portfolios held by the SIB on behalf of its investment client funds. Outside counsel has been retained for both cases, in addition to assistance received from the ND Office of Attorney General. As of June 30, 2018, no liability has been recorded for the General Motors bankruptcy proceedings as it is too early in the litigation process to reasonably determine whether any payments will be required, but mediation efforts remain on-going. The claim against the SIB in the Tribune bankruptcy litigation has been dismissed, but a final order has not been entered because the Court has yet to decide the remaining claims in the case against unrelated defendants; however, the U.S. District Court has stayed the Trustee's request to amend the complaint to add a constructive fraudulent transfer claim pending the Second Circuit's disposition of the unrelated defendant's claims in light of the U.S. Supreme Court's decision in Merit Management. Any final judgment (including with respect to the claim against the SIB) is subject to appeal. Accordingly, no liability has been recorded at this time.

North Dakota Public Employees Retirement System – Financial Section
Required Supplementary Information
Schedule of Changes to the Net Pension Liability and Related Ratios
For the Years Ended June 30

Public Employees Retirement System

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 164,018,071	\$ 113,148,379	\$ 126,443,929	\$ 104,158,320	\$ 94,611,357
Interest	279,835,016	269,769,850	243,284,784	236,419,648	218,719,441
Change of Benefit Terms	-	-	-	2,615	-
Differences Between Expected and Actual Experience	(65,345,796)	(3,612,020)	15,914,938	4,395,805	25,782,859
Changes of Assumptions	125,224,437	741,491,982	108,139,418	(76,152,255)	-
Benefit Payments, Including Refund of Employee Contributions	(182,521,663)	(162,991,968)	(149,664,141)	(134,929,737)	(119,886,323)
Net Change in Total Pension Liability	321,210,065	957,806,223	344,118,928	133,894,396	219,227,334
Total Pension Liability (Asset) - Beginning	4,354,371,690	3,396,565,467	3,052,446,539	2,918,552,143	2,699,324,809
Total Pension Liability (Asset) - Ending (a)	\$4,675,581,755	\$4,354,371,690	\$3,396,565,467	\$3,052,446,539	\$2,918,552,143
Plan Fiduciary Net Position					
Contributions - Employer	\$ 80,727,209	\$ 78,933,571	\$ 77,080,576	\$ 70,842,535	\$ 61,661,050
Contributions - Employee	77,486,189	76,007,456	74,218,276	68,392,061	59,394,200
Service Credit Repurchase	19,984,972	11,805,070	9,179,163	6,651,879	8,325,140
Net Investment Income	249,165,180	311,760,863	11,333,836	81,536,565	316,629,563
Transfers and Other Income	(24,440)	32,183	23,574,937	-	-
Benefit Payments, Including Refund of Employee Contributions	(182,521,663)	(162,991,968)	(149,664,141)	(134,929,737)	(119,886,324)
Administrative Expense	(2,472,761)	(2,607,243)	(2,537,799)	(2,365,357)	(2,210,792)
Net Change in Plan Fiduciary Net Position	242,344,686	312,939,932	43,184,848	90,127,946	323,912,837
Plan Fiduciary Net Position - Beginning	2,727,835,589	2,414,895,657	2,371,710,809	2,281,582,863	1,957,670,026
Plan Fiduciary Net Position - Ending (B)	2,970,180,275	2,727,835,589	2,414,895,657	2,371,710,809	2,281,582,863
Net Pension Liability (Asset) - Ending (A)-(B)	\$1,705,401,480	\$1,626,536,101	\$981,669,810	\$680,735,730	\$636,969,280
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	63.53%	62.65%	71.10%	77.70%	78.18%
Covered Payroll	\$1,075,957,954	\$1,063,371,798	\$1,048,548,467	\$973,536,402	\$888,452,060
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	158.50%	152.96%	93.62%	69.92%	71.69%

*Complete data for this schedule is not available prior to 2014.

North Dakota Public Employees Retirement System – Financial Section
Required Supplementary Information
Schedule of Changes to the Net Pension Liability and Related Ratios
For the Years Ended June 30

Highway Patrolmen's Retirement System

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 2,738,268	\$ 2,701,326	\$ 2,226,286	\$ 2,038,291	\$ 1,894,183
Interest	7,203,350	6,951,177	6,311,403	6,007,875	5,750,017
Change of Benefit Terms	-	-	-	-	-
Differences Between Expected and Actual Experience	(621,359)	21,564	39,748	984,241	(299,964)
Changes of Assumptions	-	1,257,370	3,945,801	394,419	-
Benefit Payments, Including Refund of Employee Contributions	(4,981,377)	(4,806,319)	(4,713,495)	(4,745,510)	(3,784,735)
Net Change in Total Pension Liability	4,338,882	6,125,118	7,809,743	4,679,316	3,559,501
Total Pension Liability (Asset) - Beginning	94,047,078	87,921,960	80,112,217	75,432,901	71,873,400
Total Pension Liability (Asset) - Ending (a)	\$ 98,385,960	\$ 94,047,078	\$ 87,921,960	\$ 80,112,217	\$ 75,432,901
Plan Fiduciary Net Position					
Contributions - Employer	\$ 2,152,970	\$ 2,155,944	\$ 2,127,355	\$ 2,002,291	\$ 1,864,632
Contributions - Employee	1,453,533	1,455,540	1,436,236	1,351,798	1,243,520
Service Credit Repurchase	281,573	249,436	-	96,429	87,418
Net Investment Income	6,716,525	8,500,352	316,963	2,334,780	9,239,929
Transfers and Other Income	(187)	221	-	-	-
Benefit Payments, Including Refund of Employee Contributions	(4,981,377)	(4,806,319)	(4,713,495)	(4,745,510)	(3,784,735)
Administrative Expense	(30,353)	(30,195)	(31,450)	(30,925)	(27,983)
Net Change in Plan Fiduciary Net Position	5,592,684	7,524,979	(864,391)	1,008,863	8,622,781
Plan Fiduciary Net Position - Beginning	73,336,316	65,811,337	66,675,728	65,666,865	57,044,084
Plan Fiduciary Net Position - Ending (B)	78,929,000	73,336,316	65,811,337	66,675,728	65,666,865
Net Pension Liability (Asset) - Ending (A)-(B)	\$ 19,456,960	\$ 20,710,762	\$ 22,110,623	\$ 13,436,489	\$ 9,766,036
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	80.22%	77.98%	74.85%	83.23%	87.05%
Covered Payroll	\$ 10,737,297	\$ 10,629,403	\$ 10,526,791	\$ 10,145,713	\$ 9,348,386
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	181.21%	194.84%	210.04%	132.44%	104.47%

**Complete data for this schedule is not available prior to 2014.*

North Dakota Public Employees Retirement System – Financial Section
Required Supplementary Information
Schedule of Changes to the Net Pension Liability and Related Ratios
For the Years Ended June 30

Retirement Plan for Employees of Job Service North Dakota

	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 80,344	\$ 55,500	\$ 71,420	\$ 127,734	\$ 87,668
Interest	3,500,344	4,130,232	4,281,440	5,026,167	5,107,459
Change of Benefit Terms	-	-	-	-	-
Differences Between Expected and Actual Experience	(310,124)	(1,648,283)	(2,006,791)	(1,806,271)	(1,607,033)
Changes of Assumptions	5,811,755	4,421,401	69,885	(309,878)	-
Benefit Payments, Including Refund of Employee Contributions	(4,582,577)	(4,534,153)	(4,601,196)	(4,694,171)	(4,594,462)
Net Change in Total Pension Liability	4,499,742	2,424,697	(2,185,242)	(1,656,419)	(1,006,368)
Total Pension Liability (Asset) - Beginning	63,629,469	61,204,772	63,390,014	65,046,433	66,052,801
Total Pension Liability (Asset) - Ending (a)	\$ 68,129,211	\$ 63,629,469	\$ 61,204,772	\$ 63,390,014	\$ 65,046,433
Plan Fiduciary Net Position					
Contributions - Employer	\$ -	\$ -	\$ -	\$ -	\$ -
Contributions - Employee	32,987	39,417	44,178	50,142	55,748
Service Credit Repurchase	-	-	-	-	-
Net Investment Income	2,918,585	5,238,877	4,840,333	3,260,507	11,887,840
Transfers and Other Income	-	-	-	-	-
Benefit Payments, Including Refund of Employee Contributions	(4,582,577)	(4,534,153)	(4,601,196)	(4,694,171)	(4,594,462)
Administrative Expense	(46,295)	(12,684)	(32,253)	(30,214)	(31,455)
Net Change in Plan Fiduciary Net Position	(1,677,300)	731,457	251,062	(1,413,736)	7,317,671
Plan Fiduciary Net Position - Beginning	97,265,411	96,533,954	96,282,892	97,696,628	90,378,957
Plan Fiduciary Net Position - Ending (B)	95,588,111	97,265,411	96,533,954	96,282,892	97,696,628
Net Pension Liability (Asset) - Ending (A)-(B)	\$ (27,458,900)	\$ (33,635,942)	\$ (35,329,182)	\$ (32,892,878)	\$ (32,650,195)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	140.30%	152.86%	157.72%	151.89%	150.20%
Covered Employee Payroll	\$ 416,652	\$ 498,564	\$ 564,684	\$ 790,649	\$ 842,601
Plan Net Pension Liability (Asset) as a Percentage of Covered Employee Payroll	(6,590.37)%	(6,746.56)%	(6,256.45)%	(4,160.24)%	(3,874.93)%

**Complete data for this schedule is not available prior to 2014.*

North Dakota Public Employees Retirement System – Financial Section
Required Supplementary Information
Schedule of Changes to the Net Other Post Employment Benefit Liability and Related Ratios
For the Years Ended June 30

Retiree Health Insurance Credit Fund

	2018	2017
Total OPEB Liability		
Service Cost	\$ 3,766,661	\$ 3,430,578
Interest	14,485,170	14,327,443
Change of Benefit Terms	-	-
Differences Between Expected and Actual Experience	2,732,254	(2,231,206)
Changes of Assumptions	-	8,860,723
Benefit Payments, Including Refund of Employee Contributions	(11,016,060)	(10,014,370)
Net Change in Total OPEB Liability	9,968,025	14,373,168
Total OPEB Liability (Asset) - Beginning	196,694,770	182,321,602
Total OPEB Liability (Asset) - Ending (a)	\$ 206,662,795	\$ 196,694,770
Plan Fiduciary Net Position		
Contributions - Employer	\$ 12,834,547	\$ 12,575,627
Contributions - Employee	15,984	16,173
Service Credit Repurchase	746,942	464,323
Net Investment Income	8,210,898	12,074,082
Transfers and Other Income	-	-
Benefit Payments, Including Refund of Employee Contributions	(11,016,060)	(10,014,370)
Administrative Expense	(480,244)	(443,220)
Other	225	-
Net Change in Plan Fiduciary Net Position	10,312,292	14,672,615
Plan Fiduciary Net Position - Beginning	117,593,690	102,921,075
Plan Fiduciary Net Position - Ending (B)	127,905,982	117,593,690
Net OPEB Liability (Asset) - Ending (A)-(B)	\$ 78,756,813	\$ 79,101,080
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	61.89%	59.78%
Covered Employee Payroll	\$ 1,094,216,775	\$ 1,081,841,008
Plan Net Pension Liability (Asset) as a Percentage of Covered Employee Payroll	7.20%	7.31%

**Complete data for this schedule is not available prior to 2017.*

North Dakota Public Employees Retirement System – Financial Section
Required Supplementary Information
Schedule of Employer Contributions
For the Years Ended June 30

Public Employees Retirement System

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially Determined Contribution	125,714	116,564	124,336	107,514	107,864	97,985	91,458	82,910	54,158	40,327
Contributions in Relation to the Actuarially Determined Contribution	80,727	78,934	77,081	70,843	61,661	48,847	38,006	32,278	30,253	27,705
Contribution Deficiency (Excess)	<u>44,987</u>	<u>37,630</u>	<u>47,255</u>	<u>36,671</u>	<u>46,203</u>	<u>49,138</u>	<u>53,452</u>	<u>50,632</u>	<u>23,905</u>	<u>12,622</u>
Covered Payroll	1,075,958	1,063,372	1,048,548	973,536	888,452	800,878	804,169	769,710	697,737	640,685
Contributions as a Percentage of Covered Payroll	7.50%	7.42%	7.35%	7.28%	6.94%	6.10%	4.73%	4.19%	4.34%	4.32%

Highway Patrolmen's Retirement System

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially Determined Contribution	2,949	3,060	2,307	2,201	2,348	2,191	2,171	1,744	1,313	1,026
Contributions in Relation to the Actuarially Determined Contribution	2,153	2,156	2,127	2,002	1,865	1,586	1,423	1,286	1,197	1,123
Contribution Deficiency (Excess)	<u>796</u>	<u>904</u>	<u>180</u>	<u>199</u>	<u>483</u>	<u>605</u>	<u>748</u>	<u>458</u>	<u>116</u>	<u>(97)</u>
Covered Payroll	10,737	10,629	10,527	10,146	9,348	8,167	8,002	7,738	7,009	6,509
Contributions as a Percentage of Covered Payroll	20.05%	20.28%	20.21%	19.73%	19.95%	19.42%	17.78%	16.62%	17.08%	17.25%

Retirement Plan for Employees of Job Service North Dakota

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially Determined Contribution	-	-	-	-	-	-	-	-	-	-
Contributions in Relation to the Actuarially Determined Contribution	-	-	-	-	-	-	-	-	-	-
Contribution Deficiency (Excess)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Covered Payroll	417	499	565	791	843	1,011	1,163	1,266	1,487	1,613
Contributions as a Percentage of Covered Payroll	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Retiree Health Insurance Credit Plan

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially Determined Contribution	12,252	11,696	7,544	6,439	7,014	7,411	7,263	7,053	7,199	5,805
Contributions in Relation to the Actuarially Determined Contribution	12,835	12,575	12,350	11,479	10,710	9,960	9,388	8,930	8,393	6,772
Contribution Deficiency (Excess)	<u>(583)</u>	<u>(879)</u>	<u>(4,806)</u>	<u>(5,040)</u>	<u>(3,696)</u>	<u>(2,549)</u>	<u>(2,125)</u>	<u>(1,877)</u>	<u>(1,194)</u>	<u>(967)</u>
Covered Payroll	1,094,217	1,081,841	1,142,375	1,052,657	1,001,204	914,368	824,855	828,978	793,634	719,812
Contributions as a Percentage of Covered Payroll	1.17%	1.16%	1.08%	1.09%	1.07%	1.09%	1.14%	1.08%	1.06%	0.94%

North Dakota Public Employees Retirement System – Financial Section
Notes to the Required Supplementary Information
For the Years Ended June 30, 2018 and 2017

PERS

Benefit Changes: There were no changes made in the plan provisions since the prior valuation

Changes of Assumptions: There were no changes made actuarial assumptions since the July 1, 2017 valuation

HPRS

Benefit Changes: There were no changes made in the plan provisions since the prior valuation

Changes of Assumptions: There were no changes made actuarial assumptions since the July 1, 2017 valuation

JSND

Benefit Changes: There were no changes made in the plan provisions since the prior valuation

Changes of Assumptions: The Board approved the following changes to the actuarial assumptions beginning with the July 1, 2018 actuarial valuation:

- The investment return assumption was lowered from 5.7 to 4.75 percent for the July 1, 2018 valuation

All other actuarial assumptions used in the July 1, 2018 are the same as the last actuarial valuation as of July 1, 2017.

RHIC

Benefit Changes: There were no changes made in the plan provisions since the prior valuation

Changes of Assumptions: There were no changes made actuarial assumptions since the July 1, 2017 valuation

North Dakota Public Employees Retirement System – Financial Section
Notes to the Required Supplementary Information
For the Years Ended June 30, 2018 and 2017

Schedule of Employer Contributions

Valuation date	Actuarially determined contribution rates are calculated as of June 30, 12 months prior to the end of the fiscal year in which contributions are reported.
----------------	--

Methods and assumptions used to establish “actuarially determined contribution” rates for PERS, HPRS, and RHIC:

Actuarial cost method	Entry Age Normal Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary.
Amortization Method	Level percent of payroll, Open Period
Remaining amortization period	20 years open, assuming 3.75% (3.25% for Judges) of payroll growth per annum
Asset valuation method	5-Year smoothed market

Methods and assumptions used to establish “actuarially determined contribution” rates for JSND:

Actuarial cost method	Frozen Initial Liability Cost Method. The “annual contribution” under this method is the normal cost plus the payment required to amortize the unfunded initial actuarial accrued liability over a selected period of years. The normal cost is determined by calculating the total value of all future benefits, subtracting the outstanding balance (if any) of the unfunded initial actuarial accrued liability, subtracting the actuarial value of assets, and determining payments (not less than zero) that are a level percent of pay over the future working lifetime of all participants. In the absence of an unfunded initial actuarial accrued liability, the Frozen Initial Liability Actuarial Cost Method is the same as the Aggregate Cost Method. The plan has assets in excess of the present value of future benefits. Therefore, no contribution is being made.
Asset valuation method	5-Year smoothed market.

North Dakota Public Employees Retirement System – Financial Section
Required Supplementary Information
Schedule of Investment Returns

Schedule of Investment Returns
For the Years Ended June 30

	2018	2017	2016	2015	2014	2013
Public Employees Retirement	9.21%	13.01%	0.49%	3.61%	16.29%	13.52%
Highway Patrolmen's Retirement	9.16%	12.93%	0.48%	3.66%	16.20%	13.38%
Retirement Plan for Employees						
Job Service North Dakota	3.32%	5.85%	5.14%	3.41%	13.46%	12.07%
Retiree Health Insurance Credit Fund	7.01%	11.75.%	0.83%	-	-	-

This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

North Dakota Public Employees Retirement System – Financial Section
Supplemental Information
Schedule of Investment Expenses – Fiduciary Funds
For the Fiscal Year Ended June 30, 2018

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Program	Job Service Retirement Plan
Payments to State Investment Board:							
Investment Fees	\$ 6,387,955	\$ 170,146	\$ 379,586	\$ -	\$ -	\$ -	\$ 236,826
Administrative Expenses	493,883	13,307	-	-	-	-	-
	<u>6,881,838</u>	<u>183,453</u>	<u>379,586</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>236,826</u>
Payments to Providers:							
Investment Fees (Net of Plan Servicing Credits)	<u>-</u>	<u>-</u>	<u>-</u>	<u>9,325</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total Investment Expenses	<u><u>\$ 6,881,838</u></u>	<u><u>\$ 183,453</u></u>	<u><u>\$ 379,586</u></u>	<u><u>\$ 9,325</u></u>	<u><u>\$ -</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 236,826</u></u>

North Dakota Public Employees Retirement System – Financial Section
Supplemental Information
Schedule of Investment Expenses – Fiduciary Funds
For the Fiscal Year Ended June 30, 2017

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Program	Job Service Retirement Plan
Payments to State Investment Board:							
Investment Fees	\$ 7,099,590	\$ 192,464	\$ 335,760	\$ -	\$ -	\$ -	\$ 285,579
Administrative Expenses	392,493	10,692	-	-	-	-	-
	<u>7,492,083</u>	<u>203,156</u>	<u>335,760</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>285,579</u>
Payments to Providers:							
Investment Fees (Net of Plan Servicing Credits)	-	-	-	6,822	-	-	-
Total Investment Expenses	<u>\$ 7,492,083</u>	<u>\$ 203,156</u>	<u>\$ 335,760</u>	<u>\$ 6,822</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 285,579</u>

North Dakota Public Employees Retirement System – Financial Section
Supplemental Information
Schedule of Administrative Expenses – Fiduciary Funds
For the Fiscal Year Ended June 30, 2018

SCHEDULE OF ADMINISTRATIVE EXPENSES
Fiduciary Funds
For the Fiscal Year Ended June 30, 2018

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Program	Job Service Retirement Plan
Personnel Services:							
Salaries	\$ 851,963	\$ 5,817	\$ 65,326	\$ 2,142	\$ 179,669	\$ 335,062	\$ 3,212
Social Security	61,943	423	4,692	154	12,895	24,333	231
Retirement	98,042	669	7,572	248	20,571	39,045	372
Insurance	218,335	1,491	15,177	498	39,959	66,611	746
Total Personnel Services	1,230,283	8,400	92,767	3,042	253,094	465,051	4,561
Professional Services:							
Actuarial	67,850	13,150	19,900	-	-	-	34,500
Audit	43,162	295	20,584	101	11,235	21,728	152
Data Processing	287,906	1,966	22,210	1,916	67,030	132,349	1,093
Consulting	139,467	952	27,869	100	12,115	17,844	1,008
Legal Counsel	25,596	175	1,687	2,028	4,524	6,958	83
Misc Outside Services	22,682	154	237,035	58	102,768	10,030	1,658
Total Professional Services	586,663	16,692	329,285	4,203	197,672	188,909	38,494
Communication:							
Printing	11,099	76	848	28	1,155	1,155	43
Postage	37,477	256	3,547	148	5,101	5,125	106
Telephone	8,697	59	610	20	1,557	2,392	30
Total Communication	57,273	391	5,005	196	7,813	8,672	179
Rentals:							
Equipment Rent	1,792	12	142	5	451	902	4
Office Rent	68,694	469	5,454	179	17,291	34,330	268
Total Rentals	70,486	481	5,596	184	17,742	35,232	272
Miscellaneous:							
Depreciation/Amortization	390,104	3,447	37,454	2,672	98,192	196,385	2,289
Dues & Prof Development	13,996	96	579	619	592	1,366	29
Insurance	371	3	29	1	92	189	1
Repairs and Maintenance	2,119	14	168	6	533	1,069	8
Supplies	106,903	730	8,495	378	26,828	53,757	418
Travel	14,563	99	866	28	1,488	2,075	44
Total Miscellaneous	528,056	4,389	47,591	3,704	127,725	254,841	2,789
Total Administrative Expenses	<u>\$ 2,472,761</u>	<u>\$ 30,353</u>	<u>\$ 480,244</u>	<u>\$ 11,329</u>	<u>\$ 604,046</u>	<u>\$ 952,705</u>	<u>\$ 46,295</u>

North Dakota Public Employees Retirement System – Financial Section
Supplemental Information
Schedule of Administrative Expenses – Fiduciary Funds
For the Fiscal Year Ended June 30, 2017

SCHEDULE OF ADMINISTRATIVE EXPENSES
Fiduciary Funds
For the Fiscal Year Ended June 30, 2017

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Program	Job Service Retirement Plan
Personnel Services:							
Salaries	\$ 877,336	\$ 6,034	\$ 76,524	\$ 3,518	\$ 187,696	\$ 363,557	\$ 3,298
Social Security	64,091	441	5,562	256	13,642	26,561	240
Retirement	102,873	708	8,996	414	21,663	41,934	388
Insurance	195,691	1,346	15,927	732	37,318	65,788	686
Total Personnel Services	1,239,991	8,529	107,009	4,920	260,319	497,840	4,612
Professional Services:							
Actuarial	182,194	12,750	12,000	-	-	-	-
Audit	80,503	554	4,259	208	7,613	14,672	184
Data Processing	286,130	1,968	25,520	2,366	71,134	134,250	1,100
Consulting	75,629	520	2,850	21,596	1,823	38,285	620
Legal Counsel	20,708	142	2,256	1,066	3,661	7,129	743
Misc Outside Services	24,156	172	224,798	320	102,038	10,120	1,971
Total Professional Services	669,320	16,106	271,683	25,556	186,269	204,456	4,618
Communication:							
Printing	24,438	168	2,082	96	4,163	4,102	90
Postage	63,782	439	5,954	274	14,378	14,435	257
Telephone	8,838	61	708	33	1,563	2,418	31
Total Communication	97,058	668	8,744	403	20,104	20,955	378
Rentals:							
Equipment Rent	2,288	16	208	10	576	1,152	9
Office Rent	66,370	456	6,043	278	16,707	33,188	260
Total Rentals	68,658	472	6,251	288	17,283	34,340	269
Miscellaneous:							
Depreciation/Amortization	390,104	3,447	37,454	2,672	98,192	196,385	2,289
Dues & Prof Development	13,033	90	745	34	947	2,514	32
Insurance	382	3	35	2	96	192	2
Repairs and Maintenance	2,713	20	247	11	683	1,366	11
Supplies	113,211	772	10,336	572	28,298	56,955	442
Travel	12,773	88	716	33	180	2,294	31
Total Miscellaneous	532,216	4,420	49,533	3,324	128,396	259,706	2,807
Total Administrative Expenses	<u>\$ 2,607,243</u>	<u>\$ 30,195</u>	<u>\$ 443,220</u>	<u>\$ 34,491</u>	<u>\$ 612,371</u>	<u>\$ 1,017,297</u>	<u>\$ 12,684</u>

North Dakota Public Employees Retirement System – Financial Section
Supplemental Information
Schedule of Consultant Expenses – Fiduciary Funds
For the Fiscal Year Ended June 30, 2018

	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Program	Job Service Retirement Plan
Actuary Fees:							
Gabriel Roeder Smith & Co	\$ 67,850	\$ 13,150	\$ 19,900	\$ -	\$ -	\$ -	\$ 34,500
Audit/Accounting Fees:							
CliftonLarsonAllen LLP	43,162	295	20,584	101	11,235	21,728	152
Disability Consulting Fees:							
Mid Dakota Clinic	7,050	-	-	-	-	-	-
IT Consulting:							
Sagitec Solution LLC	179,127	1,226	14,260	468	45,088	90,177	701
Agency MABU	487	-	-	-	122	243	-
Miscellaneous Consulting Fees:							
Gabriel Roeder Smith & Co	99,857	952	27,869	100	2,700	7,529	1,008
Groom Law	1,300	-	-	-	1,600	2,500	-
EFL Associates	31,260	-	-	-	7,815	7,815	-
Ice Miller, LLP	192	2	92	3	50	97	5
ND Attorney General	25,404	173	1,595	2,025	4,474	6,862	78
Totals	\$ 455,689	\$ 15,798	\$ 84,300	\$ 2,697	\$73,084	\$ 136,951	\$ 36,444

North Dakota Public Employees Retirement System – Financial Section
Supplemental Information
Schedule of Consultant Expenses – Fiduciary Funds
For the Fiscal Year Ended June 30, 2017

Schedule of Consultant Expenses
Fiduciary Funds
For the Fiscal Year Ended June 30, 2017

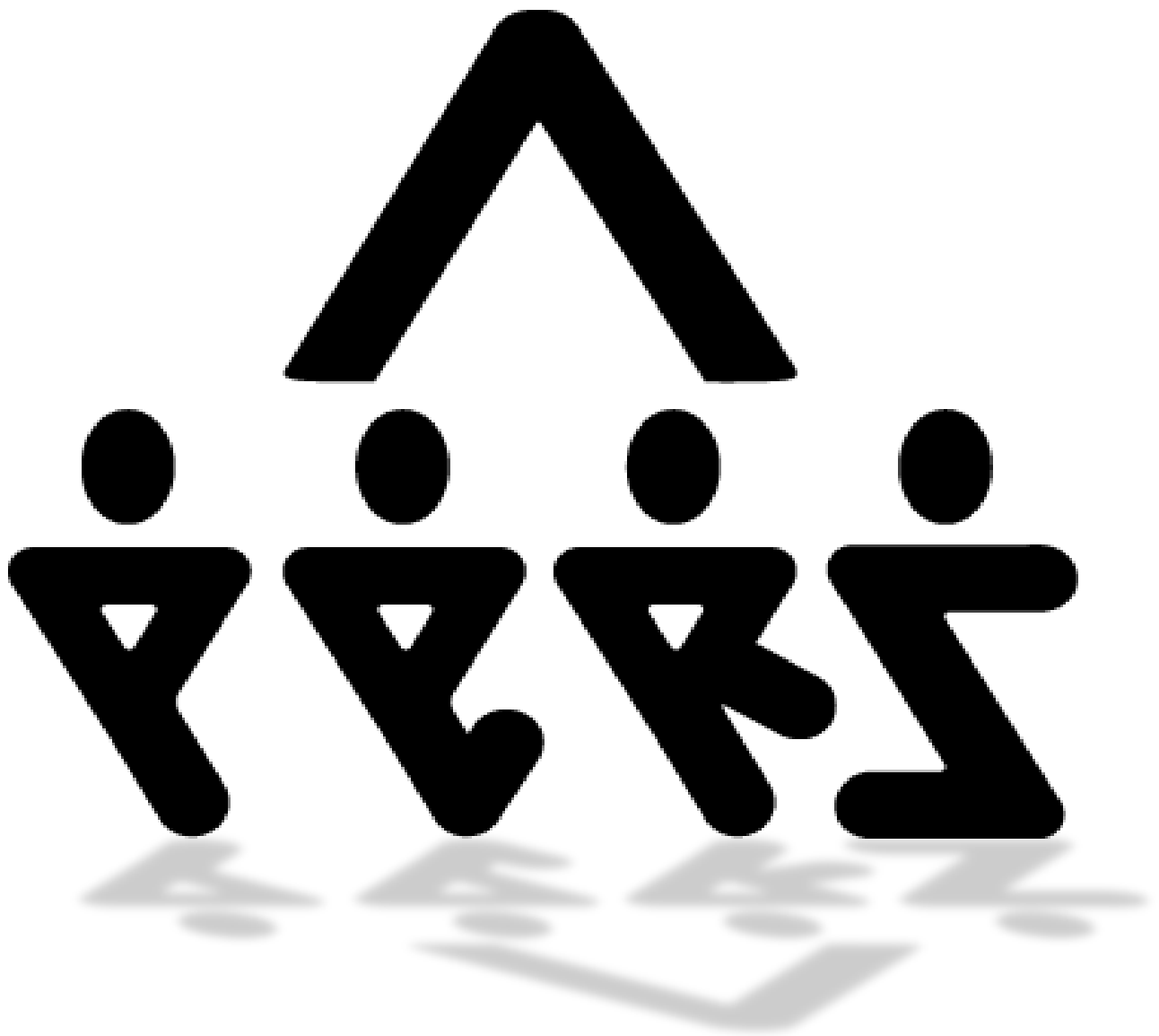
	Public Employees Retirement System	Highway Patrolmen's Retirement System	Retiree Health Insurance Credit Fund	Defined Contribution Retirement Fund	Pretax Benefits Program	Deferred Compensation Program	Job Service Retirement Plan
Actuary Fees:							
Gabriel Roeder Smith & Co	\$ 118,031	\$ 12,750	\$ 12,000	\$ -	\$ -	\$ -	\$ -
The Segal Company	64,163	-	-	-	-	-	-
Audit/Accounting Fees:							
CliftonLarsonAllen LLP	80,503	554	4,259	208	7,613	14,672	184
Disability Consulting Fees:							
Mid Dakota Clinic	9,000	-	-	-	-	-	-
IT Consulting:							
Sagitec Solution LLC	175,439	1,336	17,684	813	44,194	88,388	762
Agency MABU	18,784	-	-	-	4,696	9,392	-
Miscellaneous Consulting Fees:							
Gabriel Roeder Smith & Co	53,227	520	2,850	-	1,823	15,878	620
The Segal Company	10,168	-	-	21,596	-	22,407	-
Callan Associates, Inc.	3,234	-	-	-	-	-	-
Ice Miller, LLP	478	3	360	17	-	-	16
ND Attorney General	20,231	139	1,896	1,050	3,661	7,129	728
Totals	\$ 553,258	\$ 15,302	\$ 39,049	\$ 23,684	\$ 61,987	\$ 157,866	\$ 2,310

North Dakota Public Employees Retirement System – Financial Section
Schedule of Appropriations
June 30, 2018

	Approved 2017-2019	2018 Expenditures	Unexpended
ALL FUND TYPES			
Salaries and Wages	6,316,169	3,099,669	3,216,500
Accrued Leave payments	0	0	0
Operating Expenses	2,692,221	1,271,096	1,421,125
Contingency	250,000	0	250,000
	<u>9,258,390</u>	<u>4,370,765</u>	<u>4,887,625</u>

Reconciliation of Administrative Expenses to Appropriated Expenditures

Administrative expenses as reflected in the financial statements	2018
Pension trust funds	<u>4,597,733</u>
Enterprise funds - Group Insurance	<u>356,794,785</u>
Total administrative expenses	<u>361,392,518</u>
Adjustments:	
Change in accrued compensated absences	58,152
Professional Fees, premiums and benefits paid pursuant to NDCC54-52-04(6)	(356,054,816)
Amortization Expense	(1,025,120)
Contribution/premium over & short	<u>31</u>
	<u><u>4,370,765</u></u>



INVESTMENT SECTION

North Dakota Public Employees Retirement System – Investment Section Report on Investment Activity



3442 East Century Avenue | P.O. Box 7100 | Bismarck, ND 58507-7100
Telephone: 701-328-9885 | Toll Free: 800-952-2970 | Fax: 701-328-9897 | www.nd.gov/rio

December 1, 2018

Board of Trustees
Members of the System

This report is a summary of the investment portfolios managed by the State Investment Board (SIB) and market environment for the fiscal year ended June 30, 2018.

Introduction

For the fiscal year ended June 30, 2018, the North Dakota Public Employees Retirement System (PERS) investment portfolio experienced a net total return of 9.19%. The Job Service Pension Plan experienced a net total return of 3.15% for the same time period, while the Retiree Health Insurance Credit Fund returned 7.15% net of fees. The investment return calculations were prepared using a monthly time-weighted rate of return methodology based upon fair values and are subject to independent review.

Economic Overview as of June 30, 2018

In the second half of the 2017 calendar year, markets were characterized by low volatility and record highs across the S&P 500, NASDAQ, and Dow Jones Industrial Average (DJIA). The Chicago Board Options Exchange Volatility Index (VIX Index), a widely used measure of expected stock market volatility, fell more than 20% in 2017, reaching an all-time low in November. The U.S. economy was supported by strong GDP growth on the back of consumer spending and low unemployment. Growth was further fueled by the passing of significant tax reform which cut corporate taxes in addition to reducing personal tax rates. International equities also performed well in the second half of calendar year 2017, bolstered by global growth. Emerging markets were a notable outperformer during the year as the region was supported by a weakening dollar and a global appetite for risk assets. Commodities also appreciated in the second half of calendar year 2017. Oil prices climbed dramatically on the back of global demand, particularly from China. The Federal Open Market Committee elected not to hike rates in its September meeting, but increased the targeted federal funds rate by 25 basis points (0.25%) in December. Investors' search for yield continued in the second half of calendar year 2017 which drove up both high yield and investment grade credit prices.

The beginning of the 2018 calendar year witnessed a continuation of 2017 market trends. Equities roared throughout January and the VIX approached its November lows. However, the seemingly impervious bull market showed signs of weakness in February as markets were rattled by a labor report that released low unemployment figures and rising wages. These signals were interpreted to be inflationary and on February 5th, the VIX spiked 116% as investors feared an accelerated rate hike schedule by the Federal Reserve. The expectations of inflation also impacted bond prices as yields rose. By the end of the first quarter, both bond and equity markets were negative in the U.S. In the second quarter, markets recovered as economic growth continued and corporate earnings remained strong. Headlines were soon dominated by geopolitical tensions as the U.S. launched an agenda of protectionist trade policies. Small cap equities outperformed larger peers as investors sought insulation from global conflict. Growth outperformed value, with the Technology and Consumer Discretionary sectors driving gains. Emerging Markets were challenged in 2018, hindered by a stronger dollar and global trade tensions. European markets were mixed, as generally positive economic data coincided with political turmoil in the way of tariffs, political scandal in Spain and a new populist coalition government in Italy. Rates in the U.S. climbed in 2018, with the Federal Reserve announcing 25 basis point hikes in both the first and second quarters.

U.S. GDP growth was strong during fiscal year 2018. The third estimate of GDP growth for the quarter ended June 30, 2018, in the U.S. reported an annualized rate of 4.2%. Euro zone GDP increased 2.1% over the same period.

Positive growth and low unemployment in both regions have been overshadowed by the looming specter of trade wars and a potential slowing of the current bull market.

Domestic Equity

The fiscal year ended June 30, 2018, witnessed strong performance across U.S. equities, although returns generally fell short of the impressive figures posted in the 2017 fiscal year. The S&P 1500 Index, a broad market indicator for the U.S. stock market, finished the period up 14.50%. With a continuation of the prior fiscal year's trends, the S&P 600, a gauge of small cap stock performance, again outperformed its large cap peers. The S&P 600 rose 20.50% while the S&P 500 returned 14.37%. During the year, growth stocks significantly outperformed value stocks with the Russell 3000 Growth Index appreciating 22.47% versus a gain of 7.25% for the Russell 3000 Value Index.

International Equity

Developed international equity returns, as represented by the MSCI EAFE Index, also fell short of the returns achieved in the 2017 fiscal year. In the 2018 fiscal year, the index returned 6.84%, falling well short of the 20.27% gain of the prior fiscal year. Growth outpaced value in the international developed equity space. For the trailing 12-months ended June 30, 2018, the MSCI EAFE Value Index increased 4.25% while the MSCI EAFE Growth Index rose 9.41%. Emerging market equity returns were also positive, yet shy of those achieved in fiscal year 2017. The MSCI Emerging Markets Index returned 8.20% over the trailing 12-months ended June 30, 2018, after rising an impressive 23.75% for the trailing 12-months ended June 30, 2017. Overall, international stock markets underperformed those of the U.S.

Private Equity

Private equity continued to perform well in fiscal year 2018 as institutional investors placed significant capital into new programs. According to PitchBook, a private equity data services company, 824 new partnerships were formed raising \$476 billion in commitments during the past 12 months. Compared to fiscal year 2017, this is a decrease in the total number of new partnerships created (1,128), but an increase in dollars invested (\$322 billion). Due to the nature of private equity performance measurement, relative comparisons of fund performance with benchmarks are inherently ambiguous.

Domestic Fixed Income

The U.S. bond market, as measured by the Bloomberg Aggregate Bond Index, fell 0.40% in fiscal year 2018. The Fed increased their target overnight rate three times during the period and rates rose across the curve, but particularly in the front end. The federal funds target rate range ended the fiscal year at 1.75% to 2.00%. Consequently, the Bloomberg Government/Credit Index fell 0.63% over the 12-month period and the Bloomberg Government Long Index dropped 0.13%. Credit oriented indexes produced mixed results during the period with the Bloomberg Credit index falling 0.65% and the Bloomberg Corporate High Yield Indexes rising 2.62%.

International Fixed Income

International developed fixed income markets performed well in the fiscal year 2018. The FTSE Non-U.S. World Government Hedged Bond Index climbed 3.56%. The FTSE Non-U.S. World Government Unhedged Bond Index produced a slightly lower 3.22% return. Sovereign yields in Europe declined during the fiscal year, although Italian government yields spiked in May of 2018 following political turmoil. The FTSE Euro Government Bond Index rose 4.10% in the fiscal year 2018. Emerging market countries, which have a credit perception similar to high yield, gave back some of the gains achieved in recent years. The JP Morgan Emerging Markets Bond Index Plus lost 1.60% over the 12-month period.

Real Estate

The NCREIF Property Index, a measure of the domestic direct private real estate market, gained 7.19% during the 2018 fiscal year. The index was positive in each of the four quarters, extending its winning streak to 34 straight quarters. The FTSE NAREIT Equity Index, a measure of the public real estate securities market, climbed 3.50% in fiscal year 2018, rebounding from the prior fiscal year's losses.

Timber

The timber sector experienced small declines to its market value and a modest increase in acreage during fiscal year 2018. As of June 30, 2018, the total size of the NCREIF Timberland Property Index was \$25.3 billion, representing approximately 14.0 million acres of land. Of the total index, the South region remains the largest, representing \$16.7 billion in market value and 9.5 million acres of land. For the fiscal year ending June 30, 2018, the NCREIF Timberland Property Index rose moderately, returning 3.57%, consisting of a 1.31% appreciation return and a 2.23% income return. The Northwest was the best performing region gaining 9.14%.

Infrastructure

By definition, infrastructure assets are essential to the economic health and productivity of civilized society. They include the basic facilities, services, and installations needed for the functioning of a community, such as transit and communications systems; both potable and sewage water lines; and electricity access. They also include such public entities as schools, post offices, and incarceration facilities. Most of these facilities have traditionally been owned and regulated by municipalities and states. The private sector's participation has been limited, to varying degrees, to the areas of design, construction, and operation. Budget and fiscal pressures can limit the ability of public authorities to maintain existing infrastructure, much less to build new facilities required by a growing population. In response to these problems, many municipalities and states have sold or are contemplating the sale of their infrastructure assets to private investors. Existing sources and studies of private infrastructure funds and benchmarks suffer from major limitations and cannot be considered representative of the performance of underlying assets, therefore relative comparisons are not meaningful.

Summary

Fiscal year 2018 was marked by strong investment returns across a variety of risk assets. With respect to relative performance, the main PERS plan outperformed its respective policy benchmark for the year, while the Retiree Health Insurance Credit Fund and Job Service Pension Plan underperformed. Performance was most favorably impacted by exposure to domestic and international equities, whereas international fixed income and timberland detracted from total fund performance.

While heartened by last year's performance, the North Dakota State Investment Board and Staff take a long-term perspective in its asset allocation, investment decisions, and performance evaluation. Over the past five years ending June 30, 2018, the main PERS Plan, Job Service Pension Plan and Retiree Health Insurance Credit Fund returned 8.33%, 6.15%, and 7.70%, respectively; over the past ten years, which most closely approximates the most recent market cycle, they returned 5.81%, 5.52% and 7.04%, respectively.

Going forward, the State Investment Board and Staff will continue to focus on monitoring and managing strategic asset allocations that prudently balance the menu of risks deemed acceptable, particularly given elevated valuations of some asset classes as we enter the tenth year of continued economic expansion in the U.S. This includes carefully selecting and sizing a range of strategies and managers that we believe can achieve our clients' investment objectives in a sound fiduciary manner.

Sincerely,



DARREN SCHULZ, CFA
Deputy Chief Investment Officer



DAVID HUNTER
Executive Director/Chief Investment Officer

North Dakota Public Employees Retirement System – Investment Section Investment Policies

By state law, PERS and HPRS assets are invested by the North Dakota State Investment Board (SIB). This change became effective July 1, 1989, with the primary purpose being to achieve cost savings through pooling of assets for investment. The System also contracts with the SIB to invest the assets of the Job Service Retirement Plan and the Retiree Health Insurance Credit Plan (RHIC).

State law requires that the SIB apply the prudent investor rule when investing funds under its supervision. The “prudent investor rule” means fund fiduciaries shall exercise the judgment and care, similar to that of an institutional investor who exercises ordinary prudence, discretion, and intelligence when managing the assets of large investments entrusted to it. The funds belonging to the System must be invested exclusively for the benefit of the members and the beneficiaries in accordance with the System’s investment goals and objectives.

The Retirement Board is responsible for establishing policies on investment goals and objectives and asset allocation, which are to be viewed over the long term. The investment goals for PERS and HPRS are: to accumulate sufficient wealth through a diversified portfolio of investments which will enable the State of North Dakota to pay all current and future retirement benefits and expense obligations of the Fund and, to obtain investment returns in excess of that needed to allow for increases in a retiree’s annuity to maintain the purchasing power of their retirement benefit.

The Board acknowledges the material impact that funding the pension plan has on the State’s financial performance. To enable the State to continue offering secure pension benefits to plan participants, the Board believes that the Fund should pursue the following secondary goals:

- Stabilize the employee and employer contributions needed to fund the Plan over the long term.
- Avoid both substantial volatility in contributions and sizable fluctuations in the funding status of the plan.

The investment performance objectives for the PERS, HPRS, Job Service and RHIC plans are:

- The fund’s rate of return, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.
- The fund’s risk, measured by the standard deviation of net returns, should not exceed 115% of the policy benchmark over a minimum evaluation period of five years.
- The risk-adjusted performance of the fund, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.

The investment goals for the Job Service Retirement Plan are:

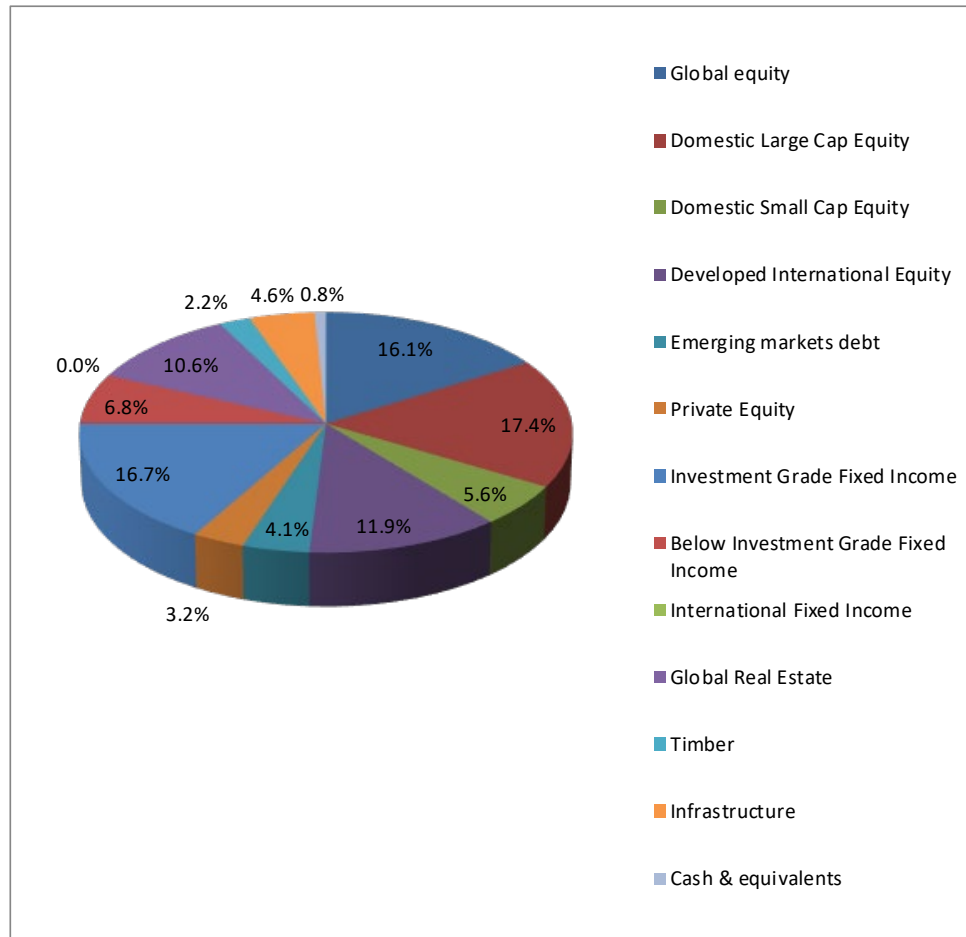
- To maintain a level of surplus sufficient to eliminate the need for future contributions.
- To achieve a rate of return which exceeds the rate of inflation, as measured by the Consumer Price Index, by 3.0 percentage points per year (based on current actuarial assumptions of 4.75% return and 2-3% inflation), over a complete market cycle.
- To maximize the Plan’s surplus to increase future benefit payments as a secondary objective.

The investment goals for the Retiree Health Insurance Credit Plan are:

- To accumulate sufficient wealth through a diversified portfolio of investments which will enable the State of North Dakota to pay all current and future retirement benefits and expense obligations of the fund.
- To obtain an investment return in excess of that needed to allow for increases in a retiree’s credit to maintain the purchasing power of their benefit.

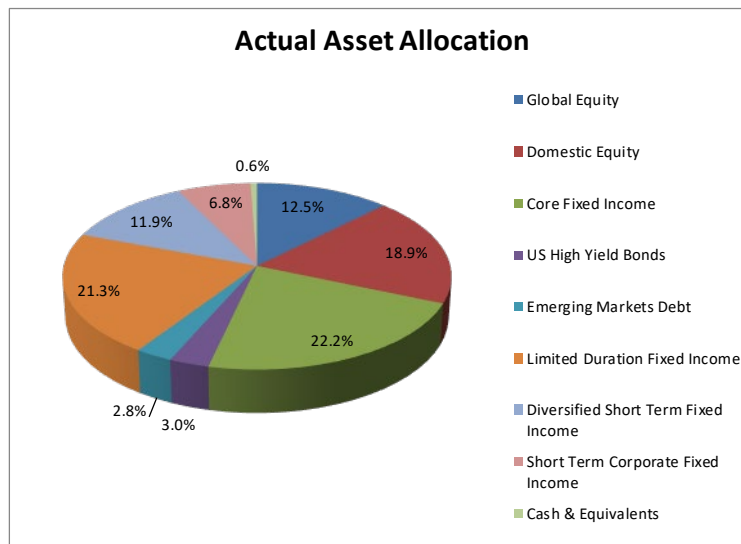
The SIB is responsible for carrying out the Retirement Board’s investment goals, objectives and policies; implementing the asset allocation plan submitted by the System, maintaining a separate accounting and preparing periodic investment performance reports for the System funds under their authority. The System’s assets may be pooled with other funds, at the discretion of the SIB.

Public Employees and Highway Patrolmen's Retirement Systems Asset Allocation - June 30, 2018



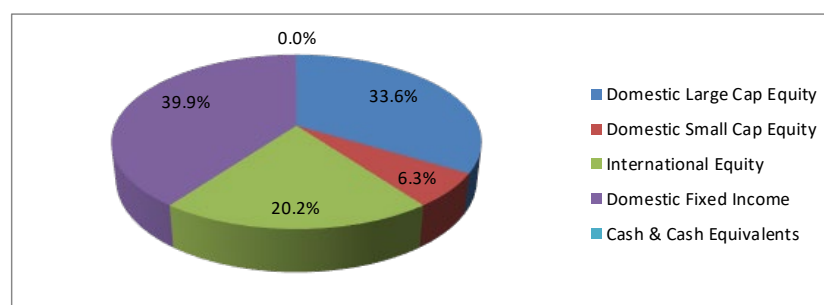
<u>Asset Class</u>	<u>Market Value</u>	<u>Actual %</u>	<u>Policy %</u>
Global equity	\$ 485,448,196	16.1%	16.0%
Domestic Large Cap Equity	525,132,360	17.4%	15.8%
Domestic Small Cap Equity	169,667,307	5.6%	4.8%
Developed International Equity	358,602,100	11.9%	11.0%
Emerging markets debt	123,245,453	4.1%	3.4%
Private Equity	96,041,062	3.2%	7.0%
Investment Grade Fixed Income	504,520,535	16.7%	13.0%
Below Investment Grade Fixed Income	206,591,176	6.8%	5.0%
International Fixed Income	-	0.0%	5.0%
Global Real Estate	319,043,707	10.6%	11.0%
Timber	65,236,240	2.2%	3.0%
Infrastructure	139,275,454	4.6%	5.0%
Cash & equivalents	24,962,756	0.8%	0.0%
Total	\$ 3,017,766,348	100.0%	100.0%

Job Service Retirement Plan Asset Allocation - June 30, 2018



Asset Class	Market Value	Actual %	Policy %
Global Equity	\$ 11,923,776	12.5%	12.0%
Domestic Equity	18,114,765	18.9%	18.0%
Core Fixed Income	21,151,334	22.2%	23.0%
US High Yield Bonds	2,891,070	3.0%	3.0%
Emerging Markets Debt	2,699,441	2.8%	3.0%
Limited Duration Fixed Income	20,409,568	21.3%	22.0%
Diversified Short Term Fixed Income	11,403,398	11.9%	12.0%
Short Term Corporate Fixed Income	6,545,794	6.8%	7.0%
Cash & Equivalents	550,890	0.6%	0.0%
Total	\$ 95,690,036	100.0%	100.0%

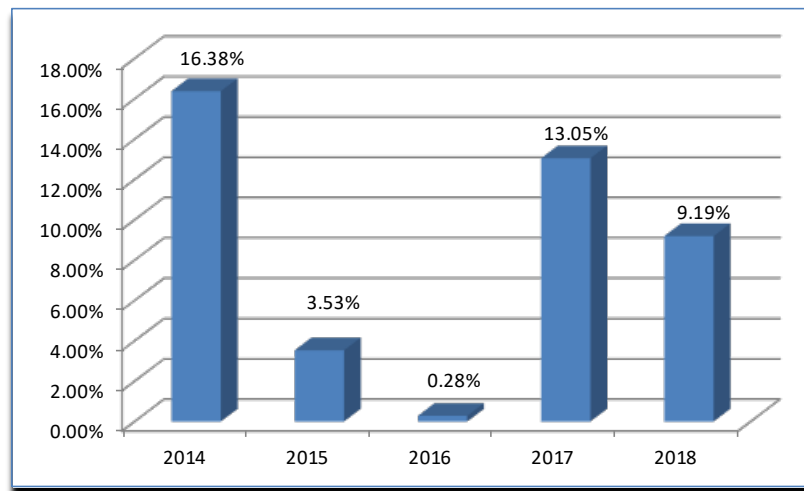
Retiree Health Insurance Credit Program Asset Allocation - June 30, 2018



Asset Class	Market Value	Actual %	Policy %
Domestic Large Cap Equity	\$ 42,542,450	33.6%	33.0%
Domestic Small Cap Equity	7,980,966	6.3%	6.0%
International Equity	25,558,379	20.2%	21.0%
Domestic Fixed Income	50,509,227	39.9%	40.0%
Cash & Cash Equivalents	14,147	0.0%	0.0%
Total	\$ 126,605,170	100.0%	100.0%

North Dakota Public Employees Retirement System – Investment Section
Investment Results

Public Employees and Highway Patrolmen's Retirement Systems Investment Results



Public Employees and Highway Patrolmen's Retirement Systems (PERS)
Schedule of Investment Results⁽¹⁾
For the Five Years Ended June 30, 2018

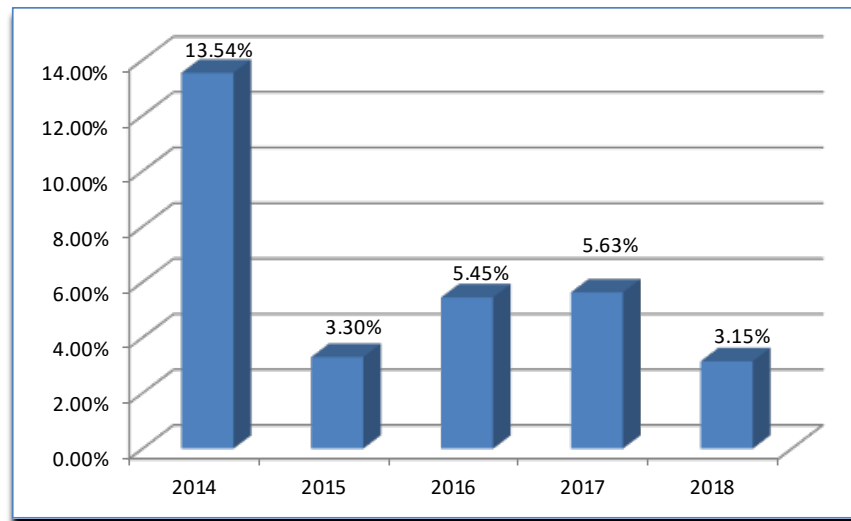
	2014	2015	2016	2017	2018	Annualized 3 Year	Annualized 5 Year
Total Fund (PERS)	16.38%	3.53%	0.28%	13.05%	9.19%	7.37%	8.33%
CPI	2.04%	-0.38%	0.64%	1.50%	3.09%	1.74%	1.37%
Global Equity ⁽²⁾	23.25%	4.67%	-7.27%	20.57%	10.52%	7.31%	9.49%
MSCI World	24.05%	1.43%	-2.78%	18.20%	11.09%	8.48%	9.94%
Large Cap Domestic Equities	25.21%	9.48%	4.52%	16.20%	15.99%	12.10%	13.98%
Russell 1000	25.35%	7.37%	2.93%	18.03%	14.54%	11.64%	13.37%
Small Cap Domestic Equities	24.73%	5.77%	-7.04%	20.08%	17.69%	9.52%	11.52%
Russell 2000	23.64%	6.49%	-6.73%	24.60%	17.57%	10.96%	12.46%
Developed International Equities	26.19%	-3.10%	-7.92%	21.05%	10.30%	7.13%	8.36%
MSCI EAFE	23.57%	-4.22%	-10.16%	20.27%	7.04%	4.74%	6.34%
Emerging Markets Equities	12.58%	-0.86%	-9.26%	21.55%	9.46%	6.48%	6.06%
MSCI Emerging Markets Net	14.31%	-5.12%	-12.05%	23.75%	8.20%	5.60%	5.01%
Private Equity ⁽³⁾	4.07%	-5.39%	-7.20%	11.12%	5.27%	2.77%	1.33%
Investment Grade Fixed Income	5.64%	3.66%	5.00%	3.65%	1.60%	3.41%	3.86%
Barclays Aggregate	4.37%	1.86%	6.00%	-0.32%	-0.40%	1.72%	2.27%
Below Investment Grade Fixed Income	13.51%	2.53%	0.28%	12.86%	5.25%	6.01%	6.57%
Bloomberg High Yield Corp 2% Issuer Cap	11.72%	-0.39%	1.65%	12.69%	2.62%	5.54%	5.52%
International Fixed Income	8.58%	-9.37%	7.50%	0.79%	0.00%	N/A	N/A
BC Global Aggregate ex US	9.42%	-13.19%	11.24%	-3.80%	0.00%	N/A	N/A
Global Real Estate	16.77%	15.78%	11.34%	9.13%	7.70%	9.38%	11.88%
NCREIF Total	11.21%	12.98%	10.64%	6.97%	7.19%	8.25%	9.77%
Timber ⁽²⁾	2.62%	3.94%	4.34%	-9.44%	-2.52%	-2.70%	-0.35%
NCREIF Timber	9.92%	10.02%	3.39%	3.35%	3.57%	3.43%	6.00%
Infrastructure ⁽²⁾	9.50%	1.23%	2.88%	9.21%	7.37%	6.45%	5.75%
CPI	2.04%	-0.38%	0.64%	1.50%	3.09%	1.74%	1.37%
Cash	0.04%	0.07%	0.29%	0.74%	1.47%	0.83%	0.52%
90 Day T-bills	0.05%	0.02%	0.19%	0.49%	1.36%	0.68%	0.42%

⁽¹⁾The investment return calculations were prepared using a monthly time-weighted rate of return methodology based upon market values

⁽²⁾This asset class has less than the indicated years under management due to the addition of this asset class during fiscal year 2012

⁽³⁾It has been determined that there is no benchmark that is an accurate reflection of the System's investments in this asset class. For total fund policy purposes, the actual asset class return is used.

Job Service Retirement Plan
Investment Results



Job Service Retirement Plan
Schedule of Investment Results⁽¹⁾⁽⁴⁾
For the Five Years Ended June 30, 2018

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	Annualized <u>3 Year</u>	<u>5 Year</u>
Total Fund	13.54%	3.30%	5.45%	5.63%	3.15%	4.74%	6.15%
CPI	2.04%	-0.38%	0.64%	1.50%	3.09%	1.74%	1.37%
Global Equity ⁽²⁾	23.25%	4.67%	6.41%	10.58%	8.38%	8.44%	10.70%
MSCI World ⁽⁴⁾	24.05%	1.43%	-	-	-	-	-
Large Cap Domestic Equities	25.21%	9.48%	-	-	-	-	-
Russell 1000	25.35%	7.37%	-	-	-	-	-
Small Cap Domestic Equities	24.73%	5.77%	-	-	-	-	-
Russell 2000	23.64%	6.49%	-	-	-	-	-
Developed International Equities ⁽³⁾	26.19%	-	-	-	-	-	-
MSCI EAFE	23.57%	-	-	-	-	-	-
Investment Grade Fixed Income	5.64%	3.67%	-	-	-	-	-
Barclays Aggregate	4.37%	1.86%	-	-	-	-	-
Below Investment Grade Fixed Income	13.51%	2.54%	-	-	-	-	-
Barclays High Yield Corp 2% Issuer Cap	11.72%	-0.39%	-	-	-	-	-
International Fixed Income	8.58%	-9.37%	-	-	-	-	-
BC Global Aggregate ex US	9.42%	-13.19%	-	-	-	-	-
Weighted Benchmark - Global Equity	-	-	-0.94%	18.86%	13.51%	10.15%	11.47%
Global Fixed Income	-	-	4.87%	2.19%	0.92%	2.65%	3.33%
Weighted Benchmark - Global Fixed Income	-	-	3.53%	0.98%	0.30%	1.60%	2.14%
Cash	0.04%	0.06%	0.29%	0.75%	1.44%	0.83%	0.52%
90 Day T-bills	0.05%	0.02%	0.19%	0.49%	1.36%	0.68%	0.42%

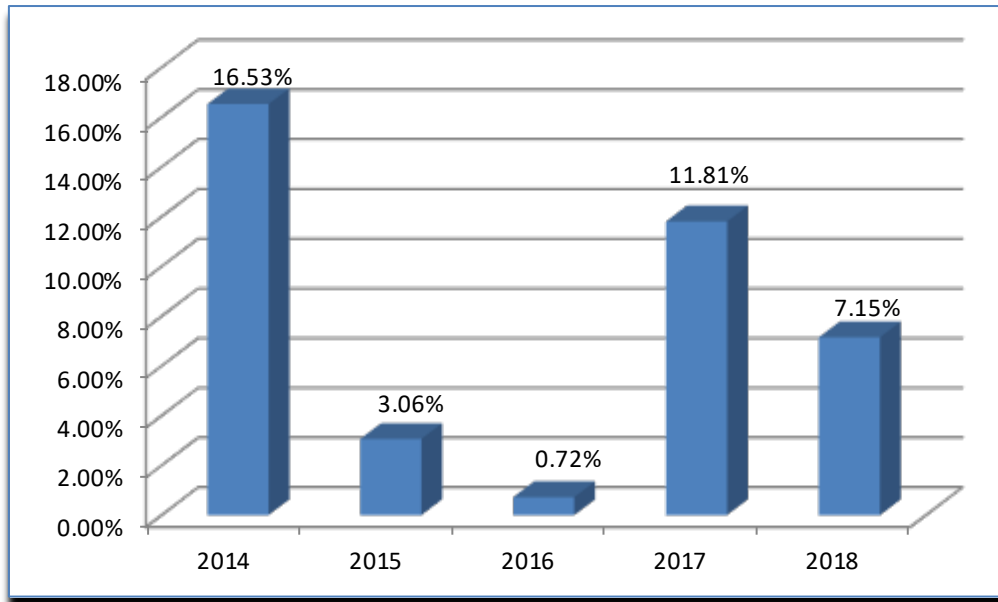
⁽¹⁾The investment return calculations were prepared using a monthly time-weighted rate of return methodology based upon market values

⁽²⁾This asset class has less than the indicated years under management due to the addition of this asset class during fiscal year 2012

⁽³⁾Use of this asset class was discontinued during fiscal year 2015

⁽⁴⁾Mid year 2016 the investments were removed from pension pools and were directly managed

Retiree Health Insurance Credit Program Investment Results



Retiree Health Insurance Credit Plan Schedule of Investment Results⁽¹⁾ For the Five Years Ended June 30, 2018

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	Annualized	
						<u>3 Year</u>	<u>5 Year</u>
Total Fund	16.53%	3.06%	0.72%	11.81%	7.15%	6.46%	7.70%
Large Cap Domestic Equity	24.89%	7.38%	2.49%	17.50%	14.11%	11.18%	12.91%
Russell 1000	25.35%	7.37%	2.93%	18.03%	14.54%	11.64%	13.37%
Small Cap Domestic Equity	23.77%	5.99%	-5.67%	17.72%	14.42%	8.31%	10.66%
Russell 2000	23.64%	6.49%	-6.73%	24.60%	17.57%	10.96%	12.46%
International Equity	21.43%	-3.02%	-11.04%	21.47%	8.83%	5.56%	6.64%
MSCI EAFE	23.57%	-4.22%	-10.16%	20.27%	6.84%	4.90%	6.44%
Core Plus Fixed Income	5.73%	1.45%	4.90%	2.42%	0.10%	2.46%	2.81%
Barclays Aggregate	4.37%	1.86%	6.00%	-0.32%	-0.40%	1.72%	2.27%

⁽¹⁾The investment return calculations were prepared using a monthly time-weighted rate of return methodology based upon market values

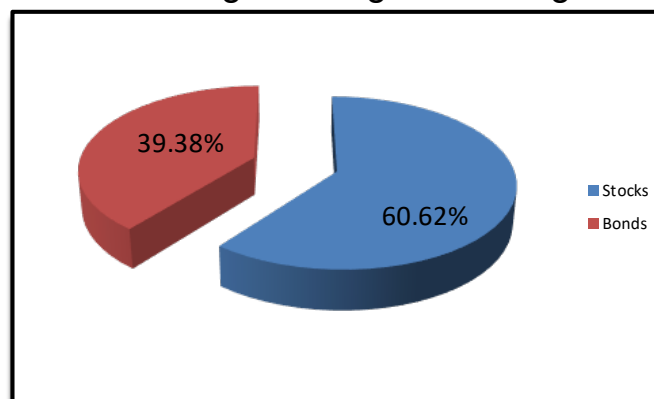
Largest Holdings by Market Value at June 30, 2018

Stocks		Fair Value
Microsoft Corporation	\$	27,051,100
Apple Incorporated		19,000,263
Amazon Company Incorporated		14,576,442
United Health Group Incorporated		13,393,958
Visa Incorporated		13,274,529
JP Morgan Chase & Company		12,420,844
Alphabet Incorporated (Class C)		10,872,726
Home Depot Incorporated		10,560,122
Dow Dupont Incorporated		10,567,962
Facebook Incorporated		10,497,086

Bonds		
FNMA Single Family Mortgage 4% 30 Years Settles August	\$	21,096,417
FNMA Single Family Mortgage 3.5% 30 Years Settles July		12,775,049
US Treasury 2.125% Due 09-30-2021		12,677,561
FNMA Single Family Mortgage 3% 30 Years Settles July		10,436,419
US Treasury Bonds 2.25% Due 08-15-2027		7,113,863
US Treasury Bonds 2.5% Due 05-15-2046		6,604,459
US Treasury Notes 2% Due 01-31-2020		5,975,404
FNMA Single Family Mortgage 3.5% 30 Years Settles August		5,636,508
US Treasury Bonds 3.0% Due 02-15-2048		5,091,937
FNMA Single Family Mortgage 3% 30 Years Settles August		4,988,667

A complete list of all holdings is available upon request

Percentage of Largest Holdings



Public Employees and Highway Patrolmen's Retirement System
Schedule of Investment Fees
For the Fiscal Year Ended June 30, 2018

Investment Manager's Fees:	Assets Under Management	Fees
Global Equity	\$485 Million	\$ 1,681,241
Domestic Large Cap Equity	\$525 Million	(440,474)
Domestic Small Cap Equity	\$170 Million	726,715
Developed International Equity	\$359 Million	1,112,638
Emerging Markets Equity	\$123 Million	1,060,299
Private Equity	\$96 Million	1,649,381
Investment Grade Fixed Income	\$505 Million	1,905,957
Below Investment Grade Fixed Income	\$207 Million	2,500,721
International Fixed Income	\$ 0 Million	291,762
Global Real Estate	\$319 Million	3,481,736
Timber	\$65 Million	443,112
Infrastructure	\$139 Million	1,557,534
Cash & Equivalents	\$25 Million	23,636
Total Investment Managers' Fees		<u>\$ 15,994,258</u>
 Other Investment Service Fees:		
Custodian Fees	\$3.02 Billion	\$ 278,632
Investment Consultant Fees	\$3.02 Billion	139,021
SIB Administrative Fees	\$3.02 Billion	403,185
Total Investment Service Fees		<u>\$ 820,838</u>

North Dakota Public Employees Retirement System – Investment Section
Schedule of Investment Fees

Job Service Retirement Plan
Schedule of Investment Fees
For the Fiscal Year Ended June 30, 2018

	<u>Assets Under Management</u>		<u>Fees</u>
Investment Management Fees	\$96 Million	\$	435,071
Custodian Fees	\$96 Million		10,608
SIB Contract Fees	\$96 Million		14,256
Total Investment Expense		\$	<u>459,935</u>

Retiree Health Insurance Credit Plan
Schedule of Investment Fees
For the Fiscal Year Ended June 30, 2018

Other Investment Service Fees:	<u>Assets Under Management</u>		<u>Fees</u>
Investment Management Fees	\$127 Million	\$	530,083
Custodian Fees	\$127 Million		8,209
SIB Contract Fees	\$127 Million		16,916
Total Investment Service Fees		\$	<u>555,208</u>

Defined Contribution Investments

The Defined Contribution Retirement Plan (Plan) is a long-term retirement savings vehicle and is intended as a source of retirement income for eligible participants. Each participating member shall direct the investment of the individual's accumulated employer and employee contributions and earnings to one or more investment choices within available categories of investment provided by the Board. The available investment options cover a broad range of investment risk and rewards appropriate for this kind of retirement savings program. Participants bear the risk and reap the rewards of investment returns that result from the investment options that they select. TIAA is the record-keeper for the Plan.

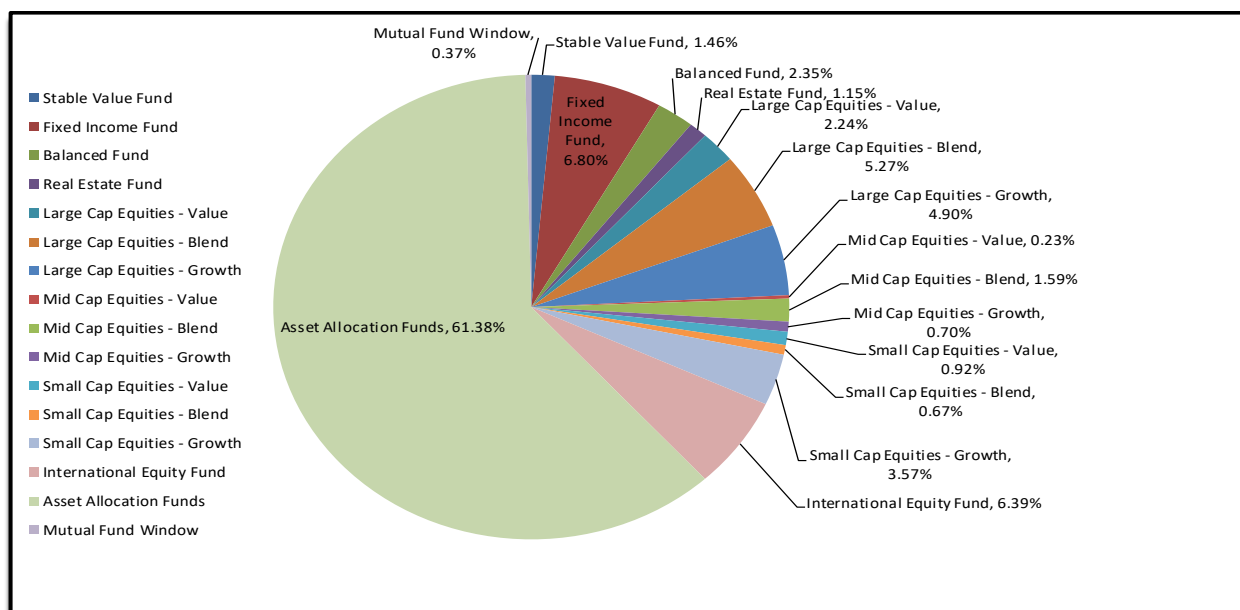
The Board has adopted an investment policy that serves the following purposes:

- Establishes an investment program that will allow plan participants the opportunity to structure an investment strategy that meets their individual return objectives and risk tolerances
- Defines the investment categories offered by the Plan
- Establishes benchmarks and performance standards for each investment category to evaluate each fund's performance
- Establishes a procedure for reporting and evaluating the various funds and a methodology for monitoring their performance
- Defines the procedures for investment fund evaluation and formal fund review.

North Dakota Public Employees Retirement System – Investment Section
Defined Contribution Schedule of Investment Results

Defined Contribution Retirement Plan
Investment Options - June 30, 2018

<u>Investment Options</u>	<u>Market Value</u>	<u>Percent</u>
Stable Value Fund	\$ 206,207	1.46%
Fixed Income Fund	954,996	6.80%
Balanced Fund	330,384	2.35%
Real Estate Fund	161,637	1.15%
Large Cap Equities - Value	313,753	2.24%
Large Cap Equities - Blend	739,894	5.27%
Large Cap Equities - Growth	688,031	4.90%
Mid Cap Equities - Value	32,678	0.23%
Mid Cap Equities - Blend	222,746	1.59%
Mid Cap Equities - Growth	97,723	0.70%
Small Cap Equities - Value	129,742	0.92%
Small Cap Equities - Blend	93,924	0.67%
Small Cap Equities - Growth	500,902	3.57%
International Equity Fund	896,332	6.39%
Asset Allocation Funds	8,614,526	61.38%
Mutual Fund Window	51,270	0.37%
Total	<u>\$ 14,034,745</u>	<u>100.00%</u>



North Dakota Public Employees Retirement System – Investment Section
Defined Contribution Schedule of Investment Results

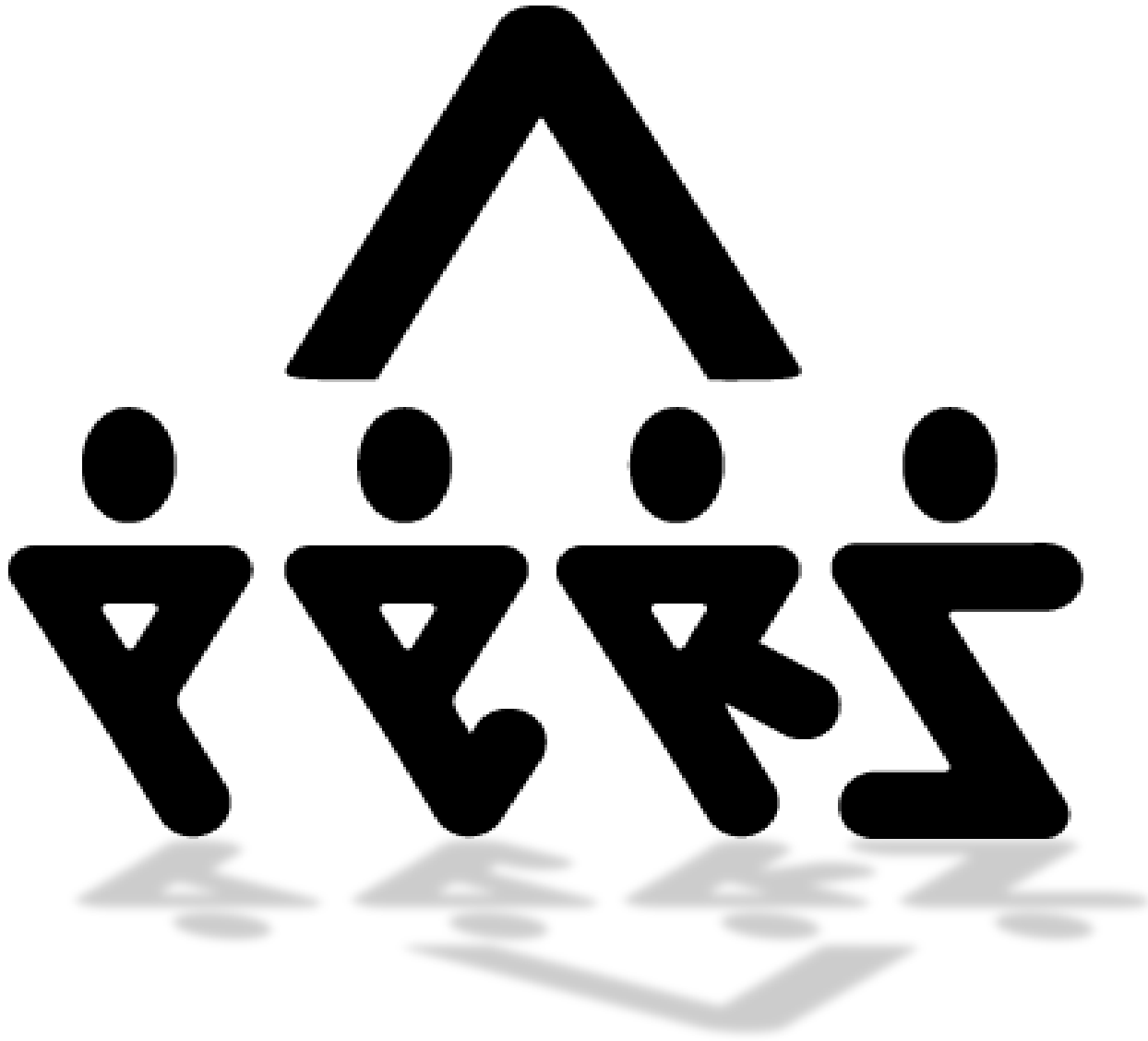
Defined Contribution Retirement Plan - Schedule of Investment Results
For the Five Years Ended June 30, 2018

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>3-Year Annualized</u>	<u>5-Year Annualized</u>
Stable Value Fund/Money Market Fund:							
Vanguard Prime Money Market (2)	0.02%	0.01%	0.13%	0.29%	1.26%	0.61%	0.37%
Wells Fargo Stable Fund (2)	0.70%	0.78%	0.89%	0.52%	1.24%	1.05%	0.92%
3 Month T-Bill Index (2)	0.04%	0.02%	0.41%	0.30%	1.33%	0.64%	0.39%
Fixed Income Fund:							
PIMCO Real Return Admin (2)	5.27%	-3.29%	3.05%	1.45%	1.45%	0.00%	-0.03%
PIMCO Total Return Bond Fund	4.62%	1.04%	4.05%	3.33%	3.33%	2.32%	2.50%
Vanguard Total Bond Market Index Fund	N/A	N/A	N/A	-0.44%	-0.53%	1.67%	2.20%
Barclays Aggregate Bond Index	4.37%	1.86%	6.00%	2.27%	-0.40%	1.72%	2.27%
Taxable Bond Fund Universe (2)	5.47%	-0.58%	0.30%	3.68%	-0.68%	2.88%	3.49%
Prudential High Yield Z (2)	11.63%	0.03%	2.42%	5.33%	3.01%	5.88%	5.80%
ML High Yield Bond Fund Index (2)	11.84%	-0.55%	1.71%	4.91%	2.53%	5.55%	5.51%
High Yield Bond Universe (2)	10.50%	-1.01%	2.92%	4.09%	2.23%	4.20%	4.36%
Templeton Global Bond Adv (2)	7.41%	-1.62%	-4.26%	3.29%	-1.88%	1.23%	1.85%
Citi World Govt Bond Index (2)	6.85%	-9.02%	11.26%	4.49%	1.90%	2.81%	1.11%
World Bond Fund Universe (2)	6.93%	-5.52%	4.77%	4.42%	0.64%	2.25%	1.48%
Real Estate Fund:							
Cohen & Steers Realty Shares (2)	14.14%	5.32%	21.31%	4.03%	4.36%	8.25%	8.80%
FTSE NAREIT All Equity REITs Index (2)	13.02%	4.33%	24.04%	2.70%	3.50%	8.06%	8.31%
Real Estate Fund Universe (2)	13.87%	5.05%	19.50%	2.89%	3.39%	7.22%	7.70%
Balanced Fund:							
T Rowe Price Capital Appreciation (2)	18.45%	8.47%	6.63%	8.98%	8.06%	8.86%	10.63%
60% Large Cap Value Univ & 40% Taxable Bond Universe (2) □	15.59%	1.68%	0.07%	4.80%	5.15%	6.16%	7.36%
60% Russell 1000 Value & 40% Agg Bond Index (2)	16.03%	3.22%	4.14%	3.73%	3.90%	5.64%	7.11%
Large Cap Equities - Value:							
Hartford Dividend & Growth (2)	23.40%	4.26%	2.72%	6.89%	9.82%	9.97%	11.34%
T Rowe Price Equity Income (2)	20.66%	-0.34%	1.28%	5.57%	9.51%	9.36%	9.48%
Russell 1000 Value Index	22.33%	4.13%	2.90%	4.70%	6.77%	8.26%	10.34%
Large Cap Value Fund Universe (2)	23.81%	3.19%	-0.09%	5.55%	9.04%	8.35%	9.94%
Large Cap Equities - Blend:							
Vanguard 500 Index Signal (2)	24.55%	7.40%	3.75%	9.31%	14.34%	11.89%	13.38%
Vanguard Dividend Growth Fund	19.39%	6.19%	9.13%	9.94%	10.57%	10.54%	11.36%
S&P 500 Index	23.74%	7.42%	3.99%	9.34%	14.37%	11.93%	13.42%
Large Cap Blend Fund Universe (2)	23.83%	5.46%	-2.33%	8.65%	12.58%	9.93%	11.73%
Large Cap Equities - Growth:							
Well's Fargo Adv Growth Adm (2)	22.03%	9.71%	-4.89%	18.12%	29.03%	13.82%	14.57%
Russell 3000 Growth Index	26.75%	10.69%	1.88%	13.69%	22.47%	14.63%	16.14%
Franklin Growth Adv (2)	26.71%	10.94%	0.37%	13.77%	16.97%	12.70%	15.01%
Russell 1000 Growth Index	26.92%	10.56%	3.00%	14.00%	22.50%	15.00%	16.40%
Large Cap Growth Fund Universe (2)	26.38%	9.06%	-2.33%	14.14%	20.58%	12.21%	14.37%
Mid Cap Equities - Value:							
Virtus Mid Cap Value Equity	27.99%	0.03%	-0.44%	6.68%	7.70%	9.45%	10.92%
Russell Mid Cap Value	25.21%	3.67%	3.25%	5.18%	7.60%	8.80%	11.27%
Mid Cap Value Universe (2)	27.76%	2.78%	-2.16%	4.58%	8.86%	7.99%	10.12%
Mid Cap Equities - Blend:							
Columbia Mid Cap Index A (2)	24.68%	5.92%	0.89%	5.71%	12.95%	10.37%	12.17%
S&P Mid Cap 400	25.24%	6.40%	1.33%	5.99%	13.50%	10.89%	12.69%
AMG/Fairpointe Mid Cap I (2)	30.65%	-0.33%	-9.69%	5.23%	2.31%	6.33%	9.38%
Wilshire 4500 Index	24.42%	6.14%	-3.29%	7.14%	16.45%	11.21%	13.26%
Mid Cap Blend Fund Universe (2)	27.63%	8.51%	-4.33%	6.23%	11.31%	7.96%	10.61%
Mid Cap Equities - Growth:							
Prudential Jennison Mid Cap Growth Z (2)	21.52%	10.76%	-6.47%	11.74%	13.16%	6.95%	10.49%
Russell Mid Cap Growth	23.59%	9.45%	-2.14%	11.40%	18.52%	10.73%	13.37%
Mid Cap Growth Fund Universe (2)	26.04%	8.51%	-6.43%	12.37%	18.06%	9.68%	12.31%

North Dakota Public Employees Retirement System – Investment Section
Defined Contribution Schedule of Investment Results

Defined Contribution Retirement Plan - Schedule of Investment Results
For the Five Years Ended June 30, 2018

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>3-Year Annualized</u>	<u>5-Year Annualized</u>
Small Cap Equities - Value:							
Allianz NFJ Small Cap Value	24.55%	-3.63%	-5.11%	2.70%	7.14%	7.30%	8.20%
Russell 2000 Value Index	23.23%	0.78%	-2.58%	0.54%	13.10%	11.22%	11.18%
Small Value Fund Universe (2)	22.54%	-0.18%	-4.30%	0.52%	12.44%	9.13%	9.87%
Small Cap Equities - Blend:							
DFA US Small Cap (3)	N/A	5.76%	-4.05%	1.91%	15.31%	10.38%	12.22%
Russell 2000 Index (2)	23.64%	6.49%	-6.73%	4.99%	17.57%	10.96%	12.46%
Small Blend Fund Universe (2)	23.48%	2.69%	-5.78%	3.24%	14.67%	9.41%	11.02%
Small Cap Equities - Growth:							
Brown Capital Mgmt Small Co Inv (2)	27.08%	10.83%	3.25%	17.78%	28.58%	18.63%	18.65%
Russell 2000 Growth Index	22.04%	12.34%	-10.80%	10.00%	21.90%	10.60%	13.60%
Small Growth Fund Universe (2)	24.73%	8.61%	-9.86%	10.15%	22.70%	11.04%	12.76%
International Equity Funds							
Mutual Global Discovery Z (2)	20.95%	7.42%	-5.73%	6.68%	1.44%	4.70%	7.18%
Vanguard Total International Stock Index Inv (2)	22.44%	-4.60%	-9.11%	14.79%	7.10%	5.33%	6.42%
MSCI EAFE	23.16%	-4.19%	-10.24%	13.81%	7.28%	5.07%	5.99%
International Stock Fund Universe	20.11%	-2.17%	-4.17%	14.45%	6.08%	4.56%	5.92%
Oppenheimer Developing Markets Y (2)	19.75%	-10.41%	-10.13%	18.74%	12.46%	7.40%	5.86%
MSCI Emerging Markets Index (2)	14.31%	-5.12%	-12.00%	18.43%	8.20%	5.60%	5.01%
Diversified Emerging Markets Universe (2)	14.05%	-6.98%	-9.89%	18.14%	6.09%	4.76%	4.05%
Asset Allocation Funds:							
TIAA-CREF Lifecycle Ret Income (2)	12.02%	2.23%	1.23%	5.98%	5.45%	5.02%	5.81%
Income Benchmark (1)	12.12%	2.19%	2.00%	5.08%	4.53%	4.68%	5.43%
TIAA-CREF Lifecycle 2010 (2)	13.43%	2.43%	0.88%	6.26%	5.77%	5.24%	6.25%
2010 Benchmark (1)	13.69%	2.37%	1.72%	5.34%	4.77%	4.84%	5.62%
TIAA-CREF Lifecycle 2015 (2)	14.66%	2.71%	0.44%	6.86%	6.44%	5.64%	6.78%
2015 Benchmark (1)	15.06%	2.48%	1.43%	5.78%	5.39%	5.26%	6.09%
TIAA-CREF Lifecycle 2020 (2)	16.20%	3.06%	-0.15%	7.52%	7.39%	6.16%	7.46%
2020 Benchmark (1)	16.83%	2.62%	0.91%	6.39%	6.22%	5.80%	6.70%
TIAA-CREF Lifecycle 2025 (2)	17.79%	3.27%	-0.91%	8.33%	8.54%	6.79%	8.18%
2025 Benchmark (1)	18.57%	2.77%	0.36%	7.10%	7.35%	6.52%	7.52%
TIAA-CREF Lifecycle 2030 (2)	19.33%	3.58%	-1.67%	9.14%	9.62%	7.37%	8.88%
2030 Benchmark (1)	19.82%	3.06%	-0.21%	7.82%	8.49%	7.25%	8.34%
TIAA-CREF Lifecycle 2035 (2)	20.74%	3.81%	-2.42%	9.91%	10.79%	7.95%	9.53%
2035 Benchmark (1)	21.42%	3.19%	-0.83%	8.52%	9.64%	7.97%	9.15%
TIAA-CREF Lifecycle 2040 (2)	21.72%	4.02%	-3.29%	10.58%	11.96%	8.48%	10.08%
2040 Benchmark (1)	22.37%	3.26%	-1.45%	9.19%	10.82%	8.68%	9.93%
TIAA-CREF Lifecycle 2045 (2)	21.52%	4.03%	-3.29%	11.00%	12.60%	8.89%	10.29%
2045 Benchmark (1)	22.38%	3.26%	-1.45%	9.53%	11.59%	9.15%	10.45%
TIAA-CREF Lifecycle 2050 (2)	21.63%	4.00%	-3.24%	10.96%	12.82%	9.02%	10.39%
2050 Benchmark (1)	22.38%	3.24%	-1.46%	9.63%	11.74%	9.24%	10.55%
TIAA-CREF Lifecycle 2055 (2)	21.53%	4.04%	-3.28%	11.08%	12.97%	9.15%	10.45%
2055 Benchmark (1)	22.38%	3.24%	-1.46%	9.73%	11.91%	9.34%	10.67%
TIAA-CREF Lifecycle 2060 (2)	N/A	N/A	-3.18%	11.28%	13.04%	9.25%	N/A
2060 Benchmark (1)	N/A	3.24%	-1.46%	9.73%	12.08%	9.44%	10.78%



ACTUARIAL SECTION

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System



P: 312.456.9800 | F: 312.683.3271 | www.grsconsulting.com

December 3, 2018

Board Members
North Dakota Public Employees Retirement System
Bismarck, North Dakota

Members of the Board:

At your request, we have performed an actuarial valuation which includes actuarial valuation results for funding purposes and separate actuarial valuation results for accounting purposes for the North Dakota Public Employees Retirement System ("NDPERS") as of July 1, 2018. The purpose of the funding actuarial valuation, which is performed annually, is to determine the funding status and actuarial employer contribution rate for NDPERS. The actuarial valuation was performed at the request of the Board and is intended for use by the Board and NDPERS and those designated by the Board and NDPERS. This report may be provided to parties other than the Board and NDPERS only in its entirety and only with the permission of the Board and NDPERS. GRS is not responsible for reliance upon this valuation for any other purpose, or by any other party.

Actuarial Assumptions and Methods

The actuarial valuation report was prepared using actuarial assumptions adopted by the Board as authorized under North Dakota Administrative Code Section 71-02. All actuarial assumptions used in this report are reasonable for the purposes of this actuarial valuation. There were no changes in actuarial assumptions since the previous actuarial valuation as of July 1, 2017.

Beginning with the actuarial valuation as of July 1, 2017, the Board adopted changes to the economic actuarial assumptions (excluding the salary increase assumption) and asset valuation method. The actuarial assumptions were based on a review of the economic actuarial assumptions performed by GRS.

All other actuarial assumptions used in the actuarial valuation as of July 1, 2018, were based on an experience review for the five-year period ending July 1, 2014, which was performed by the prior actuary, and were first adopted for use commencing with the July 1, 2015, actuarial valuation.

The actuarial employer contribution rate is calculated using a 20-year open period, level percentage of payroll amortization method. The remaining amortization period will be reset to 20 years in each future actuarial valuation. We believe that calculating the actuarial contribution rate using a slightly longer period would also be reasonable.

The actuarial assumptions and methods used, including the economic and demographic assumptions, the actuarial cost method and the asset valuation method, meet the Actuarial Standards of Practice issued by the Actuarial Standards Board for the funding of public sector pension plans and are set by the Board. Assumptions and methods required under GASB Statement Nos. 67 and 68 were used in the preparation of the accounting disclosures and schedules required by GASB Statement Nos. 67 and 68.

120 North LaSalle Street | Suite 1350 | Chicago, Illinois 60602-3495

Board Members
December 3, 2018
Page 2

Benefit Provisions

There were no changes in benefit provisions since the previous actuarial valuation as of July 1, 2017.

Participant Data

A total of 23,483 active members (including the Main System, Judges and Public Safety) were included in the actuarial valuation as of July 1, 2018. Between the 2017 and 2018 actuarial valuations, the number of active employees increased by 240 members, or 1.0 percent. The average annual actuarial valuation pay increased by 0.1 percent, from \$45,750 to \$45,819 between the 2017 and 2018 actuarial valuations. There were 6,532 active members who were eligible for retirement (normal, early or Rule of 85) as of July 1, 2018.

The number of benefit recipients increased from 11,103 to 11,704, or 5.4 percent, since the last actuarial valuation. The average monthly benefit increased by 5.0 percent, from \$1,181 to \$1,240. During the year ending July 1, 2018, there were 977 members awarded a benefit.

There were 5,998 inactive members as of July 1, 2018, who were vested and elected to receive a deferred benefit. The average monthly deferred benefit is \$496. There were 6,188 inactive members as of July 1, 2018, who were not vested or elected to receive a refund of contributions.

Actuarial Valuation Assets

On a market value basis, NDPERS assets had an investment return of approximately 9.15 percent (net of investment expenses). On an actuarial value of asset basis, NDPERS assets had an investment return of approximately 9.22 percent on an actuarial value of assets basis, which compares to the prior year assumed rate of return of 7.75 percent.

The actuarial value of assets is currently 96.6 percent of the market value of assets. There is \$101,391,547 in net asset gains currently being deferred that will be phased into the actuarial value of assets over the next four years.

Statutory and Actuarial Employer Contributions

The actuarially determined contribution rate is calculated as the normal cost contribution (to fund benefits accruing during the year) plus a contribution to amortize the unfunded liability. The unfunded liability contribution rate is calculated using a 20-year open period, level percentage of payroll amortization method. The remaining amortization period will be reset to 20 years in each future actuarial valuation. If employers contributed the actuarial contribution rate, the contribution rate would be expected to gradually decrease using a 20-year open amortization period as the funded ratio gradually increased. An open amortization period is expected to gradually improve the funded ratio. However, the funded ratio is not expected to reach 100 percent under this method (assuming no actuarial gains or losses) because the remaining unfunded liability at each future valuation date is re-amortized over a new 20-year period.



North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Board Members
December 3, 2018
Page 3

The contributions that are made by employers are based on fixed contribution rates that are set by statute (and not based on the actuarially determined rate). The statutory contribution rates and the actuarial contribution rates are as follows.

	Employer Contribution Rates as a % of Projected Annual Compensation for Fiscal Year Ending June 30, 2019	
	Statutory Rate	Actuarial Rate
Main System	7.12%	11.25%
Judges	17.52%	2.03%
Public Safety with prior Main System service	9.81%	7.64%
Public Safety without prior Main System service	7.93%	6.20%
Total PERS (Combined)	7.29%	11.04%

The portion of the statutory contribution that is applied toward the unfunded liability is the statutory contribution rate minus the employer normal cost rate. The unfunded liability contribution rate from the statutory contribution is significantly lower than the rate calculated using the 20-year level percentage of payroll amortization period. The unfunded liability contribution rate from the statutory contribution for the Main System rate is not high enough to amortize the unfunded liability over any period of time.

Because the statutory employer rate is higher than the actuarial employer rate (based on a 20-year amortization period) for the Judges and Public Safety Systems, the statutory employer rate amortizes the unfunded liability over a period shorter than 20 years.

We recommend an increase to the statutory contribution rate such that the unfunded liability is amortized over a period of no longer than 30 years. Based on the current actuarial valuation and the current actuarial assumptions and methods and benefit provisions, the current total statutory contribution rate of 14.12 percent (total employer and employee contributions) for the Main System is not expected to ever amortize the unfunded liability. The Main System funded ratio is projected to ultimately decrease from the current funded ratio of about 72 percent. We recommend an increase to the Main System total statutory contribution rate (to at least 16.69 percent) such that the unfunded liability is amortized over a period of no longer than 30 years and the Main System funded ratio will increase toward 100 percent.

Reliance on Others

The actuarial valuation was based upon information furnished by the NDPERS Staff, concerning benefits provided by the North Dakota Public Employees Retirement System, financial transactions, plan provisions and census data for active members, terminated members, retirees and beneficiaries as of July 1, 2018. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the NDPERS Staff.



Board Members
December 3, 2018
Page 4

The trend data in the Financial Section and the schedules and other data in this Section are prepared by NDPERS Staff with our input. Data prior to fiscal year 2016 was prepared by NDPERS Staff and the prior actuary. Specifically these exhibits are:

- Actuarial Assumptions and Cost Method
- Changes in Actuarial Assumptions and Cost Method
- Active Member Valuation Data
- Retirees and Beneficiaries Added to and Removed from the Rolls
- Solvency Test
- Analysis of Financial Experience
- Schedule of Retired Members by Type of Benefit
- Schedule of Average Monthly Benefit Payments

Accounting Schedules under GASB Statement Nos. 67 and 68

The total pension liability (actuarial accrued liability) is based on a measurement date of July 1, 2018, using the Entry Age Normal actuarial cost method. A single discount rate of 6.32 percent was used to measure the total pension liability. The single discount rate was based on the expected rate of return on pension plan investments of 7.75 percent and the municipal bond rate of 3.62 percent. All other assumptions and methods used in the funding actuarial valuation for calculation of the actuarial accrued liabilities as of July 1, 2018, were used in the GASB 67/68 actuarial valuation for calculation of the total pension liability for fiscal year ending June 30, 2018.

The net pension liability is measured as the total pension liability, less the amount of the pension plan's fiduciary net position (market value of assets) as of June 30, 2018.

Certification

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the North Dakota Public Employees Retirement System as of the actuarial valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Lance J. Weiss and Amy Williams are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

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



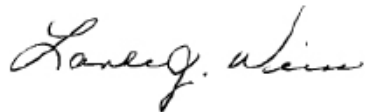
Board Members
December 3, 2018
Page 5

This report should not be relied on for any purpose other than the purpose stated.


The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant and Team Leader



Amy Williams, A.S.A., M.A.A.A., F.C.A.
Consultant

AW:nn



Actuarial Assumptions and Cost Method – Public Employees Retirement System
(Adopted July 1, 2017)

Mortality Tables:

RP-2000 Combined Healthy Mortality table, sex-distinct, with rates set back 2 years for males and 3 years for females. RP 2000 Disabled Mortality table, sex-distinct, with rates set back 1 years for males (no setback for females), with rates multiplied by 125% for post-retirement disabled mortality. Mortality rates are projected from 2014 using the Social Security Administration (SSA) Intermediate Cost scale.

The underlying tables with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date.

Disability Incidence Rates

Before Age 65:

Males: 20% of OASDI disability incidence rates

Females: 10% of OASDI disability incidence rates

Age 65 and Later : .25% per year

Sample rates are as follows:

Age	Male	Female
20	0.0120%	0.0060%
25	0.0171%	0.0085%
30	0.0220%	0.0110%
35	0.0295%	0.0147%
40	0.0440%	0.0220%
45	0.0719%	0.0360%
50	0.1212%	0.0606%
55	0.2018%	0.1009%
60	0.3254%	0.1627%
65	0.2500%	0.2500%

Rates of Separation from Active Membership:

Service and Age-Based Rates For First Five Years of Service						
Service Beginning of Year	Main System			Public Safety		
	Age					
	Under 30	30-39	40+	Under 30	30-39	40+
0	22.00%	16.00%	12.00%	25.00%	20.00%	17.00%
1	18.00%	14.00%	10.00%	23.00%	17.00%	15.00%
2	16.00%	12.00%	10.00%	20.00%	15.00%	12.00%
3	14.00%	12.00%	8.00%	17.00%	13.00%	10.00%
4	14.00%	11.00%	7.00%	15.00%	11.00%	7.00%

Age	Age-Based Rates Only After First Five Years of Service	
	Main System	Public Safety
20-24	8.80%	8.80%
25-29	8.80%	8.80%
30-34	5.50%	5.50%
35-39	4.70%	4.70%
40-44	3.90%	3.90%
45-49	3.70%	3.70%
50-54	3.40%	3.40%
55-59	0.10%	0.10%
60+	0.20%	0.20%

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

No pre-retirement termination is assumed for Judges.

Vested participants that terminate are assumed to elect the option with the greater present value:

- 1) A refund of their accumulated contributions with interest or
- 2) A deferred benefit.

Withdrawal rates end upon eligibility for early retirement. Early retirement eligibility is as follows:

Main System: Earlier of 1) age 55 and 3 years of service, and 2) eligibility for Rule of 85. For members hired after 1/1/16, earlier of 1) age 55 and 3 years of service, and 2) eligibility for Rule of 90.

Judges: Earlier of 1) age 55 and 5 years of service, and 2) eligibility for Rule of 85.

Public Safety: Age 50 and 3 years of service.

Refund of Employee Contributions

Inactive vested members are assumed to elect a refund of employee contributions in lieu of a deferred pension benefit when it is more valuable than the deferred annuity

Retirement Rates

Age	Main System		Public Safety	Judges
	Reduced	Unreduced	Unreduced	Unreduced
50		30.00%	25.00%	
51		10.00%	25.00%	
52		10.00%	25.00%	
53		10.00%	25.00%	
54		10.00%	25.00%	
55	1.00%	10.00%	10.00%	10.00%
56	1.00%	8.00%	10.00%	10.00%
57	1.00%	8.00%	10.00%	10.00%
58	1.00%	8.00%	10.00%	10.00%
59	1.00%	8.00%	10.00%	10.00%
60	2.00%	8.00%	10.00%	10.00%
61	5.00%	15.00%	10.00%	10.00%
62	10.00%	30.00%	50.00%	10.00%
63	10.00%	30.00%	50.00%	10.00%
64	10.00%	20.00%	50.00%	10.00%
65		30.00%	50.00%	20.00%
66		20.00%	20.00%	20.00%
67		15.00%	20.00%	20.00%
68		15.00%	20.00%	20.00%
69		15.00%	20.00%	20.00%
70		15.00%	20.00%	20.00%
71		15.00%	20.00%	20.00%
72		15.00%	20.00%	20.00%
73		15.00%	20.00%	20.00%
74		15.00%	20.00%	20.00%
75+		100.00%	100.00%	100.00%

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Investment Rate of Return

7.75% per annum, net of investment expenses

Annual Administrative Expenses

Prior year expenses, adjusted for inflation

Assumed expenses for 2018 are as follows:

Main System: \$2,614,397

Judges: \$11,977

Public Safety With Prior Main Service: \$38,141

Public Safety Without Prior Main Service: \$7,909

Salary Scale

Service At Beginning of Year	State Employee	Non-State Employee	Law Enforcement	Judges
0	12.00%	15.00%	20.00%	
1	9.50%	10.00%	20.00%	
2	7.25%	8.00%	20.00%	
3			10.00%	
4			10.00%	
Age				
Under 30	7.25%	10.00%	7.25%	4.00%
30-39	6.50%	7.50%	6.50%	4.00%
40-49	6.25%	6.75%	6.25%	4.00%
50-59	5.75%	6.50%	5.75%	4.00%
60+	5.00%	5.25%	5.00%	4.00%

Inflation

2.50% per annum

Payroll Growth

Main System and Public Safety: 3.75% per annum

Judges: 3.25% per annum

Marital Status

It is assumed that 75% of participants in the Main System and Public Safety and 100% of Judges have an eligible spouse at the time of retirement or pre-retirement death. The male spouse is assumed to be three years older than the female spouse

Spouses are assumed to be the opposite sex of the employees and retirees. The relatively low rate of same-sex spouses does not have a material actuarial impact on the actuarial valuation results

Part Time Employees

One full year of service is credited for each future year of service.

Split Service

Liabilities are held in both plans based on service in each plan, and are based on the actuarial assumptions of the plan in which they are currently active

North Dakota Public Employees Retirement System – Actuarial Section

Public Employees Retirement System

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using the Individual Entry Age Normal actuarial cost method having the following characteristics:

- The normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year by year projected covered pay

Actuarial Value of Assets

The calculated value is determined by adjusting the market value of the assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five years at a rate of 20% per year. The asset smoothing method was adopted by the Board for use beginning with July 1, 2017, actuarial valuation. Net deferred gains attributable to fiscal years 2016 and prior were fully recognized as of July 1, 2017.

Social Security Disability (for Judges' Disability Benefit Offset)

Eligibility: 50% of disabled judges

Consumer Price Index Increase: 2.5% per annum

Wage Base Increases: 3.25% per annum

Workers' Compensation (for Judges' Disability Benefit Offset)

None assumed for disability benefit offset

Account Balance Due to Vested Employer Contribution (PEP)

Participation under Chapter 54/52.2: if not elected, none. If elected, 100% of active members of the Main System and Public Safety.

Contribution: Maximum allowed based on service at the beginning of the Plan year.

Benefit Election

Main System and Public Safety:

- 50% of new retirements are assumed to elect the life annuity,
- 45% are assumed to elect the 50% joint and survivor annuity, and
- 5% are assumed to elect a Refund of Member Contributions

Judges:

- All participants elect the 50% joint and survivor annuity

Changes in Actuarial Assumptions and Methods - Public Employees Retirement System

All actuarial assumptions and the actuarial cost method are unchanged from the last actuarial valuation as of July 1, 2017

North Dakota Public Employees Retirement System – Actuarial Section

Public Employees Retirement System

Summary of Plan Provisions - Public Employees Retirement System

This section summarizes the major benefit provisions of the North Dakota Highway Public Employees Retirement System as included in the valuation. It is not intended to be, nor should it be, interpreted as a complete statement of all plan provisions. Benefits are set by statute. There are no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases.

1. Normal Service Retirement:

Main System and Judges:

Eligibility: Attainment of age 65 with at least 10 years of eligible employment or with age plus service equal to at least 85 (Rule of 85)

For members enrolled after December 31, 2015, into the Main System, attainment of age 65 or at age 60 with age plus service equal to at least 90 (Rule of 90).

Benefit: 2% of final average salary multiplied by years of service for the Main System, and 3.50% of final average salary for each of the first ten years of service, 2.80% for each of the next ten years of service and 1.25% for service in excess of twenty years for the Judges Plan

Public Safety

Eligibility: Attainment of age 55 and three consecutive years of service, or if not former National Guard, at any age with age plus service equal to at least 85 (Rule of 85). Former National Guard is eligible for Rule of 85 on August 1, 2015.

Benefit: 2% of final average salary multiplied by years of service

2. Early Service Retirement:

Main System

Eligibility: Attainment of age 55 with three years of service

Benefit: The Normal Service Retirement Benefit as determined above. A benefit that begins before age 65 (or Rule of 85, if earlier) is reduced by one-half of one percent for each month before the earlier of age 65 or the age at which the Rule of 85 is met.

For members enrolled after December 31, 2015, into the Main System, a benefit that begins before age 65 (or Rule of 90, if earlier) is reduced by 2/3 of one percent for each month before the earlier of age 65 or the age at which the Rule of 90 is met.

Judges

Eligibility: Attainment of age 55 with five years of service

Benefit: The Normal Service Retirement Benefit as determined above. A benefit that begins before age 65 (or Rule of 85, if earlier) is reduced by one-half of one percent for each month before age 65 or the age at which the Rule of 85 is met.

Public Safety:

Eligibility: Attainment of age 50 with three years of service

Benefit: The Normal Service Retirement Benefit as determined above. A benefit that begins before age 55 (or Rule of 85, if earlier) is reduced by one-half of one percent for each month before the earlier of age 65 or the age at which the Rule of 85 is met.

3. Disability Benefit:

Main System and Public Safety

Eligibility: Six months of service and inability to engage in any substantial gainful activity

Benefit: 25% of the member's final average salary at disability minus workers' compensation benefits, with a minimum of \$100 per month.

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Judges

Eligibility: Six months of service and inability to engage in any substantial gainful activity

Benefit: 70% of the member's final average salary at disability minus Social Security and Workers' Compensation benefits paid.

4. Deferred Vested Retirement:

Main System

Eligibility: Three years of service

Benefit: The Normal Service Retirement Benefit payable at age 65 or the Rule of 85, if earlier.
Reduced early retirement benefits can be elected upon attainment of age 55.

Public Safety

Eligibility: Three years of service

Benefit: The Normal Service Retirement Benefit payable at age 55 or the Rule of 85, if earlier.
Reduced early retirement benefits can be elected upon attainment of age 50.

Judges

Eligibility: Five years of service

Benefit: The Normal Service Retirement Benefit payable at age 65 or the Rule of 85, if earlier.
Reduced early retirement benefits can be elected upon attainment of age 55.

5. Pre-Retirement Death Benefits:

Main System and Public Safety

Vested participants with a surviving spouse:

Eligibility: Three years of service

Benefit: One of the following options:

- Lump sum payout of member's accumulated contributions with interest
- 50% of the member's accrued benefit (not reduced on account of age) payable for the surviving spouse's lifetime
- Continuation portion of 100% joint and survivor annuity (only if participant was eligible for normal retirement).
- A partial lump sum payment in addition to the one of the annuity options above.

Non-vested members or vested members without a surviving spouse

Eligibility: Non-vested or no surviving spouse

Benefit: Lump sum payout of member's accumulated contributions with interest.

Judges

Vested participants with a surviving spouse:

Eligibility: Five years of service

Benefit: One of the following options:

- Lump sum payout of member's accumulated contributions with interest
- 100% of the member's accrued benefit (not reduced on account of age) payable for the surviving spouse's lifetime

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Non-vested members or vested members without a surviving spouse

Eligibility: Non-vested or no surviving spouse

Benefit: Lump sum payout of member's accumulated contributions with interest.

6. Refund of Member Contributions

Paid to terminated non-vested members and terminated vested members who choose refund in lieu of a monthly retirement benefit.

7. Accumulated Member Contributions

Member contributions accumulate with interest at the following rates:

<u>Time Period</u>	<u>Per Annum Interest Rate</u>
Through June 30, 1981	5.00%
July 1, 1981 - June 30, 1986	6.00%
After June 30, 1986	0.5% less than the actuarial interest rate assumption

8. Standard and Optional Forms of Payment:

Standard form of payment:

Main System and Public Safety:

Monthly benefit for life with a refund to beneficiary at death of the remaining balance (if any) of accumulated member contributions

Judges:

Monthly benefit for life, with 50% payable to an eligible survivor

Optional forms of payment:

- Life annuity (for Judges).
- 50% joint and survivor annuity with pop-up (for Main System and Public Safety)
- 100% joint and survivor annuity with pop-up
- Ten-year certain and life annuity
- Twenty-year certain and life annuity
- Social Security level income annuity
- A partial lump sum payment in addition to one of the annuity options above
- An actuarially equivalent graduated benefit option with either a one percent or two percent increase to be applied the first day of January of each year. Not available for disability or early retirements or in combination with a partial lump sum option, a deferred normal retirement option, or a Social Security level income annuity.

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

9. Final Average Salary:

Average of the highest salary received by the member for any 36 months employed during the last 180 months of employment.

10. Contributions:

Contribution rates specified in the Century Code (except employer rate for Public Safety); differ between permanent full-time employees and part-time temporary employees. Rates are as follows:

	Rates Set by Statute		Rates determined by the
	<u>Member</u>	<u>Employer</u>	Board of Retirement <u>Employer</u>
Main System Full-Time Employees	7.00%	7.12%	
Main System Part-Time Employees	14.12%	0.00%	
Judges	8.00%	17.52%	
Public Safety with prior Main service	5.50%		9.81%
BCI Employees	6.00%		9.81%
National Guard members	5.50%		9.81%
Public Safety without prior Main service	5.50%		7.93%

Effective January 1, 2000: A member's account balance includes vested employer contributions equal to the member's contributions to the deferred compensation Plan under chapter 54-52.2. The vested employer contribution may not exceed:

- For months 1-12 of service credit, \$25 or 1% of the member's monthly salary, whichever is greater
- For months 13-24 of service credit, \$25 or 2% of the member's monthly salary, whichever is greater
- For months 25-36 of service credit, \$25 or 3% of the member's monthly salary, whichever is greater
- For service exceeding 36 months, \$25 or 4% of the member's monthly salary, whichever is greater

Vested employer contributions are credited to the member's account balance

11. Rollovers

The fund may accept rollovers from other qualified plans under ruled adopted by the Board for the purchase of additional service credit

Changes in Plan Provisions Since the Previous Valuation:

There have been no changes in plan provisions since the previous valuations as of July 1, 2017

Solvency Test - PERS
2009 – 2018

A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the plan's present assets (primarily cash and investments) are compared with:

- 1) Active member contributions on deposit
- 2) The liabilities for future benefits to present retired lives; and
- 3) The liabilities for service already rendered by active members.

In a system that has been following level percent of payroll financing, the liabilities for service already rendered by active members (liability 3) should be partially covered by the remainder of present assets. If the system continues using level cost financing, the funded portion of liability 3 will increase over time.

(Amounts in Millions)

	(1)	(2)	(3)					
Valuation	Active	Retirees,	Active Members	Actuarial	Portion (%) of Actuarial Accrued Liability			
Date	Member	Beneficiaries,	(Employer	Value of	By Assets			
7/1	Contributions*	and Inactive Members	Financed Portion)	Assets	(1)	(2)	(3)	
2009	\$1,901.2	\$507.6	\$728.1	\$665.5	\$1,617.1	100%	100%	57%
2010	2,208.4	600.5	822.2	785.7	1,621.7	100%	100%	25%
2011	2,339.8	588.3	908.3	843.2	1,650.5	100%	100%	18%
2012	2,501.3	626.2	1,070.7	804.4	1,627.4	100%	94%	0%
2013	2,716.5	687.9	1,126.0	902.6	1,683.0	100%	88%	0%
2014	2,938.8	746.5	1,255.4	936.9	1,895.8	100%	92%	0%
2015	3,052.4	788.3	1,437.0	827.1	2,094.3	100%	91%	0%
2016	3,396.6	879.3	1,559.5	957.8	2,265.3	100%	89%	0%
2017	3,726.8	943.0	1,751.0	1,032.8	2,633.2	100%	97%	0%
2018	3,959.1	1,027.6	1,917.4	1,014.0	2,868.8	100%	96%	0%

*Includes vested employer contributions for members who have the Portability Enhancement Provision (PEP).

Schedule of Active Member Valuation Data – PERS - 2009–2018

Valuation Date 7/1	Main System			
	Number	Annual Payroll (\$ in Millions)	Average Annual Pay ¹	% Increase in Avg Pay
2009	19,686	\$684.3	\$34,762	5.5%
2010	20,372	751.1	36,868	6.1%
2011	20,359	785.4	38,577	4.6%
2012	20,738	781.6	37,690	(2.3)%
2013	21,201	865.9	40,841	8.4%
2014	21,814	946.2	43,376	9.3%
2015	22,381	993.6	43,395	0.0%
2016	22,762	1,007.8	44,274	2.0%
2017	22,574	1,020.8	45,222	2.1%
2018	22,711	1,027.3	45,234	0.0%

Valuation Date 7/1	Judges			
	Number	Annual Payroll (\$ in Millions)	Average Annual Pay ¹	% Increase in Avg Pay
2009	47	\$5.4	\$115,741	3.9%
2010	47	5.7	120,962	4.5%
2011	49	6.2	126,474	4.6%
2012	49	6.1	124,645	(1.4)%
2013	49	6.6	134,673	8.0%
2014	50	7.0	139,290	3.4%
2015	51	7.3	142,636	2.4%
2016	56	7.9	141,733	(0.6)%
2017	54	7.9	145,668	2.8%
2018	55	8.0	145,615	(0.0)%

¹ Prior to the actuarial valuation as of July 1, 2016, annual payroll is based on projected annual compensation for the upcoming year. Beginning with the actuarial valuation as of July 1, 2016, annual payroll and average annual pay are based on annualized payroll as of the actuarial valuation date.

Values prior to July 1, 2016, were calculated by the prior actuary.

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Valuation Date 7/1	Public Safety with Prior Main System Service			
	Number	Annual Payroll (\$ in Millions)	Average Annual Pay ¹	% Increase in Avg Pay
2009	180	\$7.0	\$38,965	(1.8)%
2010	217	11.9	54,467	39.8%
2011	226	10.1	44,908	(17.6)%
2012	239	10.8	45,074	0.4%
2013	268	13.4	49,981	10.9%
2014	315	16.7	53,121	6.3%
2015	318	18.7	58,781	10.7%
2016	498	28.2	56,678	(3.6)%
2017	498	28.8	57,762	1.9%
2018	598	34.5	57,728	(0.1)%

Valuation Date 7/1	Public Safety without Prior Main System Service			
	Number	Annual Payroll (\$ in Millions)	Average Annual Pay ¹	% Increase in Avg Pay
2009	30	\$0.9	\$31,660	15.2%
2010	32	1.1	35,572	12.4%
2011	61	2.4	39,911	12.2%
2012	65	2.4	36,588	(8.3)%
2013	70	2.6	36,998	1.1%
2014	83	3.6	43,872	18.6%
2015	95	4.6	48,204	9.9%
2016	100	4.6	46,217	(4.1)%
2017	117	5.9	50,400	9.0%
2018	119	6.1	51,352	1.9%

¹Prior to the actuarial valuation as of July 1, 2016, annual payroll is based on projected annual compensation for the upcoming year. Beginning with the actuarial valuation as of July 1, 2016, annual payroll and average annual pay are based on annualized payroll as of the actuarial valuation date.

Values prior to July 1, 2016, were calculated by the prior actuary.

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Analysis of Financial Experience - PERS

Changes in the Contribution Rate During Years Ended June 30
 Resulting from Differences Between Assumed Experience and Actual Experience

Main System				
<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	11.06%	12.21%	10.48%	11.20%
Death after Retirement	(0.02)	(0.01)	(0.15)	(0.05)
Withdrawal from Employment	0.01	(0.01)	0.01	0.05
Age and Service Requirements	0.08	(0.01)	0.03	0.00
Financial Experience-Investments	(0.52)	0.10	(0.14)	(0.24)
Salary Scale and Service	(0.03)	(0.31)	0.12	(0.26)
Contribution Income	0.23	0.22	0.25	0.08
Administrative Expenses	0.01	0.01	0.00	(0.02)
New and Reinstated Members	0.07	0.02	0.81	0.04
Demographic Changes	0.13	0.00	0.14	0.42
Assumption Changes	1.13	0.00	(0.20)	0.00
Effect of Maintaining 20 Year Amortization	(0.27)	0.00	0.00	0.00
Death and Retirement from Withdrawals	0.00	(0.02)	(0.15)	0.03
Payroll Growth	0.33	N/A	N/A	N/A
Employer Cost Rate - End of Year	12.21%	10.48%	11.20%	11.25%

Judges				
<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	14.80%	10.75%	8.90%	4.81%
Plan Change	0.00	0.00	0.00	0.00
Plan Experience	0.95	(1.67)	(1.25)	(1.19)
Investment Loss/(Gain)	(1.15)	0.47	(0.33)	(0.65)
Contribution Loss/(Gain)	0.00	(0.65)	(0.52)	(0.94)
Assumption Changes	(3.77)	0.00	(1.99)	0.00
Effect of Maintaining 20-year amortization	(0.08)	0.00	0.00	0.00
Employer Cost Rate - End of Year	10.75%	8.90%	4.81%	2.03%

Law Enforcement With Prior Main Service*				
<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	9.42%	9.78%	8.08%	8.25%
Plan Change	(0.04)	0.00	0.00	0.00
Plan Experience	0.22	(1.87)	0.40	(0.32)
Investment Loss/(Gain)	(0.07)	0.59	(0.12)	(0.15)
Contribution Loss/(Gain)	0.00	(0.42)	0.12	(0.14)
Assumption Changes	0.39	0.00	(0.23)	0.00
Effect of Maintaining 20-year amortization	(0.14)	0.00	0.00	0.00
Employer Cost Rate - End of Year	9.78%	8.08%	8.25%	7.64%

Law Enforcement Without Prior Main Service				
<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	7.42%	8.03%	6.44%	6.77%
Plan Change	0.00	0.00	0.00	0.00
Plan Experience	0.87	(1.62)	0.64	(0.53)
Investment Loss/(Gain)	(0.05)	0.14	(0.11)	(0.07)
Contribution Loss/(Gain)	0.00	(0.11)	(0.01)	0.03
Assumption Changes	(0.18)	0.00	(0.19)	0.00
Effect of Maintaining 20-year amortization	(0.03)	0.00	0.00	0.00
Employer Cost Rate - End of Year	8.03%	6.44%	6.77%	6.20%

*Years prior to the year ended June 30, 2016 do not include National Guard members.

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Retirees and Beneficiaries Added to and Removed from the Rolls PERS - 2009–2018

Main System

Plan Year	Beg of Year		Added to Rolls		Removed from Rolls		End of Year Balance		Average	% Increase
	No.	Ann. Benefits*	No.	Ann. Benefits*	No.	Ann. Benefits*	No.**	Ann. Benefits*	Annual Benefit	in Annual Benefit
Retirement										
2009	6,813	\$ 67.2	567	\$ 7.1	(222)	\$ (1.9)	7,158	\$ 72.4	\$ 10,120	7.7%
2010	7,158	72.4	468	6.5	(254)	(1.9)	7,372	77.0	10,451	6.4%
2011	7,372	77.0	618	9.4	(230)	(1.8)	7,760	84.6	10,904	9.9%
2012	7,760	84.6	698	12.5	(216)	(1.8)	8,242	95.3	11,566	12.6%
2013	8,242	95.3	708	10.9	(284)	(4.0)	8,666	102.2	11,798	7.2%
2014	8,666	102.2	855	13.2	(291)	(2.4)	9,230	113.0	12,243	10.6%
2015	9,230	113.0	992	19.3	(243)	(2.4)	9,979	129.9	13,017	15.0%
2016	9,979	129.9	703	12.3	(288)	(2.6)	10,394	139.6	13,435	7.5%
2017	10,394	139.6	870	16.1	(307)	(3.0)	10,957	152.8	13,943	9.4%
2018	10,957	152.8	953	19.7	(372)	(3.6)	11,538	169.0	14,645	10.6%

*\$ in millions

** Excludes 24 pensioners as of June 30, 2014, 28 pensioners as of June 30, 2015, 35 pensioners as of June 30, 2016, 41 pensioners as of June 30, 2017, and 37 pensioners as of June 30, 2018 in suspended status.

Judges

Plan Year	Beg of Year		Added to Rolls		Removed from Rolls		End of Year Balance		Average	% Increase
	No.	Ann. Benefits	No.	Ann. Benefits	No.	Ann. Benefits	No.	Ann. Benefits	Annual Benefit	in Annual Benefit
Retirement										
2009	30	\$ 1,093,219	1	\$ 69,931	(3)	(\$92,038)	28	\$ 1,071,112	\$ 38,254	-2.0%
2010	28	1,071,112	4	194,159	(2)	(47,106)	30	1,218,165	40,605	13.7%
2011	30	1,218,165	5	273,928	(1)	(20,861)	34	1,471,232	43,272	20.8%
2012	34	1,471,232	0	0	0	(648)	34	1,470,584	43,252	0.0%
2013	34	1,470,584	2	60,181	0	0	36	1,530,765	42,521	4.1%
2014	36	1,530,765	2	190,156	0	0	38	1,720,921	45,287	12.4%
2015	38	1,720,921	6	462,888	0	0	44	2,183,809	49,632	26.9%
2016	44	2,183,809	2	85,597	(3)	(147,638)	43	2,121,768	49,343	-2.8%
2017	43	2,121,768	10	674,619	(3)	(156,433)	50	2,639,954	52,799	24.4%
2018	50	2,639,954	7	331,377	(2)	(68,572)	55	2,902,760	52,777	10.0%

Values prior to July 1, 2016, were calculated by the prior actuary.

North Dakota Public Employees Retirement System – Actuarial Section
Public Employees Retirement System

Public Safety with prior Main System Service

Plan Year	Beg of Year		Added to Rolls		Removed from Rolls		End of Year Balance		Average Annual	% Increase
	No.	Ann. Benefits	No.	Ann. Benefits	No.	Ann. Benefits	No.	Ann. Benefits	Benefit	in Annual Benefit
	Retirement									
2009	21	\$ 335,688	4	\$ 78,938	(1)	(\$23,246)	24	\$ 391,380	\$ 16,307	16.6%
2010	24	391,380	10	176,285	(2)	(26,749)	32	540,916	16,904	38.2%
2011	32	540,916	9	217,899	0	0	41	758,815	18,508	40.3%
2012	41	758,815	6	105,606	0	0	47	864,421	18,392	13.9%
2013	47	864,421	9	225,057	0	(13,776)	56	1,075,702	19,209	24.4%
2014	56	1,075,702	7	83,168	(1)	(57,253)	62	1,101,617	17,768	2.4%
2015	62	1,101,617	11	301,041	0	0	73	1,402,658	19,215	27.3%
2016	73	1,402,658	7	53,522	(1)	(10,529)	79	1,445,651	18,299	3.1%
2017	79	1,445,651	11	390,805	0	0	90	1,836,456	20,405	27.0%
2018	90	1,836,456	15	371,954	(2)	(22,510)	103	2,185,900	21,222	19.0%

Public Safety without prior Main System Service

Plan Year	Beg of Year		Added to Rolls		Removed from Rolls		End of Year Balance		Average Annual Benefit	% Increase in Annual Benefit
	No.	Ann. Benefits	No.	Ann. Benefits	No.	Ann. Benefits	No.	Ann. Benefits		
Retirement										
2009	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	\$ 0	NA
2010	0	0	0	0	0	0	0	0	0	NA
2011	0	0	0	0	0	0	0	0	0	NA
2012	0	0	0	0	0	0	0	0	0	NA
2013	0	0	1	9,792	0	0	1	9,792	9,792	100.0%
2014	1	9,792	0	0	0	0	1	9,792	9,792	0.0%
2015	1	9,792	0	0	0	0	1	9,792	9,792	0.0%
2016	1	9,792	1	3,264	0	0	2	13,056	6,528	33.3%
2017	2	13,056	4	57,609	0	0	6	70,665	11,778	441.2%
2018	6	70,665	2	19,573	0	0	8	90,238	11,280	27.7%

Values prior to July 1, 2016, were calculated by the prior actuary.

North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Highway Patrolmen's Retirement System



P: 312.456.9800 | F: 312.683.3271 | www.grsconsulting.com

December 3, 2018

Board Members
North Dakota Highway Patrolmen's Retirement System
Bismarck, North Dakota

Members of the Board:

At your request, we have performed an actuarial valuation which includes actuarial valuation results for funding purposes and separate actuarial valuation results for accounting purposes for the North Dakota Highway Patrolmen's Retirement System ("HPRS") as of July 1, 2018. The purpose of the funding actuarial valuation, which is performed annually, is to determine the funding status and actuarial employer contribution rate for the HPRS. The actuarial valuation was performed at the request of the Board and is intended for use by the Board and HPRS and those designated by the Board and HPRS. This report may be provided to parties other than the Board and HPRS only in its entirety and only with the permission of the Board and HPRS. GRS is not responsible for reliance upon this valuation for any other purpose, or by any other party.

Actuarial Assumptions and Methods

The actuarial valuation report was prepared using actuarial assumptions adopted by the Board as authorized under North Dakota Administrative Code Section 71-02. All actuarial assumptions used in this report are reasonable for the purposes of this actuarial valuation. There were no changes in actuarial assumptions since the previous actuarial valuation as of July 1, 2017.

Beginning with the actuarial valuation as of July 1, 2017, the Board adopted changes to the economic actuarial assumptions (excluding the salary increase assumption) and asset valuation method. The actuarial assumptions were based on a review of the economic actuarial assumptions performed by GRS.

All other actuarial assumptions used in the actuarial valuation as of July 1, 2018, were based on an experience review for the five-year period ending July 1, 2014, which was performed by the prior actuary, and were first adopted for use commencing with the July 1, 2015, actuarial valuation.

The actuarial employer contribution rate is calculated using a 20-year open period, level percentage of payroll amortization method. The remaining amortization period will be reset to 20 years in each future actuarial valuation. We believe that calculating the actuarial contribution rate using a slightly longer period would also be reasonable.

The actuarial assumptions and methods used, including the economic and demographic assumptions, the actuarial cost method and the asset valuation method, meet the Actuarial Standards of Practice issued by the Actuarial Standards Board for the funding of public sector pension plans and are set by the Board. Assumptions and methods required under GASB Statement Nos. 67 and 68 were used in the preparation of the accounting disclosures and schedules required by GASB Statement Nos. 67 and 68.

120 North LaSalle Street | Suite 1350 | Chicago, Illinois 60602-3495

North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Highway Patrolmen's Retirement System

Board Members
December 3, 2018
Page 2

Benefit Provisions

There were no changes in benefit provisions since the previous actuarial valuation as of July 1, 2017. The Board set the rate at 0 percent for the indexing percentage for the year beginning July 1, 2018, applicable to the final average salaries of HPRS deferred vested members.

Participant Data

A total of 154 active members were included in the actuarial valuation as of July 1, 2018. Between the 2017 and 2018 actuarial valuations, the number of active employees increased by 3 members, or 2.0 percent. The average annual actuarial valuation pay decreased by 1.0 percent, from \$70,393 to \$69,723 between the 2017 and 2018 actuarial valuation. There were 8 active members who were eligible for retirement (normal, early or Rule of 80) as of July 1, 2018.

The number of benefit recipients remained at 127 since the last actuarial valuation. The average monthly benefit slightly increased, from \$3,106 to \$3,194. During the year ending June 30, 2018, there were four members awarded a benefit.

There were 22 inactive members as of July 1, 2018, who were vested and elected to receive a deferred benefit. The average monthly deferred benefit is \$2,924. There were 20 inactive members as of July 1, 2018, who elected to receive a refund of contributions.

There were 13 members who were previously active in the HPRS that transferred to the PERS.

Actuarial Valuation Assets

On a market value basis, HPRS assets had an investment return of approximately 9.23 percent (net of investment expenses). On an actuarial value of asset basis, NDPERS assets had an investment return of approximately 9.28 percent on an actuarial value of assets basis, which compares to the prior year assumed rate of return of 7.75 percent.

The actuarial value of assets is currently 96.4 percent of the market value of assets. There is \$2,821,068 in net asset gains currently being deferred that will be phased into the actuarial value of assets over the next four years.

Statutory and Actuarial Employer Contributions

The actuarially determined contribution rate is calculated as the normal cost contribution (to fund benefits accruing during the year) plus a contribution to amortize the unfunded liability. The unfunded liability contribution rate is calculated using a 20-year open period, level percentage of payroll amortization method. The remaining amortization period will be reset to 20 years in each future actuarial valuation. If employers contributed the actuarial contribution rate, the contribution rate would be expected to gradually decrease using a 20-year open amortization period as the funded ratio gradually increased.



North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Highway Patrolmen's Retirement System

Board Members
December 3, 2018
Page 3

An open amortization period is expected to gradually improve the funded ratio. However, the funded ratio is not expected to reach 100 percent under this method (assuming no actuarial gains or losses) because the remaining unfunded liability at each future actuarial valuation date is re-amortized over a new 20-year period.

The contributions that are made by employers are based on fixed contribution rates that are set by statute (and not based on the actuarially determined rate). The statutory contribution rate of 19.70 percent is lower than the actuarial contribution rate of 25.50 percent.

The portion of the statutory contribution that is applied toward the unfunded liability is the statutory contribution rate minus the employer normal cost rate. The unfunded liability contribution rate from the statutory contribution is lower than the rate calculated using the 20-year level percentage of payroll amortization period. (The equivalent amortization period of the unfunded liability rate from the statutory contribution rate is 62.0 years based on the actuarial value of assets and 41.2 years based on the market value of assets.)

We recommend an increase to the statutory contribution rate such that the unfunded liability is amortized over a period of no longer than 30 years.

Reliance on Others

The actuarial valuation was based upon information furnished by the NDPERS Staff, concerning benefits provided by the North Dakota Highway Patrolmen's Retirement System, financial transactions, plan provisions and census data for active members, terminated members, retirees and beneficiaries as of July 1, 2018. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the NDPERS Staff.

The trend data in the Financial Section and the schedules and other data in this Section are prepared by NDPERS Staff with our input. Data prior to fiscal year 2016 was prepared by NDPERS Staff and the prior actuary. Specifically these exhibits are:

- Actuarial Assumptions and Cost Method
- Changes in Actuarial Assumptions and Cost Method
- Active Member Valuation Data
- Retirees and Beneficiaries Added to and Removed from the Rolls
- Solvency Test
- Analysis of Financial Experience
- Schedule of Retired Members by Type of Benefit
- Schedule of Average Monthly Benefit Payments

Accounting Schedules under GASB Statement Nos. 67 and 68

The total pension liability (actuarial accrued liability) is based on a measurement date of July 1, 2018, using the Entry Age Normal actuarial cost method. A single discount rate of 7.75 percent (which is the same rate that is used in the funding actuarial valuation calculations) was used to measure the total pension liability.



North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Highway Patrolmen's Retirement System

Board Members
December 3, 2018
Page 4

All other assumptions and methods used in the funding actuarial valuation for calculation of the actuarial accrued liabilities as of July 1, 2018, were used in the GASB 67/68 actuarial valuation for calculation of the total pension liability for fiscal year ending June 30, 2018.

The net pension liability is measured as the total pension liability, less the amount of the pension plan's fiduciary net position (market value of assets) as of June 30, 2018.

Certification

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the North Dakota Highway Patrolmen's Retirement System as of the actuarial valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Lance J. Weiss and Amy Williams are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

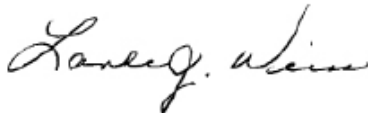
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or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

This report should not be relied on for any purpose other than the purpose stated.

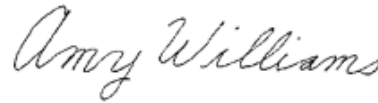
The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant and Team Leader



Amy Williams, A.S.A., M.A.A.A., F.C.A.
Consultant

AW:nn



North Dakota Public Employees Retirement System – Actuarial Section
Highway Patrolmen's Retirement System

Actuarial Assumptions and Cost Method – Highway Patrolmen's Retirement System
(Adopted July 1, 2017)

Mortality Tables:

RP-2000 Combined Healthy Mortality table, sex-distinct, with rates set back 2 years for males and 3 years for females. RP 2000 Disabled Mortality table, sex-distinct, with rates set back 1 years for males (no setback for females), with rates multiplied by 125% for post-retirement disabled mortality. Mortality rates are projected from 2014 using the Social Security Administration (SSA) Intermediate Cost scale.

Rates of Separation from Active Membership:

<u><i>Service Beginning of Year</i></u>	<u><i>Rates</i></u>
0	10.00%
1-4	5.00%
<u><i>Age</i></u>	
Under 35	2.50%
35+	1.00%

Withdrawal rates end upon eligibility for early retirement (age 50 and 10 years of service)

Disability Incidence Rates

Sample rates are as follows:

<u><i>Age</i></u>	<u><i>Male</i></u>	<u><i>Female</i></u>
20	0.0120%	0.0060%
25	0.0171%	0.0085%
30	0.0220%	0.0110%
35	0.0295%	0.0147%
40	0.0440%	0.0220%
45	0.0719%	0.0360%
50	0.1212%	0.0606%
55	0.2018%	0.1009%
60	0.3254%	0.1627%
65	0.2500%	0.2500%

Refund of Employee Contributions

Inactive vested members are assumed to elect a refund of employee contributions in lieu of a deferred pension benefit when it is more valuable than the deferred annuity

Retirement Rates

Rates of retirement for members eligible to retire during the next year were as follows:

<u><i>Age</i></u>	<u><i>Rates</i></u>
50 - 54	20.00%
55+	100.00%

Investment Rate of Return

7.75% per annum, net of investment expenses

Annual Administrative Expenses

Prior year expenses, adjusted for inflation

North Dakota Public Employees Retirement System – Actuarial Section
Highway Patrolmen’s Retirement System

Salary Scale

Less than three years of service:

<u>Service</u>	<u>Percent Increase</u>
0	15.00%
1	10.00%
2	8.00%

Three or more years of service (sample rates are as follows):

<u>Age</u>	<u>Percent Increase</u>
Under 36	8.00%
36-40	7.50%
41-49	6.00%
50+	5.00%

Inflation

2.50% per annum

Payroll Growth

3.75% per annum

Marital Status

It is assumed that 100 percent of participants have an eligible spouse at the time of retirement or pre-retirement death. The male spouse is assumed to be three years older than the female spouse.

Spouses are assumed to be the opposite sex of the employees and retirees. The relatively low rate of same-sex spouses does not have a material actuarial impact on the actuarial valuation results.

Workers' Compensation

None assumed for disability benefit offset

Indexing for Benefits of Inactive Vested Members

3.00% per annum

Split Service

Liabilities are held in both plans based on service in each plan, and are based on the actuarial assumptions of the plan in which they are currently active

Transfers to PERS System

Annual withdrawal, disability incidence and retirement rate assumptions for members who have transferred to the PERS System follow those specified in the PERS System, and are applied to the benefits held in the HPRS.

North Dakota Public Employees Retirement System – Actuarial Section Highway Patrolmen's Retirement System

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using the Individual Entry Age Normal actuarial cost method having the following characteristics:

- The normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year by year projected covered pay

Actuarial Value of Assets

Calculated by determining the adjusted market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five years at the rate of 20% per year.

Benefit Election

All participants are assumed to elect the 50% joint and survivor annuity

Changes in Actuarial Assumptions and Methods - Highway Patrolmen's Retirement System

The Board approved the following changes to the actuarial assumptions beginning with the July 1, 2017 valuation:

- The investment return assumption was lowered from 8% to 7.75%
- The price inflation assumption was lowered from 3.5% to 2.5%
- The payroll growth assumption used in calculating the amortization of the unfunded liability contribution for the actuarial contribution rate was lowered from 4.5% to 3.75%
- The benefit indexing assumption for inactive vested members was lowered from 4% to 3%
- The assumed rate of increase in the projected IRC 415 limit was lowered from 3.5% to 2.5% (Projected future benefits for future retirees are limited by the projected IRC 415 limit)
- The asset valuation method was updated to smooth total investment gains or losses compared to the investment return assumption over a five-year period. Net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized as of July 1, 2017

Summary of Plan Provisions - Highway Patrolmen's Retirement System

This section summarizes the major benefit provisions of the North Dakota Highway Patrolmen's Retirement System as included in the valuation. It is not intended to be, nor should it be, interpreted as a complete statement of all plan provisions. Benefits are set by statute. There are no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases.

1. Normal Service Retirement:

Eligibility: Attainment of age 55 with at least 10 years of eligible employment or with age plus service equal to at least 80 (Rule of 80)

Benefit: 3.6% of final average salary for each of the first 25 years of service plus 1.75% of final average salary for service in excess of 25 years.

2. Early Service Retirement:

Eligibility: Attainment of age 50 with 10 years of eligible employment

Benefit: The Normal Service Retirement Benefit as determined above, reduced by one-half of one percent for each month before age 55.

3. Disability Benefit:

Eligibility: Accumulation of six months of service and inability to engage in substantial gainful activity

Benefit: 70% of the member's final average salary at disability minus workers' compensation, with a minimum of \$100 per month

North Dakota Public Employees Retirement System – Actuarial Section
Highway Patrolmen's Retirement System

4. Deferred Vested Retirement:

Eligibility: 10 years of eligible employment.

Benefit: The Normal Service Retirement Benefit payable at age 55 or the Rule of 80, if earlier. Vested benefits are indexed at a rate set by the Retirement Board based on the increase in final average salary from date of termination to benefit commencement date, as follows:

<u>Year Beginning</u>	<u>Average Annual Increase</u>	<u>Three-Year Average Increase</u>
07/01/1994	3.00%	3.01%
07/01/1995	2.00%	2.86%
07/01/1996	2.00%	2.33%
07/01/1997	3.00%	2.33%
07/01/1998	1.80%	2.27%
07/01/1999	1.26%	2.02%
07/01/2000	2.00%	1.69%
07/01/2001	1.81%	1.69%
07/01/2002	1.73%	1.85%
07/01/2003	0.00%	1.18%
07/01/2004	0.00%	0.58%
07/01/2005	4.00%	1.33%
07/01/2006	4.00%	2.67%
07/01/2007	4.00%	4.00%
07/01/2008	4.00%	4.00%
07/01/2009	5.00%	4.33%
07/01/2010	5.00%	4.67%
07/01/2011	2.00%	4.00%
07/01/2012	2.00%	3.00%
07/01/2013	3.00%	2.33%
07/01/2014	3.00%	2.67%
07/01/2015	3.00%	3.00%
07/01/2016	2.00%	2.67%
07/01/2017	0.00%	1.67%
07/01/2018	0.00%	0.67%

Reduced early retirement benefits can be elected upon attainment of age 50

5. Pre-Retirement Death Benefits:

Eligibility: Ten years of eligible employment

Benefit: One of the following options:

- 1) Lump sum payout of member's accumulated contributions with interest
- 2) 50% of the member's accrued benefit (not reduced on account of age) for the surviving spouse's lifetime.

Eligibility: Less than 10 years of service

Benefit: Lump sum payment of member's accumulated contributions with interest.

North Dakota Public Employees Retirement System – Actuarial Section
Highway Patrolmen's Retirement System

6. Normal and Optional Forms of Payment:

Normal Form of Payment: Monthly benefit for life with 50% of the benefit continuing for the life of the surviving spouse (if any).

Optional forms of payment:

- 1) 100% joint and survivor annuity
- 2) Twenty-year certain and life annuity
- 3) Ten-year certain and life annuity
- 4) A partial lump sum payment in addition to one of the annuity options above.
- 5) An actuarially equivalent graduated benefit option with either a one percent or two percent increase to be applied the first day of January of each year. Not available for disability or early retirements or in combination with a partial lump sum option or a deferred normal retirement option.

7. Final Average Salary:

Average of the highest salary received by the member for any 36 months employed during the last 180 months of employment.

8. Contributions:

Member contributions as a percent of monthly salary: 13.3%

Member contributions earn interest at an annual rate of 7.5% compounded monthly.

State contributions as a percent of monthly salary for each participating member: 19.7%

Changes in Plan Provisions Since the Previous Valuation:

There have been no changes in plan provisions since the previous valuations as of July 1, 2017

North Dakota Public Employees Retirement System – Actuarial Section
Highway Patrolmen's Retirement System

Schedule of Active Member Valuation Data - HPRS
2008 – 2017

Valuation Date 7/1	Number	Annual Payroll (\$ in Millions)	Average Annual Pay ¹	% Increase in Avg Pay
2009	133	\$ 7.0	\$ 52,701	5.3%
2010	139	7.7	55,666	5.6%
2011	133	8.0	60,168	8.1%
2012	145	8.2	56,323	(6.4)%
2013	149	9.3	62,741	11.4%
2014	156	10.1	65,037	3.7%
2015	161	10.8	66,921	2.9%
2016	156	10.5	67,479	0.8%
2017	151	10.6	70,393	4.3%
2018	154	10.7	69,723	(1.0)%

¹ Prior to the actuarial valuation as of July 1, 2017, annual payroll and average annual pay were based on projected annual compensation for the upcoming year. Beginning with the actuarial valuation as of July 1, 2016, annual payroll and average annual pay are based on annualized payroll as of the actuarial valuation date. Results prior to 2016 provided by NDPERS prior actuary.

North Dakota Highway Patrolmen's Retirement System
Retirees and Beneficiaries Added to and Removed from the Rolls, 2009 – 2018

										Average	% Increase
	Beg of Year		Added to Rolls		Removed from Rolls		End of Year Balance		Annual	in Annual	
Year	No.	Ann. Benefits*	No.	Ann. Benefits*	No.	Ann. Benefits*	No.**	Ann. Benefits*	Benefit	Benefit	
Retirement											
2009	105	\$ 3,171,170	8	\$ 249,776	(4)	\$ (96,523)	109	\$ 3,324,423	\$ 30,499	4.8%	
2010	109	3,324,423	5	191,085	(1)	(13,126)	113	3,502,382	30,995	5.4%	
2011	113	3,502,382	2	58,150	0	0	115	3,560,532	30,961	1.7%	
2012	115	3,560,532	3	179,349	(2)	(45,783)	116	3,694,098	31,846	3.8%	
2013	116	3,694,098	4	169,974	(4)	(114,418)	116	3,749,654	32,325	1.5%	
2014	116	3,749,654	2	138,200	(1)	(64,069)	117	3,823,785	32,682	2.0%	
2015	117	3,823,785	16	967,969	(5)	(94,620)	128	4,697,134	36,696	22.8%	
2016	128	4,697,134	2	68,562	(7)	(179,032)	123	4,586,664	37,290	-2.4%	
2017	123	4,586,664	6	172,703	(2)	(26,340)	127	4,733,027	37,268	3.2%	
2018	127	4,733,027	4	194,391	(4)	(60,036)	127	4,867,383	38,326	2.8%	

* \$ in millions.

** Includes alternate payees.

Solvency Test - HPRS
2009 – 2018

A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the plan's present assets (primarily cash and investments) are compared with:

- 1) Active member contributions on deposit
- 2) The liabilities for future benefits to present retired lives; and
- 3) The liabilities for service already rendered by active members.

In a system that has been following level percent of payroll financing, the liabilities for service already rendered by active members (liability 3) should be partially covered by the remainder of present assets. If the system continues using level cost financing, the funded portion of liability 3 will increase over time.

(Amounts in Millions)

Valuation Date 6/30	Total Actuarial Accrued Liability	(1)	(2)	(3)	Actuarial Value of Assets	Portion (%) of Present Value Covered		
		Active Member Contributions	Retirees, Term Vested and Beneficiaries	Active Members (Employer Financed Portion)		By Assets		
						(1)	(2)	(3)
2009	\$ 57.6	\$ 10.0	\$ 34.3	\$ 13.3	\$ 50.2	100%	100%	44%
2010	61.8	10.5	36.1	15.2	49.3	100%	100%	18%
2011	67.1	11.6	37.4	18.1	49.5	100%	100%	3%
2012	68.5	12.1	39.3	17.1	48.1	100%	92%	0%
2013	71.9	13.5	40.5	17.9	49.0	100%	88%	0%
2014	75.5	14.8	41.9	18.8	54.6	100%	95%	0%
2015	80.1	12.3	54.1	13.7	58.9	100%	86%	0%
2016	87.9	14.3	53.9	19.7	61.7	100%	88%	0%
2017	94.0	16.0	57.3	20.7	70.7	100%	95%	0%
2018	98.4	17.4	60.1	20.8	76.1	100%	98%	0%

Analysis of Financial Experience - HPRS

Changes in the Contribution Rate During Years Ended June 30
 Resulting from Differences Between Assumed Experience and Actual Experience

<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	21.70%	21.42%	27.11%	25.91%
Plan Change	0.00	0.00	0.00	0.00
Plan Experience	(0.12)	5.17	(0.03)	(0.31)
Change in Amortization Schedule	(0.50)	0.00	0.00	0.00
Assumption Changes	1.16	0.00	(1.36)	0.00
Investment Loss/(Gain)	(0.89)	0.00	(0.39)	(0.65)
Contribution Loss/(Gain)	0.07	0.52	0.58	0.55
Employer Cost Rate - End of Year	21.42%	27.11%	25.91%	25.50%

North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Job Service Retirement Plan



P: 312.456.9800 | F: 312.683.3271 | www.grsconsulting.com

December 3, 2018

Board Members
Retirement Plan for Employees of Job Service North Dakota
Bismarck, North Dakota

Members of the Board:

At your request, we have performed an actuarial valuation which includes actuarial valuation results for funding purposes and separate actuarial valuation results for accounting purposes for the Retirement Plan for Employees of Job Service North Dakota as of July 1, 2018. The purpose of the funding actuarial valuation, which is performed annually, is to determine the funding status and actuarial employer contribution rate for the Retirement Plan for Employees of Job Service North Dakota. The actuarial valuation was performed at the request of the Board and is intended for use by the Board and the Retirement Plan for Employees of Job Service North Dakota and those designated by the Board and the Retirement Plan for Employees of Job Service North Dakota. This report may be provided to parties other than the Board and the Retirement Plan for Employees of Job Service North Dakota only in its entirety and only with the permission of the Board and the Retirement Plan for Employees of Job Service North Dakota. GRS is not responsible for reliance upon this actuarial valuation for any other purpose, or by any other party.

Actuarial Assumptions and Methods

The actuarial valuation report was prepared using actuarial assumptions adopted by the Board as authorized under North Dakota Administrative Code Section 71-02. All actuarial assumptions used in this report are reasonable for the purposes of this actuarial valuation.

The Board approved lowering the investment return assumption from 5.70 percent to 4.75 percent beginning with the July 1, 2018, actuarial valuation. There were no other changes in actuarial assumptions since the previous actuarial valuation as of July 1, 2018.

Beginning with the actuarial valuation as of July 1, 2017, the Board adopted changes to the economic actuarial assumptions (excluding the salary increase assumption) and asset valuation method. The actuarial assumptions were based on a review of the economic actuarial assumptions performed by GRS.

All other actuarial assumptions used in the actuarial valuation as of July 1, 2018, were based on an experience review for the five-year period ending July 1, 2014, which was performed by the prior actuary. The actuarial assumptions were first adopted for use commencing with the July 1, 2015, actuarial valuation.

The actuarial employer contribution rate under the Frozen Initial Liability Actuarial Cost Method is equal to the normal cost plus the payment required to amortize the initial unfunded actuarial accrued liability over a selected period of years. The normal cost is determined by calculating the total present value of

120 North LaSalle Street | Suite 1350 | Chicago, Illinois 60602-3495

North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Job Service Retirement Plan

Board Members
December 3, 2018
Page 2

all future benefits, subtracting the outstanding balance (if any) of the initial unfunded actuarial accrued liability, subtracting the actuarial value of assets and determining payments (not less than zero) that are a level percent of pay over the future working lifetime of all participants. In the absence of an initial unfunded actuarial accrued liability, the Frozen Initial Liability Actuarial Cost Method is the same as the Aggregate Cost Method.

The actuarial assumptions and methods used, including the economic and demographic assumptions, the actuarial cost method and the asset valuation method, meet the Actuarial Standards of Practice issued by the Actuarial Standards Board for the funding of public sector pension plans and are set by the Board. Assumptions and methods required under GASB Statement Nos. 67 and 68 were used in the preparation of the accounting disclosures and schedules required by GASB Statement Nos. 67 and 68.

Benefit Provisions

There were no changes in benefit provisions since the previous actuarial valuation as of July 1, 2017.

Participant Data

A total of 7 active members were included in the actuarial valuation as of July 1, 2018. Between the 2017 and 2018 actuarial valuations, the number of active employees decreased by 1 member, or 12.5 percent. The average annual valuation pay decreased by 4.5 percent, from \$62,321 to \$59,522 between the 2017 and 2018 actuarial valuation. All 7 active members were eligible for retirement (normal, optional or early) as of July 1, 2018.

The number of benefit recipients decreased from 199 to 196, since the last actuarial valuation. The average monthly benefit paid by Job Service and excluding benefit amounts paid by Brighthouse increased by 3.1 percent, from \$1,896 to \$1,955. During the year ending June 30, 2018, there was 1 member awarded a benefit. A 2.0 percent cost of living adjustment was granted in December 2017.

There was 1 inactive member as of July 1, 2018, who was vested and elected to receive a deferred benefit.

Actuarial Valuation Assets

On a market value basis, the Retirement Plan for Employees of Job Service North Dakota assets had an investment return of approximately 3.07 percent (net of investment expenses). On an actuarial value of asset basis, the Retirement Plan for Employees of Job Service North Dakota had an estimated net asset rate of return of 4.83 percent, which compares to the prior year assumed rate of return of 5.70 percent.

The actuarial value of assets is currently 103 percent of the market value of assets. There is \$2,815,145 in net asset losses currently being deferred that will be phased into the actuarial value of assets over the next four years.



Board Members
December 3, 2018
Page 3

Statutory and Actuarial Employer Contributions

The "actuarial contribution" under the Frozen Initial Liability Actuarial Cost Method is the normal cost plus the payment required to amortize the unfunded initial actuarial accrued liability over a selected period of years. The normal cost is determined by calculating the total present value of all future benefits, subtracting the outstanding balance (if any) of the unfunded initial actuarial accrued liability, subtracting the actuarial value of assets and determining payments (not less than zero) that are a level percent of pay over the future working lifetime of all participants. In the absence of an unfunded initial actuarial accrued liability, the Frozen Initial Liability Actuarial Cost Method is the same as the Aggregate Cost Method.

An "actuarial contribution" will be determined when the plan is not in surplus and will be based on a funding policy adopted by the Employer.

Reliance on Others

The actuarial valuation was based upon information furnished by the NDPERS Staff, concerning benefits provided by the Retirement Plan for Employees of Job Service North Dakota, financial transactions, plan provisions and census data for active members, terminated members, retirees and beneficiaries as of July 1, 2018. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the NDPERS Staff.

The trend data in the Financial Section and the schedules and other data in this Section are prepared by NDPERS Staff with our input. Data prior to fiscal year 2016 was prepared by NDPERS Staff and the prior actuary. Specifically these exhibits are:

- Actuarial Assumptions and Cost Method
- Changes in Actuarial Assumptions and Cost Method
- Active Member Valuation Data
- Retirees and Beneficiaries Added to and Removed from the Rolls
- Solvency Test
- Analysis of Financial Experience
- Schedule of Retired Members by Type of Benefit
- Schedule of Average Monthly Benefit Payments

Accounting Schedules under GASB Statement Nos. 67 and 68

The total pension liability (actuarial accrued liability) is based on a measurement date of July 1, 2018, under the Entry Age Normal actuarial cost method. A single discount rate of 4.75 percent, which is the same rate that is used in the funding actuarial valuation calculations, was used to measure the total pension liability.

All other assumptions and methods used in the funding actuarial valuation for calculation of the actuarial accrued liabilities as of July 1, 2018, were used in the GASB 67/68 actuarial valuation for calculation of the total pension liability for fiscal year ending June 30, 2018.



North Dakota Public Employees Retirement System – Actuarial Section
Actuary's Certification Letter
Job Service Retirement Plan

Board Members
December 3, 2018
Page 4

The net pension liability is measured as the total pension liability, less the amount of the pension plan's fiduciary net position (market value of assets) as of June 30, 2018.

Certification

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Retirement Plan for Employees of Job Service North Dakota as of the actuarial valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Lance J. Weiss and Amy Williams are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

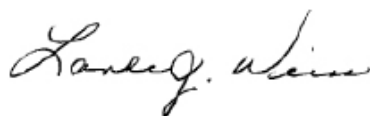
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or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

This report should not be relied on for any purpose other than the purpose stated.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant and Team Leader



Amy Williams, A.S.A., M.A.A.A., F.C.A.
Consultant

AW:nn



Actuarial Assumptions and Cost Method
Retirement Plan for Employees of Job Service of North Dakota

Actuarial Cost Method:

There is a wide range of funding methods that are considered acceptable by the actuarial profession and meet government standards. The frozen initial liability actuarial cost method is the method used currently for the Retirement Plan for Employees of Job Service North Dakota.

The "annual contribution" under this method is the normal cost plus the payment required to amortize the unfunded initial actuarial accrued liability over a selected period of years. The normal cost is determined by calculating the total value of all future benefits, subtracting the outstanding balance (if any) of the unfunded initial actuarial accrued liability, subtracting the actuarial value of assets, and determining payments (not less than zero) that are a level percent of pay over the future working lifetime of all participants. In the absence of an unfunded initial liability actuarial accrued liability, the frozen initial liability actuarial cost method is the same as the aggregate cost method.

The "scheduled contribution" will be determined when the plan is not in surplus and will be based on a funding policy adopted by the Employer.

Asset Valuation Method:

The asset value indicates the portion of the benefits already funded. The method used to determine this value is called the actuarial asset valuation method. The actuarial asset valuation method is as follows:

The calculated value is determined by adjusting the market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five years at the rate of 20 percent per year. This asset smoothing method was first adopted by the Board to use beginning with the July 1, 2017 actuarial valuation. Net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized as of July 1, 2017.

Actuarial Assumptions:

The information and analysis is used in selecting each assumption that has a significant effect on this actuarial valuation is shown in our report titled Experience Review: July 2009 - June 2014, issued in May 2015.

Mortality Tables:

RP-2000 Combined Healthy Mortality table, sex-distinct, with rates set back 2 years for males and 3 years for females. RP 2000 Disabled Mortality table, sex-distinct, with rates set back 1 years for males (no setback for females), with rates multiplied by 125% for post-retirement disabled mortality. Mortality rates are projected from 2014 using the Social Security Administration (SSA) Intermediate Cost scale.

These underlying tables with generational projection to the ages of participants as one of the measurement date reasonably reflect the mortality experience as of the measurement date.

North Dakota Public Employees Retirement System – Actuarial Section
Job Service Retirement Plan

<u>Age</u>	<u>Healthy Mortality</u>		<u>Disability Mortality</u>	
	<u>Future Life</u>		<u>Future Life</u>	
	<u>Expectancy in</u>		<u>Expectancy in</u>	
	<u>Years in 2017</u>		<u>Years in 2017</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
20	67.85	72.25	32.77	50.17
25	62.45	66.83	30.81	46.28
30	57.06	61.42	28.76	42.33
35	51.69	56.01	26.57	38.29
40	46.37	50.64	24.18	34.13
45	41.10	45.30	21.45	29.80
50	35.89	40.03	18.56	25.55
55	30.76	34.82	16.00	21.76
60	25.81	29.74	13.78	18.44
65	21.14	24.89	11.72	15.41
70	16.90	20.40	9.75	12.63
75	13.08	16.28	7.89	10.12
80	9.74	12.61	6.26	7.95
85	6.98	9.42	4.93	6.11
90	4.88	6.81	3.73	4.60
95	3.48	4.98	2.62	3.48
100	2.64	3.91	1.97	2.81
105	2.18	3.16	1.63	2.17

Disability Incidence Rates:

Sample rates are as follows:

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.0120%	0.0060%
25	0.0171%	0.0085%
30	0.0220%	0.0110%
35	0.0295%	0.0147%
40	0.0440%	0.0220%
45	0.0719%	0.0360%
50	0.1212%	0.0606%
55	0.2018%	0.1009%
60	0.3254%	0.1627%
65	0.2500%	0.2500%

Withdrawal Rates:

There are no withdrawal rates for Job Service members.

Retirement Rates

Rates of retirement for members eligible to retire during the next year were as follows:

<u>Age</u>	<u>Rates</u>
50-64	15.00%
65+	100.00%

Salary Scale

3.5% per year.

Post-retirement cost-of-living adjustment:

2.5% per year.

North Dakota Public Employees Retirement System – Actuarial Section

Job Service Retirement Plan

Marital Status

It is assumed that 85 percent of participants have an eligible spouse at the time of retirement or pre-retirement death. The male spouse is assumed to be four years older than the female spouse.

Spouses are assumed to be the opposite sex of the employees and retirees. The relatively low rate of same-sex spouses does not have a material actuarial impact on the actuarial valuation results

Rate of Return on Assets/Discount Rate:

4.75% per year, compounded annually, net of investment expenses

Future Benefit Accruals:

One year of credited service per year per active employee included in the valuation

Annual Administrative Expenses

Prior year expenses, adjusted for inflation

Benefit Election:

55% of participants are assumed to elect the Single Life Annuity with 120 month guarantee, and 45% are assumed to elect the 55% Contingent Annuitant Option.

Changes in Actuarial Assumptions or Cost Method

The Board approved the following changes to the actuarial assumptions beginning with the July 1, 2017 valuation:

- The investment return assumption was lowered from 5.7% to 4.75%

Summary of Plan Provisions - Job Service Retirement Plan

This section summarizes the major benefit provisions of the Retirement Plan for Employees of Job Service as included in the valuation. It is not intended to be, nor should it be, interpreted as a complete statement of all plan provisions. Benefits are established through the plan document, as amended. The system provides a post-retirement cost-of-living adjustment each year, based on the Consumer Price Index

1. Normal Retirement

Age Requirement: 65

Service Requirement: None

Benefit: Average monthly earnings multiplied by the sum of:

- 1.5% times credited service up to five years, plus
- 1.75% times credited service between six and ten years, plus
- 2.00% times credited service in excess of ten years

Average Monthly Earnings - monthly average earnings during the highest three consecutive years of employment

2. Optional Retirement

Age and Service Requirements:

Age 62 with 5 years of credited service, or

Age 60 with 20 years of credited service, or

Age 55 with 30 years of credited service.

Benefit: Accrued normal retirement benefit.

North Dakota Public Employees Retirement System – Actuarial Section
Job Service Retirement Plan

3. Early Retirement

Age Requirement: Ten years before normal or optional retirement age

Service Requirement: Same as optional retirement

Benefit: Accrued normal retirement benefit, reduced if payments begin before normal or optional retirement

4. Disability Benefit

Age Requirement: None

Service Requirement: Five years of credited service

Benefit: Greater or accrued normal retirement benefit or 40% of average monthly earnings

5. Deferred Vested Retirement

Age Requirement: None

Service Requirement: Five years of credited service

Benefit: Accrued normal retirement benefit payable at normal or optional retirement. After attainment of early retirement age, reduced benefits may not be paid.

Employees who meet the requirements for a vested benefit may elect to receive a return of their accumulated employee contributions (including interest at 4% per year) in lieu of all other benefits under the plan.

6. Refund of Member Contributions:

Employees who do not meet the requirements for a vested benefit will receive a return of their accumulated employee contributions (including interest at 4% per year).

7. Pre-Retirement Death Benefits

Married participants or single participants with eligible children

Surviving Spouse's Benefit:

Age Requirement: None

Service Requirement: None

Benefit: 55% of the greater of (a) or (b)

(a) Accrued normal retirement benefit

(b) The lesser of (1) or (2)

(1) 40% of average monthly earnings

(2) Normal retirement benefit based on credited service to age 60

Children's Benefit:

Provided for children under age 18 (age 22 if a full-time student) note: the actuarial valuation does not consider the benefits for expected surviving children

North Dakota Public Employees Retirement System – Actuarial Section
Job Service Retirement Plan

Single participants with no eligible children

120 Payment Guarantee:

Age Requirement: None

Service Requirement: Five years of credited service

Benefit: Accrued normal retirement benefit payable for 120 months. Not payable if surviving spouse or children's benefit is payable.

Lump Sum Benefit:

Age Requirement: None

Service Requirement: None

Benefit: Accumulated employee contributions (including interest at 4% per year). Not payable if the surviving spouse, children's benefit or 120 payment guarantee is in effect

8. Post-Retirement Death Benefits

Based on form of payment elected by the pensioner.

9. Post-Retirement Cost-of-Living Adjustment

Based on the Consumer Price Index as approved by the Board.

10. Participation

Plan participant before October 1, 1980

11. Credited Service

Monthly salaried employment in a probationary or permanent status including only: service for which contributions were made (including purchased service), eligible military service and unused sick leave.

12. Contribution Rate

Employee: 7% of average monthly earnings (4% picked up by employer)

Employer: remaining scheduled contribution, if any.

13. Normal and Optional Forms of Payment:

- Single Life Annuity with 120 month guarantee (Normal);
- Single Life Annuity with 240 month guarantee;
- Single Life Annuity with 180 month guarantee;
- 55% Contingent Annuitant Option;
- 75% Contingent Annuitant Option;
- 100% Contingent Annuitant Option; and
- Uniform Income Option

Changes in Plan Provisions Since the Previous Valuation:

There have been no changes in plan provisions since the previous valuations as of July 1, 2016

North Dakota Public Employees Retirement System – Actuarial Section
Job Service Retirement Plan

Schedule of Active Member Valuation Data
Job Service Retirement Plan 2009 – 2018

Valuation Date 7/1	Number	Annual Payroll (\$ in Millions)	Average Annual Pay ¹	% Increase in Avg Pay
2009	35	\$ 1.7	\$ 48,841	5.3%
2010	31	1.6	51,975	6.4%
2011	23	1.2	52,208	0.4%
2012	19	1.0	54,892	5.1%
2013	15	0.8	56,173	2.3%
2014	13	0.8	60,819	8.3%
2015	11	0.7	63,402	4.2%
2016	9	0.6	62,743	(1.0)%
2017	8	0.5	62,321	(0.7)%
2018	7	0.4	59,522	(4.5)%

¹Prior to the actuarial valuation as of July 1, 2017, annual payroll and average annual pay are based on projected annual compensation for the upcoming year. Beginning with the actuarial valuation as of July 1, 2016, annual payroll and average annual pay are based on annualized payroll as of the actuarial valuation date.

Retirement Plan for Employees of Job Service North Dakota
Retirees and Beneficiaries (Including Traveler's Annuitants)
Added to and Removed from the Rolls, 2009 – 2018

Plan Year	Beg of Year		Added to Rolls		Removed from Rolls		End of Year Balance		Average	% Increase
	No.	Ann. Benefits*	No.	Ann. Benefits*	No.	Ann. Benefits*	No.**	Ann. Benefits*	Annual	in Annual
	Benefit									
Retirement										
2009	216	\$ 3,555,010	4	\$ 354,356	(6)	(\$80,657)	214	\$ 3,828,709	\$ 17,891	7.7%
2010	214	3,828,709	4	116,464	(7)	(121,601)	211	3,866,281	18,324	1.0%
2011	211	3,866,281	8	229,678	(6)	(96,255)	213	3,999,704	18,778	3.5%
2012	213	3,999,704	9	543,433	(10)	(153,978)	212	4,389,159	20,704	9.7%
2013	212	4,389,159	8	273,087	(7)	(250,470)	213	4,411,776	20,713	0.5%
2014	213	4,411,776	6	300,806	(6)	(86,706)	213	4,625,876	21,718	4.9%
2015	213	4,625,876	2	106,825	(9)	(119,238)	206	4,613,463	22,395	-0.3%
2016	206	4,613,463	7	119,994	(7)	(126,408)	206	4,607,049	22,364	-0.1%
2017	206	4,607,049	2	110,266	(9)	(189,860)	199	4,527,455	22,751	-1.7%
2018	199	4,527,455	7	239,216	(10)	(169,016)	196	4,597,655	23,457	1.6%

* Includes cost of living adjustment of 3.6% for retirement benefits in pay status as of July 1, 2012, 1.7% as of July 1, 2013, 1.5% as of July 1, 2014, 1.7% as of July 1, 2015, 0.3% as of July 1, 2017, and 2.0% as of July 1, 2018.
Excludes benefits paid by Brighthouse.

** Includes 2 alternate payees

Solvency Test – Job Service Retirement Plan
2009 – 2018

A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the plan's present assets (primarily cash and investments) are compared with:

- 1) The liabilities for future benefits to present retired lives; and
- 2) The liabilities for future benefits to inactive vested employees not in pay status; and
- 3) The liabilities for future benefits to current active employees.

In a system that has been following level percent of payroll financing, the liabilities for service already rendered by active members (liability 3) should be partially covered by the remainder of present assets. If the system continues using level cost financing, the funded portion of liability 3 will increase over time.

(Amounts in Millions)

		(1)	(2)	(3)				
Valuation		Retirees,	Inactive Vested Employee		Actuarial	Portion (%) of Present Value Covered		
Date	Present Value of	Term Vested and	(Not in	Active	Value of	By Assets		
7/1	Future Benefits	Beneficiaries	Pay Status)	Members	Assets	(1)	(2)	(3)
2009	\$72.0	\$55.3	\$0.2	\$16.5	\$74.5	100%	100%	100%
2010	70.9	55.1	0.2	15.6	73.5	100%	100%	100%
2011	68.2	55.7	0.9	11.6	74.2	100%	100%	100%
2012	72.0	61.1	0.7	10.2	75.1	100%	100%	100%
2013	66.4	56.7	1.9	7.8	76.3	100%	100%	100%
2014	65.5	57.9	0.0	7.6	78.2	100%	100%	100%
2015	63.6	56.2	0.0	7.4	79.2	100%	100%	100%
2016	61.4	55.0	0.0	6.4	81.0	100%	100%	100%
2017	63.8	57.4	0.0	6.4	98.4	100%	100%	100%
2018	68.3	62.1	0.0	6.1	98.4	100%	100%	100%

As of July 1, 2017, the asset smoothing method was revised and net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized.

Analysis of Financial Experience - Job Service Retirement Plan

Changes in the Contribution Rate During Years Ended June 30
 Resulting from Differences Between Assumed Experience and Actual Experience

<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	0.00%	0.00%	0.00%	0.00%
Plan Change	0.00	0.00	0.00	0.00
Plan Experience	0.00	0.00	0.00	0.00
Change in Amortization Schedule	0.00	0.00	0.00	0.00
Assumption Changes	0.00	0.00	0.00	0.00
Investment Loss/(Gain)	0.00	0.00	0.00	0.00
Contribution Loss/(Gain)	0.00	0.00	0.00	0.00
Employer Cost Rate - End of Year	0.00%	0.00%	0.00%	0.00%

**North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund**



P: 312.456.9800 | F: 312.683.3271 | www.grsconsulting.com

December 3, 2018

Board Members

North Dakota Retiree Health Insurance Credit Fund
Bismarck, North Dakota

Members of the Board:

At your request, we have performed an actuarial valuation which includes actuarial valuation results for funding purposes and separate actuarial valuation results for accounting purposes for the North Dakota Retiree Health Insurance Credit Fund ("RHIC") as of July 1, 2018. The purpose of the funding actuarial valuation, which is performed annually, is to determine the funding status and actuarial employer contribution rate for the RHIC. The actuarial valuation was performed at the request of the Board and is intended for use by the Board and RHIC and those designated by the Board and RHIC. This report may be provided to parties other than the Board and RHIC only in its entirety and only with the permission of the Board and RHIC. GRS is not responsible for reliance upon this valuation for any other purpose, or by any other party.

Actuarial Assumptions and Methods

The actuarial valuation report was prepared using actuarial assumptions adopted by the Board as authorized under North Dakota Administrative Code Section 71-06. All actuarial assumptions used in this report are reasonable for the purposes of this actuarial valuation. There were no changes in actuarial assumptions since the previous actuarial valuation as of July 1, 2017.

Beginning with the actuarial valuation as of July 1, 2017, the Board adopted changes to the economic actuarial assumptions (excluding the salary increase assumption) and asset valuation method. The actuarial assumptions were based on a review of the economic actuarial assumptions performed by GRS.

All other actuarial assumptions used in the actuarial valuation as of July 1, 2018, were based on an experience review for the five-year period ending July 1, 2014, which was performed by the prior actuary. The actuarial assumptions were first adopted for use commencing with the July 1, 2015, actuarial valuation.

The plan was changed a few years ago to no longer require enrollment in the NDPERS health insurance plan in order to receive payments from the RHIC. As a result, beginning with the 2016 actuarial valuation, all eligible retirees were included in the actuarial valuation (including those not enrolled in the NDPERS health insurance plan). In addition, it is assumed that only members retiring directly from active status will receive payments from the RHIC.

120 North LaSalle Street | Suite 1350 | Chicago, Illinois 60602-3495

Board Members
December 3, 2018
Page 2

GRS performed an analysis of participation in the RHIC in a study dated May 1, 2018. GRS made the following recommendations in the analysis:

- Include liabilities for current terminated vested members;
- Incorporate participation rates for current active and terminated vested members and retired members eligible (but not currently receiving benefits); and
- Decrease the investment return assumption from the current rate of 7.50 percent based on the current asset allocation.

The actuarial contribution rate is calculated using a 40-year closed period (beginning July 1, 1990) level-percentage of pay amortization of the unfunded liability. The remaining amortization period is 12 years as of the actuarial valuation date.

The actuarial assumptions and methods used, including the economic and demographic assumptions, the actuarial cost method and the asset valuation method, meet the Actuarial Standards of Practice issued by the Actuarial Standards Board for the funding of public sector pension plans and are set by the Board. Assumptions and methods required under GASB Statement Nos. 67 and 68 were used in the preparation of the accounting disclosures and schedules required by GASB Statement Nos. 67 and 68.

Benefit Provisions

There were no changes since the previous valuation.

Participant Data

A total of 23,747 active members were included in the actuarial valuation as of July 1, 2018. Between the 2017 and 2018 actuarial valuations, the number of active employees increased by 250 members, or 1.1 percent. The average annual valuation pay increased by 0.1 percent, from \$46,042 to \$46,078 between the 2017 and 2018 actuarial valuations.

The number of eligible current benefit recipients increased from 11,232 to 11,823, or 5.3 percent, since the last actuarial valuation. All eligible retirees, including those not enrolled in the NDPERS health insurance plan, were included beginning with the 2016 actuarial valuation.

The average monthly benefit increased by 1.0 percent, from \$97 to \$98.

Actuarial Valuation Assets

On a market value basis, RHIC assets had an investment return of approximately 6.92 percent (net of investment expenses). On an actuarial value of asset basis, RHIC assets had an investment return of approximately 8.22 percent, which compares to the prior year assumed rate of return of 7.50 percent.

The actuarial value of assets is currently 99 percent of the market value of assets. There is \$1,694,267 in net asset gains currently being deferred that will be phased into the actuarial value of assets over the next four years.



Board Members
December 3, 2018
Page 3

Statutory and Actuarial Employer Contributions

The actuarially determined contribution rate is calculated as the normal cost contribution (to fund benefits accruing during the year) plus a contribution to amortize the unfunded liability. The unfunded liability contribution rate is calculated using a 40-year closed period (beginning July 1, 1990) level-percentage of pay amortization of the unfunded liability. The remaining amortization period is 12 years as of the actuarial valuation date. If employers contributed the actuarial contribution rate, the contribution rate would be expected to remain level using a 40-year closed amortization period (assuming the actuarial assumptions are realized, including a 7.50 return on the actuarial value of assets). A closed amortization period is expected to increase the funded ratio to 100 percent by the end of the closed period (assuming no actuarial gains or losses).

The contributions that are made by employers are based on fixed contribution rates that are set by statute (and not based on the actuarially determined rate). The statutory contribution rate of 1.14 percent is slightly higher than the actuarial contribution rate of 1.09 percent.

The portion of the statutory contribution that is applied toward the unfunded liability is the statutory contribution rate minus the employer normal cost rate. The unfunded liability contribution rate from the statutory contribution is higher than the rate calculated using the 12-year level percentage of payroll amortization period. (The equivalent amortization period of the unfunded liability rate from the statutory contribution rate is 11.0 years based on the actuarial value of assets and 10.7 years based on the market value of assets.)

Reliance on Others

The actuarial valuation was based upon information furnished by the NDPERS Staff, concerning benefits provided by the North Dakota Retiree Health Insurance Credit Fund, financial transactions, plan provisions and census data for active members, terminated members, retirees and beneficiaries as of July 1, 2018. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the NDPERS Staff.

The trend data in the Financial Section and the schedules and other data in this Section are prepared by NDPERS Staff with our input. Data prior to fiscal year 2016 was prepared by NDPERS Staff and the prior actuary. Specifically these exhibits are:

- Actuarial Assumptions and Cost Method
- Changes in Actuarial Assumptions and Cost Method
- Active Member Valuation Data
- Retirees and Beneficiaries Added to and Removed from the Rolls
- Solvency Test
- Analysis of Financial Experience
- Schedule of Retired Members by Type of Benefit
- Schedule of Average Monthly Benefit Payments



Board Members
December 3, 2018
Page 4

Accounting Schedules under GASB Statement Nos. 74 and 75

The total OPEB liability (actuarial accrued liability) is based on a measurement date of July 1, 2018, under the Entry Age Normal actuarial cost method. A single discount rate of 7.50 percent was used to measure the total pension liability. The single discount rate was based on the expected rate of return on OPEB plan investments of 7.50 percent and the municipal bond rate of 3.62 percent. All other assumptions and methods used in the funding actuarial valuation for calculation of the actuarial accrued liabilities as of July 1, 2018, were used in the GASB 74/75 actuarial valuation for calculation of the total OPEB liability for fiscal year ending June 30, 2018.

The net OPEB liability is measured as the total OPEB liability, less the amount of the OPEB plan's fiduciary net position (market value of assets) as of June 30, 2018.

Certification

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the North Dakota Retiree Health Insurance Credit Fund as of the actuarial valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Lance J. Weiss and Amy Williams are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

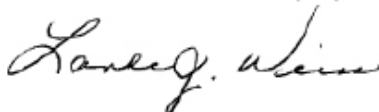
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or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

This report should not be relied on for any purpose other than the purpose stated.

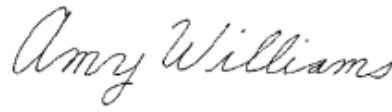
The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant and Team Leader



Amy Williams, A.S.A., M.A.A.A., F.C.A.
Consultant

AW:nn



Actuarial Assumptions and Cost Method
Retiree Health Insurance Credit Fund

Mortality Tables:

Active PERS Members and Retirees:

RP-2000 Combined Healthy Mortality table, sex-distinct, with rates set back 2 years for males and 3 years for females. RP 2000 Disabled Mortality table, sex-distinct, with rates set back 1 year for males (no setback for females), with rates multiplied by 125% for post-retirement disabled mortality. Mortality rates are projected from 2014 using the Social Security Administration (SSA) Intermediate Cost scale.

These underlying tables with generational projection to the ages of participants as one of the measurement date reasonably reflect the mortality experience as of the measurement date.

Age	<u>Healthy Mortality</u>		<u>Disability Mortality</u>	
	<u>Future Life</u>		<u>Future Life</u>	
	<u>Expectancy in</u>		<u>Expectancy in</u>	
	<u>Years in 2016</u>		<u>Years in 2016</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
20	67.85	72.25	32.77	50.17
25	62.45	66.83	30.81	46.28
30	57.06	61.42	28.76	42.33
35	51.69	56.01	26.57	38.29
40	46.37	50.64	24.18	34.13
45	41.10	45.30	21.45	29.80
50	35.89	40.03	18.56	25.55
55	30.76	34.82	16.00	21.76
60	25.81	29.74	13.78	18.44
65	21.14	24.89	11.72	15.41
70	16.90	20.40	9.75	12.63
75	13.08	16.28	7.89	10.12
80	9.74	12.61	6.26	7.95
85	6.98	9.42	4.93	6.11
90	4.88	6.81	3.73	4.60
95	3.48	4.98	2.62	3.48
100	2.64	3.91	1.97	2.81
105	2.18	3.16	1.63	2.17

Withdrawal Rates:

Different withdrawal rates are applied to the active members of the Main and DC Systems, Highway Patrol, Judges and Law Enforcement. Rates for the Main and Law Enforcement Systems are detailed below. The withdrawal assumptions applied to the active members in the other groups are detailed in the valuation report for their retirement system.

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members terminating employment.

North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund

Service and Age-Based Rates for First Five Years of Service						
Service Beginning of Year	Main System			Law Enforcement		
	Age					
	Under 30	30-39	40+	Under 30	30-39	40+
0	22.00%	16.00%	12.00%	25.00%	20.00%	17.00%
1	18.00%	14.00%	10.00%	23.00%	17.00%	15.00%
2	16.00%	12.00%	10.00%	20.00%	15.00%	12.00%
3	14.00%	12.00%	8.00%	17.00%	13.00%	10.00%
4	14.00%	11.00%	7.00%	15.00%	11.00%	7.00%

Age	Age-Based Rates Only After First Five Years of Service	
	Main System	Law Enforcement
20-24	8.80%	8.80%
25-29	8.80%	8.80%
30-34	5.50%	5.50%
35-39	4.70%	4.70%
40-44	3.90%	3.90%
45-49	3.70%	3.70%
50-54	3.40%	3.40%
55-59	0.10%	0.10%
60+	0.20%	0.20%

No pre-retirement termination is assumed for Judges.

Disability Incidence Rates:

Sample rates are as follows:

Age	Male	Female
20	0.0120%	0.0060%
25	0.0171%	0.0085%
30	0.0220%	0.0110%
35	0.0295%	0.0147%
40	0.0440%	0.0220%
45	0.0719%	0.0360%
50	0.1212%	0.0606%
55	0.2018%	0.1009%
60	0.3254%	0.1627%
65	0.2500%	0.2500%

Retirement Rates

Different retirement rates are applied to the active members of the Main and DC Systems, Highway Patrol, Judges, and Law Enforcement. Retirement rates for the Systems are detailed below. The retirement rates applied to the active members of the other groups are detailed in the valuation report for the retirement system.

North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund

Rates of retirement for members eligible to retire during the next year were as follows:

Age	Main System		Law Enforcement	Judges
	Reduced	Unreduced	Unreduced	Unreduced
50		30.00%	25.00%	
51		10.00%	25.00%	
52		10.00%	25.00%	
53		10.00%	25.00%	
54		10.00%	25.00%	
55	1.00%	10.00%	10.00%	10.00%
56	1.00%	8.00%	10.00%	10.00%
57	1.00%	8.00%	10.00%	10.00%
58	1.00%	8.00%	10.00%	10.00%
59	1.00%	8.00%	10.00%	10.00%
60	2.00%	8.00%	10.00%	10.00%
61	5.00%	15.00%	10.00%	10.00%
62	10.00%	30.00%	50.00%	10.00%
63	10.00%	30.00%	50.00%	10.00%
64	10.00%	20.00%	50.00%	10.00%
65		30.00%	50.00%	20.00%
66		20.00%	20.00%	20.00%
67		15.00%	20.00%	20.00%
68		15.00%	20.00%	20.00%
69		15.00%	20.00%	20.00%
70		15.00%	20.00%	20.00%
71		15.00%	20.00%	20.00%
72		15.00%	20.00%	20.00%
73		15.00%	20.00%	20.00%
74		15.00%	20.00%	20.00%
75+		100.00%	100.00%	100.00%

Highway Patrol

Age	Rates
50	20.00%
51	20.00%
52	20.00%
53	20.00%
54	20.00%
55+	100.00%

Unreduced retirement is achieved when reaching age 65 or meeting the Rule of 85.

Participation Rates

All members are assumed to participate.

Benefit Election

Main and DC Systems and Law Enforcement:

- 50% of participants are assumed to elect the Single Life Annuity with 120 month guarantee,
- 45% are assumed to elect the 55% Contingent Annuitant Option,
- 5% of new retirements are assumed to elect a Refund of Member Contributions

Valued without reduction for optional form of payment

Judges and HPRS:

- 100% of retirees will elect a 100% joint and survivor form of pension from the retirement system

Valued without reduction for optional form of payment

North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund

Interest Rate

7.5% per annum, net of investment expenses

Inflation

2.5% per annum

Annual Administrative Expenses

Prior year expenses, adjusted for inflation

Marital Status

It is assumed that 75% of participants in the Main System and Law Enforcement and 100% of Judges and Highway Patrol participants have an eligible spouse at the time of retirement or pre-retirement death. The male spouse is assumed to be three years older than the female spouse.

Spouses are assumed to be the opposite sex of the employees and retirees. The relatively low rate of same-sex spouses does not have a material actuarial impact on the actuarial valuation results

Payroll Growth

3.75% per annum

Actuarial Cost Method:

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using the Individual Entry Age Normal actuarial cost method having the following characteristics:

- The normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year by year projected covered pay

Asset Valuation Method:

Calculated by determining the adjusted market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five years at the rate of 20% per year.

Changes in Actuarial Assumptions or Cost Method

There have been no changes in plan provisions since the previous actuarial valuation as of July 1, 2017.

North Dakota Public Employees Retirement System – Actuarial Section Retiree Health Insurance Credit Fund

Summary of Plan Provisions - Retiree Health Insurance Credit Fund

This section summarizes the major benefit provisions of the North Dakota Public Employees Retirement System Retiree Health Insurance Credit Fund as included in the valuation. It is not intended to be, nor should it be, interpreted as a complete statement of all plan provisions. Benefits are set by statute. There are no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases.

1. Covered Employees

Members of the Public Employees Retirement System, the Highway Patrolmen's Retirement System and the Defined Contribution Retirement Plan

2. Eligibility

Receiving a periodic payment from Public Employees Retirement System, the Highway Patrolmen's Retirement System or the Defined Contribution Retirement Plan and incurring an eligible insurance premium expense.

3. Normal Retirement

Age Requirement:

Main, DC Systems, and Judges: Age 65, or at any age with age plus service equal to at least 85 (rule of 85). For member enrolled after December 31, 2015 into the Main System, attainment of age 65, or at any age with age plus service equal to at least 90 (rule of 90).

Highway Patrol: Age 55 or at any age with age plus service equal to at least 80 (rule of 80)

Law Enforcement: Age 55, or if not National Guard, at any age with age plus service equal to at least 85 (rule of 85). National Guard is eligible for Rule of 85 on August 1, 2015.

Service Requirement:

Main, DC Systems, and Judges: None

Highway Patrol: 10 years

Law Enforcement: 3 consecutive years

Effective July 1, 2015, the Retiree Health Insurance Credit benefit may be used for any health insurance and/or prescription drug plan for which a retiree incurs an eligible premium expense. In addition, the benefit can also be applied toward NDPERS administered dental, vision, and long-term care plan premium expenses

Benefit Amount: A monthly stipend equal to \$5.00 times years of service.

4. Early Retirement

Age Requirement:

Main, DC Systems, and Judges: Age 55

Highway Patrol and Law Enforcement: Age 50

North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund

Service Requirement:

Main, DC Systems, and Law Enforcement: 3 years

Judges: 5 years

Highway Patrol: 10 years

Benefit:

Main, DC Systems and Judges: The Normal Retirement Benefit reduced by 3% for retirements at age 64 and an additional 6% for each year by which retirement precedes age 64.

Benefits are unreduced upon the fulfillment of the Rule of 85

Highway Patrol and Law Enforcement: The Normal Retirement Benefit reduced by 3% for retirements at age 54 and an additional 6% for each year by which retirement precedes age 54.

Benefits are unreduced upon the fulfillment of the Rule of 80, for Highway Patrol and Rule of 85 for Law Enforcement

5. Disability Retirement

Age Requirement: None

Service Requirement: 6 months

Other Requirements: As required by applicable pension plan

Benefit: Same as Normal Retirement Benefit

6. Pre-Retirement Death Benefits

Age Requirement: None

Service Requirement:

Main, DC Systems, and Law Enforcement: 3 years

Judges: 5 years

Highway Patrol: 10 years

Benefit Amount: Same as Normal Retirement Benefit accrued to the date of the member's death, payable for as long as benefits are payable to the spouse from the Retirement System under the standard option

7. Post-Retirement Death Benefits

Following a retired member's death, the Retiree Health Insurance Credit Fund will:

- 1) Continue benefits to the member's spouse if the spouse continues to receive a monthly pension from member's Retirement Plan, or
- 2) Provide benefits to the member's spouse if the member selected a joint and survivor option from the Retiree Health Insurance Credit Fund.

North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund

8. Alternative Options

If benefits from the member's Retirement Plan are paid under single life, level Social Security, or 10 or 20-year term certain options (without a continuation to the spouse after the certain period ends), actuarially reduced health credit benefits may be elected for the spouse. Alternative options in the Retiree Health Insurance Credit Fund include 50% and 100% joint and survivor annuities

9. Service

Members receive credit for each year and month of employment

10. Contributions

The employer contributes 1.14% of covered salaries and wages for participating employees.

Plan Amendments - Retiree Health Insurance Credit Fund

There have been no changes made in the plan provisions since the prior valuation

**Retired Members and Beneficiaries,
Average Annual Benefit and Active Member/Retiree Comparison
Retiree Health Insurance Credit Fund 2009 – 2018**

Valuation Date 7/1	Number of Active Members*	Number of Retired Members	Average Annual Benefit	Number of Active Members Per Retiree
2009	20,150	4,030	\$ 1,356	5.0
2010	20,936	4,105	1,377	5.1
2011	21,210	4,242	1,394	5.0
2012	21,322	4,442	1,416	4.8
2013	21,785	4,635	1,428	4.7
2014	22,642	4,828	1,428	4.7
2015	23,237	5,212	1,455	4.5
2016	23,664	10,320	1,199	2.3
2017	23,497	11,232	1,164	2.1
2018	23,747	11,823	1,170	2.0

** Number of active members prior to 7/1/2014 is approximated based on figures from the NDPERS Comprehensive Annual Financial Report*

North Dakota Public Employees Retirement System – Actuarial Section
Retiree Health Insurance Credit Fund

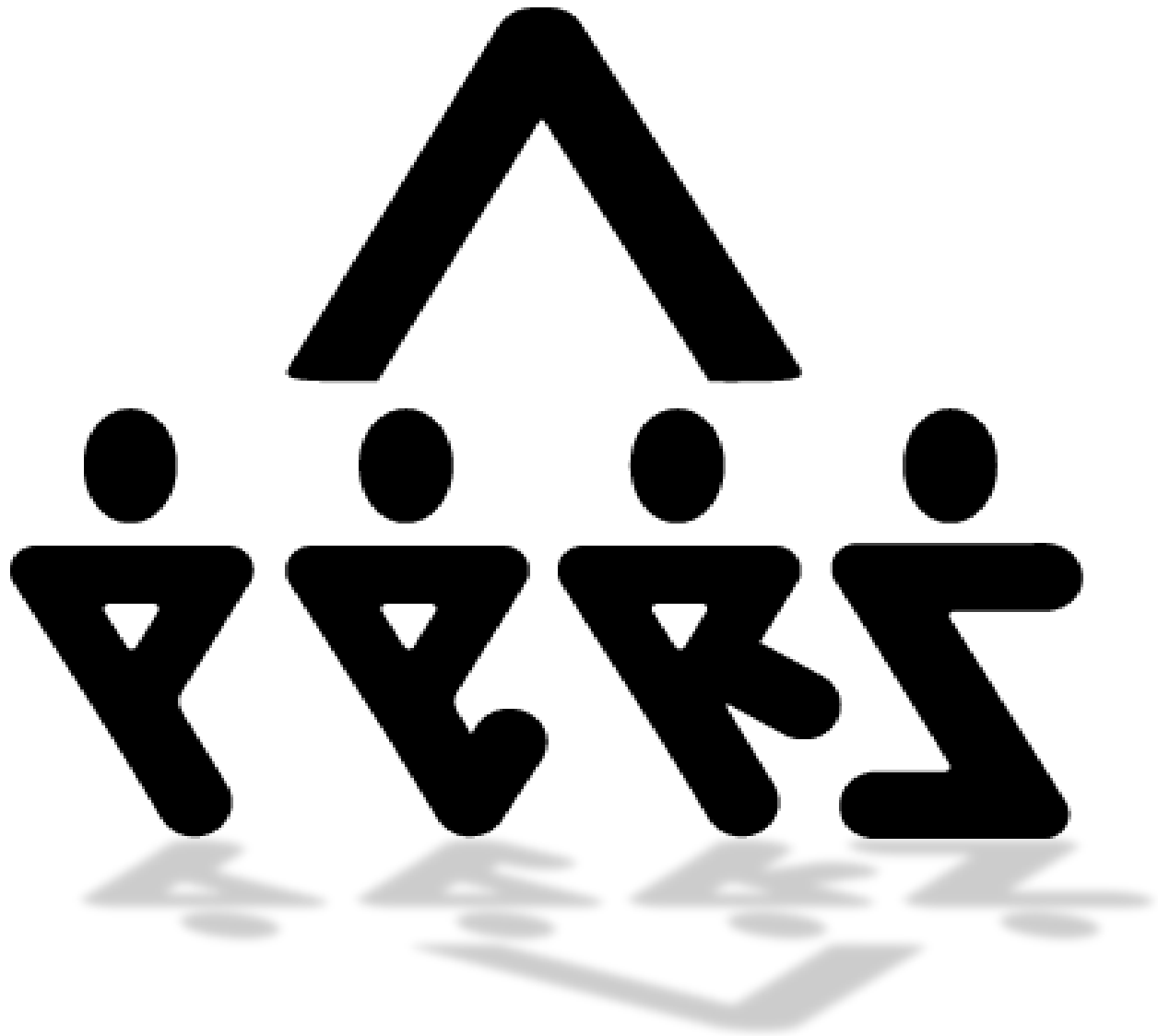
Assets and Actuarial Accrued Liabilities
Retiree Health Insurance Credit Fund 2009 - 2018

(Amounts in Millions)						
	Total Actuarial	Total Actuarial	Assets as of % of Total	Unfunded		Total Unfunded
<u>July 1</u>	<u>Accrued Liability</u>	<u>Value of Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Actuarial Accrued Liability</u>	<u>Total Payroll</u>	<u>Liability as % of Payroll</u>
2009	102.2	44.8	43.9	57.4	719.8	8.0
2010	102.8	48.7	47.4	54.1	793.6	6.8
2011	108.4	53.7	49.6	54.7	829.0	6.6
2012	112.4	58.3	51.9	54.1	824.9	6.6
2013	114.1	66.0	57.8	48.1	914.4	5.3
2014	116.6	77.9	66.8	38.7	1,001.2	3.9
2015	128.9	89.4	69.4	39.5	1,052.7	3.8
2016	176.6	97.8	55.4	78.8	1,142.4	6.9
2017	196.7	114.6	58.3	82.1	1,157.5	7.1
2018	206.7	126.2	61.1	80.5	1,170.9	7.2

Analysis of Financial Experience -Retiree Health Insurance Credit Fund

Changes in the Contribution Rate During Years Ended June 30
 Resulting from Differences Between Assumed Experience and Actual Experience

<u>Plan Year Ended</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>	<u>June 30, 2017</u>	<u>June 30, 2018</u>
Employer Cost Rate - Beginning of Year	0.64%	0.72%	1.02%	1.05%
Plan Change	0.04	0.00	0.00	0.00
Plan Experience	0.00	0.30	0.01	0.05
Change in Amortization Schedule	(0.01)	0.00	0.00	0.00
Assumption Changes	(0.10)	0.00	0.03	0.00
Investment Loss/(Gain)	0.15	0.00	(.01)	(.01)
Contribution Loss/(Gain)	0.00	0.00	0.00	0.00
Employer Cost Rate - End of Year	0.72%	1.02%	1.05%	1.09%



STATISTICAL SECTION

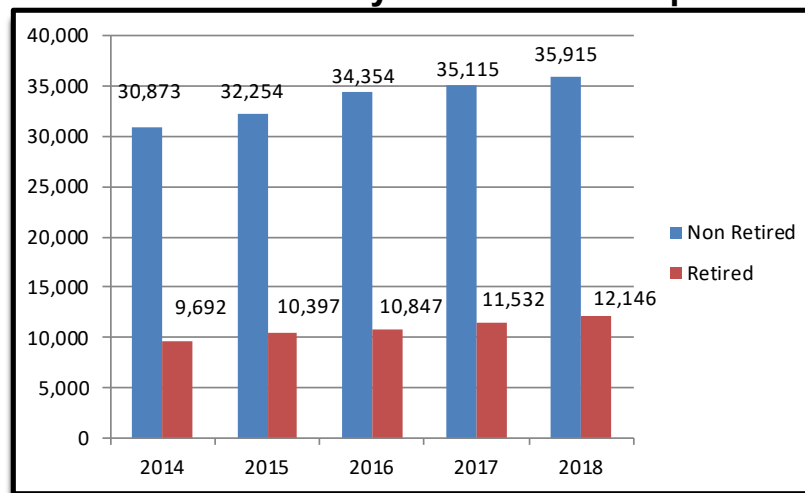
The Statistical Section contains membership and financial information for the programs administered by the System. Included in this section are schedules providing financial trend information for administrative cost per member, benefits paid, changes in net position and deferred compensation assets by provider. Information on the operations of the System is provided in the schedules of members by type of benefit, average benefit payments, participating employers, Group Health insurance contracts and premiums.

Retirement System Membership - PERS, HPRS, and Job Service
As of June 30

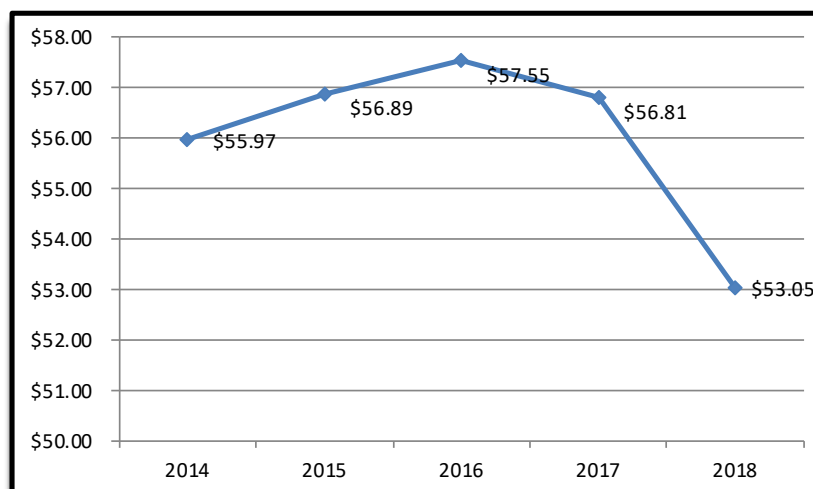
	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
State Agencies	14,176	14,284	15,254	15,157	15,174
Cities	2,142	2,391	2,641	2,820	2,946
Counties	5,410	5,750	5,986	6,157	6,343
School Districts	8,314	8,939	9,528	9,971	10,390
Other Political Subdivisions	831	890	945	1,010	1,062
Total Non-Retired ⁽¹⁾	30,873	32,254	34,354	35,115	35,915
Retired Members & Beneficiaries	9,692	10,397	10,847	11,532	12,146
Total Membership	40,565	42,651	45,201	46,647	48,061
Administrative Expenses	\$ 2,270,230	\$ 2,426,496	\$ 2,601,502	\$ 2,650,122	\$ 2,549,409
Administrative Cost Per Member	\$ 55.97	\$ 56.89	\$ 57.55	\$ 56.81	\$ 53.05

⁽¹⁾ Total non-retired members includes all contributing members plus all non-contributing members who have not begun to receive retirement benefits

Retirement System Membership



Annual Administrative Cost Per Member



**North Dakota Public Employees Retirement System – Statistical Section
Benefit Expenses**

**Schedule of Benefit Expenses by Type - PERS
Fiscal Year Ended June 30**

FY Ended June 30	Annuities			Refunds		Transfers ⁽¹⁾	Total
	Retirant	Disability	Survivor	Death	Separation		
2013	95,023,504	1,930,968	6,341,305	1,045,556	4,738,268	212,500	109,292,101
2014	104,765,144	1,964,820	6,570,735	652,235	5,585,607	347,783	119,886,324
2015	117,545,803	1,901,631	7,732,091	1,221,279	5,996,286	532,647	134,929,737
2016	131,207,803	1,804,201	8,251,792	706,059	7,295,910	398,649	149,664,414
2017	143,554,696	1,750,399	8,505,934	1,228,689	7,712,641	239,609	162,991,968
2018	159,661,655	1,943,716	9,566,078	1,618,411	9,541,076	190,727	182,521,663

**Schedule of Benefit Expenses by Type - HPRS
Fiscal Year Ended June 30**

FY Ended June 30	Annuities			Refunds		Transfers	Total
	Retirant	Disability	Survivor	Death	Separation		
2013	3,353,261	105,131	291,496	0	22,428	0	3,772,316
2014	3,297,164	105,131	350,332	0	32,108	0	3,784,735
2015	4,049,384	105,131	373,663	0	217,332	0	4,745,510
2016	4,179,070	105,131	374,031	0	55,263	0	4,713,495
2017	4,237,782	105,131	425,683	0	37,723	0	4,806,319
2018	4,361,198	111,204	421,406	0	87,569	0	4,981,377

**Schedule of Benefit Expenses by Type - Job Service
Fiscal Year Ended June 30**

FY Ended June 30	Annuities			Refunds		Transfers	Total
	Retirant	Disability	Survivor	Death	Separation		
2013	3,977,545	126,601	249,838	0	0	0	4,353,984
2014	4,208,982	118,440	267,040	0	0	0	4,594,462
2015	4,402,680	150,008	141,483	0	0	0	4,694,171
2016	4,175,496	107,092	318,608	0	0	0	4,601,196
2017	4,117,689	92,459	324,005	0	0	0	4,534,153
2018	4,325,831	73,795	182,951	0	0	0	4,582,577

⁽¹⁾ Includes transfers to Deferred Compensation Plan to offset software development costs

North Dakota Public Employees Retirement System – Statistical Section
Changes in Net Position

Changes in Net Position

Additions:	FY Ended	Member	Employer	Purchased	Investment	Miscellaneous	Total	Employer
	30-Jun	Contributions	Contributions	Service	Income	Income	Additions	Contributions
				Credit				as a % of
								Covered Payroll
Public Employees Retirement System:	2009	26,237,554	27,705,267	3,732,801	(421,049,421)	1,983	(363,371,816)	3.90%
	2010	28,579,338	30,253,093	4,005,571	173,592,763	3,406	236,434,171	3.93%
	2011	30,479,702	32,278,056	3,797,333	308,352,471	2,129	374,909,691	4.01%
	2012	36,095,927	38,005,854	6,503,853	(3,472,695)	8,700	77,141,639	4.75%
	2013	46,815,060	48,846,796	7,470,218	231,849,472	-	334,981,546	5.50%
	2014	59,394,200	61,661,050	8,325,140	316,628,462	1,101	446,009,953	6.33%
	2015	68,392,061	70,842,535	6,651,879	81,536,565	-	227,423,040	6.92%
	2016	74,218,276	77,080,576	9,179,163	11,333,124	23,575,649	195,386,788	6.86%
	2017	76,007,456	78,933,571	11,805,070	311,760,863	32,183	478,539,143	6.94%
	2018	77,486,189	80,727,209	19,984,972	249,165,181	(24,440)	427,339,111	7.01%
Highway Patrolmen's Retirement System:	2009	692,320	1,122,720	-	(13,215,900)	14	(11,400,846)	16.02%
	2010	741,271	1,196,562	-	53,466,677	25	7,284,535	15.46%
	2011	793,028	1,285,699	46,844	9,332,725	4	11,458,300	16.07%
	2012	893,784	1,423,154	13,911	(104,302)	68	2,226,615	17.43%
	2013	1,028,615	1,586,186	133,169	6,854,552	-	9,602,522	16.97%
	2014	1,243,520	1,864,632	87,418	9,239,929	-	12,435,499	18.38%
	2015	1,351,798	2,002,291	96,429	2,334,780	-	5,785,298	18.58%
	2016	1,436,236	2,127,355	-	316,958	5	3,880,554	18.85%
	2017	1,455,540	2,155,944	249,436	8,500,352	221	12,361,493	18.94%
	2018	1,453,533	2,152,970	281,573	6,716,525	(187)	10,604,414	18.70%
Job Service Retirement Plan:	2009	119,115	-	-	(14,092,621)	-	(13,973,506)	0.00%
	2010	114,626	-	-	9,307,523	-	9,422,149	0.00%
	2011	97,591	-	-	11,999,421	2	12,097,014	0.00%
	2012	83,351	-	-	3,100,706	-	3,184,057	0.00%
	2013	72,174	-	-	9,984,241	-	10,056,415	0.00%
	2014	55,748	-	-	11,887,840	-	11,943,588	0.00%
	2015	50,142	-	-	3,260,507	-	3,310,649	0.00%
	2016	44,178	-	-	4,840,333	-	4,884,511	0.00%
	2017	39,417	-	-	5,238,877	-	5,278,294	0.00%
	2018	32,987	-	-	2,918,585	-	2,951,572	0.00%
Retiree Health Insurance Credit Plan:	2009	9,094	6,771,699	169,242	(6,251,486)	-	698,549	0.94%
	2010	10,653	8,392,847	237,735	6,658,687	-	15,299,922	1.06%
	2011	15,592	8,929,903	166,962	9,788,886	-	18,907,343	1.08%
	2012	13,246	9,388,040	423,449	1,604,475	-	11,429,210	1.14%
	2013	13,300	9,959,603	371,587	7,963,391	-	18,307,881	1.09%
	2014	15,539	10,709,792	368,859	12,366,408	-	23,460,598	1.07%
	2015	12,625	11,478,599	347,238	2,760,953	-	14,599,415	1.09%
	2016	16,655	12,349,883	383,089	793,705	-	13,543,332	1.08%
	2017	16,173	12,575,627	464,323	12,074,082	-	25,130,205	1.09%
	2018	15,984	12,834,547	746,942	8,210,898	-	21,808,371	1.10%

Changes in Net Position

Deductions:	FY Ended 30-Jun	<u>Benefits</u>	<u>Administrative Expenses</u>	<u>Transfers & Refunds</u>	<u>Total Deductions</u>	<u>Change in Net Position</u>
Public Employees Retirement System:	2009	71,169,574	1,261,120	5,417,235	77,847,929	(441,219,745)
	2010	76,884,950	1,214,733	4,152,792	82,252,475	154,181,696
	2011	84,307,028	1,797,287	4,933,760	91,038,075	283,871,616
	2012	94,083,387	1,856,915	5,218,039	101,158,341	(24,016,702)
	2013	103,295,777	2,059,315	5,996,324	111,351,416	223,630,130
	2014	113,300,699	2,210,792	6,585,625	122,097,116	323,912,837
	2015	127,179,525	2,365,357	7,750,212	137,295,094	90,127,946
	2016	141,263,796	2,537,799	8,400,345	152,201,940	43,184,848
	2017	153,811,029	2,607,243	9,180,939	165,599,211	312,939,932
	2018	171,171,449	2,472,761	11,350,214	184,994,424	242,344,687
Highway Patrolmen's Retirement System:	2009	3,176,258	18,834	17,911	3,213,003	(14,613,849)
	2010	3,402,021	18,154	131	3,420,306	3,864,229
	2011	3,531,145	22,734	37,156	3,591,035	7,867,265
	2012	3,661,649	26,674	598	3,688,921	(1,462,306)
	2013	3,749,888	29,237	22,428	3,801,553	5,800,969
	2014	3,752,627	27,983	32,108	3,812,718	8,622,781
	2015	4,528,178	217,332	30,925	4,776,435	1,008,863
	2016	4,658,232	31,450	55,263	4,744,945	(864,391)
	2017	4,768,596	30,195	37,723	4,836,514	7,524,979
	2018	4,893,808	30,353	87,569	5,011,730	5,592,684
Job Service Retirement Plan:	2009	3,759,618	25,101	-	3,784,719	(17,758,225)
	2010	3,891,996	24,318	-	3,916,314	5,505,835
	2011	4,012,707	26,368	-	4,039,075	8,057,939
	2012	4,170,969	25,980	-	4,196,949	(1,012,892)
	2013	4,353,984	30,014	-	4,383,998	5,672,417
	2014	4,594,462	31,455	-	4,625,917	7,317,671
	2015	4,694,171	30,214	-	4,724,385	7,317,671
	2016	4,601,196	32,253	-	4,633,449	251,062
	2017	4,534,153	12,684	-	4,546,837	731,457
	2018	4,582,577	46,295	-	4,628,872	(1,677,300)
Retiree Health Insurance Credit Plan:	2009	4,854,724	115,207	2,846	4,972,777	(4,274,228)
	2010	5,563,631	102,353	3,932	5,669,916	9,630,006
	2011	5,789,371	151,388	1,745	5,942,504	12,958,839
	2012	6,092,429	171,393	2,071	6,265,893	5,163,317
	2013	6,458,449	185,619	8,765	66,652,833	11,655,048
	2014	6,798,427	201,471	2,992	7,002,890	16,457,708
	2015	7,246,091	217,989	6,994	7,471,074	7,128,341
	2016	9,329,881	431,291	3,135	9,764,307	3,779,025
	2017	10,012,681	443,220	1,689	10,457,590	14,672,615
	2018	11,013,375	480,244	2,685	11,496,304	10,312,292

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Retired Members by Type of Benefit - PERS
As of June 30, 2018
Main System

Monthly Amount	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under \$200	593	536	2	33	187	1,351	1,164
\$200 - \$400	622	855	29	52	241	1,799	1,558
\$400 - \$600	508	634	39	63	187	1,431	1,244
\$600 - \$800	378	328	39	127	118	990	872
\$800 - \$1,000	325	159	20	257	54	815	761
\$1,000 - \$1,200	229	127	5	350	51	762	711
\$1,200 - \$1,400	186	60	2	366	39	653	614
\$1,400 - \$1,600	136	33	1	327	24	521	497
\$1,600 - \$1,800	118	17	0	337	21	493	472
\$1,800 - \$2,000	100	12	0	300	21	433	412
\$2,000 - \$2,200	71	6	0	260	11	348	337
\$2,200 - \$2,400	70	8	0	244	13	335	322
\$2,400 - \$2,600	50	2	0	208	5	265	260
\$2,600 - \$2,800	42	2	0	183	5	232	227
\$2,800 - \$3,000	31	2	0	133	5	171	166
\$3,000 and Over	190	2	0	724	23	939	916
Total	3,649	2,783	137	3,964	1,005	11,538	10,533
Payment Option	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Life	2,342	1,992	117	1,912	211	6,574	6,363
Life 1% Graduated Benefits	4	0	0	1	0	5	5
Life 2% Graduated Benefits	8	0	0	6	0	14	14
Level Social Security Payment	1	22	0	97	0	120	120
Joint & 100% Survivor	849	489	14	1,167	522	3,041	2,519
Joint & 100% Survivor 1% Graduated Benefits	1	0	0	2	0	3	3
Joint & 100% Survivor 2% Graduated Benefits	6	0	0	7	0	13	13
Joint & 50% Survivor	360	187	6	700	234	1,487	1,253
Joint & 50% Survivor 1% Graduated Benefits	3	0	0	2	0	5	5
Joint & 50% Survivor 2% Graduated Benefits	0	0	0	1	0	1	1
20 Year C & L	33	21	0	13	21	88	67
10 Year C & L	39	63	0	45	11	158	147
10 Year C & L 1% Graduated Benefits	0	0	0	1	0	1	1
5 Year C & L	3	9	0	10	6	28	22
Total	3,649	2,783	137	3,964	1,005	11,538	10,533
Age	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under 50	0	0	16	0	31	47	16
50 - 54	0	0	19	24	17	60	43
55 - 59	0	40	37	298	37	412	375
60 - 64	0	372	64	825	91	1,352	1,261
65 - 69	1,069	777	1	1,200	133	3,180	3,047
70 - 74	1,065	572	0	725	169	2,531	2,362
75 and Over	1,515	1,022	0	892	527	3,956	3,429
Total	3,649	2,783	137	3,964	1,005	11,538	10,533

* Includes Rule of 85, Rule of 88 and Rule of 90.

** Includes alternate payees

*** Total excluding beneficiaries

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Retired Members by Type of Benefit - PERS
As of June 30, 2018
Judges

Monthly Amount	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under \$400	0	0	0	0	0	0	0
\$400 - \$800	0	0	0	0	1	1	0
\$800 - \$1,200	2	0	0	0	0	2	2
\$1,200 - \$1,600	0	0	0	2	1	3	2
\$1,600 - \$2,000	1	2	0	0	3	6	3
\$2,000 - \$2,400	0	0	0	0	0	0	0
\$2,400 - \$2,800	1	0	0	0	1	2	1
\$2,800 - \$3,200	2	0	0	0	3	5	2
\$3,200 - \$3,600	1	1	0	0	1	3	2
\$3,600 - \$4,000	3	1	0	0	0	4	4
\$4,000 - \$4,400	0	0	0	0	1	1	0
\$4,400 - \$4,800	3	0	0	2	1	6	5
\$4,800 - \$5,200	0	0	0	1	2	3	1
\$5,200 - \$5,600	1	0	0	1	0	2	2
\$5,600 - \$6,000	1	0	0	1	0	2	2
\$6,000 and Over	9	0	1	4	1	15	14
Total	24	4	1	11	15	55	40
Payment Option	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Life	1	0	0	1	4	6	2
Level Social Security Payment	0	0	0	0	0	0	0
Joint & 100% Survivor	17	2	0	5	9	33	24
Joint & 50% Survivor	6	2	1	5	2	16	14
10 Year C & L	0	0	0	0	0	0	0
5 Year C & L	0	0	0	0	0	0	0
Total	24	4	1	11	15	55	40
Age	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under 50	0	0	0	0	0	0	0
50 - 54	0	0	0	0	0	0	0
55 - 59	0	0	1	0	0	1	1
60 - 64	0	0	0	0	0	0	0
65 - 69	10	1	0	6	3	20	17
70 - 74	3	1	0	2	5	11	6
75 and Over	11	2	0	3	7	23	16
Total	24	4	1	11	15	55	40

* Includes Rule of 85, Rule of 88 and Rule of 90.

** Includes alternate payees

*** Total excluding beneficiaries

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Retired Members by Type of Benefit - PERS
As of June 30, 2018
Public Safety with Prior Main Service

Monthly Amount	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under \$200	4	1	0	0	3	8	5
\$200 - \$400	1	2	0	0	2	5	3
\$400 - \$600	6	2	0	0	1	9	8
\$600 - \$800	4	1	0	0	3	8	5
\$800 - \$1,000	5	1	0	0	0	6	6
\$1,000 - \$1,200	8	0	1	0	0	9	9
\$1,200 - \$1,400	3	0	0	0	0	3	3
\$1,400 - \$1,600	8	1	0	1	0	10	10
\$1,600 - \$1,800	4	0	0	0	0	4	4
\$1,800 - \$2,000	3	1	0	0	0	4	4
\$2,000 - \$2,200	5	0	0	1	0	6	6
\$2,200 - \$2,400	4	0	0	1	0	5	5
\$2,400 - \$2,600	1	1	0	0	0	2	2
\$2,600 - \$2,800	2	0	0	0	0	2	2
\$2,800 - \$3,000	1	0	0	0	0	1	1
\$3,000 and Over	16	0	0	5	0	21	21
Total	75	10	1	8	9	103	94
Payment Option	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Life	36	5	1	0	0	42	42
Level Social Security Payment	2	2	0	2	0	6	6
Joint & 100% Survivor	21	3	0	6	3	33	30
Joint & 100% Survivor 1% Graduated Benefits	0	0	0	0	0	0	0
Joint & 50% Survivor	15	0	0	0	0	15	15
20 Year C & L	0	0	0	0	6	6	0
10 Year C & L	0	0	0	0	0	0	0
5 Year C & L	0	0	0	0	0	0	0
20 Year Certain	0	0	0	0	0	0	0
Total	75	10	1	8	9	103	94
Age	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under 50	0	0	0	0	5	5	0
50 - 54	0	2	0	0	0	2	2
55 - 59	8	0	1	3	0	12	12
60 - 64	22	5	0	3	0	30	30
65 - 69	28	0	0	1	4	33	29
70 - 74	14	1	0	1	0	16	16
75 and Over	3	2	0	0	0	5	5
Total	75	10	1	8	9	103	94

* Includes Rule of 85, Rule of 88 and Rule of 90.

** Includes alternate payees

*** Total excluding beneficiaries

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Retired Members by Type of Benefit - PERS
As of June 30, 2018
Public Safety without Prior Main Service

Monthly Amount	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under \$200	1	0	0	0	0	1	1
\$200 - \$400	1	0	0	0	0	1	1
\$400 - \$600	2	0	0	0	0	2	2
\$600 - \$800	0	0	0	0	0	0	0
\$800 - \$1,000	0	0	1	0	0	1	1
\$1,000 - \$1,200	0	0	0	0	1	1	0
\$1,200 - \$1,400	1	0	0	0	0	1	1
\$1,400 - \$1,600	0	0	0	0	0	0	0
\$1,600 - \$1,800	0	0	0	0	0	0	0
\$1,800 - \$2,000	0	0	0	0	0	0	0
\$2,000 - \$2,200	0	0	0	0	0	0	0
\$2,200 - \$2,400	0	0	0	0	0	0	0
\$2,400 - \$2,600	0	0	0	0	0	0	0
\$2,600 - \$2,800	0	0	0	0	0	0	0
\$2,800 - \$3,000	0	0	0	0	0	0	0
\$3,000 and Over	1	0	0	0	0	1	1
Total	6	0	1	0	1	8	7
Payment Option	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Life	1	0	1	0	1	3	2
Level Social Security Payment	0	0	0	0	0	0	0
Joint & 100% Survivor	3	0	0	0	0	3	3
Joint & 50% Survivor	2	0	0	0	0	2	2
10 Year C & L	0	0	0	0	0	0	0
5 Year C & L	0	0	0	0	0	0	0
Total	6	0	1	0	1	8	7
Age	Normal	Early	Disability	Service*	Beneficiary**	Total	Total***
Under 50	0	0	1	0	0	1	1
50 - 54	0	0	0	0	1	1	0
55 - 59	0	0	0	0	0	0	0
60 - 64	4	0	0	0	0	4	4
65 - 69	2	0	0	0	0	2	2
70 - 74	0	0	0	0	0	0	0
75 and Over	0	0	0	0	0	0	0
Total	6	0	1	0	1	8	7

* Includes Rule of 85, Rule of 88 and Rule of 90.

** Includes alternate payees

*** Total excluding beneficiaries

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Retired Members by Type of Benefit - HPRS
As of June 30, 2018

Monthly Amount	Normal	Early	Disability	Service*	Beneficiary**	Total
Under \$200	1	0	0	0	2	3
\$200 - \$400	0	0	0	0	4	4
\$400 - \$600	0	0	0	0	0	0
\$600 - \$800	0	0	0	0	1	1
\$800 - \$1,000	1	0	0	0	3	4
\$1,000 - \$1,200	1	0	0	0	5	6
\$1,200 - \$1,400	1	0	0	0	7	8
\$1,400 - \$1,600	0	0	0	0	2	2
\$1,600 - \$1,800	0	0	0	0	2	2
\$1,800 - \$2,000	0	0	0	0	0	0
\$2,000 - \$2,200	1	2	0	1	1	5
\$2,200 - \$2,400	4	0	0	0	0	4
\$2,400 - \$2,600	2	0	0	4	2	8
\$2,600 - \$2,800	1	0	0	5	0	6
\$2,800 - \$3,000	0	0	1	5	0	6
\$3,000 - \$3,200	3	0	0	7	0	10
\$3,200 - \$3,400	1	1	0	2	0	4
\$3,400 - \$3,600	1	0	0	6	1	8
\$3,600 - \$3,800	2	1	0	2	0	5
\$3,800 - \$4,000	0	0	0	3	0	3
\$4,000 - \$4,200	0	0	0	2	1	3
\$4,200 - \$4,400	0	0	0	4	0	4
\$4,400 - \$4,600	1	0	0	4	0	5
\$4,600 - \$4,800	1	0	0	4	0	5
\$4,800 - \$5,000	0	0	0	2	0	2
\$5,000 and Over	2	0	0	17	0	19
Total	23	4	1	68	31	127
Payment Option	Normal	Early	Disability	Service*	Beneficiary**	Total
Life	1	0	0	0	5	6
Level Social Security Payment	0	0	0	0	0	0
Joint & 100% Survivor	9	1	0	41	3	54
Joint & 50% Survivor	13	3	1	27	23	67
5 Year C & L	0	0	0	0	0	0
10 Year C & L	0	0	0	0	0	0
Total	23	4	1	68	31	127
Age	Normal	Early	Disability	Service*	Beneficiary**	Total
Under 50	0	0	0	0	0	0
50 - 54	0	1	1	7	1	10
55 - 59	4	2	0	15	1	22
60 - 64	3	0	0	16	4	23
65 - 69	4	0	0	15	5	24
70 - 74	1	0	0	10	2	13
75 - 79	1	0	0	5	8	14
80 - 84	6	1	0	0	6	13
85 - 89	3	0	0	0	4	7
90 and Over	1	0	0	0	0	1
Total	23	4	1	68	31	127

* Includes Rule of 80.

** Includes alternate payees

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Retired Members by Type of Benefit -
Job Service Retirement Plan as of June 30, 2018

Monthly Amount	Normal	Early	Disability	Beneficiary*	Total
Under \$200	6	0	0	3	9
\$200 - \$400	8	0	0	2	10
\$400 - \$600	4	0	0	5	9
\$600 - \$800	6	0	0	5	11
\$800 - \$1,000	5	0	0	4	9
\$1,000 - \$1,200	3	1	0	6	10
\$1,200 - \$1,400	6	0	1	3	10
\$1,400 - \$1,600	14	0	0	2	16
\$1,600 - \$1,800	7	0	0	4	11
\$1,800 - \$2,000	14	0	0	1	15
\$2,000 - \$2,200	9	0	0	0	9
\$2,200 - \$2,400	8	0	0	0	8
\$2,400 - \$2,600	10	0	0	0	10
\$2,600 - \$2,800	10	0	0	0	10
\$2,800 - \$3,000	10	0	0	0	10
\$3,000 - \$3,200	12	0	0	0	12
\$3,200 - \$3,400	4	0	0	0	4
\$3,400 - \$3,600	5	0	0	0	5
\$3,600 - \$3,800	5	0	0	0	5
\$3,800 - \$4,000	2	0	0	0	2
\$4,000 - \$4,200	4	0	0	0	4
\$4,200 - \$4,400	1	0	0	0	1
\$4,400 - \$4,600	1	0	0	0	1
\$4,600 - \$4,800	1	0	0	0	1
\$4,800 - \$5,000	1	0	0	0	1
\$5,000 and Over	3	0	0	0	3
Total	159	1	1	35	196
Payment Option	Normal	Early	Disability	Beneficiary*	Total
Life	40	0	0	14	54
Joint & 55% Survivor	34	1	1	11	47
Joint & 75% Survivor	18	0	0	7	25
Joint & 100% Survivor	16	0	0	1	17
10 Year C & L	22	0	0	2	24
15 Year C & L	3	0	0	0	3
20 Year C & L	26	0	0	0	26
Total	159	1	1	35	196
Age	Normal	Early	Disability	Beneficiary*	Total
Under 50	0	0	0	0	0
50 - 54	0	0	0	0	0
55 - 59	0	0	0	0	0
60 - 64	8	0	1	1	10
65 - 69	36	0	0	5	41
70 - 74	37	0	0	4	41
75 - 79	34	0	0	2	36
80 - 84	15	0	0	9	24
85 - 89	21	0	0	7	28
90 and Over	8	1	0	7	16
Total	159	1	1	35	196

* Includes 2 alternate payees

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Monthly Benefit Amount -
Retiree Health Insurance Credit Plan as of June 30, 2018

Age	Under \$30	\$30-\$59	\$60-\$89	\$90-\$119	\$120-\$149	\$150-\$179	\$180 and over	Total
Under 50	9	14	10	0	1	3	0	37
50 - 54	14	6	15	3	7	22	3	70
55 - 59	43	49	25	14	84	193	44	452
60 - 64	151	218	137	79	328	335	151	1,399
65 - 69	402	669	500	397	601	410	292	3,271
70 - 74	341	542	422	377	450	253	192	2,577
75 - 79	236	381	349	280	273	150	90	1,759
80 - 84	138	267	268	157	176	112	82	1,200
85 - 89	71	165	168	106	76	53	45	684
90 and Over	18	92	103	72	48	23	18	374
Total	1,423	2,403	1,997	1,485	2,044	1,554	917	11,823

Schedule of Average Benefit Payments - As of June 30
Retiree Health Insurance Credit Fund

	<u>Total</u>
2014	
Total Participants	4,828
Average Monthly Benefits	\$119
2015	
Total Participants	5,212
Average Monthly Benefits	\$121
2016	
Total Participants	10,320
Average Monthly Benefits	\$100
2017	
Total Participants	11,232
Average Monthly Benefits	\$97
2018	
Total Participants	11,823
Average Monthly Benefits	\$98

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Average Benefit Payments - PERS As of June 30

Main System

	Years of Credited Service						
	< 10	10-14	15-19	20-24	25-29	>=30	Total
2014							
Number of Retirees	1,760	1,330	1,193	1,191	1,252	1,662	8,388
Average Monthly Benefits	\$ 248	\$ 440	\$ 647	\$ 1,068	\$ 1,547	\$ 2,345	\$ 1,061
Average Years of Service	6.07	12.32	17.33	22.53	27.25	35.07	19.91
2015							
Number of Retirees	1,957	1,418	1,231	1,273	1,352	1,863	9,094
Average Monthly Benefits	\$ 290	\$ 462	\$ 674	\$ 1,123	\$ 1,616	\$ 2,462	\$ 1,128
Average Years of Service	5.90	12.32	17.30	22.55	27.27	35.08	19.93
2016							
Number of Retirees	1,848	1,471	1,268	1,336	1,470	2,095	9,488
Average Monthly Benefits	\$ 255	\$ 469	\$ 684	\$ 1,151	\$ 1,613	\$ 2,432	\$ 1,163
Average Years of Service	6.25	12.33	17.29	22.57	27.27	35.17	20.61
2017							
Number of Retirees	1,940	1,529	1,324	1,395	1,557	2,252	9,997
Average Monthly Benefits	\$ 260	\$ 484	\$ 714	\$ 1,184	\$ 1,657	\$ 2,507	\$ 1,207
Average Years of Service	6.26	12.33	17.28	22.57	27.29	35.33	20.75
2018							
Number of Retirees	2,052	1,577	1,388	1,451	1,629	2,436	10,533
Average Monthly Benefits	\$ 267	\$ 506	\$ 747	\$ 1,223	\$ 1,709	\$ 2,637	\$ 1,269
Average Years of Service	6.27	12.33	17.29	22.57	27.31	35.45	20.88

Schedule of Average Benefit Payments - PERS As of June 30

Judges

	Years of Credited Service						
	< 10	10-14	15-19	20-24	25-29	>=30	Total
2014							
Number of Retirees	1	5	8	5	7	3	29
Average Monthly Benefits	\$ 1,057	\$ 2,445	\$ 4,124	\$ 5,303	\$ 4,404	\$ 5,258	\$ 4,117
Average Years of Service	3.33	11.92	17.54	23.75	26.56	31.86	20.82
2015							
Number of Retirees	1	6	8	5	9	4	33
Average Monthly Benefits	\$ 1,057	\$ 2,817	\$ 4,288	\$ 5,303	\$ 5,097	\$ 5,887	\$ 4,491
Average Years of Service	3.33	12.25	17.73	23.78	26.82	32.27	21.46
2016							
Number of Retirees	1	6	8	5	9	4	33
Average Monthly Benefits	\$ 1,057	\$ 2,817	\$ 4,288	\$ 5,303	\$ 5,097	\$ 5,887	\$ 4,491
Average Years of Service	3.33	12.25	17.73	23.78	26.82	32.27	21.46
2017							
Number of Retirees	3	3	5	10	8	8	37
Average Monthly Benefits	\$ 2,467	\$ 2,773	\$ 3,545	\$ 5,380	\$ 4,598	\$ 6,644	\$ 4,789
Average Years of Service	6.92	11.58	17.62	23.07	26.92	36.77	23.89
2018							
Number of Retirees	4	2	6	11	7	10	40
Average Monthly Benefits	\$ 2,274	\$ 2,739	\$ 4,123	\$ 5,452	\$ 4,845	\$ 6,141	\$ 4,865
Average Years of Service	6.29	10.54	17.81	23.17	26.80	35.81	23.84

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Average Benefit Payments - PERS As of June 30

Law Enforcement with Prior Main Service⁽¹⁾

	Years of Credited Service						
	< 10	10-14	15-19	20-24	25-29	>=30	Total
2014							
Number of Retirees	6	5	3	10	12	10	46
Average Monthly Benefits	\$ 500	\$ 939	\$ 1,161	\$ 1,307	\$ 1,997	\$ 3,129	\$ 1,738
Average Years of Service	7.10	12.70	18.64	21.64	27.18	33.00	22.55
2015							
Number of Retirees	10	9	5	13	15	13	65
Average Monthly Benefits	\$ 981	\$ 865	\$ 1,158	\$ 1,554	\$ 1,958	\$ 3,141	\$ 1,751
Average Years of Service	5.10	12.45	18.56	21.94	27.12	32.78	21.14
2016							
Number of Retirees	10	10	6	16	15	14	71
Average Monthly Benefits	\$ 455	\$ 795	\$ 1,239	\$ 1,635	\$ 1,958	\$ 2,992	\$ 1,653
Average Years of Service	5.84	12.63	18.43	22.08	27.12	32.89	21.35
2017							
Number of Retirees	12	11	7	17	17	18	82
Average Monthly Benefits	\$ 528	\$ 790	\$ 1,291	\$ 1,770	\$ 2,180	\$ 3,261	\$ 1,828
Average Years of Service	6.22	12.58	18.13	22.09	27.38	33.03	21.65
2018							
Number of Retirees	15	11	10	18	17	23	94
Average Monthly Benefits	\$ 481	\$ 915	\$ 1,452	\$ 1,839	\$ 2,180	\$ 3,317	\$ 1,896
Average Years of Service	6.18	12.47	17.25	22.19	27.38	33.29	21.63

⁽¹⁾ Includes former National Guard members.

Schedule of Average Benefit Payments - PERS As of June 30

Law Enforcement without Prior Main Service

	Years of Credited Service						
	< 10	10-14	15-19	20-24	25-29	>=30	Total
2014							
Number of Retirees	1	0	0	0	0	0	1
Average Monthly Benefits	\$ 816	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 816
Average Years of Service	0.58	0.00	0.00	0.00	0.00	0.00	0.58
2015							
Number of Retirees	1	0	0	0	0	0	1
Average Monthly Benefits	\$ 816	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 816
Average Years of Service	0.58	0.00	0.00	0.00	0.00	0.00	0.58
2016							
Number of Retirees	2	0	0	0	0	0	2
Average Monthly Benefits	\$ 544	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 544
Average Years of Service	2.29	0.00	0.00	0.00	0.00	0.00	2.29
2017							
Number of Retirees	4	1	0	0	1	0	6
Average Monthly Benefits	\$ 390	\$ 1,204	\$ -	\$ -	\$ 3,126	\$ -	\$ 981
Average Years of Service	4.12	12.58	0.00	0.00	26.17	0.00	9.21
2018							
Number of Retirees	5	1	0	0	1	0	7
Average Monthly Benefits	\$ 401	\$ 1,204	\$ -	\$ -	\$ 3,126	\$ -	\$ 905
Average Years of Service	4.01	12.58	0.00	0.00	26.17	0.00	8.40

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Average Benefit Payments

Schedule of Average Benefit Payments - PERS As of June 30
HPRS

	Years of Credited Service						
	< 10	10-14	15-19	20-24	25-29	>=30	Total
2014							
Number of Retirees	1	1	4	6	56	17	85
Average Monthly Benefits	\$ 1,456	\$ 2,054	\$ 2,135	\$ 2,598	\$ 3,315	\$ 4,222	\$ 3,354
Average Years of Service	2.25	11.17	17.10	22.14	27.89	31.27	27.15
2015							
Number of Retirees	1	1	5	5	66	18	96
Average Monthly Benefits	\$ 1,456	\$ 2,054	\$ 2,135	\$ 2,777	\$ 3,751	\$ 4,359	\$ 3,698
Average Years of Service	2.25	11.17	17.18	22.20	27.84	31.16	27.18
2016							
Number of Retirees	1	1	4	4	63	19	92
Average Monthly Benefits	\$ 1,456	\$ 2,054	\$ 2,135	\$ 2,741	\$ 3,756	\$ 4,387	\$ 3,728
Average Years of Service	2.25	11.17	17.11	22.46	27.90	31.22	27.42
2017							
Number of Retirees	3	0	5	6	62	18	94
Average Monthly Benefits	\$ 809	\$ -	\$ 2,315	\$ 2,975	\$ 3,886	\$ 4,359	\$ 3,737
Average Years of Service	2.36	0.00	17.18	22.24	27.84	31.16	26.74
2018							
Number of Retirees	0	2	4	5	65	20	96
Average Monthly Benefits	\$ -	\$ 1,481	\$ 2,388	\$ 2,923	\$ 3,862	\$ 4,366	\$ 3,807
Average Years of Service	0.00	11.75	17.10	22.75	27.89	31.36	27.56

Schedule of Average Benefit Payments - PERS As of June 30
Job Service Plan

	Retirement Plan	Travelers Annuitants	Total
2014			
Number of Retirees	140	73	213
Average Monthly Benefits	\$ 2,359	\$ 757	\$ 1,810
2015			
Number of Retirees	142	64	206
Average Monthly Benefits	\$ 2,361	\$ 770	\$ 1,866
2016			
Number of Retirees	142	64	206
Average Monthly Benefits	\$2,360	\$763	\$1,864
2017			
Number of Retirees	139	60	199
Average Monthly Benefits	\$2,382	\$770	\$1,896
2018			
Number of Retirees	140	56	196
Average Monthly Benefits	\$2,420	\$791	\$1,955

Stage Agency Employers

Adjutant General ND National Guard	James River Correctional Ctr	ND Wheat Commission
Aeronautics Commission	Job Service North Dakota	ND Youth Correctional Center
Attorney General's Office	Juvenile Services - DOCR	North Dakota State Hospital
Bank Of North Dakota	Lake Region State College	North Dakota State University
Beef Commission	Land Department	Office Of Administrative Hearings
Bismarck State College	Legislative Assembly	Office Of Management & Budget
Board Of Medical Examiners	Legislative Council	Parks & Recreation Department
Career & Technical Education	Life Skills and Transition Center	Protection & Advocacy Project
Commission on Legal Council for Indigents	Mayville State University	Public Finance Authority
Central Services	Milk Marketing Board	Public Instruction
Dairy Promotion Commission	Mill & Elevator Association	Public Service Commission
Department Of Commerce	Minot State University	Racing Commission
Department Of Corrections And Rehabilitation	ND Barley Council	Real Estate Commission
Department Of Corrections Transitional Services	ND Board Of Nursing	Retirement & Investment Office
Department Of Financial Institutions	ND Board Of Pharmacy	Rough Rider Industries
Department Of Human Services	ND Corn Utilization Council	School For The Blind
Department Of Transportation	ND Council On The Arts	School for the Deaf
Dept Of Agriculture	ND Department Of Health	Secretary Of State
Dickinson State University	ND Department Of Labor	Soil Conservation Committee
Education Standards & Practice	ND Oilseed Council	State Auditor's Office
Electrical Board	ND Public Employees Retirement System	State Board Of Law Examiners
Facility Management	ND Securities Department	State Fair Association
Field Services Division	ND Soybean Council	State Penitentiary
Game & Fish Department	ND St College Of Science	State Seed Department
Governor's Office	ND State Board Of Accountancy	State Treasurer's Office
Highway Patrol	ND State Board Of Cosmetology	Tax Department
Historical Society	ND State Library	University Of North Dakota
Housing Finance Agency	ND State Plumbing Board	Valley City State University
Indian Affairs Commission	ND Supreme Court	Veterans Affairs Department
Industrial Commission	ND System Information Technology Services	Water Commission
Information Technology Dept	ND University System Office	Williston State College
Insurance Department	ND Veterans Home	Workforce Safety & Insurance

Total State Employers = 96

County Employers

Adams County	Grant County	Ransom County
Barnes County	Griggs County	Renville County
Benson County	Hettinger County	Richland County
Billings County	Lamoure County	Rolette County
Bottineau County	Logan County	Sheridan County
Bowman County	Mchenry County	Slope County
Burke County	Mcintosh County	Stark County
Burleigh County	Mckenzie County	Steele County
Cass County	McLean County	Stutsman County
Cavalier County	Mercer County	Towner County
Dickey County	Morton County	Traill County
Divide County	Mountrail County	Walsh County
Dunn County	Nelson County	Ward County
Eddy County	Oliver County	Wells County
Emmons County	Pembina County	Williams County
Foster County	Pierce County	
Grand Forks County	Ramsey County	

Total County Employers = 49

School District Employers

Anamoose Public School District #14	Midkota School
Apple Creek Elementary School	Midway Public School District #128
Beach Public School District #3	Milnor Public School District #2
Belcourt School District #7	Minot Public School District #1
Belfield Public School #13	Minto Public School District #20
Beulah Public School #27	Mohall Lansford Sherwood School
Billings County School District	Mott/Regent School Dist #1
Bismarck Public Schools	Mt Pleasant School Dist #4
Bottineau Public School	Napoleon Public School District #2
Bowman County School District #1	New Rockford Sheyenne Public School
Burke Central School	New Salem Almont School District #49
Burleigh County Special Education Unit	New Town Public School District
Carrington School District #49	Newburg United Public School
Cavalier Public Schools	North Border School District # 100
Center Stanton Public School	North Sargent School District #3
Central Cass Public School District #7	North Valley Career and Tech Center
Dakota Prairie Public School	Northern Cass School District # 97
Devils Lake Public School	Northern Plains Special Ed Unit
Dickinson Public Schools	Oakes Public Schools
Divide County School Dist #1	Oliver-Mercer Special Education Unit
Drake Public School District	Park River Area School District
Drayton Public School #19	Peace Garden Special Services
Dunseith School District #1	Pingree-Buchanan School District
East Central Special Education Unit	Richland School District # 44
Ellendale Public School District #40	Rolette County Alt Ed Consortium
Enderlin Area School District #24	Rolette Public School
Fargo Public Schools	Roughrider Education Services Program (RESP)
Fairmount Public School	Rugby Public School District #5
Fort Totten School District # 30	Rural Cass Special Education Unit
Garrison Public School District #51	Sargent Central Public School District #6
Glen Ullin Public School #48	Sawyer Public School
Glenburn School District	Sheyenne Valley Career And Tech Center
Grafton Public School District #3	Sheyenne Valley Special Education Unit
Great Northwest Education Cooperative	Solen Public School Dist #3
Halliday Public School	Souris Valley Special Services
Harvey Public School Dist #38	South East Education Cooperative
Hazen Public School District #3	South Heart Public School District #9
Hillsboro Public School	South Prairie School District #70
James River Multidistrict Special Education Unit	St John School District #3
Jamestown Public School District #1	Stanley Community Public School District # 2
Kenmare Public School District #28	Surrey Schools
Killdeer Public School #16	Sw Special Education Unit
Kindred Public School District #2	Tgu School District #60
Kulm Public School District #7	Thompson Public School
Lake Region Special Education Unit	Tioga Public School District #15
Lakota Public School District # 66	Turtle Lake Mercer School District #72
Lamoure School District #8	Underwood School District #8
Larimore Public School District #44	United Public School District # 7
Leeds Public School District 6	Valley City Public School
Lewis & Clark Public Schools	Velva Public School
Lidgerwood Public School	Wahpeton Public School District 37
Linton Public School District #36	Warwick Public School
Lisbon Public School	Washburn Public School
Lonetree Special Education Unit	West Fargo Public School #6
Mandan Public School District #1	West River Student Services
Mandaree Public School #36	Westhope Public School #17
Manvel Public School	White Shield School Dist #85
Maple Valley School District	Williams County School District #8
Mapleton Public School	Williston Public School #1
Max Public School	Wilmac Multidistrict Special Education Unit
Mcclusky Public Schools	Wilton Public School District
Mckenzie Cty Public School #1	Yellowstone School District # 14
Medina Public School District #3	Zeeland Public Schools

Total School District Employers = 126

North Dakota Public Employees Retirement System – Statistical Section
Schedule of Participating Employers

City Employers

City of Alexander	City of Grafton	City of Mapleton	City of Rolla
City of Ashley	City of Grand Forks	City of McClusky	City of Rugby
City of Beach	City of Granville	City of McVie	City of Sawyer
City of Belfield	City of Grenora	City of Medora	City of Scranton
City of Berthold	City of Gwinner	City of Michigan	City of Sherwood
City of Bottineau	City of Halliday	City of Minto	City of St John
City of Bowman	City of Hankinson	City of Mohall	City of Stanley
City of Burlington	City of Harvey	City of Mott	City of Surrey
City of Carrington	City of Harwood	City of Napoleon	City of Thompson
City of Carson	City of Hatton	City of Necho	City of Tioga
City of Cavalier	City of Hettinger	City of New England	City of Towner
City of Cooperstown	City of Jamestown	City of New Leipzig	City of Underwood
City of Crosby	City of Kenmare	City of New Rockford	City of Vela
City of Devils Lake	City of Killdeer	City of New Salem	City of Wahpeton
City of Dodge	City of Kulm	City of New Town	City of Walhalla
City of Drayton	City of Lakota	City of Northwood	City of Watford City
City of Elgin	City of Lamoure	City of Oakes	City of West Fargo
City of Ellendale	City of Larimore	City of Park River	City of Westhope
City of Emerado	City of Lidgerwood	City of Pembina	City of Williston
City of Fargo	City of Lincoln	City of Powers Lake	City of Wilton
City of Fessenden	City of Linton	City of Ray	City of Wishek
City of Finley	City of Lisbon	City of Regent	City of Zeeland
City of Glenburn	City of Maddock	City of Rhame	

Total City Employers = 91

Other Political Subdivision Employers

Agassiz Water Users District	Garrison Diversion Conservancy District	Ransom County Soil Cons Dist
Barnes County Soil Conservation District	Grafton Park District	Red River Joint Water Resource District
Bismarck Rural Fire Protection	Grand Forks County Water Resource District	Rolette County Public Health
Bottineau County Water Resource District	Grand Forks Park District	Rolette County Soil Conservation District
Bowman City Park Board	Grand Forks Public Library	Sargent County District Health Unit
Burleigh County Council On Aging	Grand Forks-E Grand Forks Metropolitan Planning	Southeast Region Career & Technology Center
Burleigh County Soil Conservation District	Great Plains Housing Authority	Southwest Water Users District
Carnegie Regional Library	Greater Ramsey Water District	Southwest Water Authority
Cass County Soil Conservation District	Griggs County Public Library	Southwestern District Health Unit
Cass County Water Resource District	James River Soil Conservation District	Stark & Billings Soil Conservation District
Cavalier County Health District	James River Valley Library System	Towner County Public Health Unit
Cavalier County Housing Authority	Jamestown Parks And Recreation District	Traill County Water Resource District
Cavalier County Job Development Authority	Jamestown Regional Airport	Traill District Health Unit
Central Plains Water District	Kidder County District Health Unit	Traill Rural Water District
Central Valley Health Unit	Lake Metigoshe Recreation Service District	Tri-Cities Joint Job Development Authority
City of Bottineau Park Board	Lake Region District Health Unit	Upper Missouri Health Unit
City County Health District	McIntosh County Housing Authority	Wahpeton Park Board
Consolidated Waste Ltd	McIntosh District Health Unit	Walsh County Health District
Crosby Park District	Mercer County Soil Conservation District	Walsh County Housing Authority
Custer Health Unit	Minot Rural Fire Department	Walsh County Water Resource District
Devils Lake Basin Joint Water Resource Board	Nelson-Griggs District Health Unit	Ward County Water Resource District
Devils Lake Park Board	North Central Soil Conservation District	Watford City Park District
Dickey County Health District	North Dakota Firefighters Association	Wells County Dist Health Unit
Dunseith Community Nursing Home	Park District - City of New Rockford	West Fargo Park District
Emmons County Public Health	R & T Water Supply Commerce Authority	Western Area Water Supply Authority
Emmons County Soil Conservation District	Ramsey County Housing Authority	Williams County Soil Conservation District
Fargo Park District	Ramsey County Soil Conservation District	Williston Housing Authority
First District Health	Ramsey County Water Resource District	Williston Rural Fire Protection District #1

Total Other Political Subdivision Employers = 84

Principle Participating Employers

Participating Employer	2018			2009		
	Covered Employees	Rank	% of Total System	Covered Employees	Rank	% of Total System
Department of Human Services	1,303	1	5.74%	1,313	1	6.67%
Department of Transportation	986	2	4.35%	1,048	3	5.32%
University of North Dakota	975	3	4.30%	1,167	2	5.93%
North Dakota State University	790	4	3.48%	881	4	4.48%
Bismarck Public Schools	782	5	3.45%	713	5	3.62%
Fargo Public Schools	726	6	3.20%	597	6	3.03%
West Fargo Public School #6	624	7	2.75%	N/A	N/A	N/A
Minot Public School District #1	597	8	2.63%	491	7	2.49%
City of Fargo	572	9	2.52%	N/A	N/A	N/A
City of Grand Forks	388	10	1.71%	N/A	N/A	N/A
Jamestown State Hospital	N/A	N/A	N/A	462	8	2.35%
Developmental Center	N/A	N/A	N/A	446	9	2.27%
Cass County	N/A	N/A	N/A	380	10	1.93%
Remaining Employers	14,942		65.87%	12,188		61.91%
Total Covered Employees*	22,685		100.00%	19,686		100.00%

**Total covered employees represents the number of employees in a contributing status as of June 30, 2018 and June 30, 2009 respectively in the Main retirement plan*

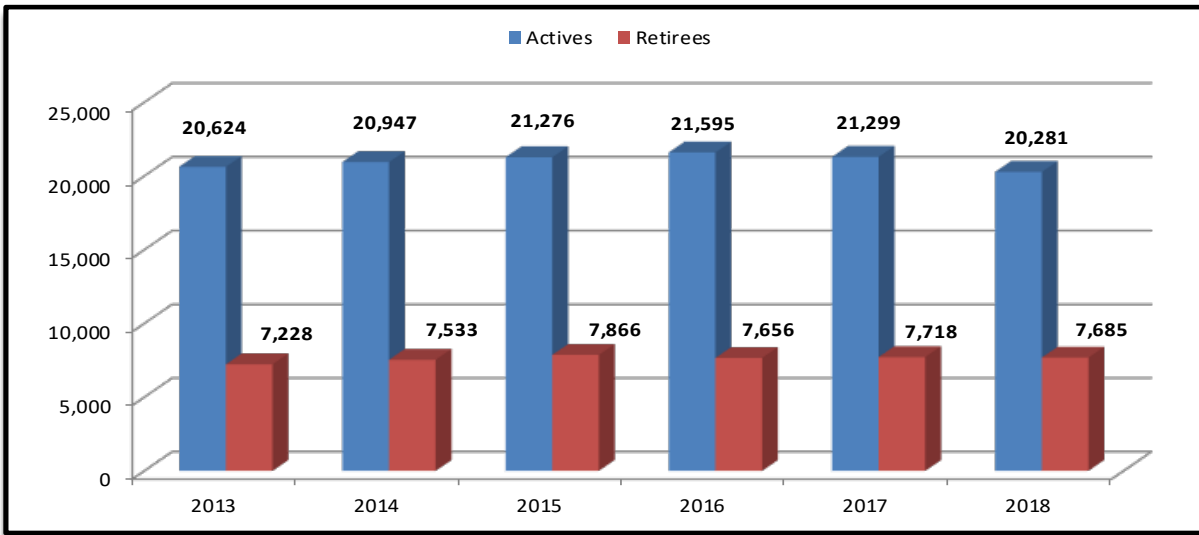
**Deferred Compensation Program
Schedule of Assets
By Provider**

	6/30/14	6/30/15	6/30/16	6/30/17	6/30/18
AIG VALIC	\$10,599,979	\$10,016,937	\$9,113,556	\$9,982,842	\$9,820,173
American Trust Center	11,100,596	11,735,069	11,386,469	11,857,349	12,898,604
AXA Equitable	20,837,719	20,625,431	17,112,366	17,201,441	17,781,744
Bank of North Dakota	5,037,014	5,297,281	5,723,463	5,590,301	5,498,920
Commonwealth Annuity & Life Insurance Co. (Formerly Chase Financial/Kemper)	8,839,687	9,242,801	8,601,614	9,353,331	8,726,263
Mass Mutual (formerly Hartford)	49,860,107	48,872,979	48,584,792	56,773,497	59,851,708
ING (Formerly Aetna)	1,867,908	1,887,364	1,848,403	1,963,666	2,116,468
Jackson National Life	4,726,895	4,695,001	5,114,883	6,467,238	6,987,381
Kansas City Life (formerly Sunset Life)	156,237	171,730	188,193	203,843	50,314
Lincoln National	6,185,369	6,373,463	5,711,133	6,196,000	6,836,529
NDPERS Companion Plan ⁽¹⁾	64,234,247	72,705,990	77,545,379	97,918,662	112,605,791
Nationwide Life Insurance	12,369,171	13,574,078	14,553,736	16,880,532	19,154,725
New York Life ⁽¹⁾	348,718	332,847	327,802	224,176	220,746
Symetra (Formerly Safeco)	296,839	168,934	155,178	168,029	122,177
Waddell & Reed Financial Services	<u>10,288,488</u>	<u>9,996,846</u>	<u>8,425,708</u>	<u>9,252,315</u>	<u>9,802,256</u>
Total	\$206,748,974	\$215,696,751	\$214,392,675	\$250,033,223	\$272,473,798

⁽¹⁾ As of January 1, 1999 the System is the trustee for these deferred compensation assets and is reporting them as a trust fund in the June 30, 2018 and June 30, 2017 financial statements

*All other assets are being held in trust by the respective provider company, for the exclusive benefit of participants and their beneficiaries.
Accordingly, these assets are not included in the System's financial statements*

GROUP HEALTH INSURANCE PROGRAM Average Number of Contracts in Force



Health Insurance Premium Active State Contracts

