





# Utah Retirement Systems A Component Unit of the State of Utah

# 2016 Comprehensive Annual Financial Report

for the Year Ended December 31, 2016

Noncontributory Retirement System Contributory Retirement System Public Safety Retirement System Firefighters Retirement System Judges Retirement System

Utah Governors and Legislators Retirement Plan Tier 2 Public Employees Contributory Retirement System Tier 2 Public Safety and Firefighter Contributory Retirement System 401(k) and 457 Plans Roth and Traditional IRAs

Health Reimbursement Arrangement (HRA)

Prepared by: Finance Department • Utah Retirement Systems 560 East 200 South • Salt Lake City, Utah 84102-2044 • www.urs.org Daniel D. Andersen, Executive Director • Robert K. Kellersberger, Finance Director

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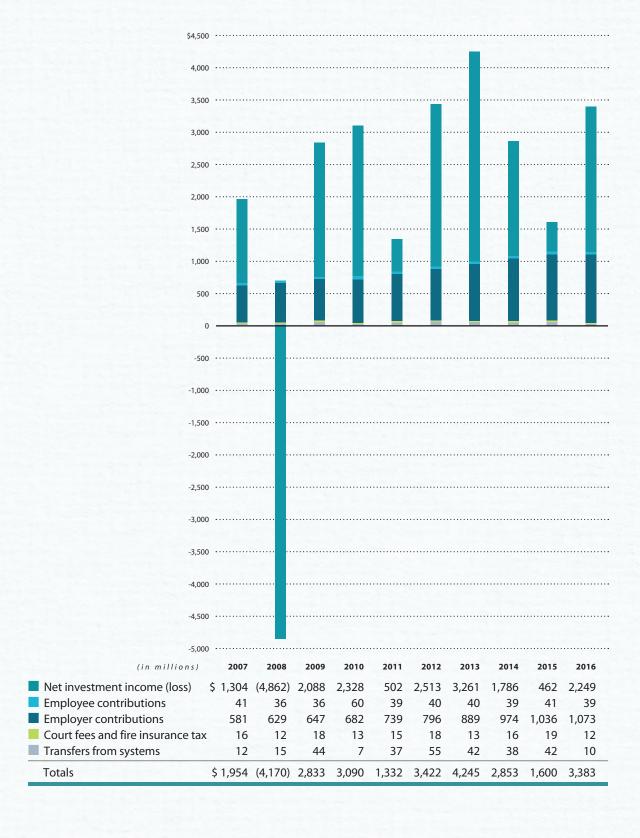
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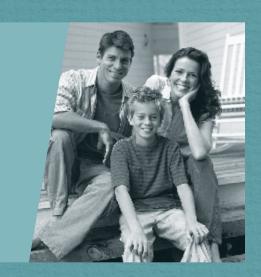
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(in millions)





2016

**Comprehensive Annual Financial Report** 

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# Letter of Transmittal

**UTAH STATE RETIREMENT BOARD** 

### **UTAH RETIREMENT SYSTEMS**

560 East 200 South Salt Lake City, Utah 84102-2044 801-366-7700 800-365-8772 801-366-7734 FAX

DANIEL D. ANDERSEN **EXECUTIVE DIRECTOR** 

April 26, 2017

Utah State Retirement Board 560 East 200 South Salt Lake City, UT 84102-2044

# **Dear Board Members:**

We are pleased to present the 2016 Comprehensive Annual Financial Report of the Utah Retirement Systems (Systems), including the 401(k), 457, Roth and traditional IRAs, and the Health Reimbursement Arrangement (Plans). Together, the Systems and Plans constitute a component unit of the State of Utah, administered by the Utah State Retirement Board (Board) for calendar year 2016.

The financial reporting entity of the Systems and Plans include the Public Employees Noncontributory and Contributory Retirement Systems, for both government and public education employees, the Public Safety, Firefighters, and Judges Retirement Systems, the Utah Governors and Legislators Retirement Plan, the Tier 2 Public Employees Contributory, and Tier 2 Public Safety and Firefighter Contributory Retirement Systems, and the 401(k), 457, Roth and traditional IRAs, and Health Reimbursement Arrangement (HRA).

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the management of the Systems and Plans. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the fiduciary funds.

For financial reporting purposes, the Systems and Plans adhere to accounting principles generally accepted in the United States of America. The Systems and Plans apply all applicable pronouncements of the Governmental Accounting Standards Board (GASB). Investments of the Systems and Plans are presented at fair value.

The Utah Retirement Systems and 401(k), 457, Roth and traditional IRAs, and HRA were established by legislation and authorized as indicated in the notes to the basic financial statements on page 58. The Summaries of Plan Provisions are presented on pages 166 through 181. The number of active and retired members and beneficiaries for each system is presented in the Systems' Highlights on pages 14 through 30. The purpose of the Systems and Plans is to provide benefits for all eligible State, local government, and most public education employees whose employers have elected to participate. Services provided by the staff are performed to meet that objective.

## Management's Discussion and Analysis

The Management's Discussion and Analysis (MD&A) beginning on page 36 provides an overview and analysis of the Systems and Plans Basic Financial Statements. This letter of transmittal is intended to complement the MD&A and should be read in conjunction with it.

# **Financial Information**

Management is responsible for maintaining a system of adequate internal accounting controls designed to provide reasonable assurance transactions are executed in accordance with management's general or specific authorization, and are recorded as necessary to maintain accountability for assets and to permit preparation of financial statements in accordance with generally accepted accounting principles. The concept of reasonable assurance recognizes the cost of a control should not exceed the benefits likely to be derived. This system includes written policies and procedures and an internal audit department that reports to the Board. Discussion and analysis of net position and related additions and deductions are presented in the MD&A beginning on page 36.

### **Actuarial**

The actuarial assumptions and contribution rates were based on the recommendations of our actuary. See the Actuarial Section of this report and the notes to the basic financial statements for explanations of these rates. Rate changes resulted from actuarial assumption modifications, economic conditions, actuarial experience gains and losses, and benefit enhancements in the Systems.

The Utah Retirement Systems are maintained on an actuarially sound basis as certified in this report by our actuary, thus protecting participants' future benefits. We anticipate investment earnings on a long-term basis will continue to meet or exceed the actuarially assumed earning rate. We expect all systems to continue towards fully funded positions in accordance with actuarial assumptions.

An actuarial valuation of the Systems is performed annually. An assumption experience study is performed at least every third year. The actuarial firm Gabriel, Roeder, Smith & Company completed the actuarial reviews and valuations and served as technical advisor to the Systems. Actuarial certification and supporting statistics are included in the Actuarial and Statistical Sections of this report.

In conjunction with the 2016 annual actuarial valuation, the actuary recommended some changes to the assumptions that were adopted by the Board. Some of the changes were to decrease the earnings assumptions from 7.5% to 7.2%, decrease the inflation assumption from 2.75% to 2.6%, and decrease the payroll growth assumption and wage inflation by 0.15%.

### Investments

The economic condition of the Systems is based primarily upon investment earnings. For 2016 the Systems experienced a 8.79% rate of return. The Systems' investments were evaluated at year end by Callan Associates Inc., Investment Measurement Service. A comparative analysis of rates of return is presented on page 134 of this report.

The investment portfolio mix at fair value as of the end of 2016 was 15% debt securities, 35% equities, 11% private equity, 15% real assets, 8% short-term, and 16% absolute return. See MD&A and Investment Section for more detailed analysis and information. The Systems' investment outlook is long term, allowing the portfolio to take advantage of the favorable risk-return characteristics of equities by placing more emphasis on this category.

The Board utilizes internal and external portfolio managers employing both passive (indexed) and active strategies. The portfolio is broadly diversified among equities, debt securities, real assets, absolute return, and private equity with additional diversification achieved through domestic and international investing.

The investment policy is to minimize credit and market risks while maintaining a competitive yield on its portfolio. Accordingly, deposits are either insured by federal depository insurance or collateralized. All collateral on deposits is held in the counterparties' joint custody accounts at the Federal Reserve Bank. On occasion, deposits may be significantly greater than collateral due to investment purchase "fails," receipt of interest earnings on the 15th of each month, and proceeds from investment sales and maturities. Of approximately \$33.9 billion in both the Defined Benefit and Defined Contribution investments at fair value as of December 31, 2016, none of the investments were in the category of highest custodial credit risk as defined by GASB.

# **Funding**

In setting contribution rates, the Board's principal objectives are to set rates so the unfunded actuarial accrued liability (UAAL) will be amortized over a reasonable period of time from the most recent valuation date and the set rates so they remain relatively level over time. The Board's funding policy requires the employer contribution rate be at least equal to the sum of the employer normal cost rate (which pays the current year's cost) and an amortization rate that results in the amortization of the UAAL. Under this policy, the objective of maintaining a relatively level contribution rate over time is achieved in normal conditions such as consistent financial markets.

In determining the contribution rates, the actuary uses an actuarial value of assets that is based on a 5-year smoothed expected rate of return, wherein the excess or shortfall of investment income over or under the actuarial assumed income rate (currently 7.2%) is recognized over a 5-year period.

Funds are derived from the excess of additions. which include contributions and investment earnings, over deductions that are comprised of benefits and administrative expenses. Funds are accumulated to meet future benefit obligations to retirees and beneficiaries. This accumulated balance is referred to as the "net position restricted for pensions" in the Combined Statements of Fiduciary Net Position in the Financial Section of the report. The total pension liability is not reported in the basic financial statements, but is disclosed in Note 5 to the basic financial statements and in the required supplementary information. The total pension liability is determined by the actuary and is a measure of the present value of actuarial accrued liabilities estimated to be payable in the future to current retirees, beneficiaries, and employees for service earned to date. The net pension liability

is measured as the total pension liability less the amount of the pension plan's fiduciary net position. The net pension liability is an accounting measurement for financial statement purposes.

# **Independent Audit**

An annual audit of the Systems and Plans was conducted by the independent accounting firm of Deloitte & Touche LLP. The auditors' report on the basic financial statements is included in the Financial Section of this report.

### **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 Utah Retirement Systems for its Comprehensive Annual Financial Report for the fiscal year ended December 31, 2015. 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. Such financial reports 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 Utah Retirement Systems has received a Certificate of Achievement for the last 32 years. We believe our current report continues to conform to the Certificate of Achievement Program requirements, and we are submitting it to the GFOA.

In addition, the Utah Retirement Systems was awarded the Public Pension Coordinating Council Public Pension Standards 2016 Award. This award is in recognition of meeting professional standards for plan design and administration as set forth in the Public Pension Standards.

# **Acknowledgments**

The compilation of this report reflects the combined efforts of the staff under the leadership of the Utah State Retirement Board. The report is intended to provide extensive and reliable information for making management decisions, determining compliance with legal provisions, and determining responsible stewardship for the assets contributed by the Systems' members and their employers.

We would like to take this opportunity to express our gratitude to the Board, the staff, the advisors, and the many people who have worked so diligently to assure the successful operation and financial soundness of the Utah Retirement Systems.

Sincerely yours,

Robert K. Kellersberger, CGFM

Finance Director

Daniel D. Andersen **Executive Director** 

# Board President's Letter

UTAH STATE RETIREMENT BOARD

### **UTAH RETIREMENT SYSTEMS**

560 East 200 South Salt Lake City, Utah 84102-2044 801-366-7700 800-365-8772 801-366-7734 FAX

DANIEL D. ANDERSEN **EXECUTIVE DIRECTOR** 

April 26, 2017

**Utah State Retirement Board** 560 East 200 South Salt Lake City, UT 84102-2044

Dear Members of the Retirement Systems:

Think, for a moment, of Utah Retirement Systems as your car.

With this Comprehensive Annual Financial Report, you can look under the hood, take apart the engine, and examine the inner-workings down to the finest nuts and bolts. It contains statistical and financial information about URS detailed enough to satisfy even the most sophisticated automotive enthusiast.

But, if you're more like the average person, you probably have just a couple of simple questions. Will my car start when I need it? Will it get me where I want to go?

Well, let me sum up hundreds of pages of schematics and technical specifications with one clear assurance: When you're ready to take the keys, your pension will be gassed up and waiting.

As board members and trustees of URS, it's our solemn duty to safeguard retirement benefits for current and future retirees from Utah's public sector. In 2016, things continued to run smoothly. If you have a few moments to kick the tires with me, I'd like to share some highlights.

- The URS pension fund earned an 8.8% return in 2016, growing by \$1.86 billion to \$28.5 billion, an all-time high.
- At year's end, the Plans Fiduciary Net Position, as a percentage of the Total Pension Liability, was 86%. Many experts consider a funding ratio of about 80% or better to be sound for government pensions, and ours remains among the most well-funded statewide plans in the country.
- Retirement savings plans contributions exceeded \$357.5 million in 2016, with total assets reaching more than \$5 billion, both all-time highs.

These numbers continue to demonstrate a well-oiled machine. However, the Board is committed to taking proactive steps well before any warning lights start to blink. That's why we lowered the assumed rate of return from 7.5% to 7.2% in 2016. This more conservative estimate helps ensure a healthy outlook for the pension fund for years to come.

So, I can confidently assure you URS will provide its promised benefits to current and future retirees. Wherever the open road takes you.

Sincerely,

William W. Wallace

President, Utah State Retirement Board

William W Wallace



# **UTAH RETIREMENT SYSTEMS** Retirement Board

Pictured Left to Right

# Ryan G. Hessenthaler

Appointed August 19, 2015 Term Expires July 1, 2019 Represents Investment Community

### Laura O. Houston

Appointed July 2, 2014 Term Expires July 1, 2018 Represents Investment Community

### Vice President

# Roger G. Donohoe

Appointed December 17, 2014 Term Expires July 1, 2020 Represents Education Employees

### Sheri K. Nelson

Appointed September 15, 2010 Term Expires July 1, 2019 Represents Public Employees

### **Edward T. Alter**

Appointed February 2, 2012 Term Expires July 1, 2019 Represents Investment Community

# David C. Damschen

State Treasurer Member Since December 10, 2015 Ex-officio Member

### President

### William W. Wallace

Appointed September 18, 2013 Term Expires July 1, 2019 Represents Investment Community

# **Executive** Director



Daniel D. Andersen

# Membership Council

# **Executive Committee Members:**

Chairperson

Mr. Michael McDonough.......Represents Utah Education Association

Mr. Marty Peterson.....Represents Professional Firefighters of Utah Ms. Amy Ehresman ......Represents Utah School Employees' Association Mr. Tom Hardy.....Represents Utah League of Cities and Towns **Senior Trooper** 

Arlow Hancock ...... Represents Utah Peace Officers' Association

**Council Members:** 

Mr. Fred Ash......Represents Utah Retired School Employees' Association

Mr. Stuart Bailey ......Represents Utah Education Association

Mr. Larry Evans ...... Represents Utah Public Employees' Association

Ms. Brandy Grace ......Represents Utah Association of Counties

Honorable

Kimberly K. Hornack.....Represents Utah Judicial Council

Ms. Debra McBride ......Represents Utah Association of Retired Public Employees

Mr. Michael Harman ......Represents Utah Education Association

Mr. Richard Petersen ...... Represents Utah Public Employees' Association

# rganization Chart

As of December 31, 2016

### MEMBERSHIP COUNCIL

# Administrative Staff

Daniel D. Andersen

Todd W Rupp, CPA

Steven M. West, CPA, CFE

Bruce H. Cundick, CFA

Jeff J. Allen

Director, Human Resources

W. Kendall Rima Chief Information Officer

Robert K. Kellersberger, CGFM Director, Finance

Matthew K. Judd Director, Records Management

Craige D. Stone

Judy C. Lund Director, Retirement

Ed K. Archer, CIA, CISA Chief Compliance Officer — Investments

Director, Defined Contribution Savings Plans

Ryan C. Ashcraft Director, Retirement Planning

# Executive Director COUNSEL Deputy Executive Director Director, Internal Audit Dee S Larsen Dee S Larsen **Legal Services** General Counsel **Member Appeals** and Litigation Chief Investment Officer Investment Transactions Shared Services Director Government Jayne R. Knecht Relations and



Legislation **Outside Counsel** 





DIRECTOR HUMAN RESOURCES

Jayne R. Knecht

Human Resources

Safety/Security



CHIEF INFORMATION OFFICER

W. Kendall Rima

Server Hardware and Software

Applications Development

Helpdesk/ Workstation Support

Process Automation Workflow

Networking and Telecommunications

Web Service

Information Security

# Professional Service Providers

# **Actuary**

Gabriel, Roeder, Smith & Company 5605 N. MacArthur Blvd., Suite 870 Irving, TX 75038-2631

### **Auditor**

Deloitte & Touche LLP Certified Public Accountants 111 South Main Street, Suite 1500 Salt Lake City, UT 84111

# UTAH STATE RETIREMENT BOARD



DIRECTOR

Daniel D. Andersen



EXECUTIVE DIRECTOR

Todd W Rupp

# PROFESSIONAL SERVICES

Actuary • Auditor **Legal Consultants Investment Consultants** 

Detail for professional service providers is shown to the left.

**Proxy Voting** 



INTERNAL AUDIT

••••• Steven M. West



DIRECTOR FINANCE

Robert K. Kellersberger

Financial Reporting and Accounting

Budgets

Tax Reporting

Cash Management

Disbursements

Accounts Payable

Payroll

Risk Management



DIRECTOR RECORDS MANAGEMENT

Records Management

**Employer** Contributions Reporting

Member Account Management

Defined Contribution Daily Trade Reconciliation

Employer Compliance and Auditing



DIRECTOR DEFINED CONTRIBUTION **SAVINGS PLANS** 

Craige D. Stone

401(k) Plan

457 Plan

Traditional IRA

Roth IRA

Health Reimbursement Arrangement (HRA)



DIRECTOR RETIREMENT

Judy C. Lund

Retirement **Benefits** 

**Death Benefits** 

Redeposits and Purchases

Refunds

**Branch Office** 



CHIEF COMPLIANCE OFFICER INVESTMENTS

Investment Compliance

**Proxy Voting** 



DIRECTOR RETIREMENT PLANNING

Member Education

Retirement Planning

Seminars

Stakeholder Relations

# Noncontributory Retirement System Highlights

The Public Employees Noncontributory Retirement System includes eligible public employees of the State of Utah and its political subdivisions and public education employees of those entities covered by the System.

# **Service Retirement**

Age	Years of Service	Allowance Reduction
Any age.	30	. None
Any age.	25	. Full actuarial before age 60
60-61	20	. 3% each year before age 65
62-64	10	. 3% each year before age 65
65	4	. None

# Service Benefit Formula

Number of vears of service x 2.00% x FAS.\*

# Cost-of-Living Allowance

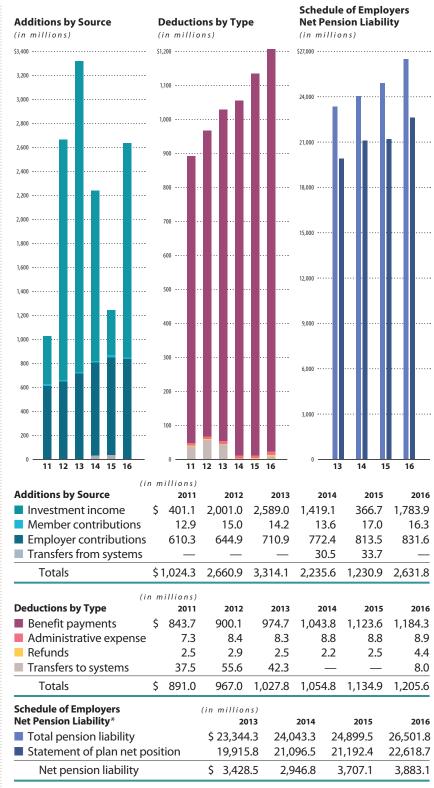
Up to 4% annually on original retirement benefit.

# **Contribution Rates**

(as of 12-31-2016)

Employer rate for the State and School Division (Level A) is 22.19% of covered salary and 18.47% for the Local Government Division (Level B).

For more detail see Summary of Plan Provisions on page 166.



<sup>\*</sup>Additional years will be added as they become available.

<sup>\*</sup>FAS (Final Average Salary) = highest three years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.



# **Noncontributory Composite Picture**

Total Membership: 161,542

Active: 63,214 • Terminated Vested: 47,933 • Retired: 51,355

2016 Active Members: 63,214

Average Age: 49.2 • Average Years of Service: 15.5 • Average Annual Salary: \$51,984

2016 Retirees Number: 3,965

Average Age: 64.2 • Average Years of Service: 21.1 • Average Annual Salary: \$48,980

Average Annual Benefit: \$21,224

Average Annual Benefit — All Retirees: \$22,475

Pictured: Mark Busico, Streets Supervisor, Tooele City Corp.

# Contributory Retirement System Highlights

The Public Employees Contributory Retirement System includes eligible public employees of the State of Utah and its political subdivisions and public education employees of those entities covered by the System.

# **Service Retirement**

Age	Years of Service	Allowance Reduction
Any age	30	None
60-61	20	3% each year before age 65
62-64	10	3% each year before age 65
65	4	None

## Service Benefit Formula

- 1. Number of years of service before 7-1-75 x 1.25% x FAS.\*
- 2. Number of years of service after 6-30-75 x 2.00% x FAS.\*
- 3. Plan 1 allowance = total of 1 and 2.

# Cost-of-Living Allowance

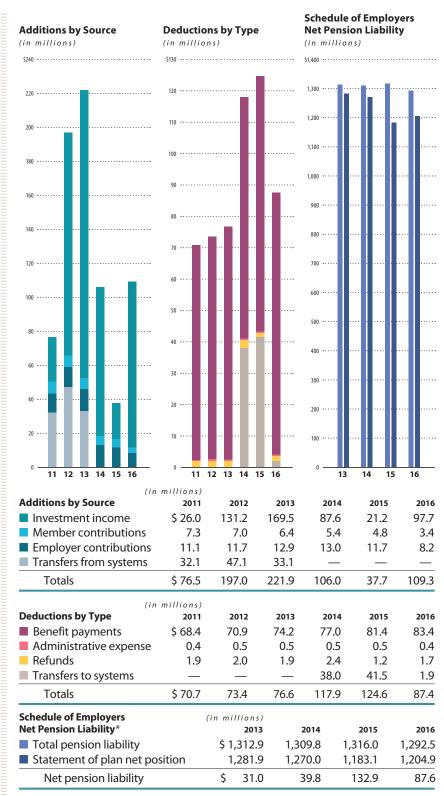
Up to 4% annually on original retirement benefit.

# **Contribution Rates**

(as of 12-31-2016)

Member rate is 6% of covered salary. Employer rate for State and School Division (Level A) is 17.70% of covered salary and 14.46% for the Local Government Division (Level B).

For more detail see Summary of Plan Provisions on page 167.



<sup>\*</sup>Additional years will be added as they become available.

<sup>\*</sup>FAS (Final Average Salary) = highest five years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.



# **Contributory Composite Picture**

Total Membership: 6,329

Active: 738 • Terminated Vested: 1,274 • Retired: 4,165

**2016 Active Members:** *738* 

Average Age: 57.3 • Average Years of Service: 29.0 • Average Annual Salary: \$60,936

2016 Retirees Number: 227

Average Age: 62.1 • Average Years of Service: 30.1 • Average Annual Salary: \$52,211

Average Annual Benefit: \$30,729

Average Annual Benefit — All Retirees: \$19,284

Pictured: Kayleen Meikle, Corporation Secretary/Office Manager, Davis & Weber Counties Canal

# Public Safety Retirement System Highlights

The Public Safety Retirement System includes eligible state and local government employees directly involved in law enforcement. The Public Safety System consists of the Noncontributory and Contributory divisions.

# **Service Retirement**

Age	Years of Service	Reduction
Any age	20	None
60	10	None
65	4	None

# Service Benefit Formula

- 1. 2.5% x FAS\* x years of service up to 20 years.
- 2. 2.0% x FAS\* x years of service over 20 years.
- 3. Monthly benefit = total of 1 and 2.
- \*FAS (Final Average Salary) = highest three years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

# **Cost-of-Living Allowance**

Up to 2.5% or 4% (depending on employer) annually on original retirement benefit.

# **Contribution Rates**

(as of 12-31-2016)

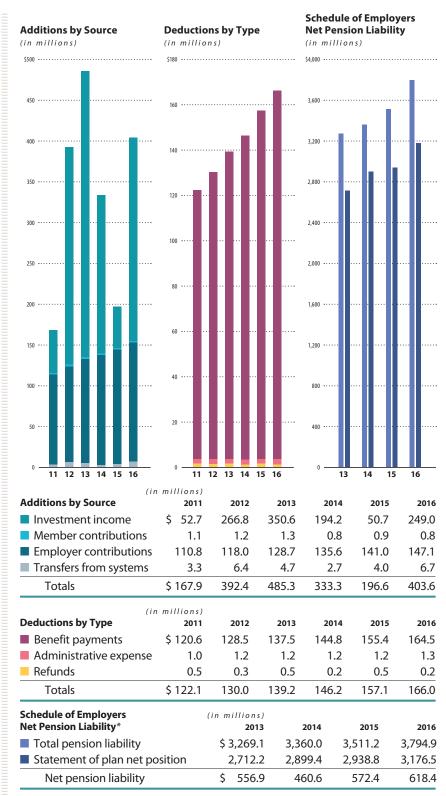
## Noncontributory

Employer rates range from 32.20% to 48.68% of covered salary.

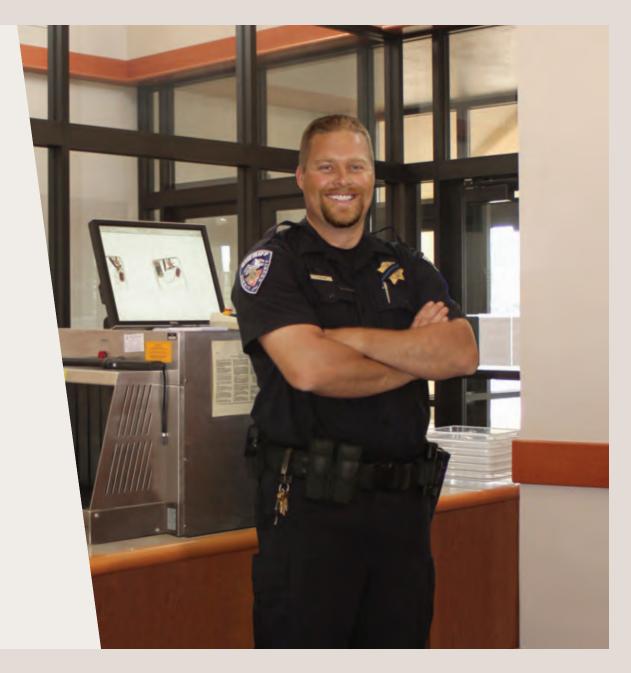
### Contributory

Member rates range from 10.50% to 12.29% of covered salary. Employer rates range from 22.29% to 29.70% of covered salary.

For more detail see Summary of Plan Provisions on page 168.



<sup>\*</sup>Additional years will be added as they become available.



# **Public Safety Composite Picture**

Total Membership: 14,587

Active: 6,032 • Terminated Vested: 4,615 • Retired: 5,412

**2016 Active Members:** 6,032

Average Age: 42.6 • Average Years of Service: 15.2 • Average Annual Salary: \$57,381

2016 Retirees Number: 368

Average Age: 53.5 • Average Years of Service: 22.6 • Average Annual Salary: \$60,881

Average Annual Benefit: \$34,036

Average Annual Benefit — All Retirees: \$29,241

Pictured: Clayton Eves, Deputy, Summit County Sheriff's Office

# Firefighters Retirement System Highlights

The Firefighters Retirement System includes eligible state and local government employees directly involved in fire fighting and whose duties are classified as hazardous.

# **Service Retirement**

Age	Years of Service	Reduction
Any age	20	None
60	10	None
65	4	None

# **Service Benefit Formula**

- 1. 2.5% x FAS\* x years of service up to 20 years.
- 2. 2.0% x FAS\* x years of service over 20 years.
- 3. Monthly benefit = total of 1 and 2.

# **Cost-of-Living Allowance**

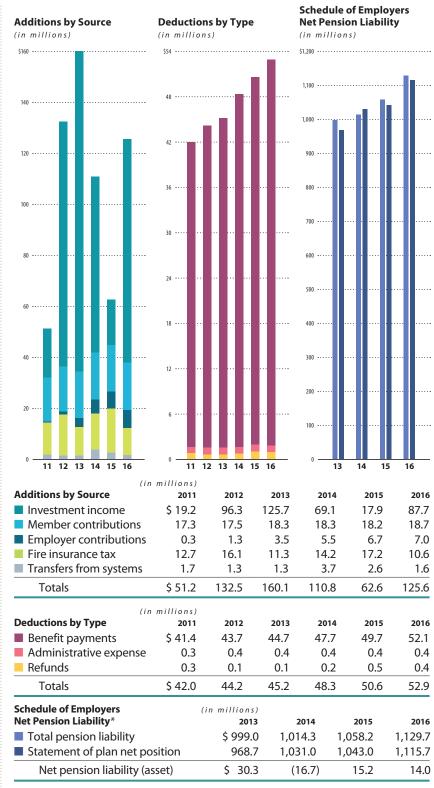
Up to 4% (depending on employer) on original retirement benefit.

# **Contribution Rates**

(as of 12-31-2016)

Member rate for Division A (with Social Security) is 15.05% of covered salary and 16.71% for Division B (without Social Security). Employer rate for Division A is 3.89% of covered salary and 6.66% for Division B.

For more detail see Summary of Plan Provisions on page 170.



<sup>\*</sup>Additional years will be added as they become available.

<sup>\*</sup>FAS (Final Average Salary) = highest three years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.



# **Firefighters Composite Picture**

Total Membership: 3,325

Active: 1,663 • Terminated Vested: 390 • Retired: 1,372

**2016 Active Members:** 1,663

Average Age: 42.8 • Average Years of Service: 15.0 • Average Annual Salary: \$67,114

2016 Retirees Number: 72

Average Age: 55.0 • Average Years of Service: 25.2 • Average Annual Salary: \$79,969

Average Annual Benefit: \$47,671

Average Annual Benefit — All Retirees: \$36,574

Pictured: David Yei, Firefighter/Paramedic, Provo City

# ludges Retirement System Highlights

The Judges Retirement System includes justices and judges of the courts of record as authorized in state statutes.

### **Service Retirement**

Age	Years of Service	Allowance Reduction
Any age.	25	None
55	20	Full actuarial reduction
62	10	None
70	6	None

# Service Benefit Formula

- 1. 5.00% x FAS\* x years of service up to 10 years.
- 2. 2.25% x FAS\* x years of service between 10 and 20 years.
- 3. 1.00% x FAS\* x years of service over 20 years.
- 4. Monthly benefit = total of 1, 2, and 3.
- \*FAS (Final Average Salary) = highest two years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

# **Cost-of-Living Allowance**

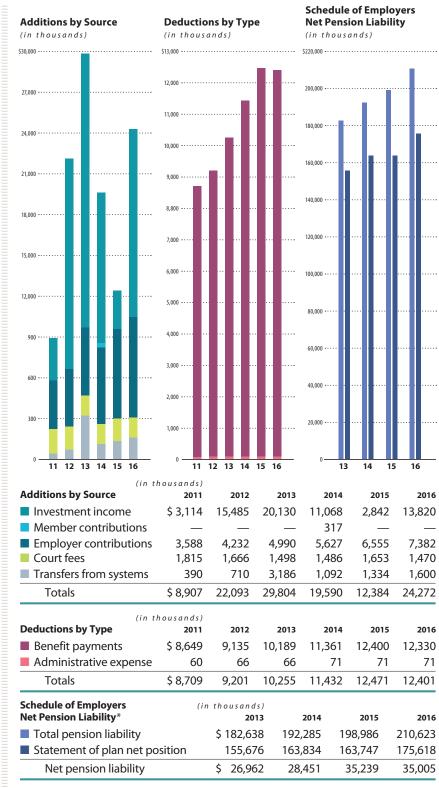
Up to 4% compounded annually.

## **Contribution Rates**

(as of 12-31-2016)

Employer rate is 42.12% of covered salary.

For more detail see Summary of Plan Provisions on page 171.



<sup>\*</sup>Additional years will be added as they become available.



# **Judges Composite Picture**

Total Membership: 257

Active: 115 • Terminated Vested: 3 • Retired: 141

2016 Active Members: 115

Average Age: 56.1 • Average Years of Service: 16.6 • Average Annual Salary: \$155,852

2016 Retirees Number: 7

Average Age: 65.3 • Average Years of Service: 29.2 • Average Annual Salary: \$139,428

Average Annual Benefit: \$106,141

Average Annual Benefit — All Retirees: \$84,793

Pictured: Judge Thomas M. Higbee, Fifth District Juvenile Court

# **Utah Governors & Legislators**

# Retirement Plan Highlights

The Utah Governors and Legislators Retirement Plan includes governors and legislators of the State of Utah.

### **Service Retirement**

Age	Years of Service	Allowance Reduction
65	4	None
62	10	
		before age

# Service Benefit Formula

### Governors

\$500\*per month per term.

\*Increased semi annually up to 2% based on the CPI. The amount as of 12-31-16 is \$1,360.

### Legislators

\$10\*\*per month each year of service as a legislator.

# Cost-of-Living Allowance

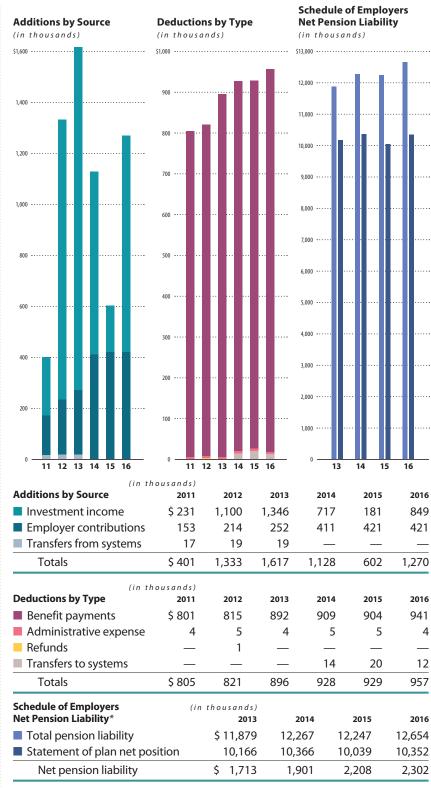
Up to 4% annually on original retirement benefit.

# **Contribution Rates**

(as of 12-31-2016)

There was a 2016-17 appropriation payable by June 30, 2017, to the Utah Governors and Legislators Retirement Plan of \$404,409.

For more detail see Summary of Plan Provisions on page 172.



<sup>\*</sup>Additional years will be added as they become available.

<sup>\*\*</sup>Increased semi annually up to 2% based on the CPI.The amount as of 12-31-16 is \$29.60.



# **Utah Governors and Legislators Composite Picture**

Total Membership: 336

Active: 61 • Terminated Vested: 96 • Retired: 244

2016 Active Members: 61

Average Age: 55.8 • Average Years of Service: 12.1 • Average Annual Salary: \$12,285

2016 Retirees Number: 17

Average Age: 66.1 • Average Years of Service: 6.1 • Average Annual Salary: \$19,603

Average Annual Benefit: \$7,125

Average Annual Benefit — All Retirees:  $\$3,\!863$ 

Pictured: Senator Gene Davis, Minority Leader, Utah State Senate

# Tier 2 Public Employees

# Contributory Retirement System Highlights

The Tier 2 Public Employees Contributory Retirement System includes eligible employees of the State of Utah and its political subdivisions and public education employees of those entities covered by the System.

# **Service Retirement**

Age	Years of Service	Reduction
Any ag	e35	None
60-61 .	20	Full actuarial before age 65
62-64 .	10	Full actuarial before age 65
65	4	None

# Service Benefit Formula

Number of years of service x 1.50% x FAS.\*

# **Cost-of-Living Allowance**

Up to 2.5% compounded annually on original retirement benefit.

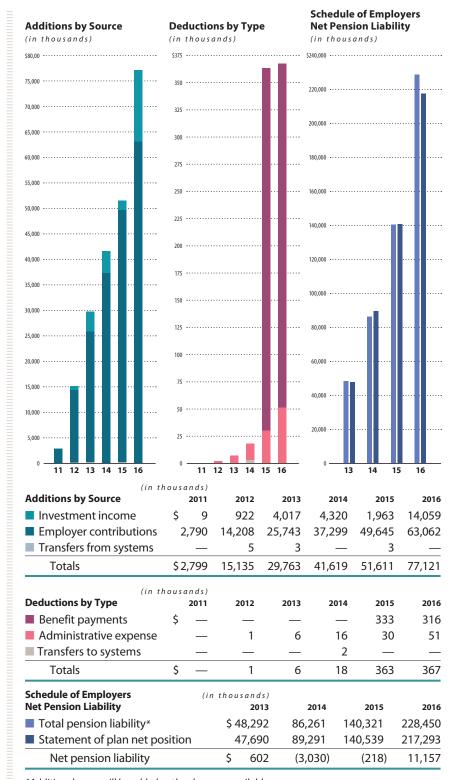
# **Contribution Rates**

(as of 12-31-2016)

Employer rates range from 14.91% to 18.24% of covered salary.

(Includes active member death benefit and Tier 1 amortization rate.)

For more detail see Summary of Plan Provisions on page 173.



<sup>\*</sup>Additional years will be added as they become available.

<sup>\*</sup>FAS (Final Average Salary) = highest five years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.



# **Tier 2 Public Employees Composite Picture**

Total Membership: 27,051

Active: 24,372 • Terminated Vested: 464 • Retired: 9

2016 Active Members: 24,372

Average Age: 35.9 • Average Years of Service: 2.2 • Average Annual Salary: \$30,809

2016 Retirees Number: 8

Average Age: 67.0 • Average Years of Service: 4.5 • Average Annual Salary: \$24,789

Average Annual Benefit: \$1,651

Average Annual Benefit — All Retirees:  $\$1,\!565$ 

Pictured: Chris Neal, Finance Specialist, Utah's Hogle Zoo

# Tier 2 Public Safety & Firefighter

# **Contributory Retirement System Highlights**

The Tier 2 Public Safety and Firefighter Contributory Retirement System includes eligible state and local government employees directly involved in law enforcement ordirectly involved in fire fighting and whose duties are classified as hazardous.

# **Service Retirement**

Age	Years of Service	Allowance Reduction
Any age.	25	None
60-61	20	Full actuarial before age 65
62-64	10	Full actuarial before age 65
65	4	None

# Service Benefit Formula

Number of years of service x 1.50% x FAS.\*

# Cost-of-Living Allowance

Up to 2.5% compounded annually on original retirement benefit.

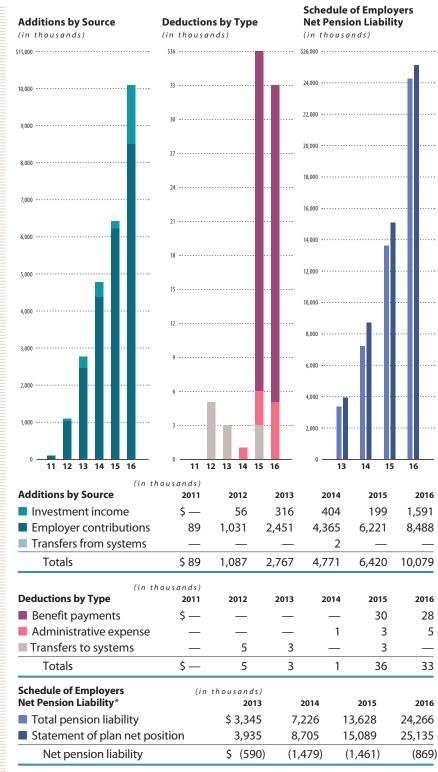
# **Contribution Rates**

(as of 12-31-2016)

Employer rates range from 10.75% to 37.02% of covered salary.

(Includes active member death benefit and Tier 1 amortization rate.)

For more detail see Summary of Plan Provisions on page 175.



<sup>\*</sup>Additional years will be added as they become available.

<sup>\*</sup>FAS (Final Average Salary) = highest five years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.





# **Tier 2 Public Safety and Firefighter Composite Picture**

Total Membership: 2,305

Active: 2,240 • Terminated Vested: 28 • Retired: —

**2016** Active Members: 2,240

Average Age: 30.2 • Average Years of Service: 2.3 • Average Annual Salary: \$35,363

2016 Retirees Number: —

Average Age: — • Average Years of Service: — • Average Annual Salary: \$—

Average Annual Benefit: \$—

Average Annual Benefit — All Retirees: \$—

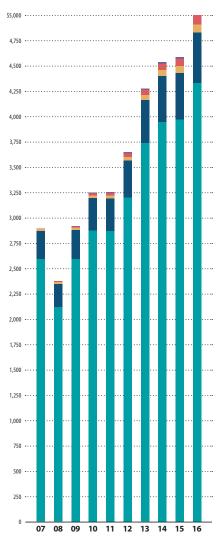
Pictured: (Left) Charity Salinas, Trooper, Utah Highway Patrol; (Right) Kim Myers, Firefighter/AEMT, Weber Fire District

# Defined Contribution Savings Plans Highlights

The purpose of the Defined Contribution Savings Plans (401(k), 457, Roth and traditional IRAs) is to allow public employees throughout Utah to adequately prepare themselves for retirement by investing a portion of their income in one or more of these retirement plans.

### Defined Contributions Member Balances

(in millions)



Membership Information at December 31, 2016	401(k)	457	Roth IRA	Traditional IRA
Number of active employees eligible to participate	105,864	101,497	221,405	221,405
Employee contributions (excluding employer contributions):				
Number of employees contributing	39,462	8,232	6,376	452
Percent of eligible employees contributing	37.3%	8.1%	2.9%	0.2%
Average % of salary deferred by employees	5.5%	6.0%	3.7%	2.5%
Total participants	166,430	17,416	8,772	1,763
Average participant account balance	\$26,071	\$28,389	\$10,165	\$46,247

It has long been recognized that for employees to experience the comfortable and rewarding retirement they desire, they cannot rely entirely upon Social Security and their employer-provided retirement. Employees should take the initiative to personally put aside a portion of their salary into some type of long-term savings plan.

Each year the number of employees participating in these plans increases. Individuals may participate in more than one plan. As of December 31, 2016, the number of participants by investment plan was as shown in the table above.

Annualized rates of returns for the Investment Funds are shown on pages 139 and 140. The Plans provided the following benefits:

- Convenient, automatic payroll deduction
- 20 investment options
- Brokerage window option
- Tax-deferred and/or tax-free savings
- Increase or decrease contributions as often as every pay period
- Flexible payout options when eligible
- Upon death, funds transfer to beneficiaries (except HRA)
- No sales commissions
- Low investment and administrative fees
- Plan loans (401(k) and 457)
- Hardship and emergency withdrawals
- Local customer service and counseling.

# **■■■** Defined Contributions Member Balances

at December 31, 2016

			(in m	illions)							
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
■ HRA*	\$	1	2	3	6	9	11	16	20	23	_
Roth IRA		6	7	12	21	24	34	48	59	70	89
Traditional IRA	١.	18	19	22	26	30	39	50	60	69	82
<b>457</b>		277	229	284	317	321	360	425	451	454	494
<b>401(k)</b>	2	2,604	2,132	2,608	2,887	2,881	3,213	3,746	3,956	3,980	4,339
Totals	\$ 2	2,906	2,389	2,929	3,257	3,265	3,657	4,285	4,546	4,596	5,004

\*Administration of the HRA was transferred to PEHP in October 2016.



2016

**Comprehensive Annual Financial Report** 

# Financial Section

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# Independent Auditors' Report

# Deloitte.

INDEPENDENT AUDITORS' REPORT

Deloitte & Touche LLP 111 South Main Street Suite 1500 Salt Lake City, UT 84111 United States of America

Tel 801-328-4706 Fax: 801-366-7900 www.deloitte.com

**Utah State Retirement Board:** 

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

We have audited the accompanying financial statements of the defined benefit pension plans and of the total combined defined contribution plans of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, which comprise the statements of fiduciary net position of the pension (and other employee benefit) trust funds as of December 31, 2016, and the related statements of changes in fiduciary net position of the pension (and other employee benefit) trust funds for the year then ended, and the related notes to the financial statements, which collectively comprise Utah Retirement Systems' basic financial statements as listed in the foregoing table of contents.

# Management's Responsibility for the Financial Statements

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

## **Auditors' Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America 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 of material misstatement.

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

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

## **Opinions**

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the pension (and other employee benefit) trust funds of the defined benefit pension plans and of the total combined defined contribution plans of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, at December 31, 2016, and the changes in fiduciary net position of the pension (and other employee benefit) trust funds for the year then ended in accordance with accounting principles generally accepted in the United States of America.

# **Emphasis of Matter**

As discussed in Note 3 to the financial statements, the financial statements include investments that are not listed on national exchanges or for which quoted market prices are not available. These investments include private equities, absolute returns, and investments in real assets. Such investments totaled \$12.2 billion (34.7% of total assets) at December 31, 2016. Where a publicly listed price is not available, the management of Utah Retirement Systems uses alternative sources of information including audited financial statements, unaudited interim reports, independent appraisals, and similar evidence to determine the fair value of the investments. Our opinion is not modified with respect to this matter.

# Report on Summarized **Comparative Information**

We have previously audited Utah Retirement Systems' 2015 basic financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated April 27, 2016, which included an emphasisof-matter paragraph regarding the fair value of investments where a publicly listed price is not available. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2015 is consistent, in all material respects, with the audited financial statements from which it has been derived.

### **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 in the Employers' Net Pension Liability, of Employers' Net Pension Liability, of Employer Contributions, and of Investment Returns, listed in the foregoing table of contents, be presented to supplement the basic financial statements. Such information, although not part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the 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 an opinion on the financial statements that collectively comprise Utah Retirement Systems' basic financial statements. The additional combining information for the total combined defined contribution plans is presented for purposes of additional analysis of the financial statements rather than to present the fiduciary net position and the changes in fiduciary net position of the individual plans, and is not a required part of the financial statements. The supplementary financial supporting schedules listed in the foregoing table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

# Independent Auditors' Report (Continued)

The additional combining information and the supplementary financial supporting schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. 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 additional combining information and the supplementary financial supporting schedules are fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

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

# Other Reporting Required by **Government Auditing Standards**

In accordance with Government Auditing Standards, we have also issued our report dated April 26, 2017 on our consideration of Utah Retirement Systems' internal control over financial reporting and on our tests of their compliance with certain provisions of laws, regulations, contracts, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering Utah Retirement Systems' internal control over financial reporting and compliance.

April 26, 2017

# Deloitte.

INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

**Utah State Retirement Board:** 

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller General of the United States, the financial statements of the defined benefit pension plans and of the total combined defined contribution plans of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, which comprise the statements of fiduciary net position of the pension (and other employee benefit) trust funds as of December 31, 2016, and the related statements of changes in fiduciary net position of the pension (and other employee benefit) trust funds for the year then ended, and the related notes to the financial statements, which collectively comprise Utah Retirement Systems' basic financial statements, and have issued our report thereon dated April 26, 2017, which included an emphasisof-matter paragraph regarding the fair value of investments where a publicly listed price is not available.

## Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered Utah Retirement Systems' internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the

Deloitte : Touche LLP

## Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters (Concluded)

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circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Utah Retirement Systems' internal control. Accordingly, we do not express an opinion on the effectiveness of Utah Retirement Systems' internal control.

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

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

#### **Compliance and Other Matters**

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

#### Purpose of this Report

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

Deloitte : Touche LLP

April 26, 2017

# Management's Discussion and Analysis

## Introduction

This section presents management's discussion and analysis of the Utah Retirement Systems' (URS) financial position and performance for the year ended December 31, 2016. It is presented as a narrative overview and analysis. Please read it in conjunction with the Letter of Transmittal included in the Introductory Section, the financial statements and other information that are presented in the Financial Section of this Comprehensive Annual Financial Report. URS is responsible for administering retirement and defined contribution benefits for state, local government, and public education employees in the state of Utah.

URS is composed of eight defined benefit pension systems (Systems) and five defined contribution plans (Plans). The eight defined benefit pension systems are the Public Employees Noncontributory Retirement System (Noncontributory System), the Public **Employees Contributory Retirement** System (Contributory System), the Public Safety Retirement System (Public Safety System), the Firefighters Retirement System (Firefighters System), the Judges Retirement System (Judges System), the Utah Governors and Legislators Retirement Plan (Governors and Legislators Plan), Tier 2 Public Employees Contributory Retirement System (Tier 2 Public Employees System), and the Tier 2 Public Safety and Firefighter Contributory Retirement System

(Tier 2 Public Safety and Firefighter System). The five defined contribution plans (Plans) are the 401(k), 457, Roth and traditional IRAs, and Health Reimbursement Arrangement. All of these Systems and Plans are defined as pension (and other employee benefit) trust funds, which are fiduciary funds. Throughout this discussion and analysis units of measure (i.e., billions, millions, thousands) are approximate, being rounded up or down to the nearest tenth of the respective unit value.

## Financial Highlights

- The URS Defined Benefit Pension Systems' combined total net position increased by \$1.9 billion, or 7.0% during calendar year 2016. The increase was primarily due to the increase in the markets.
- The URS Defined Benefit Pension Systems' rate of return on investments during calendar year 2016 was 8.79% compared with the calendar year 2015 rate of return of 1.92%. The increase in rate of return was due primarily to the increase in market performance in 2016.
- The URS Defined Benefit Pension Systems had a Net Pension Liability of \$4.7 billion and the Net Pension Liability as a percentage of covered payroll was 96.1% as of December 31, 2016.
- The Defined Contribution Plans' combined total net position increased \$407 million during calendar year 2016 primarily due to investment gains.
- The Defined Contribution Plans' rates of return for investment options ranged from a high of 23.3% to a low of 1.1% compared to prior year investment option returns of a high of 9.0% and a low of negative 4.6%.





# Overview of the Financial Statements

The URS 2016 financial statements, notes to the financial statements, and required supplementary information were prepared in conformity with GASB Statement No. 67, Financial Reporting for Pension Plans. This discussion and analysis is intended to serve as an introduction to the URS financial reporting, which is comprised of the following components:

- 1) basic financial statements,
- 2) notes to the basic financial statements,
- 3) required supplementary information,
- 4) other supplementary schedules.

Collectively, this information presents the combined net position held in trust for pension benefits for each of the funds administered by URS as of December 31, 2016. This financial information also summarizes the combined changes in net position held in trust for pension benefits for the year then ended. The information in each of these components is briefly summarized as follows:

## 1) Basic Financial **Statements**

For the calendar year ended December 31, 2016, basic financial statements are presented for the fiduciary funds administered by URS. Fiduciary funds are used to account for resources held for the benefit of the participants outside of URS. The fiduciary funds are comprised of 13 pension (and other employee benefit) trust funds that consist of eight defined benefit systems and five defined contribution plans.

- The Statements of Fiduciary Net Position are presented for the pension trust funds at December 31, 2016, with combined total comparative information at December 31, 2015. These financial statements reflect the resources available to pay benefits to members, including retirees and beneficiaries, at the end of the years reported.
- The Statements of Changes in Fiduciary Net Position are presented for the pension trust funds for the year ended December 31, 2016, with combined total comparative information for the year ended December 31, 2015. These financial statements reflect the changes in the resources available to pay benefits to members, including retirees and beneficiaries, for calendar years 2016 and 2015.

## 2) Notes to the Basic **Financial Statements**

The Notes to the Basic Financial Statements provide additional information that is essential to a full understanding of the data provided in the basic financial statements. Information in the Notes to the Basic Financial Statements is described as follows:

#### Management's Discussion and Analysis (Continued)

- Note 1 provides a general description of URS, as well as a description of each of the Systems and Plans administered by URS and a summary of benefits. Information regarding employer and member participation in the Systems and Plans administered by URS is also provided.
- Note 2 provides a summary of significant accounting policies including the basis of accounting, investment accounting policies, management's use of estimates, information regarding the implementation of new accounting pronouncements, and other significant accounting policies.
- Note 3 describes deposits, investment risk disclosures, fair value measurements and related disclosures, and additional information about cash, securities lending, and derivatives.
- Note 4 explains property and equipment of URS including depreciation and net carrying amounts.
- Note 5 provides information about net pension liability of employers.
- Note 6 provides information about contributions to the defined benefit systems administered by URS.

- Note 7 explains transfers to or from affiliated systems.
- Note 8 describes supplemental benefits.
- Note 9 provides information about litigation.
- Note 10 describes commitments for investment funding.
- Note 11 provides information about pension plan participation.
- Note 12 provides information about URS post-employment benefits.
- Note 13 describes compensated absences and insurance reserves.
- Note 14 describes required supplementary information.
- Note 15 provides information about risk management of URS.
- Note 16 provides information about real estate liabilities.

## 3) Required Supplementary Information

The required supplementary information consists of four schedules of changes of employers' net pension liability, employers' net pension liability, employer contributions, and the moneyweighted rate of investment returns of the defined benefit pension systems administered by URS.

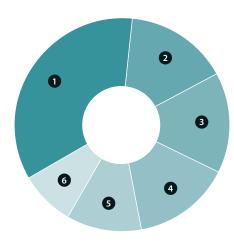
## 4) Other Supplementary Schedules

Other schedules include more detailed information pertaining to the Systems and Plans as well as schedules of administrative expenses.





## **Defined Benefit Systems Investments** at Fair Value



- 1 Equity Securities (35.2%)
- 2 Absolute Return (15.6%)
- 3 Debt Securities (15.0%)
  - 4 Real Assets (14.7%)
- 5 Private Equity (11.3%)
  - 6 Short Term (8.2%)

## Financial Analysis of the Systems — **Defined Benefit Plans**

#### Investments

Investments of the URS Defined Benefit Systems are combined in a commingled investment pool as authorized by state statute. Each system owns an equity position in the pool and receives proportionate investment income from the pool in accordance with each respective ownership percentage.

Each system's allocated share of each type of investment in the pool is shown in the Statements of Net Position. Investment gains or losses are reported in the Statements of Changes in Fiduciary Net Position. The rate of return on investments is therefore approximately the same for each of the systems.

#### **Systems' Total Investments**

As of December 31, 2016, URS Defined Benefit Systems had total net position of \$28.5 billion, an increase of \$1.9 billion from calendar year 2015 investment totals. The combined investment portfolio experienced a return of 8.79% compared with the URS investment benchmark return of 7.62%. Investment results over time compared with URS benchmarks are presented on page 134 in the Investment Section.

Because the investment gain in all of the retirement systems was about 8.79% of net position, further investment performance will not be evaluated in each respective system.

#### **Equity Securities**

As of December 31, 2016, URS Defined Benefit Systems held \$10.2 billion in U.S. and international equity securities, an increase of \$1.0 billion from year 2015. Equity securities had a return of 11.17% for calendar year 2016 compared with the URS benchmark return of 8.39%.

#### **Debt Securities**

As of December 31, 2016, URS Defined Benefit Systems held \$4.4 billion in U.S. debt and international debt securities, an increase of \$74.8 million from year 2015. Debt securities returned 4.62% in calendar year 2016 compared with the URS benchmark return of 4.71%.

#### **Real Assets**

As of December 31, 2016, URS Defined Benefit Systems held \$4.3 billion in real assets investments, an increase of \$243.6 million from year 2015. Real assets investments returned 11.32% in calendar year 2016 compared with the URS benchmark return of 6.99%.

#### **Private Equity**

As of December 31, 2016, URS Defined Benefit Systems held \$3.3 billion in private equity investments, an increase of \$76.1 million from year 2015. Private equity investments returned 9.12% in calendar year 2016. The URS benchmark for private equity investments was 16.07%.

#### Management's Discussion and Analysis (Continued)

#### **Short Term**

As of December 31, 2016, URS Defined Benefit Systems held \$2.4 billion in short-term investments, an increase of \$162.4 million from year 2015. Short-term investments returned 0.54% in calendar year 2016 which compared with the URS benchmark return of 0.33%.

#### **Absolute Return**

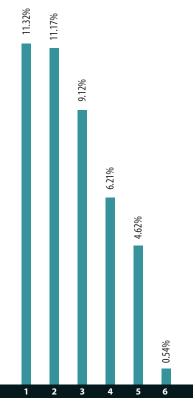
As of December 31, 2016, URS Defined Benefit Systems held \$4.5 billion in absolute return investments, an increase of \$367.5 million from year 2015. Absolute return investments returned a 6.21% in calendar year 2016 compared with the URS benchmark return of 5.33%.

#### **Securities Lending**

The Systems earn additional investment income by lending investment securities to brokers. This is done on a pooled basis by URS' custodial bank, The Northern Trust Company (TNT). The brokers provide collateral to TNT and generally use the borrowed securities to cover short sales and failed trades. TNT invests the cash collateral received from the brokers in order to earn interest. As of December 31, 2016, the Systems had \$658 million on loan secured by collateral of \$699 million. For calendar year 2016, net securities lending income to the Systems amounted to \$8.0 million, a decrease of \$1.1 million over calendar year 2015. In order to mitigate risk, security lending was restricted to high yield low risk lending which resulted in lower revenue for 2016.

## Defined Benefit Systems Investment Rates of Return by Investment Type for 2016

(in percents)



- 1 Real Assets
- 2 Equity Securities
- 3 Private Equity
- 4 Absolute Return
- 5 Debt Securities
  - 6 Short Term





# Analysis of the Defined Benefit Systems

## Noncontributory System

The Noncontributory System provides retirement benefits to covered State of Utah, local government, and public education employees. Benefits of the system are funded by employer contributions and by earnings on investments. The system net position as of December 31, 2016, totaled \$22.6 billion, an increase of \$1.4 billion (6.7%) from \$21.2 billion as of December 31, 2015.

Additions to the Noncontributory System net position include employer contributions, investment income, and transfers. For the calendar year 2016, member and employer contributions increased from \$830.5 million for calendar year 2015 to \$847.9 million, an increase of \$17.4 million (2.1%). Contributions increased because salaries increased. The system recognized a net investment gain of \$1.78 billion for calendar year 2016 compared with net investment gain of \$366.7 million for calendar year 2015. The increase in investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Noncontributory System net position include retirement benefits, administrative expenses, and transfers. For the calendar year 2016, benefits amounted to \$1.2 billion, an increase of \$62.5 million (5.6%) over calendar year 2015. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For the calendar year 2016, the costs of administering the system totaled \$8.9 million, an increase of \$59 thousand (0.07%) from calendar year 2015.

At December 31, 2016, the Noncontributory Retirement System total pension liability was \$26.5 billion. The Plan's fiduciary net position was \$22.6 billion leaving a net pension liability of \$3.9 billion. The Plan fiduciary net position as a percentage of the total pension liability was 85.3%.

## Contributory System

The Contributory System provides retirement benefits to covered State of Utah, local government, and public education employees. Benefits of the system are funded by member and employer contributions and by earnings on investments. The system net position as of December 31, 2016, totaled \$1.2 billion, an increase of \$21.8 million (1.8%) from \$1.2 billion as of December 31, 2015.

Additions to the Contributory System net position include employer and member contributions, investment income, and transfers. For calendar year 2016, member and employer contributions decreased from \$16.5 million for calendar year 2015 to \$11.6 million, a decrease of \$4.9 million (29.6%). Contributions decreased because of the number of active members. For the most part, the Contributory System is a closed system. For this reason both the numbers of active members and retired individuals are declining. The system recognized a net investment gain of \$97.7 million for calendar year 2016 compared with net investment gain of \$21.3 million for the calendar year 2015. The increase in investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Contributory System net position include retirement benefits, administrative expenses, and transfers. For calendar year 2016, benefits amounted to \$85.1 million, an increase of \$2.5 million (3.1%) from calendar year 2015. The increase in benefit payments was due to the increase in the number of retired members in the system. For calendar year 2016, the costs of administering the system totaled \$446 thousand, a decrease of \$32 thousand (6.7%) from calendar year 2015.

At December 31, 2016, the Contributory Retirement System total pension liability was \$1.29 billion. The Plan's fiduciary net position was \$1.2 billion leaving a net pension liability of \$88 million. The Plan fiduciary net position as a percentage of the total pension liability was 93.2%.

## ■■■ Statements of Fiduciary Net Position — Defined Benefit Pension Plans

December 31

(dollars in thousands)

	Noncontributory System				Contrib	utory System	Public Safety System			
	2016	2015	2014	2016	2015	2014	2016	2015	2014	
Assets:										
Cash and receivables	\$ 394,604	264,655	347,450	19,301	13,175	18,980	55,097	33,339	44,454	
Investments at fair value Invested securities	22,995,043	21,506,695	21,401,055	1,226,675	1,202,149	1,289,979	3,229,586	2,985,545	2,943,857	
lending collateral	554,319	1,602,253	1,812,356	29,570	89,560	109,243	77,853	222,424	249,302	
Property and equipment	3,875	2,488	2,954	207	139	178	544	345	408	
Total assets	23,947,841	23,376,091	23,563,815	1,275,753	1,305,023	1,418,380	3,363,080	3,241,653	3,238,021	
Liabilities:										
Securities lending liability	554,319	1,602,253	1,812,356	29,570	89,560	109,243	77,853	222,424	249,302	
Investment accounts and other payables	774,779	581,401	654,947	41,279	32,372	39,146	108,682	80,390	89,333	
Total liabilities	1,329,098	2,183,654	2,467,303	70,849	121,932	148,389	186,535	302,814	338,635	
Net position restricted for pensions	\$ 22,618,743	21,192,437	21,096,512	1,204,904	1,183,091	1,269,991	3,176,545	2,938,839	2,899,386	

(dollars in thousands)

	Tier 2 Public Employees System			Tier 2 Public Safety and Firefighter System			Tot	2016 Percent	2015 Percent		
	2016	2015	2014	2016	2015	2014	2016	2016 2015		Change	Change
Assets:											
Cash and receivables	\$ 7,015	3,973	3,375	754	271	233	499,760	329,458	433,607	51.7%	(24.0)%
Investments at fair value Invested securities	217,563	140,329	88,592	25,226	15,226	8,737	29,017,100	27,086,314	26,955,610	7.1	0.5
lending collateral	5,245	10,454	7,502	608	1,134	740	699,487	2,017,935	2,282,747	(65.3)	(11.6)
Property and equipment	37	16	12	4	2	1	4,890	3,133	3,722	56.1	(15.8)
Total assets	229,860	154,772	99,481	26,592	16,633	9,711	30,221,237	29,436,840	29,675,686	2.7	(0.8)
Liabilities:											
Securities lending liability Investment accounts	5,245	10,454	7,502	608	1,134	740	699,487	2,017,935	2,282,747	(65.3)	(11.6)
and other payables	7,322	3,779	2,688	849	410	266	977,434	732,065	823,815	33.5	(11.1)
Total liabilities	12,567	14,233	10,190	1,457	1,544	1,006	1,676,921	2,750,000	3,106,562	(39.0)	(11.5)
Total position restricted for pensions	\$ 217,293	140,539	89,291	25,135	15,089	8,705	28,544,316	26,686,840	26,569,124	7.0%	0.4%

Firefighters System			Judges System			Utah Governors and Legislators Retirement Plan			
2016	2015	2014	2016	2015	2014	2016	2015	2014	
19,654	11,916	16,416	3,172	1,904	2,542	163	225	157	
1,134,044	1,059,550	1,046,228	178,422	166,303	166,317	10,541	10,517	10,845	
27,337	78,936	88,601	4,301	12,390	14,085	254	784	918	
191	123	145	30	19	23	2	1	1	
1,181,226	1,150,525	1,151,390	185,925	180,616	182,967	10,960	11,527	11,921	
27,337	78,936	88,601	4,301	12,390	14,085	254	784	918	
38,163	28,530	31,750	6,006	4,479	5,048	354	704	637	
65,500	107,466	120,351	10,307	16,869	19,133	608	1,488	1,555	
1,115,726	1,043,059	1,031,039	175,618	163,747	163,834	10,352	10,039	10,366	

## **Public Safety System**

The Public Safety System provides retirement benefits to eligible public safety employees of the State of Utah, local governments, and higher education. Benefits of the system are funded by member and employer contributions and by earnings on investments. The system net position as of December 31, 2016, amounted to \$3.2 billion, an increase of \$237.7 million (8.0%) from \$2.9 billion as of December 31, 2015.

Additions to the Public Safety System net position include employer contributions, investment income, and transfers. For calendar year 2016, member and employer contributions increased from \$141.9 million for calendar year 2015 to \$147.9 million, an increase of \$6.0 million (4.0%). Contributions increased because salaries increased. The system recognized a net investment gain of \$249.0 million for calendar year 2016 compared with net investment gain of \$50.7 million for calendar year 2015. The increase in the investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Public Safety System net position include retirement benefits and administrative expenses. For calendar year 2016, benefits amounted to \$164.7 million, an increase of \$8.8 million (5.6%) over calendar year 2015. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For calendar year 2016, the costs of administering the system totaled \$1.3 million, an increase of \$27 thousand (2.2%) from calendar year 2015.

At December 31, 2016, the Public Safety Retirement System total pension liability was \$3.8 billion. The Plan's fiduciary net position was \$3.2 billion leaving a net pension liability of \$618 million. The Plan fiduciary net position as a percentage of the total pension liability was 83.7%.

# ■■■ Statements of Changes in Fiduciary Net Position — Defined Benefit Pension Plans Year Ended December 31 (dollars in thousands)

	Noncontributory System				Contribu	tory System	Public Safety System			
	2016	2015	2014	2016	2015	2014	2016	2015	2014	
Additions:										
Contributions	\$ 847,939	830,469	786,007	11,608	16,490	18,415	147,929	141,929	136,423	
Investment income	1,783,911	366,748	1,419,053	97,693	21,251	87,577	249,027	50,654	194,222	
Transfers from										
affiliated systems	_	33,648	30,467	_	_	_	6,701	4,023	2,746	
Total additions	2,631,850	1,230,865	2,235,527	109,301	37,741	105,992	403,657	196,606	333,391	
Deductions:										
Pension benefits	\$ 1,184,317	1,123,647	1,043,798	83,447	81,390	77,015	164,508	155,387	144,763	
Refunds	4,366	2,496	2,204	1,700	1,215	2,433	183	533	199	
Administrative expenses	8,856	8,797	8,828	446	478	494	1,260	1,233	1,227	
Transfers to affiliated syste	ms 8,005	_	_	1,895	41,558	38,004	_	_	_	
Total deductions	1,205,544	1,134,940	1,054,830	87,488	124,641	117,946	165,951	157,153	146,189	
Increase (decrease) in net position										
restricted for pensions	\$ 1,426,306	95,925	1,180,697	21,813	(86,900)	(11,954	237,706	39,453	187,202	

(dollars in thousands)

	Tier 2 Public Employees System				Tier 2 Pub I Firefighte		Total D	efined Benefit	2016 Percent	2015 Percent	
	2016	2015	2014	2016	2015	2014	2016	2015	2014	Change	Change
Additions:											
Contributions	\$ 63,062	49,645	37,299	8,488	6,221	4,365	1,124,551	1,095,466	1,028,318	2.7%	6.5%
Investment income	14,059	1,963	4,320	1,591	199	404	2,248,696	461,772	1,786,431	387.0	(74.2)
Transfers from affiliated systems	_	3	_	_	_	2	9,912	41,581	38,020	(76.2)	9.4
Total additions	77,121	51,611	41,619	10,079	6,420	4,771	3,383,159	1,598,819	2,852,769	111.6	(44.0)
Deductions:											
Retirement benefits	316	333	_	28	30	_	1,497,989	1,423,762	1,325,556	5.2	7.4
Refunds	_	_	_	_	_	_	6,715	4,772	5,129	40.7	(7.0)
Administrative expense	51	30	16	5	3	1	11,067	10,988	11,012	0.7	(0.2)
Transfers to affiliated systems	_	_	2	_	3	_	9,912	41,581	38,020	(76.2)	9.4
Total deductions	367	363	18	33	36	1	1,525,683	1,481,103	1,379,717	3.0	7.3
Increase in net position restricted for pensions	\$ 76,754	51,248	41,601	10,046	6,384	4,770	1,857,476	117,716	1,473,052	1,477.9%	(92.0)%

	Firefigh	iters System	Judges System			Utah Governors a Legislators Retirement Pl		
2016	2015	2014	2016	2015	2014	2016	2015	2014
36,252	42,083	37,968	8,852	8,208	7,430	421	421	411
87,746	17,934	69,070	13,820	2,842	11,068	849	181	717
1,611	2,573	3,713	1,600	1,334	1,092	_	_	_
125,609	62,590	110,751	24,272	12,384	19,590	1,270	602	1,128
52,102	49,671	47,710	12,330	12,400	11,361	941	904	909
466	528	293	_	_	_	_	_	_
374	371	370	71	71	71	4	5	5
_	_	_	_	_	_	12	20	14
52,942	50,570	48,373	12,401	12,471	11,432	957	929	928
72,667	12,020	62,378	11,871	(87)	8,158	313	(327)	200

## Firefighters System

The Firefighters System provides retirement benefits to covered firefighters of the State of Utah and local governments. Benefits of the system are funded by member and employer contributions and by earnings on investments. The system net position as of December 31, 2016, amounted to \$1.1 billion, an increase of \$72.7 million (7.0%) from \$1.0 billion as of December 31, 2015.

Additions to the Firefighters System net position consist of employer contributions, including insurance premium taxes, investment income, and transfers. For calendar year 2016, member and employer contributions decreased from \$42.1 million for calendar year 2015 to \$36.3 million, a decrease of \$5.8 million (13.9%). Contributions decreased because insurance premium taxes decreased. The system recognized a net investment gain of \$87.7 million for calendar year 2016 compared with net investment gain of \$17.9 million for calendar year 2015. The increase in investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

**Deductions from the Firefighters** System net position include retirement benefits and administrative expenses. For calendar year 2016, benefits amounted to \$52.6 million, an increase of \$2.4 million (4.7%) over calendar year 2015. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For calendar year 2016, the costs of administering the system totaled \$374 thousand, an increase of \$3 thousand (0.8%) from calendar year 2015.

At December 31, 2016, the Firefighters Retirement System total pension liability was \$1.1 billion. The Plan's fiduciary net position was \$1.1 billion leaving a net pension liability of \$14.0 million. The Plan fiduciary net position as a percentage of the total pension liability was 98.8%.

#### Management's Discussion and Analysis (Continued)





## **Judges System**

The Judges System provides retirement benefits to judges in the State of Utah who are eligible to participate in the system. Benefits of the system are funded by employer contributions and by earnings on investments. The system net position as of December 31, 2016, amounted to \$175.6 million, an increase of \$11.9 thousand (7.3%) from \$163.7 million as of December 31, 2015.

Additions to the Judges System net position consist of employer contributions, including court fees, investment income, and transfers. For calendar year 2016, employer contributions increased from \$8.2 million for calendar year 2015 to \$8.9 million, an increase of \$644 thousand (7.8%). Contributions increased because court fees increased. The system recognized a net investment gain of \$13.8 million for the calendar year 2016 compared with net investment gain of \$2.8 million for calendar year 2015. The increase in investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Judges System net position held in trust for benefits include retirement benefits and administrative expenses. For calendar year 2016, benefits amounted to \$12.3 million, a decrease of \$70 thousand (0.6%) over calendar year 2015. The decrease in benefit payments was due to a decrease in the current year retirees. For calendar year 2016, the costs of administering the system totaled \$71 thousand, a slight decrease over the preceding year.

At December 31, 2016, the Judges System total pension liability was \$210.6 million. The Plan's fiduciary net position was 175.6 million leaving a net pension liability of \$35.0 million. The Plan fiduciary net position as a percentage of the total pension liability was 83.4%.

## **Utah Governors and** Legislators Retirement Plan

The Governors and Legislators Retirement Plan provides retirement benefits to governors and legislators of the State of Utah. Benefits of the system are funded by employer contributions and by earnings on investments. The system net position as of December 31, 2016, amounted to \$10.4 million, an increase of \$313 thousand (3.1%) from \$10.0 million as of December 31, 2015.

Additions to the Governors and Legislators Retirement Plan net position include investment income and transfers. For calendar year 2016 employer contributions amounted to \$421 thousand. The Plan recognized a net investment gain of \$849 thousand for calendar year 2016 compared with net investment gain of \$181 thousand for calendar year 2015. The increase in investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Governors and Legislators Retirement Plan net position include retirement benefits and administrative expenses. For calendar year 2016, retirement benefits amounted to \$941 thousand, a decrease of \$37 thousand (4.1%) from calendar vear 2015. The increase in benefit payments was due to a increase in the number of benefit recipients. For calendar year 2016, the costs of administering the system totaled \$4 thousand, a slight decrease over the preceding year.

At December 31, 2016, the Governors and Legislators Retirement Plan total pension liability was \$12.7 million. The Plan's fiduciary net position was \$10.4 million leaving a net pension liability of \$2.3 million. The Plan fiduciary net position as a percentage of the total pension liability was 81.8%.

## Tier 2 Public **Employees System**

The Tier 2 Public Employees System provides retirement benefits to eligible State of Utah, local governments, and public education employees who started employment July 1, 2011, or after. Benefits of the system are funded by member and employer contributions and by earnings on investments. The system net position as of December 31, 2016, amounted to \$217.3 million, an increase of \$76.8 million (54.6%) from \$140.5 million as of December 31, 2015.

Additions to the Tier 2 Public **Employees System net position consist** of employer contributions, investment income, and transfers. For calendar year 2016, member and employer contributions increased from \$49.6 million for calendar year 2015, to \$63.1 million, an increase of \$13.4 million (27.0%). Contributions increased because membership increased. The system recognized a net investment gain of \$14.1 million for calendar year 2016 compared with an investment gain of \$2.0 million for calendar year 2015. The increase in the investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Tier 2 Public Employees System net position for benefits include retirement benefits and administrative expenses. For calendar year 2016 the system paid \$316 thousand in retirement benefits and \$333 thousand in 2015. The costs of administering the system totaled \$51 thousand, an increase of \$21 thousand (70.0%) from calendar vear 2015.

At December 31, 2016, the Tier 2 **Public Employees Retirement System** total pension liability was \$228.5 million. The Plan's fiduciary net position was \$217.3 million leaving a net pension liability of \$11.2 million. The Plan's fiduciary net position as a percentage of the total pension liability was 95.1%.

## Tier 2 Public Safety and Firefighter System

The Tier 2 Public Safety and Firefighter System provides retirement benefits to eligible state and local government employees directly involved in law enforcement or fire fighting and are in a position of hazardous duty who started employment July 1, 2011, or after. Benefits of the system are funded by member and employer contributions and by earnings on investments. The system net position as of December 31, 2016, amounted to \$25.1 million, an increase of \$10.0 million (66.6%) from \$15.1 million as of December 31, 2015.

Additions to the Tier 2 Public Safety and Firefighter System net position consist of employer contributions, investment income, and transfers. For calendar year 2016, member and employer contributions increased from \$6.2 million for calendar year 2015, to \$8.5 million in 2015, an increase of \$2.3 million (36.4%). Contributions increased because membership increased. The system recognized a net investment gain of \$1.6 million for calendar year 2016 compared with net investment gain of \$199 thousand for calendar year 2015. The increase in the investment gain for 2016 compared to 2015 was due to the higher rate of return realized in 2016.

Deductions from the Tier 2 Public Safety and Firefighter System net position include retirement benefits and administrative expenses. For calendar years 2016 the system paid \$28 thousand in retirement benefits and \$30 thousand in 2015. The costs of administering the system totaled \$5 thousand.

At December 31, 2016, the Tier 2 Public Safety and Firefighter Retirement System total pension liability was \$24.3 million. The Plan's fiduciary net position was \$25.1 million leaving a net pension asset of \$870 thousand. The Plan's fiduciary net position as a percentage of the total pension liability was 103.6%.





# **Actuarial Valuations** and Funding Progress

Actuarial valuation of each defined benefit system is performed annually. As of January 1, 2016, the date of the most recent actuarial valuation, the average funded ratio of the Systems using the actuarial value of assets was 85.2%. This was a decrease from the Systems' January 1, 2015, valuation average funded ratio of 85.5%, a decrease in funded status of 0.03%. The funded ratio decrease for all systems was the result of decreasing the investment return assumption from 7.5% to 7.2% and partially offset by higher than expected investment returns over the previous five years.

In determining contribution rates an actuarial value of assets is used rather than a market value of assets. The actuarial value of assets is based on a smoothed expected income investment rate. Investment income in excess or shortfall of the expected rate on fair value is smoothed over a 5-year period with 20% of a year's excess or shortfall being recognized each year beginning with the current year.

As of January 1, 2016, the Systems' underfunded actuarial accrued liability was \$4.7 billion. This was a net increase in the unfunded position of \$377 million compared to January 1, 2015. As of January 1, 2016, the difference between the actuarial value of assets and market value of assets was \$437 million in actuarially deferred gains. These actuarially deferred gains will be recognized by the actuary over the next four years.

Every three years in conjunction with the actuarial valuation the actuary performs an experience study. Based upon the 2014 experience study, the actuary recommended some changes in the actuarial assumptions that were adopted by the Board. Some of the

changes were to decrease the wage inflation assumption from 3.75% to 3.50%, decrease the payroll growth assumption from 3.50% to 3.25%, and new mortality assumptions.

In conjunction with the 2016 annual actuarial valuation, the actuary recommended some changes to the assumptions that were adopted by the Board. Some of the changes were to decrease the earnings assumptions from 7.5% to 7.2%, decrease the inflation assumption from 2.75% to 2.6%, and decrease the payroll growth assumption and wage inflation by 0.15%.

In accordance with GASB Statement 67 regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the table on page 49 presents the net pension liability/(asset) of the participating employers calculated using the discount rate of 7.20%, as well as what the employers' net pension liability/(asset) would be if it were calculated using a discount rate that is 1.00% lower (6.20%) or 1.00% higher (8.20%) than the current rate.

#### Management's Discussion and Analysis (Continued)

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

(dollars in thousands)

System	1.00% Decrease (6.20%)	Current Discount Rate (7.20%)	1.00% Increase (8.20%)
Noncontributory Retirement System	\$ 7,272,333	3,883,038	1,044,993
Contributory Retirement System	213,702	87,608	(19,165)
Public Safety Retirement System	1,150,467	618,335	182,948
Firefighters Retirement System	169,686	14,003	(114,022)
Judges Retirement System	56,845	35,005	16,253
Governors and Legislative Retirement System	3,526	2,302	1,265
Tier 2 Public Employees System	75,928	11,157	(38,121)
Tier 2 Public Safety and Firefighter System	6,073	(869)	(6,202)
Total	\$ 8,948,560	4,650,579	1,067,948

Some URS stakeholders may also be interested in the measure of the net pension liability if the liability was calculated using an interest rate based on the current yields of high-quality fixed income investments. For instance, if a 4.00% discount rate was used to calculate the Total Pension Liability, then the net pension liability would be \$21.851 billion. Note, although the disclosure of a net pension liability using a 4.00% discount rate may be useful for comparison purposes, it is not an appropriate basis for developing contribution requirements for participating employers in the retirement system.

# Analysis of the Defined Contribution Savings Plans

#### 401(k) Defined Contribution Plan

The 401(k) Plan was established under section 401(k) of the Internal Revenue Code. This plan provides supplemental and primary retirement benefits for plan participants. The plan is funded by contributions and by investment earnings. The plan net position as of December 31, 2016, amounted to \$4.3 billion, an increase of \$359 million (9.0%) over net position as of December 31, 2015.

Additions to the 401(k) Plan net position include contributions and investment income. For calendar year 2016, contributions increased from those of calendar year 2015 from \$271.1 million to \$290.6 million or an increase of \$19.5 million (7.2%).

Contributions increased because of increased participation. The plan recognized a net investment gain of \$332.7 million for calendar year 2016 compared with a net investment gain of \$10.7 million for the calendar year 2015.

Deductions from the 401(k) Plan net position include participant and beneficiary refunds (including rollovers) and administrative expenses. For calendar year 2016, refunds amounted to \$257.7 million, an increase of \$6.2 million (2.5%) over calendar year 2015. The increase in refunds was due to an increase in withdrawals for calendar year 2016. For calendar year 2016, the costs of administering the plan amounted to \$7.1 million, an increase of \$420 thousand over calendar year 2015.

Benefit obligations of the 401(k) Defined Contribution Plan are equal to the member account balances, which are equal to net position of the plan.

#### ■■■ Statements of Fiduciary Net Position — Defined Contribution Savings Plans

December 31

(dollars in thousands)

			401(k) Plan			457 Plan	Roth IRA Plan		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Assets:									
Cash and receivables	\$ 95,409	96,857	96,894	10,187	10,247	10,244	224	238	170
Investments at fair value	4,253,489	3,896,025	3,873,336	484,552	444,668	441,353	88,971	69,664	58,835
Total assets	4,348,898	3,992,882	3,970,230	494,739	454,915	451,597	89,195	69,902	59,005
Liabilities:									
Investment accounts and other payables	9,925	12,477	13,479	320	558	623	30	188	163
Total liabilities	9,925	12,477	13,479	320	558	623	30	188	163
Net position restricted for pensions	\$ 4,338,973	3,980,405	3,956,751	494,419	454,357	450,974	89,165	69,714	58,842

#### ■■■ Statements of Changes in Fiduciary Net Position — Defined Contribution Savings Plans

Year Ended December 31

(dollars in thousands)

			401(k) Plan			457 Plan	Roth IRA Plan		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Additions:									
Contributions	\$ 290,632	271,097	255,044	27,326	26,968	26,711	16,585	14,073	11,664
Investment income (loss)	332,672	10,658	213,230	39,252	259	23,342	7,200	(308)	2,816
Total additions	623,304	281,755	468,274	66,578	27,227	50,053	23,785	13,765	14,480
Deductions:									
Refunds	257,651	251,436	251,496	25,706	23,082	22,920	4,192	2,781	3,310
Administrative expenses	7,085	6,665	6,308	810	762	727	142	112	91
Total deductions	264,736	258,101	257,804	26,516	23,844	23,647	4,334	2,893	3,401
Increase (decrease) in net position restricted for pensions	\$ 358,568	23,654	210,470	40,062	3,383	26,406	19,451	10,872	11,079

## 457 Defined **Contribution Plan**

The 457 Plan was established under Section 457(b) of the Internal Revenue Code. This plan provides supplemental retirement benefits for plan participants. The plan is funded by contributions and by investment earnings.

The plan net position as of December 31, 2016, amounted to \$494.4 million, an increase of \$40.0 million (8.8%) over net position as of December 31, 2015.

Additions to the 457 Plan net position include contributions and investment income. For calendar year 2016, contributions increased from those of calendar year 2015 from

## Management's Discussion and Analysis (Concluded)

	Traditional IRA Plan			Health Reiml Arrangen	oursement nent (HRA)		tribution Plans	2016	2015 Percent	
2016	2015	2014	2016	2015	2014	2016	2015	2014	Percent Change	Change
72	121	6	_	255	1,948	105,892	107,718	109,262	(1.7)%	(1.4)%
81,484	69,108	59,873	_	23,156	18,082	4,908,496	4,502,621	4,451,479	9.0	1.1
81,556	69,229	59,879	_	23,411	20,030	5,014,388	4,610,339	4,560,741	8.8	1.1
23	243	57	_	137	150	10,298	13,603	14,472	(24.3)	(6.0)
23	243	57	_	137	150	10,298	13,603	14,472	(24.3)	(6.0)
81,533	68,986	59,822	_	23,274	19,880	5,004,090	4,596,736	4,546,269	8.9%	1.1 %
			ı	Haalth Raiml	aurcomont					
			1	Health Reiml					2016	2015
2016	2015	nal IRA Plan 2014	2016	2015	nent (HRA) 	2016	Total Defined Con 2015	2014	Percent Change	Percent Change
2010	2013	2014	2010	2013	2014	2010	2013	2014	Change	change
16,182	17,206	14,930	6,796	6,318	6,393	357,521	335,662	314,742	6.5%	6.6%
4,825	211	2,645	36	35	24	202.005	10,855	242.057	2 /27 /	
21,007						383,985	10,033	242,057	3,437.4	(95.5)
21,007	17,417	17,575	6,832	6,353	6,417	383,985 741,506	346,517	556,799	114.0	(95.5)
			<u> </u>	<u> </u>		741,506	346,517	556,799	114.0	(37.7)
8,332	8,148	7,514	30,075	2,924	2,690	741,506 325,956	346,517	556,799	114.0	0.2
			<u> </u>	<u> </u>		741,506	346,517	556,799	114.0	(37.7)
8,332	8,148	7,514	30,075	2,924	2,690	741,506 325,956	346,517	556,799	114.0	0.2

\$27.0 million to \$27.3 million or an increase of \$358 thousand (1.3%). Contributions increased because of increased participation. The plan recognized a net investment gain of \$39.3 million for calendar year 2016 compared with a net investment gain of \$259 thousand for the calendar year 2015.

Deductions from the 457 Plan net position include participant and beneficiary refunds (including rollovers) and administrative expenses. For calendar year 2016, refunds amounted to \$25.7 million, an increase of \$2.6 million (11.4%) over calendar year 2015. The increase in refunds was due to an increase in withdrawals for calendar

year 2016. For calendar year 2016, the costs of administering the plan amounted to \$810 thousand, an increase of \$48 thousand over calendar year 2015.

Benefit obligations of the 457 Defined Contribution Plan are equal to the member account balances, which are equal to net position of the plan.

## **Defined Contribution** Comparative **Annualized Rates of Return**

Year ended December 31

Investment Option Comparative Index	2016	2015
Income Fund	1.6%	1.6%
Bond Fund	5.9	(0.3)
Balanced Fund	9.3	1.3
Large Cap Value Stock Fund	21.2	(4.6)
Large Cap Stock Index Fund	11.8	8.0
Large Cap Stock Growth Fund	1.2	9.0
Small Cap Stock Fund	23.3	(3.4)
International Fund	4.4	(4.6)
Target Retired	6.1	0.3
Target Date 2010	6.1	0.0
Target Date 2015	6.8	0.3
Target Date 2020	7.7	0.2
Target Date 2025	8.7	(0.3)
Target Date 2030	9.3	(0.6)
Target Date 2035	9.7	(1.2)
Target Date 2040	9.9	(1.3)
Target Date 2045	10.0	(1.4)
Target Date 2050	10.0	(1.4)
Target Date 2055	10.0	(1.4)
Target Date 2060	10.0	(1.4)
Tier 2 DC Nonvested	8.3	(1.6)

## **Defined Contribution Savings Plans Investment Option Rates** of Return for 2016



#### Roth IRA Plan

The Roth IRA is a "deemed IRA" authorized by section 408(g) of the Internal Revenue Code, and governed by section 408A of the code. This plan allows participants to make after-tax contributions, while the earnings may be withdrawn tax free (for qualified distributions). The plan net position as of December 31, 2016, amounted to \$89.2 million, an increase of \$19.5 million (27.9%) over net position as of December 31, 2015.

Additions to the Roth IRA Plan include contributions, transfers from other Roth IRAs, conversions from traditional IRAs, rollovers from other retirement plans, and investment earnings. For calendar year 2016, contributions increased from those of calendar year 2015 from \$14.1 million to \$16.6 million (17.8%). Contributions increased because of increased participation. The plan recognized a net investment gain of \$7.2 million for calendar year 2016 compared with a net investment loss of \$308 thousand for calendar year 2015.

Deductions from the Roth IRA Plan net position include participant and beneficiary refunds, transfers and rollovers, and administrative expenses. For calendar year 2016, refunds amounted to \$4.2 million, an increase of \$1.4 million (50.7%) over calendar year 2015. For calendar year 2016, the costs of administering the plan amounted to \$142 thousand, an increase of \$30 thousand over calendar year 2015.

#### Traditional IRA Plan

The traditional IRA is a "deemed IRA" authorized by section 408(g) of the Internal Revenue Code, and governed by section 408 of the code. This plan allows participants to make after-tax contributions and possibly deduct all or a portion of the contributions from their current taxable income. This plan also allows participants to consolidate many other eligible plan assets when they become eligible for roll over (such as 401(k), 457, and other IRAs). Participants may also convert traditional IRA funds into a Roth IRA. The plan net position as of December 31, 2016, amounted to \$81.5 million, an increase of \$12.5 million (18.2%) over net position as of December 31, 2015.

Additions to the traditional IRA Plan include contributions, rollovers, and investment earnings. For calendar year 2016, contributions decreased from those of calendar year 2015 from \$17.2 million to \$16.2 million (negative 6.0%). The plan recognized a net investment gain of \$4.8 million for calendar year 2016 compared with a net investment gain of \$211 thousand for calendar year 2015.

Deductions from the traditional IRA Plan net position include participant and beneficiary refunds, rollovers and transfers, and administrative expenses. For calendar year 2016, refunds amounted to \$8.3 million, an increase of \$184 thousand (2.3%) over calendar year 2015. For calendar year 2016, the costs of administering the plan amounted to \$128 thousand, an increase of \$23 thousand over calendar year 2015.

## **Health Reimbursement** Arrangement

The Health Reimbursement Arrangement (HRA) is a tax-advantaged health savings plan for State employees funded by employer contributions to pay for qualified healthcare expenses incurred after retirement. No employee contributions are permitted. The plan net position as of December 31, 2016, was \$0, a decrease of \$23.3 million (100%) over the net position as of December 31, 2015.

Additions to the HRA include contributions and investment earnings. For calendar year 2016, contributions increased from those of calendar year 2015 from \$6.3 million to \$6.8 million (7.6%).

Deductions from the HRA net position include participant, spouse, and dependent refunds and administrative expense. For calendar year 2016 refunds amounted to \$30.0 million, an increase of \$27.2 million (928.6%) over calendar year 2015. The increase in refunds was due to the funds being transferred to PEHP for administration.

The costs of administering the plan was \$31 thousand for calendar year 2016 compared to \$35 thousand for year 2015.

During 2016 the HRA Plan was transferred to the Utah Public Employees Health Plan to administer.

## GASB 68 Employer **Allocations and Pension** Reporting

URS has included information regarding employer's proportion share of the net pension liability, deferred outflows of resources, deferred inflows of resources, and pension expense. This section is where employers and auditors are able to get information regarding their pension disclosures for financial statement purposes.

# **Basic Financial Statements**

# Statements of Fiduciary Net Position — Pension (and Other Employee Benefit) Trust Funds

December 31, 2016 With Comparative Totals for December 31, 2015

(in thousands)

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Utah Governors and Legislators Retirement Plan	Tier 2 Public Employees System	
Assets:								
Cash	\$ 827	2	20	2	1	1	2	
Receivables:								
Member contributions	_	126	14	652	_	_	_	
Employer contributions	41,021	355	5,520	_	288	_	3,675	
Court fees and fire insurance tax	_	_	_	1,603	146	_	_	
Investments	352,756	18,818	49,543	17,397	2,737	162	3,338	
Total receivables	393,777	19,299	55,077	19,652	3,171	162	7,013	
Investments at fair value:								
Short-term securities	1,895,723	101,128	266,248	93,491	14,709	869	17,936	
Debt securities	3,452,309	184,164	484,867	170,258	26,787	1,583	32,663	
Equity investments	8,083,041	431,192	1,135,241	398,630	62,717	3,705	76,476	
Absolute return	3,573,055	190,605	501,825	176,211	27,724	1,638	33,806	
Private equity	2,607,844	139,116	366,264	128,611	20,235	1,195	24,674	
Real assets	3,383,071	180,470	475,141	166,843	26,250	1,551	32,008	
Total investments	22,995,043	1,226,675	3,229,586	1,134,044	178,422	10,541	217,563	
Invested securities lending collateral	554,319	29,570	77,853	27,337	4,301	254	5,245	
Property and equipment at cost,								
net of accumulated depreciation	3,875	207	544	191	30	2	37	
Total assets	23,947,841	1,275,753	3,363,080	1,181,226	185,925	10,960	229,860	
Liabilities:								
Securities lending liability	554,319	29,570	77,853	27,337	4,301	254	5,245	
Disbursements in excess	,	•	•	•	•		•	
of cash balance	31,136	1,660	4,373	1,536	242	14	295	
Compensated absences,	,	,	,-	,				
post-employment benefits								
and insurance reserve	16,377	874	2,301	807	127	8	155	
Investment accounts payable	564,811	30,079	79,192	27,808	4,375	258	5,335	
Real estate liabilities	162,455	8,666	22,816	8,012	1,262	74	1,537	
Total liabilities	1,329,098	70,849	186,535	65,500	10,307	608	12,567	
Net position restricted for pensions	\$ 22,618,743	1,204,904	3,176,545	1,115,726	175,618	10,352	217,293	

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

		ntribution Plans	Defined Cor		C. D	2.6			
			ng Information	tional Combinin	Addi		Defined Benefit Pension Plans		
nsion Trust Funds	Total Per	Total Defined	Health					Total	Tier 2 Public Safety and
2015	2016	Contribution Plans	eimbursement Arrangement	Traditional R IRA Plan	Roth IRA Plan	457 Plan	401(k) Plan	Defined Benefit Pension Plans	Firefighter System
15,155	14,095	13,238	_	72	224	589	12,353	857	2
15,155		13,230		72	224	309	12,333	037	
384	792	_			_	_	_	792	_
37,705	51,224	_	_	_	_	_	_	51,224	365
470	1,749	_	_	_	_	_	_	1,749	_
383,462	537,792	92,654	_			9,598	83,056	445,138	387
422,021	591,557	92,654	_	_	_	9,598	83,056	498,903	752
2,252,955	2,392,184	_	_	_	_	_	_	2,392,184	2,080
5,918,379	6,096,098	1,739,680	_	44,845	25,259	162,583	1,506,993	4,356,418	3,787
11,885,023	13,200,315	3,000,446	_	33,990	59,635	305,799	2,601,022	10,199,869	8,867
4,141,321	4,508,784	_	_	_	_	_	_	4,508,784	3,920
3,214,680	3,290,800	_	_	_	_	_	_	3,290,800	2,861
4,176,577	4,437,415	168,370	_	2,649	4,077	16,170	145,474	4,269,045	3,711
31,588,935	33,925,596	4,908,496	_	81,484	88,971	484,552	4,253,489	29,017,100	25,226
2,017,935	699,487	_	_	_	_	_	_	699,487	608
3,133	4,890	_	_	_	_	_	_	4,890	4
34,047,179	35,235,625	5,014,388	_	81,556	89,195	494,739	4,348,898	30,221,237	26,592
		3,014,300		01,550	05,155	777,737	7,540,050	30,221,237	20,372
2,017,935	699,487							699,487	608
2,017,933	099,407	_	_	<del></del>	_	_	_	099,407	000
38,745	41,508	2,218	_		6	169	2,043	39,290	34
20,079	20,667	_	_	_	_	_	_	20,667	18
394,672	720,557	8,080	_	23	24	151	7,882	712,477	619
292,172	205,000	_	_	_	_	_	_	205,000	178
2,763,603	1,687,219	10,298	_	23	30	320	9,925	1,676,921	1,457
31,283,576	33,548,406	5,004,090	_	81,533	89,165	494,419	4,338,973	28,544,316	25,135

#### **Utah Retirement Systems**

Basic Financial Statements (Continued)

# Statements of Changes in Fiduciary Net Position — Pension (and Other Employee Benefit) Trust Funds

Year Ended December 31, 2016 With Comparative Totals for Year Ended December 31, 2015

(in thousands)

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Utah Governors and Legislators Retirement Plan	Tier 2 Public Employees System	
Additions:								
Contributions:								
Member	\$ 16,308	3,420	830	18,729	_	_	_	
Employer	831,631	8,188	147,099	6,954	7,382	421	63,062	
Court fees and fire insurance tax	_			10,569	1,470			
Total contributions	847,939	11,608	147,929	36,252	8,852	421	63,062	
Investment income:								
Net appreciation in fair value								
of investments	1,428,287	78,218	199,385	70,254	11,065	680	11,223	
Interest, dividends and other								
investment income	388,277	21,264	54,203	19,099	3,008	185	3,097	
Total income from								
investment activity	1,816,564	99,482	253,588	89,353	14,073	865	14,320	
Less investment expenses	38,987	2,135	5,444	1,918	302	19	311	
Net income from								
investment activity	1,777,577	97,347	248,144	87,435	13,771	846	14,009	
Income from security lending activity	7,279	398	1,015	358	56	3	58	
Less security lending expense	945	52	132	47	7	_	8	
Net income from security								
lending activity	6,334	346	883	311	49	3	50	
Net investment income	1,783,911	97,693	249,027	87,746	13,820	849	14,059	
Transfers from affiliated systems	_	_	6,701	1,611	1,600	_	_	
Total additions	2,631,850	109,301	403,657	125,609	24,272	1,270	77,121	
Deductions:								
Retirement benefits	1,001,451	70,137	135,697	41,687	10,070	773	316	
Cost-of-living benefits	182,866	13,232	28,547	10,195	2,260	168	_	
Supplemental retirement benefits	_	78	264	220	· —	_	_	
Refunds	4,366	1,700	183	466	_	_	_	
Administrative expenses	8,856	446	1,260	374	71	4	51	
Transfers to affiliated systems	8,005	1,895	_	_	_	12	_	
Total deductions	1,205,544	87,488	165,951	52,942	12,401	957	367	
Increase (decrease)								
from operations	1,426,306	21,813	237,706	72,667	11,871	313	76,754	
Net position restricted for pensions benefits beginning of year	21,192,437	1,183,091	2,938,839	1,043,059	163,747	10,039	140,539	
Net position restricted for pensions benefits end of year	\$ 22,618,743	1,204,904	3,176,545	1,115,726	175,618	10,352	217,293	

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

		ntribution Plans	Defined Co	Defined Benefit Pension Plans —					
			ing Information	tional Combini	Add			efit Pension Plans	
Total Pension Trust Funds 2016 2015		Total Defined Contribution Plans	Health Reimbursement Arrangement	Traditional IRA Plan	Roth IRA Plan	457 Plan	401(k) Plan	Total Defined Benefit Pension Plans	Tier 2 Public Safety and Firefighter System
2010	2010		7u.igee.it			157 1 1411	101(1)11411	. c.ision . ians	system.
90,012 370,215	390,012	350,725		16,182	16,585	27 226	290,632	39,287	
	1,080,021	6,796	6,796	10,102	10,363	27,326	290,032	1,073,225	8,488
	12,039	0,790	0,790					12,039	0,400 —
	1,482,072	357,521	6,796	16,182	16,585	27,326	290,632	1,124,551	8,488
<u> </u>	<u> </u>	<u> </u>	·	,	·	<u> </u>	·	<u> </u>	, , , , , , , , , , , , , , , , , , ,
83,967 58,936	2,183,967	383,583	36	4,884	7,259	39,183	332,221	1,800,384	1,272
	493,404	3,923	_	,	,	401	3,522	489,481	348
93,404 402,470	493,404	3,923				401	3,322	409,401	340
77,371 521,406	2,677,371	387,506	36	4,884	7,259	39,584	335,743	2,289,865	1,620
52,672 57,883	52,672	3,521	_	59	59	332	3,071	49,151	35
24,699 463,523	2,624,699	383,985	36	4,825	7,200	39,252	332,672	2,240,714	1,585
9,174 10,464			_					9,174	7
1,192 1,360	1,192	_	_	_		_	_	1,192	1
7,982 9,104	7 082		<u></u>	_	_		_	7,982	6
	2,632,681	383,985	36	4,825	7,200	39,252	332,672	2,248,696	1,591
9,912 41,581				- 1,023				9,912	
	4,124,665	741,506	6,832	21,007	23,785	66,578	623,304	3,383,159	10,079
60,159 1,189,072	1,260,159	_	_	_	_	_	_	1,260,159	28
37,268 234,064	237,268	_	_	_	_	_	_	237,268	<del>-</del>
562 626	562		_	_	_		_	562	_
	332,671	325,956	30,075	8,332	4,192	25,706	257,651	6,715	<del>-</del> -
	19,263	8,196	31	128	142	810	7,085	11,067	5
9,912 41,581	9,912	_	_	_	_	_	_	9,912	_
59,835 1,777,153	1,859,835	334,152	30,106	8,460	4,334	26,516	264,736	1,525,683	33
64,830 168,183	2,264,830	407,354	(23,274)	12,547	19,451	40,062	358,568	1,857,476	10,046
83,576 31,115,393	31,283,576	4,596,736	23,274	68,986	69,714	454,357	3,980,405	26,686,840	15,089
48,406 31,283,576	33,548,406	5,004,090	_	81,533	89,165	494,419	4,338,973	28,544,316	25,135

#### Utah Retirement Systems

# Notes to Basic **Financial Statements**

December 31, 2016





# Description of Systems and Plans

A brief description of the Utah Retirement Systems (Systems), 401(k), 457, Roth and traditional IRAs (Plans), and Health Reimbursement Arrangement (HRA) follows. For a more complete description of plan provisions, membership and benefit statistics, see the Systems Highlights on pages 14 through 30 and Summaries of Plan Provisions on pages 166 through 181.

## A) General Information and Reporting Entity

**General** — The Utah Retirement Systems are comprised of the following pension trust funds:

- i) the Public Employees **Noncontributory Retirement System (Noncontributory** System); the Public Employees **Contributory Retirement System** (Contributory System); and the **Firefighters Retirement System** are multiple-employer, cost-sharing, public employee retirement systems;
- ii) the **Public Safety Retirement** System is a mixed agent and cost-sharing, multiple-employer retirement system;

- iii) the Judges Retirement System and the Utah Governors and **Legislators Retirement Plan** are single-employer service-employee retirement systems;
- iv) the Tier 2 Public Employees **Contributory Retirement System** and the Tier 2 Public Safety and Firefighter Contributory Retirement System are multipleemployer, cost-sharing public employee retirement systems; and
- v) five defined contribution plans comprised of the 401(k) Plan, 457 Plan. Roth and traditional IRAs. and **HRA**.

These Systems and Plans cover employees of the State of Utah and participating local government and public education entities.

#### ■■■ Summary of Benefits by System

	Noncontributory System	Contributory System	Public Fire- Safety fighters System System	Judges System	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighter System
Final average salary is	Highest 3 years	Highest 5 years	Highest 3 years	Highest 2 years	Highest 5 years	Highest 5 years
Years of service required and/ or age eligible for benefit	30 years any age 25 years any age* 20 years age 60* 10 years age 62* 4 years age 65	30 years any age 20 years age 60* 10 years age 62* 4 years age 65	20 years any age 10 years age 60 4 years age 65	25 years any age 20 years age 55* 10 years age 62 6 years age 70	35 years any age 20 years age 60* 10 years age 62* 4 years age 65	25 years any age 20 years age 60* 10 years age 62* 4 years age 65
Benefit percent per year of service**	2.0% per year all years	1.25% per year to June 1975 2.0% per year July 1975 to present	2.5% per year up to 20 years 2.0% per year over 20 years	5.0% first 10 years 2.25% second 10 years 1.0% over 20 years	1.5% per year all years	1.5% per year all years

Note: The Utah Governors and Legislators Retirement Plan benefits are explained in the second paragraph of section B) below. \*With actuarial reductions.

**Reporting Entity** — These basic financial statements cover all of the foregoing retirement systems and defined contribution plans administered by the Utah State Retirement Board (Board), the sole governing body for these Systems and Plans.

The Systems are established and governed by the respective sections of Title 49 of the Utah Code Annotated 1953, as amended. The Systems' defined benefit plans are amended statutorily by the State Legislature. The Utah State Retirement Office Act in Title 49 provides for the administration of the Systems and Plans under the direction of the Board, whose members are appointed by the Governor. The Plans are established under the authority of the same sections of the Utah Code Annotated 1953, as amended, as well as under Sections 401(k), 457, 408, and 408A of the Internal Revenue Code. The Plans may be amended by the Board

within the parameters of the Internal Revenue Code. The Systems and Plans are fiduciary funds defined as pension (and other employee benefit) trust funds. Utah Retirement Systems is a component unit of the State of Utah.

## B) Retirement and Death Benefits

Retirement Systems' benefits are specified by the statute listed in Note 1(A). The Retirement Systems are defined benefit plans wherein benefits are based on age and/or years of service and highest average salary. Various plan options within the Systems may be selected by retiring members. Some options require actuarial reductions based on attained age, age of spouse, and similar actuarial factors. A brief summary of eligibility and benefits of the various Systems is shown in the table above.

The Utah Governors and Legislators Retirement Plan provides the following benefits. Former governors at age 65 receive \$1,360 per month per term. Legislators receive a benefit at age 65 with four or more years of service at the rate of \$29.60 per month per year of service. Retirement at age 62 with 10 or more years of service will receive an actuarial reduction. Both the governors' and legislators' benefits are adjusted based on the CPI limited to 4% of the base benefit per year.

Death benefits for active and retired employees are in accordance with retirement statutes. Upon termination of employment, members of the Systems may leave their retirement account intact for future benefits based on vesting qualification or withdraw the accumulated funds in their individual member account and forfeit service credits and rights to future benefits upon which the contributions were based.

<sup>\*\*</sup>For members and retirees in the systems, prior to January 1, 1989, there may be a 3% benefit enhancement.

#### ■■■ Defined Contribution Plans

	401(k)	457	Roth IRA	Traditional IRA
Number of participating employers	445	255	NA	NA
Total participants	166,430	17,416	8,772	1,763

## C) Defined **Contribution Plans**

The 401(k), 457, Roth and traditional IRAs, and HRA administered by the Board are defined contribution plans. These Plans are available as supplemental plans to the basic retirement benefits of the Retirement Systems and as a primary retirement plan for some Tier 2 participants. Contributions may be made into the Plans subject to plan and Internal Revenue Code limitations by employees of employers sponsoring the Plans. Employer contributions may be made into the 401(k) and 457 Plans at rates determined by the employers and according to Utah Title 49. There are 445 employers participating in the 401(k) Plan and 255 employers participating in the 457 Plan. There are 166,430 plan participants in the 401(k) Plan, 17,416 participants in the 457 Plan, 8,772 participants in the Roth IRA, and 1,763 participants in the traditional IRA.

After termination of employment, benefits are paid out to individuals in lump sum, or as periodic benefit payments, at the option of the participant based on individual account balances and plan provisions. The Defined Contribution Plans account balances are fully vested to the participants at the time of deposit except for Tier 2 required employer contributions and associated earnings during the first four years of employment.

Investments in the vested portion of the Defined Contribution Plans are individually directed and controlled by plan participants who direct the investment of their funds among several investment options of varying degrees of risk and earnings potential. Participants may transfer their funds between these options no more frequently than every seven days. There is also a 2% trading fee for investment transfers between core fund options more frequently than every 30 days. Investments of the Plans are reported at fair value.

#### D) Contributions

As a condition of participation in the Defined Benefit Systems, employers and/or employees are required to contribute certain percentages of salaries and wages as authorized by statute and specified by the Board. Employee contributions may be paid in part or in whole by the employer. Contributions in some Systems are also augmented by fees or insurance premium taxes. Contribution rates are listed in Note 6.

Employee (member) contributions are placed into member accounts, and in Systems where it is authorized, interest is credited to member accounts. Upon termination of employment, a member may withdraw his or her account balance including interest that has been credited. Upon withdrawal a member forfeits the service credit that corresponds to the member contributions withdrawn. The noncontributory retirement systems have no required member contributions flowing into them. However, where members had a balance transferred in or purchased service credit in the system, these balances and on-going interest, where authorized, are credited to individual member accounts that may be withdrawn upon the termination of employment.

In the 401(k) and 457 Defined Contribution Plans, voluntary deferral of compensation within the limits of plan provisions may be made by employees. In addition to employee voluntary deferrals, employer contributions may be made into the Plans on behalf of employees. The recognition of deferred compensation, employer contributions, and earnings on the accounts are deferred for income tax purposes until actually paid to the participant or beneficiary. The employee may also contribute to the Roth and traditional deemed IRAs where earnings may grow tax deferred and possibly tax free.

#### ■■■ Participating Membership by System

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Utah Governors and Legislators Retirement Plan	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighter System
Number of participating:								
Employers	453	158	132	62	1	1	466	150
Members:								
Active	63,214	738	6,032	1,663	115	61	24,372	2,240
Terminated vested	47,933	1,274	4,615	390	3	96	464	28
Retirees and beneficiaries:								
Service benefits	47,047	3,460	4,693	1,145	107	173	9	0
Beneficiary benefits	4,308	705	719	227	34	71	0	0

## E) Covered Employees

The **Public Employees Noncontributory Retirement** System (Noncontributory System) was established on July 1, 1986, and is comprised of two divisions, the State and School division and the Local Government division. These divisions are not separate plans. All eligible employees of the State and School entities hired subsequent to that date are automatically members of the Noncontributory System until July 1, 2011, when Tier 2 came into effect. Local government entities had the option of adopting the new System or remaining with the Contributory System. All Contributory System members whose employers adopted the Noncontributory System were given the opportunity to transfer to the new System during limited window periods. All eligible new hires subsequent to adoption of the noncontributory plans are automatically members of that plan.

The **Public Employees Contributory Retirement System** (Contributory System) includes eligible public employees of the State of Utah and its political subdivisions including public education employees of those entities covered by the System. The System is comprised of two divisions, the State and School division and the Local Government division. These divisions are not separate plans. Members of this System are those who did not elect to transfer to the Public **Employees Noncontributory Retirement** System during the period when they were eligible to transfer or whose employers are not participants in the Noncontributory System.

The **Public Safety Retirement** System includes eligible State and local government employees directly involved in law enforcement (e.g., game wardens, prison guards, police officers, and highway patrol officers) and is comprised of eight divisions, the State of Utah, Division A with Social Security, Salt Lake City, Ogden, Provo, Logan, Bountiful, and Division B without Social Security. These divisions are not separate plans. The Public Safety System consists of both contributory and noncontributory divisions. The noncontributory divisions were authorized by the Legislature effective July 1, 1989.

The Firefighters Retirement System includes eligible State and local government employees directly involved in fire fighting and is comprised of two divisions, Division A with Social Security and Division B without Social Security. These divisions are not separate plans.

The Judges Retirement System includes justices and judges of the court as authorized by state statutes.

The Utah Governors and Legislators Retirement Plan includes only governors and legislators of the State.

The Tier 2 Public Employees **Contributory Retirement System** includes eligible public employees entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

The Tier 2 Public Safety and **Firefighter Contributory Retirement System** includes eligible public safety and firefighters entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

The **Defined Contribution Plans** may be utilized by employers adopting the Plans and by their employees.

As of December 31, 2016, participating members by System are included in the table above.





# Summary of Significant Accounting Policies

The following are the significant accounting policies followed by the Systems and Plans:

## A) Method of Accounting

The Systems and Plans maintain records and accounts, and prepare financial statements using fund accounting principles and the accrual basis of accounting, under which benefits and expenses are recognized when due and payable and revenues are recorded in the accounting period in which they are earned and become measurable in accordance with the terms of each System and Plan.

For financial reporting purposes, **Utah Retirement Systems adheres** to accounting principles generally accepted in the United States of America (GAAP). The Systems and Plans apply all applicable pronouncements of the **Governmental Accounting Standards** Board (GASB).

GASB Statement No. 67, Financial Reporting for Pensions, addresses accounting and financial reporting requirements for pension plans. Significant requirements include an actuarial calculation of total and net pension liability. It also includes comprehensive footnote disclosure regarding the pension liability, the sensitivity of the net pension liability to the discount rate, and increased investment activity disclosures. The total pension liability, determined in accordance with GASB Statement No. 67, is presented in Note 5 and in the Required Supplementary Information on page 88.

GASB Statement No. 72, Fair Value Measurement and Application, addresses accounting and reporting issues related to fair value measurements. This Statement requires disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. Comprehensive footnote disclosure regarding this Statement is found in Note 3 beginning on page 65.

The financial statements include certain prior year summarized comparative information in total, but not by system or plan. Such information does not include sufficient detail to constitute a presentation in conformity with GAAP. Accordingly, such information should be read in conjunction with the Systems' financial statements for the year ended December 31, 2015, from which the summarized information was derived.

#### B) Investments

By state statute all of the investment assets of the various Systems are pooled and invested in the common Utah State Retirement Investment Fund (Investment Fund). Each of the Systems has equity in the Investment Fund based on funds contributed and earnings allocated. Earnings of the Investment Fund are allocated based on the average month-end balances of each of the respective Systems. Individual investments in the Investment Fund are not specifically identified to the respective Systems (see Note 3). For financial statement presentation, the Investment Fund assets, liabilities, revenues, and expenses have been allocated to and presented in each respective system in the basic financial statements as required for investment pools.

Investments are presented at fair value. The defined contribution investments are classified by investment manager classification. The fair value of investments is based on published market prices and quotations from major investment brokers at current exchange rates, as available. Many factors are considered in arriving at that value. Corporate debt securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

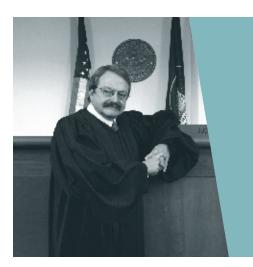
The fair value of real estate investments has been estimated based on independent appraisals and/or property cash flow. Short-term securities are reported at market value when published market prices and quotations are available, or at cost plus accrued interest, which approximates market or fair value. For alternative investments (private equity, absolute return, and real assets) where no readily ascertainable market value exists, management, in consultation with their investment

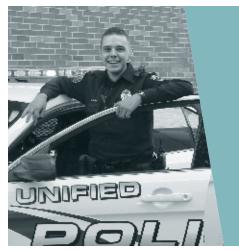
advisors, value these investments in good faith based upon audited financials, cash-flow analysis, purchase and sales of similar investments, other practices used within the industry, or other information provided by the underlying investment advisors. The estimated fair value of these investments may differ significantly from values that would have been used had a ready market existed.

Approximately 10.6% of the investments held in trust for pension benefits are invested in debt securities of the U.S. Government and its instrumentalities. Of the 10.6%, approximately 3.1% are U.S. Government debt securities and approximately 7.5% are debt securities of the U.S. Government instrumentalities. The Systems and Plans have no investments of any commercial or industrial organization whose market value equals 5.0% or more of the Systems' or Plans' fiduciary net positions for pension benefits.

**Investment policy.** The pension plan's policy in regard to the allocation of invested assets is established and may be amended by the URS Board. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension plan. The following was the URS Board's adopted asset allocation policy as of December 31, 2016:

Asset Class	Target Allocation
Debt securities	20%
Equities	40
Real assets	15
Private equity	9
Absolute return	16
Cash and cash equivalents	0
Total	100%





Rate of return. For the year ended December 31, 2016, the annual moneyweighted rate of return on pension plan investment, net of pension plan investment expense, was 8.73%. The money weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

## C) Property and Equipment

Property and equipment are recorded at cost (see Note 4), are depreciated utilizing the straight-line method, and are included in the assets of the Investment Fund. The schedule below summarizes the estimated useful life by class. The Systems' policy is to capitalize all acquisitions of furniture and equipment with a unit cost of \$10,000 and computer software of \$1,000,000 or more.

Buildings. . . . . . . . . . . 40 years Building improvements . . . . 10 years Furniture and equipment . . . 3-10 years Computer software.... 5 years

## D) Administrative Expenses

Expenses for the administration of the Systems and Plans are budgeted and approved by the Board. Systems' expenses are paid from investment earnings. Plan expenses are paid from Plan assets.

#### E) Federal Tax Status

The Systems and Plans are exempt from Federal income taxes under the Internal Revenue Code.

### F) Use of Estimates

Management of the Systems and Plans have made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these financial statements in conformity with GAAP. Actual results could differ from these estimates.

## G) Subsequent Events

The Systems and Plans have performed an evaluation of subsequent events through April 26, 2017, the date the basic financial statements were available to be issued. No material events were identified by the Systems and Plans.

The Systems and Plans value these investments in good faith at the Systems' and Plans' pro-rata interest in the net assets of these investments based upon audited financial statements or other information provided to the Systems and Plans by the underlying investment managers. The estimated fair value of these investments may differ significantly from values that would have been used had a ready market existed.







## Deposits and Investment Risk Disclosures

## A) Deposits

Custodial Credit Risk for Deposits is the risk that in the event of a bank failure, the Systems' and Plans' deposits may not be returned to them. The deposits are held in one financial institution with an insured balance of \$250,000. Deposits in the bank in excess of \$250,000 are uninsured and uncollateralized, because they are not required to be by state statute.

Cash Deposits	(in thousands)
Cash	\$ 14,095
Disbursements in	
excess of cash balances	(41,508)
Total	\$ (27,413)

The Systems and Plans do not have a deposit policy for custodial credit risk. Deposits are presented in the basic financial statements at cost plus accrued interest that is also the market or fair value. As of December 31, 2016, the carrying amount of deposits totaled approximately \$(27,413,000) and the corresponding bank balance was \$213,000 of which \$0 was exposed to custodial credit risk.

### B) Investments

The table on the bottom of this page shows the Systems' and Plans' investments by type.

The investments listed directly below are not listed on national exchanges, over-the-counter markets, nor do they have quoted market prices available.

(in thousands)	12/31/2016
Private equity	\$ 3,290,800
Absolute return	4,508,784
Real assets	4,437,415
	\$ 12,236,999

Investments (	in thousands)		Fair Value
at December 31, 2016	Defined Benefit	Defined Contribution	Total All Systmes and Plans
Short-term securities pools	\$ 2,392,184	_	2,392,184
Debt securities	4,341,261	1,739,680	6,080,941
Equity securities	9,556,366	3,000,446	12,556,812
Absolute Return	4,508,784	_	4,508,784
Private Equity	3,290,800	_	3,290,800
Real Assets	4,269,045	168,370	4,437,415
Investments held by broker-dealers under securities lending program:			
Equities	643,503	_	643,503
Debt	15,157	_	15,157
Total investments	\$ 29,017,100	4,908,496	33,925,596
Securities lending collateral pool (not categor	ized) \$ 699,487		669,487

## C) Fair Value Measurements

The Systems and Plans categorize its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements).

- Unadjusted quoted prices Level 1 for identical instruments in active markets.
- Level 2 Quoted prices for similar instruments in active markets; quoted priced for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.
- Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The Systems and Plans assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. The tables on pages 66-67 show the fair value leveling of the investments for the Systems and Plans Debt, equity and derivative securities classified in Level 1 are valued using

#### Investments and Derivative Instruments Measured at Fair Value

	(in thou	sands)	D	efined Benefit			Defined	Contribution
				easures Using				easures Using
	(	Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs		Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs
	12/31/16	Level 1	Level 2	Level 3	12/31/16	Level 1	Level 2	Level 3
Investments by fair value level								
Short-term securities	\$ 2,290,674	_	2,290,674	_	\$ —	_	_	_
Debt securities								
Asset backed	294,369	_	275,264	19,105	5,014	_	3,352	1,662
Commercial mortgage-backed	121,421	_	113,867	7,554	2,698	_	2,428	270
Corporate bonds	811,079	_	808,037	3,042	266,683	_	263,859	2,824
Funds — other fixed income	80	_	80	_	54,207	_	54,207	_
Government agencies	82,377	_	82,361	16	14,725	_	14,725	_
Government bonds	1,094,668	_	1,094,476	192	177,053	_	176,307	746
Government mortgage backed securities	808,911	_	755,500	53,411	194,951	_	190,958	3,993
Index linked government bonds	1,113,523	_	1,098,928	14,595	90,443	_	90,443	_
Non-government backed C.M.O.s	28,996	_	21,888	7,108	340	_	75	265
Total debt securities	4,355,424	_	4,250,401	105,023	806,114	_	796,354	9,760
Equity investments								
Consumer goods	1,992,666	1,991,773	500	393	300,268	299,802	458	8
Energy	700,926	698,961	1,739	226	89,721	89,721	_	
Equity other	2,919	128	463	2,328	209,070	96,743	112,327	_
Financials	1,669,735	1,665,171	4,444	120	167,806	167,432	374	_
Health care	951,013	950,816	155	42	176,978	176,978	_	
Industrials	1,201,310	1,200,476	507	327	119,615	119,615	_	_
Information technology	1,396,080	1,395,997	48	35	372,049	372,049	_	_
Materials	533,178	532,286	99	793	34,489	34,472	17	_
Real estate investment trusts	349,829	349,518	262	49	67,122	67,122	_	_
Telecommunication services	217,859	216,482	1,377	_	22,964	22,964	_	_
Utilities	243,221	242,999	213	9	27,202	27,202	_	_
Total equity investments	9,258,736	9,244,607	9,807	4,322	1,587,284	1,474,100	113,176	8
Real assets								
Agriculture	102,187	_	_	102,187	_	_	_	_
Commodities	33,899	33,899	_	_	_	_	_	_
Real estate	1,693,336			1,693,336			_	_
Total real assets	1,829,422	33,899		1,795,523			_	
Total investments by fair value level	\$ 17,734,256	9,278,506	6,550,882	1,904,868	\$ 2,393,398	1,474,100	909,530	9,768

## Notes to the Basic Financial Statements (Continued)

December 31, 2016

Investments and Derivative Instruments Measured at Fair Value (Continued)

(in thousands)

	(	in thous	sands)							
	_				efined Benefit					Contribution
			Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs			Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs
		12/31/16	Level 1	Level 2	Level 3	12	2/31/16	Level 1	Level 2	Level 3
Investments measured at the net asset valu	e (NA	-								
Short-term securities	\$	101,686				\$				
Equity investments Co-mingled international equity fund Co-mingled U.S. small cap equity fund Co-mingled large cap equity fund Co-mingled Russell 1000 Growth equity fund		637,039 303,491 —				40	84,041 09,732 11,712 7,677			
Total equity investments measured at the NAV	'	940,530				1,4	13,162			
Absolute return Directional Equity long/short Event driven Multistrategy Relative value	1 1	,061,173 283,317 ,030,425 ,095,671 ,038,198								
Total absolute return measured at the NAV	4	,508,784					_			
Private equity — private equity partnerships	3	,290,800					_	•		
Real assets Co-mingled commodities fund Co-mingled real estate equity fund Energy Minerals Real estate Royalty Timber  Total real assets measured at the NAV	1,	968,120 253,777 ,004,604 3,674 225,652 ,455,827				1	55,180 13,190 — — — — — 68,370			
Total investments measured at the NAV		,297,627				-	81,532			
Total investments measured at fair value		,031,883					74,930	•		
Synthetic guaranteed investments contracts measured at contract value	\$	—					33,515			
Investments derivative instruments										
Short-term securities — options	\$	(176)	) —	(176)	_	\$	_	_	_	_
Debt securities Options Swaptions Swap liabilities Swap assets		386 (429) (2,484) 3,522	) — ) —	386 (429) (2,484) 3,522			(25 64 (107 119		(25) 64 (107) 119	
Total debt security derivatives		995	_	995			51	_	51	_
Equity investments — options		603	603	_			_	_	_	_
Real assets – swap liabilities		(16,204)	<u> </u>	(16,204)	_		_		_	_
Total investment derivative instruments	\$	(14,782)	603	(15,385)	_	\$	51	_	51	_
Invested securities lending collateral Short-term securities Debt securities Equity investments		195,742 178,865 324,880	324,880	195,742 178,865 —		Ċ		- - - -	_ _ _	
Total invested securities lending collateral	\$	699,487	324,881	374,607	_	\$				

#### Investments Measured at the NAV — Defined Benefit

(in thousands)

(In thousands)	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Short-term securities - beta/overlays	\$ 101,686	_	Daily	None
Equity investments				
Co-mingled international equity fund	637,039	27,916	Daily	None
Co-mingled U.S. small cap equity fund	303,491	_	Daily	None
Total equity investments	940,530	27,916		
Absolute return				
Directional	1,061,173	15,177	Monthly, Quarterly	3-60 days
Equity long/short	283,317		Monthly, Quarterly, Annually	30-90 days
Event driven	1,030,425	86,899	Monthly, Quarterly, Semi-annually, Annually, Bi-annually	60-120 days
Multistrategy	1,095,671	_	Monthly, Quarterly, Semi-annually, Annually	45-90 days
Relative value	1,038,198	_	Weekly, Monthly, Quarterly	5-90 days
Total absolute return	4,508,784	102,076		
Private equity — partnerships	3,290,800	1,570,779	Not eligible	N/A
Real assets				
Energy	968,120	420,371	Not eligible	N/A
Minerals	253,777	120,992	Not eligible	N/A
Real estate*	1,004,604	188,341	Not eligible	N/A
Royalty	3,674	87,123	Not eligible	N/A
Timber*	225,652	33,562	Not eligible	N/A
Total real assets	2,455,827	850,389		
Total investments measured at the NAV	\$11,297,627	2,551,160		

<sup>\*</sup>See redemption descriptions for these investment types on page 70.

prices quoted in active markets for those securities.

Debt and debt derivative securities classified in Level 2 and Level 3 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on the securities relationship to benchmark quoted prices. Index linked debt securities are valued by multiplying the external market price feed by the applicable day's Index Ratio. Level 2 debt securities have non-proprietary information that was readily available to market participants, from multiple independent sources which are known to be actively involved in the

market. Level 3 debt securities use proprietary information or single source pricing. Equity and equity derivative securities classified in level 2 are securities whose values are derived daily from associated traded securities. Equity securities classified in Level 3 are valued with last trade data having limited trading volume.

Real assets classified in Level 1 are valued using prices quoted in active markets for those securities. Real assets classified in Level 3 are real estate investment generally valued using the income approach by internal manager reviews or independent external appraisers. The Systems and Plans policy is to obtain an external appraisal a minimum of every three years for properties or portfolios that the Systems and Plans have some degree of control or discretion. In practice, some investments are appraised annually. Appraisals are performed by an independent appraiser with preference for Member Appraisal Institute (MAI) designated appraisers. The appraisals are performed using generally accepted valuation approaches applicable to the property type.

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) is presented above and on page 69.

Synthetic guaranteed investment contracts that are fully benefit-responsive are measured at contract value and do not participate in fair value changes.

#### Investments Measured at the NAV — Defined Contribution

(in thousands)

(III thousands)	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Equity securities				
Co-mingled large cap equity fund	\$ 511,712	_	Daily	None
Co-mingled international equity fund	484,041	_	Daily	None
Co-mingled U.S. small cap equity fund	409,732	_	Daily	None
Co-mingled Russell 1000 Growth equity fund	7,677	_	Daily	None
Total equity securities	1,413,162	_		
Real assets				
Co-mingled real estate equity fund	113,190	_	Quarterly	90 days
Co-mingled commodities fund	55,180	_	Daily	None
Total real assets	168,370	_		
Total investments measured at the NAV	\$ 1,581,532	_		

#### **Defined Benefit**

- 1. Short-term Beta/Overlays. This type consists of one pooled investment fund that invests in exchange traded short-term options and futures referencing equity indexes used for portfolio rebalancing. The fair values have been determined using the NAV per share of the investments.
- 2. Co-mingled International Equity **Fund and Co-mingled Small Cap** Fund. This type consists of three institutional investment funds that invests in international equities diversified across all sectors and one fund that invests in U.S. small cap equities. The fair values of the investments in these types have been determined using the NAV per share of the investments.
- 3. Absolute Return Funds. The fair values of the investments in this type have been determined using the NAV per share of the investments. Directional funds include investments in seven funds whose investments are more directional in nature although they can shift opportunistically between having a directional bias and a non-directional bias. Equity

*long/short funds* includes investments in four funds in which the equity securities maintain some level of market exposure (either net long or net short); however the level of market exposure may vary through time. Event driven funds includes investments in fourteen funds whose investments focus on identifying and analyzing securities that can benefit from the occurrence of an extraordinary corporate transaction or event (e.g.: restructurings, takeovers, mergers, spin-offs, bankruptcy, etc). One fund is in the process of redemption totaling \$10.7 million over the next 2 to 10 years. Two new funds with a value of \$42.6 million have redemption restrictions of 3-4 years. Multi-strategy funds include investments in ten funds. Investments in these funds represent a mix of the other absolute return strategies. Five funds are in the process of redemption totaling \$7.8 million over the next 1-5 years. Relative value funds include investments in twelve funds. These funds seek returns by capitalizing on the mispricing of related securities or financial instruments. It is anticipated that

- five of these funds representing \$83.7 million or 8% will be redeemed over the next 1 to 10 years. One fund which represents 2.0% of the value in this type is restricted from redemption for 18 months as of December 31, 2016. All other funds currently have no redemption restrictions other than the restrictions noted above.
- 4. **Private Equity Partnerships.** This type includes investments in limited partnerships. Generally speaking, the types of partnership strategies included in this portfolio: venture capital, growth equity, buyouts, special situations, mezzanine, and distressed debt. These investments have an approximate life of 10 years and are considered illiquid. Redemptions are restricted over the life of the partnership. During the life of the partnerships distributions are received as underlying partnership investments are realized. The majority of the private equity partnership investments are managed by two gatekeepers. Both gatekeepers manage discretionary accounts for URS. The gatekeepers are required to manage the private equity portfolio in accordance with

guidelines established by the URS. The Systems and Plans have no plans to liquidate the total portfolio. As of December 31, 2016, it is probable that all the investments in this type will be sold at an amount different from the NAV per share (or its equivalent) of the Systems and Plans ownership interest in partners' capital.

## 5. Energy, Mineral, and Royalty Funds.

Investments in Energy consist of nineteen private equity partnerships which invest primarily in oil and gas related investments. Mineral funds include five private equity partnerships which invest in mineral mining equity securities, commodities and other mining investments. Royalty funds include one private equity partnership which invests primarily in drug royalties. These investments have an approximate life of 10 years and are considered illiquid. Redemption restrictions are in place over the life of the partnership. During the life of the partnerships distributions are received as underlying partnership investments are realized. As of December 31, 2016, it is probable that all the investments in this type will be sold at an amount different from the NAV per share (or its equivalent) of the Systems and Plans ownership interest in partners' capital. The fair values of these investments have been determined using estimates provided by the underlying partnerships using recent observable transactions information for similar investments.

#### 6. Real Estate and Timber Funds.

This type includes 19 investments which are *invested* primarily in apartments and retail space in the United States. Timber includes two funds which invest in timber related resources. Investments in these types can never be redeemed with the

#### **■■■** Debt Securities Investments

at December 31, 2016	(dollars in thousands)							
	E	Defined Benefit Plans	Contrib					
Investment	Fair Value	Effective Weighted Duration	Fair Value	Effective Weighted Duration	Total All Systems and Plans			
Asset backed securities	\$ 294,369	1.46	\$ 5,014	0.75	\$ 299,383			
Commercial mortgage-backed	121,421	3.08	2,698	0.87	124,119			
Corporate bonds	811,079	6.10	266,683	6.66	1,077,762			
Fixed income other	1,074	_	54,269	0.22	55,343			
Government agencies	82,376	4.92	14,725	8.28	97,101			
Government bonds	1,094,667	7.21	177,053	3.77	1,271,720			
Government mortgage								
backed securities	808,911	5.45	194,951	3.25	1,003,862			
Index linked bonds	1,113,524	12.10	90,433	5.19	1,203,957			
Non-government backed C.M.O.s	28,997	3.57	339	1.58	29,336			
Total measured at fair value	4,356,418	7.39	806,165	4.82	5,162,583			
Synthetic guaranteed investment								
contracts measured at contract value	_	_	933,515	_	933,515			
Total	\$ 4,356,418		\$1,739,680		\$ 6,096,098			

funds. Instead, the nature of these investments are that distributions from each investment will be received as the underlying investments are liquidated. Because it is probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share (or its equivalent) of the Systems and Plans ownership interest in partners' capital.

#### **Defined Contribution**

**Co-Mingled Funds.** The fair values of the investments in this type have been determined using the NAV per share of the investments. The *co-mingled real estate fund* is comprised of institutional quality commercial real estate across a broad range of real estate asset types. The *co-mingled commodities* fund invests mainly in bulk goods and raw materials. The other funds invest in securities indicative of their name.

#### D) Credit Risk Debt Securities

The Systems and Plans expect their domestic debt securities investment managers to maintain diversified portfolios by sector and by issuer by using the following guidelines:

- U.S. Government and Agency Securities — no restriction.
- Total portfolio quality will maintain a minimum overall rating of "A" (S&P) or equivalent rating.
- Securities with a quality rating of below BBB- are considered below investment grade. No more than 5% of an investment manager's assets at market with a single issuer of 1% of the total portfolio can be below investment grade.
- Upon approval, a domestic debt securities investment manager may invest up to 10% of the portfolio in non-U.S. dollar denominated bonds.

Total debt securities investments

\$ 4,356,418

### Notes to the Basic Financial Statements (Continued)

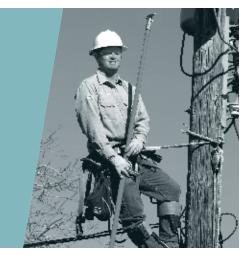
December 31, 2016

#### **■■■** Credit Risk Debt Securities at Fair Value

at December 31, 2016	(in tho	usands)							Defined	Benefit Plans
Quality Rating	Total	Asset Backed	Commercial Mortgage Backed	Corporate Bonds	Fixed Income Other	Government Agrencies	Government Bonds	Government Mortgage Backed	Index Linked Bonds	Non- Government Backed C.M.O.s
AAA	\$ 465,675	223,310	68,718	27,455	_	33,819	48,623	1,054	56,159	6,537
AA+	364,538	11,413	6,142	10,531	_	12,200	24,131	3,953	294,589	1,579
AA	114,097	5,625	10,179	10,027	_	_	21,808	_	66,458	_
AA-	51,213	374	3,226	43,614	_	_	3,922	_	_	77
A+	204,687	12,571	1,149	35,665	_	_	72,515	_	82,290	497
A	142,907	16,219	5,432	111,320	_	_	832	_	8,323	781
Α-	114,509	_	3,827	104,008	_	_	6,473	_	_	201
BBB+	250,249	2,208	2,633	185,355	_	4,517	34,588	_	20,510	438
BBB	233,684	9,530	2,001	124,848	_	_	17,238	_	78,609	1,458
BBB-	134,750	_	4,760	97,015	_	_	30,086	_	_	2,889
BB+	30,416	369	_	16,384	_	_	13,260	_	_	403
BB	12,508	_	1,863	3,194	_	_	7,029	_	_	422
BB-	11,867	_	2,396	4,140	_	_	5,116	_	_	215
B+	13,473	_	2,028	6,499	_	_	3,299	_	_	1,647
В	2,929	_	1,055	1,874	_	_	_	_	_	_
B-	13,054	_	1,195	2,229	_	_	7,330	_	_	2,300
CCC+	1,073	_	_	864	_	_	_	_	_	209
CCC	9,469	1,459	1,192	5,243	_	_	_	_	_	1,575
CCC-	5,977	1,009	_	268	_	_	_	_	3,312	1,388
CC	272	_			_	_		_	_	272
D	2,298	175	_	_	_	_	_	_	_	2,123
NR	712,375	10,107	3,625	20,546	1,074	31,840	19,444	618,124	3,629	3,986
ototal	2,892,020	294,369	121,421	811,079	1,074	82,376	315,694	623,131	613,879	28,997
. Treasuries	1,278,618						·			
licit U.S. Government Agencies	185,780									

								De	fined Contr	ibution Plans
Quality Rating	Total	Asset Backed	Commercial Mortgage Backed	Corporate Bonds	Fixed Income Other	Government Agrencies	Government Bonds	Government Mortgage Backed	Index Linked Bonds	Non- Government Backed C.M.O.s
AAA	\$ 26,740	404	49	_	_	2,840	18,423	_	5,024	_
AA+	2,815	_	_	192	_				2,532	91
AA	25,197	221	_	4,045	_	_	6,980		13,951	_
AA-	15,682	_		6,229	_	_	9,453	_	<i>'</i> —	_
A+	4,357	_	_	471		_	3,761			125
A	30,812	276	_	10,551		_	10,663		9,322	
A-	13,359	_	59	12,554		_	746	_	· —	
BBB+	93,608	_	_	57,424	_	11,616	12,836	_	11,732	_
BBB	70,485	298	_	61,339	_	_	8,848	_	_	_
BBB-	58,098	_	320	52,110	_	223	4,900	_	545	_
BB+	33,262	24	_	24,513	6,501	_	2,224	_	_	_
BB	8,987	_	_	7,925	_	_	1,062	_	_	_
BB-	11,934	_	346	11,361	_	_	227	_	_	_
B+	5,570	_		5,015	_	_	505	_	_	50
В	1,150	_	860	290	_	_	_	_	_	_
B-	1,296	_	425	275	_	_	596	_	_	_
CCC	10,919	_	287	10,632	_	_	_	_	_	_
NR	248,663	3,791	350	1,757	46,256	46	550	194,951	889	73
Subtotal	662,934	5,014	2,696	266,683	52,757	14,725	81,774	194,951	43,995	339
U.S. Treasuries	143,231									
Synththetic Guaranteed Investment Contracts	933,515									
Total debt securities investments	\$ 1,739,680									





The international debt securities investment managers may hold up to 25% of the market value of their portfolios in securities rated below investment grade (S&P index below BBB- or Moody's index below Baa3). The remaining assets will have an investment grade rating.

The Systems and Plans' weighted quality rating average of the global debt securities, excluding pooled investments, as of December 31, 2016, was AA-, and the fair value of below grade investments was \$178,234,000 or 2.93%.

The government mortgage backed securities in both the Systems and Plans' that are not rated include \$265,166,000 Federal Home Loan Mortgage Corporation and \$546,241,000 of Federal National Mortgage Association securities which are implicitly guaranteed by the U.S. government.

#### E) Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the Systems and Plans will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. The Systems and Plans do not have an investment policy regarding custodial credit risk. As of December 31, 2016, the table below represents the investments that have

#### **■■■** Custodial Credit Risk Exposed to Custodial Credit Risk

Exposed to editionial eleai		•	
	(in	thou	sands)
Type of Investment		F	air Value
Cash and cash equivalents		\$	87,278

#### **Exposure to Custodial Credit Risk**

### **Not Determined**

(in thousands) Investment Fair Value Other assets \$545,387 custodial credit risk. The \$87,278,000 frictional cash and cash equivalents subject to custodial credit risk are in foreign banks in the Systems' and Plans' name. Because it is in foreign banks, it is subject to custodial credit risk. URS does not have an investment policy regarding custodial credit risk for frictional cash in foreign banks.

#### F) Concentrations Credit Risk

The Systems and Plans expect investment managers to maintain diversified portfolios by sector and by issuer using the following guidelines:

- AAA/Aaa Debt Securities no more than 5% of an investment manager's assets at market with a single issuer.
- AA-/Aa3 Debt Securities or higher no more than 4% of an investment manager's assets at market with a single issuer.
- A-/A3 Debt Securities or higher no more than 3% of an investment manager's assets at market with a single issuer.
- BBB-/Baa3 Debt Securities or higher — no more than 2% of an investment manager's assets at market with a single issuer.
- For Debt Securities no individual holding will constitute more than 10% of the market value of outstanding debt of a single issuer with the exception of the U.S. Government or its agencies, or collateralized mortgage obligations.

#### Notes to the Basic Financial Statements (Continued)

December 31, 2016

- For Domestic Equity Securities no individual holdings will constitute more than 4% of the securities of any single issuer. Also, no more than 8% of an investment manager's assets will be invested in the equity or Real Estate Investment Trust (REIT) securities of any single issuer at market; or if specifically authorized in the manager's contract, the exposure of the portfolio to any single issuer will not exceed the greater of 5% of the portfolio value or 2% of the portfolio value plus the benchmark weight measured at the time of purchase.
- For International Equity Securities no more than 8% of an investment manager's assets will be invested in the equity or REIT securities of any single issuer at market; or if specifically authorized in the manager's contract, the exposure of the portfolio to any single issuer will not exceed the greater of 5% of the portfolio value or 2% of the portfolio value plus the benchmark weight measured at the time of purchase.

As of December 31, 2016, there were no single issuer investments that exceeded the above guidelines.

#### G) Interest Rate Risk

The Systems and Plans manage their exposure to fair value loss arising from increasing interest rates by complying with the following policy:

- For domestic debt securities managers, an individual debt securities investment manager's portfolio will have an effective duration between 75 - 125% of the effective duration of the appropriate index.
- The international debt securities investment managers will maintain an effective duration of their portfolio between 80 - 120% of the appropriate index.

- The global debt securities investment managers will maintain an effective duration of their portfolio between 75 - 125% of the appropriate index.
- The global debt inflation-linked debt securities invest managers will maintain an effective duration of their portfolio between 80 - 120% of the appropriate index.

Duration is a measure of a debt investment's exposure to fair value changes arising from changes in interest rates. It uses the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price.

The Systems compare an investment's effective duration against the Bloomberg Barclays US Aggregate Bond Index for domestic debt securities, the Bloomberg Barclays Global Aggregate Index (USD hedged) for global debt securities and the Bloomberg Barclays World Government Inflation-Linked Investment Bond Index (USD hedged) for inflation-linked debt securities. The index range as of December 31, 2016, was 4.42 - 7.36 for domestic debt securities, 5.18 - 8.63 for global debt securities, and 10.02 - 15.02 for inflation-linked debt securities.

The Plans compare an investment's effective duration against the Bloomberg Barclays US Aggregate Bond Index for domestic debt securities, the Bloomberg Barclays Global Aggregate Index ex-U.S. (USD hedged) for international debt securities and the Bloomberg Barclays Global Inflation Linked Bond Index 1 - 10 Year (USD hedged) for inflation-linked debt securities. The index range as of December 31, 2016, was 4.42 - 7.36 for domestic debt securities, 6.25 - 9.37 for international debt securities and 3.86 -5.80 for inflation-linked debt securities.

As of December 31, 2016, no individual debt security investment manager's portfolio was outside of the policy guidelines. As of December 31, 2016, the table on page 70 shows the investments by investment type, amount, and the effective weighted duration.

#### H) Foreign Currency Risk

The Systems and Plans expect the International Securities Investment Managers to maintain diversified portfolios by sector and by issuer using the following guidelines:

- International investment managers invest in fixed income instruments and equity instruments of corporations headquartered outside of the United States unless specifically authorized within the investment managers' contract.
- Domestic investment managers are allowed to invest in international corporations traded in American Depository Receipts (ADR).
- Portfolios should be adequately diversified to limit foreign currency and security risk.

Risk of loss arises from changes in currency exchange rates. The Systems' and Plans' exposure to foreign currency risk is shown on page 74.

#### Foreign Currency Risk

International Investment Securities at Fair Value at December 31, 2016

	(in thous	ands)			Defined	Benefit Plans	D	efined Contrib	oution Plans	Total
Currency	Short-Term	Debt	Equity	Absolute Return	Private Equity	Total	Debt	Equity	Total	All Systems and Plans
Argentine peso	\$ —	3,436	_	_	_	3,436	550	_	550	3,986
Australian dollar Bermudian dollar	1,903	15,371 —	162,908 —	_	9,178	189,360	10,295 —	24,789 24	35,084 24	224,444 24
Brazilian real	163	3,415	82,686	<del>_</del>	<del></del>	86,264	508	7,757	8,265	94,529
British pound sterling Canadian dollar	6,720 2,271	294,090 64,578	683,192 267,516	_	52,478	1,036,480	13,402 7,754	61,786 34,565	75,188 42,319	1,111,668
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	04,370	207,310			334,365	7,734	·····		376,684
Cayman Islands dollar Chilean peso	— 71	_	10,232	_	_	10,303	_	75 1,274	75 1,274	75 11,577
Chinese yuan renminbi	_	_		_	_		_	27,279	27,279	27,279
Colombian peso	138	3,533	5,262		<u>-</u>	8,933	554	478	1,032	9,965
Czech koruna	9	_	993	_	_	1,002	_	188	188	1,190
Danish krone	67	1,990	51,656	_	_	53,713	270	5,506	5,776	59,489
Egyptian pound	140	_	_	_	_	140	_	203	203	343
European euro	4,010	288,513	946,113	405,789	195,692	1,840,117	43,333	102,511	145,844	1,985,961
Hong Kong dollar	482		300,638			301,120		10,953	10,953	312,073
Hungarian forint	350	8,051	6,076	_	_	14,477	1,181	309	1,490	15,967
Indian rupee	980	_	76,602	_	_	77,582		2,808	2,808	80,390
Indonesian rupiah	198		17,515			17,713	~~~~~	9,372	9,372	27,085
Japanese yen	48,521	149,932	790,392	_	_	988,845	19,178	85,345	104,523 9	1,093,368 9
Macau pataca Malaysian ringgit	641	_	28,319	_	_	28,960	_	9 2,795	2,795	31,755
Mexican peso	738	9,073	35,276		_	45,087	1,287	3,711	4,998	50,085
Moroccan dirham Israeli new shekel	16 61	33	0.042	_	_	16	_		2 627	12 562
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~	9,842			9,936		2,627	2,627	12,563
Taiwan new dollar New Zealand dollar	715 667	35,342	93,503 7,010	_	_	94,218 43,019	4,460	13,814 1,039	13,814 5,499	108,032 48,518
Norwegian krone	618	7,892	21,359		_	29,869	656	2,761	3,417	33,286
Peruvian nuevo sol	29	<del>-</del>	147	<u>-</u>	<u>-</u>	176		364	364	540
Philippine peso	155	_	11,801	_	_	11,956	_	1,276	1,276	13,232
Polish zloty	268	_	7,683	_	_	7,951	33	1,211	1,244	9,195
Qatar riyal	_	_	_	_	_	_	_	933	933	933
Russian ruble		3,711	18,930	_	_	22,641	576	4,328	4,904	27,545
Singapore dollar	1,025	2,691	48,520			52,236	20	4,452	4,472	56,708
South African rand	157	12 404	49,911	_	_	50,068	1 707	7,403	7,403	57,471
South Korean won Swedish krona	850 524	12,404 9,360	136,808 83,789	_	_	150,062 93,673	1,797 2,025	15,969 10,687	17,766 12,712	167,828 106,385
~~~~~	~~~~~	~~~~~	~~~~~			~~~~~		~~~~~	~~~~~	~~~~~
Swiss franc Thai baht	1,182 187	_	282,868 31,433	_	_	284,050 31,620	1	27,450 2,728	27,451 2,728	311,501 34,348
Turkish lira	28	3,597	12,536	_		16,161	545	1,132	1,677	17,838
United Arab Emirates dirham	~~~~~		9,393		<del>-</del>	9,448	——————————————————————————————————————	917	917	10,365
Total securities subject			•			<u> </u>				
to foreign currency risk	\$ 73,939	917,012	4,290,909	405,789	257,348	5,944,997	108,425	480,828	589,253	6,534,250

#### I) Securities Lending

The Systems and Plans participate in a securities lending program as authorized by Board policy, whereby securities are transferred to an independent broker or dealer in exchange for collateral in the form of cash, government securities, and irrevocable bank letters of credit, equal to approximately 103% of the market value of the domestic securities on loan and 105% of the market value of the international securities on loan, with a simultaneous agreement to return the collateral for the same securities in the future. The custodial bank is the agent for the securities lending program. Securities under loan are maintained in the financial records, and corresponding liabilities are recorded for the market value of the collateral received.

At December 31, 2016, there was no credit risk exposure to borrowers because the collateral exceeded the amount borrowed. The securities on loan at year end were \$658,660,000 and the collateral received for those securities on loan was \$699,487,000. Under the terms of the lending agreement, the Systems and Plans are indemnified against loss should the lending agent be unable to recover borrowed securities and distributions due to borrower insolvency or failure of the lending agent to properly evaluate the credit worthiness of the borrower. In addition, the Systems and Plans are indemnified against loss should the lending agent fail to demand adequate and appropriate collateral on a timely basis. All securities loaned can be terminated on demand by either the Systems and Plans or the borrower. Cash collateral is invested in the lending agent's short-term investment pool.

The short-term investment pool guidelines specify that a minimum of 20% of the invested cash collateral is to be available each business day and the dollar weighted average maturity of holdings should not exceed 60 days. The relationship between the maturities of the short-term investment pool and the Systems' and Plans' loans is affected by the maturities of the securities loans made by other entities that use the agent's pool, which the Systems and Plans cannot determine. Because the securities lending collateral is in a pool maintained by the custodial bank, the Systems and Plans do not have the ability to pledge or sell the securities, and it is not necessary to report the total income and expenses of securities lending.

#### J) Derivative Financial Instruments

The Systems and Plans invest in derivative financial investments as authorized by Board policy. Derivatives are financial arrangements between two parties whose payments are based on, or "derived" from, the performance of some agreed-upon benchmark. All derivatives are considered investments. The fair value of all derivative financial instruments is reported in the Statements of Fiduciary Net Position. Within the investment asset class, swaptions are recorded in debt securities. By policy, portfolio liabilities associated with investments will be backed by cash equivalents or deliverable securities. URS does not have a policy regarding master netting arrangements. As of December 31, 2016, the Systems and Plans had five types of derivative financial instruments: futures, currency forwards, options, swaps, and Synthetic Guaranteed Investment Contracts (SGIC).

#### Futures

(in thousands)

	Notiona	al Market Value
	Defined Benefit Plans 2016	Defined Contribution Plans 2016
Cash & Cash Equiva	lents	
Long	\$ 197,175	14,242
Short	(78,267)	(3,920)
Equity		
Long	498,652	80,788
Short	(82,635)	_
Fixed Income		
Long	761,180	58,232
Short	(443,970)	(55,143)
Total Futures	\$ 852,135	94,199

#### **Futures**

Futures represent commitments to purchase (asset) or sell (liability) securities at a future date and at a specified price. Futures contracts are traded on organized exchanges (exchange traded) thereby minimizing the Systems' and Plans' credit risk. The net change in the futures contracts value is settled daily in cash with the exchanges. Net gains or losses resulting from the daily settlements are included with trading account securities gains in the Statements of Changes in Fiduciary Net Position. As of December 31, 2016, the Systems' and Plans' investments had the notional future balances as shown above.

#### **Currency Forwards**

(in thousands)

			Defined l	Benefit Plans
Currency	Notional Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2016
Australian dollar	\$ (15,825)	3,700	(19,280)	(15,580)
Brazilian real	1,673	1,741	(3)	1,738
British pound sterling	(291,420)	27,701	(316,420)	(288,719)
Canadian dollar	(67,083)	5,393	(73,059)	(67,666)
Colombian peso	214	3,247	(3,247)	—
Danish krone	(1,834)	—	(1,816)	(1,816)
Euro	(308,264)	31,754	(340,653)	(308,899)
Hong Kong dollar	1,530	1,530	—	1,530
Hungarian forint	(8,644)	—	(8,372)	(8,372)
Indian rupee Indonesian rupiah Japanese yen	144 6,730 (215,294)	9,930 6,597 7,354	(9,930) — (219,360)	6,597 (212,006)
Mexican peso New Taiwan dollar New Zealand dollar	(7,168) (9,953) (36,646)	19,767 —	(25,484) (9,900) (36,498)	(5,717) (9,900) (36,498)
Norwegian krone	(8,281)	3,636	(8,327)	(8,327)
Philippine peso	(30)		(30)	(30)
Russian ruble	108		(3,636)	—
Singapore dollar	(3,720)	20	(3,751)	(3,731)
South African rand	360	6,699	(6,677)	22
South Korean won	(30,261)	15,711	(43,818)	(28,107)
Swedish krona	4,928	14,808	(9,563)	5,245
Swiss franc	(2,777)	—	(2,805)	(2,805)
Turkish lira	3,837	12,489	(10,024)	2,465
United States dollar	987,676	1,162,640	(174,962)	987,678
Total forwards subject to foreign currency risk	\$ —	1,334,717	(1,327,615)	7,102

			Defined Contri	bution Plans
Currency	Notional Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2016
Australian dollar	(10,321)	_	(10,384)	(10,384)
Brazilian real	255	265	_	265
British pound sterling	(13,245)	420	(13,591)	(13,171)
Canadian dollar	(8,561)	509	(9,164)	(8,655)
Colombian peso	32	489	(489)	_
Danish krone	(255)	<u> </u>	(252)	(252)
Euro	(46,704)	750	(47,664)	(46,914)
Hungarian forint	(1,242)	_	(1,203)	(1,203)
Indian rupee	21	1,471	(1,471)	
Indonesian rupiah	988	969	_	969
Japanese yen	(20,632)	130	(20,790)	(20,660)
Mexican peso	(116)	3,059	(3,248)	(189)
New Taiwan dollar	(1,490)	<del>-</del>	(1,483)	(1,483)
New Zealand dollar	(4,499)	_	(4,501)	(4,501)
Norwegian krone	(662)	_	(666)	(666)
Russian ruble	15	512	(512)	
Singapore dollar	(531)	_	(533)	(533)
South African rand	51	1,009	(1,009)	<u> </u>
South Korean won	(3,087)	2,199	(5,006)	(2,807)
Swedish krona	(163)	601	(753)	(152)
Turkish lira	576	1,891	(1,522)	369
United States dollar	109,570	124,402	(14,832)	109,570
Total forwards subject to foreign currency risk	<b>&gt;</b> —	138,676	(139,073)	(397)

#### **Currency Forwards**

Currency forwards represent forward foreign exchange contracts that are entered into in order to hedge the exposure to changes in foreign currency exchange rate on the foreign currency denominated portfolio holdings. A forward foreign exchange contract is a commitment to purchase or sell a foreign currency at a future date at a

negotiated forward rate. The gain or loss arising from the difference between the original contracts and the closing of such contracts is included in the net realized gains or losses on foreign currency related transactions in the Statements of Changes in Fiduciary Net Position. As of December 31, 2016, the Systems' and Plans' investments included the currency forwards balances above.

#### **Options**

Options represent or give buyers the right, but not the obligation, to buy (call) or sell (put) an asset at a preset price over a specified period. The option's price is usually a small percentage of the underlying asset's value. As a writer of financial options, the Systems and Plans receive a premium at the outset of the agreement and bear the risk of an unfavorable change in the price of

#### Notes to the Basic Financial Statements (Continued)

December 31, 2016

Options

#### Fixed Income Portfolio Swaps

(in thousands)

(in t	housands)	
_		Market Value
	Defined Benefit Plans 2016	Defined Contribution Plans 2016
Cash & Cash Equiva	lents	
Put .	\$ (176)	_
Equity Put	603	_
Dobt Socurities		

	Benefit Plans 2016	Contribution Plans 2016
Cash & Cash Equivalents		
Put	\$ (176)	_
Equity Put	603	_
Debt Securities		(2.0)
Call	_	(29)
Put	386	4
Swaptions		
Call	(73)	45
Put	(356)	19
Total Options	\$ 384	39

the financial instrument underlying the option. As a purchaser of financial options, the Systems and Plans pay a premium at the outset of the agreement and the counter-party bears the risk of an unfavorable change in the price of the financial instrument underlying the option. As of December 31, 2016, the Systems' and Plans' investments had the option balances shown above.

#### **Swaps**

The Systems and Plans have entered into various inflation, credit default and interest rate swap agreements in an attempt to manage their exposure to inflation, credit and interest rate risk. Interest rate and inflation risk represents the exposure to fair value losses arising from inflation and the future changes in prevailing market interest rates. Credit risk is an investor's risk of loss arising from a borrower who does not make payments as promised. Swaps represent an agreement between two or more parties to exchange sequences of cash flows over a period in the future. In the most common type of interest rate swap arrangement, one party agrees to pay fixed interest payments on designated

					Defin	ed Benefit
Counterparty	Notional Amount	Utah Rate	Counterparty Rate	Maturity Date	Credit Rating	Fair Value 2016
JP Morgan Chase	\$ 20,200	BRL***	11.98%	2/1/17	A-	\$ (235)
Barclays	20,879	US CPI***	1.63%	9/13/17	AA	(139)
Barclays	19,240	2.066%	US CPI***	3/10/18	AA	(588)
Barclays	20,879	1.585%	US CPI***	9/13/18	AA	256
Goldman Sachs Bank	69,370	LIBOR**	1.230%	9/30/18	A+	(211)
Goldman Sachs Bank	24,000	LIBOR**	1.630%	11/21/19	A+	(123)
Goldman Sachs Bank	30,170	1.75%	LIBOR**	12/4/19	A+	95
Goldman Sachs Bank	24,580	2.03%	LIBOR**	12/19/19	A+	(52)
Goldman Sachs Bank	4,440	LIBOR**	1.08%	7/13/20	A+	(88)
Goldman Sachs Bank	3,780	LIBOR**	1.11%	7/17/20	A+	(73)
Goldman Sachs Bank	24,490	LIBOR**	1.26%	8/21/20	A+	(412)
Goldman Sachs Bank	39,540	1.95%	LIBOR**	11/16/20	A+	199
Bank of America	11,770	1.42%	1 day fed funds	5/31/21	BBB-	
Bank of America	35,590	1.75%	LIBOR**	5/31/21	BBB-	+ 301
Goldman Sachs Bank	14,600	1.42%	1 day fed funds	5/31/21	A+	113
Goldman Sachs Bank	131,620	1.75%	LIBOR**	5/31/21	A+	1,115
Deutsche Bank	8,980	1.125%	EUR CPI	8/12/21	BBB-	+ 40
Barclays	15,715	3.38%	UK RPI	10/15/21	AA	62
Goldman Sachs Bank	7,370	0.37%	EURLIBOR	11/16/22	A+	(43)
Deutsche Bank	8,980	EUR CPI	1.4072%	8/12/26	BBB-	+ (65)
Bank of America	12,190	2.51%	LIBOR**	8/15/26	BBB-	+ (147)
Barclays	15,715	UK RPI	3.4525%	10/15/26	AA	(117)
Goldman Sachs Bank	11,060	LIBOR**	2.72%	12/6/26	A+	(22)
Bank of America	5,635	2.78%	LIBOR**	11/15/43	BBB-	+ (170)
Bank of America	3,611	1.80%	LIBOR**	8/19/46	BBB-	+ 617
Goldman Sachs Bank	1,990	1.80%	LIBOR**	8/19/46	A+	342
Bank of America	1,560	1.73%	LIBOR**	8/31/46	BBB-	+ 292
Total Swaps	\$ 587,954					\$ 1,038

				C	Defined Co	ntribution
Counterparty	Notional Amount	Utah Rate	Counterparty Rate	Maturity Date	Credit Rating	Fair Value 2016
Goldman Sachs Bank	\$ 3,100	BRL****	LIBOR**	1/2/17	A+	\$ (36)
Barclays	1,531	US CPI***	1.63%	9/13/17	AA	(10)
Barclays	1,020	2.066%	US CPI***	3/10/18	AA	(31)
Barclays	1,531	1.585%	US CPI***	9/13/18	AA	
Credit Suisse First Boston	2,270	1.75%	LIBOR**	5/31/21	BBB-	
Credit Suisse First Boston	840	1.42%	1 day fed funds	5/31/21	BBB-	
Deutsche Bank	675	1.125%	EUR CPI	12/8/21	BBB-	⊢ (12)
Credit Suisse First Boston	960	2.51%	LIBOR**	8/15/26	BBB-	
Deutsche Bank	675	EUR CPI	1.4072%	12/8/26	BBB-	
Credit Suisse First Boston	435	2.78%	LIBOR**	11/15/43	BBB-	+ 49
Credit Suisse First Boston	278	1.80%	LIBOR**	8/19/46	BBB-	
Credit Suisse First Boston	120	1.73%	LIBOR**	8/31/46	BBB-	
Total Interest Rate and Credit Default Swaps	\$ 13,435					\$ 12

<sup>\*\*</sup>Three Month London Interbank Offered Rate (LIBOR)

EUR CPI European Consumer Price Index UR RPI United Kingdom Retail Price Index EUROLIBOR European LIBOR

<sup>\*\*\*</sup>United States Consumer Price Index

<sup>\*\*\*\*</sup>Brazilian Interbank Offered Rate (Daily)

#### Real Estate Portfolio Interest Swaps

(in thousands)

					Deti	nea Benefit
Counterparty	Notional Amount	Utah Rate	Counterparty Rate	Maturity Date	Credit Rating	Fair Value 2016
National Australia Bank	\$ 5,080	4.970%	LIBOR*	1/1/17	AA-	(20)
Morgan Stanley	4,486	4.690%	LIBOR*	3/1/18	BBB+	\$ (209)
Morgan Stanley	71,700	4.722%	LIBOR*	10/1/20	BBB+	(8,517)
Morgan Stanley	43,660	5.294%	LIBOR*	11/1/21	BBB+	(7,458)
Total Real Estate Swaps	\$ 124,926					\$ (16,204)

<sup>\*</sup>One Month London Interbank Offered Rate (LIBOR)

dates to a counterparty, who in turn agrees to make return interest payments that float with some reference rate. The real estate interest rate swaps allowed the Systems to effectively convert most of their long-term variable interest rate credit facility loans into fixed interest rate loans, thereby mitigating some of their interest rate risk. All swap instruments contain collateral clauses. Gains and losses on swaps are determined based on market values and are recorded in the Statements of Changes in Fiduciary Net Position. Swap market values are determined by an independent third party. As of December 31, 2016, the Systems' and Plans' investments had the swap market value balances as shown in the tables on page 77 and above.

#### **Derivative Credit Risk**

Derivatives that are exchange traded are not subject to credit risk. No derivatives held are subject to custodial credit risk. The maximum loss that would be recognized as of December 31, 2016, if all counterparties fail to perform as contracted was \$1,475,423,000. Derivative credit risk at fair value is shown in the table below. This maximum exposure is reduced by \$1,468,711,000 of liabilities, resulting in \$6,712,000 exposure to credit risk. Credit ratings for the wrap contracts associated with the SGICs are noted in the bottom table on page 79. As of December 31, 2016, the counterparties' credit ratings for currency forwards, options, and swaps are subject to credit risk.

#### ■■■ Derivative Credit Risk at Fair Value

(in thousands)

Quality Rating	Forwards	Options	Swaps	Total
AA-	\$ (1,705)	_		(1,705)
A+	2,257	17	(1,501)	773
A	478	_	_	478
A-	(1,766)	_	(235)	(2,001)
BBB+	3,055	(221)	(15,065)	(12,231)
BBB	1,492	_	(615)	877
BBB-	2,894	_	_	2,894
NA	_	2,330	_	2,330
Total subject to credit risk	\$ 6,705	2,126	(17,416)	(8,585)

#### **■■■** Synthetic Guaranteed **Investment Contracts Underlying Investments**

**Underlying Investments** Asset-backed securities Agencies Corporates Government mortgage-backed securities **United States treasuries** Commercial mortgage-backed securities Cash

Total

Dofinad Ranafit

#### **Synthetic Guaranteed Investment Contracts**

In the Utah Retirement Systems Defined Contribution Plans, members are able to participate in Synthetic **Guaranteed Investment Contracts** (SGICs). The SGICs are fully benefit responsive, which means that Utah Retirement Systems is prohibited from assigning and selling the contract or its proceeds to a third party without the consent of the issuer. Prospective interest crediting rate adjustments are provided to plan participants. The SGICs provide assurance that the probability of future rate adjustments resulting in an interest crediting rate less than zero is remote. The underlying investments are high credit quality averaging A+ and therefore credit loss is remote. The terms of the SGICs require all plan participants to initiate transactions within the fund at contract value. The contract value is the fair value (cost plus accrued interest). The fair value of these contracts as of December 31, 2016, was \$933,515,000 and the market value was \$943,930,000.

#### Notes to the Basic Financial Statements (Continued)

December 31, 2016

, , , , , , , , , , , , , , , , , , , ,	I-5 Yr. Gove	rnment/Cre	dit Bond	Intern	nediate Gov	ernment/Cre	dit Bond		MetL	ife Separate	Account		Underlying ovestments
Fair Value	Market Value	Duration	Credit Rating	Fair Value	Market Value	Durations	Credit Rating	Fair Value	Market Value	Durations	Credit Rating	Fair Value	Market Value
\$ 60,862	60,932	0.75	AAA	\$ 26,327	26,835	0.81	AAA	\$ 41,174	42,036	0.60	AAA	\$ 128,363	129,803
48,023	48,078	2.47	AA+	27,802	28,335	3.08	AA+	19,491	19,899	2.39	AA+	95,316	96,312
146,085	146,265	3.06	A-	97,349	99,280	4.36	A-	83,998	85,813	1.50	A-	327,432	331,358
62,702	62,774	3.40	AAA	27,552	28,083	3.35	AAA	9,702	9,905	2.98	AAA	99,956	100,762
48,374	48,429	3.37	AAA	55,883	56,960	6.79	AA+	24,005	24,508	3.62	AA+	128,262	129,897
62,483	62,555	1.70	AA+	40,771	41,557	1.40	AA+	35,986	36,740	1.14	AA+	139,240	140,852
9,639	9,639	_	_	2,616	2,616	_	_	2,691	2,691	_	_	14,946	14,946
\$ 438,168	438,672			\$ 278,300	283,666			\$ 217,047	221,592			\$ 933,515	943,930

#### **■■■** Wrap Contracts

(in thousands	(In	thol	u s a	n a	S
---------------	-----	------	-------	-----	---

Contract Issuer	Fair Value	Market Value	Rate	Duration	Quality Rating
American General	\$ 60,629	60,783	1.95%	2.41	A+
Lincoln National Life	113,891	113,954	1.86	2.41	AA-
MetLife	217,047	221,592	1.60	1.64	AA-
Transamerica	65,724	65,921	2.04	2.41	AA-
Transamerica	123,408	126,108	2.86	3.79	AA-
Pacific Life	197,924	198,014	1.90	2.41	AA-
Royal Bank of Canada	154,892	157,558	2.10	3.79	AA-
Subtotal wrap contracts	933,515	943,930			
Merrill Lynch repurchase	37,104	37,104			
Total	\$ 970,619	981,034			

### K) Investment **Payables**

The investment accounts payable are comprised of investment advisor fees payable of \$8,944,000, administrative expenses payable of \$8,186,000, and investment purchases payable of \$703,427,000.

### L) Investment **Compliance Officer**

The Systems and Plans have an investment compliance officer on staff who reports his/her findings directly to the Board. The investment compliance officer monitors all of the investments made by the investment managers to determine the investments were made in accordance with the investment policies that were approved by the Board.



### Property and Equipment

Property and equipment consist of the amounts shown in the following table as of December 31, 2016. There were no significant leases as of December 31, 2016.

#### ■■■ Property and Equipment

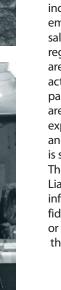
(in thousands)

	2016
Land	\$ 1,780
Buildings and building improvements	17,978
Furniture and equipment	4,416
Computer software	2,388
Total property and equipment	26,562
Less accumulated depreciation:	
Buildings and building improvements	9,185
Furniture and equipment	1,589
Computer software	1,671
Total accumulated depreciation	12,445
Less operating reserves	9,227
Net property and equipment	\$ 4,890



### Net Pension Liability of Employers

The net pension liability (i.e., the retirement system's liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of December 31, 2016, is as shown below.



Actuarial valuation of the ongoing Systems involves estimates of the reported amounts and assumptions about probability of occurrence of events far into the future. Examples include assumptions about future employment mortality and future salary increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The last experience study was performed in 2014 and the next experience study is scheduled to be conducted in 2017. The Schedule of Employers' Net Pension Liability presents multi-year trend information about whether the plan fiduciary net positions are increasing or decreasing over time relative to the total pension liability. These

schedules are presented in the Required Supplementary Information section. The Total Pension Liability as of December 31, 2016, is based on the results of an actuarial valuation date of January 1, 2016, and rolled-forward using generally accepted actuarial procedures.

A summary of the actuarial assumptions as of the latest actuarial valuation is shown on page 81 and are based on the results of the most recent experience study ecept for the decrease in the assumed investment return from 7.50% to 7.20%, and the decrease in the assumed inflation rate from 2.75% to 2.60%. With the decrease in the assumed rate of inflation, both the payroll growth and wage inflation assumptions were decreased by 0.15% from the prior year's assumption.

Net Pension Liability of Empl (dollars in thousands)	oyers (1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers' Net Pension Liability/(Asset) (1) - (2)	(4) Plan Fiduciary Net Position as a % of the Total Pension Liability (2) / (1)	Li: (5) Projected Covered Employee Payroll	(6) Net Pension ability/(Asset) as a % of Covered Employee Payroll (3) / (5)
Noncontributory Retirement System	\$26,501,781	\$22,618,743	\$3,883,038	85.3%	\$3,406,567	114.0%
Contributory Retirement System	1,292,512	1,204,904	87,608	93.2	53,615	163.4
Public Safety Retirement System	3,794,880	3,176,545	618,335	83.7	352,407	175.5
Firefighters Retirement System	1,129,729	1,115,726	14,003	98.8	112,322	12.5
Judges Retirement System	210,623	175,618	35,005	83.4	16,755	208.9
Utah Governors and Legislators Retirement Plan	12,654	10,352	2,302	81.8	799	288.1
Tier 2 Public Employees System	228,450	217,293	11,157	95.1	822,196	1.4
Tier 2 Public Safety and Firefighter System	24,266	25,135	(869)	103.6	74,834	(1.2)
Total	\$33,194,895	\$28,544,316	\$4,650,579	86.0%	\$4,839,495	96.1%

#### ■■■ Summary of Actuarial Assumptions

	Noncontributory	Contributory	Public Safety	Firefighters	Judges	Governors and Legislators	Tier 2 Public Employees	Tier 2 Public Safety and Firefighter
Valuation date	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16
Actuarial cost method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Actuarial assumptions: Investment rate of return Projected salary increases Inflation rate Post-retirement cost-of-living adjustment	7.20% 3.35-10.35% 2.60% 2.60%	7.20% 3.35-10.35% 2.60% 2.60%	7.20% 3.35-7.65% 2.60% 2.50% or 2.60% Depending on employer	7.20% 3.35-8.90% 2.60% 2.60%	7.20% 3.35% 2.60% 2.60%	7.20% None 2.60% 2.60%	7.20% 3.35-10.35% 2.60% 2.50%	7.20% 3.35-8.90% 2.60% 2.50%
Mortality: (Non-educators)	:	% of constructed	•	s, projected with based on actua		the year 2000. female educators	, projected wit	h Scale AA
Mortality: (Educators)	projected wit Female: 1009	th Scale AA from  of constructed	the year 2000.	e based on actua		le educators, female educators	,	

Note: All post-retirement cost-of-living adjustments are noncompounding and are based on the original benefit except for Judges, which is a compounding benefit. The cost-of-living adjustments are also limited to the actual CPI increase for the year, although unused CPI increases not met may be carried forward to subsequent years.

#### **■■■** Target Allocations

	Expecte	ed Return Arith	metic Basis
Target / Asset Class Alloca		Real Return Arithmetic Basis	Long-term Expected Portfolio Real Rate of Return*
Equity securities	40%	7.06%	2.82%
Debt securities	20	0.80	0.16
Real assets	13	5.10	0.66
Private equity	9	11.30	1.02
Absolute return	18	3.15	0.57
Cash and			
cash equivalents	0	0.00	0.00
Totals	100%		5.23%
Inflation			2.60
Expected arit	hmetic	nominal retu	rn 7.83%

\*The total URS Defined Benefit long-term expected rate of return is 7.20%, which is comprised of a 2.60% inflation assumption and a 4.60% net real rate of return.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Systems target asset allocation as of December 31, 2016, are summarized in table to the left.

The discount rate used to measure the total pension liability was 7.20%. The projection of cash flows used to determine the discount rate assumed contributions from participating employers will be made based on the actuarially determined rates based on the Board's funding policy, which establishes the contractually required rates under Utah State Code. Based on those assumptions, the Systems' fiduciary net position was projected to be available to make all the projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

#### **■■■** Changes in Discount Rate

(dollars in thousands)

System	Net Pension Liability/(Asset) 1% Decrease (6.20%)	Net Pension Liability/(Asset) Current Discount Rate (7.20%)	Net Pension Liability/(Asset) 1% Increase (8.20%)
Noncontributory Retirement System	\$7,272,333	3,883,038	1,044,993
Contributory Retirement System	213,702	87,608	(19,165)
Public Safety Retirement System	1,150,467	618,335	182,948
Firefighters Retirement System	169,686	14,003	(114,022)
Judges Retirement System	56,845	35,005	16,253
Utah Governors and Legislators Retirement Plan	3,526	2,302	1,265
Tier 2 Public Employees System	75,928	11,157	(38,121)
Tier 2 Public Safety and Firefighter System	6,073	(869)	(6,202)
Total	\$ 8,948,560	4,650,579	1,067,949

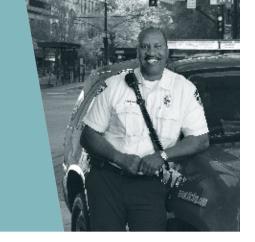
In accordance with GASB Statement No. 67 regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the table above presents the net pension liability/ (asset) of the participating employers calculated using the

discount rate of 7.20%, as well as what the employers' net pension liability/ (asset) would be if it were calculated using a discount rate that is 1.00% lower (6.20%) or 1.00% higher (8.20%) than the current rate.





Employer contribution rates consist of (1) an amount for normal cost, the estimated amount necessary to finance benefits earned by the members during the current year, and (2) an amount for amortization of the unfunded or excess funded actuarial accrued liability over a closed 20-year amortization period. The rates are determined using the entry age actuarial cost method.



The top schedule on page 83 summarizes contribution rates in effect as of December 31, 2016. Contributions made by employers and members were in accordance with actuarially computed funding requirements. Fire insurance premium taxes and court

fees are considered as part of employer contributions in the schedule shown below for the Firefighters and Judges Systems, respectively. These contribution rates also include rates for a 3% benefit enhancement that is funded by the State. For contribution rate purposes

the actuary evaluates the assets of the Systems based on a 5-year smoothed expected return wherein 20% of a year's excess or shortfall of expected return is recognized each year for five years.

The actual contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems. Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

Information with regard to contributions to the Systems, for the year ended December 31, 2016, is indicated in the schedules shown below.

Member contributions in the 401(k), 457, Roth and traditional IRAs, total \$350,725,000, that in combination with the member contributions made in the Retirement Systems total \$390,012,000.

#### **■■■** Contribution Rates

December 31, 3016

Contribution Rates as a Percent of Covered Payroll

System		Member	Employer	Other
Noncontribut	tory	_	18.47 - 22.19%	_
Contributory		6.00%	14.46 - 17.70	_
<b>Public Safety</b>	: Noncontributory	_	32.20 - 48.68	_
	Contributory	10.50 - 12.29	22.19 - 29.70	
Firefighters:	Division A	15.05	3.89	11.64%
	Division B	16.71	6.66	11.64
Judges:	Noncontributory	_	42.12	9.79
Governors an	d Legislators	_	\$ 404,409	_
Tier 2 Public	Employees	_	14.91 - 18.24%	_
Tier 2 Public	Safety and Firefighter	_	10.75 - 37.02	_

#### Note 7

### **Transfers** To or From **Affiliated** Systems

Asset transfers to or from affiliated systems are for the purpose of spreading employer contribution costs across same employer and same class of employee group and to record transfers of benefits and corresponding assets where employees transfer from one system to another. Benefit transfers usually are between contributory and noncontributory systems as allowed during authorized transfer windows established by statute or as otherwise authorized.

#### ■■■ Required Contributions

(dollars in thousands)		Contribution Requirements				
	Normal Cost	Unfunded Cost	Total Required Contributions	Total Actual Contributions	Member Contributions Made	Employer Contributions Made
Noncontributory Retirement System	\$531,086	\$316,853	\$ 847,939	\$ 847,939	\$16,308	\$ 831,631
Contributory Retirement System	6,348	5,260	11,608	11,608	3,420	8,188
Public Safety Retirement System	92,699	55,230	147,929	147,929	830	147,099
Firefighters Retirement System	36,252	_	36,252	36,252	18,729	17,523
Judges Retirement System	7,007	1,845	8,852	8,852	_	8,852
Utah Governors and Legislators Retirement Plan	421	_	421	421	_	421
Tier 2 Public Employees System	63,062	_	63,062	63,062	_	63,062
Tier 2 Public Safety and Firefighter System	8,488	_	8,488	8,488	_	8,488
Total	\$745,363	\$379,188	\$1,124,551	\$1,124,551	\$39,287	\$1,085,264



# Supplemental Benefits

In the past, the Utah State legislature appropriated funds as supplemental retirement benefits to be paid to qualified participants who have previously retired under the Contributory System. These benefits, already granted, are now and will continue to be funded through contribution rates unless otherwise provided by the legislature.



### Litigation

The Systems and Plans are involved in various claims and legal actions arising in the ordinary course of business. In the opinion of management and legal counsel, the ultimate disposition of these matters will not have a material adverse effect on the Systems' and Plans' financial position as a whole.



### Commitments

As of December 31, 2016, the Systems had committed to fund certain private equity partnerships, absolute return, and real asset funds projects for an amount of \$9,675,946,000. Funding of \$7,124,786,000 had been provided by December 31, 2016, leaving an unfunded commitment of \$2,551,160,000 as of December 31, 2016. Note 11

### Pension Plan Participation

#### **Defined Benefit Plans**

Utah Retirement Systems (URS) contributes to the State and School Noncontributory Retirement System, a cost-sharing multiple-employer defined benefit pension plan administered by Utah Retirement Systems (Systems). The Systems provide refunds, retirement benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries in accordance with retirement statutes.

The Systems are established and governed by the respective sections of Chapter 49 of the Utah Code Annotated 1953 as amended. The Utah State Retirement Act in Chapter 49 provides for the administration of the Utah Retirement Systems and Plans under the direction of the Utah State Retirement Board (Board) whose members are appointed by the governor. The Systems issue a publicly available financial report that includes financial statements and required supplementary information for the State and School Noncontributory Retirement System. A copy of the report may be obtained by writing to the Utah Retirement Systems, 560 East 200 South, Salt Lake City, UT 84102-2044 or by calling 1-800-365-8772.

Funding Policy: In the State and School Noncontributory Retirement System and the Tier 2 Public Employees Retirement System, Utah Retirement Systems is required to contribute 22.19% and 20.02% of its annual covered salary, respectively. The contribution rates are the actuarially determined rates. The contributions were equal to the requirements of the Systems, are authorized by statute, and specified by the Board.

The Utah Retirement Systems' contributions to the State and School Noncontributory Retirement System for the years ended December 31, 2016, 2015, and 2014, were \$2,941,508, \$2,681,089, and \$2,510,743, respectively.

The contributions were equal to the required contributions for each year.

Employees hired beginning
July 1, 2011, are automatically
enrolled in the Tier 2 Public Employees
Retirement System. The Utah Retirement
Systems' contributions to the Tier 2
Public Employees Retirement Systems
for years ended December 31, 2016,
2015, and 2014, were \$487,794,
\$399,721, and \$251,304, respectively.
The contributions were equal to the
required contributions for each year.

#### **Defined Contribution Plans**

Utah Retirement Systems also participates in four defined contribution plans, the 401(k), 457, Roth and traditional IRAs.

#### 401(k) Plan

The Utah Retirement Systems offers its employees a 401(k) Plan to supplement retirement benefits accrued by participants in the Systems and may also be used as a primary retirement benefit. Employees covered by the State and School Noncontributory Retirement System have a contribution of 1.5% of covered salaries automatically made by Utah Retirement Systems. In addition, URS will match up to 2% and \$26 of employee contributions each pay period. Employees participating in the Systems can make additional contributions through payroll deduction to the 401(k) Plan up to specified

limits. Contributions and earnings may be withdrawn by the employee upon termination or may be used as supplemental income during retirement. The employer 401(k) contributions for the years ended December 31, 2016, 2015, and 2014, were \$946,818, \$764,166, and \$631,803, respectively; the employee contributions for the years ended December 31, 2016, 2015, and 2014, were \$755,806, \$638,355, and \$557,139, respectively. The 401(k) Plan funds are fully vested to the participants at the time of deposit except for employer required contributions and earnings for Tier 2. Plan assets are administered and held by Utah Retirement Systems.

#### 457 Plan

The Utah Retirement Systems also offers its employees a deferred compensation plan created in accordance with Internal Revenue Code Section 457. The plan, available to all employees, permits them to defer a portion of their salary until future years. Employees are eligible to voluntarily participate from the date of employment and are vested immediately upon participating. Employee contributions to the Section 457 Plan for the years ended December 31, 2016, 2015, and 2014, were \$460,828, \$422,398, and \$386,146, respectively.

#### **Roth and Traditional IRAs**

**Utah Retirement Systems offers** its employees two payroll deducted IRAs authorized by section 408 of the Internal Revenue Code. Employees are eligible to participate from the date of employment and are vested immediately upon participating. For the years ended December 31, 2016, 2015, and 2014, the Roth IRA employee contributions were \$186,088, \$152,088, and \$122,138, respectively. For the years ended December 31, 2016, 2015, and 2014, the traditional IRA employee contributions were \$8,985, \$2,235, and \$690, respectively.

Note **17** 

### Post-Employment Healthcare Plan

#### Plan Description

The Utah Retirement Office contributes to a noncontributory defined benefit post-employment healthcare plan to provide post-employment insurance benefits for retired employees of the Utah Retirement Office. This plan was established in 2005. The Utah Retirement Employees Post-Employment Healthcare Plan, (UREPEHP), is an agent multiple-employer post-employment healthcare plan administered by the Utah Retirement Office.

Assets and liabilities of the plan are identified separately for each employer. Plan assets may be used only for the payment of benefits to the members of that system, in accordance with the terms of the plan. UREPEHP issues a publicly available financial report that includes financial statements and required supplementary information for UREPEHP. A copy of the report may be obtained by writing the Utah Retirement Office, 560 East 200 South, Salt Lake City, UT 84102-2044 or by calling 1-800-365-8772.

#### **Funding Policy**

The contribution requirements of Utah Retirement Employees Post-Employment Healthcare Plan are determined by the Plan and approved by the Board. Utah Retirement Office is required to contribute the annual required contribution (ARC), an actuarially determined rate in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal costs each year and amortize any unfunded actuarial liabilities (or funding excess) over an open 20-year period using the level dollar amount. The current dollar amount is \$0. Since the funded ratio exceeds 110% and the plan is closed to new entrants, there are no actuarial required contributions.

#### **Annual Costs**

For the year ended December 31, 2016, the annual cost (expense) of \$0 for UREPEHP was equal to the ARC. The net Other Post-Employment Benefits (OPEB) obligation for 2016 was as follows:

Year Ended	Annual Required Contributions	Percentage Contributed	Net OPER Obligation
12/31/07	\$ 387,000	100%	\$ —
12/31/08	219,000	100	_
12/31/09	220,000	100	_
12/31/10	313,000	100	_
12/31/11	285,000	100	_
12/31/12	285,000	100	_
12/31/13	285,000	100	_
12/31/14	285,000	100	_
12/31/15	0	100	_
12/31/16	0	100	_

#### ■■■ Schedule of Funding Progress

(dollars in thousands)

Division	Based on fai	r value of ass (1) Actuarial Value of Assets	ets (2) Accrued Liability (AAL) Entry Age	(3) Unfunded (Overfunded) AAL (UAAL) (2) - (1)	(4) Funding Ratios Ratios (1) / (2)	(5) Annual Covered Payroll	(6) UAAL as a % of Covered Payroll (3)/(5)
URS Employees	12/31/07	\$ 4,559	5,990	1,431	76.1%	\$ 9,131	15.7%
	12/31/08	4,206	7,008	2,802	60.0	8,673	32.3
	12/31/09	4,654	7,539	2,885	61.7	8,678	33.2
	12/31/10	4,811	7,382	2,571	65.2	8,366	30.7
	12/31/11	4,838	7,615	2,777	63.5	7,835	35.4
	12/31/12	4,886	7,838	2,952	62.3	7,538	39.2
	12/31/13	5,325	5,660	335	94.1	7,189	4.7
	12/31/14	5,794	5,750	(44)	100.8	6,955	(0.6)
	12/31/15	5,942	5,308	(634)	111.9	7,841	(8.1)
	12/31/16	6,094	5,739	(355)	106.2	7,647	(4.6)

#### **■■■** Schedule of **Required Contributions**

January 1, 2016

(dollars in thousands)

Year Ended*	Annual Required Contributions	Percentage Contributed	Net OPEB Obligation
12/31/0	7 \$ 387	100%	\$—
12/31/0	8 219	100	_
12/31/0	9 220	100	_
12/31/1	0 313	100	_
12/31/1	1 285	100	_
12/31/1	2 285	100	_
12/31/1	3 285	100	_
12/31/1	4 285	100	_
12/31/1	5 0	100	_
12/31/1	6 0	100	_

#### **Funded Status and Funding Progress**

The funded status of the plan as of January 1, 2015, the date of the most recent actuarial valuation, was as follows:

Actuarial accrued liability (AAL)	\$ 5,226,973
Actuarial value of plan assets	5,794,000
Unfunded (overfunded) actuarial accrued	(567.027)
liability (UAAL)	(567,027)
Funded ratio (actuarial value of plan assets/AAL)	111%
Covered salaries and wages (active) (plan members)	\$ 7,841,350
UAAL as a percentage	

of covered salaries and wages

Actuarial valuations of the ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status and the annual required contributions are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress shown above, presented as required supplementary information, shows the actuarial value of plan assets compared to the actuarial accrued liabilities for benefits.

#### **Actuarial Methods** and Assumptions

(7)%

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation. The actuarial methods and

assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities consistent with the long-term perspective of the calculations.

In the January 1, 2015, actuarial valuation, the entry age actuarial cost method was used. The actuarial assumptions included a 7.5% investment rate of return (net of administrative expenses) and an annual healthcare cost trend rate of 7.5%, reduced by decrements to an ultimate rate of 4.5% after 15 years. Both rates include a 2.75% inflation assumption. The actuarial value of UREPEHP assets is based on smoothed expected income investment rate. Investment income in excess or shortfall of the expected rate on fair value is smoothed over a 5-year period with 20% of a year's excess or shortfall being recognized each year beginning with the current year. The actuarial accrued liability was computed using likely health benefits to be paid to retirees and to be paid active employees after their service that was discounted using the investment return, health cost increase, and various mortality assumptions.

Note **13** 

### Compensated Absences, Post-Employment Benefits, and Insurance Reserve

The compensated absences liability for Utah Retirement Office employees as of December 31, 2016, was \$5,672,353. This represents the amount of unused leave to be paid to employees upon termination. As of December 31, 2016, the insurance reserve was \$5,000,000. The insurance reserve coverage is explained in Note 15, Risk Management.

Note 14

### Required Supplementary Information

Required supplementary information is included immediately following the notes to the financial statements on pages 88 through 95. Other supplementary information presented in succeeding sections of this report is for the benefit of statement users and is not a required part of the basic financial statements. Note 15

### Risk Management

Most risks of loss to which the Systems, Plans, and Investment Fund are exposed, other than routine investment losses, are covered under commercial insurance policies. Risks in excess of coverage limits or large deductible, and otherwise uninsured losses, are retained by the Systems, Plans or Investment Fund through the insurance reserve. There have been no reductions of insurance coverage from coverages of the previous year in any of the categories of risk. Coverages are increased or decreased commensurate with real estate acquisitions or dispositions. During the past three calendar years, no loss settlements exceeded insurance coverages beyond immaterial deductible amounts. The insurance reserve was established by the Board from investment earnings as authorized by statute.

Note 16

### Real Estate Liabilities

The real estate liabilities consist of two private placement notes. These notes bear various interest rates and are scheduled to be repaid over the next year. The rest of the liabilities are unsecured. As mentioned in Note 3, page 77, the Systems and Plans entered into various interest rate swap agreements that effectively changed credit facility liabilities from variable interest rates to fixed interest rates. As of December 31, 2016, there are \$205 million in credit facility debt. Using interest rates as of December 31, 2016, principal and interest requirements of the debt and net swap payments for the terms of the debt and swaps are shown below.

#### **■■■** Real Estate Liabilities

(in thousands)

	Initial Affected Balance	Maturity Date	Annual Payment
BNP Paribas Credit Facility The Northern Trust	\$ 85,000 120,000	Monthly 8/1/2017	\$ 85,000 120,000
Total	\$ 205,000		
Year Ending December 31,	Total Principal Payments	Total Interest Payments	Total Swap Payments
2017	\$ 205,000	825	4,983
2018	_	_	4,835
2019	_	_	4,807
2020	_	_	4,101
2021	_	_	1,650

BNP Paribas Credit Facility is a term loan with one remaining annual principal payment. Loan and swap interest payments are calculated using the One Month LIBOR rate at December 31, 2016.

# Required Supplementary Information

## Schedule of Changes in the Employers' Net Pension Liability

Year Ended December 31

(in thousands)

		Noncontributory System						
	2016	2015	2014	2013				
Total pension liability								
Service cost	\$ 407,690	394,798	407,992	441,320				
Interest	1,764,653	1,775,819	1,699,693	1,646,213				
Benefit changes	48,400	_	_	23,123				
Difference between actual								
and expected experience	6,408	(188,166)	(204,823)	(208,501)				
Assumption changes	563,741		(157,921)					
Benefit payments	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)				
Refunds	(4,366)	(2,496)	(2,204)	(2,454)				
Net change in total pension liability	1,602,209	856,308	698,939	925,017				
Total pension liability — beginning	24,899,572	24,043,264	23,344,325	22,419,308				
Total pension liability — ending (a)	26,501,781	24,899,572	24,043,264	23,344,325				
Plan fiduciary net position								
Contributions — member	16,308	17,020	13,587	14,208				
Contributions — employer	831,631	813,449	772,420	710,933				
Court fees and fire insurance tax	051,051	013, <del>11</del> 7	772,420	710,555				
Net investment income	1,783,911	366,748	1,419,053	2,588,981				
Benefit payments	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)				
Refunds	(4,366)	(2,496)	(2,204)	(2,454)				
Administrative expense	(8,856)	(8,797)	(8,828)	(8,329)				
Net transfers with affiliated systems	(8,005)	33,648	30,467	(42,277)				
Net change in plan fiduciary net position	1,426,306	95,925	1,180,697	2,286,378				
Plan fiduciary net position — beginning	21,192,437	21,096,512	19,915,815	17,629,437				
Plan fiduciary net position — ending (b)	22,618,743	21,192,437	21,096,512	19,915,815				
Net pension liability/(asset) — ending (a-b)	\$ 3,883,038	3,707,135	2,946,752	3,428,510				
recepension hability/(asset) — ending (a-b)	7 3,003,030	3,707,133	2,540,752	3,720,310				
Plan fiduciary net position as a percentage								
of the total pension liability	85.3%	85.1%	87.7%	85.3%				
Projected covered employee payroll	\$ 3,406,567	3,458,286	3,570,912	3,705,771				

			Contrib	outory System			Public S	Safety System			Firefigh	iters System
	2016	2015	2014	2013	2016	2015	2014	2013	2016	2015	2014	2013
	5,673	8,672	9,580	10,997	78,843	75,352	76,681	81,736	28,652	27,182	27,266	29,577
	91,894	95,463	93,819	93,750	249,722	248,980	236,803	229,965	75,334	75,212	71,490	70,259
	(45,057)	_	_	721	_	_	_	_	_	_	_	_
	(13,801)	(15,289)	(22,839)	(20,520)	9,358	(17,164)	(25,225)	(29,228)	(5,525)	(8,259)	(15,077)	(13,083)
	22,909		(4,233)	<u> </u>	110,373		(52,410)		25,572		(20,372)	
	(83,447)	(81,390)	(77,015)	(74,158)	(164,508)	(155,387)	(144,763)	(137,486)	(52,102)	(49,671)	(47,710)	(44,747)
	(1,700)	(1,215)	(2,433)	(1,922)	(183)	(533)	(199)	(467)	(466)	(528)	(293)	(106)
	(23,529)	6,241	(3,121)	8,868	283,605	151,248	90,887	144,520	71,465	43,936	15,304	41,900
1,3	316,041	1,309,800	1,312,921	1,304,053	3,511,275	3,360,027	3,269,140	3,124,620	1,058,264	1,014,328	999,024	957,124
1,2	292,512	1,316,041	1,309,800	1,312,921	3,794,880	3,511,275	3,360,027	3,269,140	1,129,729	1,058,264	1,014,328	999,024
	2 420	4 771	F 461	6 276	020	005	025	1 250	10.720	10 175	10 200	10 225
	3,420 8,188	4,771 11,719	5,461	6,376	830	905	835 135,588	1,258 128,744	18,729 6,954	18,175 6,690	18,300 5,514	18,325 3,494
	0,100	11,/19	12,954	12,874	147,099	141,024	133,300	120,744	10,569	17,218	3,314 14,154	3,49 <del>4</del> 11,285
	97,693	21,251	87,577	— 169,510	249,027	50,654	— 194,222	350,563	87,746	17,216	69,070	125,685
	(83,447)	(81,390)	(77,015)	(74,158)	(164,508)	(155,387)	(144,763)	(137,486)	(52,102)	(49,671)	(47,710)	(44,747)
	(1,700)	. , ,	(2,433)	(1,922)	(183)	(533)	(199)	(467)	(466)	(528)	(293)	(106)
	(446)		(494)	(480)	(1,260)	(1,233)	(1,227)	(1,161)	(374)	(371)	(370)	(355)
	(1,895)	(41,558)	(38,004)	33,094	6,701	4,023	2,746	4,676	1,611	2,573	3,713	1,302
	21,813	(86,900)	(11,954)	145,294	237,706	39,453	187,202	346,127	72,667	12,020	62,378	114,883
1 .	183,091		1,281,945		2,938,839		2,712,184		1,043,059	•	968,661	853,778
,	•			<del></del> _				<u> </u>				
L 1 4		1,183,091				2,938,839	2,899,386	2,/12,184	1,115,726		1,031,039	968,661
	87,608	132,950	39,809	30,976	618,335	572,436	460,641	556,956	14,003	15,205	(16,711)	30,363
	93.2%	89.9%	97.0%	97.6%	83.7%	83.7%	86.3%	83.0%	98.8%	98.6%	101.6%	97.0%
	53,615	82,426	90,623	98,023	352,407	355,171	360,750	365,998	112,322	111,133	111,305	110,741
	163.4%	161.3%	43.9%	31.6%	175.5%	161.2%	127.7%	152.2%	12.5%	13.7%	(15.0)%	27.4%
											*	

Continued on page 90.

### Schedules of Changes in the Employers' Net Pension Liability (Concluded)

Year Ended December 31

(in thousands)

	(	a a 5 /						
			Jud	Utah Governors and Legislators Plan				
	2010	2015	2014	2013	2016	2015	2014	2013
Total pension liability								
Service cost	\$ 5,023	4,794	4,895	4,537	89	99	106	100
Interest	14,064	-	13,641	12,924	851	890	884	860
Benefit changes	_	_	_	_	_	_	_	_
Difference between actual								
and expected experience	1,995	171	2,602	(569)	167	(105)	307	(233)
Assumption changes	2,885	· —	(130)	_	241	_	_	_
Benefit payments	(12,330	) (12,400)	(11,361)	(10,189)	(941)	(904)	(909)	(892
Refunds	_	_	_	_	_	_	_	_
Net change in total pension liability	11,637	6,701	9,647	6,703	407	(20)	388	(165)
Total pension liability — beginning	198,986	192,285	182,638	175,935	12,247	12,267	11,879	12,044
Total pension liability — ending (a)	210,623	198,986	192,285	182,638	12,654	12,247	12,267	11,879
Dian fiducianu not macitian								
Plan fiduciary net position Contributions — member			317					
Contributions — member Contributions — employer	7,382	6,555	5,627	4,990	421	421	411	252
Court fees and fire insurance tax	7,362 1,47(	-	1,486	1,498	<del>4</del> 21	421	411	232
Net investment income	13,820		11,068	20,130	849	181	717	1,346
Benefit payments	(12,330	-	-	-	(941)	(904)	(909)	(892)
Refunds	(12,330	, (12, <del>1</del> 00)	(11,501)	(10,105)	()+1)	(504)	(505)	(032)
Administrative expense	(71	) (71)	(71)	(66)	(4)	(5)	(5)	(4)
Net transfers with affiliated systems	1,600		1,092	3,186	(12)	(20)	(14)	19
Net change in plan fiduciary net position	11,871	-		19,549	313	(327)	200	721
			•					
Plan fiduciary net position — beginning	163,747	163,834	155,676	136,127	10,039	10,366	10,166	9,445
Plan fiduciary net position — ending (b)	175,618	163,747	163,834	155,676	10,352	10,039	10,366	10,166
Net pension liability/(asset) — ending (a-b)	\$ 35,005	35,239	28,451	26,962	2,302	2,208	1,901	1,713
Plan fiduciary net position as a percentage	03.40	02.20/	05.207	05.20/	01.007	02.00/	0.4.50/	05.604
of the total pension liability	83.4%		85.2%	85.2%	81.8%	82.0%	84.5%	85.6%
Projected covered employee payroll	\$ 16,755	15,832	16,072	15,195	799	943	928	390
Net pension liability/(asset) as a percentage								
of covered employee payroll	208.9%	222.6%	177.0%	177.4%	288.1%	234.1%	204.8%	439.2%

	Tier 2 Public Employees System			Tier 2 Public Safety and Firefighter System						Total	
2016	2015	2014	2013	2016	2015	2014	2013	2016	2015	2014	2013
69,887	51,005	39,283	29,318	8,164	5,466	3,579	2,151	604,021	567,368	569,382	599,736
12,608	8,370	4,648	2,351	1,274	746	379	159	2,210,400	2,219,616	2,121,357	2,056,481
_	_	_	(119)	_	_	_	(7)	3,343	_	_	23,718
(1,917)	(4,982)	(4,577)	(4,459)	425	220	50	106	(2,890)	(233,574)	(269,582)	(276,487)
7,867	(1,702)	(1,385)	( i, i3), —	803	_	(127)	_	734,391	(233)37 17	(236,578)	(27 G) 167 ) —
(316)			_	(28)	(30)		_	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
_	_	_	_	_	_	_	_	(6,715)	(4,772)	(5,129)	(4,949)
88,129	54,060	37,969	27,091	10,638	6,402	3,881	2,409	2,044,561	1,124,876	853,894	1,156,343
140,321	86,261	48,292	21,201	13,628	7,226	3,345	936	31,150,334	30,025,458	29,171,564	28,015,221
228,450	140,321	86,261	48,292	24,266	13,628	7,226	3,345	33,194,895	31,150,334	30,025,458	29,171,564
								20.207	40.071	20.500	40.167
63,062	49,645	37,299	<u> </u>	8,488	6,221	4,365	 2,451	39,287 1,073,225	40,871 1,035,724	38,500 974,178	40,167 889,481
03,002	49,043	37,299	23,743	0,400	U,ZZ I —	4,303	2, <del>4</del> 31 —	1,073,223	18,871	15,640	12,783
14,059	1,963	4,320	4,017	1,591	199	404	316	2,248,696	461,772	1,786,431	3,260,548
(316)		.,525		(28)	(30)	_	_	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
		_	_	_	_	_	_	(6,715)	(4,772)	(5,129)	(4,949)
(51)	(30)	(16)	(6)	(5)	(3)	(1)	_	(11,067)	(10,988)	(11,012)	(10,401)
_	3	(2)	3	_	(3)	2	(3)	_	_	_	_
76,754	51,248	41,601	29,757	10,046	6,384	4,770	2,764	1,857,476	117,716	1,473,052	2,945,473
140,539	89,291	47,690	17,933	15,089	8,705	3,935	1,171	26,686,840	26,569,124	25,096,072	22,150,599
217,293	140,539	89,291	47,690	25,135	15,089	8,705	3,935	28,544,316	26,686,840	26,569,124	25,096,072
11,157	(218)	(3,030)	602	(869)	(1,461)	(1,479)	(590)	4,650,579	4,463,494	3,456,334	4,075,492
95.1%	100.2%	103.5%	98.8%	103.6%	110.7%	120.5%	117.6%	86.0%	85.7%	88.5%	86.0%
822,196	637,560	492,882	353,227	74,834	53,276	35,019	20,215	4,839,495	4,714,627	4,678,491	4,669,560
1.4%	(0.0)%	(0.6)%	0.2%	(1.2)%	(2.7)%	(4.2)%	(2.9)%	96.1%	94.7%	73.9%	87.3%
		- ,		. ,	. ,		- ,				

Required Supplementary Information (Continued)

# Schedules of Employers' Net Pension Liability

System	(dollars i Date	n thousands)  (1)  Total  Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers Net Pension Liability/ (Asset)	(4) Plan Fiduciary Net Position as a Percentage of the Total Plan Liability	(5) Projected Covered Employee Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Employee Payroll
Noncontributory Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 23,344,325 24,043,264 24,899,572 26,501,781	19,915,815 21,096,512 21,192,437 22,618,743	3,428,510 2,946,752 3,707,135 3,883,038	85.3% 87.7 85.1 85.3	\$ 3,705,771 3,570,912 3,458,286 3,406,567	92.5% 82.5 107.2 114.0
Contributory Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 1,312,921 1,309,800 1,316,041 1,292,512	1,281,945 1,269,991 1,183,091 1,204,904	30,976 39,809 132,950 87,608	97.6% 97.0 89.9 93.2	\$ 98,023 90,623 82,426 53,615	31.6% 43.9 161.3 163.4
Public Safety Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 3,269,140 3,360,027 3,511,275 3,794,880	2,712,184 2,899,386 2,938,839 3,176,545	556,956 460,641 572,436 618,335	83.0% 86.3 83.7 83.7	\$ 365,998 360,750 355,171 352,407	152.2% 127.7 161.2 175.5
Firefighters Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 999,024 1,014,328 1,058,264 1,129,729	968,661 1,031,039 1,043,059 1,115,726	30,363 (16,711) 15,205 14,003	97.0% 101.6 98.6 98.8	\$ 110,741 111,305 111,133 112,322	27.4% (15.0) 13.7 12.5
Judges Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 182,638 192,285 198,986 210,623	155,676 163,834 163,747 175,618	26,962 28,451 35,239 35,005	85.2% 85.2 82.3 83.4	\$ 15,195 16,072 15,832 16,755	177.4% 177.0 222.6 208.9
Utah Governors and Legislative Retirement Plan	12/31/13 12/31/14 12/31/15 12/31/16	\$ 11,879 12,267 12,247 12,654	10,166 10,366 10,039 10,352	1,713 1,901 2,208 2,302	85.6% 84.5 82.0 81.8	\$ 390 928 943 799	439.2% 204.8 234.1 288.1
Tier 2 Public Employees Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 48,292 86,261 140,321 228,450	47,690 89,291 140,539 217,293	602 (3,030) (218) 11,157	98.8% 103.5 100.2 95.1	\$ 353,227 492,882 637,560 822,196	0.2% (0.6) (0.0) 1.4
Tier 2 Public Safety and Firefighter Retirement System	12/31/13 12/31/14 12/31/15 12/31/16	\$ 3,345 7,226 13,628 24,266	3,935 8,705 15,089 25,135	(590) (1,479) (1,461) (869)	120.5 110.7	\$ 20,215 35,019 53,276 74,834	(2.9)% (4.2) (2.7) (1.2)
All Retirement Systems	12/31/13 12/31/14 12/31/15 12/31/16	\$ 29,171,564 30,025,458 31,150,334 33,194,895	25,096,072 26,569,124 26,686,840 28,544,316	4,075,492 3,456,334 4,463,494 4,650,579	86.0% 88.5 85.7 86.0	\$ 4,669,560 4,679,491 4,714,627 4,839,495	87.3% 73.9 94.7 96.1

Required Supplementary Information (Continued)

# **Schedules of Employer Contributions**

(dollars in thousands)

System	Year Ended December 31	Actuarial Determined Contribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Employee Payroll	Contributions as a Percentage of Covered Payrol **
Noncontributory	2007	\$ 487,803	487,803	_	3,582,495	13.62%
Retirement	2008	522,733	522,733		3,871,636	13.50
System	2009	535,298	535,298	_	3,955,040	13.53
	2010	564,154	564,154	_	3,888,179	14.51
	2011	610,270	610,270	_	3,900,106	15.65
	2012	644,907	644,907	_	3,794,929	16.99
	2013	710,933	710,933	_	3,705,771	19.18
	2014	772,420	772,420	_	3,570,912	21.63
	2015 2016	813,449 831,631	813,449 831,631	_	3,458,286 3,406,567	23.52 24.41
Contributory	2007	\$ 11,208	11,208	_	132,899	8.43%
Retirement	2008	11,037	11,037	_	133,110	8.29
System	2009	10,865	10,865	_	127,804	8.50
	2010	11,851	11,851		116,395	10.18
	2011	11,125	11,125	_	110,103	10.10
	2012	11,705	11,705	_	103,074	11.36
	2013	12,874	12,874	_	98,023	13.13
	2014	12,954	12,954	_	90,623	14.29
	2015 2016	11,719 8,188	11,719 8,188	_	82,426 53,615	14.22 15.27
Public Safety	2007	\$ 81,166	81,166	_	339,187	23.93%
Retirement	2008	93,899	93,899	_	365,043	25.72
System	2009	98,729	98,729	_	373,959	26.40
	2010	103,586	103,586	_	363,037	28.53
	2011	110,829	110,829	_	374,293	29.61
	2012	117,975	117,975		366,471	32.19
	2013	128,744	128,744	_	365,998	35.18
	2014	135,588	135,588	_	360,750	37.59
	2015 2016	141,024 147,099	141,024 147,099	_	355,171 352,407	39.71 41.74
Fire Culture	2007	<u> </u>	12.707		05.767	14.410/
Firefighters Retirement	2007	\$ 13,797	13,797	_	95,767 102,252	14.41%
	2008 2009	10,219	10,219	_	102,252	9.99 15.01
System	2009 2010	16,159 10,915	16,159 10,915	_	107,625 105,275	15.01
	2010	13,005	13,005	_	110,751	11.74
	2012	17,321	17,321	_	110,608	15.66
	2012	14,779	14,779	_	110,741	13.35
	2014	19,668	19,668	_	111,305	17.67
	2015	23,908	23,908		111,133	21.51
	2016	17,523	17,523	_	112,322	15.60

<sup>\*</sup>Contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems.

Continued on page 94.

<sup>\*\*</sup>Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

### Required Supplementary Information (Concluded)

### Schedules of Employer Contributions (Concluded)

(dollars in thousands)

System	Year Ended December 31		Actuarial Determined ontribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Employee Payroll	Contributions as a Percentage of Covered Payroll**
Judges	2007	\$	3,210	3,210	_	13,322	24.10%
Retirement	2008		3,802	3,802	_	14,404	26.40
System	2009		4,184	4,184	_	14,434	28.99
	2010		4,715	4,715	_	14,234	33.12
	2011		5,403	5,403	_	14,981	36.07
	2012		5,898	5,898	_	14,885	39.62
	2013		6,488	6,488	_	15,195	42.70
	2014		7,113	7,113	_	16,072	44.26
	2015		8,208	8,208	_	15,832	51.84
	2016		8,852	8,852	_	16,755	52.83
Utah Governors	2007	\$	_	_	_	947	0.00%
and Legislative	2008		_	_	_	910	0.00
Retirement Plan	2009		_	_	_	910	0.00
	2010		_	_	_	910	0.00
	2011		153	153	_	910	16.81
	2012		214	214	_	910	23.52
	2013		252	252		390	64.62
	2014		411	411	_	928	44.29
	2015		421	421		943	44.64
	2016		421	421	_	799	52.69
Tier 2 Public	2011	\$	2,790	2,790	_	36,821	7.58%
Employees	2012		14,208	14,208	_	203,779	6.97
Retirement System <sup>†</sup>	2013		25,743	25,743	_	353,227	7.29
	2014		37,299	37,299	_	492,882	7.57
	2015		49,645	49,645		637,560	7.79
	2016		63,062	63,062	_	822,196	7.67
Tier 2 Public Safety	2011	\$	89	89	_	855	10.41%
and Firefighter	2012		1,031	1,031	_	10,237	10.07
Retirement System <sup>†</sup>	2013		2,451	2,451	_	20,215	12.12
	2014		4,365	4,365	_	35,019	12.46
	2015		6,221	6,221	_	53,276	11.68
	2016		8,488	8,488		74,834	11.34
All Retirement	2007	\$	597,184	597,184	_	4,164,617	14.34%
Systems	2008		641,690	641,690	_	4,487,355	14.30
	2009		665,235	665,235	_	4,579,772	14.53
	2010		695,221	695,221	_	4,488,030	15.49
	2011		753,664	753,664	_	4,548,820	16.57
	2012		813,259	813,259	_	4,604,893	17.66
	2013		902,264	902,264	_	4,669,560	19.32
	2014		989,818	989,818	_	4,678,491	21.16
	2015	1	,054,595	1,054,595	_	4,714,628	22.37
	2016	1	,085,264	1,085,264	_	4,839,495	22.43

<sup>&</sup>lt;sup>†</sup>Additional years will be displayed as they become available.

<sup>\*</sup>Contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems.

<sup>\*\*</sup>Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

**Required Supplementary Information** 

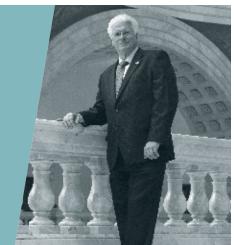
### Schedule of Investment Returns

Year Ended December 31

	2016	2015	2014
Annual money weighted rate of return, net of investment expense	8.73%	2.02%	7.94%

# Notes to Required Supplementary Information





### Schedules of Changes in the Employer Net Pension Liability

The total pension liability contained in this schedule was provided by the Systems actuary, Gabriel, Roeder, Smith & Company. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Retirement Systems.

### Schedules of Employer Contributions

The required employer contributions and percent of those contributions actually made are presented in the schedule.

The actuarially determined contribution rates determined by an actuarial valuation are effective for the fiscal year beginning 18 months after the valuation date. For example, the actuarially determined contribution rate determined by the January 1, 2016 valuation is effective for the fiscal year beginning July 1, 2018.

The Board certifies the contribution rates that employers are contractually required to contribute to the retirement system. Per 49-11-301(5) of the Utah Code, if the funded ratio of the plan is less than 110%, then the Board is permitted to maintain the prior year's contribution rate if the actuarially determined contribution is lower. The Board has historically followed this

policy. The projected covered payroll is an estimated payroll figure based upon the January 1, 2016, census data.

The actual contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems. Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

Note **2** 

### Actuarial Assumptions

The information presented in the required supplementary schedules was used in the actuarial valuation for purposes of determining the actuarially determined contribution rate. The assumptions and methods used for this actuarial valuation were recommended by the actuary and adopted by the Board. Additional information as of the latest actuarial valuation follows.

#### ■■■ Summary of Actuarial Assumptions

	Noncontributory	Contributory	Public Safety	Firefighters	Judges	Governors and Legislators	Tier 2 Public Employees	Tier 2 Public Safety and Firefighter
Valuation date	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16
Actuarial cost method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Amortization method	Level Percent of Payroll	Level Percent of Payroll	Level Percent of Payroll	Level Percent of Payroll	Level Percent of Payroll	Level Dollar Amount	Level Percent of Payroll	Level Percent of Payroll
Amortization period	Open Group 20-Year Open Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period	Open Group 18-Year Closed Period	Open Group 20-Year Closed Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period
Actuarial asset valuation method (All Systems under same method)		pected investme			excess or shortfal ors. One-fifth of t			
Actuarial assumptions: Investment rate of return	7.20%	7.20%	7.20%	7.20%	7.20%	7.20%	7.20%	7.20%
Projected salary increases*	3.35-10.35%	3.35-10.35%	3.35-7.65%	3.35-8.90%	3.35%	None	3.35-10.35%	3.35-8.90%
Inflation rate	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%
Post-retirement cost-of-living adjustment	2.60%	2.60%	2.50% or 2.60% Depending on employer	2.60%	2.60%	2.60%	2.50%	2.50%
Mortality: (Non-educators)	1	% of constructed	•		Scale AA from the	•	orojected with S	cale AA
Mortality: (Educators)	projected with Female: 100°	th Scale AA from	the year 2000. mortality table		erience of male e			

Note: All post-retirement cost-of-living adjustments are noncompounding and are based on the original benefit except for Judges, which is a compounding benefit. The cost-of-living adjustments are also limited to the actual CPI increase for the year, although unused CPI increases not met may be carried forward to subsequent years.

\*Composed of 2.60% inflation, plus 0.75% productivity increase rate, plus step-rate promotional increases for members with less than 25 years of service.

# Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2016 With Comparative Totals for December 31, 2015

(in thousands)

	Local	State and		<b>Total All Divisions</b>
	Government	School	2016	2015
Assets:				
Cash	\$ 1	826	827	2,158
Receivables:				
Employer contributions	6,501	34,520	41,021	33,259
Investments	68,838	283,918	352,756	229,238
Total receivables	75,339	318,438	393,777	262,497
Investments at fair value:				
Short-term securities	369,937	1,525,786	1,895,723	1,770,475
Debt securities	673,693	2,778,616	3,452,309	3,399,620
Equity investments	1,577,347	6,505,694	8,083,041	7,299,702
Absolute return	697,256	2,875,799	3,573,055	3,288,234
Private equity	508,902	2,098,942	2,607,844	2,552,474
Real assets	660,182	2,722,889	3,383,071	3,196,190
Total investments	4,487,317	18,507,726	22,995,043	21,506,695
Invested securities lending collateral	108,171	446,148	554,319	1,602,253
Property and equipment at cost,				
net of accumulated depreciation	756	3,119	3,875	2,488
Total assets	4,671,584	19,276,257	23,947,841	23,376,091
Liabilities:				
Securities lending liability	108,171	446,148	554,319	1,602,253
Disbursements in excess of cash balance	6,076	25,060	31,136	29,275
Compensated absences, post-employment				
benefits and insurance reserve	3,196	13,181	16,377	15,944
Investment accounts payable	110,032	454,779	564,811	304,196
Real estate liabilities	31,702	130,753	162,455	231,986
Total liabilities	259,177	1,069,921	1,329,098	2,183,654
Net position restricted for pensions	\$ 4,412,407	18,206,336	22,618,743	21,192,437

# Schedules of Changes in Fiduciary Net Position — Pension Trust Fund by Division

Year Ended December 31, 2016 With Comparative Totals for Year Ended December 31, 2015

(in thousands)

	Local State and			Total All Divisions	
	Government	School	2016	2015	
Additions:					
Contributions:					
Member	\$ 5,023	11,285	16,308	17,020	
Employer	171,967	659,664	831,631	813,449	
Total contributions	176,990	670,949	847,939	830,469	
Investment income:					
Net appreciation in fair value of investments	277,025	1,151,262	1,428,287	38,208	
Interest, dividends, and other investment income	75,309	312,968	388,277	364,237	
Total income from investment activity	352,334	1,464,230	1,816,564	402,445	
Less investment expenses	7,562	31,425	38,987	42,927	
Net income from investment activity	344,772	1,432,805	1,777,577	359,518	
Income from security lending activity	1,412	5,867	7,279	8,310	
Less security lending expense	183	762	945	1,080	
Net income from security lending activity	1,229	5,105	6,334	7,230	
Net investment income	346,001	1,437,910	1,783,911	366,748	
Transfers from affiliated systems		_	_	33,648	
Total additions	522,991	2,108,859	2,631,850	1,230,865	
Deductions:					
Retirement benefits	164,923	836,528	1,001,451	943,591	
Cost-of-living benefits	26,088	156,778	182,866	180,056	
Refunds	392	3,974	4,366	2,496	
Administrative expenses	1,671	7,185	8,856	8,797	
Transfers to affiliated systems	(8,323	) 16,328	8,005	_	
Total deductions	184,751	1,020,793	1,205,544	1,134,940	
Increase from operations	338,240	1,088,066	1,426,306	95,925	
Net position restricted for pensions beginning of year	4,074,167	17,118,270	21,192,437	21,096,512	
Net position restricted for pensions end of year	\$ 4,412,407	18,206,336	22,618,743	21,192,437	

# Schedules of Changes in the Employers' Net Pension Liability by Division

Year Ended December 31

(in thousands)

	Local Government					
	2016	2015	2014	2013		
Total pension liability						
Service cost	\$ 96,049	91,304	93,436	100,789		
Interest	330,648	328,120	310,587	297,617		
Benefit changes	48,400	_	_	6,063		
Difference between actual						
and expected experience	18,123	(19,610)	(16,109)	(39,370)		
Assumption changes	112,696	_	(52,889)	_		
Benefit payments	(191,011)	(177,915)	(159,967)	(149,891)		
Refunds	(392)	(248)	(235)	(620)		
Net change in total pension liability	414,513	221,651	174,823	214,588		
Total pension liability — beginning	4,640,016	4,418,365	4,243,542	4,028,954		
Total pension liability — ending (a)	5,054,529	4,640,016	4,418,365	4,243,542		
Plan fiduciary net position						
Contributions — member	5,023	5.481	3.859	2,637		
Contributions — employer	171,967	167,015	157,930	147,105		
Net investment income	346,001	69,895	266,210	478,461		
Benefit payments	(191,011)	(177,915)	(159,967)	(149,891)		
Refunds	(392)	(248)	(235)	(620)		
Administrative expense	(1,671)	(1,622)	(1,604)	(1,497)		
Net transfers with affiliated systems	8,323	27,420	14,058	(5,302)		
Net change in plan fiduciary net position	338,240	90,026	280,251	470,893		
Plan fiduciary net position — beginning	4,074,167	3,984,141	3,703,890	3,232,997		
Plan fiduciary net position — ending (b)	4,412,407	4,074,167	3,984,141	3,703,890		
Net pension liability — ending (a-b)	\$ 642,122	565,849	434,224	539,652		
Plan fiduciary net position as a percentage						
of the total pension liability	87.3%	87.8%	90.2%	87.3%		
Projected covered employee payroll	\$ 830,406	826,998	845,364	864,838		
Net pension liability as a percentage of covered employee payroll	77.3%	68.4%	51.4%	62.4%		

		9	tate and School		Total A			otal All Divisions		
2016	2015	2014	2013			2016	2015	2014	2013	
				ľ						
311,641	303,494	314,556	340,531			407,690	394,798	407,992	441,320	
1,434,005	1,447,699	1,389,106	1,348,596			1,764,653	1,775,819	1,699,693	1,646,213	
_	_	_	17,060			48,400	_	_	23,123	
(11,715)	(168,556)	(188,714)	(169,131)			6,408	(188,166)	(204,823)	(208,501)	
451,045	_	(105,032)	_			563,741	_	(157,921)	_	
(993,306)	(945,732)	(883,831)	(824,793)			(1,184,317)	(1,123,647)	(1,043,798)	(974,684)	
(3,974)	. , ,	(1,969)	(1,834)			(4,366)	(2,496)	(2,204)	(2,454)	
1,187,696	634,657	524,116	710,429			1,602,209	856,308	698,939	925,017	
20,259,556	19,624,899	19,100,783	18,390,354			24,899,572	24,043,264	23,344,325	22,419,308	
21,447,252	20,259,556	19,624,899	19,100,783			26,501,781	24,899,572	24,043,264	23,344,325	
11,285	11,539	9,728	11,571			16,308	17,020	13,587	14,208	
659,664	646,434	614,490	563,828			831,631	813,449	772,420	710,933	
1,437,910	296,853	1,152,843	2,110,520			1,783,911	366,748	1,419,053	2,588,981	
(993,306)	(945,732)	(883,831)	(824,793)			(1,184,317)	(1,123,647)	(1,043,798)	(974,684)	
(3,974)	(2,248)	(1,969)	(1,834)			(4,366)	(2,496)	(2,204)	(2,454)	
(7,185)	(7,175)	(7,224)	(6,832)			(8,856)	(8,797)	(8,828)	(8,329)	
(16,328)	6,228	16,409	(36,975)			(8,005)	33,648	30,467	(42,277)	
1,088,066	5,899	900,446	1,815,485			1,426,306	95,925	1,180,697	2,286,378	
17,118,270	17,112,371	16,211,925	14,396,440	_		21,192,437	21,096,512	19,915,815	17,629,437	
18,206,336	17,118,270	17,112,371	16,211,925	_		22,618,743	21,192,437	21,096,512	19,915,815	
3,240,916	3,141,286	2,512,528	2,888,858			3,883,038	3,707,135	2,946,752	3,428,510	
84.9%	84.5%	87.2%	84.9%			85.3%	85.1%	87.7%	85.3%	
2,576,161	2,631,288	2,725,548	2,840,933	-		3,406,567	3,458,286	3,570,912	3,705,771	
125.8%	119.4%	92.2%	101.7%			114.0%	107.2%	82.5%	92.5%	

# Schedules of Net Pension Liability by Division

(dollars in thousands)

System	Date	(1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers Net Pension Liability/ (Asset)	(4) Plan Fiduciary Net Position as a Percentage of the Total Plan Liability	(5) Projected Covered Employee Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Employee Payroll
Noncontributory	12/31/13	\$ 4,243,542	3,703,890	539,652	87.3%	\$ 864,838	62.4%
Local Government	12/31/14	4,418,365	3,984,141	434,224	90.2	845,364	51.4
	12/31/15	4,640,016	4,074,167	565,849	87.8	826,998	68.4
	12/31/16	5,054,529	4,412,407	642,122	87.3	830,406	77.3
Noncontributory	12/31/13	\$ 19,100,783	16,211,925	2,888,858	84.9%	\$ 2,840,933	101.7%
State and School	12/31/14	19,624,899	17,112,371	2,512,528	87.2	2,725,548	92.2
	12/31/15	20,259,556	17,118,270	3,141,286	84.5	2,631,288	119.4
	12/31/16	21,447,252	18,206,336	3,240,916	84.9	2,576,161	125.8
Total	12/31/13	\$ 23,344,325	19,915,815	3,428,510	85.3%	\$ 3,705,771	92.5%
Noncontributory	12/31/14	24,043,264	21,096,512	2,946,752	87.7	3,570,912	82.5
Retirement System	12/31/15	24,899,572	21,192,437	3,707,135	85.1	3,458,286	107.2
•	12/31/16	26,501,781	22,618,743	3,883,038	85.3	3,406,567	114.0

## Schedules of Employer Contributions by Division

(dollars in thousands)

System	Year Ended	Actuarial Determined Contribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Employee Payroll	Contributions as a Percentage of Covered Payroll**
Noncontributory	2013	\$ 147,105	147,105	_	864,838	17.01%
Local Government	2013	157,930	157,930	_	845,364	18.68
Local Government	2015	167,015	167,015	_	826,998	20.20
	2016	171,967	171,967	_	830,406	20.71
Noncontributory	2013	\$ 563,828	563,828		2,840,933	19.85%
State and School	2014	614,490	614,490	_	2,725,548	22.55
	2015	646,434	646,434	_	2,631,288	24.57
	2016	659,664	659,664	_	2,576,161	25.61
Total	2013	\$ 710,933	710,933	_	3,705,771	19.18%
Noncontributory	2014	772,420	772,420		3,570,912	21.63
Retirement System	2015	813,449	813,449		3,458,286	23.52
•	2016	831,631	831,631	_	3,406,567	24.41

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

<sup>\*</sup>Contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems.

<sup>\*\*</sup>Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

# Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2016 With Comparative Totals for December 31, 2015

(in thousands)

		6		Total All Divisions
	Local Government	State and School	2016	2015
Assets:				
Cash	\$ 1	1	2	2
Receivables:				
Member contributions	60	66	126	94
Employer contributions	160	195	355	266
Investments	6,656	12,162	18,818	12,813
Total receivables	6,876	12,423	19,299	13,173
Investments at fair value:				
Short-term securities	35,770	65,358	101,128	98,963
Debt securities	65,141	119,023	184,164	190,027
Equity investments	152,517	278,675	431,192	408,028
Absolute return	67,419	123,186	190,605	183,800
Private equity	49,207	89,909	139,116	142,675
Real assets	63,834	116,636	180,470	178,656
Total investments	433,888	792,787	1,226,675	1,202,149
Invested securities lending collateral	10,459	19,111	29,570	89,560
Property and equipment at cost,				
net of accumulated depreciation	73	134	207	139
Total assets	451,297	824,456	1,275,753	1,305,023
Liabilities:				
Securities lending collateral liability	10,459	19,111	29,570	89,560
Disbursements in excess of cash balance	587	1,073	1,660	1,637
Compensated absences, post-employment				
benefits and insurance reserve	309	565	874	891
Investment accounts payable	10,639	19,440	30,079	16,876
Real estate liabilities	3,065	5,601	8,666	12,968
Total liabilities	25,059	45,790	70,849	121,932
Net position restricted for pensions	\$ 426,238	778,666	1,204,904	1,183,091

# Schedules of Changes in Fiduciary Net Position — Pension Trust Fund by Division

Year Ended December 31, 2016 With Comparative Totals for Year Ended December 31, 2015

(in thousands)

	Land	State and	т	otal All Divisions	
	Local Government	State and School	2016	2015	
Additions:					
Contributions:					
Member	\$ 1,759	1,661	3,420	4,771	
Employer	3,730	4,458	8,188	11,719	
Total contributions	5,489	6,119	11,608	16,490	
Investment income:					
Net appreciation in fair value of investments	27,503	50,715	78,218	2,213	
Interest, dividends, and other investment income	7,477	13,787	21,264	21,106	
Total income from investment activity	34,980	64,502	99,482	23,319	
Less investment expenses	751	1,384	2,135	2,487	
Net income from investment activity	34,229	63,118	97,347	20,832	
Income from securities lending activity	140	258	398	481	
Less security lending expense	18	34	52	62	
Net income from security lending activity	122	224	346	419	
Net investment income	34,351	63,342	97,693	21,251	
Total additions	39,840	69,461	109,301	37,741	
Deductions:					
Retirement benefits	22,540	47,597	70,137	67,510	
Cost-of-living benefits	3,573	9,659	13,232	13,785	
Supplemental retirement benefits	13	65	78	95	
Refunds	655	1,045	1,700	1,215	
Administrative expenses	157	289	446	478	
Transfers to affiliated systems	6,519	(4,624)	1,895	41,558	
Total deductions	33,457	54,031	87,488	124,641	
Decrease from operations	6,383	15,430	21,813	(86,900	
Net position restricted for pensions beginning of year	419,855	763,236	1,183,091	1,269,991	
Net position restricted for pensions end of year	\$ 426,238	778,666	1,204,904	1,183,091	

# Schedules of Changes in the Employers' Net Pension Liability by Division

Year Ended December 31

(in thousands)

	Local Government				
	2016	2015	2014	2013	
Total pension liability					
Service cost	\$ 2,659	5,360	5,679	6,352	
Interest	34,422	35,298	34,255	33,840	
Benefit changes	(45,057)	_	_	415	
Difference between actual					
and expected experience	(4,618)	(4,833)	(8,465)	(8,020	
Assumption changes	8,285	_	(2,914)	_	
Benefit payments	(26,126)	(26,652)	(23,177)	(21,607	
Refunds	(655)	(623)	(1,294)	(855	
Net change in total pension liability	(31,090)	8,550	4,084	10,125	
Total pension liability — beginning	490,140	481,590	477,506	467,381	
Total pension liability — ending (a)	459,050	490,140	481,590	477,506	
Plan fiduciary net position					
Contributions — member	1,759	2,572	3,103	3,418	
Contributions — employer	3,730	6,384	7,410	6,963	
Net investment income	34,351	7,597	30,871	58,533	
Benefit payments	(26,126)	(26,652)	(23,177)	(21,607	
Refunds	(655)	(623)	(1,294)	(855	
Administrative expense	(157)	(176)	(179)	(172	
Net transfers with affiliated systems	(6,519)	(21,993)	(10,140)	5,790	
Net change in plan fiduciary net position	6,383	(32,891)	6,594	52,070	
Plan fiduciary net position — beginning	419,855	452,746	446,152	394,082	
Plan fiduciary net position — ending (b)	426,238	419,855	452,746	446,152	
Net pension liability — ending (a-b)	\$ 32,812	70,285	28,844	31,354	
Plan fiduciary net position as a percentage					
of the total pension liability	92.9%	85.7%	94.0%	93.4%	
Projected covered employee payroll	\$ 23,959	48,590	51,420	54,445	
Net pension liability as a percentage of covered employee payroll	137.0%	144.6%	56.1%	57.6%	

		Sta	ate and School	School Total All Divisions					
2016	2015	2014	2013		2016	2015	2014	2013	
3,014	3,312	3,901	4,645		5,673	8,672	9,580	10,997	
57,472	60,165	59,564	59,910		91,894	95,463	93,819	93,750	
_	_	_	306		(45,057)	_	_	721	
(9,183)	(10,456)	(14,374)	(12,500)		(13,801)	(15,289)	(22,839)	(20,520)	
14,624	_	(1,319)	_		22,909	_	(4,233)	_	
(57,321)	(54,738)	(53,838)	(52,551)		(83,447)	(81,390)	(77,015)	(74,158)	
(1,045)	(592)	(1,139)	(1,067)		(1,700)	(1,215)	(2,433)	(1,922)	
7,561	(2,309)	(7,205)	(1,257)		(23,529)	6,241	(3,121)	8,868	
825,901	828,210	835,415	836,672		1,316,041	1,309,800	1,312,921	1,304,053	
833,462	825,901	828,210	835,415		1,292,512	1,316,041	1,309,800	1,312,921	
1,661	2,199	2,358	2,958		3,420	4,771	5,461	6,376	
4,458	5,335	5,544	5,911		8,188	11,719	12,954	12,874	
63,342	13,654	56,706	110,977		97,693	21,251	87,577	169,510	
(57,321)	(54,738)	(53,838)	(52,551)		(83,447)	(81,390)	(77,015)	(74,158)	
(1,045)	(592)	(1,139)	(1,067)		(1,700)	(1,215)	(2,433)	(1,922)	
(289)	(302)	(315)	(308)		(446)	(478)	(494)	(480)	
4,624	(19,565)	(27,864)	27,304		(1,895)	(41,558)	(38,004)	33,094	
15,430	(54,009)	(18,548)	93,224		21,813	(86,900)	(11,954)	145,294	
763,236	817,245	835,793	742,569		1,183,091	1,269,991	1,281,945	1,136,651	
778,666	763,236	817,245	835,793		1,204,904	1,183,091	1,269,991	1,281,945	
54,796	62,665	10,965	(378)		87,608	132,950	39,809	30,976	
93.4%	92.4%	98.7%	100.0%		93.2%	89.9%	97.0%	97.6%	
29,656	33,836	39,203	43,578		53,615	82,426	90,623	98,023	
184.8%	185.2%	28.0%	(0.9)%		163.4%	161.3%	43.9%	31.6%	

#### **Contributory Retirement System**

# Schedules of Net Pension Liability by Division

(dollars in thousands)

System	Date	(1) Total Pension Liability		(2) Plan Juciary Osition	Net F Li	(3) ployers Pension ability/ (Asset)	Posit Perc of th	(4) Plan ary Net ion as a entage ie Total iability	Co Emp	(5) jected overed oloyee ayroll	Liability as a Per of 0	(6) Pension I/(Asset) centage Covered nployee Payroll
Contributory	12/31/13	\$ 477,506	446	5,152	3	1,354	ç	93.4%	\$ 54	,445		57.6%
Local Government	12/31/14	481,590	452	2,746	2	8,844	ç	94.0	51	,420		56.1
	12/31/15	490,140	419	, 9,855	7	0,285	8	35.7	48	,590		144.6
	12/31/16	459,050	426	5,238	3	2,812	ģ	92.9	23	,959		137.0
Contributory	12/31/13	\$ 835,415	835	5,793		(378)	10	0.0%	\$ 43	,578		(0.9)%
State and School	12/31/14	828,210	817	7,245	1	0,965	ç	98.7	39	,203		28.0
	12/31/15	825,901	763	3,236	6	2,665	ç	2.4	33	,836		185.2
	12/31/16	833,462	778	3,666	5	4,796	ç	3.4	29	,656		184.8
Total	12/31/13	\$ 1,312,921	1,281	1,945	3	0,976	ç	7.6%	\$ 98	,023		31.6%
Contributory	12/31/14	1,309,800	1,269	, 9,991	3	9,809	ç	7.0	90	,623		43.9
Retirement System	12/31/15	1,316,041	1,183	3,091	13	2,950	8	39.9	82	,426		161.3
•	12/31/16	1,292,512	1,204	1,904	8	7,608	g	3.2	53	,615		163.4

#### **Contributory Retirement System**

# Schedules of Employer Contributions by Division

(dollars in thousands)

System	Year Ended	Actuarial Determined Contribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Employee Payroll	Contributions as a Percentage of Covered Payroll**
Contributory	2013	\$ 6,963	6,963	_	54,445	12.79%
Local Government	2014	7,410	7,410		51,420	14.41
	2015	6,384	6,384	_	48,590	13.14
	2016	3,730	3,730	_	23,959	15.57
Contributory	2013	\$ 5,911	5,911	_	43,578	13.56%
State and School	2014	5,544	5,544	_	39,203	14.14
	2015	5,335	5,335	_	33,836	15.77
	2016	4,458	4,458	_	29,656	15.03
Total	2013	\$ 12,874	12,874	_	98,023	13.13%
Contributory	2014	12,954	12,954		90,623	14.29
Retirement System	2015	11,719	11,719	_	82,426	14.22
	2016	8,188	8,188	_	53,615	15.27

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

<sup>\*</sup>Contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems.

<sup>\*\*</sup>Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

# Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2016 With Comparative Totals for December 31, 2015

(in thousands)

	(III thousands)			
	State of Utah Public Safety	Other Division A (with Social Security)	Salt Lake City	
Assets:				
Cash	\$ 2	4	2	
Receivables:				
Member contributions	_	13	_	
Employer contributions	1,924	1,955	574	
Investments	16,829	20,253	4,064	
Total receivables	18,753	22,221	4,638	
Investments at fair value:				
Short-term securities	90,438	108,841	21,839	
Debt securities	164,697	198,212	39,771	
Equity investments	385,613	464,082	93,118	
Absolute return	170,458	205,144	41,162	
Private equity	124,411	149,727	30,043	
Real assets	161,394	194,236	38,973	
Total investments	1,097,011	1,320,242	264,906	
Invested securities lending collateral	26,445	31,826	6,386	
Property and equipment at cost,				
net of accumulated depreciation	185	223	45	
Total assets	1,142,396	1,374,516	275,977	
Liabilities:				
Securities lending liability	26,445	31,826	6,386	
Disbursements in excess of cash balance	1,485	1,788	359	
Compensated absences, post-employment				
benefits and insurance reserve	781	940	189	
Investment accounts payable	26,900	32,373	6,496	
Real estate liabilities	7,750	9,327	1,872	
Total liabilities	63,361	76,254	15,302	
Net position restricted for pensions	\$ 1,079,035	1,298,262	260,675	

				Other Division B		Total All Divisions
0gden	Provo	Logan	Bountiful	(without Social Security)	2016	2015
2	2	2	2	4	20	20
_	_	_	_	1	14	10
117	89	39	71	751	5,520	1,486
927	726	408	293	6,043	49,543	31,823
1,044	815	447	364	6,795	55,077	33,319
4,981	3,903	2,194	1,577	32,475	266,248	245,776
9,070	7,109	3,996	2,872	59,140	484,867	471,934
21,237	16,644	9,355	6,724	138,468	1,135,241	1,013,339
9,388	7,357	4,135	2,972	61,209	501,825	456,471
6,852	5,370	3,018	2,169	44,674	366,264	354,333
8,888	6,966	3,916	2,814	57,954	475,141	443,692
60,416	47,349	26,614	19,128	393,920	3,229,586	2,985,545
1,456	1,141	642	461	9,496	77,853	222,424
10	8	4	3	66	544	345
62,928	49,315	27,709	19,958	410,281	3,363,080	3,241,653
1,456	1,141	642	461	9,496	77,853	222,424
82	64	36	26	533	4,373	4,064
43	34	19	14	281	2,301	2,213
1,481	1,161	653	469	9,659	79,192	41,910
427	335	188	135	2,782	22,816	32,203
3,489	2,735	1,538	1,105	22,751	186,535	302,814
59,439	46,580	26,171	18,853	387,530	3,176,545	2,938,839

# Schedules of Changes in Fiduciary Net Position — Pension Trust Fund by Division

Year Ended December 31, 2016 With Comparative Totals for Year Ended December 31, 2015

(in thousands)

	(III LIIOUSUIIUS)			
	State of Utah Public Safety	Other Division A (with Social Security)	Salt Lake City	
Additions:				
Contributions:				
Member	\$ 112	515	8	
Employer	50,554	52,359	15,260	
Total contributions	50,666	52,874	15,268	
Investment income:				
Net appreciation in fair value of investments	67,850	81,791	16,367	
Interest, dividends, and other investment income	18,445	22,235	4,449	
Total income from investment activity	86,295	104,026	20,816	
Less investment expenses	1,852	2,233	447	
Net income from investment activity	84,443	101,793	20,369	
Income from security lending activity	346	417	83	
Less security lending expense	45	54	11	
Net income from security lending activity	301	363	72	
Net investment income	84,744	102,156	20,441	
Transfers from (to) affiliated systems	3,363	(6,727)	1,369	
Total additions	138,773	148,303	37,078	
Deductions:				
Retirement benefits	51,479	47,619	13,751	
Cost-of-living benefits	11,014	9,948	3,892	
Supplemental retirement benefits	129	85	38	
Refunds	8	175	_	
Administrative expenses	432	496	118	
Total deductions	63,062	58,323	17,799	
Increase (decrease) from operations	75,711	89,980	19,279	
Net position restricted for pensions beginning of year	1,003,324	1,208,282	241,396	
Net position restricted for pensions end of year	\$ 1,079,035	1,298,262	260,675	

otal All Divisions		Other Division B					
2015	2016	(without Social Security)	Bountiful	Logan	Provo	0gden	
905	830	195	_	_	_	_	
141,024	147,099	21,381	943	1,052	2,403	3,147	
141,929	147,929	21,576	943	1,052	2,403	3,147	
5,276	199,385	23,835	1,196	1,656	2,930	3,760	
50,307	54,203	6,480	325	450	797	1,022	
55,583	253,588	30,315	1,521	2,106	3,727	4,782	
5,929	5,444	651	33	45	80	103	
49,654	248,144	29,664	1,488	2,061	3,647	4,679	
1,149	1,015	121	6	8	15	19	
149	132	16	1	1	2	2	
1,000	883	105	5	7	13	17	
50,654	249,027	29,769	1,493	2,068	3,660	4,696	
4,023	6,701	8,826	35	(52)	(39)	(74)	
196,606	403,657	60,171	2,471	3,068	6,024	7,769	
127,285	135,697	14,987	1,193	1,242	2,140	3,286	
27,807	28,547	1,706	241	274	555	917	
295 533	264 183	_	1	_	6	5	
1,233	1,260	147	9	11	20	27	
157,153	165,951	16,840	1,444	1,527	2,721	4,235	
39,453	237,706	43,331	1,027	1,541	3,303	3,534	
2,899,386	2,938,839	344,199	17,826	24,630	43,277	55,905	
2,938,839	3,176,545	387,530	18,853	26,171	46,580	59,439	

# Schedules of Changes in the Employers' Net Pension Liability by Division

Year Ended December 31

(in thousands)

					State of Utah
		2016	2015	2014	2013
Total pension liability					
Service cost	\$	24,327	23,270	24,190	26,013
Interest		86,361	87,273	83,519	81,713
Benefit changes		_	_	_	_
Difference between actual					
and expected experience		(3,139)	(14,298)	(12,067)	(2,099)
Assumption changes		29,315	_	(17,596)	_
Benefit payments	(	(62,622)	(59,271)	(55,075)	(52,432)
Refunds		(8)	(18)	(12)	(2)
Net change in total pension liability		74,234	36,956	22,959	53,193
Total pension liability — beginning	1,2	218,610	1,181,654	1,158,695	1,105,502
Total pension liability — ending (a)	1,2	292,844	1,218,610	1,181,654	1,158,695
Dian fiducianunat position					
Plan fiduciary net position  Contributions — member		112	115	152	103
Contributions — member  Contributions — employer		50,554	47,449	45,810	43,393
Net investment income		84,744	17,349	66,949	121,520
Benefit payments		(62,622)	(59,271)	(55,075)	(52,432)
Refunds	,	(8)	(18)	(12)	(2)
Administrative expense		(432)	(431)	(434)	(413)
Net transfers with affiliated systems		3,363	2,301	1,124	757
Net change in plan fiduciary net position		75,711	7,494	58,514	112,926
Plan fiduciary net position — beginning	1,0	03,324	995,830	937,316	824,390
Plan fiduciary net position — ending (b)	1,0	79,035	1,003,324	995,830	937,316
Net pension liability — ending (a-b)	\$ 2	213,809	215,286	185,824	221,379
Dien fich einem er bereit.					
Plan fiduciary net position as a percentage of the total pension liability		83.5%	82.3%	84.3%	80.9%
· · · · · · · · · · · · · · · · · · ·					
Projected covered employee payroll	\$ 1	08,759	108,967	113,111	115,960
Net pension liability as a percentage			4.07 401		400.551
of covered employee payroll		196.6%	197.6%	164.3%	190.9%

	ocial Security)			Si	alt Lake City	ity Ogden					
2016	2015	2014	2013	2016	2015	2014	2013	2016	2015	2014	2013
31,202	29,942	30,473	32,564	6,316	5,963	5,878	6,209	1,139	1,164	1,170	1,304
98,935	98,538	93,276	90,791	23,099	23,023	22,171	21,719	5,232	5,359	5,185	5,028
_	_	_	_	_	_	_	_				
(6,830)	(12,388)	(16,141)	(25,616)	2,815	2,063	(1,430)	(3,743)	(288)	(1,153)	559	(713)
48,303	(= 4 000)	(21,812)	(40.004)	11,313		(4,551)		2,544		(822)	(2.044)
(57,652)	(54,909)	(51,394)	(48,824)	(17,681)	(17,076)	(16,398)	(15,737)	(4,208)	(4,090)	(3,956)	(3,864)
(175)	(208)	(115)	(97)				(15)		_		
113,783	60,975	34,287	48,818	25,862	13,973	5,670	8,433	4,419	1,280	2,136	1,755
1,387,407	1,326,432	1,292,145	1,243,327	326,502	312,529	306,859	298,426	74,200	72,920	70,784	69,029
1,501,190	1,387,407	1,326,432	1,292,145	352,364	326,502	312,529	306,859	78,619	74,200	72,920	70,784
515	701	597	714	8	_	4	13	_	56	_	_
52,359	51,677	49,156	46,421	15,260	14,100	13,519	12,426	3,147	2,729	2,791	2,525
102,156	20,899	80,565	146,201	20,441	4,178	16,113	29,378	4,696	976	3,803	6,973
(57,652)	(54,909)	(51,394)	(48,824)	(17,681)	(17,076)	(16,398)	(15,737)	(4,208)	(4,090)	(3,956)	(3,864)
(175) (496)	(208) (485)	(115)	(97)	(118)	(116)	(116)	(15)	(27)	(26)	(27)	(26)
(6,727)	(10,067)	(482) (6,061)	(458) (3,111)	1,369	657	620	(110) 447	(27) (74)	(26) (66)	(27) 107	(26) 535
89,980	7,608	72,266	140,846	19,279	1,743	13,742	26,402	3,534	(421)	2,718	6,143
1,208,282	1,200,674	1,128,408	987,562	241,396	239,653	225,911	199,509	55,905	56,326	53,608	47,465
1,298,262	1,208,282	1,200,674	1,128,408	260,675	241,396	239,653	225,911	59,439	55,905	56,326	53,608
202,928	179,125	125,758	163,737	91,689	85,106	72,876	80,948	19,180	18,295	16,594	17,176
06.50/	07 10/	00 E0/	07 20/	74.00/	72.00/	76 70/	72 60/	75.60/	75 20/	77 20/	7E 70/
86.5%	87.1%	90.5%	87.3%	74.0%	73.9%	76.7%	73.6%	75.6%	75.3%	77.2%	75.7%
139,677	141,681	143,924	146,190	28,331	28,275	27,821	28,016	5,082	5,517	5,518	5,831
145 20/	126 40/	07.40/	112.00/	222.60/	201.00/	261.00/	200.00/	277 40/	221 60/	200 70/	204.60/
145.3%	126.4%	87.4%	112.0%	323.6%	301.0%	261.9%	288.9%	377.4%	331.6%	300.7%	294.6%

Continued on page 116.

Schedules of Changes in the Employers' Net Pension Liability by Division (Concluded)

Year Ended December 31

(in thousands)

				Provo				Logan
	2016	2015	2014	2013	2016	2015	2014	2013
Total pension liability								
Service cost	\$ 1,134	1,099	1,141	1,181	488	485	524	580
Interest	3,972	3,916	3,748	3,680	2,220	2,201	2,110	2,029
Benefit changes	_	_	_	_	_	_	_	_
Difference between actual								
and expected experience	147	636	(638)	561	(264)	278	232	(701)
Assumption changes	1,960	_	(859)	_	1,103	_	(420)	_
Benefit payments	(2,701)	(2,739)	(2,503)	(2,281)	(1,516)	(1,442)	(1,366)	(1,320)
Refunds		_	(11)	(204		_	_	_
Net change in total pension liability	4,512	2,912	878	2,937	2,031	1,522	1,080	588
Total pension liability — beginning	55,943	53,031	52,153	49,216	31,344	29,822	28,742	28,154
Total pension liability — ending (a)	60,455	55,943	53,031	52,153	33,375	31,344	29,822	28,742
Plan fiduciary net position								
Contributions — member	_	_	_		_	_	35	49
Contributions — employer	2,403	2,314	2,255	2,158	1,052	1,044	989	944
Net investment income	3,660	749	2,877	5,204	2,068	432	1,671	3,047
Benefit payments	(2,701)	(2,739)	(2,503)	(2,281)	(1,516)		(1,366)	(1,320)
Refunds	( <i>L</i> ), (1)	( <i>L</i> ), 33)	(11)	(204)	(1/310) —	( · / · · · <u>-</u> /	(1,500) —	(1,320)
Administrative expense	(20)	(20)	(19)	(19)	(11)	(11)	(11)	(10)
Net transfers with affiliated systems	(39)	66	145	16	(52)		100	88
Net change in plan fiduciary net position	3,303	370	2,744	4,874	1,541	(224)	1,418	2,798
Plan fiduciary net position — beginning	43,277	42,907	40,163	35,289	24,630	24,854	23,436	20,638
Plan fiduciary net position — ending (b)	46,580	43,277	42,907	40,163	26,171	24,630	24,854	23,436
Net pension liability — ending (a-b)	\$ 13,875	12,666	10,124	11,990	7,204	6,714	4,968	5,306
Dian fiducian unat modition as a margant-								
Plan fiduciary net position as a percentage of the total pension liability	77.0%	77.4%	80.9%	77.0%	78.4%	78.6%	83.3%	81.5%
Projected covered employee payroll	\$ 5,065	5,213	5,424	5,295	2,183	2,306	2,459	2,584
Net pension liability as a percentage	• • •	•	•			•		·
of covered employee payroll	273.9%	243.0%	186.7%	226.4%	330.0%	291.2%	202.0%	205.3%

			Bountiful		Other Divisi	on B (with Soc	cial Security)			Tota	al All Divisions
2016	2015	2014	2013	2016	2015	2014	2013	2016	2015	2014	2013
409	380	383	390	13,828	13,049	12,922	13,495	78,843	75,352	76,681	81,736
1,711	1,682	1,635	1,580	28,192	26,988	25,159	23,425	249,722	248,980	236,803	229,965
_	_	_	_	_	_	_	_	_	_	_	_
383	652	297	(1.47)	16,534	7.046	3,963	2 220	0.350	(17164)	(25.225)	(20.220)
830	- 052	(229)	(147)	15,005	7,046 —	(6,121)	3,230	9,358 110,373	(17,164)	(25,225) (52,410)	(29,228)
(1,435)	(1,358)	(1,419)	(1,369)	(16,693)	(14,502)	(12,652)	(11,659)	(164,508)	(155,387)	(144,763)	(137,486)
_	_	_	_	_	(307)	(61)	(149)	(183)	(533)	(199)	(467)
1,898	1,356	667	454	56,866	32,274	23,210	28,342	283,605	151,248	90,887	144,520
24,275	22,919	22,252	21,798	392,994	360,720	337,510	309,168	3,511,275	3,360,027	3,269,140	3,124,620
26,173	24,275	22,919	22,252	449,860	392,994	360,720	337,510	3,794,880	3,511,275	3,360,027	3,269,140
				r							
			716	195	33	47	379	830	905	835	1,258
943	883	822	716	21,381	20,828	20,246	20,161	147,099	141,024	135,588	128,744
1,493 (1,435)	310 (1,358)	1,220 (1,419)	2,271 (1,369)	29,769 (16,693)	5,761 (14,502)	21,024 (12,652)	35,969 (11,659)	249,027 (164,508)	50,654 (155,387)	194,222 (144,763)	350,563 (137,486)
(1,T55) —	(1,550)	(1,712)	(1,505)	(10,093)	(307)	(61)	(11,039)	(183)	(533)	(144,703)	(467)
(9)	(9)	(9)	(8)	(147)	(135)	(129)	(117)	(1,260)	(1,233)	(1,227)	(1,161)
35	35	14	99	8,826	11,344	6,697	5,845	6,701	4,023	2,746	4,676
1,027	(139)	628	1,709	43,331	23,022	35,172	50,429	237,706	39,453	187,202	346,127
17,826	17,965	17,337	15,628	344,199	321,177	286,005	235,576	2,938,839	2,899,386	2,712,184	2,366,057
18,853	17,826	17,965	17,337	387,530	344,199	321,177	286,005	3,176,545	2,938,839	2,899,386	2,712,184
7,320	6,449	4,954	4,915	62,330	48,795	39,543	51,505	618,335	572,436	460,641	556,956
72.0%	73.4%	78.4%	77.9%	86.1%	87.6%	89.0%	84.7%	83.7%	83.7%	86.3%	83.0%
1,810	1,776	1,795	1,749	61,501	61,436	60,698	60,373	352,408	355,171	360,750	365,998
404.4%	363.1%	276.0%	281.0%	101.3%	79.4%	65.1%	85.3%	175.5%	161.2%	127.7%	152.2%

# Schedules of Net Pension Liability by Division

System	(dollars in	thousands) (1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers Net Pension Liability/ (Asset)	(4) Plan Fiduciary Net Position as a Percentage of the Total Plan Liability	(5) Projected Covered Employee Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Employee Payroll
Public Safety State of Utah	12/31/13 12/31/14	\$ 1,158,695 1,181,654	937,316 995,830	221,379 185,824	80.9% 84.3	\$ 115,960 113,111	190.9% 164.3
	12/31/15 12/31/16	1,218,610 1,292,844	1,003,324 1,079,035	215,286 213,809	82.3 83.5	108,967 108,759	197.6 196.6
Public Safety	12/31/13	\$ 1,292,145	1,128,408	163,737	87.3%	\$ 146,190	112.0%
Other Division A	12/31/14	1,326,432	1,200,674	125,758	90.5	143,924	87.4
(with Social Security)	12/31/15 12/31/16	1,387,407 1,501,190	1,208,282 1,298,262	179,125 202,928	87.1 86.5	141,681 139,677	126.4 145.3
Public Safety	12/31/13	\$ 306,859	225,911	80,948	73.6%	\$ 28,016	288.9%
Salt Lake City	12/31/14	312,529	239,653	72,876	76.7	27,821	261.9
	12/31/15	326,502	241,396	85,106	73.9	28,275	301.0
	12/31/16	352,364	260,675	91,689	74.0	28,331	323.6
Public Safety	12/31/13	\$ 70,784	53,608	17,176	75.7%	\$ 5,831	294.6%
Ogden	12/31/14	72,920	56,326	16,594	77.2	5,518	300.8
	12/31/15	74,200	55,905	18,295	75.3	5,517	331.6
	12/31/16	78,619	59,439	19,180	75.6	5,082	377.4
Public Safety	12/31/13	\$ 52,153	40,163	11,990	77.0%	\$ 5,295	226.4%
Provo	12/31/14	53,031	42,907	10,124	80.9	5,424	186.7
	12/31/15	55,943	43,277	12,666	77.4	5,213	243.0
	12/31/16	60,455	46,580	13,875	77.0	5,065	273.9
Public Safety	12/31/13	\$ 28,742	23,436	5,306	81.5%	\$ 2,584	205.3%
Logan	12/31/14	29,822	24,854	4,968	83.3	2,459	202.0
	12/31/15	31,344	24,630	6,714	78.6	2,306	291.2
	12/31/16	33,375	26,171	7,204	78.4	2,183	330.0
Public Safety	12/31/13	\$ 22,252	17,337	4,915	77.9%	\$ 1,749	281.0%
Bountiful	12/31/14	22,919	17,965	4,954	78.4	1,795	275.9
	12/31/15	24,275	17,826	6,449	73.4	1,776	363.1
	12/31/16	26,173	18,853	7,320	72.0	1,810	404.4
Public Safety	12/31/13	\$ 337,510	286,005	51,505	84.7%	\$ 60,373	85.3%
Other Division B	12/31/14	360,720	321,177	39,543	89.0	60,698	65.1
(without Social Security)		392,994	344,199	48,795	87.6	61,436	79.4
	12/31/16	449,860	387,530	62,330	86.1	61,501	101.3
Total	12/31/13	\$ 3,269,140	2,712,184	556,956	83.0%	\$ 365,998	152.2%
Public Safety	12/31/14	3,360,027	2,899,386	460,641	86.3	360,750	127.7
Retirement System	12/31/15	3,511,275	2,938,839	572,436	83.7	355,171	161.2
	12/31/16	3,794,880	3,176,545	618,335	83.7	352,408	175.5

# Schedules of Employer Contributions by Division

System	(dollars in t	D	ands)  Actuarial retermined atribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Employee Payroll	Contributions as a Percentage of Covered Payroll**
Public Safety	2013	\$	43,393	43,393	_	115,960	37.42%
State of Utah	2014		45,810	45,810	_	113,111	40.50
	2015		47,449	47,449	_	108,967	43.54
	2016		50,554	50,554	_	108,759	46.48
Public Safety	2013	\$	46,421	46,421	_	146,190	31.75%
Other Division A	2014		49,156	49,156		143,924	34.15
(with Social Security)	2015		51,677	51,677	_	141,681	36.47
	2016		52,359	52,359	_	139,677	37.49
Public Safety	2013	\$	12,426	12,426	_	28,016	44.35%
Salt Lake City	2014		13,519	13,519		27,821	48.59
	2015		14,100	14,100		28,275	49.87
	2016		15,260	15,260	_	28,331	53.86
Public Safety	2013	\$	2,525	2,525	_	5,831	43.30%
Ogden	2014		2,791	2,791	_	5,518	50.58
	2015		2,729	2,729	_	5,517	49.47
	2016		3,147	3,147	_	5,082	61.92
Public Safety	2013	\$	2,158	2,158	_	5,295	40.76%
Provo	2014		2,255	2,255	_	5,424	41.57
	2015		2,314	2,314		5,213	44.39
	2016		2,403	2,403	_	5,065	47.44
Public Safety	2013	\$	944	944	_	2,584	36.53%
Logan	2014		989	989		2,459	40.22
	2015		1,044	1,044	_	2,306	45.27
	2016		1,052	1,052	_	2,183	48.19
Public Safety	2013	\$	716	716	_	1,749	40.94%
Bountiful	2014		822	822	_	1,795	45.79
	2015		883	883	_	1,776	49.72
	2016		943	943	_	1,810	52.10
Public Safety	2013	\$	20,161	20,161	_	60,373	33.39%
Other Division B	2014		20,246	20,246	_	60,698	33.36
(without Social Security	y) 2015		20,828	20,828	_	61,436	33.90
	2016		21,381	21,381		61,501	34.77
Total	2013	\$	128,744	128,744	_	365,998	35.18%
Public Safety	2014		135,588	135,588	_	360,750	37.59
<b>Retirement System</b>	2015		141,024	141,024	_	355,171	39.71
	2016		147,099	147,099		352,408	41.74

<sup>\*</sup>Contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems.

<sup>\*\*</sup>Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

# Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2016 With Comparative Totals for December 31, 2016

(in thousands)

	Division A	Division B		Total All Divisions
	(with Social Security)	(without Social Security)	2016	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Assets:				
Cash	\$ 1	1	2	2
Receivables:				
Member contributions	133	519	652	280
Fire insurance tax	367	1,236	1,603	340
Investments	3,020	14,377	17,397	11,294
Total receivables	3,520	16,132	19,652	11,914
Investments at fair value:				
Short-term securities	16,227	77,264	93,491	87,224
Debt securities	29,552	140,706	170,258	167,486
Equity investments	69,190	329,440	398,630	359,627
Absolute return	30,584	145,627	176,211	161,998
Private equity	22,323	106,288	128,611	125,751
Real assets	28,959	137,884	166,843	157,464
Total investments	196,835	937,209	1,134,044	1,059,550
Invested securities lending collateral	4,745	22,592	27,337	78,936
Property and equipment at cost,				
net of accumulated depreciation	33	158	191	123
Total assets	205,134	976,092	1,181,226	1,150,525
Liabilities:				
Securities lending collateral liability	4,745	22,592	27,337	78,936
Disbursements in excess of cash balance	267	1,269	1,536	1,442
Compensated absences, post-employment				
benefits and insurance reserve	140	667	807	785
Investment accounts payable	4,827	22,981	27,808	14,874
Real estate liabilities	1,391	6,621	8,012	11,429
Total liabilities	11,370	54,130	65,500	107,466
Net position restricted for pensions benefits	\$ 193,764	921,962	1,115,726	1,043,059

# Schedules of Changes in Fiduciary Net Position — Pension Trust Fund by Division

Year Ended December 31, 2016 With Comparative Totals for Year Ended December 31, 2016

(in thousands)

	Division A	Division B (without	1	otal All Divisions
	(with Social Security)	Social Security)	2016	2015
Additions:				
Contributions:				
Member	\$ 4,214	14,515	18,729	18,175
Employer	1,124	5,830	6,954	6,690
Fire insurance tax	2,581	7,988	10,569	17,218
Total contributions	7,919	28,333	36,252	42,083
Investment income:				
Net appreciation in fair value of investments	12,021	58,233	70,254	1,869
Interest, dividends, and other investment income	3,268	15,831	19,099	17,810
Total income from investment activity	15,289	74,064	89,353	19,679
Less investment expenses	328	1,590	1,918	2,099
Net income from investment activity	14,961	72,474	87,435	17,580
Income from securities lending activity	61	297	358	407
Less security lending expense	8	39	47	53
Net income from security lending activity	53	258	311	354
Net investment income	15,014	72,732	87,746	17,934
Transfers from affiliated systems	135	1,476	1,611	2,573
Total additions	23,068	102,541	125,609	62,590
Deductions:				
Retirement benefits	5,217	36,470	41,687	39,340
Cost-of-living benefits	890	9,305	10,195	10,095
Supplemental retirement benefits	14	206	220	236
Refunds	174	292	466	528
Administrative expenses	62	312	374	371
Total deductions	6,357	46,585	52,942	50,570
Increase from operations	16,711	55,956	72,667	12,020
Net position restricted for pensions beginning of year	177,053	866,006	1,043,059	1,031,039
Net position restricted for pensions end of year	\$ 193,764	921,962	1,115,726	1,043,059

# Schedules of Changes in the Employers' Net Pension Liability by Division

Year Ended December 31

(in thousands)

	Other Division A (with Social Security)					
	2016	2015	2014	2013		
Total pension liability						
Service cost	\$ 7,020	6,584	6,636	7,158		
Interest	12,644	12,290	11,387	10,840		
Benefit changes	_	_	_	_		
Difference between actual						
and expected experience	(271)	(985)	(1,199)	(1,812)		
Assumption changes	4,636	`	(4,028)			
Benefit payments	(6,121)	(6,243)	(5,432)	(4,889)		
Refunds	(174)	(190)	(72)	_		
Net change in total pension liability	17,734	11,456	7,292	11,297		
Total pension liability — beginning	175,242	163,786	156,494	145,197		
Total pension liability — ending (a)	192,976	175,242	163,786	156,494		
Plan fiduciary net position						
Contributions — member	4,214	4,063	3,983	3,977		
Contributions — employer	1,124	1,055	888	745		
Fire insurance tax	2,581	4,170	3,398	2,748		
Net investment income	15,014	2,982	11,118	19,648		
Benefit payments	(6,121)	(6,243)	(5,432)	(4,889)		
Refunds	(174)	(190)	(72)	(4,002)		
Administrative expense	(62)	(60)	(58)	(54)		
Net transfers with affiliated systems	135	1,784	664	796		
Net change in plan fiduciary net position	16,711	7,561	14,489	22,971		
<u> </u>	10,711	7,301	14,409	22,971		
Plan fiduciary net position — beginning	177,053	169,492	155,003	132,032		
Plan fiduciary net position — ending (b)	193,764	177,053	169,492	155,003		
Net pension liability/(asset) — ending (a-b)	\$ (788)	(1,811)	(5,706)	1,491		
Plan fiduciary net position as a percentage						
of the total pension liability	100.4%	101.0%	103.5%	99.0%		
Projected covered employee payroll	27,266	26,672	26,873	26,521		
Net pension liability as a percentage						
of covered employee payroll	(2.9)%	(6.8)%	(21.2)%	5.6%		

		Other Division	n B (without So	cial Security)	Total All Divi				All Divisions
	2016	2015	2014	2013		2016	2015	2014	2013
	21,632	20,598	20,630	22,419		28,652	27,182	27,266	29,577
	62,690	62,922	60,103	59,419		75,334	75,212	71,490	70,259
	_	_	_	_		_		_	_
	(5,254)	(7,274)	(13,878)	(11,271)		(5,525)	(8,259)	(15,077)	(13,083)
	20,936		(16,344)	—		25,572		(20,372)	_
	(45,981)	(43,428)	(42,278)	(39,858)		(52,102)	(49,671)	(47,710)	(44,747)
	(292)	(338)	(221)	(106)		(466)	(528)	(293)	(106)
	53,731	32,480	8,012	30,603		71,465	43,936	15,304	41,900
	883,022	850,542	842,530	811,927		1,058,264	1,014,328	999,024	957,124
	936,753	883,022	850,542	842,530	_	1,129,729	1,058,264	1,014,328	999,024
	14,515	14,112	14,317	14,348		18,729	18,175	18,300	18,325
	5,830	5,635	4,626	2,749		6,954	6,690	5,514	3,494
	7,988	13,048	10,756	8,537		10,569	17,218	14,154	11,285
	72,732	14,952	57,952	106,037		87,746	17,934	69,070	125,685
	(45,981)	(43,428)	(42,278)	(39,858)		(52,102)	(49,671)	(47,710)	(44,747)
	(292)	(338)	(221)	(106)		(466)	(528)	(293)	(106)
	(312)	(311)	(312)	(301)		(374)	(371)	(370)	(355)
	1,476	789	3,049	506		1,611	2,573	3,713	1,302
	55,956	4,459	47,889	91,912		72,667	12,020	62,378	114,883
	866,006	861,547	813,658	721,746		1,043,059	1,031,039	968,661	853,778
	921,962	866,006	861,547	813,658		1,115,726	1,043,059	1,031,039	968,661
	14,791	17,016	(11,005)	28,872		14,003	15,205	(16,711)	30,363
					Ī				
	98.4%	98.1%	101.3%	96.6%		98.8%	98.6%	101.6%	97.0%
	85,056	84,461	84,432	84,220	_	112,322	111,133	111,305	110,741
					_				
	17.4%	20.1%	(13.0)%	34.3%		12.5%	13.7%	(15.0)%	27.4%
·									

# Schedules of Net Pension Liability by Division

(dollars in thousands)

System	Date	(1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers Net Pension Liability/ (Asset)	(4) Plan Fiduciary Net Position as a Percentage of the Total Plan Liability	(5) Projected Covered Employee Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Employee Payroll
Firefighters	12/31/13	\$ 156,494	155,003	1,491	99.0%	\$ 26,521	5.6%
Division A	12/31/14	163,786	169,492	(5,706)	103.5	26,873	(21.2)
(with Social Security)	12/31/15	175,242	177,053	(1,811)	101.0	26,672	(6.8)
·	12/31/16	192,976	193,764	(788)	100.4	27,266	(2.9)
Firefighters	12/31/13	\$ 842,530	813,658	28,872	96.6%	\$ 84,220	34.3%
Division B	12/31/14	850,542	861,547	(11,005)	101.3	84,432	(13.0)
(without Social Security)	12/31/15	883,022	866,006	17,016	98.1	84,461	20.1
	12/31/16	936,753	921,962	14,791	98.4	85,056	17.4
Total	12/31/13	\$ 999,024	968,661	30,363	97.0%	\$ 110,741	27.4%
Firefighters	12/31/14	1,014,328	1,031,039	(16,711)	101.6	111,305	(15.0)
Retirement System	12/31/15	1,058,264	1,043,059	15,205	98.6	111,133	13.7
	12/31/16	1,129,729	1,115,726	14,003	98.8	112,322	12.5

# Schedules of Employer Contributions by Division

(dollars in thousands)

System	Year Ended	Actuarial Determined Contribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Employee Payroll	Contributions as a Percentage of Covered Payroll**
Firefighters	2013	\$ 3,493	3,493		26,521	13.17%
Division A	2013	5,514	5,514	_	26,873	20.52
(with Social Security)	2015	5,225	5,225		26,672	19.59
(With Social Security)	2016	3,705	3,705	_	27,266	13.59
Firefighters	2013	\$ 11,286	11,286		84,220	13.40%
Division B	2014	14,154	14,154	_	84,432	16.76
(without Social Security)	2015	18,683	18,683	_	84,461	22.12
<b>,</b> ,	2016	13,818	13,818	_	85,056	16.25
Total	2013	\$ 14,779	14,779	_	110,741	13.35%
Firefighters	2014	19,668	19,668	_	111,305	17.67
Retirement System	2015	23,908	23,908	_	111,133	21.51
•	2016	17,523	17,523	_	112,322	15.60

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

<sup>\*</sup>Contributions for the Tier 1 Systems include contributions received on the Tier 2 payroll to help finance the unfunded actuarial accrued liability of the Tier 1 Systems.

<sup>\*\*</sup>Contributions as a percentage of covered payroll may be different than the board certified rate due to rounding and other administrative issues.

#### **All Retirement Systems**

# Schedules of Administrative and Investment **Expenses**

Year Ended December 31, 2016

	Total
Personal services:	
Salaries and wages	\$13,003
Employee benefits	6,186
Total personal services	19,189
Professional services:	647
Audit Actuarial services	647 322
General counsel	1,166
Banking services	63
Security handling expense	1,000
Investment advisor fees Other consulting services	42,006 2,831
	· · · · · · · · · · · · · · · · · · ·
Total professional services	48,035
Communications: Telephone	181
Postage	353
Total communications	534
Rentals:	
Office space	945
Office equipment rental	596
Total rentals	1,541
Miscellaneous:	
Data processing	364
Professional development	307
Contractual services	178
Supplies and maintenance	159
Insurance and bonding premiums Office supplies	562 71
Other	298
Depreciation expense	697
Total miscellaneous	2,636
Total administrative and investment expenses	\$71,935
Allocation of administrative expenses:	
Noncontributory Retirement System	\$ 8,856
Contributory Retirement System	446
Public Safety Retirement System	1,260
Firefighters Retirement System	374
Judges Retirement System	71
Utah Governors and Legislators Retirement Plan	4
Tier 2 Public Employees Retirement System	51
Tier 2 Public Safety and Firefighter Retirement System 401(k) Plan	7.095
401(k) Plan 457 Plan	7,085 810
Roth IRA Plan	142
Traditional IRA Plan	128
Health Reimbursement Arrangement (HRA)	31
Total administrative expenses	19,263
Investment administrative expense	10,662
Investment advisor fees:	
Investment Fund	38,489
401(k) Plan	3,071
457 Plan	332
Roth IRA Plan	59
Traditional IRA Plan	59
Health Reimbursement Arrangement (HRA)	
Total investment expenses	52,672
Total administrative and investment expense allocations	\$ 71,935



Utah Retirement Systems

2016

**Comprehensive Annual Financial Report** 

# Investment Section

#### **Defined Benefit Investments**

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#### 131 2016 Investment Summary

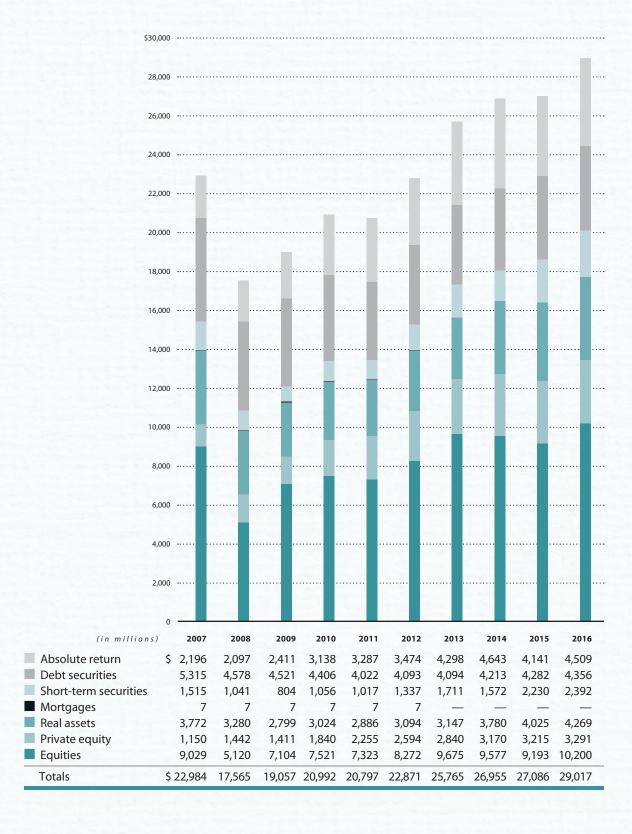
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# 10-Year Investment Comparison

(in millions)



# **Defined Benefit Investments**

#### Report on Investment Activity

UTAH STATE RETIREMENT BOARD

#### **UTAH RETIREMENT SYSTEMS**

560 East 200 South Salt Lake City, Utah 84102-2044 801-366-7700 800-365-8772 801-366-7734 FAX

DANIEL D. ANDERSEN **EXECUTIVE DIRECTOR** 

April 26, 2017

**Utah State Retirement Board** 560 East 200 South Salt Lake City, UT 84102-2044

Dear Members of Utah Retirement Systems:

The economic year 2016 got off to a difficult start. Oil prices remained near historic lows, markets were still concerned about high yield bond defaults, and the Federal Reserve Bank (Fed) was expected to raise interest rates. Thus, by the end of February, the Standard & Poors (S&P) 500 was down more than 5%, while developed and emerging international market indexes declined by 8.9% and 6.6%, respectively. In early 2016, we appeared headed toward the event everyone had been anticipating: a correction. However, this would all dramatically change by the end of the year.

Two major political events marked the year 2016. Both impacted investor sentiment and, therefore, performance of global markets. In June, the United Kingdom (U.K.) voted to leave the European Union, stunning the world and the markets. The United States stock market lost 5% on fears that other European countries could possibly follow the U.K.'s lead. However, within days of the vote, the market recovered, as investors realized the immediate effects on American businesses would be limited.

The other major event was the U.S. presidential election. In the aftermath of Donald Trump's surprise victory, investors and politicians alike scrambled to determine how the new president's campaign promises would impact markets and geopolitics. After a brief post-election decline, the U.S. stock market rallied, focusing on President Trump's business policies over his personal management style.

Despite substantial volatility, the year also marked new highs for the U.S. stock market; the S&P 500 ended the year up nearly 12%, compared to only 1.4% in 2015. The bond market was also volatile during 2016. Interest rates slid and bonds

rallied early in the year, only to reverse direction in November and December as markets anticipated the Fed's sole interest rate increase of 2016.

The dollar continued to rally from 2015 (+10%) through 2016 (+7%), raising the cost of U.S. exports and cheapening imported products, resulting in a negative impact to U.S. gross domestic product (GDP). Commodities, on the other hand, rose 11.4% during 2016, as measured by a standard commodity index. This was on the back of a difficult 2015 in which the same index lost 33%. Brent crude oil rose nearly 24% in price during 2016.

The dollar's strength hurt investors' returns in international markets, but local investors fared better. For the year, most world stock markets were positive, driven by economic improvements, accommodative central bank policies, and commodity price increases.

A number of negative corporate stories impacted individual stock prices and related sector sentiment, such as when the Chief Executive Officer of Mylan Pharmaceuticals Inc. tried to defend the company's price increases on its lifesaving EpiPen product. In its largest penalty ever imposed, the Consumer Protection Bureau fined Wells Fargo \$185 million for opening two million unauthorized consumer accounts.

On the geopolitical front, a variety of conflicts and shifting alignments made the investment environment feel particularly uncertain. A coup in Turkey failed, the Philippines renounced its alignment with the U.S., and Brazil and South Korea impeached their presidents. When added to the ongoing Syrian civil war and refugee crisis, regional conflict over territorial rights in the South China Sea, the demise of the Trans-Pacific Partnership, among other headlines, it seems counterintuitive that equity markets made such substantial gains.

At the time of this letter, U.S. GDP, adjusted for inflation, increased 1.6% in 2016, down from 2.6% in 2015 (the number was reported as 2.4% in my previous letter but was subsequently revised later in 2015). This was mainly attributed to a sustained inventory correction, lingering low oil prices, and a strengthening dollar. On a relative basis, the Eurozone outpaced the U.S. for the first time since 2008, posting a GDP increase of 1.7% for 2016. Japan lagged the U.S. with an approximate growth of 1% for the same period. The Asia Pacific region posted a growth rate of 4.9% for 2016, about the same as 2015.

In the U.S., the Institute for Supply Management (ISM) index rose to 54.5, compared to 48.2 in 2015. An index number above 50 indicates that manufacturing continues to expand. Industrial production was weak at negative 1%, seasonally adjusted for 2016. The core consumer price index (CPI), excluding food and energy, posted 2.2% for 2016, an

#### Defined Benefit Investments (Continued)

increase over the previous year's 2.1%. Unemployment continued to improve, decreasing to 4.8%, compared to 5.3% in 2015.

Global bonds, as measured by the Bloomberg Global Aggregate, returned 4% on a dollar-hedged basis but only 2.1% unhedged (compared to 1% and (3.2%) in 2015). Again, the strength of the U.S. dollar significantly impacted returns. The domestic bond market, as measured by the Bloomberg Aggregate, returned just under 2.7%, compared to 0.6% the previous year. The Fed continued to be somewhat accommodative, waiting for stronger economic numbers to raise interest rates. The 10-year Treasury note began the year at 2.3% and ended at 2.5% after a single rate increase in December 2016.

In private real estate, fundamentals strengthened slightly in 2016, but returns began to moderate, with the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index (NPI) reporting an 8% total return versus 13.3% in 2015. Capitalization rates continued to compress to new historic lows, causing the Fed to voice concern over high real estate valuations. Public real estate, as measured by the Financial Times Stock Exchange (FTSE) National Association of Real Estate Investment Trusts (NAREIT) Equity Index, fared better, returning 8.5% for the year, compared to 2.8% the previous year.

Farmland returns in the U.S. slowed to 7.1% in 2016, according to the NCREIF Total Farmland Index (NFI), the lowest return in a decade. The United States Department of Agriculture (USDA) reported that farm cropland values and rents declined 1.0% as low commodity prices put downward pressure on farm incomes and rents.

Clearly, considerable uncertainty remains around both domestic and geopolitical outcomes, making it difficult to predict performance of individual companies, sectors, or broad markets. In addition, global economic growth projections remain tepid. In light of these factors, we do not feel now is the time to add more risk to the portfolio.

Despite economic and political challenges, Utah Retirement Systems' total portfolio return in 2016 was 8.8%, putting it in the 19th percentile of its peer group (1st percentile being the best and 100th percentile being the worst). Our global equity portfolio returned 11.2% for the year, representing nearly an additional 3% of value over the passive benchmark. Our fixed income portfolio returned 4.6%, underperforming its benchmark by 0.09%. Our alternative investments posted an 8.6% return and outperformed global equity by 0.2%. Our alternative investments are not designed to outperform public equity, yet over the last two years they have added additional value over the equity markets. These impressive numbers follow our outperformance in 2015. That year the URS total portfolio return was 1.9%, putting it in the 18th percentile of its peer group. In 2015, the URS diversified portfolio outperformed the global equity market by 4.1%, compared well against its peers, and outperformed a more traditional portfolio that contains more equity exposure. Our alternative investments in private markets achieved a 5.8% return, outperforming global equity by 8% and adding positive diversification for the 2015 year.

We allocate approximately 50% of our public equity portfolio to international markets, significantly more than many of our peers. Over the last three years, the lower-risk, globally-oriented equity portfolio we manage has stood up quite well despite international markets' underperformance. For example, our public equity portfolio's three-year return is 6%, compared to losses in both developed and emerging equity indexes. The URS three-year return number is at the 9th percentile versus its peers. We have achieved this return with far less risk than our peers. Our standard deviation (measure of risk) has been one of the lowest for the last 10 years as measured against our peers. It was in the 93rd percentile versus our peers (100th percentile being the least risk). We have experienced smaller losses in down markets by managing a lower risk portfolio that compounds returns and produces greater wealth for the fund across market cycles.

The reason for our top quartile performance (one-year ranking) and top decile performance (three-year ranking) lies in our defensive approach to asset allocation. URS ranks 23rd against its peers when looking at a combined one-year return number of global public equity, domestic fixed income, and real estate. URS ranks 34th in the three-year return number for the same assets classes. In addition, our alternative asset allocations contributed significantly to our performance: +8.6% return in 2016 and +8.5% return over the last three years.

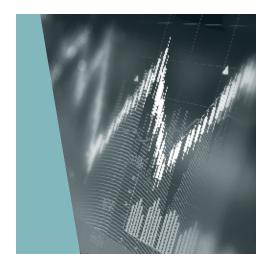
Our funded status, on a market basis, increased slightly to 86% versus 85.7% the previous year. Our actuarial funded status, at 87%, was the same as 2015. In 2016, we also paid nearly \$385 million in benefits, net of contributions, from our investment portfolio alone; over the past 10 years that number has been \$2.8 billion. We appreciate that the money paid to our participants helps them in their retirement years and benefits all Utahns as it is spent in our local economy.

Finally, the Retirement Board received a letter written by Billie M. Hunt, a retired employee from the Utah Highway Patrol living in Washington, Utah. It read in part: "Just a short note expressing my appreciation to a special group of State Employees who oversee investments and returns of the retirement funds ... May you who oversee the 'Retirement Fund,' know of the great peace of mind you bring to such a large group of retirees." To Billie, on behalf of the Investment Department employees, I thank you very much for your letter. We place the highest importance on our responsibilities to you and every other participant, and intend to do everything in our power to ensure a secure future for each one of you. It is people like you that motivate us to do our very best.

Brune H. Cundik

Bruce H. Cundick

Chief Investment Officer





#### Outline of Investment Policies

The governing body of the Utah Retirement Systems (Systems) is the seven member Utah State Retirement Board (Board). The Board is composed of the Utah State Treasurer, who serves as an ex-officio member, and six trustees who are appointed by the Governor. Four board members are appointed for their investment expertise, and two members are appointed to represent employee and employer interests.

The Board has statutory authority to pool pension assets in the Utah Retirement Investment Fund (Fund). Statutes also establish that this Fund will be invested in accordance with the "prudent person rule." The prudent person rule requires all members of the Board and investment staff to discharge their duties solely in the interest of Systems' participants and beneficiaries and with the care, skill, prudence, and diligence that they would exercise in the conduct of their own affairs. To this end, a Statement of Investment Policy and Performance Objectives has been created for the Fund and adopted by the Board. The purpose of this Statement is to:

- Outline the expected return and risk profile for the Fund;
- Establish the target asset allocation mix and acceptable rebalancing
- Describe plan and manager policies and objectives for performance evaluation;
- Communicate investment performance standards to investment managers.

The primary investment objectives are to preserve Fund assets and generate an appropriate level of risk-adjusted return to meet future pension obligations. The Systems periodically complete an asset allocation and liability study to determine the optimal portfolio diversification to meet those obligations.

# 2016 Investment Summary

(dollars in thousands)	Ве	2016 eginning air Value	Purc	:hases	Sales Redempt		Increas (Decrease in Fair Valu	) Ei	2016 nding Fair e Balance	Percent of Total Fair Value
Short-term securities	\$ 2,2	29,799	104,050	,312	103,899,	479	11,552	2 2,3	392,184	8.24%
Debt securities	4,28	81,606	34,262	,034	34,205,	755	18,534	4,3	356,419	15.01
Equities	9,19	93,510	2,550	,580	2,324,	977	780,756	5 10,1	99,869	35.16
Absolute return	4,14	41,321	1,846	,879	1,700,	782	221,366	5 4,5	08,784	15.54
Private equity	3,2	14,680	533	,415	432,	824	(24,47	1) 3,2	290,800	11.34
Real assets	4,02	25,398	1,184	,740	1,085,	251	144,157	7 4,2	269,044	14.71
Totals	\$ 27,08	86,314	144,427	,960	143,649,	068	1,151,894	1 29,0	17,100	100.00%

#### Defined Benefit Investments (Continued)

The Systems' investment portfolio includes strategic, long-term commitments in the following asset classes: Equities, Debt Securities, Real Assets, Private Equity, and Absolute Return, Asset allocation is reviewed in conjunction with the plan liabilities at least every five years.

The Board's policy is to establish a long-term strategic asset allocation that manages overall expected portfolio risk (volatility) and maximizes expected return without unduly constraining the discretionary, tactical decision-making process of the investment managers.

To implement the asset allocation plan, the Executive Director, supported by the Board, staff, and consultant, selects appropriate money management experts to invest the Fund assets. This selection process includes the creation of specific search criteria, completion and documentation of analysis, and due diligence on potential candidates, and interviews completed by the staff and/or Board. It is not the staff or Board's intention to be involved with the day-to-day decisions made by external investment managers. Internal investment staff also manages segments of the portfolio.

All managers must acknowledge a co-fiduciary status to the Fund. All managers are expected to communicate with the staff at least quarterly.

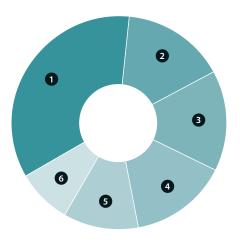
Managers' portfolios are evaluated both against appropriate market indices and similar manager style groups. The investment policy outlines appropriate benchmarks.

Investment return calculations are prepared using a time-weighted rate of return.

The allocation of assets as reported to the board are as follows: Equity securities 39.5%, Debt securities 19.0%, Absolute return 16.0%, Private equity 11.5% and Real assets 14.0%. These allocation percentages differ from investment asset percentages presented in the MD&A and Statement of Fiduciary Net Position as a result of different methodologies used to categorize investment assets and the impact of derivatives for investment purposes versus financial statement presentation purposes. For investment purposes the impact of derivatives used to rebalance the defined portfolio are expressed using the notional value of those derivatives.

#### Year-end Asset Allocation at Fair Value

December 31, 2016

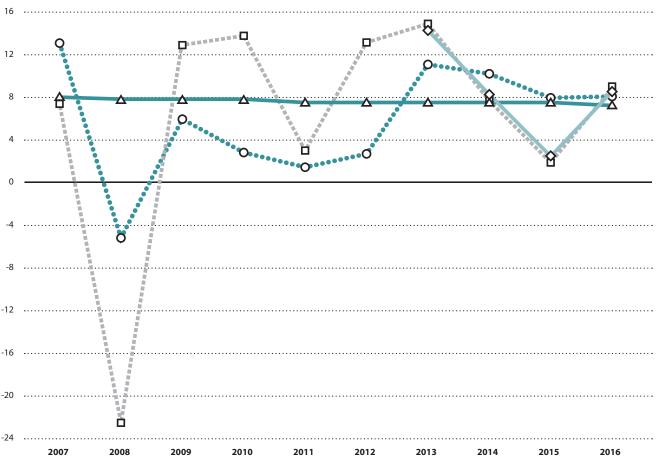


- 1 Equity Securities (35.2%)
- 2 Absolute Return (15.6%)
- 3 Debt Securities (15.0%)
- 4 Real Assets (14.7%)
- 5 Private Equity (11.3%)
- 6 Short Term (8.2%)

December 31,	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Equities securities	39.1%	29.2	37.3	35.8	35.2	36.2	37.5	35.5	33.9	35.2
Debt securities	23.3	26.1	23.7	21.0	19.4	17.9	16.0	15.7	15.8	15.0
Private equity	5.0	8.2	7.4	8.8	10.8	11.3	11.0	11.8	11.9	11.3
Real assets	16.4	18.7	14.7	14.4	13.9	13.5	12.2	14.0	14.9	14.7
Short-term securities	6.6	5.9	4.2	5.0	4.9	5.9	6.6	5.8	8.2	8.2
Absolute return	9.6	11.9	12.7	15.0	15.8	15.2	16.7	17.2	15.3	15.6
Total portfolio	100.0%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

#### 10-Year Total Pension Investment Rates of Return

(in percents)



(dollars	i n	millions)

		••••			<b>-</b>
	Total Investment Portfolio Fair Value	(1) Smooth Expected Rate of Return	(2) Fair Value Rate of Return	(3) Actuarial Assumed Interest Rate	(4) Money Weighted Rate of Return
2007	\$22,979	13.04	7.15	8.00%	, —
2008	17,565	(5.03)	(22.30)	7.75	_
2009	19,058	6.11	12.88	7.75	_
2010	20,992	2.87	13.73	7.75	_
2011	20,796	1.34	2.89	7.50	_
2012	22,871	2.66	13.10	7.50	_
2013	25,765	11.03	14.89	7.50	14.55%
2014	26,955	10.20	7.52	7.50	7.94
2015	27,086	7.84	1.92	7.50	2.02
2016	29,017	8.06	8.79	7.20	8.73

- (1) **Smoothed Expected Rate of Return** consists of investment income in excess or shortfall of the expected 7.20% on fair value smoothed over a 5-year period with 20% of a year's excess or shortfall being recognized each year beginning with the current year.
- (2) Fair Value Rate of Return consists of cash income plus gains and losses due to changes in fair value, whether realized or unrealized (before deduction of investment fees). (For 2016, 8.60% net of fees.)
- (3) Actuarial Assumed Interest Rate is the assumed rate of return on the fair value of assets, and is used in establishing retirement contribution rates and in determining current benefit reserve requirements.
- (4) Money Weighted Rate of Return is calculated as the internal rate of return on pension plan investments, net of investment expenses.





# Comparative Investment Results (1)(2)(3)

Year Ended December 31, 2016

Investment Option Comparative Index	1 Year	3 Year	5 Year	10 Year
Global Equity	<b>11.17</b> % 8.39	<b>4.35</b> % 3.29	<b>11.28</b> % 9.70	<b>5.06</b> % 3.79
Fund Benchmark			3.36 2.82 ustom	<b>5.15</b> 4.73
Real Assets*	11.32	11.06	10.48	3.74
Private Equity**  Private Equity Benchmark  Benchmark consisting of:  89% Russell 3000 Index + 3.5%  11% Russell 3000 Index + 2.0%	6.99 <b>9.12</b> 16.07	5.90 <b>13.33</b> 11.80	6.17 <b>14.78</b> 18.05	6.79 <b>12.05</b> 10.61
Absolute Return	<b>6.21</b> 5.33	<b>3.49</b> 5.14	<b>5.47</b> 5.12	<b>3.93</b> 5.80
Short Term	<b>0.54</b> 0.33	<b>0.24</b> 0.14	<b>0.19</b> 0.12	<b>1.51</b> 0.80
Fund Benchmark	<b>8.79</b> 7.62 Linked He	<b>5.98</b> 4.94 edged Cus	<b>9.12</b> 7.95	<b>5.47</b> 5.39
CAI Public Fund —  Very Large Database Median	7.94	5.31	8.90	5.35
Inflation	1.99	0.90	1.16	1.79

<sup>(1)</sup> Investment measurement services provided by Callan Associates Inc.

<sup>(2)</sup> Total rates of return include cash income plus gains and losses due to changes in fair value, whether realized or unrealized.

<sup>(3)</sup> Investment return calculations were prepared using a time-weighted return.

<sup>\*</sup>The non real estate portion of Real Assets only reflects returns for Years 1 and 3. Years 5 and 10 are for real estate only using a NCREIF Total Index Benchmark.

<sup>\*\*</sup>The 10-year benchmark consists of 85% Russell 3000 Index + 3.5% and 15% Russell 3000 Index +2.0% prior to 9/30/2008.

# List of Largest Assets Held\*

#### **■■■** Largest Equity Holdings

(By Fair Value)

Description	Shares	Fair Value
Apple Inc.	785,395	\$ 90,964,449
Citigroup	1,315,056	78,153,778
Microsoft Corp.	1,085,392	67,446,259
Alphabet Inc.	74,525	59,057,336
Nestle SA	806,630	57,976,407
Amazon Inc.	71,998	53,989,140
Exxon Mobil Corp.	597,621	53,941,271
Wells Fargo & Co.	949,263	52,313,884
Berkshire Hathaway	292,896	47,736,190
Facebook Inc.	395,355	45,485,593

#### **■■■** Largest Debt Securities Holdings

(By Fair Value)

Description	Par Value	Fair Value
US Treasury Notes .875% Due 9-15-2019	\$ 121,570,000	119,979,135
US Treasury Notes .125% Inflation Index Due 4-15-2020	58,495,000	61,002,917
US Treasury Notes 6-30-2016 1.125% Due 6-30-2021	52,365,000	50,681,570
US Treasury Notes 8-26-2015 1.5% Due 8-15-2026	54,906,000	50,498,531
GNMA II Jumbos 3.5% 30 year	36,454,000	37,894,370
US Treasury Notes 1.375% Due 9-30-2023	39,342,500	37,257,033
Republic of Italy 2.35% Index Linked Due 9-15-2024	30,525,000	37,184,036
US Treasury Notes .125% Inflation Index Due 7-15-2026	37,145,000	36,220,255
Government of Japan .1% Due 6-20-2021	4,180,000,000	36,175,699
US Treasury Notes 7-31-2016 1.125% Due 7-31-2021	35,780,000	34,586,415

<sup>\*</sup>A complete list of public traded securities is available upon request.

### Schedules of Fees and Commissions

Year Ended December 31, 2016

#### ■■■ Broker Commission Fees

Broker	Total Commission Fees
Merrill Lynch	\$ 515,508
Instinet	314,360
Jefferies	293,777
Frank Russell SEC/Broadcourt	211,336
Convergex	134,077
Bank of New York	125,053
JP Morgan Securities	110,994
Barclays	98,558
PCS Securities	81,938
Morgan Stanley	77,350
UBS	71,045
All others	1,028,913
Total	\$ 3,062,909

#### Schedule of Investment **Fees and Commissions**

\$ 25,323,810
6,103,820
3,736,038
1,562,191
1,076,498
686,643
38,489,000
3,062,909
\$ 41,551,909

Utah Retirement Systems uses a commission recapture program as part of its trading strategies. During the year ending December 31, 2016, Utah Retirement Systems recaptured approximately \$215,561 from the gross commission charges. This recaptured sum was used to cover or offset the \$139,913 in investment expenses that otherwise would have been paid for with investment funds.



## **Utah Retirement Investment Consultants**

Albourne America LLC 655 Montgomery Street San Francisco, CA 94111

Callan Associates, Inc. 101 California Street Suite 3500 San Francisco, CA 94111

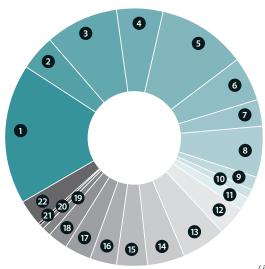
Glass Lewis & Company One Sansome Street Suite 3300 San Francisco, CA 94104 Russell Implementation Services, Inc. 1301 Second Avenue 18th Floor Seattle, WA 98101

The Northern Trust Company 50 South LaSalle Street Chicago, IL 60675

# **Defined Contribution** Savings Plans Investments

#### **Defined Contribution Savings Plans Investments**

December 31, 2016



1 Income Fund 17.68%
2 Bond Fund 4.52%
3 Balanced Fund 9.10%
4 Large Cap Stock Value Fund 5.96%
5 Large Cap Stock Index Fund 11.21%
6 Large Cap Stock Growth Fund 5.39%
7 International Fund 3.47%
8 Small Cap Stock Fund 6.33%
9 Tier 2 DC Nonvested 1.67%
10 Target Retired Fund 1.13%
11 Target Date 2010 Fund 1.76%
12 Target Date 2015 Fund 3.53%
13 Target Date 2020 Fund 5.53%
14 Target Date 2025 Fund 4.98%
15 Target Date 2030 Fund 3.66%
16 Target Date 2035 Fund 3.49%
17 Target Date 2040 Fund 3.22%
18 Target Date 2045 Fund 2.48%
5
19 Target Date 2050 Fund 1.29%
20 Target Date 2055 Fund 0.37%
21 Target Date 2060 Fund 0.11%

22 Brokerage Window 3.10%

	(in thousands,
Investment Options	Tota
Income Fund	\$ 867,887
Bond Fund	222,041
Balanced Fund	446,809
Large Cap Stock Value Fund	292,499
Large Cap Stock Index Fund	550,396
Large Cap Stock Growth Fund	
International Fund	170,413
Small Cap Stock Fund	310,949
Tier 2 Nonvested	82,050
Target Retired Fund	55,241
Target Date 2010 Fund	86,394
Target Date 2015 Fund	173,367
Target Date 2020 Fund	271,503
Target Date 2025 Fund	244,677
Target Date 2030 Fund	179,468
Target Date 2035 Fund	171,099
Target Date 2040 Fund	158,196
Target Date 2045 Fund	121,811
Target Date 2050 Fund	63,373
Target Date 2055 Fund	17,992
Target Date 2060 Fund	5,379
Brokerage Window	152,320
Totals	\$4,908,496

### Investment Highlights

Utah Retirement Systems' 401(k), 457, Roth and traditional IRAs are tax-advantaged retirement savings plans authorized under sections 401(k), 457(b), and 408 of the Internal Revenue Code. These plans are available to employees of the state, local government, and public education employers throughout Utah.

The participants of the plans have a choice of 20 core investment funds and a brokerage window in which their monies may be invested. Each participant may choose one or a combination of the core funds. The table to the left shows the total assets in the various investment options. The graph above the table shows the asset distribution as of December 31, 2016.

#### Investment and **Administrative Expenses**

There are no front-end load, redemption, or other hidden fees associated with these plans. All costs reflected in the table on page 138 are deducted from earnings prior to posting to participant accounts and do not appear as separate items on participant statements.

The administrative fee for the brokerage window account is a flat rate of \$25 per guarter. Investment fees and broker commissions are paid by the participant according to the trading and securities selected within the brokerage window.

**2016** Investment Summary and Investment and Administrative Fees

(dollars in thousands)

Fund	2016 Beginning Fair Value	Purchases	Sales and Redemptions	Increase (Decrease) in Fair Value	2016 Ending Fair Value	Percent of Total Inv Fair Value	estment Fees	Admin- istrative Fees	Total Fees
Income Fund	\$ 847,472	78,070	61,890	4,235	867,887	17.69%	0.29%	0.16%	0.45%
Bond Fund	203,230	36,596	24,810	7,025	222,041	4.53	0.12	0.16	0.28
Balanced Fund	438,559	15,755	30,333	22,828	446,809	9.10	0.27	0.16	0.43
Large Cap Stock Value Fund	240,363	26,347	15,746	41,535	292,499	5.96	0.42	0.16	0.58
Large Cap Stock Index Fund	516,368	15,312	38,589	57,305	550,396	11.21	0.03	0.16	0.19
Large Cap Stock Growth Fund	305,317	12,220	34,713	(18,192)	264,632	5.39	0.31	0.16	0.47
International Fund	171,493	6,628	12,651	4,943	170,413	3.47	0.06	0.16	0.22
Small Cap Stock Fund	257,410	20,197	14,646	47,988	310,949	6.33	0.37	0.16	0.53
Brokerage Window	139,380	24,874	20,177	8,243	152,320	3.10	NA	NA	NA
Tier 2 Non Vested	67,369	27,673	18,246	5,254	82,050	1.67	0.18	0.16	0.34
Retired Fund	43,011	20,374	10,191	2,047	55,241	1.13	0.19	0.16	0.35
2010 Fund	80,693	11,296	9,838	4,243	86,394	1.76	0.19	0.16	0.35
2015 Fund	160,233	22,722	19,444	9,856	173,367	3.53	0.21	0.16	0.37
2020 Fund	239,095	35,683	20,798	17,523	271,503	5.53	0.21	0.16	0.37
2025 Fund	201,798	35,061	9,712	17,529	244,676	4.98	0.22	0.16	0.38
2030 Fund	146,828	24,844	6,889	14,685	179,468	3.66	0.22	0.16	0.38
2035 Fund	139,213	22,083	4,852	14,655	171,099	3.49	0.21	0.16	0.37
2040 Fund	129,413	19,536	4,253	13,503	158,199	3.22	0.22	0.16	0.38
2045 Fund	95,383	17,934	2,146	10,637	121,808	2.48	0.21	0.16	0.37
2050 Fund	44,518	14,538	1,036	5,354	63,374	1.29	0.21	0.16	0.37
2055 Fund	9,009	7,893	283	1,374	17,993	0.37	0.21	0.16	0.37
2060 Fund	3,310	3,732	2,045	381	5,378	0.11	0.21	0.16	0.37
HRA Fund*	23,156	7,009	30,165	_	0	0.00	0.37	0.16	0.53
Total	\$ 4,502,621	506,377	393,453	292,951	4,908,496	100.00%			

<sup>\*</sup>Administration of the HRA was transferred to PEHP in October, 2016.

By administering the defined contribution plans internally rather than through a third party, expenses are kept at very low levels to maximize earnings to each participant. The table above shows these expenses to be nominal when compared to much higher fees on most annuities, mutual funds, and insurance contracts.

An annual account maintenance fee of \$15 is assessed to inactive accounts with combined 401(k), 457, Roth and traditional IRA balances of less than \$5,000. (Inactive accounts are defined as accounts that have had no contribution or withdrawal activity for a period of at least 12 months and the participant is no longer employed with a URS participating employer.) There is a \$60 one-time service fee for loans, and a 2% fee for short-term trading (more frequently than 30 days).

The investments described are not FDIC insured; not deposits or obligations of, or guaranteed by, any financial institution; and not guaranteed by the Utah Retirement Systems or any government agency.

The past performance of any of these funds does not guarantee future results.

# **Defined Contribution Plans** Comparative Annualized Rates of Return

Year Ended December 31, 2016

Investment Option	_		A	nnualized
Comparative Index	1-Year	3-Year	5-Year	10-Year
Income Fund	1.62%	1.60%	1.71%	2.46%
Treasury Bills Index	0.33	0.14	0.12	0.80
Bloomberg Barclays Capital	5.86	3.79	3.89	5.26
Aggregate Bond Index	2.65	3.03	2.23	4.34
Balanced Fund	9.32	6.48	11.27	6.94
Balanced Index <sup>(1)</sup>	8.37	6.50	9.71	6.30
Large Cap Stock Value Fund	21.24	8.49	16.92	5.82
*Russell 1000 Value Index	17.34	8.59%	14.80	5.72
Large Cap Stock Index Fund	11.84	8.39	14.44	6.65
Large Cap Stock Blended Index (2)	12.05	8.59	14.69	6.86
Large Cap Stock Growth Fund	1.15	7.20	14.17	8.35
*Russell 1000 Growth Index	7.08	8.55	14.50	8.33
International Fund	4.44	(1.43)	5.35	0.13
International Blended Index (3)	4.41	(1.44)	5.35	(0.05)
Small Cap Stock Fund	23.34	7.49	15.80	8.21
*Russell 2000 Index	21.31	6.74	14.46	7.07
Target Retired Fund	6.06	N/A	N/A	N/A
Target Retired Index (4)	4.72	_	_	_
Target Date 2010 Fund	6.14	N/A	N/A	N/A
Target Date 2010 Index (5)	5.20	_	_	_
Target Date 2015 Fund	6.78	N/A	N/A	N/A
Target Date 2015 Index (6)	5.92	_	_	_
Target Date 2020 Fund	7.69	N/A	N/A	N/A
Target Date 2020 Index (7)	6.78	_	_	_

Continued on page 140.

Annualized

Past performance does not guarantee future results.

All fund returns are reported net of investment and administrative fees. All returns for periods greater than one year are annualized.

Investment return calculations were prepared using a time-weighted return. Comparative indexes below reflect current asset allocation targets.

- (1) Balanced Index: 60% S&P 500, 40% Bloomberg Barclays Capital US Aggregate Bond through 12/31/2014, 60% Russell 1000 Index\*, 40% Barclays Capital US Aggregate Bond thereafter
- (2) Large Cap Stock Blended Index: S&P 500 through 6/30/2011, Russell 1000 Index\* thereafter
- International Blended Index: MSCI EAFE through 3/31/2011, MSCI ACWI ex US IMI thereafter
- (4) Target Retired Index: 25% 90 Day T-Bills, 20% Bloomberg Barclays Capital US Aggregate Bond, 14% Russell 1000 Index\*, 4% MSCI ACWI ex. US IMI, 1% Russell 2000 Index\*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 20% Bloomberg Barclays Capital Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 3% NFI-ODCE (Value Weighted)
- (5) Target Date 2010 Index: 21% 90 Day T-Bills, 21% Bloomberg Barclays Capital US Aggregate Bond, 18% Russell 1000 Index\*, 4% MSCI ACWI ex. US IMI, 1% Russell 2000 Index\*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 18% Bloomberg Barclays Capital Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 4% NFI-ODCE (Value Weighted)
- (6) Target Date 2015 Index: 16% 90 Day T-Bills, 20% Bloomberg Barclays Capital US Aggregate Bond, 20% Russell 1000 Index\*, 7% MSCI ACWI ex. US IMI, 2% Russell 2000 Index\*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 13% Bloomberg Barclays Capital Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 9% NFI-ODCE (Value Weighted))
- (7) Target Date 2020 Index: 11% 90 Day T-Bills, 18% Bloomberg Barclays Capital US Aggregate Bond, 1% Russell 1000 Value Index\*, 23% Russell 1000 Index\*, 1% Russell 1000 Growth Index\*, 12% MSCI ACWI ex. US IMI, 3% Russell 2000 Index\*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 8% Bloomberg Barclays Capital Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 10% NFI-ODCE (Value Weighted)

\*Russell Investment Group is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. Russell is a trademark of Russell Investment Group.

#### **Defined Contribution Plans** Comparative Annualized Rates of Return (Concluded)

Year Ended December 31, 2016

Investment Option				Annualized
Comparative Index	1-Year	3-Year	5-Year	10-Year
Target Date 2025 Fund  Target Date 2025 Index (8)	<b>8.65</b> % 8.07	N/A	N/A —	N/A —
Target Date 2030 Fund	<b>9.29</b>	N/A	N/A	N/A
Target Date 2030 Index (9)	8.81	—	—	—
Target Date 2035 Fund	<b>9.73</b> 9.52	N/A	N/A	N/A
Target Date 2035 Index (10)		—	—	—
Target Date 2040 Fund	<b>9.91</b>	N/A	N/A	N/A
Target Date 2040 Index (11)	9.85	—	—	—
Target Date 2045 Fund	<b>10.00</b>	N/A	N/A	N/A
Target Date 2045 Index <sup>(12)</sup>	9.90	—	—	—
Target Date 2050 Fund	<b>10.00</b> 9.90	N/A	N/A	N/A
Target Date 2050 Index <sup>(13)</sup>		—	—	—
Target Date 2055 Fund	<b>10.00</b> 9.90	N/A	N/A	N/A
Target Date 2055 Index (14)		—	—	—
Target Date 2060 Fund	<b>10.00</b> 9.90	N/A	N/A	N/A
Target Date 2060 Index (15)		—	—	—
Tier 2 Nonvested Fund Tier 2 Nonvested Index <sup>(16)</sup>	<b>8.33</b> 7.57	<b>3.73</b> 3.89	<b>7.16</b> 6.58	N/A —

#### Past performance does not quarantee future results.

- (8) Target Date 2025 Index: 6% 90 Day T-Bills, 14% Bloomberg Barclays Capital US Aggregate Bond, 2.5% Russell 1000 Value Index\*, 25% Russell 1000 Index\*, 2.5% Russell 1000 Growth Index\*, 18% MSCI ACWI ex. US IMI, 5% Russell 2000 Index\*, 8% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 2% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 3% Bloomberg Barclays Capital Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 10% NFI-ODCE (Value Weighted)
- (9) Target Date 2030 Index: 1% 90 Day T-Bills, 10% Bloomberg Barclays Capital US Aggregate Bond, 4.5% Russell 1000 Value Index\*, 23% Russell 1000 Index\*, 4.5% Russell 1000 Growth Index\*, 26% MSCI ACWI ex. US IMI, 7% Russell 2000 Index\*, 6% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 10% NFI-ODCE (Value Weighted)
- (10) Target Date 2035 Index: 5% Bloomberg Barclays Capital US Aggregate Bond, 7% Russell 1000 Value Index\*, 23% Russell 1000 Index\*, 7% Russell 1000 Growth Index\*, 31% MSCI ACWI ex. US IMI, 9% Russell 2000 Index\*, 3% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 7% NFI-ODCE (Value Weighted)
- (11) Target Date 2040 Index: 3% Bloomberg Barclays Capital US Aggregate Bond, 9.5% Russell 1000 Value Index\*, 20% Russell 1000 Index\*, 9.5% Russell 1000 Growth Index\*, 33% MSCI ACWI ex. US IMI, 10% Russell 2000 Index\*, 2% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 5% NFI-ODCE (Value Weighted)
- (12) Taraet Date 2045 Index: 3% Bloombera Barclays Capital US Aggregate Bond, 10% Russell 1000 Value Index\*, 20% Russell

- 1000 Index\*, 10% Russell 1000 Growth Index\*, 33% MSCI ACWI ex. US IMI, 10% Russell 2000 Index\*, 2% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 4% NFI-ODCE (Value Weighted)
- (13) Target Date 2050 Index: 3% Bloomberg Barclays Capital US Aggregate Bond, 10% Russell 1000 Value Index\*, 20% Russell 1000 Index\*, 10% Russell 1000 Growth Index\*, 33% MSCI ACWI ex. US IMI, 10% Russell 2000 Index\*, 2% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 4% NFI-ODCE (Value Weighted)

- (14) Target Date 2055 Index: 3% Bloomberg Barclays Capital US Aggregate Bond, 10% Russell 1000 Value Index\*, 20% Russell 1000 Index\*, 10% Russell 1000 Growth Index\*, 33% MSCI ACWI ex. US IMI, 10% Russell 2000 Index\*, 2% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 4% NFI-ODCE (Value Weighted)
- (15) Target Date 2060 Index: 3% Bloomberg Barclays Capital US Aggregate Bond, 10% Russell 1000 Value Index\*, 20% Russell 1000 Index\*, 10% Russell 1000 Growth Index\*, 33% MSCI ACWI ex. US IMI, 10% Russell 2000 Index\*, 2% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 4% Bloomberg Commodity Index, 4% NFI-ODCE (Value Weighted)
- (16) Tier 2 Nonvested Index: 30% Bloomberg Barclays Capital US Aggregate Bond, 23% Russell 1000 Index\*, 18% MSCI ACWI ex. US IMI, 5% Russell 2000 Index\*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index\*\*, 5% Bloomberg Commodity Index, 5% Bloomberg Barclays Capital Global Inflation-Linked Bond Index 1-10 Year (USD Hedged)

\*Russell Investment Group is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. Russell is a trademark of Russell Investment Group.

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# List of Largest Assets Held\*

#### **■■■** Largest Equity Holdings

(By Fair Value)

Description	Shares	Fair Value
Alphabet Inc.	55,658	\$ 43,530,770
Apple Inc.	354,114	41,013,483
Microsoft Corp.	589,374	36,623,700
Amazon Inc.	42,952	32,208,416
Facebook Inc.	235,251	27,065,628
Mastercard Inc.	204,192	21,082,824
Visa Inc.	253,809	19,802,178
Goldman Sachs	77,501	18,557,614
Home Depot	131,671	17,654,448
Celgene Corp.	151,047	17,483,690

#### **■■■** Largest Debt Securities Holdings

(By Fair Value)

Description	Par Value	Fair Value
Federal Home Loan Bank debenture 2.375% Due 01-13-2022	\$ 25,895,000	26,605,154
US Treasury Note 5-31-2013 1% Due 5-31-2018	25,000,000	25,011,634
US Treasury Note .635% Due 5-31-2017	24,000,000	24,014,717
US Treasury Note 2% Due 2-15-2025	24,360,000	23,890,501
US Treasury Note 2% Due 2-15-2023	23,650,000	23,631,166
US Treasury Note 1% Due 12-31-2017	23,000,000	23,132,963
US Treasury Note 1.5% Due 8-15-2026	20,165,000	18,658,901
US Treasury Note 1.5% Due10-31-2019	17,375,000	17,460,280
US TIPS 0.125% Due 4-15-2019	15,112,061	15,304,649
US Treasury Note .75% Due1-31-2018	15,000,000	5,015,138

<sup>\*</sup>A complete list of public traded securities is available upon request.

### Schedules of Fees and Commissions

Year Ended December 31, 2016

#### ■■■ Broker Commission Fees

Broker	Total Commission Fees
Frank Russell SEC/Broadcourt	\$ 89,463
Jefferies	13,102
Bear Sterns	12,057
Credit Suisse	7,509
Morgan Stanley	6,986
Barclays	4,597
Instinet	3,770
All Others	41,526
Total	\$179,010

#### **■■■** Schedule of Investment Fees and Commissions

Investment advisor fees:	
Equity securities	\$ 1,845,428
Debt securities	1,675,722
Total investment advisor fees	3,521,150
Investment brokerage fees	179,010
Total fees and commissions	\$ 3,700,160

Utah Retirement Systems uses a commission recapture program as part of its trading strategies. During the year ending December 31, 2016, Utah Retirement Systems recaptured \$64,317 from the gross commission charges. This recaptured sum was used to cover or offset the \$46,001 in investment expenses that otherwise would have been paid for with investment funds.



#### **Investment Professionals**

#### **Defined Contribution** Plans Investment **Professionals**

**Ameriprise Trust Company** 940 Ameriprise Financial Center Minneapolis, MN 55474

**AQR** 2 Greenwich Plaza 3rd Floor Greenwich, CT 06830

BlackRock Asset Management 40 East 52nd Street New York, NY 10019

**Charles Schwab** 101 Montgomery Street San Francisco, CA 94104

Dimensional Fund Advisors, Inc. 6300 Bee Cave Road Austin, TX 78746

Dodge & Cox Investment Managers 555 California Street 40th Floor San Francisco, CA 94104

Ivy Investments 6300 Lamar Avenue Shawnee Mission, KS 66201

Jennison Associates, LLC 466 Lexington Avenue New York, NY 10017

Standish 201 Washington Street Suite 2900 Boston, MA 02108

The Northern Trust Company 50 South LaSalle Street Chicago, IL 60675

The Prudential Insurance Company of America 751 Broad Street Newark, NJ 07102

**Utah Retirement Systems** 560 East 200 South Salt Lake City, UT 84102



Utah Retirement Systems

2016

**Comprehensive Annual Financial Report** 

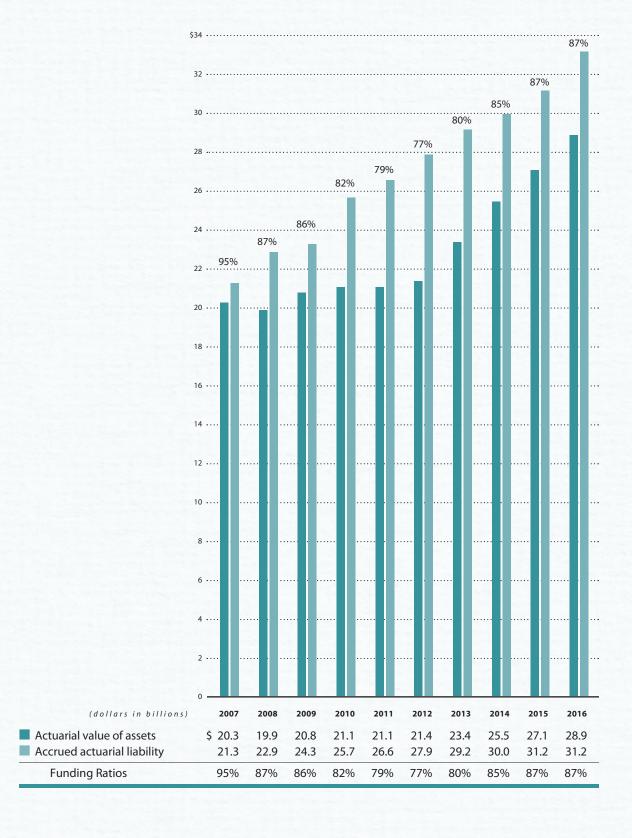
# Actuarial Section

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# Funding Progress with Funding Ratios

(dollars in billions)



#### Utah Retirement Systems

# Actuary's Certification Letter



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August 26, 2016

**Utah State Retirement Board** 540 East 200 South Salt Lake City, UT 84102

Dear Members of the Board:

#### **Subject: Actuarial Valuation as of January 1, 2016**

This report describes the current actuarial condition of the Utah Retirement Systems (URS), determines the calculated employer contribution rates, and analyzes changes in these contribution rates. In addition, the report provides various summaries of the data. A separate report is issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statements 67 and 68. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of January 1, the first day of the URS plan year. This report was prepared at the request of the Board and is intended for use by the URS staff and those designated or approved by the Board. This report may be provided to parties other than URS staff only in its entirety and only with the permission of the Board.

Under URS statutes, the Board of Trustees must certify employer contribution rates annually. These rates are determined actuarially, based on the Board's funding policy, although, as discussed below, under certain circumstances the Board may choose not to reduce the current rate if it is greater than the actuarially calculated rate. Contribution rates determined by a given actuarial valuation

become effective eighteen months after the valuation date. In other words, the rates determined by this January 1, 2016 actuarial valuation will be used by the Board when certifying the employer contribution rates for the year beginning July 1, 2017 and ending June 30, 2018. If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the calculated rates before certifying them in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

#### Financing objectives and funding policy

In setting contribution rates, the Board's principal objectives are:

- To set rates so that the unfunded actuarial accrued liability (UAAL) will be amortized over a reasonable period from the current valuation date
- To set rates so that they remain relatively level over time.

To accomplish this, the Board's funding policy requires that the employer contribution rate be at least equal to the sum of the employer normal cost rate (which pays the current year's cost) and

#### Actuary's Certification Letter (Continued)

an amortization rate which results in the amortization of the UAAL over 20 years in installments that increase at the assumed rate of growth in payroll for URS.

Under this policy, the objective of maintaining a relatively level contribution rate over time is achieved in normal conditions such as consistent financial markets.

Section 49-11-301(5) of the Utah Code allows the Board to set the employer contribution rate at the prior year's rate, if the rate otherwise would decrease and if the funded ratio is less than 110%. In such a case, the rate set by the Board would be higher than the actuarially determined contribution rate. The purpose of this legislation is to enhance the Board's ability to maintain more level contribution rates while targeting a 100% – 110% funded level. The Board has historically followed this policy, so the recommended contribution rate may be greater than the actuarially determined rate.

#### **Progress toward realization** of financing objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches at least 100%.

For all systems on a combined basis, the funded ratio decreased from 85.5% to 85.2%. The most significant cause of the change in funded ratio was due to a decrease in the assumed rate of return and inflation assumptions. Absent unfavorable actuarial experience, we expect the funded ratio to continue to gradually increase in future years.

If market value had been used in the calculation instead of actuarial value, the aggregate funded ratio for all funds combined would have been 83.8% compared to 89.1% in the prior year. The decrease in the funded ratio on a market value basis is largely

attributable to the change in economic assumptions and the 1.7% return on a market value of assets during the prior year being significantly less than the assumed rate of return.

#### **Benefit provisions**

The benefit provisions reflected in this valuation are those which were in effect on January 1, 2016, or which were adopted by the end of the 2016 legislative session and are effective on or before July 1, 2016. The only legislative change that had a measurable impact on the liability and contribution rates is the prior actuarial valuation was HB 437 that was passed during the 2015 legislative session which provided a window allowing certain employees of local government entities to elect to transfer from the Contributory Public Employees Retirement System to the Noncontributory Public Employees Retirement System.

There were no other legislative changes enacted since the previous valuation that had a measureable effect on the 2016 actuarial valuation.

#### **Assumptions and methods**

The demographic assumptions and actuarial methods used to perform this valuation remain unchanged from the prior valuation. The actuary reviews the investment return assumption each year and provides consultation to the Board regarding its appropriateness. The Board has the authority to change this assumption each year and elected to decrease the assumed nominal investment return from 7.50% to 7.20% and also decrease the assumed inflation rate from 2.75% to 2.60%. It is our opinion that a 7.20% investment return assumption is appropriate for performing the January 1, 2016 actuarial valuation. In conjunction with the decrease in the assumed rate of inflation, both the payroll growth and the wage inflation assumptions were decreased by 0.15% from the prior year's assumption.

Gabriel Roeder Smith & Company

#### Actuary's Certification Letter (Continued)

The demographic assumptions are reviewed in detail every three years. The next experience analysis to review the demographic assumptions is scheduled for 2017.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and calculated contribution rates.

It is our opinion that the assumptions used to perform this valuation are internally consistent and are reasonable based on past and anticipated future experience of the System.

#### Data

Member data for retired, active and inactive members was supplied as of December 31, 2015 by the URS staff. The staff also supplied asset information as of December 31, 2015. We did not audit this data, but we did apply a number of tests to the data and concluded that it was reasonable and consistent with the prior year's data. GRS is not responsible for the accuracy or completeness of the information provided to us by URS.

GRS prepared the following schedules in the actuarial section: Summary of Actuarial Assumptions and Methods, Analysis of Financial Experience, and the Member and Employer Contribution Rates. In addition, GRS prepared the following schedules in the financial section in accordance with GASB Statement No. 67: Net Pension Liability of Employers, Changes in Discount Rate, Schedule of Changes in the Employers' Net Pension Liability, Schedule of Employers' Net Pension Liability, and the Schedules of Employer Contributions.

URS relied upon the data prepared by GRS to prepare the following schedules: Calculation of Actuarial Value of Assets, Actuarial Value of Assets by System, Schedules of Funding Progress, Solvency Tests, Schedules of Active Member Valuation Data, and the Schedules of Retirants and Beneficiaries.

#### Certification

We certify that the information presented herein is accurate and fairly portrays the actuarial position of URS as of January 1, 2015.

All of our work conforms with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Utah state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Mr. White is an Enrolled Actuary and a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Both consultants below are experienced in performing valuations for large public retirement systems.

Sincerely,

Daniel J. White, FSA, EA, MAAA, Senior Consultant

Lewis Ward, Consultant

# Summary of Actuarial Assumptions and Methods

as of January 1, 2016





- a) The actuarial valuation was prepared using the entry age actuarial cost method. As described in the certification letter, the contribution rates are set based on the board's funding policy, which states the contribution rate will not be less than the amount needed to amortize the unfunded actuarial accrued liability of each System over a 20-year period from the valuation date (January 1, 2015).
  - In calculating this minimum, amortization payments are designed to remain level as a percent of payroll, and payroll is assumed to increase 3.10% per year. Under this method, actuarial gains and losses are identified and amortized as part of the unfunded actuarial accrued liability over a period that does not exceed 20 years.
- **b)** The future investment earnings of the assets of the Systems are assumed to accrue at an annual rate of 7.20%, compounded annually. This rate is made up of a 2.60% assumed inflation rate and a 4.60% assumed real rate of return. This assumption was adopted January 1, 2016.
- c) The total rates of assumed annual salary increase are shown on the actuarial schedule on page 153. The rates include increases due to promotion and longevity and a 3.35% per annum rate of increase in the general wage level of the membership. Salaries of judges are assumed to increase at 3.35%. All of these assumptions were adopted January 1, 2016.
- d) Post-retirement benefit increases are based on the consumer price index (CPI), limited by the provisions of each System. For members of the Public Safety Retirement System, annual increases are assumed to be 2.5% or 2.60%. All other Systems' annual increases are assumed to be 2.60%. Increases are based on the member's original retirement allowance except in the Judges Retirement System where increases are compounded. For current retirees who have received cumulative COLAs less than the total of annual CPI increases since retirement, higher COLAs are assumed, subject to the annual maximum (2.5% or 4% for Public Safety and 4% for all other Systems), as long as the member has "banked" CPI increases left.

#### Summary of Actuarial Assumptions and Methods (Continued)

as of January 1, 2016

#### **■■■** Retired Member Mortality

Class of Member

#### **Educators**

Men EDUM (90%) Women EDUF (100%)

#### **Public Safety and Firefighters**

Men RP 2000mWC (100%) EDUF (120%) Women

#### Local Government, **Public Employees**

Men RP 2000mWC (100%) Women EDUF (120%)

EDUM = Constructed mortality table based on actual experience of male educators multiplied by given percentage

EDUF = Constructed mortality table based on actual experience of female educators multiplied by given percentage

 $RP\ 2000mWC = RP\ 2000\ Combined\ mortality$ table for males with white collar adjustments multiplied by given percentage

- e) Tables of mortality rates for male members retired for service and beneficiaries (except educators) were developed from a standard mortality table. Mortality rates for male retired educators were developed from actual experience of that group. Mortality rates for female members retired for service and beneficiaries were developed from actual experience of the female educators. The mortality basis is dependent upon the member's class and gender as shown above. These base rates are adjusted for future improvement in mortality using published Scale AA projected from the year 2000. With the exception of the female educators, these rates were adopted January 1, 2011, the female educators assumptions was adopted January 1, 2014. Mortality rates for active members use the RP 2000 employees mortality tables as the underlying assumption with scaling factors applied based on employee group and gender. The assumptions were adopted effective January 1, 2014.
- f) Mortality among disabled members is based on a special 1981 Disability Table developed from the Systems' experience. The rates for males and females are also adjusted for future improvement in mortality using published Scale AA projected from the year 2000.
- **g)** Other demographic assumptions regarding retirement, mortality, disablement, and termination from employment are illustrated in the following actuarial schedules.

The retirement assumptions illustrated are for members of the Systems who are eligible to retire with 30 years of service (35 years of service for Tier 2). For public employees the rates vary by age and eligibility for reduced or unreduced retirement. For Public Safety, Firefighters, and Judges the rates vary by age and service groupings.

Rates of assumed termination from employment are assumed to vary by years of service. All terminating members who are not eligible for vested benefits are assumed to withdraw their contributions immediately. Vested members are assumed to withdraw their contributions and forfeit the right to further benefits at the rates illustrated.

- h) The Retirement Board uses the expected rate of return method for calculating the actuarial value of assets. This method is based on the total earnings of the commingled investments and spreads the excess/shortfall of actual investment returns over or under the expected return over five years. One-fifth of the excess/shortfall is recognized each year. The actuarial values of assets under this method were calculated and reported to us by the Systems' staff.
- i) All of the actuarial assumptions were renewed or adopted by the Retirement Board in 2014, as recommended by the actuary. The assumptions for Tier 2 members are the same as the Tier 1 members, except for retirement rates.

# Summary of Actuarial Assumptions and Methods (Continued)

as of January 1, 2016

					F	Percent Retiring	y Withi	n Next Yea	ar Among Act	ive Members		
							E	ligible for	Retirement			
					Male				Female	Governors and		
		State and Sch			Local	State and Sch			Local	Legislators		
	Retirement Age	Educators		Public ( loyees	Government Division	Educators		Public Go Oyees	overnment Division	Retirement Plan		
Tier 1	50	20.00%	1	5.00%	15.00%	30.00%	1	7.00%	20.00%	0.00%	6	
Noncontributory	51	20.00	1	5.00	15.00	30.00	1	6.00	20.00	0.00		
and Contributory	52	20.00	1	5.00	15.00	30.00	1	6.00	20.00	0.00		
Retirement Systems	53	20.00		5.00	15.00	14.00		6.00	20.00	0.00		
Adopted January 1, 2014	54	12.00		5.00	15.00	14.00		6.00	20.00	0.00		
.,,,	55	12.00		6.00	15.00	14.00		6.00	25.00	0.00		
	56	12.00		6.00	15.00	18.00		6.00	25.00	0.00		
	57	12.00		6.00	15.00	18.00		6.00	25.00	0.00		
	58	12.00		6.00	15.00	18.00		0.00	25.00	0.00		
	59	12.00		6.00	15.00	18.00		0.00	25.00	0.00		
	60	23.00			20.00	30.00				0.00		
				0.00				0.00	30.00			
	61	23.00		0.00	20.00	30.00		0.00	30.00	0.00		
	62	30.00		3.00	23.00	35.00		0.00	30.00	100.00		
	63	30.00		3.00	23.00	35.00		0.00	30.00	100.00		
	64	30.00		0.00	23.00	30.00		0.00	30.00	100.00		
	65	30.00		2.00	23.00	30.00		6.00	25.00	100.00		
	66	30.00		2.00	30.00	30.00		6.00	25.00	100.00		
	67	30.00		2.00	22.00	30.00		2.00	25.00	100.00		
	68	30.00		2.00	22.00	23.00		2.00	25.00	100.00		
	69	25.00		2.00	22.00	23.00		2.00	25.00	100.00		
	70	20.00		2.00	22.00	23.00		2.00	20.00	100.00		
	71	20.00	2	2.00	18.00	23.00	2	2.00	15.00	100.00		
	72	20.00	2	2.00	18.00	23.00	2	2.00	15.00	100.00		
	73	20.00	2	2.00	18.00	23.00	2	2.00	15.00	100.00		
7: 74		20.00	2	2.00	18.00	23.00	2	2.00	15.00	100.00		
	75	100.00	10	00.00	100.00	100.00	10	0.00	100.00	100.00		
					Perce	ent Retiring Wit	hin Ne	xt Year An	nong Active N	Members Eligil	ole for I	Retirement
	Retirement Age	Retire	ment Age		Retirement Age	Retire	ment Age	ı	Retirement Age	Retir	ement Age	
Tier 1	45	20.00%	50	20.00	% 55	20.00%	59	20.00%	6 63	35.00%	67	50.00%
Public Safety	46	20.00	51	20.00	56	20.00	60	20.00	64	35.00	68	50.00
Retirement System	47	20.00	52	20.00	57	20.00	61	20.00	65	50.00	69	50.00
Adopted January 1, 2014	48	20.00	53	20.00	58	20.00	62	35.00	66	50.00	70	100.00
	49	20.00	54	20.00								
					Perce	ent Retiring Wit	hin Ne	xt Year An	nong Active N	Members Eligil	ole for I	Retirement
	Retirement	Retire			Retirement	Retire		ı	Retirement	Retir	ement	
Tion 1	Age	15 000/	Age	15.00	Age	20.000/	Age	20.000	Age	25.000/	Age	F0.000
Tier 1	45	15.00%	50	15.00		20.00%	59	20.009		25.00%	67	50.00%
Firefighters	46	15.00	51	15.00		20.00	60	22.50	64	25.00	68	50.00
Retirement System	47	15.00	52	15.00		20.00	61	22.50	65	50.00	69	50.00
Adopted January 1, 2014	48 49	15.00 15.00	53 54	15.00 15.00		20.00	62	25.00	66	50.00	70	100.00
					Dorec	ent Retiring Wit	hin No	yt Vaar Am	nona Active N	Nembers Elicil	nle for '	Retirement
	Retirement Age	Retire	ment Age		Retirement Age	Retire			Retirement Age		ement Age	
ludase		10.000/		10.00		10.000/		10.000		20.000/		20.000
Judges	45	10.00%	50	10.00		10.00%	59	10.009		20.00%	67	20.00%
Retirement System	46	10.00	51	10.00		10.00	60	10.00	64	20.00	68	20.00
Adopted January 1, 2014	47	10.00	52	10.00		10.00	61	10.00	65	20.00	69	20.00
	48	10.00	53	10.00		10.00	62	20.00	66	20.00	70	100.00
	49	10.00	54	10.00								

### Summary of Actuarial Assumptions and Methods (Continued)

as of January 1, 2016

				P	ercent Retiring	Within Next	Year Among Acti	ve Members
						Eligible f	or Retirement	
				Male			Female	Governors
		State and Sch		Local	State and Sch	nool Division	Local	and Legislators
	Retirement Age	Educators	Public Employees	Government Division	Educators	Public Employees		Retirement Plan
Tier 2	50	20.00%	15.00%	15.00%	30.00%	17.00%	6 20.00%	0.00%
Public Employees	51	20.00	15.00	15.00	30.00	16.00	20.00	0.00
Retirement System	52	20.00	15.00	15.00	30.00	16.00	20.00	0.00
Adopted January 1, 2014	53	20.00	15.00	15.00	14.00	16.00	20.00	0.00
	54	12.00	15.00	15.00	14.00	16.00	20.00	0.00
	55	12.00	16.00	15.00	14.00	16.00	25.00	0.00
	56	12.00	16.00	15.00	18.00	16.00	25.00	0.00
	57	12.00	16.00	15.00	18.00	16.00	25.00	0.00
	58	12.00	16.00	15.00	18.00	20.00	25.00	0.00
	59	12.00	16.00	15.00	18.00	20.00	25.00	0.00
	60	23.00	20.00	20.00	30.00	30.00	30.00	0.00
	61	23.00	20.00	20.00	30.00	30.00	30.00	0.00
	62	30.00	33.00	23.00	35.00	30.00	30.00	100.00
	63	30.00	33.00	23.00	35.00	30.00	30.00	100.00
	64	30.00	30.00	23.00	30.00	30.00	30.00	100.00
	65	30.00	22.00	23.00	30.00	26.00	25.00	100.00
	66	30.00	22.00	30.00	30.00	26.00	25.00	100.00
	67	30.00	22.00	22.00	30.00	22.00	25.00	100.00
	68	30.00	22.00	22.00	23.00	22.00	25.00	100.00
	69	25.00	22.00	22.00	23.00	22.00	25.00	100.00
	70	20.00	22.00	22.00	23.00	22.00	20.00	100.00
	71	20.00	22.00	18.00	23.00	22.00	15.00	100.00
	72	20.00	22.00	18.00	23.00	22.00	15.00	100.00
	73	20.00	22.00	18.00	23.00	22.00	15.00	100.00
	74	20.00	22.00	18.00	23.00	22.00	15.00	100.00
	75	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Retirement rates at the age the member is first eligible for an unreduced retirement benefit prior to age 65 is increased by 30%.

Public Safety and Firefighter	Retirement Age	Retii	rement Age	Reti	Pero rement Age		ithin Ne rement Age		g Active rement Age	Members Eligi Reti	ble for I rement Age	Retirement
Retirement System	45	12.00%	50	12.00%	55	12.00%	59	12.00%	63	35.00%	67	50.00%
	46	12.00	51	12.00	56	12.00	60	25.00	64	35.00	68	50.00
Public Safety	47	12.00	52	12.00	57	12.00	61	30.00	65	50.00	69	50.00
Adopted January 1, 2014	48	12.00	53	12.00	58	12.00	62	35.00	66	50.00	70	100.00
	49	12.00	54	12.00								
					Pero	ent Retiring W	/ithin Ne	xt Year Amon	g Active	Members Eligi	ble for I	Retirement
	Retirement Age	Retii	rement Age	Reti	Pero rement Age		/ithin Ne rement Age		g Active rement Age		ble for I rement Age	Retirement
Firefighters		Retii 9.00%		Reti	rement		rement		rement		rement	
Firefighters Adopted January 1, 2014	Age		Age		rement Age	Reti	rement Age	Reti	rement Age	Reti	rement Age	
_	Age 45	9.00%	Age 50	9.00%	rement Age	12.00%	rement Age	12.00%	rement Age	40.00%	rement Age 67	60.00%
_	45 46	9.00% 9.00	50 51	9.00% 9.00	rement Age 55 56	12.00% 12.00	rement Age 59 60	12.00% 40.00	rement Age 63 64	40.00% 40.00	rement Age 67 68	60.00% 60.00

				Male			Female	Governors
		State and Sch	nool Division		State and Sch	ool Division		and
	Years of Service	Educators	Public Employees	Local - Government Division	Educators	Public Employees	Local Government Division	Legislators Retirement Plan
Noncontributory	0	15.00%	28.00%	19.00%	18.00%	30.00%	24.00%	10.00%
and Contributory	1	13.00	24.50	15.00	17.00	22.50	18.00	10.00
Retirement Systems	2	9.00	15.00	11.00	13.50	17.00	14.00	10.00
Adopted January 1, 2014	3	7.50	12.00	9.00	12.50	14.00	12.00	10.00
	4	6.50	10.00	8.00	10.00	11.00	11.00	10.00
	5	5.00	9.00	7.00	8.00	9.50	9.75	10.00
	6	4.00	7.50	6.00	7.50	8.50	8.00	10.00
	7	3.50	6.50	5.50	5.50	7.50	7.50	10.00
	8	3.25	5.50	4.75	4.50	6.50	6.50	10.00
	9	3.00	5.00	4.00	4.50	6.00	6.00	10.00
	10	2.75	4.25	3.50	4.00	5.50	5.50	10.00
	11	2.50	4.00	3.25	3.00	4.75	5.00	10.00
	12	2.25	3.75	3.00	2.50	4.50	4.50	10.00
	13	2.25	3.50	3.00	2.00	4.25	4.00	10.00
	14	2.00	3.00	3.00	2.00	3.75	3.75	10.00
	15	1.75	2.50	2.75	2.00	3.50	3.50	10.00
	16	1.75	2.25	2.75	2.00	3.00	3.25	10.00
	17	1.75	2.25	2.75	1.75	2.75	3.25	10.00
	18	1.75	2.00	2.50	1.50	2.75	3.00	10.00
	19	1.50	2.00	2.50	1.25	2.75	2.75	10.00
	20	1.00	2.00	2.00	1.25	2.75	2.50	10.00
	21	1.00	2.00	2.00	1.25	2.50	2.50	10.00
	22	1.00	2.00	1.75	1.25	2.25	2.25	10.00
	23	1.00	1.50	1.50	1.25	2.00	2.00	10.00
	24	1.00	1.50	1.25	1.25	2.00	2.00	10.00
	25+	0.00	0.00	0.00	0.00	0.00	0.00	10.00

				Ot	her Terminatio	n of Employn	nent of Active I	Members Sep	arating Within N	lext Year
	Years of Ser	vice	Years of Serv	/ice	Years of Serv	/ice	Years of Serv	/ice	Years of Servi	ce
Public Safety	0	12.00%	5	4.50%	9	3.25%	13	2.25%	17	1.50%
Retirement System	1	6.50	6	4.25	10	3.00	14	1.50	18	1.50
Adopted January 1, 2014	2	5.50	7	4.00	11	2.75	15	1.50	19	1.50
	3	5.25	8	3.50	12	2.50	16	1.50	20+	0.00
	4	5.00								

				Ot	her Terminatio	n of Employn	nent of Active I	Members Sep	arating Within N	Next Year
	Years of Serv	ice	Years of Serv	/ice	Years of Serv	/ice	Years of Serv	/ice	Years of Servi	ice
Firefighters	0	6.00%	5	2.00%	9	1.50%	13	0.50%	17	0.50%
Retirement System	1	3.50	6	1.50	10	1.50	14	0.50	18	0.50
Adopted January 1, 2014	2	3.00	7	1.50	11	1.50	15	0.50	19	0.50
	3 4	2.50 2.50	8	1.50	12	0.50	16	0.50	20+	0.00

Other Termination of Employment of Active Members Separating Within Next Year

Judges **Retirement System** Adopted January 1,1993

None assumed.

# Summary of Actuarial Assumptions and Methods (Concluded)

as of January 1, 2016

											Total A		ase in Salary
	ears of Service	School I	Public Gove	Local rnment F Division		Firefighters Retirement System	Years Serv		Scho ducators I		Local Government Division	Public	Firefighters Retirement
All Retirement	0	10.35%	8.60%	9.10%	7.859			13	4.85%				
Systems	1	9.35	7.85	7.60	6.85	8.60		14	4.60	4.10	4.35	4.35	4.85
Adopted	2	8.35	6.85	6.85	6.60	8.35		15	4.35	3.85	4.35	4.35	4.60
January 1, 2016	3	7.85	6.10	6.35	6.35	8.10		16	4.10	3.85	4.10	4.35	4.60
Salidary 1, 2010	4	7.60	4.85	5.85	6.10	7.85		17	3.85	3.85	4.10	4.10	4.35
	5	7.35	5.35	5.60	5.85	7.60		18	3.85	3.85	4.10	4.10	4.10
	6	7.35	5.10	5.35	5.85	7.60		19	3.85	3.85	4.10	4.10	4.10
	7	7.10	4.85	5.10	5.60	7.10		20	3.85	3.60	3.85	4.10	4.10
	8	6.85	4.85	4.85	5.35	6.85		21	3.85	3.60	3.60	3.85	
	9	6.60	4.60	4.85	5.35	6.60		22	3.85	3.60	3.60	3.85	
	10	6.10	4.60	4.60	5.10	6.10		23	3.85	3.60	3.35	3.60	
	11	5.60		4.35	4.85	5.35		23 24	3.60	3.35	3.35	3.60	
	12	5.35	4.35 4.35	4.35	4.60	5.10		24 25+	3.35	3.35	3.35	3.35	
							P	Probab	ility of Mo	rtality Withi	n the Next \	Year for Acti	ive Members
_			Male	!		Female					Male		Female
			Local			Local					Local		Local
			Government		G	overnment				Govern			Government
	Age	Educators	and Public Employees		cators	and Public Employees		Age	Educato		Public oyees E	ducators	and Public Employees
Noncontributory	20	0.0173%	0.0276	% 0.0	0067%	0.0096%		50	0.106	59% 0.1	710%	0.0587%	0.08389
and Contributory	25	0.0188	0.0301	0.0	0072	0.0104		55	0.151	5 0.2	2423	0.0884	0.1263
Retirement Systems	30	0.0222	0.0355	0.0	0092	0.0132		60	0.243	9 0.3	3902	0.1376	0.1966
•	35	0.0387	0.0618	0.0	0166	0.0238		65	0.378	37 0.6	5058	0.2037	0.2911
Adopted January 1, 2014	40	0.0540	0.0863		0247	0.0353		70	0.496			0.2665	0.3807
	45	0.0754	0.1206		0393	0.0562		, ,	01.20		700	0.2000	0.0007
						Pe	ercent Ele	cting a	a Refund of	Contributi	ons Upon Te	ermination \	While Vested
									Male				Female
													геннате
									Local				Local
				Years of Service	Educato					Educato	rs Emp	Public oloyees	
•	l Con	tributory		Service 0-3	10	ors Emplo	100%		Local nment ivision	10	0%	100%	Local Government Division
•	l Con	tributory		O-3 4	10	00% 75	100% 86		Local nment ivision 100%	10 6	0% 5	100% 80	Local Government Division 100% 77
Retirement Systems	l Con	tributory		0-3 4 5	10 7	ors Emplo 00% 75	100% 86 83		Local nment ivision  100% 75 73	10 6 6	0% 5 4	100% 80 79	Local Government Division 100% 77 75
Retirement Systems	l Con	tributory		O-3 4	10 7	00% 75	100% 86		Local nment ivision 100%	10 6	0% 5 4	100% 80	Local Government Division 100% 77
Retirement Systems	l Con	tributory		0-3 4 5	10 7 7	ors Emplo 00% 75	100% 86 83		Local nment ivision  100% 75 73	10 6 6	0% 5 4 3	100% 80 79	Local Government Division 100% 77 75
Retirement Systems	l Con	tributory		0-3 4 5 10	10 7 7	00% 75 73	100% 86 83 73		Local nment ivision 100% 75 73 61	10 6 6 5 3	0% 5 4 3	100% 80 79 64	Local Government Division 100% 77 75 61
Noncontributory and Retirement Systems Adopted January 1, 1993	l Con	tributory		0-3 4 5 10 15	10 7 7	ors Emplo 00% 75 73 64 83	100% 86 83 73 63		Local nment ivision 100% 75 73 61 49	10 6 6 5 3	0% 5 4 3	100% 80 79 64 52	Local Government Division 100% 77 75 61 40
Retirement Systems	l Con	tributory		0-3 4 5 10 15	10 7 7	ors Emplo 00% 75 73 64 83 9	100% 86 83 73 63 29 0	D	Local nment ivision  100% 75 73 61 49 23 0	10 6 6 5 3 rtality With	0% 5 4 3 2 8 0	100% 80 79 64 52 22 0	Local Government Division  100% 77 75 61 40 13 0
Retirement Systems	l Con	tributory		0-3 4 5 10 15	10 7 7	ors Emplo 00% 75 73 64 83 9	100% 86 83 73 63 29 0	D	Local nment ivision  100% 75 73 61 49 23 0	10 6 6 5 3 rtality With	0% 5 4 3 2 8 0	100% 80 79 64 52 22 0	Local Government Division 1009 77 75 61 40 13
Retirement Systems Adopted January 1, 1993				0-3 4 5 10 15 19 20	10 77 75 5	ors Emplo 00% 75 73 64 83 9 0	100% 86 83 73 63 29 0	Probab	Local nment ivision  100% 75 73 61 49 23 0	10 6 6 5 3 rtality With Publi	0% 5 4 3 2 8 0 in the Next of c Safety and	100% 80 79 64 52 22 0	Local Government Division 1009 77 75 61 40 13 0
Retirement Systems Adopted January 1, 1993 Public Safety Retirem	nent S	System		0-3 4 5 10 15 19 20 Age	0.0276	75 Emplo 200% 75 73 64 83 9 0 Ag 86 39 0 Ag	100% 86 83 73 63 29 0	Probab	Local nment ivision  100% 75 73 61 49 23 0	10 6 5 3 rtality With Publi Age	0% 5 4 3 2 8 0 in the Next \( \)	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  1009 77 75 61 40 13 0  ive Members s Employees
Retirement Systems Adopted January 1, 1993  Public Safety Retirem and Firefighters Retir	nent S	System		0-3 4 5 10 15 19 20 Age	0.0276 0.0301	75 Emplo 200% 25 23 64 83 9 0 Ag 26 32 44 84 84 84 84 84 84 84 84 84 84 84 84	100% 86 83 73 63 29 0	Probab 0618° 0863	Local nment ivision  100% 75 73 61 49 23 0	10 6 5 3 rtality With Publi Age 50 0 55 0	0% 5 4 3 2 8 0 0 in the Next of Cafety and C	100% 80 79 64 52 22 0	Local Government Division  1009 77 75 61 40 13 0  ive Members is Employees
Retirement Systems Adopted January 1, 1993  Public Safety Retirem and Firefighters Retir	nent S	System		0-3 4 5 10 15 19 20 Age	0.0276	75 Emplo 200% 25 23 64 83 9 0 Ag 26 32 44 84 84 84 84 84 84 84 84 84 84 84 84	100% 86 83 73 63 29 0	Probab	Local nment ivision  100% 75 73 61 49 23 0	10 6 5 3 rtality With Publi Age 50 0 55 0	0% 5 4 3 2 8 0 in the Next \( \)	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  100% 77 75 61 40 13 0  ive Members s Employees
Retirement Systems	nent S	System		0-3 4 5 10 15 19 20 Age 20 25 30	0.0276 0.0355	ors Emplo 00% 75 73 64 83 9 0  Ag % 31 44 45 Refund of Con	100% 86 83 73 63 29 0	D06188038631206	Local nment ivision  100% 75 73 61 49 23 0 sility of Mo	rtality With Publi Age 50 0 55 0 60 0	0% 5 4 3 2 8 0 in the Next of C Safety and .1710% .2423 .3902	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  1009 77 75 61 40 13 0  ive Members s Employees
Retirement Systems Adopted January 1, 1993  Public Safety Retirem and Firefighters Retir	nent S	System		0-3 4 5 10 15 19 20  Age 20 25 30	0.0276 0.0301 0.0355	75 Emplo 775 273 374 475 475 475 475 475 475 475 475 475 4	100% 86 83 73 63 29 0	D D6188 D863 1206 s Upon refigh	Local nment ivision  100% 75 73 61 49 23 0 sility of Mo	rtality With Publi Age 50 0 55 0 60 0 on While Verent Employ	0% 5 4 3 2 8 0 in the Next of C Safety and .1710% .2423 .3902	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  1009 77 75 61 40 13 0  ive Members s Employees
Retirement Systems Adopted January 1, 1993  Public Safety Retirem and Firefighters Retir Adopted January 1, 2008	nent ! reme	System nt System		0-3 4 5 10 15 19 20  Age 20 25 30	0.0276 0.0355	75 Emplo 775 273 374 475 475 475 475 475 475 475 475 475 4	100% 86 83 73 63 29 0	D D6188 D863 1206 s Upon refigh	Local nment ivision  100% 75 73 61 49 23 0 sility of Mo	rtality With Publi Age 50 0 55 0 60 0 on While Verent Employ	0% 5 4 3 2 8 0 in the Next of C Safety and .1710% .2423 .3902	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  1009 77 75 61 40 13 0  ive Members s Employees
Retirement Systems Adopted January 1, 1993  Public Safety Retirem and Firefighters Retir Adopted January 1, 2008  Public Safety Retirem	nent S	System nt System System		0-3 4 5 10 15 19 20  Age 20 25 30	0.0276 0.0301 0.0355 Electing a	ors Emplo  00%  75  73  64  83  9  0  Ag  %  Ag  41  Public Safe	100% 86 83 73 63 29 0	D D6188 D863 1206 s Upon refigh	Local nment ivision  100% 75 73 61 49 23 0  solitity of Mo	rtality With Publi Age 50 0 55 0 60 0 on While Verent Employ	0% 5 4 3 2 8 0 in the Next of a constitution of the second	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  1009 77 75 61 40 13 0  ive Members s Employees
Retirement Systems Adopted January 1, 1993  Public Safety Retirem and Firefighters Retir Adopted January 1, 2008	nent S	System nt System System		0-3 4 5 10 15 19 20  Age 20 25 30	0.0276 0.0301 0.0355 Electing a	75 Emplo 70% 75 73 73 74 75 76 77 78 79 79 70 70 70 70 70 70 70 70 70 70 70 70 70	100% 86 83 73 63 29 0	D D6188 D863 1206 s Upon refigh	Local nment ivision  100% 75 73 61 49 23 0  solitity of Mo  Terminati ters Retire! Years of Se	rtality With Publi Age 50 0 55 0 60 0 on While Verent Employ	0% 5 4 3 2 8 0 sin the Next of c Safety and c .1710% .2423 .3902	100% 80 79 64 52 22 0 Year for Act d Firefighter Age	Local Government Division  1009 77 75 61 40 13 0  ive Members s Employees

# Calculation of Actuarial Value of Assets

				December 31, 20	(dollars in thousands)			
assets			\$ 26,686,840	1. Fair value	of assets			\$ 28,544,317
)/shortfall o	of expec							
it income fo	or:			investm	ent income for	or:		
Total Excess/ (Shortfall)	% Deferred	Amount Deferred		Year	Total Excess/ (Shortfall)	% Deferred	Amount Deferred	
1,529,412)	80%	\$ (1,223,531)		a. 2016	\$ 329,863	80%	\$ 263,891	
(95,447)	60%	(57,270)		b. 2015	(1,529,412)	60%	(917,647)	
1,600,276	40%	640,108		c. 2014	(95,447)	40%	(38,180)	
1,017,197	20%	203,437		d. 2013	1,600,276	20%	320,053	
(977,081)	0%	_		e. 2012	1,017,197	0%	_	
erred gains	(losses)	(437,256)		f. Total de	eferred gains	(losses)	(371,883)	
erred losse	S		437,256	g. Total d	leferred losse	S		371,883
	S		\$ 27 124 096			S		\$ 28,916,200
r )	mooth asse )/shortfall of t income for Total Excess/ (Shortfall) 1,529,412) (95,447) 1,600,276 1,017,197 (977,081) erred gains	mooth asset values )/shortfall of expect t income for:  Total Excess/ (Shortfall) Deferred  1,529,412) 80% (95,447) 60% 1,600,276 40% 1,017,197 20% (977,081) 0%  erred gains (losses) erred losses ue of assets	assets mooth asset values based )/shortfall of expected t income for:  Total Excess/ % Amount Deferred  1,529,412) 80% \$ (1,223,531) (95,447) 60% (57,270) 1,600,276 40% 640,108 1,017,197 20% 203,437 (977,081) 0% — erred gains (losses) (437,256) erred losses ue of assets	mooth asset values based )/shortfall of expected t income for:  Total Excess/	assets \$ 26,686,840	1. Fair value of assets   26,686,840   1. Fair value of assets   2. Deferral to smooth asset   2. Deferral to smooth asset	Second	1. Fair value of assets   26,686,840   2. Deferral to smooth asset values based   2. Deferral to smooth asset values based   3. Fair value of assets   2. Deferral to smooth asset values based   3. Fair value of assets   3. Deferral to smooth asset values based   3. Fair value of assets   3. Deferral to smooth asset values based   3. Fair value of assets   3. Deferral to smooth asset values based   3. Fair value of assets   3. Deferral to smooth asset values based   3. Fair value of assets   3. Fair value of assets   3. Actuarial value of assets   3.

<sup>\*</sup>Actuarial value of assets cannot exceed 125% of the fair value of assets or below 75% of the fair value of assets.

# Actuarial Value of Assets by System

January 1, 2016

	(in thousands	s )				Governors	Tier 2 Public	Tier 2 Public Safety and	
	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	and Legislators	Employees System	Firefighter System	Total All Systems
1. Net assets available for benefits at fair value	\$ 21,192,437	1,183,091	2,938,839	1,043,059	163,747	10,039	140,539	15,089	26,686,840
2. Adjustments to smooth asset values based on (excess)/shortfall of expected investment	ı								
income on fair value for	r: 336,300	25,978	49,532	17,253	2,551	134	4,979	529	437,256
3. Actuarial value of assets available for benefits (1-2)	\$ 21,528,737	1,209,069	2,988,371	1,060,312	166,298	10,173	145,518	15,618	27,124,096

# **Analysis of Financial Experience**

·	thousands)  January 1, 2015  Jnfunded Actuarial  Accrued Liability	Amortization Payments	Liability (Gain) Loss	Asset (Gain) Loss	Changes in Actuarial Assumptions	Change in Benefit Provisions	Asset Transfers	January 1, 2016 Unfunded Actuarial Accrued Liability
Noncontributory	\$ 3,627,580	(180,003)	(66,138)	(69,765)	577,502	48,400	10,266	3,947,842
Contributory	96,719	(861)	27,590	(3,832)	9,148	(45,057)	(10,266)	73,441
Public Safety	562,745	(26,871)	(4,602)	(7,050)	110,372	_	_	634,594
Firefighters	17,840	(14,122)	(9,446)	(3,193)	25,572	_	_	16,651
Judges	35,489	(881)	334	(585)	2,885	_	_	37,242
<b>Utah Governors and Legislators</b>	2,315	(169)	166	(42)	241	_	_	2,511
Tier 2 Public Employees	(7,119)	(534)	(909)	1,048	7,867	_	_	353
Tier 2 Public Safety and Firefighte	er (1,234)	(93)	(437)	117	803	_	_	(844)

# Member and Employer Contribution Rates

As of December 31

Noncontributory and Contributory   2007   Retirement Systems   2008   2009   2010   2011   2012   2013   2014   2015   2016	Member	Employer State and School	Employer Local	Employer	Employer
and Contributory 2007 Retirement Systems 2008 2009 2010 2011 2012 2013 2014 2015 2016  Firefighters 2007 Retirement System 2008 2009 2010 2011			Local		
Retirement Systems 2008 2009 2010 2011 2012 2013 2014 2015 2016  Firefighters 2007 Retirement System 2008 2009 2010 2011		3114 3011001	Government	State and School	Local Government
2009 2010 2011 2012 2013 2014 2015 2016  Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00%	9.73%	7.61%	14.22%	11.629
2010 2011 2012 2013 2014 2015 2016 Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	9.73	7.61	14.22	11.62
2011 2012 2013 2014 2015 2016 Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	9.73	7.65	14.22	11.66
2012 2013 2014 2015 2016 Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	11.83	9.36	16.32	13.37
2013 2014 2015 2016 Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	12.37	9.76	16.86	13.77
2014 2015 2016 Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	14.27	12.03	18.76	16.04
2015 2016  Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	15.97	13.28	20.46	17.29
2016  Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	17.70	14.46	22.19	18.47
Firefighters 2007 Retirement System 2008 2009 2010 2011	6.00	17.70	14.46	22.19	18.47
Retirement System       2008         2009       2010         2011       2011	6.00	17.70	14.46	22.19	18.47
Retirement System       2008         2009       2010         2011       2011	(with S	Division A ocial Security)	(without S	Division B ocial Security)	All Divisions Fire Insurance
Retirement System       2008         2009       2010         2011       2011	Member	Employer	Member	Employer	Premium Tax
2009 2010 2011	12.76%	_	9.30%	_	11.50%
2010 2011	13.14	_	9.68	_	11.12
2011	13.49	_	9.68	_	12.34
=	15.05		16.18	_	11.87
2012	15.05	0.50%	16.18	_	12.29
	15.05	2.66	16.71	2.08%	11.84
2013	15.05	2.96	16.71	4.46	11.75
2014	15.05	3.82	16.71	6.59	11.71
2015	15.05	3.99	16.71	6.76	11.54
2016	15.05	3.89	16.71	6.66	11.64
				Judges	Governors and
			oncontributory		Legislators
	Member	Employer	Employer	Court Fees	Appropriation
Judges 2007	2.00%	10.38%	12.38%	15.45%	\$ —
Retirement System 2008	2.00	11.51	13.51	14.32	_
2009	2.00	15.09	17.09	13.83	_
<b>Utah Governors</b> 2010	_		23.72	14.08	_
and Legislators 2011	_		25.82	14.26	153,000
Retirement Plan 2012	_	_	32.87	14.02	214,000
2013	_	_	35.66	12.74	252,000
2014	_	_	40.01	11.90	411,489
2015	_	_	41.58	10.33	421,429
2016	_	_	42.12	9.79	404,409

# Member and Employer Contribution Rates (Continued)

As of December 31

			State of Utah		Othe	2.5% COLA r Division A al Security)	(	Other	I.0% COLA Division A al Security)			Bountiful
System	Year	Member	Employer		Леmber	Employer	Me	mber	Employer	Mei	mber	Employer
Public Safety	2007	_	26.75%	)	_	22.61%	)	_	_		_	22.47%
Retirement	2008	_	26.75		_	22.61	•	_	_		_	22.47
System	2009	_	30.18		_	23.34		_	25.90%	)	_	23.07
Noncontributory	2010		32.75		_	26.13		_	28.82	•	_	27.73
Division A	2011	_	34.12		_	27.07		_	28.82		_	29.19
	2012		37.29		_	30.45			33.65		_	37.16
	2013		39.31		_	32.14			34.17			42.79
	2013	_	41.35		_	34.04		_	35.71		_	47.33
	2015	_	41.35		_	34.04		_	35.71		_	47.33
	2016	_	41.35		_	34.04		_	35.71		_	47.33
Public Safety	2007	12.29	% 15.46%	<b>.</b>	12.29%	11.22%	1	_			_	
Retirement	2008	12.29	15.46		12.29	11.22	•	_	_		_	_
System	2009	12.29	19.01		12.29	12.47	1	2.29%	15.01%	,		
Contributory	2010	12.29	21.68		12.29	14.86		2.29	18.34	,	_	_
Division A	2011	12.29	22.88		12.29	15.78		2.29	18.34		_	_
	2012	12.29	25.52		12.29	19.08		2.29	22.34		_	_
	2012	12.29	27.63		12.29	20.83		2.29	22.75		_	_
	2014	12.29	29.70		12.29	22.75		2.29	24.33		_	_
	2015	12.29	29.70		12.29	22.75		2.29	24.33		_	_
	2016	12.29	29.70		12.29	22.75		2.29	24.33		_	_
	Year	Salt Lake C		Ogden Employer	Member	Logan Employer	Member I	Provo Employer	Other D (without Member E		(witho	Division B out Soc Sec) Employer
Public Safety	2007	— 35.7	71% —	30.449	% —	25.48%	<u> </u>	_	_	25.49%	_	_
Retirement	2008	— 35.7	71 —	31.47	_	25.48	_	29.849	% —	25.49	_	_
System	2009	— 35.7	71 —	33.11	_	27.74	_	30.91	_	26.21	_	28.73%
Noncontributory	2010	— 36.3	31 —	34.93	_	31.49	_	32.98	_	28.24	_	32.70
Division B	2011	— 36.7	71 —	36.13	_	31.91	_	33.05	_	28.64	_	32.70
	2012	— 41.9	95 —	42.21	_	38.18	_	38.54	_	32.20	_	36.97
	2013	— 44.8	33 —	44.98	_	39.84	_	39.97	_	32.20	_	37.45
	2014	— 46.6	67 —	48.68	_	41.92	_	42.16	_	32.20	_	38.94
	2015	— 46.6	67 —	48.68	_	41.92	_	42.16	_	32.20	_	38.94
	2016	— 46.6	67 —	48.68		41.92	_	42.16	_	32.20	_	38.94
Public Safety	2007	13.74% 22.9	99% —	_	11.13	% 14.61%	6 13.54%	16.309	% 10.50%	15.69%	10.50	% —
Retirement	2008	13.74 22.9	99 —	_	11.13	14.61	_	_	10.50	15.69	10.50	_
System	2009			_	11.13	17.81	_	_	10.50	16.67	10.50	19.17%
Contributory	2010			_	11.13	20.95	_	_	10.50	18.98	10.50	23.22
Division B	2011			_	11.13	21.36	_	_	10.50	19.48	10.50	23.22
	2012			_	11.13		_	_	10.50	22.29	10.50	27.29
	2013			_	11.13	29.76	_	_	10.50	22.29	10.50	27.49
	2014			_	11.13	31.80	_	_	10.50	22.29	10.50	28.95
	2015			_	11.13				10.50	22.29	10.50	28.95
					11.13	31.00	_	_	10.50	22.29	10.50	20.75

### Member and Employer Contribution Rates (Concluded)

As of December 31

System	Year	Employer	Employer	Employer			
		Local	State and School	Local			
Tier 2 Public Employees		Government	and School	Government			
Contributory	2011	12.40%	12.74%	10.33%			
Retirement System*	2012	14.51	15.06	12.74			
	2013	15.75	16.75	13.99			
	2014	16.70	18.27	14.94			
	2015	16.67	18.24	14.91			
	2016	16.67	18.24	14.91			
Tier 2 Public Safety and							
				2.5% COLA Other Division A	4% COLA Other Division A		
Firefighter Contributory		State of Utah	Bountiful	(with Soc Sec)	(with Soc Sec)		
Retirement System*	Year	Employer	Employer	Employer	Employer		
Public Safety	2011	22.06%	18.15%	16.27%	17.18%	1	
Noncontributory	2012	25.46	25.89	19.25	21.94		
Division A	2013	27.40	31.38	20.85	22.37		
21110101111	2014	29.26	35.68	22.55	23.71		
	2015	29.21	35.63	22.50	23.66		
	2016	29.21	35.63	22.50	23.66		
Public Safety	2011			16.27	17.47		
		_	_				
Contributory	2012	_		19.25	21.94		
Division A	2013		_	20.85	22.37		
	2014	_	_	22.55	23.71		
	2015	_	_	22.50	23.66		
	2016	_	_	20.61	23.66		
		Salt Lake City	Ogden	Logan	Provo	2.5% COLA Other Division B (without Soc Sec)	4.% COLA Other Division B (without Soc Sec)
	Year	Employer	Employer	Employer	Employer	Employer	Employer
Public Safety	2011	25.82%	25.21%	21.15%	22.01%	17.72%	20.89
Noncontributory	2012	30.47	30.78	26.59	27.08	20.71	25.05
Division B	2013	32.37	33.47	28.19	28.19	20.51	25.38
DIVISION D	2014	34.97	37.07	30.13	30.36	20.55	26.72
	2015	34.92	37.02	30.08	30.31	20.39	26.67
	2016	34.92	37.02	30.08	30.31	20.39	26.67
		34.92	37.02	30.08	30.31		
Public Safety						17.72	21.06
Contributory	2011	_	_	_	_		
Continuatory	2012	_	_	_	_	20.71	25.05
Division B		_ _ _	_ _ _	_ _ _	_ _ _		25.05
	2012 2013 2014	_ _ _ _	_ _ _	_ _ _	_ _ _ _	20.71 20.77 20.55	25.05 25.38 26.72
	2012 2013 2014	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	20.71 20.77 20.55	25.05 25.38 26.72
•	2012 2013	_ _ _ _	   		_ _ _ _ _	20.71 20.77	25.05 25.38 26.72 26.67
	2012 2013 2014 2015	— — — — Other Division		Other Division B	_ _ _ _ _	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
	2012 2013 2014 2015 2016	(with Social Security	y) (with	n Social Security)	_ _ _ _ _	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
Division B	2012 2013 2014 2015 2016	(with Social Security Employe	y) (with	n Social Security) Employer	=	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
	2012 2013 2014 2015 2016	(with Social Security Employed	y) (with	Employer	=	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
Division B	2012 2013 2014 2015 2016 Year 2011 2012	(with Social Security Employed 10.64	y) (with er 4% 0	n Social Security) Employer 10.64% 11.10	=	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
Division B	2012 2013 2014 2015 2016 Year 2011 2012 2013	(with Social Security Employe 10.6- 11.10	<u>y)</u> (with er 4% 0 2	Employer  10.64% 11.10 11.02	=	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
Division B	2012 2013 2014 2015 2016 Year 2011 2012 2013 2014	(with Social Security Employe 10.6- 11.1- 11.02 10.80	y) (with 4% 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 Social Security) Employer 10.64% 11.10 11.02 10.80	=	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67
Division B	2012 2013 2014 2015 2016 Year 2011 2012 2013	(with Social Security Employe 10.6- 11.10	y) (with 4% 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Employer  10.64% 11.10 11.02	=	20.71 20.77 20.55 20.50	25.05 25.38 26.72 26.67 26.67

<sup>\*</sup>Includes active member death benefit and Tier 1 amortization rate. Does not include the 401(k) component of the contribution rate.

# **Schedules of Funding Progress**

(dollars in thousands)

				Based on Actuarial Va	lue of Assets		
System	Date	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Unfunded AAL (UAAL) Actuarial Value of Assets (2) - (1)	(4) Funded Ratios Based on Actuarial Value of Assets (1) / (2)	(5) Projected Annual Covered Payroll	(6) UAAL as a % of Covered Payroll (3) / (5)
Noncontributory Retirement System	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/13 1/01/14 1/01/15 1/01/16	\$ 16,199,077 15,839,461 16,619,831 16,852,691 16,805,952 16,969,392 18,601,513 20,240,645 21,528,737 22,913,647	17,025,185 18,306,590 19,384,503 20,388,759 21,260,843 22,200,896 22,981,585 23,868,225 25,476,579 26,501,781	826,108 2,467,129 2,764,672 3,536,068 4,454,891 5,231,504 4,380,072 3,627,580 3,947,842 3,588,134	95.1% 86.5 85.7 82.7 79.0 76.4 80.9 84.8 84.5	\$ 3,582,495 3,871,636 3,955,040 3,888,179 3,900,106 3,794,929 3,705,771 3,570,912 3,458,286 3,406,567	23.1% 63.7 69.9 90.9 114.2 137.9 118.2 101.6 114.2 105.3
Contributory Retirement System	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/13 1/01/14 1/01/15 1/01/16	\$ 1,102,107 1,097,711 1,116,736 1,132,661 1,135,251 1,133,433 1,165,002 1,198,862 1,209,069 1,221,609	1,170,251 1,218,572 1,236,009 1,251,412 1,269,042 1,280,836 1,285,851 1,295,581 1,282,510 1,292,512	68,144 120,861 119,273 118,751 133,791 147,403 120,849 96,719 73,441 70,903	94.2% 90.1 90.4 90.5 89.5 88.5 90.6 92.5 94.3 94.5	\$ 132,899 133,110 127,804 116,395 110,103 103,074 98,023 90,623 82,426 53,615	51.3% 90.8 93.3 102.0 121.5 143.0 123.3 106.7 89.1 132.2
Public Safety Retirement System	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/13 1/01/14 1/01/15 1/01/16	\$ 2,038,613 2,017,576 2,137,027 2,194,015 2,222,202 2,283,911 2,530,709 2,781,314 2,988,371 3,217,221	2,247,826 2,473,667 2,650,675 2,844,101 2,948,481 3,093,227 3,191,506 3,344,059 3,622,965 3,794,880	209,213 456,091 513,648 650,086 726,279 809,316 660,797 562,745 634,594 577,659	90.7% 81.6 80.6 77.1 75.4 73.8 79.3 83.2 82.5 84.8	\$ 339,187 365,043 373,959 363,037 374,293 366,471 365,998 360,750 355,172 352,408	61.7% 124.9 137.4 179.1 194.0 220.8 180.5 156.0 178.7 163.9
Firefighters Retirement System	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/13 1/01/14 1/01/15 1/01/16	\$ 787,663 765,871 802,576 810,216 810,764 824,060 903,627 988,806 1,060,312 1,130,198	732,829 776,622 833,844 872,133 903,399 944,791 963,574 1,006,646 1,076,963 1,129,729	(54,834) 10,751 31,268 61,917 92,635 120,731 59,947 17,840 16,651 (469)	107.5% 98.6 96.3 92.9 89.7 87.2 93.8 98.2 98.5 100.0	\$ 95,767 102,252 107,625 105,275 110,751 110,608 110,741 111,305 111,133 112,322	(57.3)% 10.5 29.1 58.8 83.6 109.2 54.1 16.0 15.0 (0.4)
Judges Retirement System	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/13 1/01/14 1/01/15 1/01/16	\$ 129,847 126,120 131,491 131,869 130,561 131,217 145,121 156,956 166,298 177,782	135,379 145,965 158,303 167,581 167,982 174,923 185,113 192,445 203,540 210,624	5,532 19,845 26,812 35,712 37,421 43,706 39,992 35,489 37,242 32,842	95.9% 86.4 83.1 78.7 77.7 75.0 78.4 81.6 81.7 84.4	\$ 13,322 14,404 14,434 14,234 14,981 14,885 15,195 16,072 15,832 16,755	41.5% 137.8 185.8 250.9 249.8 293.6 263.2 230.8 235.2 196.0

See accompanying notes to required supplementary information.

# Schedules of Funding Progress (Concluded)

(dollars in thousands)

				Based on Actuarial Valu	e of Assets		
System	Date	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Unfunded AAL (UAAL) Actuarial Value of Assets (2) - (1)	(4) Funded Ratios Based on Actuarial Value of Assets (1) / (2)	(5) Projected Annual Covered Payroll	(6) UAAL as a % of Covered Payroll (3) / (5)
Governors and Legislators Retirement Plan	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/13 1/01/14 1/01/15 1/01/16	\$ 11,736 10,841 10,769 10,197 9,565 9,077 9,457 9,908 10,173 10,470	9,862 10,982 11,305 11,513 12,029 11,925 12,186 12,223 12,684 12,654	(1,874) 141 536 1,316 2,464 2,848 2,729 2,315 2,511 2,184	119.0% 98.7 95.3 88.6 79.5 76.1 77.6 81.1 80.2 82.7	\$ 947 910 910 910 910 910 910 390 928 943 799	(197.9)% 15.5 58.9 144.6 270.8 313.0 699.7 249.5 266.3 273.4
Tier 2 Public Employees Contributory Retirement System*	1/01/12 1/01/13 1/01/14 1/01/15 1/01/16 12/31/16	\$ 2,833 17,818 46,241 88,743 145,518 219,885	3,055 16,755 42,328 81,624 145,871 228,450	222 (1,063) (3,913) (7,119) 353 8,565	92.7% 106.3 109.2 108.7 99.8 96.3	\$ 36,821 203,779 353,227 492,882 637,560 822,196	0.6% (0.5) (1.1) (1.4) 0.1 1.0
Tier 2 Public Safety and Firefighter Contributory Retirement System*	1/01/12 1/01/13 1/01/14 1/01/15 1/01/16 12/31/16	\$ 90 1,161 3,822 8,666 15,618 25,388	101 1,042 3,269 7,432 14,774 24,266	11 (119) (553) (1,234) (844) (1,122)	89.1% 111.4 116.9 116.6 105.7 104.6	\$ 855 10,237 20,215 35,019 53,276 74,834	1.3% (1.2) (2.7) (3.5) (1.6) (1.5)
All Retirement Systems	1/01/08 1/01/09 1/01/10 1/01/11 1/01/12 1/01/11 1/01/14 1/01/15 1/01/16	\$ 20,269,043 19,857,580 20,818,430 21,131,649 21,117,218 21,370,069 23,405,492 25,473,901 27,124,096 28,916,200	21,321,332 22,932,398 24,274,639 25,535,499 26,564,932 27,724,395 28,665,412 29,808,235 31,835,886 33,194,896	1,052,289 3,074,818 3,456,209 4,403,850 5,447,714 6,354,326 5,259,920 4,334,334 4,711,790 4,278,696	95.1% 86.6 85.8 82.8 79.5 77.1 81.7 85.5 85.2 87.1	\$ 4,164,617 4,487,355 4,579,772 4,488,030 4,548,820 4,604,893 4,669,560 4,678,491 4,714,628 4,839,496	25.3% 68.5 75.5 98.1 119.8 138.0 112.6 92.6 99.9 88.2

<sup>\*</sup>New system additional years will be added as they become available.

See accompanying notes to required supplementary information.

# **Solvency Tests**

				Actuarial A	Accrued Liabilities	Liabilities				
		(1) Active Members	(2) Retired and	(3) Active Member (Employer	(4) Total Actuarial Accrued	Actuarial Value	Lia	bilities Co	ctuarial Ac	Assets
System	Date	Contributions	Beneficiaries	Financed Portion)	Liabilities	of Assets	(1)	(2)	(3)	(4)
Noncontributory	1/01/08	\$ 728,986	7,020,899	9,275,300	17,025,185	16,199,077	100%	100%	91%	95%
Retirement	1/01/09	699,314	7,671,008	9,936,268	18,306,590	15,839,461	100	100	75	87
System	1/01/10	618,209	8,347,578	10,418,716	19,384,503	16,619,831	100	100	73	86
	1/01/11	575,867	8,958,451	10,854,441	20,388,759	16,852,691	100	100	67	83
	1/01/12	539,951	9,875,383	10,845,509	21,260,843	16,805,952	100	100	59	79
	1/01/13	498,575	10,075,732	11,626,589	22,200,896	16,969,392	100	100	55	76
	1/01/14	455,136	10,798,876	11,727,573	22,981,585	18,601,513	100	100	63	81
	1/01/15	411,752	11,446,753	12,009,720	23,868,225	20,240,645	100	100	70	85
	1/01/16	383,017	12,405,935	12,687,627	25,476,579	21,528,737	100	100	69	85
	12/31/16	331,775	13,569,930	12,600,076	26,501,781	22,913,647	100	100	72	86
Contributory	1/01/08	\$ 324,856	468,966	376,429	1,170,251	1,102,107	100%	100%	82%	94%
Retirement	1/01/09	334,732	520,848	362,992	1,218,572	1,097,711	100	100	67	90
System	1/01/10	318,205	556,495	361,309	1,236,009	1,116,736	100	100	67	90
	1/01/11	307,896	591,899	351,617	1,251,412	1,132,661	100	100	66	91
	1/01/12	308,962	630,747	329,333	1,269,042	1,135,251	100	100	59	89
	1/01/13	294,317	669,744	316,775	1,280,836	1,133,433	100	100	53	88
	1/01/14	286,020	717,842	281,989	1,285,851	1,165,002	100	100	57	91
	1/01/15	272,720	766,078	256,783	1,295,581	1,198,862	100	100	62	93
	1/01/16	236,592	838,922	206,996	1,282,510	1,209,069	100	100	65	94
	12/31/16	206,344	897,862	188,306	1,292,512	1,221,609	100	100	62	95
Public Safety	1/01/08	\$ 90,962	1,076,782	1,080,082	2,247,826	2,038,613	100%	100%	81%	91%
Retirement	1/01/09	87,976	1,254,909	1,130,782	2,473,667	2,017,576	100	100	60	82
System	1/01/10	81,677	1,345,480	1,223,518	2,650,675	2,137,027	100	100	58	81
•	1/01/11	76,375	1,455,233	1,312,493	2,844,101	2,194,015	100	100	50	77
	1/01/12	77,231	1,501,102	1,370,148	2,948,481	2,222,202	100	100	47	75
	1/01/13	74,661	1,593,128	1,425,438	3,093,227	2,283,911	100	100	43	74
	1/01/14	74,012	1,682,390	1,435,104	3,191,506	2,530,709	100	100	54	79
	1/01/15	70,992	1,769,909	1,503,158	3,344,059	2,781,314	100	100	63	83
	1/01/16	66,232	1,937,777	1,618,956	3,622,965	2,988,371	100	100	61	82
	12/31/16	61,419	2,070,512	1,662,949	3,794,880	3,217,221	100	100	65	85
Firefighters	1/01/08	\$ 86,624	389,586	256,619	732,829	787,663	100%	100%	121%	107%
Retirement	1/01/09	94,583	437,796	244,243	776,622	765,871	100	100	96	99
System	1/01/10	96,734	467,284	269,826	833,844	802,576	100	100	88	96
•	1/01/11	103,678	495,985	272,470	872,133	810,216	100	100	77	93
	1/01/12	116,966	516,105	270,328	903,399	810,764	100	100	66	90
	1/01/13	127,442	532,366	284,983	944,791	824,060	100	100	58	87
	1/01/14	141,471	544,643	307,460	993,574	903,627	100	100	71	91
	1/01/15	152,667	566,583	287,396	1,006,646	988,806	100	100	94	98
	1/01/13	162,377	600,565	314,021	1,000,040	1,060,312	100	100	95	98
	12/31/16	172,231	633,548	323,950	1,129,729	1,130,198	100	100	100	100
	12/31/10	1/2,231	055,540	323,930	1,123,123	1,130,190	100	100	100	100

# Solvency Tests (Concluded)

				Actuarial Ac	crued Liabilities	ilities				
		(1) Active Members	(2) Retired and	(3) Active Member (Employer	(4) Total Actuarial Accrued	Actuarial Value	Lia	bilities Co	ctuarial Ac overed by	Assets
System	Date	Contributions	Beneficiaries	Financed Portion)	Liabilities	of Assets	(1)	(2)	(3)	(4)
Judges	1/01/08	\$ 7,342	62,724	65,313	135,379	129,847	100%	100%	92%	96%
Retirement	1/01/09	7,738	69,534	68,693	145,965	126,120	100	100	71	86
System	1/01/10	5,802	81,582	70,919	158,303	131,491	100	100	62	83
	1/01/11	4,309	93,548	69,724	167,581	131,869	100	100	49	79
	1/01/12	4,376	97,460	66,146	167,982	130,561	100	100	47	78
	1/01/13	4,102	98,499	72,322	174,923	131,217	100	100	40	75
	1/01/14	3,567	111,132	70,414	185,113	145,121	100	100	43	78
	1/01/15	3,374	120,460	68,611	192,445	156,956	100	100	48	82
	1/01/16	2,604	129,958	70,978	203,540	166,298	100	100	48	82
	12/31/16	2,540	131,763	76,321	210,624	177,782	100	100	57	84
Utah	1/01/08	\$ 145	5,123	4,594	9,862	11,736	100%	100%	141%	119%
Governors	1/01/09	119	6,508	4,355	10,982	10,841	100	100	97	99
and	1/01/10	119	6,508	4,678	11,305	10,769	100	100	89	95
Legislators	1/01/11	102	6,315	5,096	11,513	10,197	100	100	74	89
Retirement	1/01/12	107	6,482	5,440	12,029	9,565	100	100	55	80
Plan	1/01/13	104	6,396	5,425	11,925	9,077	100	100	48	76
	1/01/14	94	7,037	5,055	12,186	9,457	100	100	46	78
	1/01/15	62	7,201	4,960	12,223	9,908	100	100	37	81
	1/01/16	66	7,619	4,999	12,684	10,173	100	100	50	80
	12/31/16	45	8,112	4,497	12,654	10,470	100	100	51	83
Tier 2	1/01/12	\$ —	_	3,055	3,055	2,833	100%	100%	100%	93%
Public	1/01/13	_	_	16,755	16,755	17,818	100	100	106	106
Employees	1/01/14	_	_	42,328	42,328	46,241	100	100	109	109
Contributory	1/01/15	_	_	81,624	81,624	88,743	100	100	109	109
Retirement	1/01/16	_	12	145,859	145,871	145,518	100	100	100	100
System*	12/31/16	_	160	228,290	228,450	219,885	100	100	96	96
Tier 2										
Public	1/01/12	\$ —	_	101	101	90	100%	100%	100%	89%
Safety and	1/01/13	_	_	1,042	1,042	1,161	100	100	100	100
Firefighter	1/01/14	_	_	3,269	3,269	3,822	100	100	100	117
Contributory	1/01/15	_	_	7,432	7,432	8,666	100	100	100	117
Retirement	1/01/16	_	_	14,774	14,774	15,618	100	100	100	106
System*	12/31/16	_	_	24,266	24,266	25,388	100	100	105	105

<sup>\*</sup>New systems' additional years will be added as they become available.

# Schedules of Active Member Valuation Data

		Number of			Acti	ve Members	Inflation
System	Year	Participating Employers	Active Members	Projected Annual Payroll	Average Pay	Percent Increase	Increase (CPI)
Noncontributory	2007	411	89,605	\$ 3,582,495,000	39,584	4.76%	4.20%
Retirement	2008	416	93,576	3,871,636,000	40,531	2.39	0.10
System	2009	416	92,766	3,955,040,000	41,945	3.49	2.70
	2010	419	92,392	3,881,790,000	41,854	(0.22)	1.50
	2011	430	87,901	3,900,106,000	43,308	3.47	3.20
	2012	436	82,259	3,794,929,000	44,828	3.51	2.10
	2013	439	76,845	3,675,331,000	46,294	3.27	1.50
	2014	437	71,827	3,570,912,000	47,994	3.67	1.60
	2015	451	68,273	3,458,286,000	50,002	4.18	0.10
	2016	453	63,214	3,406,567,000	51,984	3.96	1.30
Contributory	2007	160	2,852	\$ 132,899,000	44,865	4.33%	4.20%
Retirement	2008	158	2,743	133,110,000	46,830	4.38	0.10
System	2009	160	2,515	127,804,000	47,941	2.37	2.70
	2010	159	2,330	116,395,000	47,620	(0.67)	1.50
	2011	159	2,137	110,103,000	48,806	2.49	3.20
	2012	159	1,937	103,074,000	50,504	3.48	2.10
	2013	159	1,733	94,895,000	51,680	2.33	1.50
	2014	159	1,503	90,623,000	54,003	4.49	1.60
	2015	158	943	82,426,000	56,747	5.08	0.10
	2016	158	738	53,615,000	60,936	7.38	1.30
Public Safety	2007	126	7,587	\$ 339,187,000	43,899	3.64%	4.20%
Retirement	2008	128	7,894	365,043,000	45,964	4.70	0.10
System	2009	130	7,695	373,959,000	47,145	2.57	2.70
	2010	130	7,624	363,037,000	46,898	(0.52)	1.50
	2011	130	7,619	374,293,000	47,329	0.92	3.20
	2012	130	7,313	366,471,000	48,416	2.30	2.10
	2013	130	7,019	363,389,000	49,825	2.91	1.50
	2014	131	6,672	360,751,000	51,603	3.57	1.60
	2015	131	6,399	355,172,000	53,488	3.65	0.10
	2016	132	6,032	352,408,000	57,381	7.28	1.30
Firefighters	2007	51	1,771	\$ 95,767,000	52,247	1.36%	4.20%
Retirement	2008	52	1,849	102,252,000	54,111	3.57	0.10
System	2009	55	1,907	107,625,000	54,466	0.66	2.70
	2010	56	1,887	105,275,000	54,741	0.50	1.50
	2011	57	1,932	110,751,000	55,240	0.91	3.20
	2012	57	1,884	110,608,000	56,507	2.29	2.10
	2013	58	1,845	112,158,000	58,193	2.98	1.50
	2014	59	1,787	111,305,000	60,081	3.24	1.60
	2015	60	1,735	111,133,000	62,628	4.24	0.10
	2016	62	1,663	112,322,000	67,114	7.16	1.30

### Schedules of Active Member Valuation Data (Concluded)

		Number of				Activ	ve Members	Inflation
System	Year	Participating Employers	Active Members		Projected Annual Payroll	Average Pay	Percent Increase	Increase (CPI)
Judges	2007	1	108	\$	13,322,000	120,184	6.97%	4.20%
Retirement	2008	1	106		14,404,000	128,706	7.09	0.10
System	2009	1	104		14,434,000	131,742	2.36	2.70
	2010	1	109		14,234,000	133,692	1.48	1.50
	2011	1	111		14,918,000	132,615	(0.80)	3.20
	2012	1	111		14,885,000	132,644	0.02	2.10
	2013	1	112		14,942,000	139,135	4.89	1.50
	2014	1	114		15,195,000	136,234	(2.09)	1.60
	2015	1	112		15,832,000	145,112	6.52	0.10
	2016	1	115		16,755,000	155,852	7.40	1.30
Utah Governors	2007	1	97	\$	947,000	9,109	19.08%	4.20%
and Legislators	2008	1	93		910,000	9,785	7.42	0.10
Retirement Plan	2009	1	119		910,000	7,647	(21.85)	2.70
	2010	1	125		910,000	7,280	(4.80)	1.50
	2011	1	115		910,000	7,913	8.70	3.20
	2012	1	113		910,000	8,053	1.77	2.10
	2013	1	99		975,000	10,172	26.31	1.50
	2014	1	105		1,032,000	9,526	(6.35)	1.60
	2015	1	93		943,000	10,099	6.02	0.10
	2016	1	61		799,000	12,285	21.64	1.30
Tier 2 Public	2011	456	4,777	\$	36,821,000	7,708	100.00%	1.50%
Employees	2012	461	10,356	2	203,779,000	27,030	250.68	2.10
Contributory	2013	461	13,718	3	349,257,000	30,279	12.02	1.50
Retirement	2014	463	17,225	3	353,227,000	32,388	6.97	1.60
System*	2015	465	21,778	6	537,560,000	34,031	5.07	0.10
	2016	466	24,372	8	322,196,000	30,809	(9.47)	1.30
Tier 2	2011	145	99	\$	855,000	8,636	100.00%	1.50%
Public Safety	2012	145	477		10,237,000	33,394	286.68	2.10
and Firefighter	2013	145	885		24,656,000	33,902	1.52	1.50
Contributory	2014	149	1,331		35,019,000	35,871	5.81	1.60
Retirement	2015	149	1,824		53,276,000	37,051	3.29	0.10
System*	2016	150	2,240		74,834,000	35,363	(4.56)	1.30

# Schedules of Retirants and Beneficiaries

Noncontributory   2007   2,131   \$ 84,779,000   320   \$ 8,501,000   29,965   \$ 609,526,000   14.30%   \$ 19,138				Added to Rolls	F	Removed from Rolls		Rolls End of Year	% Increase	Average
Retirement         2008         2,082         75,142,000         316         24,876,000         31,731         659,792,000         8.25         19,616           System         2009         2,540         84,601,000         370         21,340,000         33,901         723,053,000         9.59         20,039           2010         2,697         101,281,000         459         30,530,000         36,139         793,804,000         9.79         20,432           2011         2,629         92,161,000         552         42,268,000         38,216         843,697,000         6.29         20,618           2012         2,745         99,170,000         505         42,739,000         40,456         900,128,000         6.69         20,841           2013         3,366         118,337,000         715         43,781,000         43,107         974,684,000         8.28         21,063           2014         3,680         123,894,000         866         54,780,000         45,921         1,043,798,000         7.09         21,170           2015         3,399         140,471,000         578         60,622,000         48,742         1,123,647,000         7.65         21,363           2016         3,965 <t< th=""><th>System</th><th>Year</th><th>Number</th><th>Allowances</th><th>Number</th><th>Allowances</th><th>Number</th><th>Allowances</th><th>in Annual Allowances</th><th>Annual Allowances</th></t<>	System	Year	Number	Allowances	Number	Allowances	Number	Allowances	in Annual Allowances	Annual Allowances
Retirement         2008         2,082         75,142,000         316         24,876,000         31,731         659,792,000         8.25         19,616           System         2009         2,540         84,601,000         370         21,340,000         33,901         723,053,000         9.59         20,039           2010         2,697         101,281,000         459         30,530,000         36,139         793,804,000         9.79         20,432           2011         2,629         92,161,000         552         42,268,000         38,216         843,697,000         6.29         20,618           2012         2,745         99,170,000         505         42,739,000         40,456         900,128,000         6.69         20,841           2013         3,366         118,337,000         715         43,781,000         43,107         974,684,000         8.28         21,063           2014         3,680         123,894,000         866         54,780,000         45,921         1,043,798,000         7.09         21,170           2015         3,399         140,471,000         578         60,622,000         48,742         1,123,647,000         7.65         21,363           2016         3,965 <t< th=""><th>Noncontributory</th><th>2007</th><th>2,131</th><th>\$ 84,779,000</th><th>320</th><th>\$ 8,501,000</th><th>29,965</th><th>\$ 609,526,000</th><th>14.30%</th><th>\$ 19,138</th></t<>	Noncontributory	2007	2,131	\$ 84,779,000	320	\$ 8,501,000	29,965	\$ 609,526,000	14.30%	\$ 19,138
System         2009         2,540         84,601,000         370         21,340,000         33,901         723,053,000         9.59         20,039           2010         2,697         101,281,000         459         30,530,000         36,139         793,804,000         9.79         20,432           2011         2,629         92,161,000         552         42,268,000         38,216         843,697,000         6.29         20,618           2012         2,745         99,170,000         505         42,739,000         40,456         900,128,000         6.69         20,841           2013         3,366         118,337,000         715         43,781,000         43,107         974,684,000         8.28         21,063           2014         3,680         123,894,000         866         54,780,000         45,921         1,043,798,000         7.09         21,170           2015         3,399         140,471,000         578         60,622,000         48,742         1,123,647,000         7.65         21,363           2016         3,965         141,910,000         1,352         81,240,000         5,552         \$61,678,000         5.35%         \$10,287           Retirement         2008         151				75,142,000			31,731			
2011	System				370					
2012 2,745 99,170,000 505 42,739,000 40,456 900,128,000 6.69 20,841		2010	2,697	101,281,000	459	30,530,000	36,139	793,804,000	9.79	20,432
2013 3,366 118,337,000 715 43,781,000 43,107 974,684,000 8.28 21,063 2014 3,680 123,894,000 866 54,780,000 45,921 1,043,798,000 7.09 21,170 2015 3,399 140,471,000 578 60,622,000 48,742 1,123,647,000 7.65 21,363 2016 3,965 141,910,000 1,352 81,240,000 51,355 1,184,317,000 5.40 22,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,47		2011	2,629	92,161,000	552	42,268,000	38,216	843,697,000	6.29	20,618
2014 3,680 123,894,000 866 54,780,000 45,921 1,043,798,000 7.09 21,170 2015 3,399 140,471,000 578 60,622,000 48,742 1,123,647,000 7.65 21,363 2016 3,965 141,910,000 1,352 81,240,000 51,355 1,184,317,000 5.40 22,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2,475 2		2012	2,745	99,170,000	505	42,739,000	40,456	900,128,000	6.69	20,841
2015 3,399 140,471,000 578 60,622,000 48,742 1,123,647,000 7.65 21,363 2016 3,965 141,910,000 1,352 81,240,000 51,355 1,184,317,000 5.40 22,475  Contributory 2007 197 \$ 7,748,000 497 \$ 4,616,000 5,552 \$ 61,678,000 5.35% \$ 10,287 Retirement 2008 151 6,547,000 464 6,129,000 5,239 62,096,000 0.68 11,067 System 2009 181 8,434,000 449 5,681,000 4,971 64,849,000 4.43 11,961 2010 218 9,641,000 425 6,925,000 4,764 67,565,000 4.19 12,890 2011 177 8,271,000 389 7,461,000 4,552 68,375,000 1.20 13,777 2012 184 9,403,000 366 6,928,000 4,370 70,850,000 3.62 14,863 2013 222 9,875,000 340 6,567,000 4,252 74,158,000 4.67 15,996 2014 209 10,036,000 146 7,179,000 4,315 77,015,000 3.85 16,341 2015 187 11,793,000 280 7,418,000 4,222 81,390,000 5.68 17,497 2016 227 10,463,000 284 8,406,000 4,165 83,447,000 2.53 19,284 Public Safety 2007 190 \$ 10,541,000 25 \$ 1,176,000 3,766 98,944,000 7.71 24,391 System 2009 170 11,925,000 105 4,597,000 3,831 106,272,000 7.41 25,710		2013	3,366	118,337,000	715	43,781,000	43,107	974,684,000	8.28	21,063
Contributory         2016         3,965         141,910,000         1,352         81,240,000         51,355         1,184,317,000         5.40         22,475           Contributory         2007         197         \$ 7,748,000         497         \$ 4,616,000         5,552         \$ 61,678,000         5.35%         \$ 10,287           Retirement         2008         151         6,547,000         464         6,129,000         5,239         62,096,000         0.68         11,067           System         2009         181         8,434,000         449         5,681,000         4,971         64,849,000         4.43         11,961           2010         218         9,641,000         425         6,925,000         4,764         67,565,000         4.19         12,890           2011         177         8,271,000         389         7,461,000         4,552         68,375,000         1.20         13,777           2012         184         9,403,000         366         6,928,000         4,370         70,850,000         3.62         14,863           2013         222         9,875,000         340         6,567,000         4,252         74,158,000         4.67         15,996           2014         <		2014	3,680	123,894,000	866	54,780,000	45,921	1,043,798,000	7.09	21,170
Contributory         2007         197         \$ 7,748,000         497         \$ 4,616,000         5,552         \$ 61,678,000         5.35%         \$ 10,287           Retirement         2008         151         6,547,000         464         6,129,000         5,239         62,096,000         0.68         11,067           System         2009         181         8,434,000         449         5,681,000         4,971         64,849,000         4.43         11,961           2010         218         9,641,000         425         6,925,000         4,764         67,565,000         4.19         12,890           2011         177         8,271,000         389         7,461,000         4,552         68,375,000         1.20         13,777           2012         184         9,403,000         366         6,928,000         4,370         70,850,000         3.62         14,863           2013         222         9,875,000         340         6,567,000         4,252         74,158,000         4.67         15,996           2014         209         10,036,000         146         7,179,000         4,315         77,015,000         3.85         16,341           2015         187         11,793,000		2015	3,399	140,471,000	578	60,622,000	48,742	1,123,647,000	7.65	21,363
Retirement         2008         151         6,547,000         464         6,129,000         5,239         62,096,000         0.68         11,067           System         2009         181         8,434,000         449         5,681,000         4,971         64,849,000         4.43         11,961           2010         218         9,641,000         425         6,925,000         4,764         67,565,000         4.19         12,890           2011         177         8,271,000         389         7,461,000         4,552         68,375,000         1.20         13,777           2012         184         9,403,000         366         6,928,000         4,370         70,850,000         3.62         14,863           2013         222         9,875,000         340         6,567,000         4,252         74,158,000         4.67         15,996           2014         209         10,036,000         146         7,179,000         4,315         77,015,000         3.85         16,341           2015         187         11,793,000         280         7,418,000         4,222         81,390,000         5.68         17,497           2016         227         10,463,000         25         \$ 1,17		2016	3,965	141,910,000	1,352	81,240,000	51,355	1,184,317,000	5.40	22,475
System         2009         181         8,434,000         449         5,681,000         4,971         64,849,000         4.43         11,961           2010         218         9,641,000         425         6,925,000         4,764         67,565,000         4.19         12,890           2011         177         8,271,000         389         7,461,000         4,552         68,375,000         1.20         13,777           2012         184         9,403,000         366         6,928,000         4,370         70,850,000         3.62         14,863           2013         222         9,875,000         340         6,567,000         4,252         74,158,000         4.67         15,996           2014         209         10,036,000         146         7,179,000         4,315         77,015,000         3.85         16,341           2015         187         11,793,000         280         7,418,000         4,222         81,390,000         5.68         17,497           2016         227         10,463,000         284         8,406,000         4,165         83,447,000         2.53         19,284           Public Safety         2007         190         \$ 10,541,000         25	Contributory	2007	197	\$ 7,748,000	497	\$ 4,616,000	5,552	\$ 61,678,000	5.35%	\$ 10,287
2010 218 9,641,000 425 6,925,000 4,764 67,565,000 4.19 12,890 2011 177 8,271,000 389 7,461,000 4,552 68,375,000 1.20 13,777 2012 184 9,403,000 366 6,928,000 4,370 70,850,000 3.62 14,863 2013 222 9,875,000 340 6,567,000 4,252 74,158,000 4.67 15,996 2014 209 10,036,000 146 7,179,000 4,315 77,015,000 3.85 16,341 2015 187 11,793,000 280 7,418,000 4,222 81,390,000 5.68 17,497 2016 227 10,463,000 284 8,406,000 4,165 83,447,000 2.53 19,284  Public Safety 2007 190 \$ 10,541,000 25 \$ 1,176,000 3,614 \$ 91,864,000 11.35% \$ 23,575 Retirement 2008 197 16,691,000 45 9,611,000 3,766 98,944,000 7.71 24,391 System 2009 170 11,925,000 105 4,597,000 3,831 106,272,000 7.41 25,710	Retirement	2008	151	6,547,000	464	6,129,000	5,239	62,096,000	0.68	11,067
2011 177 8,271,000 389 7,461,000 4,552 68,375,000 1.20 13,777 2012 184 9,403,000 366 6,928,000 4,370 70,850,000 3.62 14,863 2013 222 9,875,000 340 6,567,000 4,252 74,158,000 4.67 15,996 2014 209 10,036,000 146 7,179,000 4,315 77,015,000 3.85 16,341 2015 187 11,793,000 280 7,418,000 4,222 81,390,000 5.68 17,497 2016 227 10,463,000 284 8,406,000 4,165 83,447,000 2.53 19,284  Public Safety 2007 190 \$ 10,541,000 25 \$ 1,176,000 3,614 \$ 91,864,000 11.35% \$ 23,575 Retirement 2008 197 16,691,000 45 9,611,000 3,766 98,944,000 7.71 24,391  System 2009 170 11,925,000 105 4,597,000 3,831 106,272,000 7.41 25,710	System	2009	181	8,434,000	449	5,681,000	4,971	64,849,000	4.43	11,961
2012       184       9,403,000       366       6,928,000       4,370       70,850,000       3.62       14,863         2013       222       9,875,000       340       6,567,000       4,252       74,158,000       4.67       15,996         2014       209       10,036,000       146       7,179,000       4,315       77,015,000       3.85       16,341         2015       187       11,793,000       280       7,418,000       4,222       81,390,000       5.68       17,497         2016       227       10,463,000       284       8,406,000       4,165       83,447,000       2.53       19,284         Public Safety       2007       190       \$ 10,541,000       25       \$ 1,176,000       3,614       \$ 91,864,000       11.35%       \$ 23,575         Retirement       2008       197       16,691,000       45       9,611,000       3,766       98,944,000       7.71       24,391         System       2009       170       11,925,000       105       4,597,000       3,831       106,272,000       7.41       25,710		2010	218	9,641,000	425	6,925,000	4,764	67,565,000	4.19	12,890
2013       222       9,875,000       340       6,567,000       4,252       74,158,000       4.67       15,996         2014       209       10,036,000       146       7,179,000       4,315       77,015,000       3.85       16,341         2015       187       11,793,000       280       7,418,000       4,222       81,390,000       5.68       17,497         2016       227       10,463,000       284       8,406,000       4,165       83,447,000       2.53       19,284         Public Safety       2007       190       \$ 10,541,000       25       \$ 1,176,000       3,614       \$ 91,864,000       11.35%       \$ 23,575         Retirement       2008       197       16,691,000       45       9,611,000       3,766       98,944,000       7.71       24,391         System       2009       170       11,925,000       105       4,597,000       3,831       106,272,000       7.41       25,710		2011	177	8,271,000	389	7,461,000	4,552	68,375,000	1.20	13,777
2014       209       10,036,000       146       7,179,000       4,315       77,015,000       3.85       16,341         2015       187       11,793,000       280       7,418,000       4,222       81,390,000       5.68       17,497         2016       227       10,463,000       284       8,406,000       4,165       83,447,000       2.53       19,284         Public Safety       2007       190       \$ 10,541,000       25       \$ 1,176,000       3,614       \$ 91,864,000       11.35%       \$ 23,575         Retirement       2008       197       16,691,000       45       9,611,000       3,766       98,944,000       7.71       24,391         System       2009       170       11,925,000       105       4,597,000       3,831       106,272,000       7.41       25,710				9,403,000		6,928,000		70,850,000		14,863
2015         187         11,793,000         280         7,418,000         4,222         81,390,000         5.68         17,497           2016         227         10,463,000         284         8,406,000         4,165         83,447,000         2.53         19,284           Public Safety         2007         190         \$ 10,541,000         25         \$ 1,176,000         3,614         \$ 91,864,000         11.35%         \$ 23,575           Retirement         2008         197         16,691,000         45         9,611,000         3,766         98,944,000         7.71         24,391           System         2009         170         11,925,000         105         4,597,000         3,831         106,272,000         7.41         25,710				9,875,000	340	6,567,000		74,158,000		
Public Safety         2007         190         \$ 10,541,000         25         \$ 1,176,000         3,614         \$ 91,864,000         11.35%         \$ 23,575           Retirement         2008         197         16,691,000         45         9,611,000         3,766         98,944,000         7.71         24,391           System         2009         170         11,925,000         105         4,597,000         3,831         106,272,000         7.41         25,710		2014	209			7,179,000			3.85	
Public Safety         2007         190         \$ 10,541,000         25         \$ 1,176,000         3,614         \$ 91,864,000         11.35%         \$ 23,575           Retirement         2008         197         16,691,000         45         9,611,000         3,766         98,944,000         7.71         24,391           System         2009         170         11,925,000         105         4,597,000         3,831         106,272,000         7.41         25,710				11,793,000	280	7,418,000	4,222	81,390,000	5.68	
Retirement         2008         197         16,691,000         45         9,611,000         3,766         98,944,000         7.71         24,391           System         2009         170         11,925,000         105         4,597,000         3,831         106,272,000         7.41         25,710		2016	227	10,463,000	284	8,406,000	4,165	83,447,000	2.53	19,284
System         2009         170         11,925,000         105         4,597,000         3,831         106,272,000         7.41         25,710	Public Safety	2007	190	\$ 10,541,000	25	\$ 1,176,000	3,614	\$ 91,864,000	11.35%	\$ 23,575
	Retirement	2008	197	16,691,000	45	9,611,000	3,766	98,944,000	7.71	24,391
2010 212 14.221.000 31 4.662.000 4.012 115.831.000 8.99 26.497	System	2009	170	11,925,000	105	4,597,000	3,831	106,272,000	7.41	25,710
		2010	212	14,221,000	31	4,662,000	4,012	115,831,000	8.99	26,497
2011 157 11,329,000 44 6,591,000 4,125 120,569,000 4.09 27,182				11,329,000		6,591,000				27,182
2012 195 13,695,000 28 5,725,000 4,292 128,539,000 6.61 27,693				13,695,000				128,539,000		
2013 230 15,532,000 41 6,585,000 4,481 137,486,000 6.96 28,233										
2014 562 15,463,000 135 8,185,000 4,908 144,764,000 5.29 27,226										
2015 268 18,681,000 12 8,058,000 5,164 155,387,000 7.34 27,550										
2016 368 18,523,000 120 9,402,000 5,412 164,508,000 5.87 29,241		2016	368	18,523,000	120	9,402,000	5,412	164,508,000	5.87	29,241
Firefighters 2007 53 \$ 5,023,000 3 \$ 584,000 1,063 \$ 33,936,000 15.05% \$ 27,513	Firefighters	2007	53			\$ 584,000		\$ 33,936,000	15.05%	\$ 27,513
<b>Retirement</b> 2008 33 3,457,000 13 2,038,000 1,083 35,355,000 4.18 29,169	Retirement	2008	33	3,457,000	13		1,083	35,355,000	4.18	29,169
System         2009         38         4,503,000         9         1,547,000         1,112         38,311,000         8.36         30,158	System				9					
2010 44 5,173,000 7 2,354,000 1,149 41,130,000 7.36 31,044					7					
2011 32 3,171,000 8 2,897,000 1,173 41,404,000 0.67 31,874					8					
2012 35 4,114,000 4 1,843,000 1,204 43,675,000 5.48 32,584										
2013 46 4,552,000 20 3,480,000 1,230 44,747,000 2.45 33,292										
2014 119 4,664,000 51 1,701,000 1,298 47,710,000 6.62 32,763										
2015 55 4,788,000 20 2,827,000 1,333 49,671,000 4.11 33,319										
2016 72 4,715,000 33 2,284,000 1,372 52,102,000 4.89 36,574		2016	72	4,715,000	33	2,284,000	1,372	52,102,000	4.89	36,574

### Schedules of Retirants and Beneficiaries (Concluded)

			Added to Rolls	Rem	oved from Rolls		Rolls End of Year	% Increase in Annual	Average Annual
System	Year	Number	Allowances	Number	Allowances	Number	Allowances	Allowances	Allowances
Judges	2007	7 9	\$ 1,254,000	_	\$ 170,000	96	\$ 6,335,000	20.64%	\$ 60,717
Retirement	2008	3	583,000	2	338,000	97	6,580,000	3.87	63,084
System	2009	10	1,015,000	_	_	107	7,595,000	15.43	65,133
	2010	8	1,415,000	_	_	115	9,010,000	18.63	68,784
	2011	5	629,000	4	991,000	116	8,648,000	(4.02)	72,696
	2012	4	783,000	3	296,000	117	9,135,000	5.63	74,705
	2013	11	1,898,000	4	844,000	124	10,189,000	11.54	76,264
	2014	14	1,840,000	6	668,000	132	11,361,000	11.50	79,202
	2015	9	1,711,000	1	672,000	140	12,400,000	9.15	81,633
	2016	7	637,000	6	707,000	141	12,330,000	(0.56)	84,793
Utah Governors	2007	6 9	\$ 57,000	8	\$ 57,000	220	\$ 758,000	%	\$ 2,966
and Legislators	2008	8	70,000	6	65,000	222	763,000	0.66	2,941
Retirement Plan	2009	5	73,000	3	52,000	224	784,000	2.75	3,030
	2010	5	60,000	9	54,000	220	790,000	0.77	3,076
	2011	7	56,000	7	47,000	220	799,000	1.14	3,151
	2012	8	52,000	4	37,000	224	814,000	1.88	3,160
	2013	21	119,000	6	41,000	239	892,000	9.58	3,167
	2014	9	80,000	12	63,000	236	909,000	1.91	3,287
	2015	12	73,000	7	78,000	241	904,000	(0.55)	3,311
	2016	17	128,000	14	91,000	244	941,000	4.09	3,863
Tier 2 Public	2011	_	_	_	_	_	_	_	_
Employees	2012	_	_	_		_	_		_
Contributory	2013	_	_	_		_	_		_
Retirement	2014	_	_	_		_	_		_
System	2015	1 9	\$ 401,000	_	\$ 68,000	1	\$ 333,000	%	\$ 865
	2016	8	26,000	_	43,000	9	316,000	(5.11)	1,565
Tier 2	2011	_	_	_	_	_	_		_
Public Safety	2012	_	_	_		_	_		_
and Firefighter	2013	_	_	_		_	_		_
Contributory	2014	_	_	_		_	_		_
Retirement	2015	_ 9	\$ 30,000	_		_	\$ 30,000	%	_
System*	2016	_	_	_	2,000	_	28,000	(6.67)	_

<sup>\*</sup>There are currently no retirees in the system.

# Defined Benefit Systems Summary of Plan Provisions

as of January 1, 2016



### Noncontributory Retirement System

#### **Membership Eligibility**

The Public Employees Noncontributory Retirement System was established on July 1, 1986. All eligible employees of the State and School entities hired subsequent to that date are automatically members of the Noncontributory System. Local government entities had the option of adopting the new System or remaining with the Contributory System. An employee is qualified for membership in the Noncontributory System if his or her employer participates in the System and the employee initially began full-time employment prior to July 1, 2011, and works at least 20 hours per week and receives benefits normally provided by his or her employer as approved by the Retirement Board, and teachers who teach half-time.

#### Vesting

Retirement benefit becomes vested upon the member's completion of four years of qualifying service.

#### **Service Retirement**

Age	Years of Service	Allowance Reduction†
Any age	30	None
Any age	25	Full actuarial before age 60
60-61	20	3% each year before age 65
62-64	10	3% each year before age 65
65	4	None

<sup>†</sup> With fewer than 30 years of service from any combination of Utah Retirement Systems, retiring before age 65 will reduce the monthly benefit approximately 7% for every year under age 60 and 3% for each year between ages 60 and 65.

#### **Service Benefit Formula**

Number of years of service x 2.0% x FAS.\*

\* FAS (Final Average Salary) = highest three years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

#### **Cost-of-Living Allowance**

Up to 4% annually on the original retirement benefit. Eligible after one year.

#### **Death Benefits**

An active member's death benefit consists of a payment equal to 75% of the highest annual salary with a minimum of \$1,000 and a refund of transferred contributions plus interest, if applicable. The spouse of a deceased member is eligible for a monthly benefit if they have been married for at least six months and the member meets age and service qualifications or has 15 or more years of service credit.

#### Summary of Plan Provisions (Continued)

Noncontributory Retirement System (Concluded)

An inactive member's death benefit for someone with fewer than 10 years of service consists of a refund of transferred contributions plus interest, if applicable. For those with 10 or more years of service credited to their account prior to July 1, 1987, and who have not withdrawn their contributions, the benefit is the same as for active members.

A retired member's death benefit depends on the retirement option selected at retirement. No death benefit is available without a reduced retirement benefit.

#### Refunds

A terminated member who transferred from the Contributory Retirement System is eligible for a 100% refund of transferred member contributions plus interest. There is a 60-day refund processing period after the last day of paid employment.

#### Redeposits

A redeposit with interest may be made in monthly installments, by a lump-sum payment, or by direct transfer from a qualified plan. A redeposit must be completed prior to retirement. Service credit is restored when the redeposit is completed.

#### **Contribution Rates**

(as of 12-31-2016)

Employer rate for State and School (Level A) is 22.19% of covered salary and 18.47% for Local Government (Level B).

#### Interest

Up to 7.20% on member accounts transferred from the Contributory Retirement System.

### Contributory Retirement System

#### **Membership Eligibility**

The Public Employees Contributory Retirement System includes eligible public employees of the State of Utah and its political subdivisions including public education employees of those entities covered by the System. An employee is qualified for membership in the Contributory System if his or her employer participates in the System and the employee initially began full-time employment prior to July 1, 2011, and works at least 20 hours per week and receives benefits normally provided by his or her employer as approved by the Retirement Board, and teachers who teach half-time.

#### Vesting

Retirement benefit becomes vested upon the member's completion of four years of qualifying service. Eligible member contributions and interest thereon vest immediately.

#### **Service Retirement**

Age	Years of Service	Allowance Reduction†
Any age.	30	. None
60-61	20	. 3% each year
		before age 65
62-64	10	. 3% each year
		before age 65
65	1	None

<sup>†</sup> With fewer than 30 years of service from any combination of Utah Retirement Systems, retiring before age 65 will reduce the monthly benefit by 3% for each year between ages 60 and 65.

#### **Service Benefit Formula**

- 1) Number of years of service before 7-1-75 x 1.25% x FAS.\*
- 2) Number of years of service after 6-30-75 x 2.0% x FAS.\*
- 3) Plan 1 allowance = total of 1 and 2.
- \* FAS (Final Average Salary) = highest five years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

#### **Cost-of-Living Allowance**

Up to 4% annually on the original retirement benefit. Eligible after one year.

#### **Death Benefits**

An active member's death benefit consists of a payment equal to 75% of the highest annual salary with a minimum of \$1,000 and a refund of contributions plus interest. The spouse of a deceased member is eligible for a monthly benefit if they have been married for at least six months and



#### Summary of Plan Provisions (Continued)

Contributory Retirement System (Concluded)

the member meets age and service qualifications, or has 25 years of service.

An inactive member's death benefit for someone with fewer than 10 years of service consists of a refund of contributions plus interest. For those with 10 or more years of service credited to their account prior to July 1, 1987. and who have not withdrawn their contributions, the benefit is the same as for active members.

A retired member's death benefit depends on the retirement option selected at retirement. No death benefit is available without a reduced retirement benefit.

#### Refunds

A terminated member is eligible for a 100% refund of member contributions plus interest. There is a 60-day refund processing period after the last day of paid employment.

#### Redeposits

A redeposit with interest may be made in monthly installments, by a lump-sum payment, or by direct transfer from a qualified plan. A redeposit must be completed prior to retirement. Service credit is restored when the redeposit is completed.

#### **Contribution Rates**

(as of 12-31-2016)

Member contribution rate is 6.00%\* of covered salary. Employer rate for State and School (Level A) is 17.70% of covered salary and 14.46% for Local Government (Level B).

\*Employers have the option of paying all or part of member contributions on behalf of their employees.

#### **Interest**

Up to 7.20% on member accounts.

### Public Safety Retirement System

#### **Membership Eligibility**

The Public Safety Retirement System includes eligible State and local government employees directly involved in law enforcement. The Public Safety System consists of the Contributory and Noncontributory divisions. Employees are qualified for membership in the Public Safety System if the employee initially began employment prior to July 1, 2011, and: (1) they are regularly scheduled to work and be compensated for 2,080 hours a year in a recognized public safety department; (2) they have completed a certified training program; (3) their primary duty is as a peace officer, correctional officer, special function officer, certified dispatcher whose employer elected coverage in the Public Safety System, or full-time member of the Board of Pardons and Parole; and (4) in the course of employment their life or personal safety is at risk.

#### Vesting

Retirement benefit becomes vested upon the member's completion of four years of service credit. Eligible member contributions vest immediately.

#### **Service Retirement**

Age	Years of Service	Allowance Reduction
Any age	20	None
60	10	None
65	4	None

#### **Service Benefit Formula**

- 1) 2.5% x FAS\* x years of service up to 20 years.
- 2) 2.0% x FAS\* x years of service over 20 years.
- 3) Monthly benefit = total of 1 and 2.
- \*FAS (Final Average Salary) = highest three years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

#### **Cost-of-Living Allowance**

Up to 2.5% annually on original retirement benefit. Employers have the option to provide an enhanced cost-of-living (COLA) benefit to their public safety retirees that will raise the maximum COLA from 2.5% to 4% based on the CPI. Eligible after one year.

#### **Death Benefits**

#### **Division A (with Social Security)**

If death is in the line of duty, the benefit to the surviving spouse is a lump-sum payment equal to six months of the final average salary plus a monthly benefit of 30% of the final average salary. In the noncontributory system only, if the member has 20 years of service credit, the spouse's benefit is the same as for a retired member. If death is not in the line of duty, the benefit is \$1,000 or a refund of contributions for members with fewer than 10 years of service. For more than 10 years of service, the benefit to the surviving spouse is \$500 plus a monthly benefit of 2% of the final average salary for each year of service to a maximum of 30% of the final

#### Summary of Plan Provisions (Continued)

Public Safety Retirement System (Concluded)

average salary. If there is no spouse, the settlement is a 100% refund of vested contributions payable to the beneficiary, or \$500, whichever is greater. Dependent children receive no additional benefits. A retired member's death benefit to the surviving spouse is 65% of the monthly benefit unless the member selects a reduced monthly benefit at the time of retirement to provide a 75% spousal benefit.

#### **Division B (without Social Security)**

If death is in the line of duty, the benefit to the surviving spouse is a lump-sum payment equal to six months of the final average salary plus a monthly benefit of 37.5% of the final average salary. Each unmarried child under 18 or dependent unmarried mentally or physically disabled child receives \$50 per month if the member has two or more years of service. If death is not in the line of duty and the member has less than two years of service, the spouse at the time of death will receive a refund of contributions plus 50% of the last 12 months of salary. For members with more than two years of service, the benefit is the same as that for death in the line of duty. If there is no spouse, the settlement is a 100% refund of vested contributions payable to the beneficiary, or \$500, whichever is greater. A retired member's death benefit to a surviving spouse is 65% of the monthly benefit unless the member selects a reduced monthly benefit at the time of retirement to provide a 75% spousal benefit. An unmarried child under 18 or dependent unmarried mentally or physically disabled child receives \$50 per month.

#### Refunds

A terminated member is eligible for a 100% refund of member contributions. There is a 60-day refund processing period after the last day of paid employment.

#### **Redeposits**

A redeposit with interest may be made in monthly installments, by a lump-sum payment, or by direct transfer from a qualified plan. A redeposit must be completed prior to retirement. Service credit is restored when the redeposit is completed.

#### **Contribution Rates**

(as of 12-31-2016)

#### **Noncontributory Option**

Employer rates for Division A are: State units 41.35%; Bountiful 47.33%; other law enforcement units with a 2.5% COLA 34.04% and units with a 4.0% COLA 35.71% of salary. Employer rates for Division B are: Salt Lake City 46.67%; Ogden 48.68%; Provo 42.16%; Logan 41.92%; other law enforcement units with a 2.5% COLA 32.20% and units with a 4.0% COLA 38.94% of salary.

#### **Contributory Option**

Member rates in Division A are: State units 12.29%; all other law enforcement units with a 2.5% COLA 12.29% and units with a 4.0% COLA 12.29% of covered salary. Member rates in Division B are: other law enforcement units with a 2.5% COLA 10.5% and units with a 4.0% COLA 10.5% of salary.\*

Employer rates for Division A are: State units 29.70%: all other law enforcement units with a 2.5% COLA 22.75% and units with a 4.0% COLA 24.33% of covered salary. Employer rates for Division B are other law enforcement units with a 2.5% COLA 22.29% and units with a 4.0% COLA 28.95% of salary.

\*Employers have the option of paying all or part of member contributions on behalf of their employees.

#### **Interest**

Up to 7.20% on member accounts.



#### Summary of Plan Provisions (Continued)

### Firefighters Retirement System

#### **Membership Eligibility**

The Firefighters Retirement System includes eligible State and local government employees directly involved in fire fighting and whose duties are classified as hazardous. If an employer does not classify the duties as hazardous, the employee will be enrolled in either the Public Employees Contributory or Noncontributory Retirement System.

Employees are qualified for membership in the Firefighters System if they initially began employment prior to July 1, 2011, and are regularly scheduled to work and be compensated for 2,080 hours a year in a regular constituted fire department and are regularly assigned to hazardous duty, or are the State Fire Marshall or a Deputy State Fire Marshall. Although volunteer firefighters who are on the rolls of a legally organized volunteer fire department do not contribute to the System and are not eligible for service retirement benefits, they or their beneficiaries receive benefits based on the salary of the lowest paid firefighters in a first-class city if they are disabled or killed in the line of duty.

#### Vesting

Retirement benefit becomes vested upon the member's completion of four years of service credit. Eligible member contributions vest immediately.

#### **Service Retirement**

Age	Years of Service	Allowance Reduction
Any age	20	None
60	10	None
65	4	None

#### Service Benefit Formula

- 1) 2.5% x FAS\* x years of service up to 20 years.
- 2) 2.0% x FAS\* x years of service over 20 years.
- 3) Monthly benefit = total of 1 and 2.
- \*FAS (Final Average Salary) = highest three years' earnings converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

#### **Cost-of-Living Allowance**

Up to 4.0% annually on original retirement benefit. Eligible after one year.

#### **Disability Benefits**

If disability is in the line of duty, the benefit is 50% of the final average salary with no minimum age or service requirements. If disability is not in the line of duty, the benefit is a refund of contributions for members with fewer than five years of service. For members with more than five years of service, the benefit is the same as that for disability incurred in the line of duty. Benefits are suspended while receiving Workers Compensation.

#### **Death Benefits**

#### **Division A (with Social Security)**

If death is in the line of duty, the benefit to the surviving spouse is a lump-sum payment equal to six months of the final average salary

plus a monthly benefit of 30% of final average salary. If death is in the line of duty, and the member has 20 or more years of service credit, the spouse's benefit is the same as for a retired member.

If death is not in the line of duty, the benefit is \$1,000 or a refund of contributions for members with fewer than 10 years of service. For members with more than 10 years of service, the benefit to the surviving spouse consists of \$500 plus a monthly benefit of 2% of the final average salary for each year of service to a maximum of 30% of the final average salary. If there is no spouse, the settlement is a 100% refund of vested contributions payable to the beneficiary, or \$500, whichever is greater.

#### **Division B (without Social Security)**

If death is in the line of duty, the benefit to the surviving spouse is a lump-sum payment equal to six months of the final average salary plus a monthly benefit of 37.5% of the final average salary. Each unmarried child under 21 or dependent unmarried mentally or physically disabled child receives \$75 per month if the member had five or more years of service. If death is in the line of duty, and the member has 20 or more years of service credit, the spouse's benefit is the same as for a retired member.

If death is not in the line of duty, the benefit is a refund of contributions plus 50% of the last 12 months of salary for members with fewer than five years of service. For members with more than five years of service, the benefit is the same as that for death in the line of duty. If there is no spouse, the settlement is a 100% refund of vested contributions payable to the beneficiary, or \$500, whichever is greater. Total benefits cannot exceed 75% of the final average salary.

#### Summary of Plan Provisions (Continued)

Firefighters Retirement System (Concluded)

A retired member's death benefit to a surviving spouse is 75% of the monthly benefit with a minimum monthly payment of \$350. An unmarried child under 21 or dependent unmarried mentally or physically disabled child receives \$75 per month.

#### Refunds

A terminated member is eligible for a 100% refund of member contributions. There is a 60-day refund processing period after the last day of paid employment.

#### Redeposits

A redeposit with interest may be made in monthly installments, by a lump-sum payment, or by direct transfer from a qualified plan. A redeposit must be completed prior to retirement. Service credit is restored when the redeposit is completed.

#### **Contribution Rates**

(as of 12-31-2016)

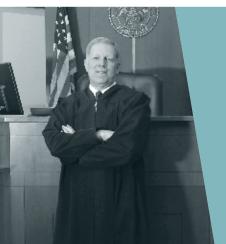
Member rate in Division A is 15.05% of covered salary. Member rate in Division B is 16.71% of covered salary.\* Employer rate in Division A is 3.89% and in Division B is 6.66% of covered salary. A fire insurance premium tax equal to 11.64% of salaries is also an additional part of the employer contribution rates. Fire insurance premium taxes are collected by the Utah State Treasurer for the Firefighters Retirement System to help fund retirement benefits.

\* Employers have the option of paying all or part of member contributions on behalf of their employees.

#### Interest

Member contributions receive no interest.





# Judges Retirement System

#### **Membership Eligibility**

The Judges Retirement System includes justices and judges of the courts of record as authorized in state statutes.

#### Vesting

Retirement benefit becomes vested upon the member's completion of 6 years of service credit. Eligible member contributions and interest thereon vest immediately.

#### **Service Retirement**

Age	Years of Service	Allowance Reduction
Any ag	e 25	None
55	20	Full actuarial reduction
62	10	None
70	6	None

#### **Service Benefit Formula**

- 1) 5.00% x FAS\* x years of service up to 10 yrs.
- 2) 2.25% x FAS\* x years of service between 10 and 20 yrs.
- 3) 1.00% x FAS\* x years of service over 20 yrs.
- 4) Monthly benefit = total of 1, 2, and 3.
- \*FAS (Final Average Salary) = highest two years' earnings in judicial service converted to a monthly average. Yearly salary increases are limited to 10% plus a COLA determined by the CPI.

#### **Cost-of-Living Allowance**

Up to 4% compounded annually, beginning one year after retirement.

#### Summary of Plan Provisions (Continued)

Judges Retirement System (Concluded)

#### **Death Benefits**

An active or inactive member's death benefit to the surviving spouse consists of a refund of member contributions and interest plus 65% of the member's most recent 12 months' compensation prior to death, or a monthly allowance equal to 65% of the amount computed for a service retirement with no early retirement reduction.

A retired member's death benefit to the surviving spouse is 65% of the member's monthly benefit at the time of death. If the member elected a reduced monthly benefit, the surviving spouse will receive a death benefit of 75% of the member's monthly benefit.

#### Refunds

A terminated member is eligible for a 100% refund of member contributions plus interest. There is a 60-day refund processing period after the last day of paid employment.

#### Redeposits

A redeposit with interest may be made in monthly installments, by a lump-sum payment, or by direct transfer from a qualified plan. A redeposit must be completed prior to retirement. Service credit is restored when the redeposit is completed.

#### **Contribution Rates**

(as of 12-31-2016)

Employer rate includes 42.12% of covered salary and 9.79% from court fees.

#### Interest

Up to 7.20% on member accounts.

### Utah Governors and Legislators Retirement Plan

#### **Membership Eligibility**

The Utah Governors and Legislators Retirement Plan includes only governors and legislators of the State of Utah.

#### Vesting

Retirement benefit becomes vested upon the member's completion of four years of service credit.

#### **Service Retirement**

Age	Years of Service	Reduction
65	4	. None
62	10	. 3% each year
		before age 65

#### **Service Benefit Formula**

Governors: \$500 per month per term increased semi-annually up to 2% based on the CPI. The amount as of 12-31-16 is \$1,360.

Legislators: \$10 per month per each year of service as a legislator increased semi-annually up to 2% based on the CPI. The amount as of 12-31-16 is \$29.60.

#### **Cost-of-Living Allowance**

Up to 4% annually on the original retirement benefit. Eligible after one year.

An additional \$3.50 per month, for each year of service, is payable to elected and appointed legislators and governors who were members of this Plan before March 1, 2000.

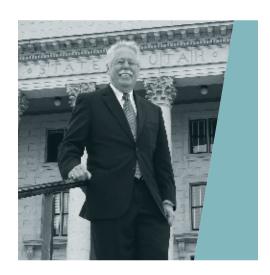
#### **Death Benefits**

An active or retired member's death benefit to a spouse consists of a monthly pension equal to 50% of the retirement allowance paid, or to which the member would have been entitled to upon reaching age 65, if the member has four or more years of service as a governor or legislator. The deceased member and surviving spouse must have been married at least six months.

#### **Contribution Rates**

(as of 12-31-2016)

There was a 2016-17 appropriation payable by June 30, 2017, to the Utah Governors and Legislators Retirement Plan of \$404,409.



#### Summary of Plan Provisions (Continued)



# Tier 2 Public Employees Contributory Retirement System

#### **Membership Eligibility**

The Tier 2 Public Employees Contributory Retirement System, brought about by SB 63, became effective on July 1, 2011. All eligible employees beginning employment on or afterJuly 1, 2011, who have no previous service credit with any of the Utah Retirement Systems, are members of the Tier 2 Retirement System. A person initially entering full-time employment with a participating employer on or after July 1, 2011, must make an election to participate in either the Tier 2 Hybrid Public Employees Retirement System or the Tier 2 Defined Contribution (DC) Plan, within one year of his or her employment date. The election made is irrevocable. If no election is made, the employee automatically becomes a member of the Tier 2 Hybrid Public Employees Retirement System.

An employee is qualified for membership in the Tier 2 Public **Employees Retirement System if his** or her employer participates in this system, and one of the following: the employment, contemplated to continue during a fiscal or calendar year, normally requires an average of 20 hours or more per week and the employee receives benefits normally provided by the employer as approved by the Retirement Board; the employee is a classified school employee whose employment normally requires an average of 20 hours or more per week regardless of benefits; the employee is a teacher who teaches half-time or more and receives benefits normally provided by the employer as approved by the Retirement Board; the employee is an appointed officer\* whose position is full time as certified by the participating employer; the employee is in a probationary status and meets

eligibility requirements; the employee performs services through an employee leasing or similar arrangement and meets eligibility requirements.

#### Vesting

Retirement benefit is vested upon the member's completion of four years of qualifying service credit.

#### **Service Retirement**

#### Applies only to the **Tier 2 Hybrid Retirement System**

Age	Years of Service	Allowance Reduction†
Any age	35	. None
60-61	20	. Full actuarial before age 65
62-64	10	. Full actuarial before age 65
65	4	. None

<sup>†</sup> When fewer than 35 years of service from any combination of Utah Retirement Systems, the allowance will be reduced by approximately 7% for each year between ages 60 and 63 and approximately 9% for each year between ages 64 and 65.

<sup>\*</sup>Appointed officers are employees appointed to a position for a definite and fixed term of office, and the position is recorded in the employer's charter, creation document, or similar document.

#### Summary of Plan Provisions (Continued)

Tier 2 Public Employees Contributory Retirement System (Concluded)

#### Service Benefit Formula

#### Applies only to the **Tier 2 Hybrid Retirement System**

Service benefit formula is based upon number of years of service credit x 1.5% x highest five years' earnings converted to a monthly average.

#### **Cost-of-Living Allowance**

The Tier 2 Hybrid Retirement System has a COLA up to 2.5% on the retirement allowance. There is no COLA in the Tier 2 Defined Contribution Plan.

#### **Death Benefits**

#### **Death Benefits for Non-Retired** Members — Applies only to the Tier 2 Hybrid Public Employees **Retirement System**

The spouse of a deceased member is eligible for a monthly benefit if they have been married for at least six months and the member meets age and service qualifications or has 15 or more years of service credit. If there are any member contributions in the employee's Tier 2 Hybrid Public Employees Retirement Account and the surviving spouse does not qualify for a career benefit, the beneficiary(ies) will receive a refund of the employee's contributions plus interest.

#### Death Benefits — Applies to both the Hybrid Public Employees Retirement System and the DC Plan

If an employee is a non-retired member who is employed by a participating employer at the time of his or her death, his or her beneficiary(ies) will receive a payment representing 75% of the employee's highest annual salary. If the employee has less than 12 months of service, the benefit is prorated. The minimum insurance payment is \$1,000.

#### **Death Benefits for** Non-Retired Members in the Tier 2 Retirement Plan

After death, any money vested in the employee's URS Savings Plans (401(k), 457, IRAs) is payable to his or her beneficiary(ies).

#### Refunds

If the employee has a balance in his or her Tier 2 Defined Contribution account, he or she may be able to withdraw funds under certain circumstances. When an employee has four years of eligible employment, the employer contributions in his or her 401(k) account become vested and he or she is able to take a refund of the account upon termination of employment.

If the employee terminates employment prior to the vesting period and subsequently enters employment with a URS participating employer within 10 years of the previous termination date, all employer contributions will be reinstated upon completion of the vesting period. If he or she is not re-employed and eligible to participate in the DC Plan within 10 years of the previous termination date, the funds are forfeited. If the employee makes personal deferrals (i.e., payroll deductions) to the DC Plan, those deferrals are vested immediately and may be taken as a refund when terminating employment.

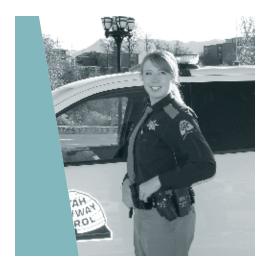
#### Contribution Rates\*

(as of 12-31-2016)

Range from 16.69% to 18.45% of salary for local government employers. The rate for State and School Employers is 20.02%.

\* Includes 401(k) portion of the contribution rate.

#### Summary of Plan Provisions (Continued)





# Tier 2 Public Safety and Firefighter Contributory Retirement System

#### **Membership Eligibility**

The Tier 2 Public Safety and Firefighter Contributory Retirement System, brought about by SB 63, became effective on July 1, 2011. All eligible employees beginning employment on or after July 1, 2011, who have no previous service credit with any of the Utah Retirement Systems, are members of the Tier 2 Public Safety and Firefighter Retirement System. A person initially entering full-time employment with a participating employer on or after July 1, 2011, must make an election to participate in either the Tier 2 Public Safety and Firefighter Retirement System or the Tier 2 Defined Contribution (DC) Plan, within one year of his or her employment date. The election made is irrevocable. If no election is made, the employee automatically becomes a member of the Tier 2 Hybrid Public Safety and Firefighter Retirement System.

An employee qualifies for membership if: The employment normally requires an average of 2,080 hours of regularly scheduled employment per year in a recognized public safety department, as a law enforcement officer, correctional officer, special function officer, or full-time member of the Board of Pardons and Parole, and in the course of employment the employee's life or personal safety is at risk, and he or she has completed a certified training program, which is documented with our office, OR, if the employment normally requires an average of 2,080 hours of regularly scheduled employment per year in a regularly constituted fire department, the employee has been trained in firefighter techniques, and is assigned to a position of hazardous duty.

If the employee doesn't meet the eligibility requirements outlined in the previous explanation, based on the employer's participation, the employee will be enrolled in the Tier 2 Public Employees Contributory Retirement System as long as eligibility requirements are met.

#### Vesting

Retirement benefit is vested upon the member's completion of four years of qualifying service credit.

#### Service Retirement

#### Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

Age	Years of Service	Allowance Reduction†
Any age	25	. None
60-61	20	. Full actuarial before age 65
62-64	10	. Full actuarial before age 65
65	4	. None

† When fewer than 25 years of service from any combination of Utah Retirement Systems, the allowance will be reduced by approximately 7% for each year between ages 60 and 63 and approximately 9% for each year between ages 64 and 65.

#### Summary of Plan Provisions (Concluded)

Tier 2 Public Safety and Firefighter Contributory Retirement System (Concluded)

#### Service Benefit Formula

#### Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

Service benefit formula is based upon number of years of service credit x 1.5% x highest five years' earnings converted to a monthly average.

#### **Cost-of-Living Allowance**

The Tier 2 Hybrid Public Safety and Firefighter Retirement System has a COLA up to 2.5% on the retirement allowance. There is no COLA in the Tier 2 Defined Contribution Plan.

#### **Death Benefits**

#### Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

An active member's death benefit consists of a payment equal to 75% of the highest annual salary with a minimum of \$1,000. The spouse of a deceased member is eligible for a monthly benefit if they have been married for at least six months and the member meets age and service qualifications or has 15 or more years of service credit. If there are any member contributions in the employee's Tier 2 Hybrid Public Employees Retirement Account and the surviving spouse does not qualify for a career benefit, the beneficiary(ies) will receive a refund of the employee's contributions plus interest.

#### Line-of-Duty Death — Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

If an employee accrued less than 20 years of public safety or firefighter service credit, his or her spouse at the time of death will receive a lump-sum payment equal to six months of the final average salary and a monthly benefit equal to 30% of the employee's monthly final average salary.

If an employee accrued 20 or more years of public safety or firefighter service credit, he or she will be considered to heave retired with an option one selection calculated without an actuarial reduction and his or her spouse at the time of your death will receive the allowance that would have been payable to the employee.

#### Death Benefit — Applies to both the Hybrid Public Safety and Firefighter Retirement System and the Tier 2 DC Plan

If an employee is a non-retired member who is employed by a participating employer at the time of his or her death, his or her beneficiary(ies) will receive a payment representing 75% of the employee's highest annual salary. If the employee has less than 12 months of service, the benefit is prorated. The minimum insurance payment is \$1,000.

#### **Death Benefits for Non-Retired** Members — in the Tier 2 DC Plan

After death, any money vested in the employee's URS Savings Plans (401(k), 457, IRAs) is payable to his or her beneficiary(ies).

#### **Refunds**

If the employee has a balance in his or her Tier 2 Defined Contribution account, he or she may be able to withdraw funds under certain circumstances. When an employee has four years of eligible employment, the employer contributions in his or her 401(k) account becomes vested and he or she is able to take a refund of the account upon termination of employment.

If the employee terminates employment prior to the vesting period and subsequently enters employment with a URS participating employer within 10 years of the previous termination date, all employer contributions will be reinstated upon completion of the vesting period. If he or she is not re-employed and eligible to participate in the DC Plan within 10 years of the previous termination date, the funds are forfeited. If the employee makes personal deferrals (i.e., payroll deductions) to the DC Plan, those deferrals are vested immediately and may be taken as a refund when terminating employment.

#### **Contribution Rates\***

(as of 12-31-2016)

Public Safety rates range from a low of 21.72% to a high of 38.35% of salary. The Firefighter rate is 12.08% of salary.

\*Includes 401(k) portion of the contribution rate.

# Changes in Plan Provisions



The following retirement-related bills were passed by the 2016 Utah Legislature:

### **Public Safety and Firefighters Retirement Systems**

#### S.B. 29: Retirement System **Amendments**

Provides that an employee of the Department of Corrections shall continue to earn public safety service credit in the Public Safety Retirement System if the employee's position is no longer covered for new employees of the department and the employee continues to meet the eligibility requirements of the system.

#### General

#### H.B. 15: Domestic Relations **Retirement Shares**

Provides that a former spouse of a member who dies before retiring may receive an apportioned share of a death benefit in certain circumstances.

#### H.B. 35: Retirement and **Insurance Benefit Claims Limits**

Establishes a four-year statute of limitations for actions regarding a benefit, right, obligation, or employment right under Title 49; clarifies when a cause of action accrues and the limitation period runs; and provides when the limitation period is tolled and other exceptions.

#### **H.B. 439: Retirement Amendments** for Felony Conviction

Provides that URS members are subject to forfeiture of accrual of service credit, employer retirement related contributions, including employer contributions to the employer sponsored defined contribution plans, from the day on which the employment related offense occurred after being convicted of an employment-related felony.

#### S.B. 19: Phased Retirement

Establishes an optional "Phased Retirement" program that would allow continuing employment on a half-time basis of a retiree with the same participating employer after the retiree's retirement date while the retiree receives 50% of the retiree's monthly retirement allowance. This new program may be offered beginning on January 1, 2017.

#### S.B. 29: Retirement **System Amendments**

The annual administrative and technical amendments to Title 49 recommended to the Legislature by URS includes: (1) Reducing the waiting period from three months to 30 days for URS' payment of death benefits that are part of a "small estate"; (2) Clarifying that the definition of final average salary is based on a contract year for educational institutions, state fiscal year for judges, and calendar year for all other participating employers; and (3) Clarifying that the four-year vesting for Tier II defined contribution benefits uses the same method as other retirement systems (within 1/10 of one year of the total years required for vesting).

#### S.B. 208: Retirement Amendments

This bill: (1) Requires the Utah State Retirement Board to increase certified employer contribution rates to reflect any increased costs from retirement benefit enhancements enacted during a general session or special session under specified conditions; and (2) Amends the definition of "regular full-time employee" to exclude from retirement participation certain classified school employees who work on a contract for the purposes of vocational rehabilitation and the employment and training of people with significant disabilities.

# **Defined Contribution** Savings Plans Summary of Plan Provisions





#### Introduction

The 401(k), 457, Roth and traditional IRAs administered by the Board are Defined Contribution Savings Plans. These Plans are generally supplemental plans to the basic retirement benefits of the Retirement Systems, but may also be used as a primary retirement plan. These Plans are voluntary tax-advantaged retirement savings programs authorized under sections 401(k), 457(b), and 408 of the Internal Revenue Code and are available to state, local government, and education employees throughout Utah whose employers have adopted the plans.

#### **Employer Contributions**

In addition to accepting employee contributions, the 401(k) and 457 Plans also accept employer contributions on behalf of their employees. All state and public education employees participating in the Noncontributory Retirement System receive an amount equal to 1.5% of their salary in the 401(k) Plan and Tier 2 Public Employees and Tier 2 Public Safety and Firefighter Retirement Systems participants also receive contributions according to their retirement plan. In addition, some employers match a portion of their employees' elective deferrals.

### Social Security Substitute

Organizations that have exempted themselves from Social Security coverage and have part-time. temporary, or seasonal employees, who are not participating in a qualifying retirement system, must cover these employees with a substitute plan.

Employers may use the 401(k)/457 Plans as a qualifying retirement system for these employees, but must contribute a minimum of 7.5% of salary to the Plan(s) on their behalf for it to be considered a "qualifying system." The employer may contribute the 7.5% themselves, or they may require their employees to pay a portion or all of it.

# **Summary of Plan Provisions**

#### **Deferral Limits**

**401(k)** — Limited in 2016 to an annual maximum of \$18,000. Employer contributions and employee deferrals combined could not exceed the lesser of \$54,000 or 100% of compensation.

457 — Limited to an annual maximum of \$18,000 or 100% of includable compensation.

#### Roth and Traditional IRA —

Limited to an annual maximum of \$5,500 into all IRAs owned by the participant.

#### **Defined Contribution Savings Plans**

#### Summary of Plan Provisions (Continued)

#### **Coordination of Deferrals**

- **401(k)** Deferrals to the 401(k) and 403(b) plans must be coordinated.
- 457 Contributions to the 457 must be coordinated with all 457(b) plans.

#### **Roth and Traditional IRA** -

All Roth and traditional IRA contributions must be coordinated.

#### **Catch-up Provisions**

- 401(k) An additional \$6,000 for participants 50 or older during the year.
- **457** An additional \$6,000 for participants age 50 or older during the year. There is an additional "special catch-up" provision that allows participants to double their contributions to a 457(b) plan during the three years immediately preceding the year they qualify for retirement. However, the special catch-up is limited to unused deferrals allowed in previous years.

#### Roth and Traditional IRA —

An additional \$1,000 for participants 50 or older.

#### Withdrawals

- **401(k)** Vested balances upon termination of employment, age 591/2, retirement, disability, death, or hardship caused by immediate and heavy financial needs. (Hardships from employee deferrals only.)
- 457 Allowable upon termination of employment, age 70 1/2, retirement, death, or severe unforeseeable financial emergencies.

#### Roth and Traditional IRA —

Allowable at any time, but with possible tax penalties if withdrawn prior to age 591/2.

#### **Rollovers**

- **401(k)** Allowable from other eligible retirement plans, or to other eligible retirement plans upon termination of employment or other qualifying events. May be either a direct rollover by the Plan or an indirect rollover by the participant within 60 days after distribution.
- 457 Allowable to other eligible retirement plans or from another 457(b) plan.

#### Roth and Traditional IRA —

Allowable from other eligible retirement plans or to other eligible plans (depending on acceptance of receiving plan).

#### Vesting

401(k) — Employee and other employer contributions are fully vested. Tier 2 employer required contributions are vested after four years of eligible service (except for elected officials).

457 — Fully vested.

#### Roth and Traditional IRA — Fully vested.

#### Loans

**401(k) and 457** — Available up to 50% of member account balance, to a maximum of \$50,000 during a 12-month period. Only one outstanding loan allowed, per plan. Tier 2 employer required contributions are not eligible.

#### Roth and Traditional IRA —

Not available.

### **Short-Term Trading Fees**

Each time money managers purchase or redeem stocks and bonds there are trading costs involved. Because of the costs generated by frequent or short-term trading, it became necessary to impose a short-term trading fee. Individuals who transfer any or all of their current account between core investment options more often than once every 30 days, are charged 2% of the amount transferred for each additional trade. Each transfer starts a new 30-day period.

### **Investment Transfer Options**

Changes in deferral amounts and in the investment options for future contributions may be made at any time. Participants may make one transfer of accumulated balances within each plan no more frequently than every seven calendar days.

### 2016 Core Investment **Options**

#### **Income Fund**

The Income Fund is a stable value option and the most conservative of the investment choices. Approximately 95% of its assets are invested in investment grade bonds, which are "wrapped" with book value contracts. The contracts are financial agreements from creditworthy banks and insurance companies, protecting against changes in interest rates and allowing the returns to be smoothed over the duration of the portfolio. The remaining 5% is invested in short-term instruments for liquidity.

#### **Defined Contribution Savings Plans**

#### Summary of Plan Provisions (Continued)

#### **Bond Fund**

The Bond Fund invests in a diversified portfolio consisting of U.S. government securities, mortgage and asset-backed securities, corporate bonds, and short-term funds.

#### **Balanced Fund**

The Balanced Fund invests in a portfolio consisting of approximately 60% stocks and 40% bonds.

#### **Large Cap Stock Value Fund**

The Large Cap Stock Value Fund invests in a diversified portfolio of common stocks that appear to be undervalued by the stock market, but have a favorable outlook for long-term growth.

#### **Large Cap Stock Index Fund**

The Large Cap Stock Index Fund invests in stocks included in the Russell 1000 Index and is similarly weighted. This fund represents a broad range of industries in the U.S. economy.

#### **Large Cap Stock Growth Fund**

The Large Cap Stock Growth Fund emphasizes capital appreciation and seeks to identify companies with future relative earnings strength at a reasonable valuation.

#### International Fund

The International Fund tracks the performance of the MSCI All Country World Index - ex. U.S. - Investable Market Index (ACWI ex. U.S. IMI) as closely as possible. The index is designed as a measure of the global stock market performance of developed and emerging markets that excludes the United States.

#### **Small Cap Stock Fund**

The Small Cap Stock Fund invests in a broad cross-section of U.S. small companies whose size (market capitalization) falls within the smallest 10% of the market universe. The market universe is comprised of companies listed on the NYSE and NASDAO.

#### **Brokerage Window**

The brokerage window is a self-directed brokerage account available through Charles Schwab. The brokerage account offers a wide variety of investment options with varying degrees of risk. The brokerage window allows the participant to choose from mutual funds, stocks, bonds, and exchange traded funds (ETFs).

#### Real Assets\*

#### **U.S. REITS**

U.S. REITS, real estate investment trusts, is a passively managed portfolio of real estate properties and mortgage related investments within the U.S. market. The U.S. REITs portfolio tracks the Russell Fundamental US Select Real Estate Index. REITs increase diversification within the Target Date Funds and also add long-term inflation protection.

#### **Commodities**

Commodities are bulk goods and raw materials, such as grains, metals, livestock, oil, cotton, coffee, sugar, and cocoa; goods used to produce consumer products. Commodities are bought and sold on the cash market, and they are also traded on the futures exchanges in the form of futures contracts. In addition to their diversification benefits, commodities are used as a long-term hedge against inflation.

#### **Private Real Estate**

Private Real Estate is a fund of funds that allows investors to gain exposure to portfolios of direct real estate investments. The fund will invest primarily in existing private real estate funds, publicly traded real estate securities, and other real estate related investments. These portfolios are comprised of institutional quality commercial real estate across a broad range of real estate asset types.

## International Bonds\*

#### **International Bonds**

International Bonds are used to diversify the bond investments within the Target Date Funds. An international bond is a bond issued outside of the United States by a government or non-U.S. corporation.

#### Global Inflation-Linked Bonds

Global Inflation-linked bonds are debt instruments created to protect investors from the effects of inflation through inflation-linked bonds issued primarily by developed countries. An example of inflation-linked bonds are TIPS (Treasury Inflation-Protected Securities), which are issued by the U.S. Government and are designed to reduce the risk of inflation by indexing the principal of the bond to an inflation rate.

\*The Real Assets and International Bonds asset classes are exclusive to the URS Target Date Funds and are not available as a stand-alone investment option.

#### **Defined Contribution Savings Plans**

### Summary of Plan Provisions (Concluded)

#### ■■■ Target Date Funds Asset Allocation

: g = : 2 : :											Target Dat	e Funds
Asset Classes	Retired	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
URS Income Fund	25%	21%	16%	11%	6%	1%	_	_	_	_	_	_
URS Bond Fund	20	21	20	18	14	10	5%	3%	3%	3%	3%	3%
URS Large Cap Stock Value Fund	_	_	_	1	2.5	4.5	7	9.5	10	10	10	10
URS Large Cap Stock Index Fund	14	18	20	23	25	23	23	20	20	20	20	20
URS Large Cap Stock Growth Fund	_	_	_	1	2.5	4.5	7	9.5	10	10	10	10
URS International Stock Fund	4	4	7	12	18	26	31	33	33	33	33	33
URS Small Cap Stock Fund	1	1	2	3	5	7	9	10	10	10	10	10
International Bonds	10	10	10	10	8	6	3	2	2	2	2	2
U.S. Real Estate Investment Trusts	_	_	_	_	2	4	4	4	4	4	4	4
Commodities	3	3	3	3	4	4	4	4	4	4	4	4
Global Inflation-Linked Bonds	20	18	13	8	3	_	_	_	_	_	_	_
Private Real Estate	3	4	9	10	10	10	7	5	4	4	4	4
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

### **URS Target Date Funds**

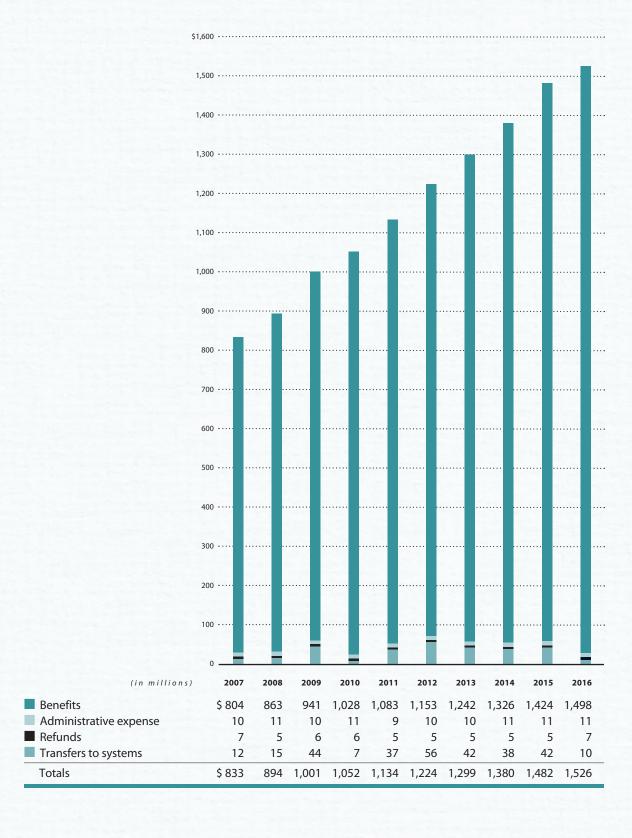
The URS Target Date Funds offer a one-fund approach to investing in the URS Savings Plans. A Target Date Fund will give participants a diversified portfolio through a single investment option. The funds will gradually adjust throughout the participant's career and into retirement. The investment mix which includes stocks, bonds, and real assets - is automatically reallocated to be weighted more conservatively as the participant ages and enters into retirement.

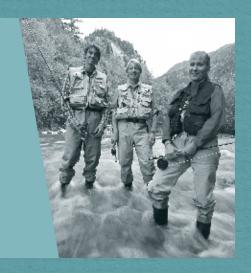
The historical rates of returns for each investment fund are found on pages 139 and 140.

### Utah Retirement Systems

# Deductions by Type

(in millions)





Utah Retirement Systems

2016

**Comprehensive Annual Financial Report** 

# Statistical Section

#### 184 Schedules of Changes in Net Position — Defined Benefit Systems

These schedules allow readers to view changes in net assets and benefits over a 10-year period.

#### 188 Schedules of Changes in Net Position — Defined Contribution Plans

These schedules allow readers to view changes in net assets and refunds over a 10-year period.

#### 190 Schedules of Benefit Deductions by Type

These schedules provide readers with information regarding the type of benefit deductions for the last 10 years.

#### 192 Schedules of Retired Members by Type of Benefit Option

These schedules provide readers with information regarding benefit payments by years of service.

#### 194 Schedules of Average Benefit Payments

These schedules provide readers with information regarding benefit payments by years of service.

#### 198 Schedules of Active Members by Age and Gender

These schedules provide readers with information regarding members by age and gender.

#### 199 Schedules of Retirees by Age and Gender

These schedules provide readers with information regarding retirees by age and gender.

#### 200 Schedules of Principal Participating Employers

These schedules provide readers with information regarding the largest participating employers.

#### 204 Schedule of Utah Retirement Office Employees

This schedule provides readers with information regarding the number of Utah Retirement Systems' employees.

#### 206 Schedules of Participating Employers

This schedule provides readers with information regarding the participating employers and the systems in which they participate.

#### 212 Utah Retirement Systems — a Highlight History

This summary provides readers with historical highlights of the Utah Retirement Systems.

# Schedules of Changes in Net Position — Defined Benefit Systems

Year Ended December 31

	(dolla)	rs in thousan	d s )		Total Employer Contributions	Contributions		
System	Year	Beginning Net Position	Member Contributions	Employer Contributions	Court Fees/ Fire Insurance Tax	as a Percent of Covered Payroll	Net Investment Income	
Noncontributory	2007	\$ 15,818,483	18,245	487,803	_	14.20%	\$1,041,414	
Retirement	2008	16,751,804	14,110	522,733	_	13.50	(3,888,624)	
System	2009	12,714,371	14,109	535,298	_	13.53	1,667,478	
	2010	14,152,562	33,528	564,154	_	14.51	1,860,976	
	2011	15,802,205	12,879	610,270	_	15.65	401,105	
	2012	15,935,472	15,014	644,907	_	16.99	2,000,995	
	2013	17,629,437	14,208	710,933	_	19.18	2,588,981	
	2014	19,915,815	13,587	772,420	_	21.63	1,419,053	
	2015	21,096,512	17,020	813,449	_	23.26	366,748	
	2016	21,192,437	16,308	831,631	_	24.05	1,783,911	
Contributory	2007	\$ 1,115,416	9,700	11,208	_	8.56%	\$ 71,640	
Retirement	2008	1,131,316	9,410	11,037	_	8.29	(261,227)	
System	2009	835,370	8,655	10,865	_	8.50	112,626	
	2010	937,587	10,299	11,851	_	10.18	121,153	
	2011	1,007,248	7,300	11,125	_	10.10	26,009	
	2012	1,013,050	6,962	11,705	_	11.36	131,169	
	2013	1,136,651	6,376	12,874	_	13.13	169,510	
	2014	1,281,945	5,461	12,954	_	14.29	87,577	
	2015	1,269,991	4,771	11,719	_	16.50	21,251	
	2016	1,183,091	3,420	8,188	_	15.27	97,693	
Public Safety	2007	\$ 1,981,492	4,343	81,166	_	24.46%	\$ 130,655	
Retirement	2008	2,106,302	2,159	93,899	_	25.72	(491,024)	
System	2009	1,614,057	1,556	98,729	_	26.40	213,627	
	2010	1,824,758	1,713	103,586	_	28.53	241,203	
	2011	2,058,019	1,070	110,829	_	29.61	52,655	
	2012	2,103,751	1,155	117,975	_	32.19	266,753	
	2013	2,366,057	1,258	128,744	_	35.18	350,563	
	2014	2,712,184	835	135,588	_	37.59	194,222	
	2015	2,899,386	905	141,024	_	39.51	50,654	
	2016	2,938,839	830	147,099	_	41.74	249,027	
Firefighters	2007	\$ 773,776	9,194	_	13,797	14.41%	\$ 50,738	
Retirement	2008	814,674	10,428	_	10,219	9.99	(188,095)	
System	2009	612,699	11,273	_	16,159	15.01	79,811	
	2010	682,219	14,112	238	10,677	10.37	89,122	
	2011	756,260	17,328	316	12,689	11.74	19,218	
	2012	765,524	17,503	1,264	16,057	15.66	96,255	
	2013	853,778	18,325	3,494	11,285	13.35	125,685	
	2014	968,661	18,300	5,514	14,154	17.67	69,070	
	2015	1,031,039	18,175	6,690	17,218	21.08	17,934	
	2016	1,043,059	18,729	6,954	10,569	15.60	87,746	

Transfers from Systems	Total Additions	Benefit Payments	Refunds	Administrative & Actuarial Expense	Transfers to Systems	Total Deductions	Changes in Net Position	Ending Net Position
7,173	1,554,635	609,526	3,443	8,345	_	621,314	933,321	16,751,804
_	(3,351,781)	659,792	2,514	8,809	14,537	685,652	(4,037,433)	12,714,371
_	2,216,885	723,052	2,882	8,340	44,420	778,694	1,438,191	14,152,562
_	2,458,658	793,804	3,620	8,389	3,202	809,015	1,649,643	15,802,205
_	1,024,254	843,696	2,514	7,304	37,473	890,987	133,267	15,935,472
_	2,660,916	900,133	2,858	8,397	55,563	966,951	1,693,965	17,629,437
<del>-</del>	3,314,122	974,684	2,454	8,329	42,277	1,027,744	2,286,378	19,915,815
30,467	2,235,527	1,043,798	2,204	8,828	_	1,054,830	1,180,697	21,096,512
33,648	1,230,865	1,123,647	2,496	8,797	_	1,134,940	95,925	21,192,437
_	2,631,850	1,184,317	4,366	8,856	8,005	1,205,544	1,426,306	22,618,743
_	92,548	61,678	2,318	588	12,064	76,648	15,900	1,131,316
9,008	(231,772)	62,096	1,473	605	_	64,174	(295,946)	835,370
37,633	169,779	64,849	2,158	555	_	67,562	102,217	937,587
_	143,303	67,565	1,632	535	3,910	73,642	69,661	1,007,248
32,064	76,498	68,375	1,872	449	_	70,696	5,802	1,013,050
47,098	196,934	70,855	1,975	503	_	73,333	123,601	1,136,651
33,094	221,854	74,158	1,922	480	_	76,560	145,294	1,281,945
_	105,992	77,015	2,433	494	38,004	117,946	(11,954)	1,269,991
_	37,741	81,390	1,215	478	41,558	124,641	(86,900)	1,183,091
_	109,301	83,447	1,700	446	1,895	87,488	21,813	1,204,904
2,323	218,487	91,864	723	1,090	_	93,677	124,810	2,106,302
3,727	(391,239)	98,944	899	1,163	_	101,006	(492,245)	1,614,057
4,578	318,490	106,272	390	1,127	_	107,789	210,701	1,824,758
4,248	350,750	115,831	512	1,146	_	117,489	233,261	2,058,019
3,303	167,857	120,570	536	1,019	_	122,125	45,732	2,103,751
6,411	392,294	128,532	292	1,164	_	129,988	262,306	2,366,057
4,676	485,241	137,486	467	1,161	_	139,114	346,127	2,712,184
2,746	333,391	144,763	199	1,227	_	146,189	187,202	2,899,386
4,023	196,606	155,387	533	1,233	_	157,153	39,453	2,938,839
6,701	403,657	164,508	183	1,260		165,951	237,706	3,176,545
1,709	75,438	33,936	248	356	_	34,540	40,898	814,674
1,491	(165,957)	35,355	284	379	_	36,018	(201,975)	612,699
1,173	108,416	38,311	231	354	_	38,896	69,520	682,219
1,784	115,933	41,130	401	361	_	41,892	74,041	756,260
1,699	51,250	41,406	268	312	_	41,986	9,264	765,524
1,325	132,404	43,660	133	357	_	44,150	88,254	853,778
1,302	160,091	44,747	106	355	_	45,208	114,883	968,661
3,713	110,751	47,710	293	370	_	48,373	62,378	1,031,039
2,573	62,590	49,671	528	371	_	50,570	12,020	1,043,059
1,611	125,609	52,102	466	374		52,942	72,667	1,115,726

Continued on page 186.

## Schedules of Changes in Net Position — Defined Benefit Systems (Concluded)

Year Ended December 31

	(dolla	rs i	n thousar	n d s )		Total Employer Contributions	Contributions		
System	Year		Beginning Net Position	Member Contributions	Employer Contributions	Court Fees/ Fire Insurance Tax	as a Percent of Covered Payroll	Net Investment Income	
Judges	2007	\$	128,299	13	1,360	1,850	24.10%	\$ 8,401	
Retirement	2008		134,364	138	1,730	2,072	26.40	(31,053)	
System	2009		100,895	67	2,083	2,101	28.99	13,214	
•	2010		111,726	_	2,771	1,944	33.12	14,597	
	2011		123,037	_	3,588	1,815	36.22	3,114	
	2012		123,235	_	4,232	1,666	39.62	15,485	
	2013		136,127	_	4,990	1,498	42.70	20,130	
	2014		155,676	317	5,627	1,486	44.26	11,068	
	2015		163,834		6,555	1,653	49.78	2,842	
	2016		163,747	_	7,382	1,470	52.83	13,820	
Utah Governors	2007	\$	12,163	_	_	_	_	\$ 780	
and Legislators	2008		12,196	_	_	_	_	(2,763)	
Retirement Plan	2009		8,675	_	_	_	_	1,098	
	2010		8,993		_	_	_	1,142	
	2011		9,337	_	153		26.94%	231	
	2012		8,933	_	214	_	46.22	1,100	
	2013		9,445	_	252	_	64.62	1,346	
	2014		10,166	_	411	_	44.29	717	
	2015		10,366		421	_	44.50	181	
	2016		10,039	_	421	_	52.69	849	
Tier 2	2011	\$	_	_	2,790	_	7.58%	\$ 9	
Public Employees	2012		2,799	_	14,208	_	6.97	922	
Contributory	2013		17,933	_	25,743	_	7.29	4,017	
Retirement	2014		47,690	_	37,299	_	7.57	4,320	
System*	2015		89,291		49,645	_	7.64	1,963	
	2016		140,539	_	63,062	_	7.67	14,059	
Tier 2	2011	\$	_	_	89	_	10.41%	\$ —	
Public Safety	2012		89	_	1,031	_	10.07	56	
and Firefighter	2013		1,171	_	2,451	_	12.12	316	
Contributory	2014		3,935	_	4,365	_	12.46	404	
Retirement	2015		8,705	_	6,221	_	10.38	199	
System*	2016		15,089	_	8,488	_	11.34	1,591	
All Retirement	2007		19,829,629	41,495	581,537	15,647	14.89%	\$1,303,628	
Systems	2008		20,950,656	36,245	629,399	12,291	14.30	(4,862,786)	
	2009	1	15,886,067	35,660	646,975	18,260	14.53	2,087,854	
	2010	1	17,717,845	59,652	682,600	12,621	15.49	2,328,193	
	2011	1	19,756,106	38,577	739,160	14,504	16.57	502,341	
	2012	1	19,952,853	40,634	795,536	17,723	17.66	2,512,735	
	2013	2	22,150,599	40,167	889,481	12,783	19.32	3,260,548	
	2014	2	25,096,072	38,500	974,178	15,640	21.16	1,786,431	
	2015		26,569,124	40,871	1,035,724	18,871	22.37	461,772	
	2016		26,686,840	39,287	1,073,225	12,039	22.19	2,248,696	

<sup>\*</sup>Additional years will be added as they become available.

Transfers from Systems	Total Additions	Benefit Payments	Ac Refunds	lministrative & Actuarial Expense	Transfers to Systems	Total Deductions	Changes in Net Position	Ending Net Position
841	12,465	6,335	_	65	_	6,400	6,065	134,364
294	(26,819)	6,580	_	70	_	6,650	(33,469)	100,895
1,027	18,492	7,595	_	66	_	7,661	10,831	111,726
1,078	20,390	9,010	_	69	_	9,079	11,311	123,037
390	8,907	8,649	_	60	_	8,709	198	123,235
710	22,093	9,135	_	66	_	9,201	12,892	136,127
3,186	29,804	10,189	_	66	_	10,255	19,549	155,676
1,092	19,590	11,361	_	71	_	11,432	8,158	163,834
1,334	12,384	12,400	_	71	_	12,471	(87)	163,747
1,600	24,272	12,340	_	71	_	12,401	11,871	175,618
18	798	758	2	5	_	765	33	12,196
17	(2,746)	763	7	5	_	775	(3,521)	8,675
9	1,107	784	_	5	_	789	318	8,993
2	1,144	790	5	5	_	800	344	9,337
17	401	801	_	4	_	805	(404)	8,933
19	1,333	815	1	5	_	821	512	9,445
19	1,617	892	_	4	_	896	721	10,166
_	1,128	909	_	5	14	928	200	10,366
_	602	904	_	5	20	929	(327)	10,039
_	1,270	941	_	4	12	957	313	10,352
_	2,799	_	_	_	_	_	2,799	2,799
5	15,135	_	_	1	_	1	15,134	17,933
3	29,763	_	_	6	_	6	29,757	47,690
_	41,619	_	_	16	2	18	41,601	89,291
3	51,611	333	_	30	_	363	51,248	140,539
_	77,121	316	_	51	0	367	76,754	217,293
_	89	_	_	_	_	_	89	89
_	1,087	_	_	_	5	5	1,082	1,171
_	2,767	_	_	_	3	3	2,764	3,935
2	4,771	_	_	1	_	1	4,770	8,705
_	6,420	30	_	3	3	36	6,384	15,089
_	10,079	28	_	5	_	33	10,046	25,135
12,064	1,954,371	804,097	6,734	10,449	12,064	833,344	1,121,027	20,950,656
14,537	(4,170,314)	863,530	5,177	11,031	14,537	894,275	(5,064,589)	15,886,067
44,420	2,833,169	940,863	5,661	10,447	44,420	1,001,391	1,831,778	17,717,845
7,112	3,090,178	1,028,130	6,170	10,505	7,112	1,051,917	2,038,261	19,756,106
37,473	1,332,055	1,083,497	5,190	9,148	37,473	1,135,308	196,747	19,952,853
55,568	3,422,196	1,153,130	5,259	10,493	55,568	1,224,450	2,197,746	22,150,599
42,280	4,245,259	1,242,156	4,949	10,401	42,280	1,299,786	2,945,473	25,096,072
38,020	2,852,769	1,325,556	5,129	11,012	38,020	1,379,717	1,473,052	26,569,124
41,581	1,598,819	1,423,762	4,772	10,988	41,581	1,481,103	117,716	26,686,840
9,912	3,383,159	1,497,988	6,715	11,067	9,912	1,525,682	1,857,477	28,544,317

# Schedules of Changes in Net Position — Defined Contribution Plans

Year Ended December 31

(in thousands)

	(in thou:	sands)				
System	Year	Beginning Net Position	Contributions	Net Investment Income / (Loss)	Total Additions	
401(k) Plan	2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	\$ 2,388,556 2,604,148 2,131,945 2,607,287 2,886,677 2,881,007 3,212,874 3,746,281 3,956,751 3,980,405	225,975 229,981 222,369 222,474 210,592 218,888 230,086 255,044 271,097 290,632	137,399 (554,176) 386,989 254,289 (14,864) 313,374 532,216 213,230 10,658 332,672	363,374 (324,195) 609,358 476,763 195,728 532,262 762,302 468,274 281,755 623,304	
457 Plan	2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	\$ 258,815 277,063 229,469 283,619 316,874 321,356 360,381 424,568 450,974 454,357	26,303 29,021 26,617 26,522 26,441 24,501 25,696 26,711 26,968 27,326	14,025 (57,267) 41,581 27,628 (2,422) 35,065 60,421 23,342 259 39,252	40,328 (28,246) 68,198 54,150 24,019 59,566 86,117 50,053 27,227 66,578	
Roth IRA Plan	2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	\$ 3,588 6,336 7,088 12,248 20,571 24,400 33,750 47,763 58,842 69,714	2,745 3,346 3,623 8,116 6,619 7,685 9,113 11,664 14,073 16,585	208 (2,051) 2,008 1,827 (508) 3,256 6,870 2,816 (308) 7,200	2,953 1,295 5,631 9,943 6,111 10,941 15,983 14,480 13,765 23,785	
Traditional IRA Plan	2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	\$ 12,428 17,840 19,194 22,471 26,251 30,013 38,595 49,852 59,822 68,986	7,390 7,433 3,161 6,097 7,346 9,799 11,213 14,930 17,206 16,182	650 (3,488) 2,803 1,692 (55) 2,811 5,050 2,645 211 4,825	8,040 3,945 5,964 7,789 7,291 12,610 16,263 17,575 17,417 21,007	
HRA Plan	2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	\$ 129 685 1,546 2,988 6,275 9,113 11,469 16,184 19,880 23,274	664 1,129 1,974 4,274 4,264 4,092 6,750 6,393 6,318 6,796	19 23 7 11 17 22 30 24 35 36	683 1,152 1,981 4,285 4,281 4,114 6,780 6,417 6,353 6,832	
All Defined Contribution Plans	2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	\$ 2,663,516 2,906,072 2,389,242 2,928,613 3,256,648 3,265,889 3,657,069 4,284,648 4,546,269 4,596,736	263,077 270,910 257,744 267,483 255,262 264,965 282,858 314,742 335,662 357,521	152,301 (616,959) 433,388 285,447 (17,832) 354,528 604,587 242,058 10,855 383,985	415,378 (346,049) 691,132 552,930 237,430 619,493 887,445 556,800 346,517 741,506	

Refunds	Administrative Expenses	Total Deductions	Changes in Net Position	Ending Net Position
142,180 141,904 127,675 190,963 194,933 194,538 223,523 251,496 251,436	5,602 6,104 6,341 6,410 6,465 5,857 5,372 6,308 6,665 7,085	147,782 148,008 134,016 197,373 201,398 200,395 228,895 257,804 258,101 264,736	215,592 (472,203) 475,342 279,390 (5,670) 331,867 533,407 210,470 23,654 358,568	2,604,148 2,131,945 2,607,287 2,886,677 2,881,007 3,212,874 3,746,281 3,956,751 3,980,405 4,338,973
21,489 18,683 13,349 20,184 18,811 19,877 21,314 22,920 23,082 25,706	591 665 699 711 726 664 616 727 762 810	22,080 19,348 14,048 20,895 19,537 20,541 21,930 23,647 23,844 26,516	18,248 (47,594) 54,150 33,255 4,482 39,025 64,187 26,406 3,383 40,062	277,063 229,469 283,619 316,874 321,356 360,381 424,568 450,974 454,357 494,419
192 524 445 1,582 2,230 1,538 1,908 3,310 2,781 4,192	13 19 26 38 52 53 62 91 112	205 543 471 1,620 2,282 1,591 1,970 3,401 2,893 4,334	2,748 752 5,160 8,323 3,829 9,350 14,013 11,079 10,872 19,451	6,336 7,088 12,248 20,571 24,400 33,750 47,763 58,842 69,714 89,165
2,592 2,545 2,635 3,954 3,469 3,967 4,940 7,514 8,148 8,332	36 46 52 55 60 61 66 91 105	2,628 2,591 2,687 4,009 3,529 4,028 5,006 7,605 8,253 8,460	5,412 1,354 3,277 3,780 3,762 8,582 11,257 9,970 9,164 12,547	17,840 19,194 22,471 26,251 30,013 38,595 49,852 59,822 68,986 81,533
126 288 533 987 1,426 1,736 2,041 2,690 2,924 30,075	1 3 6 11 17 22 24 31 35	127 291 539 998 1,443 1,758 2,065 2,721 2,959 30,106	556 861 1,442 3,287 2,838 2,356 4,715 3,696 3,394 (23,274)	685 1,546 2,988 6,275 9,113 11,469 16,184 19,880 23,274
166,579 163,944 144,637 217,670 220,869 221,656 253,726 287,922 288,371 325,956	6,243 6,837 7,124 7,225 7,320 6,657 6,140 7,256 7,679 8,196	172,822 170,781 151,761 224,895 228,189 228,313 259,866 295,178 296,050 334,152	242,556 (516,830) 539,371 328,035 9,241 391,180 627,579 261,622 50,467 407,354	2,906,072 2,389,242 2,928,613 3,256,648 3,265,889 3,657,069 4,284,648 4,546,270 4,596,736 5,004,090

# Schedules of Benefit Deductions by Type

Year Ended December 31

(in thousands)

System	Year	Service and Disability Benefits	Cost-of- Living Benefits	Supplemental Benefits	Total Benefits
Noncontributory	2007	\$ 513,917	95,609	_	609,526
Retirement	2008	551,391	108,401	_	659,792
System	2009	599,456	123,596	_	723,052
	2010	661,718	132,086	_	793,804
	2011	709,359	134,337	_	843,696
	2012	753,155	146,978	_	900,133
	2013	812,550	162,134	_	974,684
	2014	871,999	171,799	_	1,043,798
	2015	943,591	180,056	_	1,123,647
	2016	1,001,451	182,866	_	1,184,317
Contributory	2007	\$ 43,248	17,694	736	61,678
Retirement	2008	44,218	17,309	569	62,096
System	2009	47,319	17,086	444	64,849
	2010	50,822	16,389	353	67,564
	2011	52,933	15,160	282	68,375
	2012	55,884	14,746	225	70,855
	2013	59,203	14,778	177	74,158
	2014	62,560	14,328	127	77,015
	2015	67,510	13,785	95	81,390
	2016	70,137	13,232	78	83,447
Public Safety	2007	\$ 77,605	13,743	516	91,864
Retirement	2008	83,142	15,317	485	98,944
System	2009	88,632	17,186	454	106,272
	2010	96,331	19,068	433	115,832
	2011	99,685	20,482	403	120,570
	2012	105,780	22,372	380	128,532
	2013	112,470	24,662	354	137,486
	2014	118,030	26,407	326	144,763
	2015	127,285	27,807	295	155,387
	2016	135,697	28,547	264	164,508
Firefighters	2007	\$ 26,952	6,461	523	33,936
Retirement	2008	27,792	7,093	470	35,355
System	2009	30,097	7,792	422	38,311
	2010	32,490	8,242	401	41,133
	2011	32,716	8,313	377	41,406
	2012	34,445	8,871	344	43,660
	2013	34,951	9,485	311	44,747
	2014	37,597	9,844	269	47,710
	2015	39,340	10,095	236	49,671
	2016	41,687	10,195	220	52,102

# Schedules of Benefit Deductions by Type (concluded)

Year Ended December 31

(in thousands)

System	Year	Service and Disability Benefits	Cost-of- Living Benefits	Supplemental Benefits	Total Benefits
Judges	2007	\$ 5,105	1,230	_	6,335
Retirement	2008	5,201	1,379	_	6,580
System	2009	6,046	1,549	_	7,595
	2010	7,317	1,693	_	9,010
	2011	6,974	1,675	_	8,649
	2012	7,364	1,771	_	9,135
	2013	8,248	1,941	_	10,189
	2014	9,305	2,056	_	11,361
	2015	10,252	2,148	_	12,400
	2016	10,070	2,260	_	12,330
Utah Governors	2007	\$ 596	162	_	758
and Legislators	2008	606	157	_	763
Retirement Plan	2009	619	165	_	784
	2010	625	165	_	790
	2011	639	162	_	801
	2012	647	168	_	815
	2013	718	174	_	892
	2014	734	175	_	909
	2015	731	173	_	904
	2016	773	168	_	941
Tier 2	2011	\$ —	_	_	_
<b>Public Employees</b>	2012	_	_	_	_
Contributory	2013	_	_	_	_
Retirement	2014	_	_	_	_
System*	2015	333	_	_	333
	2016	316	_	_	316
Tier 2	2011	\$ —	_	_	_
<b>Public Safety</b>	2012	_	_	_	_
and Firefighter	2013	_	_	_	_
Contributory	2014	_	_	_	_
Retirement	2015	30	_	_	30
System*	2016	28		_	28

<sup>\*</sup>Additional years will be added as they become available.

# Schedules of Retired Members by Type of Benefit Option

Year Ended December 31, 2016

	Amount of						Num	ber of Retir	ees by Benef	it Option
System	Monthly Benefit	1	2	3	4	5	6	7	8	9
Noncontributory	\$ 1-1,000	9,422	679	3,330	385	3,472	898	_	_	_
Retirement	1,001-2,000	4,604	719	2,399	433	2,865	1,029	_	_	_
System	2,001-3,000	2,946	751	2,243	293	2,801	831	_	_	_
	3,001-4,000	2,108	656	1,793	225	1,861	577	_	_	_
	4.001-5,000	738	197	808	126	614	206	_	_	_
	over-5,000	316	94	525	59	252	100	_	_	_
Contributory	\$ 1-1,000	612	247	279	62	293	118	_	_	_
Retirement	1,001-2,000	370	199	267	34	258	64	_	_	_
System	2,001-3,000	203	157	198	33	198	45	_	_	_
	3,001-4,000	95	66	65	13	85	28	_		_
	4.001-5,000	26	21	29	8	14	13	_	_	_
	over-5,000	14	12	25	2	9	3	_	_	_
Public Safety	\$ 1-1,000	_	_	3	_	_	_	_	525	136
Retirement	1,001-2,000	_	_	3	_	_	_	_	919	294
System	2,001-3,000	_	_	1	_	_	_	_	1,416	660
	3,001-4,000	_	_	_	_	_	_	_	622	247
	4.001-5,000	_	_	_	_	_	_	_	251	142
	over-5,000	_	_	_		_	_	_	136	57
Firefighters	\$ 1-1,000	_	_	1	_	_	_	_	_	58
Retirement	1,001-2,000	_		1	_	_		_		220
System	2,001-3,000		_	_	_	_	_	_	_	417
•	3,001-4,000		_	_	_	_	_	_	_	366
	4,001-5,000	_		_	_	_		_		192
	over-5,000	_	_	_	_	_	_	_	_	117

- 1– A maximum monthly benefit for the retiree's life. No benefit to a beneficiary.
- 2- A reduced lifetime benefit to the retiree. A beneficiary receives the balance in retiree's account after the monthly annuity payments are deducted.
- 3- A reduced lifetime benefit to a retiree and a lifetime benefit equal to the retiree's benefit payable to the retiree's lawful spouse at the time of retirement.
- 4- A reduced lifetime benefit to the retiree and a lifetime benefit equal to half of the retiree's benefit to the retiree's lawful spouse at the time of retirement.
- 5– Approximately 95% of the benefit in type 3 and the same lifetime benefit for retiree's lawful spouse at the time of retirement. Benefit reverts to 100% at time of spouse's death.

- 6- Approximately 98% of the benefit in type 4 and a lifetime benefit equal to half of the retiree's for retiree's lawful spouse at the time of the retirement. Benefit reverts to 100% at time of spouse's death.
- 7- Normal retirement for age and service and a lifetime benefit of 65% of the retiree's benefit to the retiree's lawful spouse at the time of the retiree's death.
- 8- Normal retirement for age and service and a lifetime benefit of 75% of the retiree's benefit to the retiree's lawful spouse at the time of the retiree's death.
- 9- Normal retirement for age and service and a lifetime benefit of 75% of the retiree's benefit to the retiree's lawful spouse at the time of the retirement.

## Schedules of Retired Members by Type of Benefit Option (Concluded)

Year Ended December 31, 2016

	Amount of					Number of Retirees by Benefit Opti					
System	Monthly Benefit	1	2	3	4	5	6	7	8	9	
Judges	\$ 1-1,000	_	_	_	_	_	_	_	_	_	
Retirement	1,001-2,000	_	_	_	_	_	_	_	4	1	
System	2,001-3,000	_	_	_	_	_	_	_	8	4	
	3,001-4,000	_	_	_	_	_	_	_	4	1	
	4.001-5,000	_	_	_	_	_	_	_	4	4	
	over-5,000	_	_	_	_	_	_	_	56	55	
Utah	\$ 1-1,000	_	_	3	234	1	_	_	_	_	
Governors	1,001-2,000	_	_	_	5	_	_	_	_	_	
and Legislators	2,001-3,000	_	_	_	_	_	_	_	_	_	
Retirement	3,001-4,000	_	_	_	1	_	_	_	_	_	
Plan*	4.001-5,000	_	_	_	_	_	_	_	_	_	
	over-5,000	_	_	_	_	_	_	_	_	_	
Tier 2 Public	\$ 1-1,000	5	_	1	_	2	1	_	_	_	
Employees	1,001-2,000	_	_	_	_	_	_	_	_	_	
Retirement	2,001-3,000	_	_	_	_	_	_	_	_	_	
System	3,001-4,000	_	_	_	_	_	_	_	_	_	
	4.001-5,000	_	_	_	_	_	_	_	_	_	
	over-5,000	_	_	_	_	_	_	_	_	_	
Tier 2 Public	\$ 1-1,000	_	_	_	_	_	_	_	_	_	
Public Safety	1,001-2,000	_	_	_	_	_	_	_	_	_	
and Firefighter	2,001-3,000	_	_	_		_	_	_	_	_	
Retirement	3,001-4,000	_	_	_		_	_	_	_	_	
System**	4,001-5,000	_	_	_	_	_	_	_	_	_	
-	over-5,000	_	_	_	_	_	_	_	_	_	

<sup>\*</sup>Governors & Legislative Pension Plan provides a normal lifetime pension to the retiree and 50% of the retiree's benefit to the retirees lawful spouse at the time of death if the retiree had four or more years of service.

<sup>\*\*</sup>There are currently no retirees in the system.

# Schedules of Average Benefit Payments

December 31

						Υ	ears of Credi	ted Service
System			4-10	11-15	16-20	21-25	26-30	31-
Noncontributory	2011	Average Monthly Benefit	\$ 366	730	1,190	1,599	2,547	3,444
Retirement		Monthly Final Average Salary	2,682	3,093	3,650	4,112	4,866	5,589
System		Number of Active Retired	528	391	425	412	486	387
	2012	Average Monthly Benefit	\$ 334	774	1,228	1,629	2,502	3,419
		Monthly Final Average Salary	2,526	3,182	3,860	4,119	4,774	5,516
		Number of Active Retired	629	422	423	441	463	367
	2013	Average Monthly Benefit	\$ 366	811	1,290	1,626	2,522	3,532
		Monthly Final Average Salary	2,611	3,405	3,990	4,102	4,841	5,611
		Number of Active Retired	719	484	479	535	607	541
	2014	Average Monthly Benefit	\$ 373	837	1,274	1,742	2,610	3,743
		Monthly Final Average Salary	2,498	3,300	3,792	4,093	4,809	5,687
		Number of Active Retired	665	410	468	434	588	467
	2015	Average Monthly Benefit	\$ 376	811	1,294	1,742	2,692	3,736
		Monthly Final Average Salary	2,587	3,275	3,675	4,148	4,907	5,530
		Number of Active Retired	704	443	468	514	737	533
	2016	Average Monthly Benefit	\$ 263	583	831	1,196	2,563	3,525
		Monthly Final Average Salary	1,998	2,453	2,572	3,023	4,766	5,460
		Number of Active Retired	793	551	592	609	784	636
Contributory	2011	Average Monthly Benefit	\$ 290	415	1,135	1,326	2,054	2,609
Retirement		Monthly Final Average Salary	1,992	1,862	2,877	3,389	4,035	4,337
System		Number of Active Retired	12	6	14	16	90	39
	2012	Average Monthly Benefit	\$ 371	561	1,252	1,452	2,126	2,712
		Monthly Final Average Salary	2,294	2,224	3,966	3,952	4,092	4,455
		Number of Active Retired	7	9	8	9	100	51
	2013	Average Monthly Benefit	\$ 600	796	797	1,454	2,085	2,817
		Monthly Final Average Salary	4,494	3,238	2,447	3,446	4,034	4,743
		Number of Active Retired	7	9	12	9	109	76
	2014	Average Monthly Benefit	\$ 300	735	1,219	1,376	2,066	2,840
		Monthly Final Average Salary	2,098	3,447	4,234	3,650	3,993	4,359
		Number of Active Retired	11	8	3	8	75	79
	2015	Average Monthly Benefit	\$ 482	699	1,208	1,612	2,311	3,297
		Monthly Final Average Salary	3,043	3,010	3,801	3,855	4,228	4,801
		Number of Active Retired	5	9	6	11	71	85
	2016	Average Monthly Benefit	\$ 398	587	964	1,132	2,489	2,928
		Monthly Final Average Salary	2,299	2,405	3,045	2,937	4,486	4,476
		Number of Active Retired	12	10	4	6	64	131

# Schedules of Average Benefit Payments (Continued)

December 31

_							ears of Credi	
System			4-10	11-15	16-20	21-25	26-30	31-
Public Safety	2011	Average Monthly Benefit	\$ 661	1,494	2,132	2,612	3,371	4,766
Retirement		Monthly Final Average Salary	2,874	3,715	4,582	5,015	5,431	6,190
System		Number of Active Retired	9	9	62	47	15	15
	2012	Average Monthly Benefit	\$ 717	1,397	2,187	2,498	3,613	3,969
		Monthly Final Average Salary	3,396	4,489	4,706	4,890	5,827	5,486
		Number of Active Retired	12	13	69	69	17	15
	2013	Average Monthly Benefit	\$ 413	1,339	2,156	2,509	3,676	4,584
		Monthly Final Average Salary	2,676	4,287	4,709	4,813	5,716	6,178
		Number of Active Retired	7	8	88	76	25	24
	2014	Average Monthly Benefit	\$ 617	1,301	2,206	2,828	3,518	4,179
		Monthly Final Average Salary	3,125	3,855	4,665	5,007	5,307	5,574
		Number of Active Retired	16	14	80	96	18	23
	2015	Average Monthly Benefit	\$ 586	2,070	2,358	2,768	3,683	3,900
		Monthly Final Average Salary	2,796	4,799	4,557	4,919	5,368	5,373
		Number of Active Retired	13	12	115	77	31	20
	2016	Average Monthly Benefit	\$ 198	560	588	2,176	3,192	4,120
		Monthly Final Average Salary	1,420	1,768	1,271	3,978	5,556	5,576
		Number of Active Retired	11	20	123	128	55	31
Firefighters	2011	Average Monthly Benefit	\$ —	2,554	2,686	3,112	3,852	4,228
Retirement		Monthly Final Average Salary	_	5,980	5,527	5,574	6,408	5,757
System		Number of Active Retired	_	2	6	9	10	5
	2012	Average Monthly Benefit	\$ 1,731	2,094	2,398	3,315	4,288	4,871
		Monthly Final Average Salary	4,364	4,188	5,094	6,274	6,739	6,487
		Number of Active Retired	4	3	7	6	6	9
	2013	Average Monthly Benefit	\$ 1,800	2,301	2,248	3,078	3,706	4,425
		Monthly Final Average Salary	3,600	4,602	5,337	5,893	5,747	6,012
		Number of Active Retired	1	3	4	10	18	10
	2014	Average Monthly Benefit	\$ 2,052	2,929	2,844	3,332	3,801	6,065
		Monthly Final Average Salary	3,661	5,227	5,292	5,560	6,169	7,451
		Number of Active Retired	1	4	14	13	9	10
	2015	Average Monthly Benefit	\$ 807	1,697	2,407	2,635	5,034	4,238
		Monthly Final Average Salary	1,239	4,780	4,870	5,025	6,771	5,484
		Number of Active Retired	6	2	12	10	11	14
	2016	Average Monthly Benefit	\$ 1,616	1,814	400	3,177	4,260	5,038
		Monthly Final Average Salary	3,232	5,054	800	6,468	6,294	7,757
		Number of Active Retired	4	7	19	9	16	17

Continued on page 196.

# Schedules of Average Benefit Payments (Continued)

December 31

			_				Y	ears of Cred	ited Service
System				4-10	11-15	16-20	21-25	26-30	31-
Judges Retirement System	2011	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	_ _ _	5,647 10,666 3	_ _ _	_ _ _	8,743 11,013 1	_ _ _
	2012	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	_ _ _	_ _ _	6,768 11,064 2	_ _ _	_ _ _	9,697 11,068 2
	2013	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	_ _ _	_ _ _	7,204 11,151 2	8,215 11,163 4	6,647 11,688 1	11,006 11,132 4
	2014	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	_ _ _	_ _ _	9,263 11,201 2	8,850 11,149 2	9,836 11,225 2	9,180 11,180 1
	2015	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	3,747 9,556 2	4,162 7,570 1	7,807 11,635 3	_ _ _	8,884 11,252 1	12,033 11,690 2
	2016	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	_ _ _	_ _ 2	_ _ _	8,736 11,988 3	_ _ _	11,741 11,638 2
Utah Governors and Legislators Retirement	2011	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	172 — 3	380 — 1	435 — 2	627 — 1	_ _ _	_ _ _
Plan	2012	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	158 — 6	320 — 2	_ _ _	_ _ _	_ _ _	_ _ _
	2013	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	216 — 13	314 — 3	475 — 4	555 — 1	_ _ _	_ 
	2014	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	256 — 4	342 — 2	_ _ _	846 — 1	_ _ _	_ _ _
	2015	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	223 — 7	347 — 4	319 — 1	_ _ _	_ _ _	_ _ _
	2016	Average Monthly Benefit Monthly Final Average Salary Number of Active Retired	\$	594 1,634 17	_ _ _	_ _ _	_ _ _	_ _ _	

# Schedules of Average Benefit Payments (Continued)

December 31

Fustom				44.5-	46.55		ars of Credite	
System			4-10	11-15	16-20	21-25	26-30	31-
Tier 2	2011	Average Monthly Benefit	\$ —	_	_	_	_	_
Public Employees		Monthly Final Average Salary	_	_	_	_	_	_
Contributory Retirement		Number of Active Retired						
System	2012	Average Monthly Benefit	\$ —	_	_	_	_	_
•		Monthly Final Average Salary	_	_	_	_	_	_
		Number of Active Retired	_	_	_	_	_	_
	2013	Average Monthly Benefit	\$ —	_	_	_	_	_
		Monthly Final Average Salary		_	_	_	_	_
		Number of Active Retired	_	_	_	_	_	_
	2014	Average Monthly Benefit	\$ —	_	_	_	_	
		Monthly Final Average Salary	_	_	_	_	_	_
		Number of Active Retired	_	_	_	_	_	_
	2015	Average Monthly Benefit	\$ 72	_	_	_	_	
		Monthly Final Average Salary	1,479	_	_	_	_	_
		Number of Active Retired	1	_	_	_	_	_
	2016	Average Monthly Benefit	\$ 138	_	_		_	
		Monthly Final Average Salary	2,066	_	_	_	_	_
		Number of Active Retired	8	_	_	_	_	_
Tier 2	2011	Average Monthly Benefit	\$ —	_	_	_	_	
Public Safety		Monthly Final Average Salary	· <u> </u>	_	_	_	_	_
and Firefighter		Number of Active Retired	_	_	_	_	_	_
Contributory Retirement	2012	Average Monthly Benefit	\$ —	_	_		_	
System*		Monthly Final Average Salary	_	_	_	_	_	_
-,		Number of Active Retired	_	_	_	_	_	_
	2013	Average Monthly Benefit	\$ —					
	2015	Monthly Final Average Salary	_	_	_	_	_	_
		Number of Active Retired	_	_	_	_	_	_
	2014	Average Monthly Benefit	\$ —					
	2011	Monthly Final Average Salary	_	_	_	_	_	_
		Number of Active Retired	_	_	_	_	_	_
	2015	Average Monthly Benefit	\$ —					
		Monthly Final Average Salary	· —	_	_	_	_	_
		Number of Active Retired	_	_	_	_	_	_
	2016	Average Monthly Benefit	\$ —	_	_			
	2010	Monthly Final Average Salary	_	_	_	_	_	_
		Number of Active Retired						

<sup>\*</sup>There are currently no retirees in the system.

# Schedules of Active Members by Age and Gender

Year Ended December 31, 2016

System	Ages	Male	Female	Total	System	Ages	Male	Female	Total
Noncontributory	Under 20	_	_	_	Utah Governors	Under 20	_	_	_
Retirement	20 to 29	421	703	1,124	and Legislators	20 to 29	_	_	_
System	30 to 39	5,089	7,152	12,241	Retirement Plan	30 to 39	1	2	3
•	40 to 49	6,908	11,010	17,918	netirement run	40 to 49	11	3	14
	50 to 54	3,491	6,261	9,752		50 to 54	9	_	9
	55 to 59	3,531	7,180	10,711		55 to 59	5	3	8
	60 to 69	3,548	7,175	10,723		60 to 69	23	3	26
	70 and Older	348	397	745		70 and Older	1	_	1
	Total	23,336	39,878	63,214	-	Total	50	11	61
Contributory	Under 20	_	_	_	Tier 2	Under 20	84	71	155
Retirement	20 to 29	2	3	5	<b>Public Employees</b>	20 to 29	3,019	6,071	9,090
System	30 to 39	6	17	23	Contributory	30 to 39	3,182	3,924	7,106
•	40 to 49	18	28	46	Retirement	40 to 49	1,397	3,182	4,579
	50 to 54	54	64	118	System	50 to 54	486	927	1,413
	55 to 59	125	128	253	,	55 to 59	454	673	1,127
	60 to 69	147	131	278		60 to 69	445	386	831
	70 and Older	10	5	15		70 and Older	49	22	71
	Total	362	376	738		Total	9,116	15,256	24,372
Public Safety	Under 20	_	_	_	Tier 2	Under 20	1	_	1
Retirement	20 to 29	142	14	156	Public Safety	20 to 29	1,066	143	1,209
System	30 to 39	1,981	232	2,213	and Firefighter	30 to 39	765	81	846
•	40 to 49	2,177	292	2,469	Contributory	40 to 49	131	26	157
	50 to 54	529	102	631	Retirement	50 to 54	13	4	17
	55 to 59	283	63	346	System	55 to 59	4	_	4
	60 to 69	177	35	212	,	60 to 69	5	1	6
	70 and Older	4	1	5		70 and Older	_	_	_
	Total	5,293	739	6,032		Total	1,985	255	2,240
Firefighters	Under 20	_	_	_	Tier 2 DC Only	Under 20	_	3	3
Retirement	20 to 29	29	1	30	Public Employees	20 to 29	466	1,178	1,644
System	30 to 39	588	23	611	Contributory	30 to 39	747	787	1,534
·	40 to 49	673	20	693	Retirement	40 to 49	273	606	879
	50 to 54	162	5	167	System	50 to 54	85	178	263
	55 to 59	104	_	104	•	55 to 59	86	138	224
	60 to 69	57	1	58		60 to 69	114	78	192
	70 and Older	_	_			70 and Older	17	3	20
	Total	1,613	50	1,663		Total	1,788	2,971	4,759
Judges	Under 20	_	_	_	Tier 2 DC Only	Under 20	_	_	_
Retirement	20 to 29		_	_	Public Safety (	20 to 29	99	14	113
System	30 to 39	1	_	1	and Firefighter	30 to 39	101	10	111
-	40 to 49	16	10	26	Contributory	40 to 49	25	6	31
	50 to 54	14	6	20	Retirement	50 to 54	1	1	2
	55 to 59	18	7	25	System	55 to 59	5	_	5
	60 to 69	34	5	39		60 to 69	1	_	1
	70 and Older	3	1	4		70 and Older	_	_	_
	Total	86	29	115	-	Total	232	31	263

# Schedules of Retirees by Age and Gender

Year Ended December 31, 2016

System	Ages	Male	Female	Total	System	Ages	Male	Female	Total
Noncontributory	Under 55	173	263	436	Judges	Under 55	_	1	1
Retirement	55 to 59	604	926	1,530	Retirement	55 to 59	_	_	_
System	60 to 64	2,064	3,878	5,942	System	60 to 64	8	6	14
•	65 to 69	4,681	9,111	13,792	•	65 to 69	25	7	32
	70 to 74	4,237	7,544	11,781		70 to 74	21	7	28
	75 to 79	3,065	5,113	8,178		75 to 79	15	5	20
	80 to 84	2,120	3,418	5,538		80 to 84	9	5	14
	85 to 89	1,202	1,927	3,129		85 to 89	8	12	20
	90 to 94	358	601	959		90 to 94	5	3	8
	95 to 100	27	42	69		95 to 100	_	4	4
	Over 100	_	1	1		Over 100	_	_	
-	Total	18,531	32,824	51,355		Total	91	50	141
Contributory	Under 55	34	37	71	Utah Governors	Under 55	1	1	2
Retirement	55 to 59	125	123	248	and Legislators	55 to 59	_	1	1
System	60 to 64	224	296	520	Retirement Plan	60 to 64	3	3	6
<b>5</b> ,5.c	65 to 69	288	423	711		65 to 69	38	11	49
	70 to 74	241	432	673		70 to 74	22	15	37
	75 to 79	162	332	494		75 to 79	23	11	34
	80 to 84	90	244	334		80 to 84	31	17	48
	85 to 89	111	280	391		85 to 89	13	31	44
	90 to 94	111	336	447		90 to 94	13	3	16
	95 to 100	51	203	254		95 to 100	3	4	7
	Over 100	5	17	234		Over 100	_	_	_
-	Total	1,442	2,723	4,165		Total	147	97	244
Public Safety	Under 55	771	233	1,004	Tier 2	Under 55			
Retirement	55 to 59	476	151	627	Public Employees	55 to 59	_	_	_
System	60 to 64	743	216	959	Contributory	60 to 64	_	_	_
	65 to 69	848	222	1,070	Retirement	65 to 69	4	3	7
	70 to 74	580	175	755	System	70 to 74	2	_	2
	75 to 79	313	131	444	2,512	75 to 79	_	_	_
	80 to 84	207	120	327		80 to 84			
	85 to 89	79	89	168		85 to 89			
	90 to 94	22	27	49		90 to 94	_		_
	95 to 100	22	7	9		95 to 100	_	_	_
	Over 100		/	7		95 to 100 Over 100	_	_	_
-	Total	4,041	1,371	5,412		Total	6	3	9
					Tier 2			-	
Firefighters	Under 55	126	42	168		Under 55	_	_	_
Retirement	55 to 59	123	26	149	Public Safety	55 to 59	_	_	_
System	60 to 64	216	41	257	and Firefighter	60 to 64	_	_	_
	65 to 69	236	39	275	Contributory	65 to 69	_	_	_
	70 to 74	178	41	219	Retirement	70 to 74	_	_	_
	75 to 79	109	33	142	System*	75 to 79	_	_	_
	80 to 84	45	27	72		80 to 84	_	_	_
	85 to 89	21	42	63		85 to 89	_	_	_
	90 to 94	13	9	22		90 to 94	_	_	_
	95 to 100	2	3	5		95 to 100	_	_	_
	Over 100	_	_	_		Over 100	_	_	_
_									

<sup>\*</sup>There are no retirees in this system.

# **Schedules of Principal Participating Employers**

Year Ended December 31

			2016			2015			2014			2013	
			Percent of Total			Percent of Total			Percent of Total			Percent of Total	
System/ Employer	Active Members	Rank	Active Member	Active Members	Rank	Active Member	Active Members	Rank	Active Members	Active Members	Rank	Active Members	
Noncontributory Retirement System													
State of Utah	10,898	1		11,788	1	17.27%		1	17.47%		1	17.58%	
Davis School District	3,904	2	6.18	4,090	2	5.99	4,338	2	6.04	4,624	3	6.02	
Granite School District Alpine School District	3,740 3,458	3 4	5.92 5.47	4,044 3,711	3 4	5.92 5.44	4,337 3,938	3 4	6.04 5.48	4,702 4,280	2 4	6.12 5.57	
Jordan School District	2,424	5	3.83	2,635	5	3.86	2,747	5	3.82	2,943	5	3.83	
Weber School District	2,130	6	3.37	2,286	6	3.35	2,360	6	3.29	2,503	6	3.26	
Salt Lake County	2,079	7	3.29	2,194	7	3.21	2,352	7	3.27	2,476	7	3.22	
University of Utah	1,774	8	2.81	1,864	10	2.73	2,039	8	2.84	2,290	8	2.98	
Nebo School District	1,753	9	2.77	1,868	9	2.74	1,941	10	2.70	_	_	_	
Salt Lake School District	1,684	10	2.66	1 000	_	2.75	1,977	9	2.75	2,144	9	2.79	
Canyons School District Other	 29,370		— 46.46	1,880 31,913	8	2.75 46.74	33,248	_	— 46.29	2,076 35,297	10	2.70 45.93	
-	29,370		40.40	31,913		40.74	33,240		40.29	33,291		43.33	
Total Noncontributory System			400 000/	60.070		400 000/	74 007		400 000/	74.045		400 000/	
active members	63,214		100.00%	68,2/3		100.00%	/1,82/		100.00%	/6,845		100.00%	
Contributory Retirement System													
State of Utah	117	1	15.85%	152	1	16.13%	186	1	12.38%	237	1	13.68%	
DDI Vantage	68	2	9.21	70	2	7.42	70	5	4.66	76	6	4.39	
Salt Lake City Corp.	44	3	5.96	53	4	5.62	73	4	4.86	84	4	4.85	
University of Utah	44	3	5.96	60	3	6.36	68	6	4.52	75	7	4.33	
Granite School District University of Utah Hospital	39 38	5 6	5.28 5.15	53 42	4 6	5.62 4.45	67 47	8 9	4.46 3.13	81 50	5 9	4.67 2.89	
Salt Lake County	26	7	3.52	37	7	3.92	47	10	2.99	47	10	2.89	
Davis School District	23	8	3.12	30	8	3.18	_	_			_		
Salt Lake School District	20	9	2.71	25	9	2.65	_	_	_	_	_	_	
Duchesne County	17	10	2.30	24	10	2.55	68	6	4.52	73	8	4.21	
South Jordan City	_	_	_	_	_		153	2	10.18	167	2	9.64	
Uintah County	_	_		_	_	-	136	3	9.05	146	3	8.42	
Other	302		40.92	397		42.10	590		39.25	697		40.22%	
Total Contributory System active members	738		100.00%	943		100.00%	1,503		100.00%	1,733		100.00%	
Public Safety													
Retirement System													
State of Utah	1,881	1	31.18%	2,006	1	31.35%	2,076	1	31.12%	2,211	1	31.50%	
Salt Lake City Corp.	424		7.03	412	2	6.44	423	3	6.34	432	3	6.15	
Salt Lake County	381	3	6.32	397	3	6.20	424	2	6.35	459	2	6.54	
Unified Police Department	355	4	5.89	359	4	5.61	365	4	5.47	378	4	5.39	
Utah County Wahar County Corp	232		3.85	236	5	3.69	239	5 6	3.58	237	5 6	3.38	
Weber County Corp. Davis County	194 145	6 7	3.22 2.40	211 163	6 7	3.30 2.55	221 179	7	3.31 2.68	228 193	7	3.25 2.75	
West Valley City	143	8	2.40	145	8	2.27	169	8	2.53	162	8	2.73	
Washington County	96	9	1.59	109	9	1.70	113	9	1.69	120		1.71	
City Of West Jordan	89	10	1.48	_	_	_	_	_	_	_	_	_	
Ogden City Corp.	_	_	_	97	10	1.52	110	10	1.65	116	10	1.65	
Sandy City	_	_		_	_		_	_		_	_		
Other	2,108		34.95	2,264		35.38	2,353		35.27	2,483		35.38%	
Total Public Safety System active members	6,032		100.00%	6,399		100.00%	6,672		100.00%	7,019		100.00%	

		2012			2011			2010			2009			2008			2007
Active Members	Rank	Percent of Total Active Members															
14,450 4,871 5,012 4,659	1 3 2 4	17.57% 5.92 6.09 5.66	15,273 5,113 5,400 5,095	1 3 2 4	17.38% 5.82 6.14 5.80	16,071 5,330 5,781 5,551	1 4 2 3	17.39% 5.77 6.26 6.01	16,435 5,433 6,148 5,487	1 4 2 3	17.72% 5.86 6.63 5.91	16,979 5,501 6,130 5,354	1 4 2 5	18.14% 5.88 6.55 5.72	16,948 5,391 5,922 4,910	1 4 2 5	18.91% 6.02 6.61 5.48
3,099	5	3.77	3,239	6	3.68	3,366	6	3.64	3,560	6	3.84	5,819	3	6.22	5,705	3	6.37
2,660 2,605	6 8	3.23 3.17	2,784 2,813	8 7	3.17 3.20	2,861 2,869	8 7	3.10 3.11	2,875 2,968	8 7	3.10 3.20	2,859 3,084	9 7	3.06 3.30	2,793 2,981	9 7	3.12 3.33
2,646	7	3.22	3,895	5	4.43	4,217	5	4.56	4,274	5	4.61	4,406	6	4.71	4,453	6	4.97
_	_	_	_	_	_	_	_	_	_	_	_	2,465	10	2.63	2,330	10	2.60
2,343 2,281	9 10	2.85 2.77	2,520 2,460	9 10	2.87 2.80	2,683 2,637	9 10	2.90 2.85	2,842 2,572	9 10	3.06 2.77	2,950	8	3.15	2,805	8	3.13
37,633		45.75	39,309		44.72	41,026		44.40	40,172		43.30	38,029		40.64	35,367		39.47
82,259		100.00%	87,901		100.00%	92,392		100.00%	92,766		100.00%	93,576		100.00%	89,605		100.00%
269	1	13.89%	293	1	13.71%	325	1	13.95%	387	1	15.39%	435	1	15.86%	473	1	16.58%
85 93	6 4	4.39 4.80	94 104	7 5	4.40 4.87	91 112	8 6	3.91 4.81	82 128	8 6	3.26 5.09	76 137	10 6	2.77 4.99	144	6	5.05
84	7	4.34	153	4	7.16	162	4	6.95	178	4	7.08	195	3	7.11	207	3	7.26
91 56	5 9	4.70 2.89	102	6	4.77	114	5	4.89	131	5	5.21	141	5	5.14	150	5	5.26
52	10	2.68	 59	9	2.76	61	9	2.62	80	9	3.18	90	8	3.28	97	7	3.40
_	_	_	55	10	2.57	 58	10	2.49	67	10	2.66	_	_	_	— 78	10	2.73
77	8	3.98	82	8	3.84	104	7	4.46	90	7	3.58	87	7	3.17	85	8	2.98
177 158	2	9.14 8.16	196 168	2	9.17 7.86	203 187	2	8.71 8.03	208 193	2	8.27 7.67	212 191	2	7.73 6.96	207 188	2 4	7.26 6.59
795		41.04	831		38.89	913		39.18	971		38.61	1,179		42.98	1,223		42.88
1,937		100.00%	2,137		100.00%	2,330		100.00%	2,515		100.00%	2,743		100.00%	2,852		100.00%
2,317	1	31.68%	2,390	1	31.37%	2,380	1	31.22%	2,448	1	31.81%	2,592	1	32.84%	2,444	1	32.21%
452	3	6.18	463	3	6.08	480	3	6.30	480	3	6.24	479	3	6.07	472	3	6.22
494 377	2 4	6.76 5.16	540 329	2 4	7.09 4.32	547 293	2 4	7.17 3.84	828	2	10.76 —	860	2	10.89 —	783	2	10.32 —
239	5	3.10	236	6	3.10	233	6	3.06	238	5	3.09	244	5	3.09	233	5	3.07
237	6	3.24	249	5	3.27	246	5	3.23	252	4	3.27	266	4	3.37	275	4	3.62
201	7	2.75	208	7	2.73	209	7	2.74	209	6	2.72	208	6	2.63	206	6	2.72
172 129	8 9	2.35 1.76	177 129	8 9	2.32 1.69	177 126	8 9	2.32 1.65	175 123	7 8	2.27 1.60	176 120	7 9	2.23 1.52	169 113	7 9	2.23 1.49
122	10	1.67	127	10	1.67	_ 119	10	1.56	— 117	9	1.52	122	_ 8	 1.55	122	_ 8	1.61
	_	-	_	_	—	—	_		109	10	1.42	115	10	1.33	108	10	1.42
2,573		35.18	2,771		36.37	2,814		36.91	2,716		35.30	2,712		34.36	2,662		35.09
7,313		100.00%	7,619		100.00%	7,624		100.00%	7,695		100.00%	7,894		100.00%	7,587		100.00%
															ontinued	on no	202

Continued on page 202.

## Schedules of Principal Participating Employers (Continued)

Year Ended December 31

			2016			2015			2014			2013	
			Percent			Percent			Percent			Percent	
System/ Employer	Active Members	Rank	of Total Active Member	Active Members	Rank	of Total Active Member	Active Members	Rank	of Total Active Members	Active Members	Rank	of Total Active Members	
Firefighters													
Retirement System													
Unified Fire Authority	380	1	22.85%	386	1	22.25%	395	1	22.10%	398	1	21.57%	
Salt Lake City Corp.	274	2	16.48	295	2	17.00	302	2	16.90	309	2	16.75	
Ogden City Corp.	82	3	4.93	85	3	4.90	90	3	5.04	102	3	5.53	
West Valley City	80	4	4.81	80	4	4.61	87	4	4.87	89	4	4.82	
City of West Jordan	64	5	3.85	66	6	3.80	66	7	3.69	68	8	3.69	
Park City Fire Service	63	6	3.79	65	7	3.75	68	6	3.81	71	6	3.85	
Provo City	63	6	3.79	67	5	3.86	70	5	3.92	72	5	3.90	
Sandy City	57	8	3.43	59	8	3.40	64	8	3.58	69	7	3.74	
Weber Fire District	51	9	3.07	53	9	3.05	_	_	_	_	_	_	
Orem City	49	10	2.95	52	10	3.00	56	9	3.13	62	9	3.36	
Murray City	_	_	_	_	_	_	51	10	2.85	55	10	2.98	
South Davis Metro Fire Agency	_	_	_	_	_	_	_	_	_	_	_		
Other	500		30.07	527		30.37	538		30.11	550		29.81	
Total Firefighters System													
active members	1,663		100.00%	1,735		100.00%	1,787		100.00%	1,845		100.00%	
Judges Retirement System													
State of Utah	115	1	100.00%	112	1	100.00%	114	1	100.00%	112	1	100.00%	
Utah Governors and Legislators Retirement Plan													
State of Utah	61	1	100.00%	93	1	100.00%	105	1	100.00%	99	1	100.00%	
Tier 2 Public Employees Contributory Retirement System													
State of Utah	4,345	1	17.83%	3,642	1	16.72%	2,772	1	16.09%	2,173	1	15.84%	
Alpine School District	1,361	2	5.58	1,232	3	5.66	1,090	3	6.33	1,080	2	7.87	
Granite School District	1,302	3	5.34	1,028	4	4.72	829	4	4.81	664	4	4.84	
Davis School District	1,263	4	5.18	980	5	4.50	778	5	4.52	591	7	4.31	
University of Utah	1,181	5	4.85	1,458	2	6.69	1,223	2	7.10	944	3	6.88	
Jordan School District	1,095	6	4.49	962	6	4.42	755	6	4.38	661	5	4.82	
Canyons School District	858	7	3.52	781	7	3.59	614	7	3.56	593	6	4.32	
Salt Lake County	786	8	3.23	655	8	3.01	484	9	2.81	378	9	2.76	
Nebo School District	692	9	2.84	624	9	2.87	549	8	3.19	403	8	2.94	
Weber County School District	494	10	2.03	_	_	_	_	_	_	_	_	_	
Salt Lake City District	_	_	_	479	10	2.20	_	_	_	363	10	2.65	
Washington School District	_	_	_	_	_	_	360	10	2.09	_	_	_	
Provo School District	_	_	_	_	_	_	_	_	_	_	_	_	
Other	10,995		45.11	9,937		45.63	7,771		45.11	5,868		42.78	
Total Tier 2 Public Employees													
System active members	24,372		100.00%	21,778		100.00%	17,225		100.00%	13,718		100.00%	
•	•												

Additional information will be added when it becomes available.

		2012			2011			2010			2009			2008			2007	
Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	
404 309	1 2	21.44% 16.40	404 314	1	20.91% 16.25	356 312	1	18.87% 16.53	365 309	1	19.14% 16.20	352 324	1	19.04% 17.52	344 322	1	19.42% 18.18	
109	3	5.79	110	2	5.69	111	2	5.88	113	2	5.93	111	2	6.00	110	2	6.21	
92	4	4.88	96	4	4.97	100	4	5.30	97	4	5.09	97	4	5.25	92	4	5.19	
72	6	3.82	73	7	3.78	73	6	3.87	70	8	3.67	72	8	3.89	70	8	3.95	
72	6	3.82	74	6	3.83	77	5	4.08	80	5	4.20	80	5	4.33	81	5	4.57	
74	5	3.93	78	5	4.04	64	9	3.39	76	6	3.99	75	6	4.06	74	6	4.18	
69	8	3.66	70	8	3.62	70	7	3.71	72	7	3.78	75	7	4.06	73	7	4.12	
56	10	2.97	_	_	_	_	_	_	_	_	_	55	10	2.97	_	_	_	
67	9	3.56	68	9	3.52	68	10	3.60	69	9	3.62	66	9	3.57	58	9	3.27	
_	_	_	56	10	2.90	60	10	3.18	59	10	3.09	_	_	_				
560	_	— 29.75	589	_	30.49	 596	_	— 31.58	 597	_	— 31.31	542	_	<u> </u>	52 495	10	2.94 27.95	
300			309		30.49	390		31.36			31.31			29.31	493			
1,884		100.00%	1 932		100.00%	1,887		100.00%	1 907		100.00%	1,849		100.00%	1,771		100.00%	
.,00			.,,,,,			.,00,			.,,,,,			.,0.12			.,,,,			
111	1	100.00%	111	1	100.00%	109	1	100.00%	104	1	100.00%	106	1	100.00%	108	1	100.00%	
112	1	100.000/	115	1	100 000/	125	1	100 000/	110	1	100.000/	07	1	100.000/	07	1	100.000/	
113	ļ	100.00%	115	- 1	100.00%	125	ı.	100.00%	119	ļ	100.00%	97	ļ	100.00%	97	ı	100.00%	
1,523	1	14.71%	600	1	12.56%													
1,072	2	10.35	574	2	12.02													
638	4	6.16	336	3	7.03													
463	5	4.47	235	6	4.92													
738	3	7.13	323	4	6.76													
417	6	4.03	238	5	4.98													
387	7	3.74	177	8	3.71													
327	8	3.16	165	9	3.45													
_	_	_	_	_	_													
302	10	2.92	165	10	3.45													
310	9	2.99	186	7	3.89													
 4,179		40.34	1,778		37.22													
10,356		100.00%	4,777		100.00%													

Continued on page 204.

### Schedules of Principal Participating Employers (Concluded)

Year Ended December 31

			2016			2015			2014			2013	
System/ Employer	Active Members	Rank	Percent of Total Active Member	Active Members	Rank	Percent of Total Active Member	Active Members	Rank	Percent of Total Active Members	Active Members		Percent of Total Active Members	
Tier 2 Public Safety and Firefighter Contributory Retirement System													
State of Utah	626	1	27.95%	523	1	28.67%	371	1	27.87%	274	1	30.96%	
Salt Lake County	176	2	7.86	132	2	7.24	122	2	9.17	93	2	10.51	
Salt Lake City Corp.	95	3	4.24	58	3	3.18	51	3	3.83	38	3	4.29	
West Valley City	68	4	3.04	32	7	1.75	22	7	1.65	_	_	_	
Ogden City Corp.	54	5	2.41	29	9	1.59	21	9	1.58	11	9	1.24	
Unified Fire Authority	53	6	2.37	44	4	2.41	40	4	3.01	13	7	1.47	
Davis County	48	7	2.14	43	5	2.36	31	5	2.33	22	4	2.49	
Sandy City	46	8	2.05	_	_	_	_	_	_	_	_	_	
Weber County Corp.	41	9	1.83	39	6	2.14	22	7	1.65	15	6	1.69	
City of South Jordan	35	10	1.56	_	_	_	_	_	_	_	_	_	
Cache County	_	_	_	31	8	1.70	26	6	1.95	22	4	2.49	
Unified Police Department	_	_	_	29	9	1.59	20	10	1.50	_	_	_	
Park City Fire Service	_	_	_	_	_	_	_	_	_	12	8	1.36	
Iron County	_	_	_	_	_	_	_	_	_	11	9	1.24	
Murray City	_	_	_	_	_	_	_	_	_	_	_	_	
Duchesne County	_	_	_	_	_	_	_	_	_	_	_	_	
Utah County	_	_	_	_	_	_	_	_	_	_	_	_	
Layton City	_	_	_	_	_	_	_	_	_	_	_	_	
St. George City	_	_	_	_	_	_	_	_	_	_	_	_	
Grand County	_	_	_	_	_	_	_	_	_	_	_	_	
Other	998		44.55	864		47.37	605		45.45	374		42.26	
Total Tier 2 Public Safety and Firefighter System active members	2,240		100.00%	1,824		100.00%	1,331		100.00%	885		100.00%	

Additional information will be added when it becomes available.

# Schedule of Utah Retirement Office Employees

Year Ended December 31

Year	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of employees	176	169	162	168	163	161	161	165	164	156

		2012			2011
Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members
144	1	30.19	3	9	3.03%
46	2	9.64	17	1	3.03% 17.17
34	3		6		
34	3	7.13	4	3 8	6.06 4.04
			4	7	4.04
					T.UT
12	4	2.52	4	5	4.04
_				_	
_	_	_	_	_	_
_	_	_	_	_	_
8	6	1.68	_	_	_
_	_	_	_	_	_
_	_	_	8	2	8.08
_	_	_	_	_	_
9	5	1.89	_	_	_
8	6	1.68	_	_	_
7	8	1.47	5	4	5.05
6	9	1.26	_	_	_
_	_	_	4	6	4.04
_	_	_	3	10	3.03
197		41.28	41		41.41
477		100.00	99		100.00%

# **Schedules of Participating Employers**

N / Public Employees Retirement System — Noncontributory • C / Public Employees Retirement System — Contributory PS / Public Safety Retirement System • F / Firefighters Retirement System • T / Tier 2 Retirement Systems **D** / 457 Plan • **K** / 401(k) Plan

Employer	N	С	PS	F	т	D	К	Employer	N	c	PS	F	т	D	K
School Districts and Education Em	plo	yeı	rs					Northern Utah Academy of Math,							
Academy for Math, Engineering								Engineering and Science							
and Science Charter School (AMES)	NI				т	D	V	Charter School (NUAMES)					Τ	D	K
Active Re-Entry Incorporated					T	U	K	Ogden School District		C			Τ	D	K
•		_			T	Ь		Ogden-Weber Applied Technical Center	Ν	C			Τ	D	K
Alpine Unicon		C				D	K K	Ogden Weber/NEA/UEA Uniserv	Ν				Т	D	K
Alpine Unisery						U		Park City School District	Ν	C			Т	D	K
American Leadership Academy					T	_	K	Piute School District	Ν	C			Т		K
Beaver School District						D	K	Provo School District	Ν	C			Т	D	K
Bonneville Uniserv		_				D	K	Recreation and Habilitation Services					Т		K
Box Elder School District		C			T	D	K	Rich School District		C				D	K
Bridgerland Applied Technology Center		_			T		K	Salt Lake Arts Academy		-					K
Cache School District		C			T		K	Salt Lake Community College		C					K
Canyons School District		_			T	D	K	Salt Lake School District		C					K
Carbon School District		C				D	K	San Juan School District		C					K
Color Country Unisery		_				D	K								
Daggett School District		C			Τ	D	K	Sevier School District		C					K
Davis Applied Technology College		_			Τ	D	K	Snow College		C				D	K
Davis School District		C				D	K	Soldier Hollow Charter School					T	_	K
Davis Unisery						D	K	South Sanpete School District		C					K
Dixie Applied Technology College					Т		K	South Summit School District					Т	D	K
Dixie State University		C	PS		Т	D	K	Southern Utah University	Ν	C	PS		Т	D	K
Duchesne School District	N	C			Т	D	K	Southwest Applied Technology Center	Ν				Τ		K
East Hollywood High School	N				Т	D	K	Southwest Educational Development Center	Ν				Τ		K
Educators Mutual Insurance	N	C			Т	D	K	Space Dynamics Lab/USU	Ν				Т	D	K
Emery School District	N	C			Τ	D	K	Success Academy	Ν				Т		K
Fast Forward Charter High School	N				Τ		K	Summit Academy Charter School					Т	D	K
Garfield School District	N	C			Τ		K	Summit Academy High School					Т		K
Grand School District	N	C			Τ	D	K	Tintic School District		C			Т	D	Κ
Granite School District	N	C			Τ	D	K	Tooele Applied Technology College					Т		K
Granite Uniserv	N				Τ	D	K	Tooele School District		C			•	D	K
High Desert Uniserv	N				Τ	D	K	Tuacahn High School		_			T		K
High School Activity Association	N	C			Т		K	Uintah Basin Applied Technology Center		C				D	K
Intech Collegiate High School	N				Т		K	Uintah School District		C					K
Iron School District	N	C			Т	D	K				PS		T	U	K
Itineris High School	N				Т		K	University of Utah			F 3		'		
Jordan School District	N	C			Т	D	K	University of Utah Hospital		C			_		K
Jordan Uniserv	N				Т	D	K	Utah County Academy of Sciences		_			T	_	K
Juab School District	N	C			Т	D	K	Utah Education Association		C			T	D	K
Kane School District	N	C			Т	D	K	Utah School Boards Association					Τ		K
Liberty Academy Charter School	N				Т		K	Utah School Boards Risk Man Mut Ins Assn	N				Τ		K
Logan School District		C			Т	D	K	Utah School Employee Association	N				Т	D	K
Master Academy, Inc					Т		K	Utah State University	Ν	C	PS		Т	D	K
Millard School District		C			Т	D		Utah Uniserv	Ν	C			Τ	D	K
Monticello Academy					Т	D	K	Utah Valley University	Ν	C			Τ	D	K
Morgan School District						D	K	Wasatch School District	Ν	C			Т	D	K
Mountainland Applied Technology Center					T		K	Wasatch Uniserv	Ν				Т	D	K
Murray School District		C			T		K	Washington School District	Ν	C			Т	D	K
Nebo School District		C				D	K	Wayne School District					Т	D	K
Noah Webster Academy, Inc		_			T	D	K	Weber County School District		C				D	
North Sanpete School District		C			T		K	Weber State University		C			_	D	
North Summit School District		C				D		Woodland Peaks Uniserv		_			T	J	K
NOTET JUITHING JCHOOL DISCHCC	IN	C			'	U	11	**OOGIGITA I CARS OTTISCI V	1.4				'		11

# Schedule of Participating Employers (Continued)

Employer	N	c	PS	F	Т	D	К	(	Employer	N	c	PS	F	Т	D	К
State and Other Employers									Apple Valley Town					Т		K
Heber Valley Historic Railroad	. N				Т		K	(	Aurora City					Τ		K
State of Utah (also participates in the					•		.,	`	Ballard City					Т	D	K
Judges Retirement System and the Utah									Beaver City					Т	D	K
Governors and Legislators Retirement Plan)	N	C	PS	F	Т	D	K	(	Bicknell Town					Т		
Utah Communications Authority		_		•	T				Big Water Municipal Corp			PS		T		K
Utah Dairy Council					Ť		K		Blanding City			PS		Τ		K
Utah Housing Corporation		C			T		K		Bluffdale City			PS				K
Utah Retirement Systems		_			T				Bountiful City			PS	F	Т	D	K
Utah Safety Council					Ť		K		Brian Head Town			PS		Т	D	K
Utah State Fair Corporation					T		K		Brigham City		C	PS	F	Т	D	K
Workers Compensation Fund		C				D			Castle Dale City	N				Т		K
Workers Compensation Fundamental	. IN	_			'	D	1	`	Cedar City	N		PS	F	Т	D	K
<b>Counties and County Organization</b>	ıs								Cedar Hills City					Т	D	K
			DC		_	_	1/	,	Centerfield City			PS		Т	D	K
Beaver County		_	PS		T				Centerville City		C	PS		Т	D	K
Box Elder County			PS	_	T				Clearfield City			PS	F	Т	D	K
Cache County			PS	F		D	K		Cleveland Town					Т		K
Carbon County		C	PS		T				Clinton City	N	C	PS	F	Т	D	K
Daggett County			PS		T		K		Coalville City					Т		K
Davis County		_	PS			D	K		Corinne City		C			Т		
Duchesne County			PS		T	_	K		Cottonwood Heights City	N		PS		Т	D	K
Emery County			PS			D			Daniel Town					Т		K
Garfield County			PS			D			Delta City		C			Т		K
Grand County			PS			D			Draper City					Т	D	K
Iron County			PS			D			Duchesne City	N				Т		K
Juab County		C	PS		T		K		Eagle Mountain City	N			F	Т	D	K
Kane County		_	PS		T	_	K		East Carbon City	N		PS		Т	D	K
Millard County		C	PS			D	K		Elk Ridge Town	N				Т		Κ
Morgan County			PS			D			Emery Town		C			Т		K
Piute County		_	PS		T		K		Enoch City	N		PS		Т		K
Rich County			PS	_	T		K		Enterprise City	N				Т		Κ
Salt Lake County			PS	F	T		K		Ephraim City			PS		Т	D	Κ
San Juan County			PS			D			Escalante Town	N		PS		Т	D	K
Sanpete County			PS		T		K		Eureka City	N				Т	D	
Sevier County			PS			D			Fairview City			PS		Т	D	K
Summit County			PS	_	T		K		Farmington City	N		PS	F	Т	D	Κ
Tooele County			PS	F	T				Farr West City	N				Т	D	K
Uintah County		C	PS	_	T		K		Ferron City	N				Т		K
Unified Fire Authority		_	PS	F	T		K		Fillmore City	N				Т	D	Κ
Utah County		C	PS		T		K		Fountain Green City			PS		Т		
Wasatch County			PS	_	I	D			Francis Town	N				Т		Κ
Wasatch Co. Fire District			ъ.	F	- 1		K		Fruit Heights City	N				Т	D	Κ
Washington County			PS		T				Garden City	Ν				Т		Κ
Wayne County		_	PS		T		K		Garland City		C	PS		Т	D	Κ
Weber County			PS	_	T				Genola Town					Τ		K
Weber Fire District	. N	C		F	ſ	D	K		Goshen Town	Ν				Τ		Κ
Cities and Towns									Grantsville City			PS		Τ	D	K
Cities and lowns									Green River City	Ν				Т		Κ
Alpine City	. N				Τ	D	K	(	Gunnison City	Ν		PS		Τ	D	Κ
Alta Town	. N				Т		K	(	Harrisville City		C	PS		Т	D	Κ
American Fork City	. N		PS	F	Т		K	(	Heber City	Ν		PS		Т	D	Κ
Annabella Town					Т		K		Helper City			PS		Т		Κ

# Schedule of Participating Employers (Continued)

Employer	N	c	PS	F	Т	D	K	Employer	N	c	PS	F	Т	D	K
Herriman City	N				Т	D	K	Orem City	N	C	PS	F	Т	D	K
Highland City	N				Т	D	K	Panguitch City	Ν				Т	D	Κ
Hinckley Town	N				Т		K	Paragonah Town		C			Т		
Holden Town					Т			Park City	Ν	C	PS		Т		Κ
Holladay City					Т	D	K	Parowan City		C	PS		Т	D	Κ
Hooper City					Т		K	Payson City			PS	F	Т	D	Κ
Huntington City					Т	D	K	Perry City			PS		Т	D	Κ
Hurricane City			PS	F	Т	D	Κ	Plain City					Т	D	Κ
Hyde Park City					Т		K	Pleasant Grove City			PS	F	Т		Κ
Hyrum City					Т	D	K	Pleasant View City		C	PS		Т	D	Κ
lvins City			PS	F	Т	D	Κ	Price City			PS	F	Т	D	Κ
Kamas City			PS		Т	D	Κ	Providence City					Т	D	Κ
Kanab City			PS	F	Т	D	Κ	Provo City		C	PS	F	Т	D	Κ
Kaysville City		C	PS		Т		Κ	Randolph Town					Т		
LaVerkin City			PS		Т		K	Redmond Town					Т		
Layton City		C	PS	F	Т	D	K	Richfield City		C	PS		Т	D	Κ
Lehi City			PS	F	Т	D	Κ	Richmond City					Т		Κ
Levan Town					Т			Riverdale City		C	PS	F	Т	D	Κ
Lewiston City					Т		Κ	Riverton City		C		F	Т	D	Κ
Lindon City			PS		Т	D	Κ	Roosevelt City			PS	F	Т	D	Κ
Logan City		C	PS	F	Т	D	Κ	Roy City		C	PS	F	Т	D	Κ
Lone Peak Safety District			PS		Т		K	Salem City			PS		Т	D	K
Manila Town		C			Т	_	K	Salina City			PS		Т	D	K
Manti City					Т		Κ	Salt Lake City		C	PS	F	Т	D	Κ
Mantua City			PS		Т		K	Sandy City			PS		Т		K
Mapleton City			PS		Т	D	Κ	Santa Clara City			PS	F	Т	D	Κ
Marriott/Slaterville City					Т		K	Santaquin City			PS		Т	D	K
Mayfield Town					Т		Κ	Saratoga Springs Town			PS	F	Т	D	Κ
Meadow Town					Т		Κ	Smithfield City			PS	F	Т		Κ
Mendon City					Т		Κ	South Jordan City		C	PS	F	Т	D	Κ
Midvale City		C	PS	F	Т	D	Κ	South Ogden City			PS	F	Т	D	Κ
Midway City		C			Т	D	Κ	South Salt Lake City				F	Т	D	Κ
Milford City			PS		Т		K	South Weber City					Т		Κ
Millville City					Т	D	K	Spanish Fork City			PS		Т		K
Minersville Town					Т		Κ	Spring City		C	PS		Т		Κ
Moab City		C	PS		Т	D	Κ	Springdale Town			PS		Т	D	Κ
Monroe City					Т		Κ	Springville City		C	PS	F	Т		Κ
Monticello City			PS		Т	D	Κ	St. George City			PS		Т	D	Κ
Morgan City					Т		K	Stockton Town					Т		Κ
Moroni City			PS		Т		Κ	Sunset City		C	PS		Т	D	Κ
Mt Pleasant City		C	PS		Т		K	Syracuse City				F	Т	D	K
Murray City			PS	F	Т	D	Κ	Taylorsville City			PS		Т	D	Κ
Myton City					Т		K	Tooele City		C	PS		Т		K
Naples City		C	PS		Т	D	K	Torrey Town					Т		K
Nephi City			PS		Т		K	Tremonton City		C	PS		Т	D	K
Nibley City			-			D	K	Uintah City		-			Т		K
North Logan City		C	PS	F	T		K	Vernal City		C	PS		T	D	K
North Ogden City			PS	F	T		K	Vineyard Town		_			T		K
North Salt Lake City		_	PS	•	T	D	K	Washington City				F	T	D	K
Oakley City		C	. •		T	_	K	Washington Terrace City			PS	F	T	D	K
Ogden City			PS	F	T		K	Wellington City			PS	•	Ť	_	K
Orangeville City		_	. 5	•	T	_	K	Wellsville City			. 5		Ť		K
Orderville Town					T		K	Wendover City			PS			D	

Employer	N	c	PS	F	Т	D	К	Employer	N	c	PS	F	т	D	К
West Bountiful City	. N	C	PS		Т	D	K	Five-County Association of Governments	N	C			Т	D	K
West Haven City	. N				Т	D	K	Four Corners Regional Care Center	Ν	C			Т	D	K
West Jordan City	. N	C	PS	F	Т	D	K	Fox Hollow Golf Course	Ν				Т		K
West Point City					Т	D	K	Garden City Fire District				F	Т		K
West Valley City	. N	C	PS	F	Т	D	K	Grand County Cemetery Maintenance District	Ν				Т		K
Willard City			PS		Т	D	K	Grand County Water Sewer/Service	Ν				Т		K
Woods Cross City		C	PS		Т	D	K	Granger-Hunter Improvement District	Ν				Т	D	K
•								Gunnison Valley Hospital	Ν	C			Т	D	K
Other Government Entities								Heber Light & Power	Ν					D	K
Ash Creek Special Service District	Ν				Т	D	K	Heber Valley Special District					Т		
Ashley Valley Sewer Management Board					Т	D	K	Hooper Water Improvement District						D	
Ashley Valley Improvement District					Т		K	Housing Authority of Carbon County					Т		K
Bear Lake Special Service District					Т		Κ	Housing Authority of Ogden City					Т		K
Bear River Association of Governments					Т	D	Κ	Housing Authority of Salt Lake City		C				D	K
Bear River Health Department		C			Т	D	Κ	Housing Authority of Salt Lake County					Т		K
Bear River Mental Health					Т		K	Hurricane Valley Fire Spec. Service District				F	Т		K
Bear River Water District					T		K	Impact Mitigation Special Service District					Т		K
Beaver Housing Authority					T		K	Jordan River Commission					Т	D	K
Beaver Valley Hospital					T	D	K	Jordan Valley Water Conservancy District	Ν	C				D	K
Benchland Water Company					T		K	Jordanelle Special Service District					Т	D	K
Bona Vista Water Improvement					T	D		Kane Water Conservancy District					Т		K
Bountiful Irrigation District					T		K	Kearns Improvement District		C				D	K
Box Elder County Mosquito District					T	D	K	Leeds Area Special Service District				F	Т		
Cache Metro Planning Organization					T		K	Maesar Water Improvement District					Т		K
Carbon County Recreation and	IN				'		K	Magna Mosquito Abatement					Т		K
Transportation Special Service District	NI				Т		K	Metro Water District—SLC/Sandy					Т	D	K
·		_			T	D		Midvalley Improvement District					Т		K
Castle Valley Special Service District		C			T		K	Military Installation Development Authority	Ν				Т		K
Cedar City Housing Authority				_		D		Millard County Care and Rehabilitation, Inc	Ν				Т		K
Cedar Mountain Fire Protection District				F	T		K	Moab Valley Fire Protection	Ν			F	Т		K
Central Iron County Water Conservancy Dist					T	_	K	Mountain Regional Water Special Service Dist	Ν				Т		K
Central Davis Sewer District					T		K	Mountainland Association of Governments	Ν	C			Т	D	K
Central Utah Counseling Center					T		K	Mt. Olympus Improvement District	Ν				Т		K
Central Utah Public Health						D	K	Nebo Credit Union					Т		K
Central Utah Water District						D		North Davis County Sewer District	Ν	C			Т		K
Central Weber Sewer District		C			T	D	K	North Davis Fire District	Ν			F	Т		K
Children's Aid Society—Utah					T	_	K	North East Counseling Center	Ν				Т	D	K
Cottonwood Heights P&R Services					T		K	North Emery Water Users Special Service Dist	Ν				Т		K
Cottonwood Improvement District	N				Т	D	K	North Fork Special Service District	Ν				Т		K
Council on Aging —								North Park Police Agency	Ν		PS		Т	D	K
Golden Age Center Special Service District						D		North Pointe Solid Waste Special Service Dist	Ν				Т	D	K
Davis & Weber Counties Canal Company		C				D		North Tooele County Fire Protection							
Davis Behavioral Health	Ν				Т	D	K	Service District	Ν			F	Τ	D	K
Davis County Housing Authority		C			Т		K	North View Fire District	Ν			F	Τ		K
Davis County Mosquito Abatement					Τ		K	Oquirrh Recreation and Parks District					Т	D	K
Davis County Solid Waste Management					Τ	D	K	Park City Fire Service District	Ν			F	Т	D	K
DDI Advantage		C			Τ		K	Price River Water Improvement	Ν				Т	D	K
Duchesne County Mosquito District		C			Τ			Provo Housing Authority	Ν				Т		K
Duchesne County Water Conservancy District	Ν				Τ	D	Κ	Provo River Water Users	Ν				Т	D	Κ
East Duchesne Culinary Water Imp District	Ν				Τ		Κ	Roosevelt City Housing Authority	Ν				Т		
Emery County Care and Rehabilitation Center		C			Τ	D	Κ	Roy Water Conservancy District					Т	D	K
Emery County Recreation Special Service Dist	Ν				Τ		Κ	Salt Lake County Service Area 3					Т		K
Emery Water Conservancy District					Τ		K	Salt Lake City Library					Т	D	K

# Schedule of Participating Employers (Continued)

Salt Lake City Mosquito Abatement	К
San Juan Mental Health/Substance Abuse Dist N T K Utah Lake Commission N T Sandy Suburban Improvement District N T D K Utah League of Cities & Towns C T Six-County Association of Governments N C T D K Utah Municipal Power Agency N T Six-County Infrastructure Coalition N T K Utah Public Employees Association N C T D Snyderville Basin Water Reclamation District N C T D K Utah Public Employees Association N C T D Snyderville Basin Water Reclamation District N C T D K Utah Telecommunication Open Solid Waste Management Special Serv Dist #1 N T K Infrastructure Agency (UTOPIA) N T D Solitude Improvement District N T D K Utah Valley Dispatch Special Services Dist N T D South Davis County Sewer Improvement Dist. N C T D K Utah Zoological Society N C T South Davis Metro Fire Agency N F T D K Wasatch Front Regional Council Center N T D South Davis Recreation Center N T D K Wasatch Front Waste and Recycling District N T D South Ogden Conservancy District N T D K Wasatch Integrated Waste Management N T D South Utah Valley Animal Wasatch Mental Health Special Services District N T D South Utah Valley Electric Service District N T T K Washington County Water District N T D South Utah Valley Solid Waste N T T K Washington County Water District N T T D South Valley Solid Waste N N T T K Washington County Water District N N T D South Valley Solid Waste N N T T K Washington County Water District N N T D South Valley Solid Waste N N T T K Washington County Water District Washi	K
Sandy Suburban Improvement District	Κ
Six-County Association of Governments	Κ
Six-County Infrastructure Coalition N T K Utah Public Employees Association N C T D Snyderville Basin Water Reclamation District	Κ
Snyderville Basin Water Reclamation District	Κ
Solid Waste Management Special Serv Dist #1 N	Κ
Solitude Improvement District	
South Davis County Sewer Improvement Dist N C T D K Utah Zoological Society	K
South Davis County Water Improvement Dist N T D K Valley Emergency Communication Center N T D South Davis Metro Fire Agency	K
South Davis Metro Fire Agency	K
South Davis Recreation Center	
South Ogden Conservancy District	
South Utah Valley Animal  Services Special Service District	
Services Special Service District	
South Utah Valley Electric Service District	
South Utah Valley Solid Waste	
South Valley Sewer District	K
South Valley Water Reclamation Facility	K
,	
Southeastern Utah Assoc. of Governments N C T D K Weber Basin Water Conservancy N T D	
Southeastern Utah Health	
Southern Salt Lake Valley Mosquito Abatement N T D K Weber Human Services	
Southern Utah Valley Power System	K
Southwest Behavioral Health Center	1/
Southwest Mosquito Abatement and  District #1	K
Control District	K
Southwest Utah Public Health Department N C T D K St. George Housing Authority N T K	
Summit Mosquito Abatement District	
Taylorsville – Bennion Improvement	53
Timber Lakes Special Service District	
Timpanogos Special Service District	
The light Class Alexandra	62
Trans laydan Cities N T D V	1
Tridell-Lapoint Water District	1
	66
	50
The state of the s	55
History Design Association of Communication And T. D. V.	
Uintan Basin Association of Government	+0
Uintah County Mosquito Abatement	
Uintah Fire Suppression Special Service Dist F T K	
Uintah Highlands Improvement District	
Uintah Recreation District	
Uintah Transportation Special Service Dist N T K	
Uintah Water Conservancy District N T K	
Unified Police Department	
Upper Country Water District N D	
Utah Association of Counties N T K	
Utah Counties Indemnity Pool N T K	

#### Schedule of Participating Employers (Concluded)

#### **Employer**

#### **Inactive Units**

American Fork Hospital Bay Area Refuse Disposal

Bear River Town **Bingham City** 

Box Elder County Nursing Home

Carbon County Hospital Carbon Nursing Home Cedar City Library Central Utah Ed Ser

Circleville

Coalville Health Center College of Eastern Utah

Copperton Improvement District

Cottage Program

**Davis County Department of Human Services** 

**Department of Employment Security** 

Dixie Center at St. George

Dixie Hospital **East Layton** 

**Emery Medical Center** 

Four Corners Regional Hospital

Genola

Golden Hours Homemaker

**Grand County Road Special Service District** 

Hiawatha Town Honeyville Town I W Allen Hospital Juab County Hospital Kanosh Town Corporation

Leeds Town

Marysvale Town

Metro Water District — Orem Metro Water District — Provo Midvale Wastewater Treatment Midway Sanitation District

Milford Valley Hospital

Morgan County Historical Society

Morgan County Library

Mountain America Credit Union

Nebo Credit Union **New Harmony Town** Northern Utah Crime Payson City Hospital Pioneer Care Center Randolph Town

Reg 2 Law Enforcement Plan Agency

Salt Lake County Fair

Salt Lake School District Credit Union

San Juan County Hospital

Six-County Economic Development

**Snow College South** 

South Davis Fire Department

Southeastern Utah Economic Development

Statewide Assn of Prosec Sugarhouse Park Authority **Summit Employment** 

Summit Park Water Special Service District

**Thomas Edison Charter School Timpanogos Academy Tooele Council of Aging Tooele Valley Hospital** Trail Incorporated

Twin Creeks Special Service District

U of U Research Institute U S H Patients Funds **Uintah Basin Counseling** Uintah Basin Dist Health **Uintah Basin Medical Center** 

**Uintah County Council on Aging Uintah County Hospital** 

USU Comm Credit Union **USU Community Credit Union** Ut Assn of Sec Sch Princ

**Utah College of Applied Technology** 

**Utah County Council of Govt** Utah Industries for the Blind

**Utah Partnership for Education Economics** 

**Utah Technology Corporation** 

Valley Mental Health

Washington County Association for Retarded

Citizens

Wasatch County Hospital

Wasatch County Special Service District #1

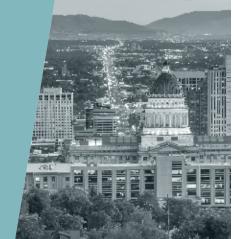
Weber County Hospital

Weber Economic Development Corp

Weber River Water Quality West Millard Hospital West Millard Recreation Woodland Hills City

# A Highlight History 1907-2016





1907 The Legislature authorizes the organization of local teacher retirement associations.

1908 Salt Lake City institutes the first teacher retirement commission. Ogden follows in 1933 and Provo in 1934.

1919 First statewide pension plan for all full-time paid and volunteer firemen. Actuarially unsound, the system would be transferred to the Retirement Office in 1965.

1921 | First police pension plans in Salt Lake, Ogden, Provo, and Logan. Actuarially unsound, these plans would be transferred to the Public Safety Retirement System in 1969.

1927 The Prison and Industrial School Guards Retirement System is enacted. Industrial school guards join the teachers retirement system in 1937. Prison guards transfer to the Public Safety Retirement System in 1970.

**1934** The Utah Education Association prepares a teacher retirement plan to present to the Legislature. This plan will form much of the basis for a new retirement system.

**1937** First statewide teachers retirement system. Seven member board hires Ray L. Lillywhite as the first executive secretary.

1943 Utah Supreme Court rules that a retiree's statutory retirement benefit cannot be reduced, affirming the principle of vested rights. The Court would later affirm that a vested retirement benefit may not be reduced without providing a "substantial substitute."

**1947** The State Officers' and Employees' Retirement System is created with a 3% contribution rate each by employee and employer.

Teachers in local systems are required to join the State Teachers Retirement System.

1948 The Utah Supreme Court permits service credit for prior service in parochial schools.

1949 The State Officers and **Employees Retirement System is** renamed The Public Employees Retirement System; it will cover all public employees and judges. Retirement benefit ceiling is \$100 a month.

1952 Ray Lillywhite resigns; Leonard W. McDonald is hired as second executive secretary of the Teachers Retirement System.

1953 The short-lived Teachers Retirement System is liquidated in favor of Social Security.

1954 The Teachers Retirement System is replaced by the Utah School **Employees Retirement System and** integrated with Social Security to preserve its solvency. Local teacher retirement associations are terminated.

1957 | Minimum monthly retirement benefit is \$85.

**1959** The Utah State Public **Employees Association is formed with** the intent to produce a comprehensive plan for a statewide public employee retirement system.

1961 The Public Employees Retirement System is created with a seven member board.

#### A Highlight History 1907-2016 (Continued)

The public employees and teachers retirement systems retain separate boards but unite under a single administrator and office.

- 1963 Creation of a single board for all retirement systems is the crowning achievement in Utah public retirement history and the birth of today's Utah Retirement Systems.
- **1967** The heretofore separate school and public retirement systems are consolidated into a single Utah State Retirement System.
- 1969 The Utah Public Safety Retirement Act covers all public safety employees engaged full time in hazardous duty. Benefits were uniform in each jurisdiction, but contribution rates varied.
- 1971 Members gain a salary deferral program.
- 1975 Current service formula rises from 1.25% to 2%. The cost-of-living ceiling rises to 4%.
- 1976 Leonard W. McDonald retires. Bert D. Hunsaker becomes executive director.
- 1977 | Governor Scott Matheson dedicates the new Leonard W. McDonald Building for the Utah Retirement Systems.
- **1979** Board gains custody of the retirement fund and greater investment authority.
- 1982 The court affirms that the Board is independent of the executive department and has authority to hire its own legal counsel.
- 1983 The Retirement Board sees its first actuarial surplus as new investments prove their worth; hires a full-time investment manager.

- **1986** | Public Employees Noncontributory Retirement System debuts: employers pay all contributions; 3-year final average salary; State and education employers pay 1.5% of salary into URS' 401(k) Plan. Employees forfeit access to contributions, but the new system portends a superior career retirement.
- 1987 A "25-and-out" retirement incentive plan permits public employees to retire after 25 years with no actuarial reduction; and increases to 2% the value of each year of service. Over 3000 employees take advantage of its 6-month window.
- 1989 The U.S. Supreme Court rules that if federal retirement benefits are taxable, then state-provided retirement benefits cannot be exempt. Legislature grants a 3% substantial substitute benefit for affected members.

Bert Hunsaker steps down. Dee Williams becomes executive director.

The Public Safety Noncontributory Retirement System is created.

The Systems' assets nearly quadruple from \$1 billion to \$3.85 billion during the 1980s.

- 1990 | Public Employees Noncontributory Retirement members receive 2% for all years of service.
- 1994 URS begins dividing pension, death, and DC benefits after court rules that a former spouse may be awarded death and retirement benefits, whether or not the spouse remarries.
- 1995 Members with 25 years of service in the Public Employees Noncontributory System may buy future service credit to permit immediate retirement.

1996 URS recovers 100% of member assets originally invested in Guaranteed Investment Contracts that failed when Confederation Life Insurance Company of Canada was declared insolvent in August 1994.

**1997** Judges Noncontributory Retirement System is created.

The URS DC video receives a Telly Award — the commercial equivalent of an "Oscar" for motion pictures; URS' publication for retirees, Cycles, places second worldwide among corporate and institutional newsletters.

Legislature affirms the Board's authority to define provisions and terms of the retirement code.

1998 The 401(k) Plan launches a bold marketing program to help members better map a retirement investment strategy. Investment options are enhanced and expanded.

State employees at retirement may defer 25% of accumulated sick leave to the 401(k) Plan, convert it to paid-up health or Medicare supplement insurance or take it as cash.

1999 | Members may buy up to five years of future service credit, even if it exceeds the years required to retire.

Leonard W. McDonald, director of the Utah Retirement Systems 1952-1976 and to whom much of the structure of the Systems can be attributed, dies.

Dee Williams retires.Robert V. Newman becomes executive director.

Systems' assets rise from \$3.85 billion to over \$13 billion during the 1990s.

**2000** 401(k) Plan participants may now apply for a fixed rate loan for any purpose of up to 50% of his or her 401(k) account balance.

#### A Highlight History 1907-2016 (Concluded)

2001 A value stock fund joins the menu of DC investment options.

URS website calculators invite members to estimate pension benefits and compute potential 401(k)/457 earnings.

**2002** The Olympic Winter Games are staged in Salt Lake City. URS adopts telecommuting.

457 Plan permits deferrals up to 100% of includable compensation: offers a new catch-up feature; drops irrevocable withdrawal decisions; allows rollovers to any acceptant 457, 403(b), 401(k), or IRA; allows use for URS pension redeposits or to buy URS service credit.

Internet-based personal retirement account manager, myURS, lets members viewand transfer account balances, alter deferrals, estimate payouts, integrate Social Security, and more.

**2003** To protect 401(k) and 457 investors from the costs of others' adverse trading activities, URS restricts frequent trading privileges. Systems' assets are \$14.2 billion.

**2004** Ray L. Lillywhite, executive secretary of the Teachers Retirement System from 1937 to 1952, dies.

2005 Legislature repeals 1998 benefit allowing 25% of a state employee's accumulated sick leave to be converted to other retirement benefits.

2006 Members gain a partial lump-sum payment option (PLSO) at retirement.

**2007** Retirement Systems' assets reached \$23.9 billion.

Members of the Public Safety Contributory Retirement System gain a window to convert to the Public Safety Noncontributory System.

**2008** The Retirement Systems pay over \$1,000,000,000 in annual benefits.

2009 New online enrollment feature at urs.org offers simple, convenient way to enroll for benefits electronically.

IRS Private Letter Ruling confirms URS 457 Plan is an eligible deferred compensation plan as defined in IRC Section 457(b).

**2010** Retirees who resume work for a URS employer within a year after retiring will be returned to active status to earn further service credit and may thereafter choose between retirement allowance options.

**2011** URS creates the Tier 2 Retirement System for members initially entering full-time employment with a participating employer on or after July 1, 2011. These employees choose to participate in either the Tier 2 Hybrid Retirement System or the Tier 2 Defined Contribution (DC) Plan.

The URS Defined Contribution Department introduces a new and expanded set of asset classes within the Horizon Funds. The changes bring a broader, more diversified mix of securities to the Horizon Funds and offer inflation protection as well as exposure to real estate and commodities.

**2012** Legislative bills brought about four noteworthy changes for the Utah Retirement Systems. First, executive director of the Department of Corrections is now allowed to exempt from the Noncontributory Retirement System. Second, Tier 2 firefighters, including volunteers, are covered under the PEHP long-term disability policy. Third, certain Tier 2 Retirement Systems at-will employees are allowed to exempt from the 4-year vesting requirements. And fourth, new legislators and governors will not receive postretirement health benefits.

2013 Robert V. Newman retires. Daniel D. Andersen becomes executive director.

2014 URS received a No-Action Letter from the Utah Division of Securities in preparation for its new Investment Advice Program to be offered in 2015.

After the close of business on December 31, 2014, all assets held in the DC Plan Horizon Funds were transferred into the new Target Date Funds. The assets were allocated according to the Target Date that corresponded with the participant's age.

**2015** URS rolled out its retirement planning advisory program. In 2015, advisors conducted more than 1,600 sessions across the state. In satisfaction surveys, 98% of members were at least satisfied with their session, with 85% giving the highest satisfaction rating.

**2016** S.B. 19: establishes an optional "Phased Retirement" program that allows continuing employment on a half-time basis of a retiree with the same participating employer after the retiree's retirement date while the retiree receives 50% of the retiree's monthly retirement allowance. This new program is offered beginning on January 1, 2017.



Utah Retirement Systems

2016

**Comprehensive Annual Financial Report** 

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Utah Retirement Systems

# Independent Auditors' Report for Agent Plans

# Deloitte.

INDEPENDENT AUDITORS' REPORT

Deloitte & Touche LLP 111 South Main Street Suite 1500 Salt Lake City, UT 84111 United States of America

Tel 801-328-4706 Fax: 801-366-7900 www.deloitte.com

Utah State Retirement Board:

#### Report on the Schedule

We have audited the fiduciary net position as of December 31, 2016, and the changes in fiduciary net position for the year then ended, included in the accompanying Schedule of Changes in Fiduciary Net Position by Employer—Pension Trust Fund by Division ("Schedule") of the Public Safety Retirement System of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, and the related notes.

#### Management's Responsibility for the Schedule

Management is responsible for the preparation and fair presentation of the Schedule 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 the Schedule that is free from material misstatement, whether due to fraud or error.

#### **Auditors' Responsibility**

Our responsibility is to express an opinion on the fiduciary net position and the changes in fiduciary net position included in the Schedule 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 fiduciary net position and the fiduciary changes in net position included in the Schedule are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts in the Schedule. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the fiduciary net position and the changes in fiduciary net position included in the Schedule, 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 fiduciary net position and the changes in fiduciary net position included in the Schedule in order to design audit procedures that are appropriate

#### Independent Auditors' Report for Agent Plans (Concluded)

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 fiduciary net position and the changes in fiduciary net position included in the Schedule.

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

#### **Opinion**

In our opinion, the Schedule referred to above presents fairly, in all material respects, the fiduciary net position of the Public Safety Retirement System of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, as of December 31, 2016, and the changes in fiduciary net position for the year then ended, in accordance with accounting principles generally accepted in the United States of America.

#### **Other Matters**

We have audited, 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, the financial statements of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, which includes the Public Safety Retirement System, as of and for the year ended December 31, 2016, and our report thereon, dated April 26, 2017, expressed an unmodified opinion on those financial statements and included an emphasis-of-matter paragraph regarding the fair value of investments where a publicly listed price is not available.

Our audit of the financial statements of Utah Retirement Systems was conducted for the purpose of forming an opinion on the financial statements as a whole. The individual employer information presented in each of the individual columns of the accompanying Schedule is presented for purposes of additional analysis and is not a required part of the financial statements. The individual employer information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Each column of individual employer information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the individual employer information presented in each individual column of the accompanying Schedule is stated fairly, in all material respects, in relation to the financial statements of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, which includes the Public Safety Retirement System, as a whole. We do not express an opinion on the fiduciary net position or changes in fiduciary net position of each individual employer.

#### Restrictions on Use

Our report is intended solely for the information and use of Utah Retirement Systems' management, the Utah State Retirement Board, the participating employers of the Public Safety Retirement System of Utah Retirement Systems and their auditors and is not intended to be used by anyone other than these specified parties.

Deloitte & Touche LLP

April 26, 2017

#### **Public Safety Retirement System**

# Schedule of Changes in Fiduciary Net Position — Pension Trust Fund by Division

Year Ended December 31, 2016 With Comparative Totals for Year Ended December 31, 2015

(in thousands)

8 260 3 268 3 367 3 149 1	3,147 3,760 ,022	
260 3 268 3 367 3 149 1	3,147 3,760 ,022	2,403 2,930
260 3 268 3 367 3 149 1	3,147 3,760 ,022	2,403 2,930
260 3 268 3 367 3 149 1	3,147 3,760 ,022	2,403 2,930
268 3 367 3 449 1 316 4	3,147 3,760 ,022	2,403 2,930
367 3 149 1 316 4	3,760 ,022	2,930
149 1 316 4	,022	**
149 1 316 4	,022	**
316 4	•	797
	1782	
1.47	1,7 02	3,727
147	103	80
369 4	,679	3,647
83	19	15
11	2	2
72	17	13
141 4	,696	3,660
369	(74)	(39)
)78 7	7,769	6,024
751 3	3,286	2,140
392	917	555
38	5	6
_	_	_
118	27	20
799 4	,235	2,721
279 3	3,534	3,303
396 55	5,905 4	3,277
	),439 4	6,580
	751 3 392 38 — 118 799 4 279 3	751 3,286 392 917 38 5 — — — — — — — — — — — — — — — — — —

		Cost Sharing Plans	(			
Total All Divisions		Other Division B	Other Division A		Agent Plans	
2015	2016	(without Social Security)	(with Social Security)	State of Utah Public Safety	Bountiful	Logan
905	830	195	515	112	_	_
141,024	147,099	21,381	52,359	50,554	943	1,052
141,929	147,929	21,576	52,874	50,666	943	1,052
5,276	199,385	23,835	81,791	67,850	1,196	1,656
50,307	54,203	6,480	22,235	18,445	325	450
55,583	253,588	30,315	104,026	86,295	1,521	2,106
5,929	5,444	651	2,233	1,852	33	45
49,654	248,144	29,664	101,793	84,443	1,488	2,061
1,149	1,015	121	417	346	6	8
149	132	16	54	45	1	1
1,000	883	105	363	301	5	7
50,654	249,027	29,769	102,156	84,744	1,493	2,068
4,023	6,701	8,826	(6,727)	3,363	35	(52)
196,606	403,657	60,171	148,303	138,773	2,471	3,068
127,285	135,697	14,987	47,619	51,479	1,193	1,242
27,807	28,547	1,706	9,948	11,014	241	274
295	264	_	85	129	1	<del>-</del>
533	183		175	8	_	<del></del>
1,233	1,260	147	496	432	9	11
157,153	165,951	16,840	58,323	63,062	1,444	1,527
39,453	237,706	43,331	89,980	75,711	1,027	1,541
2,899,386	2,938,839	344,199	1,208,282	1,003,324	17,826	24,630
2,938,839	3,176,545	387,530	1,298,262	1,079,035	18,853	26,171

Utah Retirement Systems

# Independent Auditors' Report for Cost Sharing Plans

# Deloitte.

INDEPENDENT AUDITORS' REPORT

Deloitte & Touche LLP 111 South Main Street Suite 1500 Salt Lake City, UT 84111 United States of America

Tel 801-328-4706 Fax: 801-366-7900 www.deloitte.com

Utah State Retirement Board:

#### **Report on the Schedules**

We have audited the employer allocations and the total for all entities of the columns titled employer contributions, net pension liability/ (asset), total deferred outflows of resources, total deferred inflows of resources, and total employer net pension expense excluding that attributable to employer-paid member contributions (specific column totals) included in the accompanying schedules of employer allocations and pension amounts of the Noncontributory Retirement System, Contributory Retirement System, Public Safety Retirement System, Firefighters Retirement System, Judges Retirement System, Utah Governors and Legislators Retirement Plan, Tier 2 Public Employees Contributory Retirement System, and Tier 2 Public Safety and Firefighters Contributory Retirement System ("Defined Benefit Pension Plans") of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, as of and for the year ended December 31, 2016, and the related notes.

#### Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 the schedules that are free from material misstatement, whether due to fraud or error.

#### **Auditors' Responsibility**

Our responsibility is to express an opinion on the employer allocations and the specified column totals included in the schedules of employer allocations and pension amounts 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 employer allocations and the specified column totals included in the schedules of employer allocations and pension amounts are free of material misstatement.

#### Independent Auditors' Report for Cost Sharing Plans (Concluded)

An audit involves performing procedures to obtain audit evidence about the employer allocations and the disclosures and specified column totals included in the schedules of employer allocations and pension amounts. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the employer allocations and the specified column totals included in the schedules of employer allocations and pension amounts, 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 employer allocations and the specified column totals included in the schedules of employer allocations and pension amounts 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 employer allocations and the specified column totals included in the schedules of employer allocations and pension amounts.

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

#### **Opinion**

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and the employer contributions, net pension liability/(asset), total deferred outflows of resources, total deferred inflows of resources, and total employer net pension expense excluding that attributable to employer-paid member contributions for the total of all participating entities for the Noncontributory Retirement System, Contributory Retirement System, Public Safety Retirement System, Firefighters Retirement System,

Judges Retirement System, Utah Governors and Legislators Retirement Plan, Tier 2 Public Employees Contributory Retirement System, and Tier 2 Public Safety and Firefighters Contributory Retirement System of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, as of and for the year ended December 31, 2016, in accordance with accounting principles generally accepted in the United States of America.

#### **Other Matter**

We have audited, 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, the financial statements of Utah Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, which includes the Defined Benefit Pension Plans, as of and for the year ended December 31, 2016, and our report thereon, dated April 26, 2017, expressed an unmodified opinion on those financial statements and included an emphasis-of-matter paragraph regarding the fair value of investments where a publicly listed price is not available.

#### **Restrictions on Use**

Our report is intended solely for the information and use of Utah Retirement Systems' management, the Utah State Retirement Board, the employers of the Defined Benefit Pension Plans of Utah Retirement Systems and their auditors and is not intended to be used by anyone other than these specified parties.

Deloitte & Touche LLP

April 26, 2017

# Schedule of Employer Allocations and Pension Amounts

and Pension Amounts							Net Difference
at December 31, 2016						Differences	Between Projected
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments
4 Corners Community Behavior Health	\$ 390,714	0.2288724%	\$ 1,469,641	3,044,124	155,821	31,923	326,616
Alpine City	144,893	0.0848756	545,005	1,128,891	57,785	11,838	121,123
American Fork City	766,383	0.4489326	2,882,697	5,971,042	305,642	62,616	640,656
Annabella Town	13,851	0.0081138	52,101	107,918	5,524	1,132	11,579
Ash Creek Special Service District	135,709	0.0794955	510,458	1,057,332	54,122	11,088	113,445
Ashley Valley Improvement District	151,177	0.0885563	568,640	1,177,846	60,291	12,352	126,376
Ashley Valley Sewer Management Board	69,207	0.0405400	260,316	539,204	27,600	5,654	57,853
Ballard Town	31,924	0.0187005	120,080	248,727	12,732	2,608	26,687
Bear Lake Special Service District	19,733	0.0115592	74,224	153,743	7,870	1,612	16,496
Bear River Association of Governments	234,191	0.1371845	880,892	1,824,627	93,398	19,134	195,771
Bear River Health Department	752,953	0.4410652	2,832,178	5,866,401	300,285	61,519	629,429
Bear River Mental Health	591,043	0.3462218	2,223,168	4,604,934	235,714	48,290	494,081
Bear River Water District	31,373	0.0183776	118,007	244,432	12,512	2,563	26,226
Beaver City	162,254	0.0950453	610,307	1,264,153	64,709	13,257	135,636
Beaver County	315,299	0.1846963	1,185,976	2,456,559	125,745	25,761	263,574
Beaver Housing Authority	16,598	0.0097226	62,431	129,316	6,619	1,356	13,875
Beaver Valley Hospital	681,932	0.3994626	2,565,039	5,313,065	271,962	55,716	570,059
Benchland Water Company	64,184	0.0375979	241,425	500,072	25,597	5,244	53,655
Bicknell Town	6,109	0.0035785	22,978	47,596	2,436	499	5,107
Blanding City	139,788	0.0818853	525,804	1,089,118	55,749	11,421	116,856
Bluffdale City	236,107	0.1383070	888,100	1,839,557	94,162	19,291	197,373
Bona Vista Water Improvement	90,508	0.0530180	340,440	705,168	36,096	7,395	75,660
Bountiful Irrigation District	85,394	0.0500221	321,203	665,320	34,056	6,977	71,385
Box Elder Co Mosquito District	40,096	0.0234875	150,818	312,396	15,991	3,276	33,518
Box Elder County	726,588	0.4256214	2,733,010	5,660,991	289,771	59,365	607,390
Brigham City Cache County Cache Metro Planning Organization Carbon County Carbon Count	698,152	0.4089641	2,626,050	5,439,440	278,430	57,041	583,618
	982,940	0.5757872	3,697,259	7,658,275	392,007	80,310	821,686
	14,800	0.0086695	55,669	115,309	5,902	1,209	12,372
	783,695	0.4590733	2,947,812	6,105,919	312,546	64,031	655,128
	7,719	0.0045218	29,035	60,142	3,079	631	6,453
Castle Dale City Castle Valley Special Service District Cedar City Cedar City Housing Authority Centerfield City	17,685	0.0103598	66,523	137,791	7,053	1,445	14,784
	86,827	0.0508616	326,594	676,486	34,628	7,094	72,583
	695,493	0.4074062	2,616,046	5,418,719	277,370	56,824	581,395
	27,732	0.0162452	104,314	216,070	11,060	2,266	23,183
	17,156	0.0100498	64,532	133,668	6,842	1,402	14,342
Centerville City Central Davis Sewer District Central Iron Co Water Conservancy Central UT Public Health Central Utah Counseling Center	348,103	0.2039119	1,309,364	2,712,137	138,827	28,441	290,996
	170,336	0.0997795	640,707	1,327,120	67,932	13,917	142,392
	23,851	0.0139713	89,713	185,826	9,512	1,949	19,938
	267,261	0.1565562	1,005,282	2,082,281	106,586	21,836	223,416
	467,145	0.2736446	1,757,133	3,639,618	186,302	38,167	390,509
Central Utah Water District	1,186,283	0.6949017	4,462,119	9,242,561	473,102	96,923	991,670
Central Weber Sewer District	268,559	0.1573167	1,010,166	2,092,396	107,104	21,942	224,501
City of Aurora	12,636	0.0074021	47,531	98,452	5,039	1,032	10,563
City of Bountiful	1,470,667	0.8614885	5,531,811	11,458,254	586,518	120,159	1,229,400
City of Cedar Hills	188,262	0.1102801	708,133	1,466,784	75,081	15,382	157,377
City of Draper	1,043,762	0.6114156	3,926,036	8,132,152	416,263	85,279	872,530
City of Duchesne	47,157	0.0276236	177,377	367,409	18,807	3,853	39,421
City of Enterprise	59,760	0.0350065	224,785	465,605	23,833	4,883	49,957
City of Green River	49,146	0.0287888	184,859	382,906	19,600	4,015	41,083
City of Harrisville	101,003	0.0591657	379,916	786,935	40,281	8,252	84,433
City of Helper City of Holladay City of Kanab City of Milford City of Moab	45,519	0.0266642	171,217	354,648	18,153	3,719	38,052
	195,038	0.1142497	733,623	1,519,582	77,783	15,935	163,042
	86,506	0.0506736	325,387	673,986	34,500	7,068	72,315
	41,616	0.0243778	156,535	324,238	16,597	3,400	34,789
	350,298	0.2051978	1,317,621	2,729,240	139,703	28,621	292,831
City of Monticello City of Naples City of North Salt Lake City of Orem City of Riverton	75,166	0.0440309	282,732	585,634	29,977	6,141	62,835
	46,629	0.0273141	175,390	363,292	18,596	3,810	38,979
	432,041	0.2530812	1,625,091	3,366,114	172,302	35,299	361,163
	1,992,077	1.1669202	7,493,056	15,520,658	794,461	162,760	1,665,271
	914,439	0.5356606	3,439,597	7,124,570	364,688	74,713	764,423

	Deletted Outilo	ws of nesources				Deletted Illilo	ws or resources		to Empir	yei-raid Meilibe	er Contributions
Changes of Assumptions 198,512	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources 570,744	Differences Between Expected and Actual Experience 39,997	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investment 96,821	Changes of Assumptions 47,834	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources 231,680	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
73,617 389,381 7,037 68,950	36,020 40,259 124 2,598	242,598 1,132,912 19,872 196,081	14,833 78,454 1,418 13,892	35,905 189,914 3,432 33,629	17,739 93,825 1,696 16,614	64,859 557 —	68,477 427,052 7,103 64,135	186,795 988,015 17,857 174,954	12,784 (4,012) (119) 881	=	199,579 984,003 17,738 175,835
76,809 35,162 16,220 10,026 118,987	9,861 537 2,111 1,591 8,720	225,398 99,206 47,626 29,725 342,612	15,476 7,085 3,268 2,020 23,974	37,462 17,150 7,911 4,890 58,034	18,508 8,473 3,908 2,416 28,671		71,446 35,263 16,589 10,823 110,679	194,895 89,221 41,156 25,440 301,917	3,428 (559) 358 161 2,980		198,323 88,662 41,514 25,601 304,897
382,558 300,295 15,940 82,437 160,196	44,604 — 4,661 — 26,408	1,118,110 842,666 49,390 231,330 475,939	77,079 60,505 3,212 16,610 32,277	186,586 146,464 7,774 40,207 78,133	92,181 72,359 3,841 19,864 38,601	122,493 — 88,969 73,497	355,846 401,821 14,827 165,650 222,508	970,700 761,968 40,446 209,176 406,481	16,397 (42,996) 1,616 (27,628) (11,896)	_ _ _ _ _	987,097 718,972 42,062 181,548 394,585
8,433 346,474 32,611 3,104 71,023	1,930 6,068 18,243 1,520	25,594 978,317 109,753 10,230 199,300	1,699 69,809 6,571 625 14,310	4,113 168,987 15,905 1,514 34,640	2,032 83,486 7,858 748 17,114	32,554 — 31,207	7,844 354,836 30,334 2,887 97,271	21,398 879,141 82,746 7,876 180,214	631 (7,422) 5,694 498 (11,826)	_ _ _ _	22,029 871,719 88,440 8,374 168,388
119,960 45,985 43,387 20,372 369,162	419,156 10,993 1,305 2,150 28,048	755,780 140,033 123,054 59,316 1,063,965	24,170 9,265 8,742 4,105 74,381	58,509 22,428 21,161 9,936 180,053	28,906 11,081 10,454 4,909 88,954	10,077 9,105 — 43,636	111,585 52,851 49,462 18,950 387,024	304,387 116,682 110,089 51,691 936,711	139,546 1,189 (3,093) 663 (2,331)		443,933 117,871 106,996 52,354 934,380
354,715 499,409 7,519 398,177 3,922	548 70,290 1,603 —	995,922 1,471,695 22,703 1,117,336 11,006	71,470 100,623 1,515 80,226 790	173,006 243,578 3,667 194,204 1,913	85,472 120,338 1,812 95,945 945	45,950 — — 140,585 1,154	375,898 464,539 6,994 510,960 4,802	900,052 1,267,197 19,080 1,010,332 9,952	(17,414) 23,202 522 (45,782) (371)	_ _ _ _	882,638 1,290,399 19,602 964,550 9,581
8,986 44,115 353,363 14,090 8,717	174 693 — 2,004	25,389 124,485 991,582 41,543 24,461	1,810 8,888 71,197 2,839 1,756	4,383 21,516 172,347 6,872 4,251	2,165 10,630 85,147 3,395 2,100	755 2,251 96,133 1,920 3,192	9,113 43,285 424,824 15,026 11,299	22,800 111,937 896,623 35,753 22,118	(160) (409) (33,909) 192 (1,004)		22,640 111,528 862,714 35,945 21,114
176,863 86,544 12,118 135,789 237,345	18,802 — 5,994 27,144 35,880	515,102 242,853 39,999 408,185 701,901	35,635 17,437 2,442 27,359 47,821	86,262 42,210 5,910 66,229 115,761	42,617 20,854 2,920 32,720 57,191	33,148 — —	164,514 113,649 11,272 126,308 220,773	448,771 219,596 30,748 344,550 602,239	5,871 (10,815) 1,935 9,351 12,701		454,642 208,781 32,683 353,901 614,940
602,722 136,448 6,420 747,211 95,651	34,626 361 64,285 8,780	1,691,315 417,517 18,376 2,161,055 277,190	121,439 27,492 1,294 150,552 19,272	293,968 66,550 3,131 364,440 46,652	145,232 32,879 1,547 180,048 23,048	120,388 36,114 333 93,541 4,421	681,027 163,035 6,305 788,581 93,393	1,529,345 346,224 16,291 1,895,971 242,705	(41,649) (3,452) 38 (16,543) 2,036		1,487,696 342,772 16,329 1,879,428 244,741
530,311 23,959 30,363 24,970 51,317	121,109 7,803 — 4,093 25,943	1,609,229 75,036 85,203 74,161 169,945	106,849 4,827 6,118 5,031 10,340	258,650 11,686 14,809 12,179 25,029	127,784 5,773 7,316 6,017 12,365	90,486 7,894 5,756 9,347	583,769 30,180 33,999 32,574 47,734	1,345,609 60,794 77,043 63,359 130,212	1,633 622 (1,869) (2,351) 8,159	_ _ _ _ _	1,347,242 61,416 75,174 61,008 138,371
23,127 99,094 43,952 21,144 177,978	1,307 27,791 428 6,872 —	66,205 305,862 123,763 66,205 499,430	4,660 19,966 8,856 4,260 35,860	11,280 48,332 21,437 10,313 86,806	5,573 23,878 10,591 5,095 42,886	3,636 — 14,845 — 115,341	25,149 92,176 55,729 19,668 280,893	58,683 251,442 111,523 53,651 451,601	(1,000) 8,751 (4,279) 2,198 (40,445)		57,683 260,193 107,244 55,849 411,156
38,190 23,691 219,510 1,012,127 464,605	12,837 85,890 35,784 42,269 56,380	120,003 152,370 651,756 2,882,427 1,360,121	7,695 4,773 44,228 203,928 93,611	18,627 11,555 107,062 493,648 226,603	9,202 5,709 52,893 243,883 111,951	52,242 46,156	35,524 22,037 204,183 993,701 478,321	96,904 60,113 556,983 2,568,168 1,178,886	4,491 27,355 13,158 (7,334) 7,753		101,395 87,468 570,141 2,560,834 1,186,639

## Schedule of Employer Allocations and Pension Amounts (Continued)

		Employer	Net Pension	Net Pension Liability/(Asset)	Net Pension Liability/(Asset)	Differences Between Expected	Net Difference Between Projected and Actual Investment Earnings on	
Participating Employer	Employer Contributions	Allocation Percentage	Liability/(Asset) (7.20% Discount)	1.00% Decrease (6.20%)	1.00% Increase (8.20%)	and Actual Experience	Pension Plan Investments	
City of Santa Clara City of Saratoga Springs City of South Jordan City of South Salt Lake City of St George	\$ 226,160 498,135 1,628,822 814,739 3,697,912	0.1324804% 0.2917979 0.9541323 0.4772586 2.1661654	\$ 850,686 1,873,700 6,126,697 3,064,584 13,909,433	1,762,060 3,881,067 12,690,466 6,347,793 28,811,150	90,195 198,661 649,591 324,927 1,474,766	18,478 40,699 133,080 66,567 302,132	189,058 416,415 1,361,609 681,079 3,091,260	
City of Taylorsville City of Uintah City of Washington Terrace City of Wendover City of West Haven	329,959 12,800 151,373 30,424 98,830	0.1932836 0.0074980 0.0886715 0.0178216 0.0578928	1,241,117 48,146 569,380 114,436 371,743	2,570,774 99,727 1,179,378 237,037 770,005	131,591 5,105 60,369 12,133 39,415	26,959 1,046 12,368 2,486 8,075	275,828 10,700 126,540 25,433 82,617	
City of West Jordan City of Woodland Hills Clearfield City Cleveland Town Clinton City	2,068,987 13,685 518,463 1,931 276,888	1.2119729 0.0080166 0.3037055 0.0011312 0.1621956	7,782,349 51,476 1,950,161 7,264 1,041,494	16,119,883 106,625 4,039,444 15,046 2,157,288	825,134 5,458 206,768 770 110,426	169,044 1,118 42,360 158 22,623	1,729,565 11,440 433,408 1,614 231,464	
Coalville City Cottonwood Heights City Cottonwood Heights P&R Srv Cottonwood Improvement District Council On Aging Golden Age SS	43,210 312,372 157,996 365,583 52,512	0.0253118 0.1829814 0.0925509 0.2141514 0.0307605	162,533 1,174,965 594,290 1,375,114 197,520	336,660 2,433,750 1,230,976 2,848,327 409,131	17,233 124,577 63,010 145,798 20,942	3,530 25,522 12,909 29,869 4,290	36,122 261,126 132,076 305,608 43,897	
Daggett County Davis Behavioral Health Inc Davis Co Housing Authority Davis Co Mosquito Abatement Davis County	126,990 1,322,459 71,190 38,051 4,387,081	0.0743880 0.7746712 0.0417017 0.0222895 2.5698675	477,662 4,974,337 267,776 143,126 16,501,694	989,400 10,303,538 554,655 296,462 34,180,602	50,645 527,411 28,391 15,175 1,749,614	10,375 108,050 5,816 3,109 358,440	106,157 1,105,506 59,511 31,809 3,667,369	
Delta City Duchesne Co Water Conservancy District Duchesne County E Duchesne Culinary Water Improvement District Eagle Mountain City	95,588 29,240 560,574 10,982 427,032	0.0559934 0.0171281 0.3283734 0.0064332 0.2501472	359,546 109,983 2,108,559 41,309 1,606,251	744,742 227,813 4,367,541 85,565 3,327,091	38,121 11,661 223,563 4,380 170,305	7,810 2,389 45,801 897 34,890	79,906 24,443 468,610 9,181 356,976	
East Carbon City Elk Ridge City Emery County Emery County Recreation Special Service District Emery Water Conservancy District	56,824 17,522 475,221 3,251 40,884	0.0332862 0.0102643 0.2783754 0.0019046 0.0239489	213,738 65,909 1,787,511 12,230 153,781	442,724 136,521 3,702,541 25,332 318,533	22,662 6,988 189,523 1,297 16,305	4,643 1,432 38,827 266 3,340	47,502 14,648 397,260 2,718 34,177	
Enoch City Ephraim City Escalante City Eureka City Corporation Fairview City	74,863 171,337 31,707 17,004 58,082	0.0438532 0.1003659 0.0185733 0.0099604 0.0340235	281,591 644,472 119,263 63,958 218,473	583,271 1,334,920 247,035 132,479 452,531	29,856 68,331 12,645 6,781 23,164	6,117 13,999 2,591 1,389 4,746	62,581 143,229 26,505 14,214 48,554	
Farmington City Farr West City Ferron City Fillmore City Five-County Association of Governments	421,431 58,661 27,804 65,865 261,428	0.2468659 0.0343622 0.0162871 0.0385824 0.1531392	1,585,181 220,647 104,583 247,746 983,341	3,283,448 457,035 216,627 513,166 2,036,833	168,071 23,394 11,089 26,268 104,260	34,432 4,793 2,272 5,381 21,360	352,294 49,037 23,243 55,060 218,540	
Fountain Green City Fox Hollow Golf Course Francis City Fruit Heights City Garfield County	19,132 24,531 21,281 66,528 347,155	0.0112070 0.0143695 0.0124660 0.0389707 0.2033566	71,963 92,270 80,047 250,240 1,305,798	149,059 191,122 165,804 518,331 2,704,751	7,630 9,783 8,487 26,532 138,449	1,563 2,004 1,739 5,436 28,364	15,993 20,506 17,790 55,614 290,203	
Genola Town Grand Co Cemetery Maintenance District Grand County Grand Water/Sewer Service Granger-Hunter Improvement District	16,614 13,511 672,356 32,739 687,552	0.0097320 0.0079146 0.3938530 0.0191777 0.4027547	62,491 50,821 2,529,018 123,144 2,586,178	129,441 105,268 5,238,454 255,074 5,356,851	6,626 5,388 268,143 13,057 274,203	1,357 1,104 54,934 2,675 56,175	13,888 11,295 562,054 27,368 574,757	~~~
Grantsville City Gunnison City Gunnison Valley Hospital Heber City Heber Light & Power	182,680 46,056 925,455 340,382 496,240	0.1070105 0.0269789 0.5421137 0.1993893 0.2906881	687,138 173,238 3,481,033 1,280,323 1,866,573	1,423,296 358,834 7,210,400 2,651,984 3,866,306	72,855 18,368 369,081 135,748 197,906	14,926 3,763 75,613 27,810 40,545	152,711 38,501 773,632 284,542 414,831	

1	Net Amortization of Deferred Amounts from	oyer-Paid Membe	
roportionate Share of Allocable Plan Gross Pension Expense	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Tota Employer Net Pension Expense Excluding That Attributable to Employer-Paic Member Contributions
291,564 642,191 2,099,862 1,050,355 4,767,315	(11,764) 25,935 962,628 (11,926) 86,499	_ _ _ _	279,800 668,126 3,062,490 1,038,429 4,853,814
425,380	(9,790)		415,590
16,502	(673)		15,829
195,149	595		195,744
39,222	(1,765)		37,457
127,411	(3,352)		124,059
2,667,320	34,075		2,701,395
17,643	241		17,884
668,398	(31,926)		636,472
2,490	(1,611)		879
356,961	(6,338)		350,623
55,706	(142)		55,564
402,707	39,403		442,110
203,687	15,285		218,972
471,306	(4,936)		466,370
67,698	(4,992)		62,706
163,714	(13,461)		150,253
1,704,903	(33,410)		1,671,493
91,777	42,091		133,868
49,055	(2,656)		46,399
5,655,786	(118,433)		5,537,353
123,231	(10,767)		112,464
37,696	1,577		39,273
722,687	328,071		1,050,758
14,158	(53)		14,105
550,526	(95,821)		454,705
73,257	683		73,940
22,590	(11,693)		10,897
612,651	(49,760)		562,891
4,192	(507)		3,685
52,707	38		52,745
96,512	(634)	_	95,878
220,886	7,575	_	228,461
40,876	(2,392)	_	38,484
21,921	(185)	_	21,736
74,879	280	_	75,159
543,305	12,426	_	555,731
75,625	1,667	_	77,292
35,845	(1,744)	_	34,101
84,912	3,475	_	88,387
337,030	(17,363)	_	319,667
24,664	(432)		24,232
31,625	9		31,634
27,435	823		28,258
85,767	2,079		87,846
447,549	(7,664)		439,885
21,418	1,406		22,824
17,419	2,674		20,093
866,795	(24,793)		842,002
42,206	(5,203)		37,003
886,386	(36,354)		850,032
235,510	(6,918)		228,592
59,375	(1,612)		57,763

Changes of Assumptions		Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
114,907 253,091 827,566 413,950 1,878,822	85,187 2,892,465 39,756 268,079	322,443 795,392 5,214,720 1,201,352 5,540,293	23,152 50,994 166,742 83,405 378,554	56,044 123,441 403,631 201,897 916,363	27,688 60,985 199,411 99,746 452,722	36,264 — — 62,280 —	143,148 235,420 769,784 447,328 1,747,639	291,564 642,191 2,099,862 1,050,355 4,767,315	(11,764) 25,935 962,628 (11,926) 86,499	_ _ _ _	279,800 668,126 3,062,490 1,038,429 4,853,814
167,644 6,503 76,909 15,458 50,213	766 3,855 348	470,431 19,015 219,672 43,725 140,905	33,778 1,310 15,496 3,114 10,117	81,766 3,172 37,511 7,539 24,491	40,396 1,567 18,532 3,725 12,099	25,911 3,227 2,939 6,342 9,630	181,851 9,276 74,478 20,720 56,337	425,380 16,502 195,149 39,222 127,411	(9,790) (673) 595 (1,765) (3,352)		415,590 15,829 195,744 37,457 124,059
1,051,204 6,953 263,419 981 140,680	138,047 802 —	3,087,860 20,313 739,187 2,753 394,767	211,801 1,401 53,075 198 28,345	512,707 3,391 128,478 479 68,614	253,299 1,675 63,473 236 33,898	62,596 218 88,071 4,716 20,010	1,040,403 6,685 333,097 5,629 150,867	2,667,320 17,643 668,398 2,490 356,961	34,075 241 (31,926) (1,611) (6,338)		2,701,395 17,884 636,472 879 350,623
21,954 158,709 80,274 185,744 26,680	198 122,357 43,699 18,403	61,804 567,714 268,958 539,624 74,867	4,423 31,977 16,174 37,425 5,376	10,708 77,407 39,152 90,593 13,013	5,290 38,243 19,343 44,757 6,429	726 — 40,014 16,296	21,147 147,627 74,669 212,789 41,114	55,706 402,707 203,687 471,306 67,698	(142) 39,403 15,285 (4,936) (4,992)		55,564 442,110 218,972 466,370 62,706
64,520 671,910 36,170 19,333 2,228,972	52,162 126,142 1,571 53,879	181,052 1,937,628 227,639 55,822 6,308,660	13,000 135,380 7,288 3,895 449,104	31,469 327,713 17,641 9,429 1,087,143	15,547 161,904 8,716 4,658 537,094	38,603 178,292 — 8,171 464,548	98,619 803,289 33,645 26,153 2,537,889	163,714 1,704,903 91,777 49,055 5,655,786	(13,461) (33,410) 42,091 (2,656) (118,433)		150,253 1,671,493 133,868 46,399 5,537,353
48,566 14,856 284,814 5,580 216,965	10,520 1,044,670 540	136,282 52,208 1,843,895 16,198 608,831	9,785 2,993 57,386 1,124 43,715	23,687 7,246 138,913 2,721 105,821	11,702 3,580 68,629 1,345 52,280	31,533 4,109 — 866 278,491	76,707 17,928 264,928 6,056 480,307	123,231 37,696 722,687 14,158 550,526	(10,767) 1,577 328,071 (53) (95,821)		112,464 39,273 1,050,758 14,105 454,705
28,871 8,903 241,449 1,652 20,772	7,658 — — 792 1,679	88,674 24,983 677,536 5,428 59,968	5,817 1,794 48,648 333 4,185	14,081 4,342 117,762 806 10,131	6,957 2,145 58,180 398 5,005	7,506 33,762 149,260 2,705 2,018	34,361 42,043 373,850 4,242 21,339	73,257 22,590 612,651 4,192 52,707	683 (11,693) (49,760) (507) 38		73,940 10,897 562,891 3,685 52,745
38,036 87,052 16,110 8,639	30,279	106,734 274,559 45,206 24,242	7,664 17,540 3,246 1,741	18,551 42,458 7,857 4,214	9,165 20,976 3,882 2,082	2,078 3,890 6,889 494	37,458 84,864 21,874 8,531	96,512 220,886 40,876 21,921	(634) 7,575 (2,392) (185)		95,878 228,461 38,484 21,736
29,510 214,119 29,804 14,127 33,464	40,689 6,433 — 13,893	91,417 641,534 90,067 39,642 107,798 372,725	5,946 43,142 6,005 2,846 6,743 26,762	14,393 104,433 14,536 6,890 16,322 64,783	7,111 51,594 7,182 3,404 8,064 32,006	10,064 —— 2,652 4,636 1,786 47,891	37,514 199,169 30,375 17,776 32,915 171,442	74,879 543,305 75,625 35,845 84,912 337,030	280 12,426 1,667 (1,744) 3,475 (17,363)		75,159 555,731 77,292 34,101 88,387 319,667
9,720 12,463 10,812 33,801 176,381	316 250 2,560 5,673	27,592 35,223 32,901 100,524 494,948	1,959 2,511 2,179 6,810 35,538	4,741 6,079 5,274 16,486 86,027	2,342 3,003 2,605 8,145 42,501	1,848 289 — 24,428	10,890 11,882 10,058 31,441 188,494	24,664 31,625 27,435 85,767 447,549	(432) 9 823 2,079 (7,664)		24,232 31,634 28,258 87,846 439,885
8,441 6,865 341,608 16,634 349,329	4,070 8,157 — —	27,756 27,421 958,596 46,677 980,261	1,701 1,383 68,829 3,351 70,384	4,117 3,348 166,614 8,113 170,379	2,034 1,654 82,314 4,008 84,174	67,491 15,980 118,061	7,852 6,385 385,248 31,452 442,998	21,418 17,419 866,795 42,206 886,386	1,406 2,674 (24,793) (5,203) (36,354)		22,824 20,093 842,002 37,003 850,032
92,815 23,400 470,202 172,940 252,128	212,514 21,422	260,452 65,664 1,531,961 506,714 707,504	18,701 4,715 94,738 34,845 50,800	45,269 11,413 229,333 84,349 122,971	22,365 5,639 113,300 41,672 60,753	18,387 5,154 — 86,079	104,722 26,921 437,371 160,866 320,603	235,510 59,375 1,193,088 438,818 639,749	(6,918) (1,612) 70,664 7,010 (31,853)		228,592 57,763 1,263,752 445,828 607,896

## Schedule of Employer Allocations and Pension Amounts (Continued)

							Net Difference Between Projected
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments
Heber Valley Special Service District	\$ 37,966	0.0222398%	\$ 142,807	295,801	15,141	3,102	31,738
Herriman City	790,769	0.4632172	2,974,421	6,161,035	315,367	64,609	661,041
Highland City	229,519	0.1344475	863,317	1,788,223	91,534	18,752	191,865
Hinckley Town	11,077	0.0064889	41,667	86,306	4,418	905	9,260
Hooper City	55,063	0.0322549	207,116	429,007	21,960	4,499	46,030
Hooper Water Improv District	77,428	0.0453560	291,241	603,259	30,879	6,326	64,726
Housing Authority of Carbon Co	52,210	0.0305836	196,384	406,778	20,822	4,266	43,645
Housing Authority of SL County	509,681	0.2985615	1,917,130	3,971,026	203,266	41,643	426,067
Housing Authority of SLC	512,990	0.3004997	1,929,576	3,996,806	204,586	41,913	428,833
Housing Authority Ogden City	133,796	0.0783748	503,262	1,042,426	53,359	10,932	111,846
Huntington City	34,274	0.0200771	128,920	267,036	13,669	2,800	28,651
Hurricane City	594,996	0.3485371	2,238,035	4,635,728	237,291	48,613	497,385
Hurricane Valley Fire Special Service District	12,966	0.0075955	48,772	101,024	5,171	1,059	10,839
Hyde Park City	76,058	0.0445533	286,087	592,583	30,333	6,214	63,580
Hyrum City	232,068	0.1359410	872,908	1,808,087	92,551	18,961	193,997
Impact Mitigation Special Service District	30,437	0.0178295	114,487	237,142	12,139	2,487	25,444
Iron County	795,718	0.4661161	2,993,036	6,199,592	317,341	65,013	665,178
Ivins City	258,132	0.1512086	970,944	2,011,155	102,946	21,090	215,785
Jordan River Commission	16,280	0.0095364	61,235	126,839	6,493	1,330	13,609
Jordan Valley Water Conservancy	1,476,839	0.8651037	5,555,025	11,506,338	588,979	120,663	1,234,560
Jordanelle Special Service District Juab County Kamas City Kane County Kane County Kane County Water Conservancy District	252,143	0.1477003	948,417	1,964,492	100,557	20,601	210,778
	276,887	0.1621948	1,041,489	2,157,277	110,425	22,623	231,463
	42,991	0.0251833	161,708	334,951	17,145	3,513	35,938
	423,431	0.2480379	1,592,707	3,299,036	168,869	34,596	353,966
	77,117	0.0451734	290,069	600,830	30,755	6,301	64,465
Kaysville City	645,673	0.3782228	2,428,653	5,030,564	257,501	52,754	539,749
Kearns Improvement District	315,827	0.1850052	1,187,960	2,460,667	125,955	25,804	264,015
Laverkin City	976	0.0005717	3,671	7,604	389	80	816
Layton City	1,250,375	0.7324458	4,703,198	9,741,918	498,663	102,160	1,045,248
Lehi City	1,469,688	0.8609147	5,528,126	11,450,622	586,127	120,079	1,228,582
Lewiston City Lindon City Logan City Lone Peak PS District Maeser Water Improvement District	37,421	0.0219207	140,758	291,557	14,924	3,057	31,282
	318,081	0.1863255	1,196,438	2,478,228	126,854	25,988	265,899
	2,298,187	1.3462335	8,644,467	17,905,620	916,541	187,770	1,921,163
	28,810	0.0168761	108,365	224,461	11,490	2,354	24,083
	57,500	0.0336824	216,282	447,994	22,932	4,698	48,067
Magna Mosquito Abatement	12,589	0.0073744	47,353	98,083	5,021	1,029	10,524
Manti City	93,009	0.0544828	349,846	724,650	37,093	7,599	77,751
Mapleton City	249,050	0.1458886	936,783	1,940,396	99,324	20,348	208,193
Marriott-Slaterville City	29,897	0.0175129	112,454	232,931	11,923	2,443	24,992
Mayfield Town	6,358	0.0037242	23,914	49,534	2,536	519	5,315
Mendon City	9,400	0.0055066	35,359	73,241	3,749	768	7,858
Metro Water District SLC/Sandy	709,536	0.4156324	2,668,869	5,528,132	282,970	57,972	593,135
Midvale City	610,065	0.3573643	2,294,716	4,753,135	243,300	49,844	509,982
Midvalley Improvement District	98,517	0.0577092	370,564	767,563	39,290	8,049	82,355
Midway City	119,884	0.0702255	450,934	934,036	47,811	9,795	100,216
Military Installation Devel	44,936	0.0263226	169,023	350,105	17,921	3,671	37,564
Millard Co Care & Rehab Inc	199,779	0.1170265	751,453	1,556,515	79,674	16,323	167,004
Millard County	692,529	0.4056702	2,604,899	5,395,629	276,188	56,582	578,918
Millville City	31,538	0.0184741	118,626	245,715	12,578	2,577	26,364
Minersville Town	24,323	0.0142478	91,488	189,503	9,700	1,987	20,333
Monroe City	80,931	0.0474078	304,416	630,549	32,276	6,612	67,654
Morgan City Corporation	143,345	0.0839687	539,182	1,116,828	57,167	11,712	119,829
Morgan County	258,542	0.1514487	972,486	2,014,348	103,109	21,124	216,127
Moroni City	15,171	0.0088868	57,064	118,199	6,050	1,240	12,682
Mount Pleasant City	106,407	0.0623310	400,241	829,035	42,436	8,694	88,950
Mountain Regional Water Special Service District	296,648	0.1737704	1,115,819	2,311,239	118,306	24,237	247,982
Mountainland Association of Governments	374,098	0.2191396	1,407,144	2,914,673	149,194	30,565	312,727
Mt Olympus Improvement District	282,214	0.1653156	1,061,528	2,198,785	112,550	23,058	235,916
Murray City	2,436,441	1.4272199	9,164,498	18,982,782	971,678	199,066	2,036,736
Myton City	17,195	0.0100727	64,679	133,972	6,858	1,405	14,374

	Deletted Outilot	ws or nesources				Deferred Infilo			to Empire	yer-Paid Membe	er contributions
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
19,290 401,771 116,613 5,628 27,976	186,519 5,063 1,876	54,130 1,313,940 332,293 17,669 78,505	3,887 80,951 23,496 1,134 5,637	9,408 195,957 56,876 2,745 13,645	4,648 96,811 28,099 1,356 6,741	1,287 — 12,368 4,734 10,994	19,230 373,719 120,839 9,969 37,017	48,946 1,019,452 295,893 14,281 70,987	(408) 63,293 (3,216) (699) (4,161)	_ _ _ _	48,538 1,082,745 292,677 13,582 66,826
39,339 26,527 258,957 260,638 67,978	7,338 — 4,442 — 6,720	117,729 74,438 731,109 731,384 197,476	7,926 5,345 52,176 52,515 13,697	19,187 12,938 126,302 127,122 33,155	9,479 6,392 62,398 62,803 16,380	221 11,449 55,424 184,575 56	36,813 36,124 296,300 427,015 63,288	99,820 67,309 657,077 661,342 172,488	2,112 (3,824) (14,890) (62,052) 1,990		101,932 63,485 642,187 599,290 174,478
17,414 302,303 6,588 38,643 117,908	64,747 22,088 —	48,865 913,048 40,574 108,437 330,866	3,509 60,909 1,327 7,786 23,757	8,493 147,443 3,213 18,848 57,508	4,196 72,843 1,587 9,311 28,411	6,251 — 7,297 29,861	22,449 281,195 6,127 43,242 139,537	44,186 767,063 16,716 98,053 299,180	(2,170) 20,687 7,725 (2,466) (9,128)	_ _ _ _	42,016 787,750 24,441 95,587 290,052
15,464 404,285 131,151 8,271 750,347	24,305 31,952 1,041	43,395 1,158,781 399,978 24,251 2,105,570	3,116 81,457 26,425 1,667 151,183	7,542 197,183 63,966 4,034 365,969	3,726 97,417 31,602 1,993 180,804	3,198 105,723 44,074 — 55,496	17,582 481,780 166,067 7,694 753,452	39,239 1,025,832 332,781 20,988 1,903,927	(1,034) (33,170) (968) 387 (18,537)	_ _ _ _	38,205 992,662 331,813 21,375 1,885,390
128,108 140,680 21,843 215,135 39,181	22,786 8,445 2,201 14,261 9,180	382,273 403,211 63,495 617,958 119,127	25,812 28,345 4,401 43,346 7,894	62,482 68,614 10,653 104,929 19,110	30,869 33,898 5,263 51,839 9,441	5,230 24,945 — 63,345	124,393 155,802 20,317 263,459 36,445	325,060 356,960 55,424 545,884 99,418	4,819 (7,015) 836 (13,504) 2,910	_ _ _ _	329,879 349,945 56,260 532,380 102,328
328,051 160,464 496 635,286 746,714	72,480 8,781 1,892 — 91,292	993,034 459,064 3,284 1,782,694 2,186,667	66,097 32,331 100 128,000 150,451	160,001 78,264 242 309,850 364,197	79,047 38,666 119 153,079 179,928	12,485 — 89,268	305,145 161,746 461 680,197 694,576	832,396 407,161 1,258 1,611,973 1,894,708	26,110 (2,148) 566 (30,819) 28,962	_ _ _ _ _	858,506 405,013 1,824 1,581,154 1,923,670
19,013 161,609 1,167,654 14,637 29,214	3,367 14,224 66,708 1,171	56,719 467,720 3,343,295 42,245 81,979	3,831 32,562 235,264 2,949 5,886	9,273 78,822 569,504 7,139 14,249	4,581 38,941 281,359 3,527 7,040	8,258 3,480 25,378 6,708 11,750	25,943 153,805 1,111,505 20,323 38,925	48,243 410,067 2,962,802 37,141 74,129	(1,184) 4,400 10,258 (2,216) (4,127)		47,059 414,467 2,973,060 34,925 70,002
6,396 47,256 126,536 15,190 3,230	209 8,414 4,291 2,892 —	18,158 141,020 359,368 45,517 9,064	1,289 9,521 25,495 3,061 651	3,120 23,048 61,716 7,409 1,575	1,541 11,387 30,490 3,660 778	4,889 4,737 4,297 187 528	10,839 48,693 121,998 14,317 3,532	16,230 119,906 321,073 38,543 8,196	(1,808) 1,801 355 794 (165)	_ _ _ _ _	14,422 121,707 321,428 39,337 8,031
4,776 360,498 309,960 50,054 60,910	1,656 11,749 4,081 19,123 20,928	15,058 1,023,354 873,867 159,581 191,849	962 72,635 62,452 10,085 12,272	2,329 175,827 151,178 24,413 29,708	1,151 86,866 74,688 12,061 14,677	33,991 47,870 —	4,442 369,319 336,188 46,559 56,657	12,119 914,727 786,490 127,007 154,553	503 (5,679) (12,767) 6,341 7,936	_ _ _ _ _	12,622 909,048 773,723 133,348 162,489
22,831 101,503 351,858 16,023 12,358	4,848 13,138 — 4,960 2,755	68,914 297,968 987,358 49,924 37,433	4,600 20,451 70,894 3,228 2,490	11,135 49,506 171,613 7,815 6,027	5,501 24,458 84,784 3,861 2,978	18,229 124,198 — 2,054	21,236 112,644 451,489 14,904 13,549	57,931 257,553 892,802 40,658 31,357	1,666 (430) (39,105) 1,548 439	_ _ _ _ _	59,597 257,123 853,697 42,206 31,796
41,119 72,830 131,359 7,708 54,063	9,588 4,742 — 1,288 32,985	124,973 209,113 368,610 22,918 184,692	8,285 14,674 26,467 1,553 10,893	20,055 35,522 64,068 3,759 26,368	9,908 17,549 31,652 1,857 13,027	22,727 7,053	38,248 67,745 144,914 14,222 50,288	104,335 184,799 333,310 19,558 137,179	3,131 1,629 (7,437) (1,618) 10,303	_ _ _ _	107,466 186,428 325,873 17,940 147,482
150,720 190,071 143,386 1,237,898 8,737	25,699 16,930 9,196 37,760 8,400	448,638 550,293 411,556 3,511,460 32,916	30,368 38,296 28,890 249,417 1,760	73,511 92,704 69,934 603,764 4,261	36,317 45,799 34,550 298,284 2,105	58,073 1,990 3,758	140,196 176,799 191,447 1,153,455 11,884	382,435 482,284 363,828 3,141,037 22,168	9,264 5,229 (13,864) 10,541 1,077		391,699 487,513 349,964 3,151,578 23,245

## Schedule of Employer Allocations and Pension Amounts (Continued)

						Differences	Net Difference Between Projected and Actual
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Between Expected and Actual Experience	Investment Earnings on Pension Plan Investments
Ne Counseling Center	\$ 360,236	0.2110195%	\$ 1,355,003	2,806,671	143,666	29,433	301,139
Nebo Credit Union	127,482	0.0746766	479,515	993,238	50,841	10,416	106,568
Nephi City	265,287	0.1553998	997,857	2,066,900	105,799	21,675	221,766
Nibley City Corporation	99,644	0.0583695	374,804	776,345	39,739	8,141	83,297
North Davis Co Sewer District	465,095	0.2724434	1,749,420	3,623,642	185,485	38,000	388,795
North Davis Fire District	10,125	0.0059309	38,084	78,884	4,038	827	8,464
North Emery Water Users Special Service District	8,932	0.0052324	33,598	69,594	3,562	730	7,467
North Fork Special Service District	17,039	0.0099813	64,092	132,757	6,795	1,392	14,244
North Logan City	174,444	0.1021861	656,160	1,359,129	69,570	14,253	145,826
North Ogden City	273,560	0.1602462	1,028,977	2,131,360	109,099	22,351	228,682
North Park Police Agency	8,829	0.0051718	33,209	68,788	3,521	721	7,380
North Pointe Solid Waste	171,718	0.1005891	645,905	1,337,888	68,483	14,030	143,547
North View Fire District	8,196	0.0048011	30,829	63,857	3,269	670	6,851
Ogden City Corp	2,379,940	1.3941231	8,951,976	18,542,577	949,145	194,449	1,989,505
Oquirrh Recreation and Parks District	149,055	0.0873137	560,661	1,161,319	59,445	12,178	124,602
Orangeville City	18,751	0.0109839	70,530	146,092	7,478	1,532	15,675
Orderville Town	13,738	0.0080477	51,676	107,039	5,479	1,122	11,485
Panguitch City Corporation	36,361	0.0212994	136,768	283,293	14,501	2,971	30,396
Park City	1,882,746	1.1028763	7,081,816	14,668,840	750,859	153,827	1,573,877
Park City Fire Service	72,600	0.0425276	273,079	565,640	28,954	5,932	60,690
Parowan City Payson City Perry City Piute County Plain City	179,638	0.1052285	675,696	1,399,595	71,642	14,677	150,168
	740,732	0.4339067	2,786,212	5,771,189	295,412	60,520	619,213
	69,292	0.0405899	260,637	539,867	27,634	5,661	57,924
	83,416	0.0488634	313,763	649,909	33,267	6,815	69,731
	46,404	0.0271826	174,546	361,543	18,506	3,791	38,791
Pleasant Grove City	559,021	0.3274636	2,102,717	4,355,440	222,943	45,674	467,312
Pleasant View City	132,505	0.0776186	498,406	1,032,369	52,844	10,826	110,767
Price City	467,554	0.2738840	1,758,670	3,642,803	186,465	38,201	390,850
Price River Water Improvement	261,215	0.1530148	982,542	2,035,178	104,175	21,342	218,362
Providence City	85,327	0.0499826	320,949	664,795	34,029	6,971	71,328
Provo City Corp	3,725,418	2.1822782	14,012,897	29,025,458	1,485,736	304,380	3,114,254
Provo Housing Authority	117,958	0.0690974	443,690	919,032	47,043	9,638	98,607
Provo River Water Users	156,728	0.0918083	589,522	1,221,099	62,505	12,805	131,016
Recreation & Habilitation Services	9,665	0.0056618	36,356	75,305	3,855	790	8,080
Redmond Town	16,251	0.0095196	61,127	126,616	6,481	1,328	13,585
Rich County	66,229	0.0387956	249,115	516,002	26,413	5,411	55,364
Richfield City	194,788	0.1141028	732,680	1,517,628	77,683	15,915	162,832
Richmond City	46,626	0.0273125	175,380	363,271	18,595	3,809	38,977
Riverdale City	319,766	0.1873130	1,202,779	2,491,362	127,526	26,126	267,308
Roosevelt City	247,427	0.1449380	930,679	1,927,752	98,677	20,216	206,836
Roosevelt City Housing	7,026	0.0041158	26,428	54,742	2,802	574	5,874
Roy City	573,286	0.3358198	2,156,374	4,466,582	228,632	46,839	479,237
Roy Water Conservancy District	74,610	0.0437049	280,639	581,298	29,755	6,096	62,370
S Utah Valley Electric Service District	140,413	0.0822511	528,153	1,093,983	55,998	11,472	117,378
S Utah Valley Solid Waste	205,718	0.1205054	773,792	1,602,786	82,042	16,808	171,969
Salem City	273,548	0.1602394	1,028,933	2,131,269	109,094	22,350	228,672
Salina City	63,496	0.0371948	238,836	494,711	25,323	5,188	53,079
Salt Lake City Corp	17,873,541	10.4699755	67,230,056	139,256,232	7,128,156	1,460,331	14,941,339
Salt Lake City Public Library	827,723	0.4848643	3,113,422	6,448,953	330,105	67,628	691,933
Salt Lake Co Serv Area 3	31,217	0.0182865	117,422	243,220	12,450	2,551	26,096
Salt Lake County	22,936,236	13.4356046	86,273,035	178,700,669	9,147,210	1,873,966	19,173,473
San Juan County	724,223	0.4242361	2,724,115	5,642,565	288,828	59,172	605,413
San Juan Mental Health	143,094	0.0838216	538,237	1,114,872	57,067	11,691	119,619
Sandy City	2,524,084	1.4785597	9,494,163	19,665,629	1,006,631	206,226	2,110,001
Sandy Suburban Improvement District	198,776	0.1164389	747,680	1,548,699	79,274	16,241	166,166
Sanpete County Santaquin City Seven County Infrastructure Sevier County Six-County Association of Governments	350,542	0.2053409	1,318,540	2,731,143	139,800	28,641	293,035
	208,110	0.1219067	782,790	1,621,424	82,996	17,003	173,969
	32,322	0.0189339	121,579	251,831	12,891	2,641	27,020
	426,623	0.2499074	1,604,711	3,323,901	170,142	34,857	356,634
	164,352	0.0962742	618,198	1,280,498	65,545	13,428	137,390

Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Between Between Employer Contributions and Total Between Investment Proportionate Deferred Expected Earnings on Proportionate Deferred Plan Gross Proportionate Changes of Share of Outflows of Resources Experience Investments Assumptions Contributions Resources Experience Investments Assumptions Contributions Resources Experience Investments Assumptions Contributions Resources Expense Contributions Contributions Contributions Resources Expense Contributions Contributions Resources Expense Contributions Contributions Resources Expense Contributions Contributions Resources Expense Contributions Contributions Contributions Resources Expense Contributions Contributio	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
	162,182
183,028     —     513,600     36,877     89,269     44,102     64,389     234,637     464,413     (21,269)     —       64,771     14,675     196,430     13,050     31,591     15,607     17,147     77,395     164,349     (2,167)     —       134,786     —     378,227     27,157     65,740     32,478     41,266     166,641     342,005     (15,039)     —       50,627     24,667     166,732     10,201     24,692     12,199     —     47,092     128,460     8,698     —       236,304     10,678     673,777     47,612     115,253     56,940     43,930     263,735     599,596     (9,064)     —	326,966 137,158 590,532
5,144     723     15,158     1,036     2,509     1,240     937     5,722     13,053     (142)     —       4,538     32     12,767     914     2,213     1,094     44     4,265     11,516     (1)     —       8,657     —     24,293     1,744     4,222     2,086     21,917     29,969     21,967     (6,762)     —       88,631     16,434     265,144     17,858     43,228     21,357     55,734     138,177     224,892     (10,395)     —       138,989     —     390,022     28,004     67,790     33,491     22,075     151,360     352,671     (7,514)     —	12,911 11,515 15,205 214,497 345,157
4,486       17,118       29,705       904       2,188       1,081       —       4,173       11,382       5,124       —         87,246       12,226       257,049       17,579       42,553       21,023       11,086       92,241       221,377       (582)       —         4,164       151       11,836       839       2,031       1,003       139       4,012       10,566       16       —         1,209,191       205,626       3,598,771       243,633       589,763       291,367       —       1,124,763       3,068,198       66,398       —         75,731       193       212,704       15,259       36,937       18,248       2,536       72,980       192,161       (912)       —	16,506 220,795 10,582 3,134,596 191,249
9,527     1,185     27,919     1,920     4,647     2,296     —     8,863     24,173     389     —       6,980     399     19,986     1,406     3,404     1,682     —     6,492     17,711     126     —       18,474     7,286     59,127     3,722     9,010     4,452     15,597     32,781     46,876     (3,786)     —       956,579     139,014     2,823,297     192,736     466,555     230,498     210,198     1,099,987     2,427,219     (9,734)     —       36,886     18,949     122,457     7,432     17,991     8,888     —     34,311     93,595     5,805     —	24,562 17,837 43,090 2,417,485 99,400
91,270 9,918 266,033 18,389 44,515 21,992 26,903 111,799 231,588 (4,258) — 376,349 43,303 1,099,385 75,828 183,558 90,685 42,612 392,683 954,945 3,811 — 35,206 9,972 108,763 7,093 17,171 8,483 798 33,545 89,331 3,576 — 42,382 — 118,928 8,539 20,671 10,212 36,356 75,778 107,539 (13,179) — 23,577 15,844 82,003 4,750 11,499 5,681 10,884 32,814 59,824 2,804 —	227,330 958,756 92,907 94,360 62,628
284,025     74,270     871,281     57,227     138,528     68,439     —     264,194     720,685     23,142     —       67,322     25,851     214,766     13,564     32,835     16,222     —     62,621     170,824     9,674     —       237,553     —     666,604     47,863     115,862     57,241     64,078     285,044     602,766     (20,951)     —       132,717     —     372,421     26,740     64,731     31,980     21,542     144,993     336,756     (7,504)     —       43,352     —     121,651     8,735     21,144     10,446     16,416     56,741     110,002     (5,291)     —	743,827 180,498 581,815 329,252 104,711
1,892,797     —     5,311,431     381,369     923,179     456,089     119,782     1,880,419     4,802,776     (44,078)     —       59,932     —     168,177     12,075     29,231     14,441     15,985     71,732     152,070     (5,388)     —       79,630     726     224,177     16,044     38,838     19,188     14,365     88,435     202,052     (4,022)     —       4,911     1,456     15,237     989     2,395     1,183     2,331     6,898     12,461     (141)     —       8,257     782     23,952     1,664     4,027     1,990     407     8,088     20,951     177     —	4,758,698 146,682 198,030 12,320 21,128
33,649     128,405     222,829     6,780     16,412     8,108     —     31,300     85,382     38,433     —       98,967     —     277,714     19,940     48,269     23,847     14,801     106,857     251,118     (5,612)     —       23,689     6,895     73,370     4,773     11,554     5,708     3,888     25,923     60,110     1,474     —       162,466     4,336     460,236     32,734     79,240     39,148     6,967     158,089     412,240     (427)     —       125,712     32,407     385,171     25,329     61,314     30,292     —     116,935     318,981     10,245     —	123,815 245,506 61,584 411,813 329,226
3,570     —     10,018     719     1,741     860     767     4,087     9,058     (248)     —       291,273     22,668     840,017     58,687     142,063     70,185     86,373     357,308     739,075     (17,181)     —       37,907     5,156     111,529     7,638     18,489     9,134     5,678     40,939     96,186     273     —       71,340     18,367     218,557     14,374     34,795     17,190     3,001     69,360     181,019     6,128     —       104,520     —     293,297     21,059     50,978     25,185     16,523     113,745     265,209     (5,525)     —	8,810 721,894 96,459 187,147 259,684
138,984     34,779     424,785     28,003     67,787     33,490     —     129,280     352,656     11,106     —       32,261     1,589     92,117     6,500     15,735     7,774     7,636     37,645     81,859     (2,446)     —       9,081,124     235,630     25,718,424     1,829,707     4,429,163     2,188,192     —     8,447,062     23,042,409     82,269     —       420,547     46,393     1,226,501     84,734     205,114     101,335     9,463     400,646     1,067,093     10,266     —       15,861     1,171     45,679     3,196     7,736     3,822     —     14,754     40,245     356     —	363,762 79,413 23,124,678 1,077,359 40,601
11,653,362       —       32,700,801       2,347,980       5,683,731       2,808,001       2,557,654       13,397,366       29,569,180       (842,710)       —         367,961       49,280       1,081,826       74,138       179,467       88,664       33,785       376,054       933,662       8,740       —         72,703       44,826       248,839       14,648       35,459       17,518       —       67,625       184,475       14,914       —         1,282,427       150,676       3,749,330       258,389       625,482       309,014       324,081       1,516,966       3,254,026       (39,360)       —         100,993       2,673       286,073       20,349       49,258       24,335       29,954       123,896       256,260       (7,943)       —	28,726,470 942,402 199,389 3,214,666 248,317
178,102     6,752     506,530     35,885     86,866     42,916     17,925     183,592     451,916     (4,836)     —       105,736     23,125     319,833     21,304     51,571     25,478     —     98,353     268,293     8,329     —       16,422     53,077     99,160     3,309     8,010     3,957     —     15,276     41,670     19,386     —       216,757     10,521     618,769     43,673     105,720     52,230     201,039     402,662     549,998     (56,148)     —       83,503     —     234,321     16,825     40,727     20,121     56,877     134,550     211,881     (19,539)     —	447,080 276,622 61,056 493,850 192,342

## Schedule of Employer Allocations and Pension Amounts (Continued)

	Facilities	Employer	Net Pension	Net Pension Liability/(Asset)	Net Pension Liability/(Asset)	Differences Between Expected	Net Difference Betweene Projected and Actual Investment Earnings on	
Participating Employer	Employer Contributions	Allocation Percentage	Liability/(Asset) (7.20% Discount)	1.00% Decrease (6.20%)	1.00% Increase (8.20%)	and Actual Experience	Pension Plan Investments	
Slc Mosquito Abatement	\$ 80,395	0.0470937%	\$ 302,399	626,371	32,062	6,569	67,206	
Smithfield City Corp	215,917	0.1264798	812,155	1,682,248	86,110	17,641	180,495	
Snyder Basin Special Recreation District	130,096	0.0762075	489,345	1,013,600	51,883	10,629	108,753	
Snyderville Basin Water Reclamation District	483,513	0.2832327	1,818,701	3,767,145	192,830	39,505	404,192	
So Davis Metro Fire Agency	17,272	0.0101175	64,967	134,568	6,888	1,411	14,438	
So Davis Recreation Center	84,062	0.0492417	316,192	654,941	33,525	6,868	70,271	
So SI Valley Mosquito Abatement	35,454	0.0207685	133,359	276,232	14,140	2,897	29,638	
So Utah Valley Animal SSD	15,482	0.0090689	58,233	120,621	6,174	1,265	12,942	
So Utah Valley Power Systems	16,644	0.0097495	62,604	129,674	6,638	1,360	13,913	
Solid Waste Special Service District #1	35,345	0.0207043	132,947	275,378	14,096	2,888	29,546	
Solitude Improvement District	10,713	0.0062753	40,295	83,465	4,272	875	8,955	
South Davis Sewer District	317,505	0.1859885	1,194,274	2,473,746	126,624	25,941	265,418	
South Davis Water District	63,975	0.0374755	240,639	498,444	25,514	5,227	53,480	
South Ogden City	323,811	0.1896824	1,217,993	2,522,877	129,139	26,457	270,689	
South Ogden Conservancy District	208,688	0.1222452	784,964	1,625,926	83,227	17,051	174,452	
South Valley Sewer District	495,350	0.2901666	1,863,225	3,859,370	197,551	40,472	414,087	
South Valley Water Reclamation	480,067	0.2812139	1,805,737	3,740,294	191,456	39,223	401,311	
South Weber City	86,192	0.0504895	324,204	671,537	34,374	7,042	72,052	
Southeastern Utah AOG	119,163	0.0698034	448,223	928,422	47,523	9,736	99,614	
Southeastern Utah Health	168,457	0.0986790	633,640	1,312,483	67,183	13,764	140,821	
Spanish Fork City	1,373,047	0.8043046	5,164,620	10,697,678	547,586	112,183	1,147,795	~~~
Spring City	28,141	0.0164843	105,849	219,250	11,223	2,299	23,524	
Springville City	1,362,988	0.7984120	5,126,782	10,619,303	543,574	111,361	1,139,386	
St George Housing Authority	25,051	0.0146741	94,226	195,173	9,990	2,047	20,941	
Summit County	1,953,325	1.1442199	7,347,292	15,218,732	779,006	159,593	1,632,877	
Sunset City SW Behavioral Health Center Sw Mosquito Abatement/Control SW UT Public Health Department Syracuse City Corp	86,690 1,049,442 21,206 365,053 328,759	0.0507814 0.6147431 0.0124223 0.2138410 0.1925808	326,079 3,947,403 79,766 1,373,121 1,236,604	675,420 8,176,410 165,223 2,844,199 2,561,427	34,573 418,529 8,457 145,587 131,113	7,083 85,743 1,733 29,826 26,861	72,468 877,279 17,727 305,165 274,825	
Taylor West Weber Water Improvement District Taylorsville-Bennion Improvement Timber Lakes Water Special Service District Timpanogos Special Service District Tooele City	23,848 357,079 35,736 363,359 656,314	0.0139696 0.2091700 0.0209337 0.2128489 0.3844558	89,702 1,343,127 134,420 1,366,750 2,468,677	185,803 2,782,072 278,429 2,831,003 5,113,466	9,511 142,407 14,252 144,912 261,745	1,948 29,175 2,920 29,688 53,623	19,936 298,499 29,874 303,749 548,644	~~~
Tooele County	1,385,694	0.8117131	5,212,192	10,796,215	552,630	113,216	1,158,368	~~~
Tooele County Housing	44,009	0.0257794	165,535	342,880	17,551	3,596	36,789	
Tooele Valley Mosquito Abatement	3,442	0.0020165	12,948	26,821	1,373	281	2,878	
Torrey Town	2,636	0.0015441	9,915	20,537	1,051	215	2,204	
Town of Alta	82,713	0.0484515	311,118	644,431	32,987	6,758	69,143	
Town of Apple Valley	11,191	0.0065554	42,094	87,190	4,463	914	9,355	
Town of Brian Head	85,574	0.0501275	321,880	666,722	34,128	6,992	71,535	
Town of Daniel	2,881	0.0016878	10,838	22,449	1,149	235	2,409	
Town of Garden City	33,198	0.0194467	124,872	258,651	13,240	2,712	27,752	
Town of Goshen	3,698	0.0021664	13,911	28,814	1,475	302	3,092	
Town of Levan	23,940	0.0140235	90,048	186,520	9,547	1,956	20,012	
Town of Manila	1,854	0.0010858	6,972	14,442	739	151	1,550	
Town of Mantua	13,283	0.0077811	49,964	103,493	5,298	1,085	11,104	
Town of Randolph	9,518	0.0055757	35,803	74,160	3,796	778	7,957	
Town of Springdale	111,385	0.0652471	418,966	867,821	44,421	9,101	93,112	
Trans-Jordan Cities	291,808	0.1709353	1,097,614	2,273,530	116,376	23,842	243,936	
Tremonton City	217,078	0.1271599	816,522	1,691,294	86,573	17,736	181,465	
Tridell-Lapoint Water	7,511	0.0043995	28,250	58,516	2,995	614	6,278	
Uintah Animal Control/Shelter	49,352	0.0289095	185,634	384,512	19,682	4,032	41,256	
Uintah Basin Association of Governments	173,048	0.1013683	650,909	1,348,252	69,013	14,139	144,659	
Uintah Basin Asst Council	11,360	0.0066544	42,729	88,507	4,530	928	9,496	
Uintah Co Care Center Special Service District	430,056	0.2519183	1,617,624	3,350,647	171,511	35,137	359,504	
Uintah County	1,506,836	0.8826751	5,667,854	11,740,047	600,942	123,114	1,259,635	
Uintah Fire Suppression Special Service District	5,893	0.0034519	22,165	45,912	2,350	481	4,926	
Uintah Highlands Improv District	10,388	0.0060850	39,073	80,934	4,143	849	8,684	

	Deletted Outilo	ws or resources				Deletted lillio	ws or resources		to Lilipit	yer-Paid Membe	Contributions
Changes of Assumptions		Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	of Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
40,847 109,702 66,099 245,662 8,775	8,175 6,748 252,230 23,129 696	122,797 314,586 437,711 712,488 25,320	8,230 22,103 13,318 49,497 1,768	19,922 53,505 32,238 119,817 4,280	9,842 26,434 15,927 59,195 2,115	9,092 31,017 — 16,854	47,086 133,059 61,483 245,363 8,163	103,644 278,358 167,718 623,341 22,267	406 (6,702) 75,495 3,803 221	_ _ _ _	104,050 271,656 243,213 627,144 22,488
42,710 18,014 7,866 8,456 17,958	— 857 9,430 61 2,205	119,849 51,406 31,503 23,790 52,597	8,605 3,629 1,585 1,704 3,618	20,831 8,786 3,836 4,124 8,759	10,291 4,341 1,895 2,038 4,327	8,703 411 — 137 3,088	48,430 17,167 7,316 8,003 19,792	108,372 45,707 19,959 21,457 45,566	(2,707) 205 2,847 (17) (81)	_ _ _ _ _	105,665 45,912 22,806 21,440 45,485
5,443 161,317 32,504 164,521 106,029	40,291 2,472 20,114	15,273 492,967 93,683 481,781 297,532	1,097 32,503 6,549 33,148 21,363	2,655 78,680 15,853 80,242 51,714	1,312 38,871 7,832 39,643 25,549	1,172 — 393 — 104,113	6,236 150,054 30,627 153,033 202,739	13,811 409,325 82,476 417,455 269,038	(378) 13,185 828 6,759 (32,936)	_ _ _ _ _	13,433 422,510 83,304 424,214 236,102
251,676 243,911 43,792 60,544 85,589	20,954 28,953 22,324 —	727,189 713,398 145,210 169,894 240,174	50,709 49,144 8,823 12,199 17,245	122,751 118,963 21,359 29,529 41,745	60,644 58,773 10,552 14,589 20,624	22,781 69,325 112,619	234,104 226,880 63,515 125,642 192,233	638,601 618,898 111,118 153,624 217,174	7,735 10,614 1,721 (24,500) (37,172)		646,336 629,512 112,839 129,124 180,002
697,613 14,298 692,502 12,728 992,438	122,704 54,560 — 422 116,811	2,080,295 94,681 1,943,249 36,138 2,901,719	140,558 2,881 139,528 2,564 199,961	340,249 6,973 337,756 6,208 484,045	168,097 3,445 166,866 3,067 239,138	81,186 1,586 7,506	648,904 13,299 725,336 13,425 930,650	1,770,120 36,279 1,757,152 32,295 2,518,209	40,286 16,330 (25,637) (313) 42,440		1,810,406 52,609 1,731,515 31,982 2,560,649
44,045 533,197 10,774 185,475 167,035	7,330 45,207 6,096 —	130,926 1,541,426 36,330 520,466 468,721	8,874 107,431 2,171 37,370 33,655	21,482 260,058 5,255 90,462 81,468	10,613 128,479 2,596 44,692 40,249	17,882 — 88,496 29,571	40,969 513,850 10,022 261,020 184,943	111,760 1,352,932 27,339 470,623 423,833	2,749 6,690 1,974 (29,792) (10,384)		114,509 1,359,622 29,313 440,831 413,449
12,117 181,423 18,157 184,614 333,457	4,537 5,610 3,994 40,449	38,538 514,707 54,945 558,500 935,724	2,441 36,554 3,658 37,197 67,187	5,910 88,486 8,856 90,042 162,638	2,920 43,716 4,375 44,485 80,350	6,186 51,183	11,271 168,756 16,889 177,910 361,358	30,744 460,343 46,071 468,440 846,114	1,450 2,076 1,231 13,622 (15,651)		32,194 462,419 47,302 482,062 830,463
704,039 22,360 1,749 1,339 42,024	107,984 1,050 — 1,170 11,475	2,083,607 63,795 4,908 4,928 129,400	141,853 4,505 352 270 8,467	343,383 10,906 853 653 20,497	169,645 5,388 421 323 10,126	81,211 252 7,503 1,511	736,092 21,051 9,129 2,757 39,090	1,786,425 56,736 4,438 3,398 106,632	17,003 218 (2,826) (228) 3,537		1,803,428 56,954 1,612 3,170 110,169
5,686 43,478 1,464 16,867 1,879	19,613 149,455 5,024 680	35,568 271,460 9,132 48,011 5,273	1,146 8,760 295 3,398 379	2,773 21,206 714 8,227 916	1,370 10,476 353 4,064 453		5,289 40,442 1,362 30,725 7,631	14,427 110,321 3,715 42,798 4,768	6,631 50,738 1,709 (5,549) (1,879)		21,058 161,059 5,424 37,249 2,889
12,163 942 6,749 4,836 56,592	3,802 3,594 — 526 7,566	37,933 6,237 18,938 14,097 166,371	2,451 190 1,360 974 11,402	5,932 459 3,292 2,359 27,602	2,931 227 1,626 1,165 13,636	4,000 141 4,431	11,314 876 10,278 4,639 57,071	30,863 2,390 17,125 12,271 143,596	1,418 1,076 (1,508) 104 1,568		32,281 3,466 15,617 12,375 145,164
148,261 110,292 3,816 25,075 87,922	105,726 2,843 719 —	521,765 312,336 11,427 70,363 246,720	29,872 22,222 769 5,052 17,715	72,312 53,793 1,861 12,230 42,882	35,725 26,576 919 6,042 21,186	13,770 380 19,609 36,706	137,909 116,361 3,929 42,933 118,489	376,196 279,855 9,682 63,624 223,092	32,600 (3,034) 161 (6,070) (11,373)		408,796 276,821 9,843 57,554 211,719
5,772 218,501 765,587 2,994 5,278	1,118 24,344 2,766,920 — 830	17,314 637,486 4,915,256 8,401 15,641	1,163 44,025 154,254 603 1,063	2,815 106,570 373,402 1,460 2,574	1,391 52,650 184,476 721 1,272	513 59,960 — 3,456	5,882 263,205 712,132 6,240 4,909	14,645 554,424 1,942,599 7,597 13,392	138 (8,634) 884,562 (1,108) 274		14,783 545,790 2,827,161 6,489 13,666

## Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Uintah Mosquito Abatement District	\$ 31,730	0.0185866%	\$ 119,349	247,212	12,654	2,592	26,524	
Uintah Recreation District	197,267	0.1155552	742,006	1,536,945	78,672	16,117	164,905	
Uintah Transportation Special Service District	34,383	0.0201410	129,330	267,886	13,712	2,809	28,743	
Uintah Water Conservancy District	93,128	0.0545527	350,295	725,580	37,141	7,609	77,850	
Unified Fire Authority	449,333	0.2632109	1,690,136	3,500,845	179,199	36,712	375,619	
Unified Police Department Upper Country Water District UT Municipal Power Agency UT Public Employees Association Utah Association of Counties	1,021,412 19,457 261,682 37,141 121,311	0.5983236 0.0113974 0.1532885 0.0217563 0.0710619	3,841,970 73,185 984,300 139,702 456,304	7,958,021 151,591 2,038,818 289,370 945,161	407,350 7,760 104,362 14,812 48,380	83,453 1,590 21,380 3,035 9,912	853,847 16,265 218,753 31,048 101,410	
Utah Co Housing Authority	158,905	0.0930834	597,709	1,238,059	63,373	12,983	132,836	
Utah Counties Indemnity Pool	67,257	0.0393979	252,983	524,013	26,823	5,495	56,223	
Utah County	5,591,807	3.2755727	21,033,186	43,566,856	2,230,071	456,870	4,674,456	
Utah Lake Commission	1,486	0.0008705	5,590	11,578	593	121	1,242	
Utah Local Governments Trust	241,646	0.1415515	908,934	1,882,710	96,371	19,743	202,003	
Utah Valley Dispatch Special Service District	273,001	0.1599189	1,026,875	2,127,006	108,876	22,305	228,215	
Utah Zoological Society	784,737	0.4596836	2,951,731	6,114,036	312,961	64,116	655,999	
UTOPIA	384,681	0.2253385	1,446,949	2,997,122	153,415	31,430	321,573	
Valley Emergency Communications Center	717,930	0.4205496	2,700,443	5,593,533	286,318	58,657	600,152	
Vernal City	400,118	0.2343813	1,505,015	3,117,396	159,571	32,691	334,477	
Vineyard Town	73,142	0.0428454	275,120	569,867	29,170	5,976	61,143	
Wasatch County	1,304,827	0.7643427	4,908,016	10,166,164	520,379	106,609	1,090,767	
Wasatch County Fire District	13,033	0.0076343	49,022	101,540	5,198	1,065	10,895	
Wasatch Front Regional Council	313,773	0.1838020	1,180,234	2,444,664	125,136	25,636	262,297	
Wasatch Front Waste/Recycling	510,010	0.2987538	1,918,365	3,973,584	203,397	41,670	426,341	
Wasatch Integrated Waste Management	580,998	0.3403374	2,185,383	4,526,668	231,708	47,470	485,684	
Wasatch Mental Health Special Service District	2,281,615	1.3365262	8,582,134	17,776,508	909,932	186,416	1,907,310	
Washington City	755,174	0.4423665	2,840,534	5,883,709	301,171	61,700	631,286	
Washington Co Solid Waste	102,140	0.0598318	384,193	795,795	40,735	8,345	85,384	
Washington Co Water Conservancy District	322,984	0.1891976	1,214,880	2,516,429	128,809	26,389	269,997	
Washington County	1,856,461	1.0874791	6,982,947	14,464,049	740,376	151,679	1,551,904	
Waste Management Serv District #5	25,046	0.0146716	94,210	195,140	9,989	2,046	20,937	
Wayne County	105,282	0.0616724	396,012	820,276	41,988	8,602	88,011	
Weber Area Dispatch 911	503,451	0.2949118	1,893,695	3,922,483	200,781	41,134	420,858	
Weber Basin Water Conservancy	915,158	0.5360816	3,442,300	7,130,170	364,974	74,772	765,023	
Weber Co Mosquito Abatement	100,658	0.0589636	378,618	784,247	40,144	8,224	84,145	
Weber County Corp	3,447,992	2.0197672	12,969,377	26,863,976	1,375,095	281,713	2,882,340	
Weber Fire District	9,507	0.0055689	35,759	74,069	3,791	777	7,947	
Weber Human Services	1,778,144	1.0416027	6,688,364	13,853,869	709,143	145,281	1,486,435	
Wellington City	15,762	0.0092328	59,286	122,801	6,286	1,288	13,176	
Wellsville City Corp	56,549	0.0331254	212,706	440,585	22,552	4,620	47,272	
West Bountiful City	106,504	0.0623882	400,609	829,796	42,475	8,702	89,032	
West Kane County Special Service District #1	30,737	0.0180053	115,616	239,480	12,258	2,511	25,695	
West Point City	131,849	0.0772348	495,942	1,027,264	52,583	10,773	110,219	
West Valley City	2,904,634	1.7014786	10,925,575	22,630,569	1,158,399	237,319	2,428,121	
White City Water Improvement District Willard City Corp Woods Cross City	75,078 40,210 144,754	0.0439791 0.0235543 0.0847940	282,400 151,247 544,481	584,945 313,285 1,127,805	29,942 16,036 57,729	6,134 3,285 11,827	62,761 33,614 121,007	
Grand Total	\$ 170,712,353	100.0000000%	\$ 642,122,385	1,330,053,081	68,081,879	13,947,796	142,706,534	
No Proportionate Share for 2016 Canyonlands Health Care Summit Mosquito Abatement District Sunnyside City Valley Mental Health	\$ <u>-</u> - -	0.000000% 0.0000000 0.0000000 0.0000000	\$ <u>-</u> - -	=	_ _ _	_ _ _ _	_ _ _ _	
Grand Total	\$ 170,712,353	100.0000000%	\$ 642,122,385	1,330,053,081	68,081,879	13,947,796	142,706,534	

	Deferred Outflox	ws of Resources				Deferred Inflov	ws of Resources		to Emplo	yer-Paid Membe	er Contributions
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
16,121 100,227 17,469 47,316 228,296	2,198 — 52,805 11,900 51,466	47,435 281,249 101,826 144,675 692,093	3,248 20,194 3,520 9,533 45,998	7,863 48,884 8,520 23,078 111,347	3,885 24,151 4,209 11,401 55,010	2,829 20,045 25,184 — 12,718	17,825 113,274 41,433 44,012 225,073	40,906 254,315 44,326 120,060 579,277	(424) (6,884) 6,171 4,409 15,882	_ _ _ _	40,482 247,431 50,497 124,469 595,159
 518,955 9,886 132,955 18,870 61,635	37,86 — 378 — 56,374	1,456,255 28,119 373,088 52,953 229,331	104,562 1,992 26,788 3,802 12,419	253,112 4,821 64,846 9,204 30,062	125,048 2,382 32,037 4,547 14,852	77,702 1,124 19,198 16,207 48,752	560,424 10,319 142,869 33,760 106,085	1,316,796 25,083 337,359 47,881 156,394	(25,736) (192) (5,881) (5,710) 6,974		1,291,060 24,891 331,478 42,171 163,368
 80,736 34,172 2,841,065 755 122,775	2,464 229,875 — 14,404	226,555 98,354 8,202,266 2,118 358,925	16,267 6,885 572,431 152 24,737	39,378 16,667 1,385,681 368 59,881	19,454 8,234 684,584 182 29,584	28,408 10,372 — 22,668 42,072	103,507 42,158 2,642,696 23,370 156,274	204,859 86,707 7,208,907 1,916 311,528	(9,218) (2,162) 70,333 (8,273) (11,784)		195,641 84,545 7,279,240 (6,357) 299,744
 138,706 398,706 195,447 364,763 203,290	44,162 44,174 — 9,161	389,226 1,162,983 592,624 1,023,572 579,619	27,947 80,333 39,380 73,494 40,960	67,651 194,462 95,326 177,907 99,151	33,423 96,072 47,095 87,894 48,985	54,485 — 63,158 181,743 29,899	183,506 370,867 244,959 521,038 218,995	351,951 1,011,675 495,927 925,549 515,828	(18,743) 13,537 (10,940) (55,307) (5,444)	_ _ _ _ _	333,208 1,025,212 484,987 870,242 510,384
37,162 662,952 6,622 159,421 259,124	80,502 83,256 3,545 35,134 —	184,783 1,943,584 22,127 482,488 727,135	7,488 133,575 1,334 32,121 52,209	18,125 323,344 3,230 77,755 126,383	8,955 159,745 1,596 38,414 62,439	498 — 42,542	34,568 616,664 6,658 148,290 283,573	94,295 1,682,172 16,802 404,513 657,500	26,395 31,136 871 11,836 (14,659)	_ _ _ _	120,690 1,713,308 17,673 416,349 642,841
295,191 1,159,235 383,686 51,895 164,100	57,343 — 2,023 614,562	828,345 3,310,304 1,076,672 147,647 1,075,048	59,477 233,568 77,307 10,456 33,064	143,975 565,397 187,136 25,311 80,037	71,129 279,330 92,453 12,505 39,542	84,520 88,646 70,835 7,862	359,101 1,166,941 427,731 56,134 152,643	749,017 2,941,438 973,564 131,678 416,388	(27,756) (4,596) (24,502) (1,579) 188,193	_ _ _ _ _	721,261 2,936,842 949,062 130,099 604,581
 943,224 12,725 53,492 255,791 464,970	— 381 — 41,221 131,595	2,646,807 36,089 150,105 759,004 1,436,360	190,045 2,564 10,778 51,538 93,684	460,041 6,207 26,090 124,758 226,781	227,280 3,066 12,889 61,636 112,039	33,859 55 40,211 37,606	911,225 11,892 89,968 275,538 432,504	2,393,333 32,289 135,729 649,044 1,179,813	(10,909) 129 (12,603) 4,513 43,395		2,382,424 32,418 123,126 653,557 1,223,208
 51,142 1,751,843 4,830 903,433 8,008	3,187 63,963 18,395 150,542	146,698 4,979,859 31,949 2,685,691 22,472	10,304 352,969 973 182,028 1,614	24,944 854,432 2,356 440,634 3,906	12,323 422,125 1,164 217,692 1,930	10,292 522,255 — 15,265 5,564	57,863 2,151,781 4,493 855,619 13,014	129,768 4,445,120 12,256 2,292,368 20,320	(2,983) (131,848) 5,519 39,219 (2,062)		126,785 4,313,272 17,775 2,331,587 18,258
 28,731 54,112 15,617 66,990 1,475,776	1,256 191,507 78 — 72,946	81,879 343,353 43,901 187,982 4,214,162	5,789 10,903 3,147 13,497 297,346	14,013 26,392 7,617 32,673 719,785	6,923 13,039 3,763 16,142 355,604	485 — 1,205 3,656 114,592	27,210 50,334 15,732 65,968 1,487,327	72,903 137,304 39,626 169,979 3,744,628	335 62,788 (331) (1,151) (22,004)		73,238 200,092 39,295 168,828 3,722,624
38,145 20,430 73,546 86,734,911	851 6,085 5,567 15,241,538	107,891 63,414 211,947 258,630,779	7,686 4,116 14,818 17,475,749	18,605 9,964 35,871 42,303,474	9,191 4,923 17,722 20,899,685	1,946 9,464 3,160 11,495,374	37,428 28,467 71,571 92,174,282	96,790 51,838 186,615 220,080,826	(257) (1,799) 1,184 1,264,041	_ 	96,533 50,039 187,799 221,344,867
_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	49,956 20,207 2,425 6,052,814	49,956 20,207 2,425 6,052,814	_ _ _	(19,111) (6,438) (928) (2,067,355)	_ _ _ _	(19,111) (6,438) (928) (2,067,355)
86,734,911	15,241,538	258,630,779	17,475,749	42,303,474	20,899,685	17,620,777	98,299,685	220,080,826	(829,792)	_	219,251,034

#### **Noncontributory Retirement System State and School Division**

# Schedule of Employer Allocations and Pension Amounts

and Pension Amount	ts						Net
at December 31, 2016							Difference Between Projected
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments
Active Re Entry Inc	\$ 67,677	0.0103253%	\$ 334,634	613,558	100,869	_	62,685
Alpine School District	47,060,547	7.1798782	232,693,886	426,648,459	70,141,018	_	43,589,291
Alpine Uniserv American Leadership Academy	19,785 852,839	0.0030186 0.1301149	97,830 4,216,916	179,374 7,731,792	29,489 1,271,107	_	18,326 789,932
Ames Charter School	344,475	0.0525555	1,703,280	3,122,995	513,420	_	319,066
Beaver School District	1,272,442	0.1941325	6,291,673	11,535,897	1,896,502	_	1,178,585
Box Elder School District Bridgerland Applied Technology Center	8,208,773 1,088,674	1.2523865 0.1660955	40,588,806 5,383,017	74,420,311 9,869,860	12,234,701 1,622,605	_	7,603,282 1,008,372
Cache School District	11,549,327	1.7620442	57,106,388	104,705,598	17,213,603	_	10,697,432
Canyons School District	24,890,296	3.7974335	123,071,664	225,654,128	37,097,544	_	23,054,351
Carbon School District	2,721,873	0.4152675	13,458,475	24,676,357	4,056,794	_	2,521,103
Color Country Uniserv Daggett School District	9,437 311,662	0.0014398 0.0475493	46,663 1,541,033	85,557 2,825,512	14,066 464,514	_	8,741 288,673
Davis Applied Technology College	801,552	0.0473493	3,963,324	7,266,826	1,194,666	_	742,428
Davis School District	48,912,472	7.4624207	241,850,854	443,437,925	72,901,206	_	45,304,616
Davis Uniserv	12,432	0.0018967	61,470	112,707	18,529	_	11,515
Dixie Applied Technology College	72,600	0.0110763	358,974	658,185	108,206	_	67,245
Dixie State University Duchesne School District	1,115,186 3,534,146	0.1701404 0.5391934	5,514,109 17,474,810	10,110,219 32,040,381	1,662,120 5,267,439	_	1,032,928 3,273,462
East Hollywood High School	169,291	0.0258282	837,070	1,534,784	252,319	_	156,804
Educators Mutual Insurance	1,445,270	0.2205003	7,146,231	13,102,745	2,154,092	_	1,338,665
Emery School District	2,410,420	0.3677502	11,918,478	21,852,746	3,592,592	_	2,232,624
Fast Forward Charter High School Garfield School District	170,737 995,094	0.0260488 0.1518183	844,220 4,920,305	1,547,893 9,021,468	254,474 1,483,130	_	158,143 921,694
Grand School District	1,479,536	0.2257282	7,315,663	13,413,401	2,205,164	_	1,370,404
Granite School District	50,376,916	7.6858461	249,091,885	456,714,488	75,083,874	_	46,661,040
Granite Uniserv	54,757	0.0083541	270,749	496,424	81,612	_	50,718
Heber Valley Historic Railroad High Desert Uniserv	51,131 4,244	0.0078009 0.0006475	252,821 20,985	463,551 38,476	76,208 6,325	_	47,360 3,931
High School Activities Association	121,578	0.0185487	601,148	1,102,216	181,204	_	112,610
Intech Collegiate High School	99,285	0.0151477	490,924	900,119	147,980	_	91,962
Iron School District	6,352,164 236,018	0.9691294 0.0360085	31,408,679 1,167,006	57,588,382 2,139,726	9,467,531 351,771	_	5,883,618 218,609
Itineris High School Jordan School District	33,444,985	5.1025951	165,370,867	303,210,483	49,847,811	_	30,978,033
Jordan Uniserv	46,355	0.0070722	229,204	420,250	69,089	_	42,936
Juab School District	1,651,239	0.2519242	8,164,654	14,970,041	2,461,075	_	1,529,441
Kane School District	1,201,147	0.1832551	5,939,146	10,889,531	1,790,239	_	1,112,548
Liberty Academy Charter Logan School District	70,029 4,147,317	0.0106841 0.6327430	346,263 20,506,675	634,879 37,599,360	104,374 6,181,336	_	64,864 3,841,405
Millard School District	3,077,753	0.4695629	15,218,143	27,902,742	4,587,211		2,850,733
Monticello Academy	323,970	0.0494271	1,601,891	2,937,097	482,859	_	300,074
Morgan School District	1,548,083	0.2361861	7,654,595	14,034,839	2,307,328	_	1,433,894
Mountainland Applied Technology College Murray School District	345,147 4,650,215	0.0526579 0.7094686	1,706,599 22,993,288	3,129,080 42,158,610	514,421 6,930,877	_	319,688 4,307,209
Nebo School District	22,016,702	3.3590183	108,862,992	199,602,269	32,814,618	_	20,392,717
Noah Webster Academy Inc	184,827	0.0281984	913,887	1,675,628	275,473	_	171,193
North Sampete School District	1,945,335 1,014,365	0.2967931	9,618,818	17,636,277	2,899,404		1,801,841
North Summit School District NUAMES Charter School	1,014,365 399,535	0.1547585 0.0609558	5,015,594 1,975,527	9,196,183 3,622,164	1,511,853 595,484	_	939,544 370,065
Ogden School District	9,649,352	1.4721710	47,711,839	87,480,521	14,381,800	_	8,937,601
Ogden Weber/NEA/UEA Uniserv	20,316	0.0030996	100,455	184,187	30,280	_	18,818
Ogden-Weber Technology College	776,080	0.1184041	3,837,378	7,035,903	1,156,703	_	718,835
Park City School District Piute School District	5,872,915 403,163	0.8960120 0.0615092	29,039,004 1,993,462	53,243,541 3,655,049	8,753,240 600,890	_	5,439,720 373,424
Provo School District	10,318,684	1.5742888	51,021,392	93,548,647	15,379,400	_	9,557,562
	.,,		,,	,,			

	Deferred Outilov	vs or nesources				Deferred inflow	is or mesources		10 2p.0	yer-raid Mellibe	
								N	let Amortization		
									of Deferred		
									Amounts from		
	Changes in					Changes in			Changes in		
	Proportion and			Net		Proportion and			Proportion and		Total
	Differences			Difference		Differences			Differences		Employer
	Between Employer			Between Projected		Between Employer		Proportionate	Between Employer		Net Pension Expense
	Contributions		Differences	and Actual		Contributions		Share of	Contributions		Excluding That
	and	Total	Between	Investment		and	Total	Allocable	and	Proportionate	Attributable to
	Proportionate	Deferred	Expected	Earnings on		Proportionate	Deferred	Plan Gross	Proportionate	Share of	Employer-Paid
Changes of	Share of	Outflows of	and Actual	Pension Plan	Changes of	Share of	Inflows of	Pension	Share of	Nonemployer	Member
Assumptions	Contributions	Resources	Experience	Investments	Assumptions	Contributions	Resources	Expense	Contributions	Contributions	Contributions
<u> </u>			•		•			•			
25 401	7 557	105 722	10.052	17.005	A 1E1	0.063	40 251	72.005	499		72 404
35,481	7,557	105,723	18,053	17,985	4,151	8,062	48,251	72,985		_	73,484
24,672,066	3,142,185	71,403,542	12,553,374	12,506,199	2,886,127	_	27,945,700	50,751,715	1,034,823	_	51,786,538
10,373	_	28,699	5,278	5,258	1,213	43,682	55,431	21,337	(17,160)	_	4,177
447,111	28,002	1,265,045	227,494	226,639	52,303	104,328	610,764	919,731	(21,425)	_	898,306
180,595	34,241	533,902	91,889	91,543	21,126	8,815	213,373	371,494	7,182		378,676
100,353	34,241	333,302	71,007	71,343	21,120	0,013	213,373	3/1,474	7,102		3/0,0/0
667,093	27,191	1,872,869	339,423	338,148	78,036	27,998	783,605	1,372,246	2,111	_	1,374,357
4,303,550	326,527	12,233,359	2,189,686	2,181,457	503,427	417,829	5,292,399	8,852,624	(64,860)	_	8,787,764
570,751	176,978	1,756,101	290,403	289,312	66,766	8,596	655,077	1,174,063	68,019	_	1,242,082
6,054,876	906,880	17,659,188	3,080,776	3,069,199	708,297		6,858,272	12,455,192	331,490		12,786,682
13,049,042	298,527	36,401,920	6,639,472	6,614,522	1,526,471	1,050,454	15,830,919	26,842,553	(209,102)		26,633,451
13,042,042	~~~~~	JUJTU 1,72U	~~~~~~	~~~~~~~~	1,520,471	**************************************	~~~~~~	~~~~~~	(203,102)		20,033,431
1,426,975	_	3,948,078	726,058	723,330	166,927	258,823	1,875,138	2,935,361	(100,499)	_	2,834,862
4,948	23,908	37,597	2,517	2,508	579	5,968	11,572	10,177	5,089		15,266
										_	
163,393	31,801	483,867	83,136	82,823	19,114	35,612	220,685	336,107	(4,287)	_	331,820
420,223	179,293	1,341,944	213,813	213,010	49,158	_	475,981	864,421	60,575	_	924,996
25,642,961	2,187,118	73,134,695	13,047,374	12,998,343	2,999,701	1,331,617	30,377,035	52,748,896	151,679	_	52,900,575
	-,,	~~~~~~	~~~~~	~~~~~~~		.,,,,,,,,,		~~~	~~~~		
6,518	_	18,033	3,316	3,304	762	44,963	52,345	13,407	(15,963)	_	(2,556)
38,061	67,781	173,087	19,366	19,293	4,452		43,111	78,294	21,528	_	99,822
	07,701					220 502					
584,650		1,617,578	297,475	296,357	68,392	220,502	882,726	1,202,655	(69,893)	_	1,132,762
1,852,819	112,098	5,238,379	942,731	939,189	216,742	46,077	2,144,739	3,811,345	30,382	_	3,841,727
88,753	13,752	259,309	45,158	44,989	10,382	13,370	113,899	182,569	(1,043)	_	181,526
	~~~~	~~~~	~~~··~~	~~~··~~	·····			~~~···~	~~~~	~~~~~	
757,701	71,455	2,167,821	385,525	384,076	88,635	131,676	989,912	1,558,629	(30,270)		1,528,359
1,263,692	_	3,496,316	642,978	640,562	147,826	577,294	2,008,660	2,599,480	(199,128)	_	2,400,352
89,511	36,827	284,481	45,544	45,373	10,471	377,271	101,388	184,129	11,621		195,750
521,690	151,662	1,595,046	265,441	264,443	61,027	_	590,911	1,073,143	58,092		1,131,235
775,665	11,434	2,157,503	394,666	393,182	90,737	69,975	948,560	1,595,583	(17,306)	_	1,578,277
26 410 712	~~~~~	72 071 752	12 420 012	12 207 515	2,000,512	(042.776	26 750 017	F4 220 202	(2.262.016)	~~~~~	F1 0(4 20(
26,410,713	_	73,071,753	13,438,013	13,387,515	3,089,513	6,843,776	36,758,817	54,328,202	(2,363,816)	_	51,964,386
28,707	50,819	130,244	14,606	14,552	3,358	_	32,516	59,052	17,486	_	76,538
26,806	26,253	100,419	13,639	13,588	3,136		30,363	55,141	10,009		65,150
2,225	8,045	14,201	1,132	1,128	260	5,968	8,488	4,577	130	_	4,707
63,739									742		
03,/39	8,511	184,860	32,431	32,309	7,456	8,503	80,699	131,113	742	_	131,855
52,052	37,102	181,116	26,484	26,385	6,089		58,958	107,073	14,404		121,477
						102 000				_	
3,330,199	33,451	9,247,268	1,694,436	1,688,068	389,565	192,098	3,964,167	6,850,392	(46,685)	_	6,803,707
123,735	37,256	379,600	62,958	62,721	14,474	_	140,153	254,530	13,172	_	267,702
17,533,942	43,295	48,555,270	8,921,430	8,887,905	2,051,112	1,153,020	21,013,467	36,068,224	(343,134)	_	35,725,090
24,302	780	68,018	12,365	12,319	2,843	263	27,790	49,991	229	_	50,220
	~~~~~	~~~~~		~~~~~	~~~~~			~~~~~	~~~~~	~~~~~	~~~~~
865,682	110,464	2,505,587	440,467	438,812	101,267	_	980,546	1,780,752	43,810	_	1,824,562
629,716	24,211	1,766,475	320,405	319,201	73,664	31,457	744,727	1,295,358	(160)	_	1,295,198
36,714	_	101,578	18,680	18,610	4,295	135,139	176,724	75,522	(43,034)	_	32,488
2,174,282	315,062	6,330,749	1,106,294	1,102,137	254,346	234,769	2,697,546	4,472,610	52,485	_	4,525,095
1,613,549	187,184	4,651,466	820,989	817,903	188,752	80,367	1,908,011	3,319,154	49,661	_	3,368,815
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169,845	53,755	523,674	86,419	86,094	19,868	27,641	220,022	349,381	5,760	_	355,141
811,601	_	2,245,495	412,950	411,398	94,941	129,290	1,048,579	1,669,506	(50,011)	_	1,619,495
180,947	144,614	645,249	92,068	91,722	21,167	_	204,957	372,218	48,496	_	420,714
2,437,932	_	6,745,141	1,240,442	1,235,781	285,188	562,221	3,323,632	5,014,953	(183,546)	_	4,831,407
11,542,525	1,398,938	33,334,180	5,872,943	5,850,873	1,350,239	_	13,074,055	23,743,570	521,459	_	24,265,029
		270.002	40.202	40.447	44.225	40.702	420.547	400 222		~~~~~	400.000
96,898	9,911	278,002	49,302	49,117	11,335	10,793	120,547	199,323	586	_	199,909
1,019,864	39,624	2,861,329	518,916	516,966	119,303	2,232	1,157,417	2,097,913	11,495	_	2,109,408
531,793	_	1,471,337	270,581	269,565	62,209	53,159	655,514	1,093,927	(19,900)	_	1,074,027
209,461	264,752	844,278	106,576	106,175	24,503		237,254	430,872	90,816	_	521,688
5,058,791	208,177	14,204,569	2,573,959	2,564,286	591,775	770,979	6,500,999	10,406,194	(157,835)	<u> </u>	10,248,359
10,651	10,043	39,512	5,419	5,399	1,246	_	12,064	21,910	3,156	_	25,066
406,870	_	1,125,705	207,019	206,241	47,595	251,866	712,721	836,952	(80,104)	_	756,848
3,078,947	202,172	8,720,839	1,566,597	1,560,710	360,174	435,270	3,922,751	6,333,554	(55,293)	_	6,278,261
211,363	3,319	588,106	107,543	107,139	24,725	52,120	291,527	434,784	(14,967)	_	419,817
5,409,696		14,967,258	2,752,503	2,742,159	632,824	734,207	6,861,693	11,128,024	(261,483)	_	10,866,541
J,707,070		17,707,230	2,132,303	کرر <del>۱</del> کر ای	032,024	, 37,207	0,001,000	11,120,024	(201,703)		10,000,51

#### **Noncontributory Retirement System State and School Division**

## Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Rich School District	\$ 634,959	0.0968737%	\$ 3,139,596	5,756,506	946,370	_	588,124	
Salt Lake Arts Academy	235,487	0.0359276	1,164,384	2,134,919	350,981	_	218,118	
Salt Lake Community College	4,052,730	0.6183121	20,038,981	36,741,836	6,040,359	_	3,753,794	
Salt Lake School District	24,260,150	3.7012941	119,955,866	219,941,255	36,158,348	_	22,470,686	
San Juan School District	3,514,110	0.5361367	17,375,745	31,858,743	5,237,578	_	3,254,905	
Sevier School District	3,748,948	0.5719651	18,536,914	33,987,767	5,587,590	_	3,472,420	
Snow College	918,114	0.1400738	4,539,675	8,323,577	1,368,396	_	850,393	
Soldier Hollow Charter School	138,741	0.0211673	686,015	1,257,820	206,786	_	128,507	
South Sanpete School District	2,743,878	0.4186248	13,567,282	24,875,857	4,089,592	_	2,541,486	
South Summit School District	1,338,857	0.2042651	6,620,062	12,138,004	1,995,488		1,240,101	
Southern Utah University	2,385,398	0.3639326	11,794,753	21,625,894	3,555,297	_	2,209,448	
Southwest Applied Technology	325,814	0.0497084	1,611,008	2,953,812	485,607	_	301,781	
Southwest Educational Development Center	83,457	0.0127327	412,656	756,613	124,387	_	77,301	
Space Dynamics Lab / USU State of Utah	565,078 160,304,245	0.0862121 24.4571103	2,794,063 792,634,624	5,122,964 1,453,309,950	842,215 238,924,192	_	523,397 148,479,966	
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Success Academy	168,683	0.0257354	834,063	1,529,270	251,412	_	156,241	
Summit Academy High School Summit Academy Inc	197,817 738,494	0.0301803 0.1126696	978,118 3,651,528	1,793,398 6,695,143	294,835 1,100,682	_	183,226 684,021	
Tintic School District	351,830	0.1120090	1,739,643	3,189,667	524,381	_	325,878	
Tooele Applied Technology College	209,748	0.0320005	1,037,110	1,901,559	312,616	_	194,276	
Tooele School District	~~~~~~	~~~~~	46,543,683	~~~~~		~~~~~	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Tuacahn High School	9,413,101 248,906	1.4361270 0.0379749	1,230,735	85,338,686 2,256,575	14,029,682 370,981	_	8,718,777 230,547	
Uintah Basin Applied Technology Center	597,083	0.0910951	2,952,316	5,413,126	889,918		553,042	
Uintah School District	5,083,278	0.7755395	25,134,591	46,084,728	7,576,330	_	4,708,327	
University of Utah	22,514,682	3.4349936	111,325,288	204,116,934	33,556,829	_	20,853,966	
University of Utah Hospital	8,439,296	1.2875567	41,728,643	76,510,223	12,578,283		7,816,802	~~~~~~
UT School Board Risk Management	172,974	0.0263901	855,281	1,568,174	257,808	_	160,215	
Utah Co Academy of Sciences	217,864	0.0332388	1,077,242	1,975,143	324,713	_	201,794	
Utah Communications Authority	360,371	0.0549806	1,781,876	3,267,101	537,112	_	333,789	
Utah Dairy Council	106,120	0.0161904	524,717	962,079	158,166		98,292	
Utah Education Association	302,285	0.0461187	1,494,669	2,740,502	450,539	_	279,988	
Utah Housing Corporation	1,034,482	0.1578277	5,115,065	9,378,564	1,541,836	_	958,177	
Utah Retirement Systems	5,352,353	0.8165915	26,465,052	48,524,153	7,977,372	_	4,957,555	
Utah Safety Council	86,957	0.0132667 0.0188343	429,963	788,344	129,604	_	80,543	
Utah School Boards Association	123,450	0.0100343	610,404	1,119,187	183,994		114,344	
Utah School Employees Association	74,258	0.0113293	367,173	673,219	110,677	_	68,781	
Utah State Fair Corp	105,467	0.0160908	521,489	956,160	157,193	_	97,688	
Utah State University	9,036,213	1.3786264	44,680,136	81,921,839	13,467,953	_	8,369,689	
Utah Valley University Wasatch School District	5,027,876 5,274,590	0.7670871 0.8047275	24,860,655 26,080,550	45,582,463 47,819,160	7,493,758 7,861,471	_	4,657,013 4,885,529	
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Wasatch Uniserv Washington School District	11,545	0.0017613	57,082	104,661	17,206	_	10,693	
Washington School District Wayne School District	20,549,563 486,129	3.1351816 0.0741672	101,608,630 2,403,697	186,301,266 4,407,223	30,627,933 724,548	_	19,033,797 450,272	
Weber County School District	24,295,325	3.7066607	120,129,793	220,260,154	36,210,775	_	22,503,266	
Weber State University	3,556,734	0.5426397	17,586,502	32,245,170	5,301,107	_	3,294,385	
Woodland Peaks Uniserv	29,043	0.0044310	143,605	263,302	43,287		26,901	~~~~~~
Workers Compensation Fund	6,113,853	0.0044310	30,230,336	55,427,870	43,287 9,112,343	_	5,662,886	
<u> </u>								
Grand Total	\$ 655,450,485	100.0000000%	\$ 3,240,916,902	5,942,279,901	976,910,969		607,103,487	

Page		Deletted Outilo	ws of nesources				Deletteu IIIII	ws or nesources		to Empire	yer-raid Mellibe	Contributions
121,467   31,331   37,106   02,816   02,586   04,442		Proportion and Differences Between Employer Contributions and Proportionate Share of	Deferred Outflows of	Between Expected and Actual	Difference Between Projected and Actual Investment Earnings on Pension Plan		Proportion and Differences Between Employer Contributions and Proportionate Share of	Deferred Inflows of	Proportionate Share of Allocable Plan Gross Pension	of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Share of Nonemployer	Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member
481,333   10,2766   1,434,512   244,906   243,966   56,306	123,457 2,124,693 12,718,680	31,531 1,344,475 —	373,106 7,222,962 35,189,366	62,816 1,081,063 6,471,381	62,580 1,077,001 6,447,062	14,442 248,546 1,487,825	2,195,639	139,838 2,406,610 16,601,907	253,958 4,370,603 26,162,982	9,914 478,081 (697,664)	_	263,872 4,848,684 25,465,318
170,812   192,217   664,810   86,911   86,584   19,981   — 193,476   351,599   66,463   — 147,832   260,249   200,102   1,019,748   150,734   150,188   34,655   — 335,557   609,399   70,483   — 679,882   84,041,463   110,02,479   244,123,076   42,761,071   42,600,375   98,311   4,276,077   44,671,071   42,600,375   98,311   4,276,077   4,2600,375   98,311   4,276,077   4,2600,375   98,311   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,2600,375   4,276,077   4,276,0	481,333 72,737 1,438,512	102,786 —	1,434,512 201,244 3,979,998	244,906 37,009 731,928	243,986 36,870 729,177	56,306 8,509 168,276	— 111,705 166,935	545,198 194,093 1,796,316	990,126 149,623 2,959,093	35,649 (39,290) (62,886)	_ _ _	1,025,775 110,333 2,896,207
103,706	170,812 43,753 296,249	192,217 46,025 200,102	664,810 167,079 1,019,748	86,911 22,262 150,734	86,584 22,178 150,168	19,981 5,118 34,655	_ 	193,476 49,558 335,557	351,369 90,002 609,399	66,463 16,683 70,483	_ _ _	417,832 106,685 679,882
130,492	103,708 387,164 184,451	28,672 536,891 65,796	315,606 1,608,076 576,125	52,768 196,993 93,850	52,569 196,252 93,498	12,132 45,290 21,577	_	117,469 438,535 208,925	213,333 796,417 379,425	10,242 190,356 24,056	_ _ _	223,575 986,773 403,481
90,684 122,831 373,730 46,141 45,967 10,608 40,814 143,530 186,541 22,091 — 208,632 114,218 41,399 357,411 58,115 57,897 13,361 — 129,373 234,952 14,916 — 249,868 188,929 316,058 838,76 96,129 95,767 22,101 — 213,997 38,636 121,802 — 510,438 55,635 12,980 166,907 28,307 28,201 6,508 10,260 73,276 114,444 (42) — 114,402 158,477 — 438,465 80,634 80,331 18,539 45,610 225,114 325,995 (15,019) — 310,976 542,340 206,088 1,706,605 275,948 274,911 63,443 — 614,302 1,115,621 77,029 — 1,192,650 2,806,036 841,293 8,604,884 1,427,737 1,422,372 328,249 128,306 3,306,664 57,772,162 211,725 — 5,983,887 45,588 64,028 190,159 23,196 23,108 5,333 — 51,637 93,777 22,626 — 116,403 64,720 78,193 257,257 32,930 32,806 7,571 20,229 93,536 133,132 16,361 — 149,493 38,931 — 107,712 19,808 19,734 4,554 76,711 120,807 80,082 (28,264) — 51,818 55,292 27,314 180,294 28,133 28,028 6,468 4,638 67,267 113,739 6,685 — 120,424 4,737,345 370,551 13,477,585 2,410,405 2,401,347 554,172 594,377 5,960,301 9,744,964 (37,758) — 9,707,206 2,635,925 747,043 80,399,81 1,341,183 1,336,143 308,349 922,591 3,908,266 5,422,235 10,059 — 5,432,294 2,765,268 385,390 8,036,187 1,406,994 1,401,707 323,480 85,205 3,217,386 5,688,300 127,337 — 5,815,637 6,855 — 10,773,359 897,935 30,705,091 5,481,584 5,460,985 1,260,262 — 12,202,831 22,161,357 335,618 — 22,496,975 254,869 6,411 711,542 129,675 129,187 29,813 151,673 40,348 524,29 44,851 — 479,948 12,737,121 — 35,240,387 6,480,644 6,456,410 1,489,982 913,418 15,340,574 26,00,916 (287,964) — 25,912,952 13,864,662 215,793 5,374,840 948,757 945,192 218,127 464,689 2,576,765 3,835,705 (59,047) — 3,776,658 15,226 24,80,010 9,348,158 1,630,867 1,624,738 374,950 — 3,630,555 6,593,389 159,07 — 6,752,596	130,492 313,028 2,664,970	47,540 —	408,579 866,070 7,373,297	66,396 159,272 1,355,961	66,146 158,673 1,350,866	15,265 36,618 311,747	193,428 773,673	147,807 547,991 3,792,247	268,430 643,915 5,481,982	18,750 (75,706) (254,132)	_ _ _	287,180 568,209 5,227,850
542,340         206,088         1,706,605         275,948         274,911         63,443         — 614,302         1,115,621         77,029         — 1,192,650           2,806,036         841,293         8,604,884         1,427,737         1,422,372         328,249         128,306         3,306,664         5,772,162         211,725         — 5,983,887           45,588         64,028         190,159         23,196         23,108         5,333         — 51,637         93,777         22,626         — 116,403           64,720         78,193         257,257         32,930         32,806         7,571         20,229         93,536         133,132         16,361         — 149,493           38,931         —         107,712         19,808         19,734         4,554         76,711         120,807         80,082         (28,264)         — 51,818           55,292         27,314         180,294         28,133         28,028         6,468         4,638         67,267         113,739         6,685         — 120,424           4,737,345         370,551         13,477,855         2,410,405         2,401,347         554,172         594,377         5,960,301         9,744,964         (37,758)         — 9,707,206           2,635	90,684 114,218 188,929	41,399 316,058	373,730 357,411 838,776	46,141 58,115 96,129	45,967 57,897 95,767	10,608 13,361 22,101	40,814	143,530 129,373 213,997	186,541 234,952 388,636	22,091 14,916 121,802	_ _ _	208,632 249,868 510,438
55,292       27,314       180,294       28,133       28,028       6,468       4,638       67,267       113,739       6,685       —       120,424         4,737,345       370,551       13,477,585       2,410,405       2,401,347       554,172       594,377       5,960,301       9,744,964       (37,758)       —       9,707,206         2,635,925       747,043       8,039,981       1,341,183       1,336,143       308,349       922,591       3,908,266       5,422,235       10,059       —       5,432,294         2,765,268       385,390       8,036,187       1,406,994       1,401,707       323,480       85,205       3,217,386       5,688,300       127,337       —       5,815,637         6,052       151       16,896       3,079       3,068       708       654       7,509       12,450       (144)       —       12,306         10,773,359       897,935       30,705,091       5,481,584       5,460,985       1,260,262       —       12,202,831       22,161,357       335,618       —       22,496,975         254,859       6,411       711,542       129,675       129,187       29,813       151,673       440,348       524,259       (44,851)       —       479,408	542,340 2,806,036 45,588	841,293 64,028	1,706,605 8,604,884 190,159	275,948 1,427,737 23,196	274,911 1,422,372 23,108	63,443 328,249 5,333	128,306	614,302 3,306,664 51,637	1,115,621 5,772,162 93,777	77,029 211,725 22,626	_ _ _	1,192,650 5,983,887 116,403
10,773,359       897,935       30,705,091       5,481,584       5,460,985       1,260,262       —       12,202,831       22,161,357       335,618       —       22,496,975         254,859       6,411       711,542       129,675       129,187       29,813       151,673       440,348       524,259       (44,851)       —       479,408         12,737,121       —       35,240,387       6,480,764       6,456,410       1,489,982       913,418       15,340,574       26,200,916       (287,964)       —       25,912,952         1,864,662       215,793       5,374,840       948,757       945,192       218,127       464,689       2,576,765       3,835,705       (59,047)       —       3,776,658         15,226       2,450       44,577       7,747       7,718       1,781       —       17,246       31,321       951       —       32,272         3,205,262       480,010       9,348,158       1,630,867       1,624,738       374,950       —       3,630,555       6,593,389       159,207       —       6,752,596	55,292 4,737,345 2,635,925	27,314 370,551 747,043	180,294 13,477,585 8,039,981	28,133 2,410,405 1,341,183	28,028 2,401,347 1,336,143	6,468 554,172 308,349	4,638 594,377 922,591	67,267 5,960,301 3,908,266	113,739 9,744,964 5,422,235	6,685 (37,758) 10,059		120,424 9,707,206 5,432,294
3,205,262 480,010 9,348,158 1,630,867 1,624,738 374,950 — 3,630,555 6,593,389 159,207 — 6,752,596	10,773,359 254,859 12,737,121	897,935 6,411 —	30,705,091 711,542 35,240,387	5,481,584 129,675 6,480,764	5,460,985 129,187 6,456,410	1,260,262 29,813 1,489,982	— 151,673 913,418	12,202,831 440,348 15,340,574	22,161,357 524,259 26,200,916	335,618 (44,851) (287,964)	_ _ _	22,496,975 479,408 25,912,952
	3,205,262	480,010	9,348,158	1,630,867	1,624,738	374,950		3,630,555	6,593,389	159,207		6,752,596

# Schedule of Employer Allocations and Pension Amounts

and Pension Amounts							Net Difference Between
at December 31, 2016 Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments
Bluffdale City	\$ —	0.0000000%	\$ —	_	_	_	_
Box Elder County	24,349	0.7017954	230,267	554,332	(42,725)	_	109,359
Brigham City	7,579	0.2184385 0.5684649	71,672	172,539	(13,298)	_	34,039
Carbon County Castle Valley Special Service District	19,723 10,842	0.3084649	186,520 102,533	449,017 246,833	(34,608) (19,025)	_	88,583 48,696
Centerville City	27,368	0.7888045	258,815	623,058	(48,022)		122,918
City of Bountiful	7,756	0.2235533	73,350	176,579	(13,610)	_	34,836
City of Naples	14,418	0.4155565	136,349	328,238	(25,299)	_	64,755
City of Orem City of South Jordan	146,215 7,821	4.2142704 0.2254320	1,382,749 73,967	3,328,753 178,063	(256,562) (13,724)	_	656,700 35,129
City of St George	23,022	0.6635399	217,715	524,115	(40,396)		103,398
City of West Jordan	9,803	0.2825332	92,702	223,166	(17,200)	_	44,027
Clinton City	25,023	0.7212194	236,640	569,674	(43,907)	_	112,386
Corinne City	17,706	0.5103378	167,447	403,104	(31,069)	_	79,525
Davis & Weber County Canal Co	110,995	3.1991387	1,049,673	2,526,924	(194,761)		498,514
Davis Co Housing Authority	30,085	0.8671101	284,508	684,910	(52,789)	_	135,120
Ddi Vantage Duchesne Co Mosquito District	576,551 9,197	16.6175854 0.2650671	5,452,412 86,971	13,125,843 209,370	(1,011,665) (16,137)		2,589,478 41,305
Duchesne County	133,741	3.8547274	1,264,779	3,044,758	(234,673)	_	600,673
Emery Co Care & Rehab Center	81,057	2.3362485	766,549	1,845,348	(142,229)	_	364,052
Emery County	16,704	0.4814428	157,967	380,280	(29,310)		75,022
Emery Town	5,687	0.1639246	53,785	129,480	(9,980)	_	25,544
Five-County Association of Governments	10,916	0.3146284	103,233	248,518	(19,154)	_	49,028
Garfield County Garland City	8,942 25,250	0.2577353 0.7277612	84,566 238,786	203,579 574,841	(15,691) (44,306)	_	40,162 113,405
Grand County	23,408	0.6746694	221,366	532,905	(41,073)		105,132
Gunnison Valley Hospital	4,575	0.1318545	43,263	104,149	(8,027)	_	20,547
Honeyville City	13,375	0.3854860	126,482	304,486	(23,468)	_	60,069
Housing Authority of SLC	9,887	0.2849814 0.2015241	93,506	225,100	(17,349)	_	44,408
Iron County	6,992	~~~~~	66,122	159,179	(12,269)		31,403
Jordan Valley Water Conservancy Juab County	36,807 7,346	1.0608685 0.2117232	348,083 69,469	837,955 167,235	(64,585) (12,890)	_	165,313 32,992
Kaysville City	12,728	0.3668630	120,372	289,776	(22,334)	_	57,167
Kearns Improvement District	43,334	1.2489916	409,808	986,549	(76,038)	_	194,628
Laverkin City	80,104	2.3087949	757,541	1,823,663	(140,558)		359,774
Layton City	46,197	1.3315160	436,885	1,051,733	(81,062)	_	207,487
Logan City Mountainland Association of Governments	12,830	0.3697879	121,331	292,087	(22,512)	_	57,623
Mountainland Association of Governments  Murray City	16,486 83,022	0.4751601 2.3929059	155,905 785,139	375,318 1,890,100	(28,927) (145,678)	_	74,043 372,881
North Davis Co Sewer District	12,077	0.3480829	114,210	274,942	(21,191)	_	54,241
North Logan City	12,427	0.3581704	117,520	282,910	(21,805)	_	55,813
Oakley City	20,875	0.6016723	197,415	475,247	(36,629)	_	93,757
Ogden City Corp	102,251	2.9471334	966,987	2,327,871	(179,419)	_	459,245
Park City Provo City Corp	123,267 62,991	3.5528544 1.8155608	1,165,731 595,706	2,806,316 1,434,069	(216,295) (110,530)	_	553,633 282,915
Provo Housing Authority	20,247	0.5835554	191,471	460,937	(35,526)		90,934
Rich County	32,811	0.9456789	310,288	746,969	(57,572)	_	147,363
Riverdale City	3,380	0.0974195	31,964	76,949	(5,931)	_	15,181
Roy City Salt Lake City Corp	11,665	0.3362274	110,320	265,578	(20,469)	_	52,394
Salt Lake City Corp	491,785	14.1744340	4,650,788	11,196,051	(862,929)		2,208,770
Salt Lake County	284,033	8.1865077	2,686,083	6,466,329	(498,388)	_	1,275,685
San Juan County	7,603 103,224	0.2191371 2.9751790	71,901 976,189	173,091 2,350,024	(13,341) (181,127)	_	34,148 463,615
Sandy City							
Sandy City South Davis Sewer District	44,999	1.2969910	425,557	1,024,463	(78,960)	_	202,107

	Deferred Outflow	s of Resources				Deferred Inflo	vs of Resources			ense Excluding Th oyer-Paid Membe	
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
_ _	 1,417 439	— 110,776 34,478	— 1,722 536	28,762 8,952	_ _ _	9,234 —	9,234 30,484 9,488	— (197,020) (61,324)	(991,769) 181,705 58,114	_ _ _	(991,769) (15,315) (3,210)
	809	88,583 49,505	1,395 767	23,298 12,807		2,540 —	27,233 13,574	(159,589) (87,729)	(6,028) 81,819		(165,617) (5,910)
_ _ _	1,365 597	124,283 35,433 64,755	1,936 549 1,020	32,328 9,162 17,031	_ _		34,264 9,711 20,906	(221,447) (62,760) (116,662)	208,615 46,710 (175,967)	_ _ _	(12,832) (16,050) (292,629)
_ 	6,869	663,569 35,129	10,341 553	172,715 9,239	_ 	83,716	183,056 93,508	(1,183,101) (63,287)	1,029,783 (6,598,744)	_ 	(153,318) (6,662,031)
_ _ _	1,605 1,501 1,707	105,003 45,528 114,093	1,628 693 1,770	27,194 11,579 29,558	_ _ _	=	28,822 12,272 31,328	(186,280) (79,317) (202,473)	173,504 (56,819) 134,165	_ _ _	(12,776) (136,136) (68,308)
 	1,064 5,690	80,589 504,204 135,120	1,252 7,850 2,128	20,915 131,111 35,537			22,167 138,961 38,978	(143,271) (898,116) (243,430)	138,102 861,159 (111,698)		(5,169) (36,957) (355,128)
_ _ _ _	31,200 909 8,669 1,946	2,620,678 42,214 609,342 365,998	40,773 650 9,459 5,733	681,043 10,863 157,979 95,747	_ _ _		721,816 11,513 167,438 101,480	(4,665,167) (74,414) (1,082,164) (655,871)	4,660,965 69,614 (2,075,002) 532,704	_ _ _ _	(4,202) (4,800) (3,157,166) (123,167)
	44 —	75,066 25,544	1,181 402	19,731 6,718			20,912 7,341	(135,159) (46,020)	63,364 37,837		(71,795) (8,183)
_ _ _	618 280 1,909	49,646 40,442 115,314	772 632 1,786	12,895 10,563 29,826	_ _ _	_ _ _	13,667 11,195 31,612	(88,328) (72,356) (204,309)	79,247 64,052 185,396	_ _ _	(9,081) (8,304) (18,913)
_ _ _ _	1,407 596 558 122	106,539 21,143 60,627 44,530	1,656 324 946 699	27,650 5,404 15,798 11,679	_ _ _ _	_ _ _ _	29,306 5,728 16,744 12,378	(189,405) (37,016) (108,220) (80,005)	174,811 2,141 105,036 66,048	_ _ _ _	(14,594) (34,875) (3,184) (13,957)
	419 2,241	31,822	2,603	8,259 43,478			8,754 46,081	(56,575)	53,233 271,810		(3,342)
_ _ _ _	729 2,594 4,487	32,992 57,896 197,222 364,261	520 900 3,065 5,665	8,677 15,035 51,188 94,622	_ _ _	177 — —	9,374 15,935 54,253 100,287	(59,439) (102,992) (350,638) (648,164)	28,083 98,567 325,246 592,864	_ _ _ _	(31,356) (4,425) (25,392) (55,300)
	287	207,487 57,910	3,267 907	54,570 15,155	- -	1,477 —	59,314 16,062	(373,806) (103,813)	288,950 95,707 125,169		(84,856) (8,106)
	1,239 1,589 —	75,282 374,470 54,241	1,166 5,872 854	19,474 98,069 14,266		1,483	20,640 103,941 16,603	(133,395) (671,777) (97,720)	544,166 50,969	_ _ 	(8,226) (127,611) (46,751)
_ _ _	771 1,220 3,389	56,584 94,977 462,634	879 1,476 7,232	14,679 24,658 120,783	_ _ _	_ _ _	15,558 26,134 128,015	(100,552) (168,912) (827,369)	94,349 157,986 626,659	_ _ _	(6,203) (10,926) (200,710)
_ 	6,931 —	560,564 282,915	8,718 4,455	145,608 74,408		4,537	154,326 83,400	(997,417) (509,695)	811,364 355,245		(186,053) (154,450)
_ _ _	1,012 4,492 —	91,946 151,855 15,181	1,432 2,321 239	23,916 38,757 3,993	_ _ _		25,348 41,078 4,260	(163,826) (265,487) (27,349)	161,007 (164,403) (7,198)	_ _ _	(2,819) (429,890) (34,547)
	706 3,390	53,100 2,212,160	825 34,781	13,780 580,915			14,605 615,696	(94,391) (3,979,287)	89,657 2,501,129		(1,4734)
 	8,411 417 3,334	1,284,096 34,565 466,949	20,088 538 7,301	335,510 8,981 121,933	_ _ _	_	355,598 9,519 129,234	(2,298,255) (61,520) (835,242)	1,314,391 60,110 657,330	_ _ _	(983,864) (1,410) (177,912)
	2,836 302	204,943 12,785	3,183 197	53,155 3,283			56,338 3,480	(364,113) (22,489)	349,561 (133,863)		(14,552) (156,352)

## Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Springville City	\$ 7,602	0.2191155%	\$ 71,894	173,074	(13,340)	_	34,144	
Timpanogos Special Service District	16,969	0.4890778	160,472	386,311	(29,775)	_	76,212	
Tooele City	7,134	0.2056053	67,461	162,403	(12,517)		32,039	
Tooele County	7,591	0.2187864	71,786	172,814	(13,320)	_	34,093	
Town of Manila	8,752	0.2522463	82,765	199,243	(15,357)	_	39,307	
Town of Paragonah	4,512	0.1300329	42,665	102,710	(7,916)	_	20,263	~~~~~
Uintah County	2,415	0.0695969	22,836	54,973	(4,237)		10,845	
Utah Co Housing Authority	10,968	0.3161344	103,727	249,707	(19,246)	_	49,263	
Utah County	99,061	2.8551754	936,815	2,255,236	(173,821)	_	444,915	
Utah League Cities/Towns	71,604	2.0638026	677,156	1,630,149	(125,643)		321,598	
UTOPIA	_	0.0000000	_	_	_	_	_	
Vernal City	23,084	0.6653298	218,302	525,528	(40,505)	_	103,677	
Washington Co Water Conservancy District	2,761	0.0795726	26,109	62,853	(4,844)	_	12,400	
Weber County Corp	25,518	0.7354761	241,318	580,935	(44,775)	_	114,608	
Weber Fire District	2,800	0.0806884	26,475	63,734	(4,912)		12,573	
Weber River Water Users	8,580	0.2473093	81,145	195,344	(15,056)	_	38,538	
West Valley City	74,123	2.1364134	700,981	1,687,503	(130,063)	_	332,912	
Woods Cross City	11,796	0.3399872	111,554	268,548	(20,698)	_	52,979	
Grand Total	\$ 3,469,521	100.0000000%	\$ 32,811,102	78,987,643	(6,087,924)	_	15,582,771	
No Proportionate Share for 2016								
Brian Head Town	\$ —	0.0000000%	\$ —	_	_		_	
Cache County	_	0.0000000	_	_	_	_	_	
Midway City	_	0.0000000	_	_	_	_	_	
Millard County	_	0.0000000	_	_	_	_	_	
Mount Pleasant City		0.0000000					<del>-</del>	
Pleasant View City	_	0.0000000	_	_	_	_	_	
Sevier County	_	0.0000000	_	_	_	_	_	
South Valley Sewer District	_	0.0000000	_	_	_	_	_	
Southeastern Utah Asscociation of Governments Southeastern Utah Health	_	0.0000000 0.0000000	_	_	_	_	_	
Sunset City	~~~~~~	0.0000000	<u>-</u>		~~~~~~		~~~~~	~~~~~
Valley Mental Health	_	0.0000000	_	_	_	_	_	
West Bountiful City	_	0.0000000		_	_	_	_	
Grand Total	\$ 3,469,521	100.0000000%	\$ 32,811,102	78,987,643	(6,087,924)	_	15,582,771	

	Deferred Outflow	s of Resources				Deferred Inflo	ws of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions				
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	
_ _ _ _	786 — 468 717	34,144 76,998 32,039 34,561 40,024	538 1,200 505 537 619	8,980 20,044 8,426 8,967 10,338	_ _ _ _	944 — 1,375 —	10,462 21,244 10,306 9,504 10,957	(61,514) (137,302) (57,721) (61,421) (70,815)	20,845 155,352 30,841 57,066 26,410	_ _ _ _	(40,669) 18,050 (26,880) (4,355) (44,405)	
	250 — 469 3,921 4,616	20,513 10,845 49,732 448,836 326,214	319 171 776 7,006 5,064	5,329 2,852 12,956 117,014 84,581		17,830 — — —	5,648 20,853 13,732 124,020 89,645	(36,505) (19,538) (88,751) (801,553) (579,386)	32,320 (8,064,287) 83,786 698,213 561,280		(4,185) (8,083,825) (4,965) (103,340) (18,106)	
	120 6,691 — 519	103,797 19,091 114,608 13,092	1,633 195 1,805 198	27,267 3,261 30,142 3,307			28,900 3,456 33,263 3,505	(186,783) (22,339) (206,475) (22,652)	79,740 (1,769,434) 88,440 (21,789)		(107,043) (1,791,773) (118,035) (44,441)	
	376 740 617	38,914 333,652 53,596	607 5,242 834	10,136 87,557 13,934			10,743 92,799 14,768	(69,429) (599,770) (95,447)	58,414 313,838 88,674		(11,015) (285,932) (6,773)	
	142,404 — — — — 141	15,725,175 — — — — — 141	245,381 — — — —	4,098,327		7,320 3,204 1,140 — 1,001	7,320 3,204 1,140 — 1,001	(28,073,689) — — — — —	726,657 (382,486) (29,946) (10,653) (57,768) (9,352)		(382,486) (29,946) (10,653) (57,768) (9,352)	
		- - - - -				3,101 775 585 318 157	3,101 775 585 318 157		(28,985) (7,241) (5,464) (19,417) (1,469)		(28,985) (7,241) (5,464) (19,417) (1,469)	
_ _ _ _	142,545	15,725,316	245,381	4,098,327	_ _ _ _	2,262 622 4,320 153,851	2,262 622 4,320 4,497,559	(28,073,689)	(30,757) (5,813) (503,000) (365,695)	_ _ _ _	(30,757) (5,813) (503,000) (28,439,384)	

#### **Contributory Retirement System State and School Division**

# Schedule of Employer Allocations and Pension Amounts

and Pension Amounts							Net Difference	
at December 31, 2016  Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Between Projected and Actual Investment Earnings on Pension Plan Investments	
Alpine School District	\$ 177,633	3.7437475%	\$ 2,051,415	5,043,362	(489,582)		1,060,791	
Box Elder School District	15,710	0.3310938	181,425	446,031	(43,298)	_	93,815	
Cache School District	78,904	1.6629618	911,233	2,240,247	(217,471)		471,200	
Carbon School District	5,338	0.1125099	61,651	151,567	(14,713)	_	31,880	
Davis School District	246,959	5.2048370	2,852,030	7,011,659	(680,654)	_	1,474,791	
Dixie State University	7,992	0.1684310	92,293	226,901	(22,026)	_	47,725	
Duchesne School District	39,037	0.8227239	450,818	1,108,327	(107,590)		233,119	
Educators Mutual Insurance	36,832	0.7762627	425,359	1,045,737	(101,514)	_	219,954	
Emery School District	12,569	0.2648923	145,150	356,848	(34,641)	_	75,057	
Granite School District	449,306	9.4694535	5,188,859	12,756,706	(1,238,352)		2,683,170	~~~~~
Iron School District	10,897	0.2296535	125,840	309,376	(30,033)	_	65,072	
Jordan School District	99,254	2.0918477	1,146,244	2,818,018	(273,558)	_	592,725	
Kane School District	4,114	0.0867147	47,516	116,817	(11,340)	_	24,571	
Logan School District	23,352	0.4921531	269,679	663,000	(64,360)	_	139,452	
Millard School District	30,987	0.6530674	357,853	879,775	(85,404)		185,047	
Murray School District	8,738	0.1841626	100,913	248,093	(24,084)		52,182	
Nebo School District	10,549	0.2223368	121,831	299,519	(29,076)	_	62,999	
North Sanpete School District	4,318	0.0910154	49,873	122,611	(11,902)	_	25,789	
Ogden-Weber Technology College Park City School District	30,277 21,327	0.6381009 0.4494815	349,652 246,297	859,613 605,516	(83,447) (58,780)	_	180,806 127,361	
~~···	~~~···~	~~~~~	·····	~~~···~	~~~~~~		~~~~	
Provo School District	67,179	1.4158416	775,821	1,907,341	(185,154)	_	401,179	
Salt Lake Community College	68,627	1.4463568	792,542	1,948,449	(189,145)	_	409,825	
Salt Lake School District San Juan School District	255,008 11,687	5.3744721 0.2463122	2,944,983 134,969	7,240,181 331,818	(702,837) (32,211)	_	1,522,857 69,793	
Sevier School District	7,796	0.1643031	90,031	221,340	(21,486)	_	46,555	
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Snow College Southern Utah University	7,431 5,589	0.1566075 0.1177917	85,814 64,545	210,973 158,682	(20,480) (15,404)	_	44,375 33,376	
State of Utah	1,466,109	30.8993409	16,931,530	41,625,821	(4,040,810)	_	8,755,328	
Tooele School District	10,236	0.2157321	118,212	290,622	(28,212)		61,128	
Uintah School District	39,890	0.8407068	460,672	1,132,552	(109,942)	_	238,214	
University of Utah	523,787	11.0392034	6,049,016	14,871,383	(1,443,633)		3,127,958	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
University of Utah Hospital	452,322	9.5330257	5,223,694	12,842,347	(1,246,665)		2,701,183	
Utah Housing Corporation	90,155	1.9000816	1,041,164	2,559,681	(248,480)	_	538,388	
Utah State University	78,900	1.6628695	911,182	2,240,123	(217,459)		471,174	
Utah Valley University	123,665	2.6063328	1,428,160	3,511,102	(340,839)	_	738,504	
Washington School District	38,049	0.8019154	439,416	1,080,295	(104,869)	_	227,223	
Weber County School District	2,242	0.0472535	25,893	63,657	(6,179)	_	13,389	
Weber State University	85,476	1.8014682	987,128	2,426,835	(235,584)	_	510,446	
Workers Compensation Fund	96,554	2.0349381	1,115,060	2,741,352	(266,116)		576,600	
Grand Total	\$ 4,744,792	100.0000000%	\$ 54,795,763	134,714,277	(13,077,330)	_	28,335,001	
No Proportionate Share for 2016								
Juab School District	\$ —	0.0000000%	\$ —					
Grand Total	\$ 4,744,792	100.0000000%	\$ 54,795,763	134,714,277	(13,077,330)	_	28,335,001	

Pension	Expense	Excluding	That A	ttributable
to E		Daid Man	har Car	

	Deferred Outflow	vs of Resources				Deferred Inflo	ws of Resources			yer-Paid Membe	
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
		1,060,791		302,593			302,593	536,364	(2,849)	_	533,515
	_	93,815	_	26,761		_	26,761	47,436	(86,271)	_	(38,835)
	_	471,200		134,411	_	_	134,411	238,251	82,291	_	320,542
<u> </u>	_	31,880	_	9,094	_	_	9,094	16,119	(32,423)	_	(16,304)
_	_	1,474,791	_	420,688	_	_	420,688	745,693	(40,873)	_	704,820
	~~~~~	~~~~~	~~~~~	~~~~	~~~~~	~~~~~~	~~~~	~~~~	~~~~	~~~~~	~~~~
_	_	47,725	_	13,614	_	_	13,614	24,131	(27,278)	_	(3,147)
_	_	233,119	_	66,498	_	_	66,498	117,871	9,612	_	127,483
<del>_</del>		219,954 75,057	_	62,742 21,410	_	_	62,742 21,410	111,215 37,951	40,964 (8,074)	_	152,179 29,877
		2,683,170		765,381	_		765,381	1,356,681	(92,308)		1,264,373
~~~~~	~~~~~	~~~~~		~~~~	~~~~~	~~~~~	~~~~~	~~~~~~	~~~~~	~~~~~	~~~~~
_	_	65,072	_	18,562	_	_	18,562	32,902	7,140	_	40,042
_	_	592,725	_	169,076	_	_	169,076	299,697	9,128	_	308,825
_	_	24,571	_	7,009	_	_	7,009	12,424	3,918	_	16,342
_		139,452	_	39,779	_	_	39,779	70,510	23,644	_	94,154
		185,047		52,785			52,785	93,564	(4,046)		89,518
_	_	52,182	_	14,885	_	_	14,885	26,385	8,004	_	34,389
_	_	62,999	_	17,971	_	_	17,971	31,854	10,718	_	42,572
_	_	25,789	_	7,356	_	_	7,356	13,040	3,823	_	16,863
_	_	180,806	_	51,575	_	_	51,575	91,420	31,421	_	122,841
	<del>_</del>	127,361	<u> </u>	36,330	<u> </u>	<u> </u>	36,330	64,397	(16,554)	<u> </u>	47,843
_	_	401,179	_	114,437	_	_	114,437	202,846	(12,885)	_	189,961
_	_	409,825	_	116,904	_	_	116,904	207,218	32,828	_	240,046
_	_	1,522,857	_	434,399	_	_	434,399	769,996	77,964	_	847,960
_	_	69,793	_	19,908	_	_	19,908	35,289	(2,761)	_	32,528
	<del></del> .	46,555	<del></del> .	13,280	<del></del> .	<del></del> .	13,280	23,540	5,454	<del></del> .	28,994
_	<del>_</del>	44,375	_	12,658	_	_	12,658	22,437	7,188	_	29,625
_	_	33,376	_	9,521	_	_	9,521	16,876	4,169	_	21,045
<u> </u>	_	8,755,328	_	2,497,478	_	_	2,497,478	4,426,921	(310,728)	_	4,116,193
_		61,128	_	17,437	_	_	17,437	30,908	12,336	_	43,244
_	_	238,214	_	67,951	_	_	67,951	120,447	24,617	_	145,064
	_	3,127,958	_	892,258	_	_	892,258	1,581,578	55,352		1,636,930
_	_	2,701,183	_	770,519	_	_	770,519	1,365,789	162,105	_	1,527,894
_	_	538,388	_	153,577	_	_	153,577	272,223	98,345	_	370,568
_	_	471,174	_	134,404	_	_	134,404	238,238	75,136	_	313,374
_	_	738,504	_	210,660	_	_	210,660	373,407	(20,831)	_	352,576
_	_	227,223	_	64,816		_	64,816	114,890	39,124	_	154,014
_	_	13,389	_	3,819	_	_	3,819	6,770	(17,118)	_	(10,348)
_		510,446	_	145,606	_	_	145,606	258,095	97,847	_	355,942
_	_	576,600	_	164,476	_	_	164,476	291,544	71,143	_	362,687
_	_	28,335,001	_	8,082,628	_	_	8,082,628	14,326,917	319,272	_	14,646,189
_	_	_	_	_	_	_	_	_	(32,041)	_	(32,041)
		20 22E 001	^	0 002 420			0 002 420	1/ 22/ 017			
		28,335,001	0	8,082,628			8,082,628	14,326,917	287,231	_	14,614,148

#### **Public Safety Retirement System** Other Division A with Social Security

# Schedule of Employer Allocations and Pension Amounts

and Pension Amounts							Net Difference
at December 31, 2016							Between Projected
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments
American Fork City Beaver County Big Water Municipal Corp Blanding City Box Elder County	\$ 506,598 786,257 3,910 63,036 1,071,263	0.9700784% 1.5055932 0.0074880 0.1207075 2.0513474	\$ 1,968,557 3,055,264 15,195 244,949 4,162,750	4,094,152 6,354,257 31,603 509,438 8,657,577	240,738 373,633 1,858 29,955 509,069	_ _ _ _ _	414,337 643,064 3,198 51,556 876,165
Brigham City Cache County Carbon County Cedar City Centerfield City	440,109 1,636,294 675,044 510,783 18,005	0.8427587 3.1333176 1.2926335 0.9780919 0.0344782	1,710,190 6,358,367 2,623,110 1,984,819 69,966	3,556,808 13,223,961 5,455,475 4,127,973 145,513	209,142 777,575 320,784 242,727 8,556		359,956 1,338,293 552,105 417,759 14,726
Centerville City City of Draper City of Harrisville City of Helper City of Kanab	332,920 601,919 92,981 64,713 83,637	0.6375033 1.1526067 0.1780486 0.1239179 0.1601547	1,293,670 2,338,957 361,310 251,464 324,998	2,690,541 4,864,501 751,442 522,987 675,922	158,205 286,035 44,185 30,752 39,745	_ _ _ _ _	272,288 492,298 76,048 52,927 68,405
City of Moab City of Monticello City of Naples City of North Salt Lake City of South Jordan	167,414 25,651 78,813 346,747 839,669	0.3205798 0.0491193 0.1509173 0.6639816 1.6078706	650,545 99,677 306,253 1,347,402 3,262,813	1,352,986 207,305 636,937 2,802,291 6,785,912	79,556 12,190 37,452 164,776 399,015		136,925 20,980 64,459 283,598 686,749
City of South Salt Lake City of St George Clearfield City Clinton City Daggett County	971,462 1,873,639 394,102 202,249 130,375	1.8602397 3.5878081 0.7546618 0.3872833 0.2496528	3,774,940 7,280,653 1,531,417 785,905 506,614	7,851,020 15,142,109 3,185,001 1,634,504 1,053,643	461,643 890,363 187,279 96,110 61,955		794,540 1,532,413 322,329 165,415 106,631
Davis County Duchesne County East Carbon City Emery County Enoch City	3,297,169 503,105 26,825 508,292 53,569	6.3137072 0.9633898 0.0513671 0.9733222 0.1025795	12,812,255 1,954,984 104,238 1,975,140 208,162	26,646,587 4,065,923 216,791 4,107,842 432,930	1,566,831 239,078 12,747 241,543 25,456		2,696,690 411,480 21,940 415,722 43,813
Ephraim City Fairview City Farmington City Fountain Green City Garfield County	80,204 ————————————————————————————————————	0.1535813 0.0000000 0.5036553 0.0241179 0.7818479	311,659 — 1,022,056 48,942 1,586,585	648,180 — 2,125,644 101,788 3,299,738	38,113 — 124,989 5,985 194,026		65,597 —— 215,120 10,301 333,940
Garland City Grand County Grantsville City Gunnison City Heber City	36,882 273,704 146,639 50,450 290,585	0.0706253 0.5241121 0.2807970 0.0966052 0.5564376	143,318 1,063,568 569,815 196,039 1,129,166	298,069 2,211,981 1,185,085 407,716 2,348,408	17,527 130,065 69,684 23,974 138,087		30,165 223,857 119,933 41,262 237,664
Hurricane City Iron County Ivins City Juab County Kamas City	319,591 911,561 206,144 237,352 35,587	0.6119810 1.7455369 0.3947426 0.4545025 0.0681446	1,241,878 3,542,176 801,042 922,311 138,284	2,582,826 7,366,924 1,665,985 1,918,198 287,600	151,871 433,178 97,961 112,791 16,911		261,387 745,548 168,601 194,126 29,106
Kane County Kaysville City Laverkin City Layton City Lehi City	465,506 499,779 51,881 1,295,455 726,405	0.8913908 0.9570199 0.0993460 2.4806511 1.3909834	1,808,878 1,942,058 201,600 5,033,926 2,822,689	3,762,056 4,039,040 419,283 10,469,425 5,870,554	221,211 237,497 24,654 615,607 345,191		380,728 408,759 42,432 1,059,528 594,112
Lindon City Mapleton City Millard County Morgan County Mount Pleasant City	286,391 111,245 742,766 128,169 72,586	0.5484060 0.2130220 1.4223134 0.2454299 0.1389948	1,112,867 432,280 2,886,267 498,045 282,059	2,314,512 899,045 6,002,780 1,035,821 586,618	136,094 52,864 352,966 60,907 34,493		234,233 90,985 607,494 104,827 59,367
Murray City Nephi City North Logan City North Ogden City North Park Police Agency	1,343,357 135,958 31,291 243,847 55,731	2.5723775 0.2603433 0.0599182 0.4669401 0.1067184	5,220,064 528,308 121,591 947,550 216,561	10,856,550 1,098,762 252,881 1,970,690 450,398	638,370 64,608 14,870 115,877 26,484		1,098,706 111,197 25,592 199,438 45,581

	Deferred outrion	ws of Resources				Deletted IIIIIo	ws or resources		to Lilipit	yer-Paid Mellibe	Contributions
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
341,485 529,996 2,636 42,491 722,111	15,031 116,222 3,005 9,476 35,791	770,853 1,289,282 8,839 103,523 1,634,067	159,767 247,964 1,233 19,880 337,847	120,910 187,656 933 15,045 255,679	68,625 106,508 530 8,539 145,116	57,309 — 455 — 13,375	406,611 542,128 3,151 43,464 752,017	594,431 922,577 4,588 73,965 1,256,997	(13,963) 48,955 1,303 3,957 12,559	_ _ _ _ _	580,468 971,532 5,891 77,922 1,269,556
296,666 1,102,984 455,030 344,306 12,137	39,943 161,036 124,944 7,015 2,341	696,565 2,602,313 1,132,079 769,080 29,204	138,798 516,043 212,891 161,087 5,678	105,041 390,535 161,113 121,909 4,297	59,618 221,656 91,443 69,192 2,439	21,270 — 41,312 17,992 1,284	324,727 1,128,234 506,759 370,180 13,698	516,414 1,919,992 792,082 599,342 21,127	4,444 66,584 45,842 (6,204) 242		520,858 1,986,576 837,924 593,138 21,369
224,413 405,738 62,676 43,621 56,377	90,835 54,126 30,364 — 8,495	587,536 952,162 169,088 96,548 133,277	104,994 189,829 29,324 20,409 26,377	79,458 143,660 22,192 15,445 19,962	45,098 81,537 12,595 8,766 11,330	16,334 7,174 32,166	229,550 431,360 71,285 76,786 57,669	390,641 706,279 109,102 75,933 98,137	36,826 12,141 7,785 (13,153) 3,742	_ _ _ _	427,467 718,420 116,887 62,780 101,879
112,850 17,291 53,126 233,734 566,000	6,177 15,657 — 20,656 64,954	255,952 53,928 117,585 537,988 1,317,703	52,798 8,090 24,855 109,355 264,809	39,957 6,122 18,810 82,758 200,404	22,678 3,475 10,676 46,971 113,743	22,666 852 47,232 —	138,099 18,539 101,573 239,084 578,956	196,441 30,099 92,477 406,866 985,249	(8,806) 5,409 (20,416) 8,264 28,724	_ _ _ _ _	187,635 35,508 72,061 415,130 1,013,973
654,838 1,262,973 265,655 136,331 87,882	326,034 ————————————————————————————————————	1,449,378 3,121,420 587,984 324,634 194,513	306,373 590,895 124,289 63,784 41,117	231,859 447,183 94,061 48,271 31,117	131,596 253,807 53,386 27,397 17,661	112,181 — 105,144 — 90,381	782,009 1,291,885 376,880 139,452 180,276	1,139,892 2,198,488 462,431 237,314 152,979	(52,335) 123,580 (47,708) 10,031 (38,512)	_ _ _ _ _	1,087,557 2,322,068 414,723 247,345 114,467
2,222,539 339,131 18,082 342,627 36,110	22,279 68,933 — 29,516 14,853	4,941,508 819,544 40,022 787,865 94,776	1,039,838 158,666 8,460 160,302 16,894	786,937 120,076 6,402 121,314 12,785	446,642 68,152 3,634 68,854 7,257	685,461 3,593 31,429 99,843 32,135	2,958,878 350,487 49,925 450,313 69,071	3,868,828 590,333 31,476 596,419 62,857	(244,187) 23,894 (13,919) (22,696) (4,682)	_ _ _ _ _	3,624,641 614,227 17,557 573,723 58,175
54,063 — 177,296 8,490 275,225	52,615 — 25,230 — 25,134	172,275 — 417,646 18,791 634,299	25,294 — 82,950 3,972 128,767	19,142 — 62,775 3,006 97,449	10,865 — 35,629 1,706 55,309	2,863 773	55,301 — 184,217 9,457 281,525	94,109 — 308,623 14,779 479,090	20,394 — 7,987 (317) 10,444		114,503 — 316,610 14,462 489,534
24,861 184,497 98,846 34,007 195,876	62,058	55,026 408,354 218,779 75,269 495,598	11,632 86,319 46,246 15,910 91,643	8,803 65,325 34,998 12,041 69,354	4,996 37,077 19,864 6,834 39,363	44,589 19,243 35,149 1,935	70,020 207,964 136,257 36,720 200,360	43,277 321,158 172,063 59,196 340,966	(19,429) (8,311) (15,592) (849) 26,198	_ _ _ _ _	23,848 312,847 156,471 58,347 367,164
215,428 614,461 138,957 159,993 23,988	52,951 — 48,981 — 21,082	529,766 1,360,009 356,539 354,119 74,176	100,790 287,482 65,012 74,854 11,223	76,277 217,563 49,201 56,649 8,494	43,293 123,482 27,925 32,152 4,821	120,144 — 13,558	220,360 748,671 142,138 177,213 24,538	375,001 1,069,606 241,885 278,504 41,757	22,905 (56,031) 18,448 (5,992) 9,763		397,906 1,013,575 260,333 272,512 51,520
313,786 336,888 34,972 873,234 489,651	18,564 83,827 4,168 27,334 130,758	713,078 829,474 81,572 1,960,096 1,214,521	146,808 157,617 16,362 408,552 229,088	111,103 119,283 12,382 309,187 173,372	63,058 67,701 7,028 175,485 98,400	4,285 — 24,512 17,885 —	325,254 344,601 60,284 911,109 500,860	546,214 586,430 60,876 1,520,060 852,348	7,501 34,117 (7,080) 1,410 53,588	_ _ _ _	553,715 620,547 53,796 1,521,470 905,936
193,049 74,988 500,680 86,396 48,929	22,518 — 14,347 — 6,202	449,800 165,973 1,122,521 191,223 114,498	90,320 35,084 234,248 40,421 22,892	68,353 26,551 177,276 30,590 17,324	38,795 15,070 100,617 17,362 9,833	24,520 29,103 54,519 1,544	197,468 101,225 541,244 142,892 51,593	336,045 130,533 871,546 150,391 85,171	8,507 (11,310) (3,802) (21,436) 1,552	_ _ _ _ _	344,552 119,223 867,744 128,955 86,723
905,523 91,646 21,092 164,371 37,567	193,289 31,661 6,031 36,494 118,191	2,197,518 234,504 52,715 400,303 201,339	423,658 42,877 9,868 76,903 17,576	320,620 32,449 7,468 58,199 13,301	181,974 18,417 4,239 33,032 7,549	128,822 —	926,252 93,743 150,397 168,134 38,426	1,576,266 159,530 36,716 286,125 65,393	74,689 11,914 (44,988) 15,379 43,986		1,650,955 171,444 (8,272) 301,504 109,379

#### **Public Safety Retirement System** Other Division A with Social Security

## Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Park City	\$ 697,089	1.3348476%	\$ 2,708,774	5,633,637	331,260	_	570,136	
Parowan City	58,691	0.1123865	228,063	474,320	27,890	_	48,002	
Payson City	310,804	0.5951550	1,207,734	2,511,813	147,696	_	254,201	
Perry City Piute County	66,199 44,276	0.1267633 0.0847844	257,238 172,051	534,996 357,827	31,458 21,040	_	54,143 36,213	
Pleasant Grove City	382,564	0.7325669	1,486,581	3,091,751	181,796		312,892	~~~~~~
Pleasant View City	120,435	0.2306201	467,992	973,317	57,231	_	98,502	
Price City	252,470	0.4834520	981,058	2,040,377	119,975	_	206,490	
Rich County	96,746	0.1852586	375,941	781,872	45,974	_	79,127	
Richfield City	181,416	0.3473909	704,952	1,466,140	86,210		148,376	
Riverdale City	368,398	0.7054406	1,431,534	2,977,266	175,065	_	301,306	
Roosevelt City Roy City	165,654 618,278	0.3172078 1.1839327	643,702 2,402,526	1,338,755 4,996,710	78,719 293,809	_	135,485 505,678	
Salem City	160,243	0.3068477	622,679	1,295,031	76,148	_	131,060	
Salina City	36,591	0.0700684	142,188	295,719	17,388	_	29,927	
Salt Lake County	7,722,483	14.7876850	30,008,297	62,410,458	3,669,767	_	6,316,071	~~~~~~~
San Juan County	325,336	0.6229811	1,264,201	2,629,251	154,601	_	266,086	
Sanpete County	430,606	0.8245623	1,673,265	3,480,011	204,626	_	352,184	
Santaquin City Sevier County	192,704 651,835	0.3690062 1.2481911	748,815	1,557,366 5,267,909	91,574 309,755	_	157,609	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······	~~~~~~	2,532,924			·····	533,123	
Smithfield City Corp	81,550	0.1561583	316,888	659,056	38,753	_	66,698	
South Ogden City Spanish Fork City	430,013 616,622	0.8234270 1.1807616	1,670,961 2,396,091	3,475,220 4,983,327	204,344 293,022	_	351,699 504,323	
Springville City	384,264	0.7358229	1,493,188	3,105,492	182,604	_	314,282	
Stockton Town	10,500	0.0201056	40,800	84,854	4,989	_	8,587	
Summit County	1,647,995	3.1557250	6,403,837	13,318,530	783,135	_	1,347,863	~~~~~~
Sunset City	83,706	0.1602869	325,266	676,480	39,777	_	68,461	
Syracuse City Corp	288,548	0.5525375	1,121,251	2,331,948	137,120	_	235,998	
Tooele City Tooele County	462,412 817,563	0.8854666 1.5655414	1,796,856 3,176,916	3,737,054 6,607,265	219,740 388,510	_	378,198 668,669	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	~~~~~~	~~~~		~~~~~~	~~~~~	~~~~	
Town of Brian Head	91,668	0.1755339 0.1697345	356,207 344,438	740,829	43,561	_	74,973 72,496	
Town of Springdale Tremonton City	88,639 108,974	0.109/343	423,454	716,353 880,687	42,122 51,785	_	72,496 89,127	
Uintah County	860,015	1.6468326	3,341,878	6,950,349	408,684	_	703,390	
Unified Fire Authority	50,686	0.0970583	196,958	409,628	24,086	_	41,455	
Utah County	<del>-</del>	0.0000000		_	_	_		~~~~~~~
Vernal City (	377,394	0.7226660	1,466,489	3,049,964	179,339	_	308,663	
Wasatch County	773,850	1.4818348	3,007,052	6,253,987	367,737	_	632,917	
Washington City Washington County	195,770 2,092,653	0.3748773 4.0071949	760,730 8,131,705	1,582,145 16,912,103	93,031 994,439	_	160,116 1,711,540	
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Wayne County Weber County Corp	51,485 3,889,276	0.0985873 7.4475250	200,061 15,113,085	416,081 31,431,791	24,466 1,848,203	_	42,108 3,180,963	
Wellington City	19,360	0.0370730	75,231	156,464	9,200	_	15,835	
West Bountiful City	113,130	0.2166308	439,604	914,276	53,760	_	92,527	
Willard City Corp	33,971	0.0650507	132,006	274,542	16,143		27,784	
Grand Total	\$ 52,222,396	100.0000000%	202,927,613	422,043,439	24,816,340	_	42,711,678	
No Proportionate Share for 2016								
Escalante Town	\$ 0	0.0000000%	_	_	_	_	_	
Taylorsville City	0	0.0000000		_				
Grand Total	\$ 52,222,396	100.0000000%	\$ 202,927,613	422,043,439	24,816,340	_	42,711,678	

	Deletted Outilot	W3 OT INCSOUTCES				Deterred IIIIIo	ws of nesources		to Empir	yer-raid Mellib	er contributions
Changes of Assumptions		Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
7.55411.p.101.5	201111111111111111111111111111111111111	nesources	Experience		713341111111111111111111111111111111111	Contributions	nesources .	zapense		continuations	Continuations
469,891		1,338,832	219,843	166,375	94,429	_	480,647	817,950	120,024	_	937,974
39,562		93,571	18,510	14,008	7,950	_	40,468	68,867	2,521	_	71,388
209,505 44,623	62,301 32,722	526,007 131,488	98,019 20,877	74,180 15,800	42,102 8,967	_	214,301 45,644	364,691 77,676	29,393 14,267	_	394,084 91,943
29,846		66,059	13,964	10,567	5,998	3,044	33,573	51,953	(1,317)	_	50,636
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~	·····	~~~~~	~~~~~	~~~~~		~~~~~
257,877 81,182	35,975	570,769 215,659	120,650 37,982	91,307 28,744	51,823 16,314	31,630	295,410 83,040	448,892 141,316	(13,692) 15,221	_	435,200 156,537
170,184		376,674	79,622	60,257	34,200	76,182	250,261	296,243	(30,519)	_	265,724
65,214	33,896	178,237	30,511	23,091	13,105	_	66,707	113,520	15,524	_	129,044
122,288	5,025	275,689	57,214	43,299	24,575	685	125,773	212,869	1,534	_	214,403
248,328	_	549,634	116,183	87,926	49,904	42,718	296,731	432,270	(17,631)	_	414,639
111,663	16,598	263,746	52,243	39,537	22,440	10,611	124,831	194,374	978	_	195,352
416,766		956,695	194,988	147,565	83,753	65,228	491,534	725,474	(19,212)	_	706,262
108,016		292,519 54,592	50,536 11,540	38,245 8,733	21,707 4,957	10.047	110,488 35,277	188,026 42,936	20,791	_	208,817
24,665		~~~·	·····	~~~·	·····	10,047			(4,092)		38,844
5,205,530		11,521,601	2,435,459	1,843,133	1,046,107	655,235	5,979,934	9,061,396	(291,580)	_	8,769,816
219,301 290,261	35,949	485,387 678,394	102,602 135,802	77,648 102,773	44,071 58,331	67,336 15,457	291,657 312,363	381,746 505,264	(27,597) 5,806	_	354,149 511,070
129,897	56,471	343,977	60,774	45,993	26,104	13,437	132,871	226,115	25,507	_	251,622
439,386		972,509	205,571	155,574	88,299	130,617	580,061	764,850	(51,850)	_	713,000
54,971	·····	~~~~~	25,719	~~~~~	~~~~~	13 175	99,704	95,689	(20,781)		74,908
289,861	48,048	121,669 689,608	135,615	19,463 102,632	11,047 58,251	43,475 29,754	326,252	504,568	3,303	_	507,871
415,649	83,139	1,003,111	194,466	147,170	83,529		425,165	723,531	37,359	_	760,890
259,023	·—	573,305	121,187	91,713	52,053	100,535	365,488	450,888	(43,003)	_	407,885
7,078	13,249	28,914	3,311	2,506	1,422	4,583	11,822	12,320	2,685		15,005
1,110,872	549,490	3,008,225	519,733	393,328	223,241	_	1,136,302	1,933,722	212,938	_	2,146,660
56,424		124,885	26,398	19,978	11,339	21,050	78,765	98,218	(10,297)	_	87,921
194,503	50,830	481,331	91,000	68,868	39,087		198,955	338,576	20,239	_	358,815
311,700 551,099	_	689,898 1,219,768	145,832 257,837	110,364 195,128	62,639 110,749	77,196 73,389	396,031 637,103	542,584 959,311	(35,759) (30,625)	_	506,825 928,686
······	~~~~~		·····	~~~	·····	~~~~~~			~~~~~	~~~~~	
61,791	18,413	155,177	28,910	21,878	12,418	_	63,206	107,561	7,130	_	114,691
59,750 73,456	97,193 5,649	229,439 168,232	27,954 34,367	21,156 26,009	12,007 14,762	_	61,117 75,138	104,008 127,867	39,332 2,122	_	143,340 129,989
73,430 579,715	95,940	1,379,045	271,226	205,260	116,500	54,719	647,705	1,009,124	26,642	_	1,035,766
34,166		79,049	15,985	12,097	6,866		34,948	59,474	1,286	_	60,760
_	·····								<u>-</u>		
254,392	_	563,055	119,020	90,073	51,123	82,467	342,683	442,825	(36,225)	_	406,600
521,633	80,470	1,235,020	244,051	184,695	104,827	_	533,573	908,019	30,802	_	938,821
131,964		298,126	61,741	46,725	26,519	13,279	148,264	229,712	(1,980)	_	227,732
1,410,605	46,975	3,169,120	659,966	499,455	283,475		1,442,896	2,455,474	22,783		2,478,257
34,705	6,716	83,529	16,237	12,288	6,974	764	36,263	60,411	2,125	_	62,536
2,621,664		5,873,585	1,226,572	928,256	526,850	726,301	3,407,979	4,563,593	(235,535)	_	4,328,058
13,050 76,258		28,885 196,780	6,106 35,678	4,621 27,001	2,623 15,325	20,101 11,263	33,451 89,267	22,717 132,744	(7,525) 9,524	_	15,192 142,268
22,899		57,444	33,076 10,714	8,108	4,602	11,203	23,424	39,861	2,885	_	42,746
-		-	-	-							
35,201,809	4,154,747	82,068,234	16,469,529	12,463,953	7,074,161	4,330,697	40,338,340	61,276,639	(75,151)		61,201,488
_	_	_	_	_	_	16,857	16,857	_	(7,548)	_	(7,548)
						17,873	17,873		(8,757)		(8,757)
35,201,809	4,154,747	82,068,234	16,469,529	12,463,953	7,074,161	4,365,427	40,373,070	61,276,639	(91,455)	_	61,185,184

#### **Public Safety Retirement System** State of Utah

# **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016

Participating Employer	Employer Contributions		Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
Dixie State University Snow College Southern Utah University	\$ 98,655 28,026 94,347		\$ 415,242 117,962 397,109	751,357 213,445 718,545	138,434 39,326 132,389	_ _ _	68,770 19,536 65,767	
State of Utah University of Utah Utah State University	49,646,609 754,208 175,719	1.4847326	208,964,231 3,174,487 739,607	378,108,544 5,744,048 1,338,276	69,664,710 1,058,314 246,571		34,607,606 525,743 122,490	
Grand Total	\$ 50,797,563	100.0000000%	\$ 213,808,638	386,874,215	71,279,744	_	35,409,912	

Difference

Difference

Difference

Difference

Columns may not add to total due to rounding.

#### **Public Safety Retirement System Salt Lake City**

## **Schedule of Employer Allocations** and Pension Amounts

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	
Salt Lake City Corporation	\$ 15,260,367	100.0000000%	\$ 91,688,895	138,403,464	53,229,415	3,006,765	8,524,373	

#### **Public Safety Retirement System Ogden City**

## **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016  Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
Ogden City Corp	\$ 3,146,953	100.0000000%	\$ 19,179,423	29,509,212	10,689,997	103,210	1,989,652	

#### **Public Safety Retirement System Provo City**

## **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016  Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
Provo City Corp	\$ 2,402,524	100.0000000%	\$ 13.875.843	22.061.828	7.157.275	472,334	1,525,915	

	ense Excluding T byer-Paid Memb			ws of Resources	Deferred Inflo				vs of Resources	Deferred Outflov	
Tota Employe Net Pensio Expens Excluding Tha Attributable t Employer-Pai Membe Contribution	Proportionate Share of Nonemployer Contributions	et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Allocable Plan Gross Pension Expense	Total Deferred Inflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Differences Between Expected and Actual Experience	Total Deferred Outflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions
84,04 44,40 70,93	_ _ _	3,315 21,474 (6,271)	80,730 22,934 77,204	52,607 14,945 75,490	  25,181	9,107 2,587 8,710	19,909 5,656 19,039	23,591 6,702 22,560	115,598 77,680 111,324	6,134 46,584 6,640	40,694 11,560 38,917
40,698,68 806,52 146,63		72,684 189,357 2,844	40,626,005 617,171 143,792	26,473,437 402,172 93,700		4,583,149 69,625 16,222	10,018,686 152,199 35,460	11,871,602 180,348 42,018	55,233,846 1,199,018 201,130	147,576 362,173 6,158	20,478,664 311,102 72,482
41,851,24	_	283,404	41,567,836	27,112,351	25,181	4,689,400	10,250,949	12,146,821	56,938,596	575,265	20,953,419
	ense Excluding T oyer-Paid Memb			ws of Resources	Deferred Inflo				vs of Resources	Deferred Outflov	
Tota Employe Net Pensio Expens Excluding The Attributable t Employer-Pai Membe Contribution	Proportionate Share of Nonemployer Contributions	Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Allocable Plan Gross Pension Expense	Total Deferred Inflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Differences Between Expected and Actual Experience	Total Deferred Outflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Changes of Assumptions
									nesources	Contributions	Assumptions
16,070,94	_	_	16,070,941	3,973,878	_	1,137,750	2,478,861	357,267	19,690,847	—	8,159,709
hat Attributabl	ense Excluding T oyer-Paid Memb Proportionate Share of Nonemployer Contributions			3,973,878 ws of Resources  Total Deferred Inflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions				19,690,847	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	· · · · · · · · · · · · · · · · · · ·
hat Attributabler Contribution  Tota Employe Net Pensio Expens Excluding The Attributable t Employer-Pai Membe	pyer-Paid Memb  Proportionate Share of Nonemployer	et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Proportionate Share of Allocable Plan Gross Pension	ws of Resources  Total  Deferred Inflows of	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	1,137,750	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	357,267  Differences Between Expected and Actual	19,690,847  vs of Resources  Total Deferred Outflows of	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	8,159,709  Changes of
Tot Employer.Pa Membi Contribution 3,400,35	Proportionate Share of Nonemployer Contributions — ense Excluding T oyer-Paid Memb	to Emple et Amortization of Deferred Amounts from Proportion and Differences Between Employer Contributions and Proportionand Proportionand Fonderionand Contributions  Pension Exp to Emple et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions	Proportionate Share of Allocable Plan Gross Pension Expense 3,400,351	Total Deferred Inflows of Resources 1,388,137	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  Deferred Inflo  Changes in Proportion and Differences Between Employer Contributions	1,137,750  Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments 569,290	Differences Between Expected and Actual Experience 666,957	19,690,847  Total Deferred Outflows of Resources 3,746,871	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  Deferred Outflow  Changes in Proportion and Differences Between Employer Contributions	Changes of Assumptions
hat Attributaber Contributio  Tot Employ Net Pensis Expen Excluding Th Attributable Employer-Pa Memb Contributio  3,400,33	Proportionate Share of Nonemployer Contributions	to Emple et Amortization of Deferred Amounts from Proportion and Differences Between Employer Contributions and Proportionand Proportionand Fonderionand Contributions  Pension Exp to Emple et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions	Proportionate Share of Allocable Plan Gross Pension Expense 3,400,351	Total Deferred Inflows of Resources 1,388,137	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  —  Deferred Inflo  Changes in Proportion and Differences Between Employer	1,137,750  Changes of Assumptions	Net Difference Between Projected and Actual Investments F69,290  Net Difference Between Projected	Differences Between Expected and Actual Experience	Total Deferred Outflows of Resources 3,746,871	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  Deferred Outflow  Changes in Proportion and Differences Between Employer	Changes of Assumptions

#### **Public Safety Retirement System Logan City**

# **Schedule of Employer Allocations** and Pension Amounts

at December 31. 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	
Logan City	\$ 1,051,517	100.0000000%	\$ 7,205,719	11,740,559	3,518,071	83,751	875,536	

Net Difference Between

Net Difference

Net Difference

#### **Public Safety Retirement System Bountiful City**

# **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016 Participating Employer	Con	Employer tributions	Employer Allocation Percentage	Lial	Net Pension bility/(Asset) 0% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
City of Bountiful	\$	943,052	100.0000000%	\$	7,319,792	10,671,389	4,545,260	750,631	635,429	

#### **Public Safety Retirement System Other Division B without Social Security**

# **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016  Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
City of Orem	\$ 1,677,649	7.8307470%	\$ 4,880,882	10,114,449	603,896	1,577,122	921,880	
City of Saratoga Springs	319,539	1.4915100	929,654	1,926,483	115,023	300,392	175,589	
City of West Jordan	2,016,190	9.4109506	5,865,818	12,155,492	725,759	1,895,377	1,107,910	
Cottonwood Heights City	538,363	2.5129097	1,566,289	3,245,757	193,792	506,103	295,834	
Lone Peak PS District	348,605	1.6271805	1,014,217	2,101,720	125,486	327,716	191,561	
Sandy City	1,663,830	7.7662414	4,840,676	10,031,132	598,921	1,564,130	914,286	
Town of Mantua	3,684	0.0171944	10,717	22,209	1,326	3,463	2,024	
Unified Police Department	7,290,958	34.0319334	21,212,005	43,956,762	2,624,491	6,854,071	4,006,431	
Utah County	4,391,079	20.4961943	12,775,219	26,473,556	1,580,636	4,127,958	2,412,928	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
West Valley City	2,998,008	13.9937734	8,722,279	18,074,816	1,079,179	2,818,363	1,647,426	
Woods Cross City	175,968	0.8213653	511,955	1,060,902	63,342	165,424	96,696	
Grand Total	\$ 21,423,873	100.0000000%	\$ 62,329,711	129,163,278	7,711,851	20,140,119	11,772,565	·

	Deferred Outflows of Resources				Deferred Inflows of Resources			Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
								N	et Amortization of Deferred		
	Changes in Proportion and Differences					Changes in Proportion and Differences			Amounts from Changes in Proportion and Differences		Total Employer
	Between Employer Contributions		Differences	Difference Between Projected and Actual		Between Employer Contributions		Proportionate Share of	Between Employer		Net Pension Expense Excluding That
Changes of Assumptions	and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Between Expected and Actual Experience	Investment Earnings on Pension Plan Investments	Changes of Assumptions	and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Allocable Plan Gross Pension Expense	Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Attributable to Employer-Paid Member Contributions
784,047	784,047 — 1,743,334				150,192	_	588,277	1,589,033	_	_	1,589,033

	Deferred Outflow	s of Resources	Deferred Inflows of Resources			Pension Expense Excluding That Attributable to Employer-Paid Member Contributions					
								N	et Amortization of Deferred Amounts from		
	Changes in				Changes in				Changes in		
	Proportion and			Net		Proportion and			Proportion and		Total
	Differences Between			Difference Between		Differences Between			Differences Between		Employer Pension
	Employer			Projected		Employer		Proportionate	Employer		Net Expense
	Contributions		Differences	and Actual		Contributions		Share of	Contributions		Excluding That
	and	Total	Between	Investment		and	Total	Allocable		Proportionate	Attributable to
Changes of	Proportionate Share of	Deferred Outflows of	Expected and Actual	Earnings on Pension Plan	Changes of	Proportionate Share of	Deferred Inflows of	Plan Gross Pension	Proportionate Share of	Share of Nonemployer	Employer-Paid Member
Assumptions	Contributions	Resources	Experience	Investments	Assumptions	Contributions	Resources	Expense	Contributions	Contributions	Contributions
624,469	624,469 — 2,010,529			180,894	82,204	_	263,098	1,460,663	_	_	1,460,663

	Deferred Outflows of Resources				ces Deferred Inflows of Resource					<u> </u>			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		Proportionate Share of	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions		
956,836	36,101	3,491,939	_	281,556	248,508	45,513	575,577	1,384,549	(3,702)	_	1,380,847		
182,247	22,563	680,791	_	53,627	47,333	15,294	116,254	263,713	1,135	_	264,848		
1,149,920	287,877	4,441,084	_	338,372	298,655	_	637,027	1,663,944	72,674	_	1,736,618		
307,051	86,431	1,195,419		90,352	79,747	_	170,099	444,306	21,546		465,852		
198,825	5,814	723,916	_	58,506	51,638	15,573	125,717	287,701	(2,758)	_	284,943		
948,954	_	3,427,370	_	279,236	246,461	122,159	647,856	1,373,144	(29,217)	_	1,343,927		
2,101	4,020	11,608	_	618	546	_	1,164	3,040	917	_	3,957		
4,158,350	150,838	15,169,690	_	1,223,624	1,079,999	196,206	2,499,829	6,017,161	(17,053)	_	6,000,108		
2,504,422	227,846	9,273,154	_	736,944	650,444	_	1,387,388	3,623,918	54,835	_	3,678,753		
1,709,894	_	6,175,683	_	503,148	444,091	387,381	1,334,620	2,474,229	(89,948)	_	2,384,281		
100,362	4,215	366,697		29,532	26,066	20,300	75,898	145,225	(3,523)		141,702		
12,218,962	825,704	44,957,350	_	3,595,515	3,173,488	802,427	7,571,430	17,680,930	4,905	_	17,685,835		

#### **Firefighters Retirement System** Other Division A with Social Security

## Schedule of Employer Allocations and Pension Amounts

and Pension Amounts at December 31, 2016							Net Difference Between Projected	
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	
American Fork City Brigham City Cache County Cedar City City of Draper	\$ 15,955 8,977 7,493 18,698 1,216	1.4418841% 0.8112751 0.6771347 1.6897646 0.1098577	(11,367) (6,396) (5,338) (13,321) (866)	411,060 231,282 193,041 481,727 31,319	(354,124) (199,248) (166,303) (415,003) (26,981)	_ _ _ _ _	89,361 50,279 41,966 104,724 6,808	
City of Kanab City of Santa Clara City of South Jordan City of South Salt Lake City of St George	2,252 4,349 94,831 106,246 58,949	0.2034758 0.3930163 8.5699580 9.6015631 5.3272443	(1,604) (3,098) (67,561) (75,694) (41,997)	58,008 112,043 2,443,167 2,737,262 1,518,718	(49,973) (96,524) (2,104,766) (2,358,126) (1,308,361)	_ _ _ _ _	12,610 24,357 531,126 595,060 330,158	
City of Washington Terrace Clinton City Farmington City Hurricane Valley Fire Special Service District Ivins City	1,938 16,300 10,951 13,677 1,269	0.1751689 1.4730711 0.9896594 1.2359810 0.1147079	(1,381) (11,613) (7,802) (9,744) (904)	49,938 419,951 282,137 352,360 32,702	(43,021) (361,784) (243,059) (303,555) (28,172)		10,856 91,294 61,334 76,600 7,109	
Kaysville City Layton City Lehi City Moab Valley Fire Protection Morgan County	5,233 116,921 62,084 5,166 233	0.4728736 10.5662448 5.6106342 0.4668459 0.0211007	(3,728) (83,299) (44,231) (3,680) (166)	134,809 3,012,278 1,599,508 133,091 6,015	(116,137) (2,595,050) (1,377,961) (114,656) (5,182)		29,307 654,847 347,721 28,933 1,308	
Murray City N Tooele Co Fire Protection SD North Davis Fire District North Fork Special Service District North Logan City	133,750 2,062 30,446 928 4,371	12.0871251 0.1863098 2.7514108 0.0838282 0.3950045	(95,289) (1,469) (21,691) (661) (3,114)	3,445,856 53,114 784,386 23,898 112,610	(2,968,576) (45,757) (675,741) (20,588) (97,012)		749,106 11,547 170,520 5,195 24,481	
North View Fire District Payson City Pleasant Grove City Price City Riverdale City	17,246 3,452 22,096 2,867 21,900	1.5585305 0.3119508 1.9967965 0.2590720 1.9791597	(12,287) (2,459) (15,742) (2,042) (15,603)	444,314 88,933 569,257 73,858 564,229	(382,772) (76,615) (490,410) (63,628) (486,078)		96,590 19,333 123,752 16,056 122,659	
Roy City Smithfield City Corp So Davis Metro Fire Agency South Ogden City Springville City	45,315 4,730 127,926 23,789 5,476	4.0952062 0.4274197 11.5608385 2.1497992 0.4948301	(32,284) (3,370) (91,140) (16,948) (3,901)	1,167,482 121,851 3,295,822 612,876 141,069	(1,005,775) (104,973) (2,839,320) (527,987) (121,529)		253,802 26,489 716,487 133,235 30,667	
State of Utah Syracuse City Corp Uintah Fire Suppression Special Service District Wasatch County Fire District Washington City	47,584 20,496 4,440 27,653 7,286	4.3002318 1.8522833 0.4012482 2.4990163 0.6584776	(33,901) (14,602) (3,163) (19,701) (5,191)	1,225,932 528,058 114,390 712,432 187,722	(1,056,129) (454,917) (98,546) (613,754) (161,721)		266,508 114,796 24,867 154,877 40,809	
Grand Total	\$ 1,106,549	100.0000000%	\$ (788,348)	28,508,505	(24,559,814)		6,197,534	
No Proportionate Share for 2016 Hurricane City Leeds Area Special Service District	\$ — —	0.0000000% 0.0000000	\$ — —		(24.550.01.1)	_		
Grand Total	\$ 1,106,549	100.0000000%	\$ (788,348)	28,508,505	(24,559,814)		6,197,534	

Columns may not add to total due to rounding.

										-	
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
57,279	2 172	1/0 012	24 602	25 /10	26 272	1 106	87,470	58,710	314	(37,213)	21,811
32,228	3,173	149,813 82,507	24,602 13,842	25,410 14,297	36,272 20,409	1,186 25,502	74,050	33,033	(4,317)	(20,938)	7,778
26,899	1,129	69,994	11,554	11,933	17,034	44	40,565	27,571	181	(17,476)	10,276
67,126	2,130	173,980	28,831	29,778	42,508	2,596	103,713	68,803	(46)	(43,610)	25,147
4,364	_	11,172	1,874	1,936	2,764	5,044	11,618	4,473	(843)	(2,835)	795
8,083	710	21,403	3,472	3,586	5,119	_	12,177	8,285	123	(5,251)	3,157
15,613	_	39,970	6,706	6,926	9,887	10,847	34,366	16,003	(1,851)	(10,143)	4,009
340,440	10,456	882,022	146,224	151,027	215,587	_	512,838	348,949	1,797	(221,178)	129,568
381,421	5,654	982,135	163,826	169,207	241,538	1,362	575,933	390,954	802	(247,803)	143,953
211,624	369	542,151	90,896	93,881	134,013	10,839	329,629	216,913	(1,743)	(137,489)	77,681
6,959	73	17,888	2,989	3,087	4,407	112	10,595	7,132	(8)	(4,521)	2,603
58,518	_	149,812	25,134	25,960	37,057	2,444	90,595	59,980	(442)	(38,018)	21,520
39,314	_	100,648	16,886	17,441	24,896	3,124	62,347	40,297	(555)	(25,542)	14,200
49,099	_	125,699	21,089	21,782	31,092	16,964	90,927	50,326	(3,048)	(31,899)	15,379
4,557	7,464	19,130	1,957	2,021	2,886		6,864	4,671	1,265	(2,960)	2,976
18,785	_	48,092	8,068	8,333	11,896	21,712	50,009	19,254	(3,627)	(12,204)	3,423
419,743	17,390	1,091,980	180,286	186,207	265,806		632,299	430,234	2,957	(272,700)	160,491
222,882		570,603	95,731	98,875	141,142	11,338	347,086	228,452	(1,919)	(144,802)	81,731
18,545	867	48,345	7,966	8,227	11,744	2,356	30,293	19,009	(236)	(12,049)	6,724
838		2,146	360	372	531	969	2,232	859	(162)	(545)	152
480,159	2,813	1,232,078	206,236	213,013	304,059	26,412	749,720	492,163	(3,899)	(311,953)	176,311
7,401	3,069	22,017	3,179	3,283	4,687	_	11,149	7,586	533	(4,808)	3,311
109,299	18,054	297,873	46,946	48,488	69,215		164,649	112,031	3,022	(71,010)	44,043
3,330	865	9,390	1,430	1,477	2,109	3,849	8,865	3,413	(485)	(2,163)	765
15,691	975	41,147	6,740	6,961	9,937	289	23,927	16,084	110	(10,194)	6,000
61,912	760	159,262	26,592	27,466	39,207	695	93,960	63,460	22	(40,223)	23,259
12,392	491	32,216	5,323	5,497	7,847	135	18,802	12,702	57	(8,051)	4,708
79,322	12,811	215,885	34,070	35,189	50,232		119,491	81,305	2,180	(51,534)	31,951
10,292	222	26,570	4,420	4,566	6,517 49,788	7	15,510	10,549	36 720	(6,686)	3,899
78,622	4,211	205,492	33,769	34,878		<del>-</del>	118,435	80,587	~~~~~	(51,079)	30,228
162,681	16,873	433,356	69,874	72,169	103,019	_	245,062	166,748	2,820	(105,691)	63,877
16,979	12,921	56,389	7,293	7,532	10,752	_	25,577	17,404	2,176	(11,031)	8,549
459,253 85,400	9,819 1,648	1,185,559 220,283	197,256 36,681	203,735 37,886	290,826 54,081	187	691,817 128,835	470,731 87,535	1,665 241	(298,369) (55,483)	174,027 32,293
19,657	1,046	51,580	8,443	8,720	12,448	491	30,102	20,148	120	(12,771)	7,497
170,826	~~~~ <u>`</u>	437,334	73,372	75,782	108,177	34,684	292,015	175,096	(6,033)	(110,983)	58,080
73,582	25	188,403	31,604	32,643	46,596	1,016	111,859	75,421	(165)	(47,805)	27,451
15,940	1,861	42,668	6,846	7,071	10,094		24,011	16,338	311	(10,356)	6,293
99,273	656	254,806	42,639	44,040	62,866	1,491	151,036	101,754	(162)	(64,496)	37,096
26,158	9,745	76,712	11,235	11,604	16,565	101	39,505	26,812	1,609	(16,994)	11,427
3,972,486	148,495	10,318,515	1,706,241	1,762,286	2,515,610	185,796	6,169,933	4,071,775	(6,476)	(2,580,856)	1,484,443
_	11,534	11,534	_	_	_	_	_	_	2,101	_	2,101
	7,614	7,614							1,291		1,291
3,972,486	167,643	10,337,663	1,706,241	1,762,286	2,515,610	185,796	6,169,933	4,071,775	(3,085)	(2,580,856)	1,487,834

#### **Firefighters Retirement System Other Division B without Social Security**

## **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016

Participating Employer		imployer ributions	Employer Allocation Percentage	Liab	let Pension ility/(Asset) % Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
City of Orem City of Saratoga Springs	\$	221,381 27,502	3.8179852% 0.4743030	\$	564,747 70,158	5,390,133 669,609	(3,415,647) (424,321)	_	1,170,295 145,384	
City of West Jordan Logan City Lone Peak PS District		321,602 175,682 35,663	5.5464135 3.0298502 0.6150544		820,411 448,168 90,977	7,830,284 4,277,465 868,318	(4,961,934) (2,710,565) (550,240)	_ _ _	1,700,095 928,714 188,527	
Ogden City Corp Park City Fire Service Provo City Corp Salt Lake City Corp Sandy City		339,915 311,575 295,685 ,506,923 272,168	5.8622338 5.3734852 5.0994441 25.9886908 4.6938587	~~~	867,127 794,832 754,297 3,844,181 694,304	8,276,151 7,586,148 7,199,264 36,690,166 6,626,669	(5,244,473) (4,807,229) (4,562,066) (23,250,010) (4,199,221)		1,796,901 1,647,089 1,563,089 7,966,092 1,438,769	
Unified Fire Authority Weber Fire District West Valley City	1,	,743,278 179,209 367,798	30.0649010 3.0906676 6.3431125		4,447,122 457,164 938,257	42,444,856 4,363,325 8,955,043	(26,896,670) (2,764,974) (5,674,677)	_ _ _ _	9,215,539 947,356 1,944,300	
Grand Total	\$ 5	,798,382	100.0000000%	\$	14,791,745	141,177,431	(89,462,027)	_	30,652,150	

Difference Between

Net

Columns may not add to total due to rounding.

#### **Judges Retirement System**

## **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016  Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
State of Utah	\$ 7,382,309	100.0000000%	\$ 35,005,177	56,844,504	16,252,658	2,024,056	5,803,666	

#### **Utah Governors and Legislators Retirement Plan**

## **Schedule of Employer Allocations** and Pension Amounts

at December 31, 2016									Difference Between Projected	
Participating Employer	Co	Employer ntributions	Employer Allocation Percentage	Lia	Net Pension ability/(Asset) 10% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	
State of Utah	\$	421,009	100.0000000%	\$	2,302,925	3,526,108	1,265,422	_	357,027	

	oyer-Paid Membe			ws of Resources	Deletted IIIIIo				s of Resources	Deferred Outflow	
Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	Proportionate Share of Nonemployer Contributions	et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Total Deferred Inflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Differences Between Expected and Actual Experience	Total Deferred Outflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions
151,998	(304,971)	(4,918)	461,887	1,355,472	21,759	347,083	335,154	651,476	1,835,540		665,245
21,461	(37,886)	1,967	57,380	165,686		43,118	41,636	80,932	236,868	8,841	82,643
239,209	(443,034)	11,256	670,987	1,937,494	_	504,210	486,880	946,404	2,715,270	48,768	966,407
122,570	(242,017)	(1,954)	366,541	1,068,371	9,972	275,436	265,969	516,994	1,458,387	1,752	527,921
26,256	(49,129)	978	74,407	214,853	_	55,913	53,991	104,949	300,002	4,308	107,167
236,514	(468,261)	(4,419)	709,194	2,075,169	27,351	532,921	514,604	1,000,293	2,827,801	9,465	1,021,435
217,494	(429,221)	(3,352)	650,067	1,892,509	15,423	488,490	471,700	916,896	2,583,365	_	936,276
208,573	(407,331)	(1,010)	616,914	1,785,794	4,436	463,578	447,644	870,136	2,451,616	_	888,527
1,068,396	(2,075,914)	283	3,144,027	9,078,716	246	2,362,566	2,281,363	4,434,541	12,495,799	1,440	4,528,267
193,359	(374,934)	445	567,848	1,647,518	7,841	426,707	412,041	800,929	2,265,385	8,758	817,858
1,236,990	(2,401,513)	1,350	3,637,153	10,519,987	17,597	2,733,124	2,639,186	5,130,080	14,475,212	21,168	5,238,505
128,448	(246,875)	1,424	373,899	1,079,644	_	280,965	271,308	527,371	1,492,104	6,230	538,518
252,473	(506,673)	(8,223)	767,369	2,251,957	36,157	576,636	556,817	1,082,347	3,049,523	_	1,105,223
4,103,743	(7,987,759)	(6,171)	12,097,673	35,073,170	140,782	9,090,747	8,778,293	17,063,348	48,186,872	110,730	17,423,992
	ense Excluding Tl	Pension Expe									
Fhat Attributable	ense Excluding Tl oyer-Paid Membe	to Emplo		ws of Resources	Deferred Inflo				rs of Resources	Deferred Outflow	
Fhat Attributable		to Emplo et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions		ws of Resources  Total  Deferred Inflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Differences Between Expected and Actual Experience	Total Deferred Outflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions
That Attributable er Contributions  Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member	pyer-Paid Membe Proportionate Share of Nonemployer	to Emplo et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Proportionate Share of Allocable Plan Gross Pension	Total Deferred Inflows of	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Changes of	Difference Between Projected and Actual Investment Earnings on Pension Plan	Between Expected and Actual	Total Deferred Outflows of	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	
Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions 7,911,798  That Attributable to Employer to the the thick the thi	Proportionate Share of Nonemployer Contributions (1,469,774) ense Excluding Ti pyer-Paid Membe	to Emplo et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions —  Pension Expt to Emplo et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportions and Proportion and Proportionate	Proportionate Share of Allocable Plan Gross Pension Expense  9,381,572  N  Proportionate Share of Allocable Plan Gross	Total Deferred Inflows of Resources 1,701,674 ws of Resources Total Deferred	Changes in Proportion and Differences Between Employer Contributions and Proportionate Contributions  Deferred Inflo  Changes in Proportion and Differences Between Employer Contributions	Changes of Assumptions	Difference Between Projected and Actual Investment Earnings on Pension Plan Investments  1,678,231  Net Difference Between Projected and Actual Investments	Between Expected and Actual Experience  ——  Differences Between Expected	Total Deferred Outflows of Resources 9,958,579	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  Deferred Outflow  Changes in Proportion and Differences Between Employer Contributions	Assumptions 2,130,857
That Attributable er Contributions  Total Employer Net Pension Expense Excluding That Attributable to Employer Contributions  7,911,798  That Attributable to Employer Expension Expense Excluding That Attributable to the Contributions	Proportionate Share of Nonemployer Contributions  (1,469,774)  Proportionate Share of Nonemployer	to Emploe et Amortization of Deferred Amounts from Changes in Poportion and Differences Between Employer Contributions And Proportionate Share of Contributions  Pension Expr to Emploe et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions	Proportionate Share of Allocable Plan Gross Pension Expense  9,381,572  N  Proportionate Share of Allocable	Total Deferred Inflows of Resources 1,701,674 ws of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  Deferred Inflo  Changes in Proportion and Differences Between Employer Contributions	Changes of Assumptions	Difference Between Projected and Actual Investment Earnings on Pension Plan Investments  1,678,231	Between Expected and Actual Experience  ——  Differences Between	Total Deferred Outflows of Resources 9,958,579	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions  Deferred Outflow  Changes in Proportion and Differences Between Employer Contributions and	Assumptions

Pension Expense Excluding That Attributable

# Schedule of Employer Allocations and Pension Amounts

at December 21, 2016							Net D:#
at December 31, 2016							Difference Between Projected
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments
4 Corners Community Behavior Health Active Re Entry Inc Alpine City Alpine School District American Fork City	\$ 63,033 1,262 11,480 3,768,441 67,068	0.0926049% 0.0018535 0.0168651 5.5364018 0.0985332	\$ 10,330 207 1,881 617,582 10,991	70,313 1,407 12,805 4,203,669 74,814	(35,302) (707) (6,429) (2,110,535) (37,562)	_ _ _ _	3,901 78 710 233,216 4,151
American Leadership Academy Ames Charter School Ash Creek Special Service District Ashley Valley Improvement District Ballard Town	110,512 6,265 1,264 8,709 1,714	0.1623589 0.0092037 0.0018566 0.0127943 0.0025181	18,111 1,027 207 1,427 281	123,276 6,988 1,410 9,714 1,912	(61,893) (3,509) (708) (4,877) (960)		6,839 388 78 539
Bear River Association of Governments Bear River Health Department Bear River Mental Health Bear River Water District Beaver City	20,528 96,666 86,448 6,453 19,832	0.0301585 0.1420163 0.1270057 0.0094808 0.0291356	3,364 15,842 14,167 1,058 3,250	22,899 107,830 96,433 7,199 22,122	(11,497) (54,138) (48,416) (3,614) (11,107)		1,270 5,982 5,350 399 1,227
Beaver County Beaver School District Beaver Valley Hospital Benchland Water Company Blanding City	45,221 63,747 50,623 3,213 8,424	0.0664371 0.0936545 0.0743723 0.0047206 0.0123761	7,411 10,447 8,296 527 1,381	50,444 71,110 56,469 3,584 9,397	(25,327) (35,702) (28,352) (1,800) (4,718)		2,799 3,945 3,133 199 521
Bluffdale City Bona Vista Water Improvement Bountiful Irrigation District Box Elder Co Mosquito District Box Elder County	49,797 3,138 3,149 3,300 54,304	0.0731596 0.0046096 0.0046269 0.0048478 0.0797810	8,161 514 516 541 8,900	55,548 3,500 3,513 3,681 60,576	(27,889) (1,757) (1,764) (1,848) (30,413)	_ _ _ _	3,082 194 195 204 3,361
Box Elder School District Bridgerland Applied Technology Center Brigham City Cache County Cache School District	445,275 36,867 69,743 94,462 642,937	0.6541755 0.0541636 0.1024636 0.1387795 0.9445697	72,973 6,042 11,430 15,481 105,366	496,701 41,125 77,798 105,372 717,191	(249,379) (20,648) (39,060) (52,904) (360,080)	_ _ _ _	27,557 2,282 4,316 5,846 39,789
Canyons School District Carbon County Carbon School District Castle Dale City Castle Valley Special Service District	2,369,619 98,274 203,993 2,501 3,211	3.4813235 0.1443787 0.2996958 0.0036748 0.0047168	388,339 16,105 33,431 410 526	2,643,293 109,624 227,552 2,790 3,581	(1,327,117) (55,039) (114,247) (1,401) (1,798)	_ _ _ _	146,647 6,082 12,624 155 199
Cedar City Cedar City Housing Authority Centerfield City Centerville City Central Davis Sewer District	64,284 4,826 1,854 12,131 11,611	0.0944426 0.0070904 0.0027245 0.0178215 0.0170589	10,535 791 304 1,988 1,903	71,708 5,384 2,069 13,531 12,952	(36,003) (2,703) (1,039) (6,794) (6,503)	_ _ _ _	3,978 299 115 751 719
Central Iron Co Water Conservancy Central UT Public Health Central Utah Counseling Center Central Utah Water District Central Weber Sewer District	9,122 22,922 31,169 88,035 47,283	0.0134021 0.0336756 0.0457916 0.1293359 0.0694657	1,495 3,756 5,108 14,427 7,749	10,176 25,569 34,769 98,202 52,744	(5,109) (12,837) (17,456) (49,304) (26,481)		565 1,419 1,929 5,448 2,926
City of Bountiful City of Cedar Hills City of Draper City of Duchesne City of Green River	151,577 13,069 101,428 4,414 3,796	0.2226893 0.0191998 0.1490124 0.0064848 0.0055773	24,841 2,142 16,622 723 622	169,083 14,578 113,142 4,924 4,235	(84,892) (7,319) (56,805) (2,472) (2,126)		9,381 809 6,277 273 235
City of Harrisville City of Helper City of Holladay City of Kanab City of Milford	3,654 6,541 15,130 16,205 6,678	0.0053676 0.0096093 0.0222287 0.0238077 0.0098113	599 1,072 2,480 2,656 1,094	4,076 7,296 16,878 18,077 7,450	(2,046) (3,663) (8,474) (9,076) (3,740)		226 405 936 1,003 413
City of Moab City of Monticello City of Naples City of North Salt Lake City of Orem	50,026 14,086 7,454 33,495 205,504	0.0734958 0.0206940 0.0109503 0.0492092 0.3019157	8,198 2,308 1,221 5,489 33,678	55,804 15,713 8,314 37,363 229,238	(28,017) (7,889) (4,174) (18,759) (115,093)		3,096 872 461 2,073 12,718

	Deferred Outfloy	vs of Resources				Deferred Inflo	ws of Resources		to Emplo	yer-Paid Membe	er Contributions
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Assumptions		nesources	Experience	ilivestillelits		Contributions	nesources	Expense		Contributions	Contributions
6,677 134 1,216 399,212 7,105	7,544 146 1,374 435,539 8,042	18,122 358 3,300 1,067,967 19,298	8,565 171 1,560 512,038 9,113	1,246 25 227 74,519 1,326	941 19 171 56,231 1,001	32 — —	10,752 247 1,958 642,788 11,440	65,583 1,313 11,944 3,920,907 69,782	722 10 132 41,797 770	_ _ _ _	66,305 1,323 12,076 3,962,704 70,552
11,707	13,199	31,745	15,016	2,185	1,649	_	18,850	114,983	1,270	_	116,253
664 134	747 147	1,799 359	851 172	124 25	93 19	_	1,068 216	6,518 1,315	72 13	_	6,590 1,328
923	914	2,376	1,183	172	130	_	1,485	9,061	88	_	9,149
182	189	477	233	34	26		293	1,783	18		1,801
2,175	2,501	5,946	2,789	406	306	_	3,501	21,358	239	_	21,597
10,240 9,158	11,772 10,194	27,994 24,702	13,134 11,746	1,912 1,709	1,442 1,290	_	16,488 14,745	100,577 89,946	1,134 980	_	101,711 90,926
684	827	1,910	877	128	96	_	1,101	6,714	80	_	6,794
2,101	2,421	5,749	2,695	392	296		3,383	20,634	232		20,866
4,791 6,753	5,365 7,575	12,955 18,273	6,144 8,662	894 1,261	675 951	_	7,713 10,874	47,051 66,327	514 719	_	47,565 67,046
5,363	5,993	14,489	6,878	1,001	755	_	8,634	52,671	569	_	53,240
340	374	913	437	64	48	_	549	3,343	36	_	3,379
892	1,022	2,435	1,145	167	126	<del>-</del>	1,438	8,765	98	<del>-</del>	8,863
5,275 332	5,929 442	14,286 968	6,766 426	985 62	743 47	_	8,494 535	51,812 3,265	570 43	_	52,382 3,308
334	380	909	428	62	47	_	537	3,277	37	_	3,314
350 5,753	378 6,549	932 15,663	448 7,379	65 1,074	49 810	_	562 9,263	3,433 56,501	36 633	_	3,469 57,134
47,171	52,190	126,918	60,502	8,805	6,644		75,951	463,290	4,995	<u>-</u>	468,285
3,906	4,853	11,041	5,009	729	550	_	6,288	38,359	467	_	38,826
7,388 10,007	8,031 11,117	19,735 26,970	9,476 12,835	1,379 1,868	1,041 1,410	_	11,896 16,113	72,565 98,284	762 1,055	_	73,327 99,339
68,110	75,578	183,477	87,359	12,714	9,594	_	109,667	668,949	7,242	_	676,191
251,027	270,369	668,043	321,973	46,858	35,359		404,190	2,465,490	25,933		2,491,423
10,411 21,610	11,891 23,652	28,384	13,353 27,718	1,943 4,034	1,466	_	16,762	102,250 212,246	1,142 2,260	_	103,392 214,506
21,010	23,032 274	57,886 694	340	4,034 49	3,044 37	_	34,796 426	2,603	2,200	_	2,630
340	353	892	436	63	48	_	547	3,340	34	_	3,374
6,810	7,704	18,492	8,735	1,271	959	_	10,965	66,885	743	_	67,628
511 196	547 215	1,357 526	656 252	95 37	72 28	_	823 317	5,021 1,930	53 20	_	5,074 1,950
1,285	1,346	3,382	1,648	240	181	_	2,069	12,621	128	_	12,749
1,230	1,292	3,241	1,578	230	173		1,981	12,081	122		12,203
966 2,428	1,011 2,535	2,542 6,382	1,240 3,115	180 453	136 342	_	1,556 3,910	9,491 23,849	97 244	_	9,588 24,093
3,302	3,356	8,587	4,235	616	465	_	5,316	32,430	316	_	32,746
9,326 5,009	10,986 5,479	25,760 13,414	11,962 6,425	1,741 935	1,314 706	_	15,017 8,066	91,596 49,196	1,060 527	_	92,656 49,723
16,057	18,104	43,542	20,596	2,997	2,262		~~~~~	157,710	1,741		159,451
1,384	1,557	3,750	1,776	258	195	_	25,855 2,229	13,597	153	_	13,750
10,745	12,076	29,098	13,782	2,006	1,513	_	17,301	105,531	1,147	_	106,678
468 402	552 449	1,293 1,086	600 516	87 75	66 57	_	753 648	4,593 3,950	52 43	_	4,645 3,993
387	441	1,054	496	72	55		623	3,801	43		3,844
693	765	1,863	889	129	98	_	1,116	6,805	74	_	6,879
1,603 1,717	1,796 1,958	4,335 4,678	2,056 2,202	299 320	226 242	_	2,581 2,764	15,742 16,861	168 184	_	15,910 17,045
707	758	1,878	907	132	100	_	1,139	6,948	73	_	7,021
5,300	6,033	14,429	6,797	989	746	_	8,532	52,050	567	_	52,617
1,492 790	1,711 1,041	4,075 2,292	1,914 1,013	279 147	210 111	_	2,403 1,271	14,656 7,755	164 102	_	14,820 7,857
3,548	3,724	9,345	4,551	662	500	<del>-</del>	5,713	34,850	357	_	35,207
21,770	24,949	59,437	27,923	4,064	3,066		35,053	213,818	2,384		216,202

## Schedule of Employer Allocations and Pension Amounts (Continued)

							Net Difference Between Projected	
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	
City of Riverton City of Santa Clara City of Saratoga Springs City of South Jordan City of South Salt Lake	\$ 94,607 16,769 76,913 158,894 124,828	0.1389913% 0.0246362 0.1129970 0.2334395 0.1833915	\$ 15,504 2,748 12,605 26,040 20,457	105,533 18,706 85,796 177,246 139,245	(52,985) (9,392) (43,076) (88,990) (69,911)	_ _ _ _	5,855 1,038 4,760 9,833 7,725	
City of St George City of Taylorsville City of Uintah City of Washington Terrace City of Wendover	474,093 35,272 3,301 9,444 6,523	0.6965131 0.0518192 0.0048491 0.0138746 0.0095832	77,696 5,780 541 1,548 1,069	528,847 39,345 3,682 10,535 7,276	(265,518) (19,754) (1,849) (5,289) (3,653)	_ _ _ _	29,340 2,183 204 584 404	~~~~
City of West Haven City of West Jordan Clearfield City Cleveland Town Clinton City	10,497 200,679 67,615 1,892 19,084	0.0154215 0.2948270 0.0993367 0.0027802 0.0280371	1,720 32,888 11,081 310 3,128	11,709 223,856 75,424 2,111 21,288	(5,879) (112,391) (37,868) (1,060) (10,688)	_ _ _ _ _	650 12,419 4,184 117 1,181	
Coalville City Color Country Uniserv Cottonwood Heights City Cottonwood Heights P&R Srv Cottonwood Improvement District	8,422 1,463 37,117 12,194 14,419	0.0123725 0.0021489 0.0545308 0.0179143 0.0211836	1,380 240 6,083 1,998 2,363	9,394 1,632 41,404 13,602 16,084	(4,717) (819) (20,788) (6,829) (8,075)		521 91 2,297 755 892	~~~~
Council On Aging Golden Age SS Daggett County Daggett School District Davis & Weber County Canal Co Davis Applied Technology College	4,372 8,000 23,145 13,202 43,965	0.0064224 0.0117530 0.0340034 0.0193951 0.0645909	716 1,311 3,793 2,164 7,205	4,876 8,924 25,818 14,726 49,042	(2,448) (4,480) (12,962) (7,394) (24,623)	_ _ _ _	271 495 1,432 817 2,721	
Davis Behavioral Health Inc Davis Co Housing Authority Davis County Davis School District Ddi Vantage	196,323 8,063 319,737 2,988,330 123,687	0.2884281 0.0118460 0.4697410 4.3903033 0.1817153	32,174 1,321 52,399 489,735 20,270	218,997 8,994 356,664 3,333,461 137,972	(109,952) (4,516) (179,070) (1,673,630) (69,272)	_ _ _ _	12,150 499 19,787 184,937 7,655	
Delta City Dixie State University Duchesne County Duchesne School District Eagle Mountain City	13,006 57,218 86,668 362,491 67,342	0.0191071 0.0840620 0.1273287 0.5325539 0.0989357	2,131 9,377 14,203 59,406 11,036	14,508 63,826 96,678 404,357 75,120	(7,284) (32,045) (48,539) (203,015) (37,715)	   	805 3,541 5,364 22,433 4,168	
East Carbon City East Hollywood High School Educators Mutual Insurance Elk Ridge City Emery Co Care & Rehab Center	5,220 34,171 29,352 17,194 17,161	0.0076683 0.0502029 0.0431219 0.0252608 0.0252122	855 5,600 4,810 2,818 2,812	5,822 38,118 32,742 19,180 19,143	(2,923) (19,138) (16,439) (9,630) (9,611)		323 2,115 1,816 1,064 1,062	
Emery County Emery County Recreation Special Service District Emery School District Emery Water Conservancy District Enoch City	29,962 4,083 106,481 8,488 8,374	0.0440189 0.0059979 0.1564368 0.0124708 0.0123024	4,910 669 17,450 1,391 1,372	33,423 4,554 118,779 9,469 9,341	(16,780) (2,286) (59,635) (4,754) (4,690)		1,854 253 6,590 525 518	
Ephraim City Fairview City Farmington City Farr West City Fast Forward Charter High School	16,714 2,243 60,188 355 21,618	0.0245557 0.0032954 0.0884248 0.0005210 0.0317597	2,739 368 9,864 58 3,543	18,645 2,502 67,139 396 24,114	(9,361) (1,256) (33,708) (199) (12,107)		1,034 139 3,725 22 1,338	
Ferron City Fillmore City Five-County Association of Governments Fruit Heights City Garfield County	1,827 9,576 42,167 6,157 14,627	0.0026836 0.0140693 0.0619502 0.0090449 0.0214896	299 1,569 6,911 1,009 2,397	2,038 10,683 47,037 6,868 16,317	(1,023) (5,363) (23,616) (3,448) (8,192)		113 593 2,610 381 905	~~~
Garfield School District Garland City Grand Co Cemetery Maintenance District Grand County Grand School District	31,944 2,469 5,370 77,539 180,205	0.0469310 0.0036280 0.0078897 0.1139165 0.2647474	5,235 405 880 12,707 29,532	35,634 2,755 5,990 86,494 201,017	(17,891) (1,383) (3,008) (43,426) (100,925)		1,977 153 332 4,799 11,152	

er Contributions	yer-Paid Membe	to Emplo		ws of Resources	Deferred Inflo				ws of Kesources	Deferred Outflo	
Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	Proportionate Share of Nonemployer Contributions	of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionand Proportionate Share of Contributions		Total Deferred Inflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Differences Between Expected and Actual Experience	Total Deferred Outflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Changes of Assumptions
99,487 17,636 80,929 167,165 131,258	_ _ _ _	1,053 189 904 1,842 1,379	98,434 17,447 80,025 165,323 129,879	16,138 2,860 13,120 27,103 21,292	_ _ _ _	1,412 250 1,148 2,371 1,863	1,871 332 1,521 3,142 2,468	12,855 2,278 10,451 21,590 16,961	26,850 4,755 22,390 45,795 35,459	10,973 1,941 9,482 19,129 14,510	10,022 1,776 8,148 16,833 13,224
498,600 37,086 3,469 9,931 6,857		5,326 387 35 105 70	493,274 36,699 3,434 9,826 6,787	80,867 6,016 562 1,611 1,112		7,074 526 49 141 97	9,375 697 65 187 129	64,418 4,793 448 1,283 886	135,215 9,942 917 2,681 1,826	55,652 4,022 363 1,097 731	50,223 3,737 350 1,000 691
11,041 211,148 71,120 1,993 20,067		119 2,350 769 24 211	10,922 208,798 70,351 1,969 19,856	1,791 34,229 11,533 322 3,255		157 2,994 1,009 28 285	208 3,968 1,337 37 377	1,426 27,267 9,187 257 2,593	2,996 58,193 19,374 559 5,434	1,234 24,515 8,027 242 2,231	1,112 21,259 7,163 200 2,022
8,863 1,540 39,040 12,820 15,161		101 18 421 133 159	8,762 1,522 38,619 12,687 15,002	1,437 250 6,331 2,080 2,459		126 22 554 182 215	167 29 734 241 285	1,144 199 5,043 1,657 1,959	2,459 435 10,667 3,436 4,098	1,046 189 4,438 1,389 1,679	892 155 3,932 1,292 1,527
4,595 8,415 24,340 13,877 46,240		47 91 259 141 496	4,548 8,324 24,081 13,736 45,744	745 1,364 3,948 2,252 7,499		65 119 345 197 656	86 158 458 261 869	594 1,087 3,145 1,794 5,974	1,217 2,251 6,618 3,742 12,660	483 909 2,734 1,526 5,282	463 847 2,452 1,399 4,657
206,469 8,480 336,279 3,142,704 130,064		2,203 91 3,606 33,470 1,372	204,266 8,389 332,673 3,109,234 128,692	33,486 1,375 54,538 509,725 21,098		2,929 120 4,771 44,591 1,846	3,882 159 6,323 59,093 2,446	26,675 1,096 43,444 406,041 16,806	56,060 2,288 91,252 851,500 35,104	23,112 935 37,593 349,992 14,346	20,798 854 33,872 316,571 13,103
13,684 60,173 91,138 381,251 70,829		152 640 963 4,094 762	13,532 59,533 90,175 377,157 70,067	2,218 9,760 14,783 61,831 11,487		194 854 1,293 5,409 1,005	257 1,131 1,714 7,168 1,332	1,767 7,775 11,776 49,254 9,150	3,771 16,217 24,537 103,329 19,255	1,588 6,615 9,992 42,495 7,953	1,378 6,061 9,181 38,401 7,134
5,486 35,939 30,830 18,099 18,041	_ _ _ _	55 385 291 209 186	5,431 35,554 30,539 17,890 17,855	890 5,829 5,006 2,933 2,927		78 510 438 257 256	103 676 580 340 339	709 4,643 3,988 2,336 2,332	1,442 9,727 7,952 5,059 4,809	566 3,992 3,027 2,174 1,929	553 3,620 3,109 1,821 1,818
31,528 4,292 111,989 8,923 8,807	_ _ _ _	354 44 1,200 91 94	31,174 4,248 110,789 8,832 8,713	5,110 697 18,163 1,448 1,429	_ _ _ _ _	447 61 1,589 127 125	592 81 2,106 168 166	4,071 555 14,468 1,153 1,138	8,659 1,131 30,377 2,366 2,379	3,631 446 12,507 942 974	3,174 432 11,280 899 887
17,579 2,365 63,310 373 22,729	_ _ _ _	189 31 687 4 237	17,390 2,334 62,623 369 22,492	2,851 382 10,266 60 3,687	_ _ _ _	249 33 898 5 323	331 44 1,190 7 427	2,271 305 8,178 48 2,937	4,781 695 17,299 101 6,127	1,976 318 7,198 41 2,499	1,771 238 6,376 38 2,290
1,929 10,073 44,330 6,470 15,382		28 109 457 64 163	1,901 9,964 43,873 6,406 15,219	311 1,633 7,193 1,051 2,494		27 143 629 92 218	36 189 834 122 289	248 1,301 5,730 837 1,987	579 2,764 11,867 1,711 4,151	272 1,157 4,790 678 1,696	194 1,014 4,467 652 1,550
33,574 2,599 5,662 81,574 189,556		337 30 74 898 2,061	33,237 2,569 5,588 80,676 187,495	5,449 422 916 13,226 30,737		477 37 80 1,157 2,689	632 49 106 1,533 3,563	4,340 336 730 10,536 24,485	8,889 731 1,657 22,375 51,762	3,528 316 756 9,362 21,520	3,384 262 569 8,214 19,090

## $Schedule\ of\ Employer\ Allocations\ and\ Pension\ Amounts\ {\it (Continued)}$

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Grand Water/Sewer Service Granger-Hunter Improvement District Granite School District Grantsville City Gunnison City	\$ 10,282 53,654 3,418,023 12,798 2,691	0.0151053% 0.0788265 5.0215853 0.0188019 0.0039539	\$ 1,685 8,793 560,155 2,097 441	11,469 59,851 3,812,780 14,276 3,002	(5,758) (30,049) (1,914,281) (7,167) (1,507)	_ _ _ _	636 3,320 211,529 792 167	
Gunnison Valley Hospital Heber City Heber Light & Power Heber Valley Historic Railroad Herriman City	62,649 67,724 36,591 15,505 85,556	0.0920409 0.0994969 0.0537583 0.0227791 0.1256948	10,267 11,099 5,997 2,541 14,021	69,885 75,546 40,818 17,296 95,437	(35,087) (37,929) (20,493) (8,684) (47,916)		3,877 4,191 2,265 960 5,295	~
High Desert Uniserv Highland City Hinckley Town Hooper City Hooper Water Improv District	1,463 3,804 192 10,588 3,297	0.0021489 0.0055885 0.0002824 0.0155559 0.0048445	240 623 32 1,735 540	1,632 4,243 214 11,811 3,678	(819) (2,130) (108) (5,930) (1,847)		91 235 12 655 204	~~
Housing Authority of SL County Housing Authority of SLC Housing Authority Ogden City Hurricane City Hyde Park City	102,551 74,605 8,262 48,123 4,220	0.1506625 0.1096056 0.0121386 0.0706999 0.0062004	16,806 12,226 1,354 7,887 692	114,395 83,221 9,217 53,681 4,708	(57,434) (41,783) (4,627) (26,952) (2,364)	_ _ _ _	6,347 4,617 511 2,978 261	~~
Hyrum City Intech Collegiate High School Iron County Iron School District Itineris High School	10,050 17,085 90,932 344,292 9,488	0.0147654 0.0251005 0.1335924 0.5058162 0.0139388	1,647 2,800 14,902 56,423 1,555	11,211 19,058 101,434 384,055 10,583	(5,629) (9,569) (50,927) (192,822) (5,314)	_ _ _ _	622 1,057 5,627 21,307 587	~~
lvins City Jordan River Commission Jordan School District Jordan Valley Water Conservancy Jordanelle Special Service District	32,864 1,363 2,868,620 85,617 24,979	0.0482819 0.0020018 4.2144309 0.1257840 0.0366982	5,386 223 470,117 14,031 4,094	36,659 1,520 3,199,925 95,505 27,864	(18,406) (763) (1,606,586) (47,950) (13,990)	_ _ _ _	2,034 84 177,529 5,299 1,546	
Juab County Juab School District Kane County Kane County Water Conservancy District Kane School District	15,190 100,842 100,403 9,541 98,901	0.0223163 0.1481520 0.1475070 0.0140172 0.1452997	2,489 16,526 16,454 1,564 16,208	16,944 112,489 111,999 10,643 110,323	(8,507) (56,477) (56,231) (5,344) (55,390)		940 6,241 6,214 590 6,121	
Kaysville City Kearns Improvement District Laverkin City Layton City Lehi City	47,373 16,943 4,811 125,801 141,781	0.0695979 0.0248923 0.0070681 0.1848198 0.2082968	7,764 2,777 788 20,617 23,235	52,844 18,900 5,367 140,330 158,155	(26,531) (9,489) (2,694) (70,455) (79,405)	_ _ _ _ _	2,932 1,049 298 7,785 8,774	
Lewiston City Liberty Academy Charter Lindon City Logan City Logan School District	6,498 45,246 15,463 187,995 346,509	0.0095463 0.0664731 0.0227181 0.2761920 0.5090727	1,065 7,415 2,534 30,809 56,787	7,248 50,472 17,249 209,707 386,528	(3,639) (25,340) (8,660) (105,287) (194,064)	_ _ _ _	402 2,800 957 11,634 21,444	
Manti City Mapleton City Mendon City Metro Water District SLC/Sandy Midvale City	5,957 7,878 1,181 23,869 76,721	0.0087519 0.0115733 0.0017357 0.0350673 0.1127146	976 1,291 194 3,912 12,573	6,645 8,787 1,318 26,626 85,582	(3,336) (4,412) (662) (13,368) (42,968)		369 488 73 1,477 4,748	
Midvalley Improvement District Midway City Millard Co Care & Rehab Inc Millard County Millard School District	4,093 19,367 47,843 39,058 156,281	0.0060134 0.0284528 0.0702878 0.0573817 0.2295997	671 3,174 7,841 6,401 25,612	4,566 21,604 53,368 43,569 174,330	(2,292) (10,847) (26,794) (21,875) (87,526)		253 1,199 2,961 2,417 9,672	~
Minersville Town Monroe City Monticello Academy Morgan City Corporation Morgan County	1,085 1,461 53,573 3,607 25,830	0.0015937 0.0021467 0.0787064 0.0052993 0.0379475	178 239 8,780 591 4,233	1,210 1,630 59,760 4,024 28,813	(608) (818) (30,004) (2,020) (14,466)		67 90 3,315 223 1,599	-

Campaign	d Outflows of Resourc	
S,684   6,444   15,448   72,90   1,661   201   91,512   55,825   614   95,44	on and erences etween uployer butions and tionate bare of Outflows	Changes of
7,174	6,444 15,44 01,908 975,52 1,577 3,72	5,684 362,091 1,356
403	7,983 19,34 4,350 10,49 1,879 4,48	7,174 3,876 1,643
7,993 8,561 21,081 10,137 1,475 1,113 — 12,75 77,633 815 — 78,47 875 1,159 2,545 1,123 163 123 — 1,409 8,597 113 — 8,70 5,098 5,819 13,895 6,539 952 718 — 8,209 50,070 552 — 50,66 447 586 1,294 573 83 63 — 719 4,391 57 — 4,46 1,105 1,112 2,799 1,366 199 150 — 1,715 10,457 104 — 10,54 1,110 1,110 1,110 1,111 2,279 1,366 199 150 — 1,715 10,457 104 — 10,54 1,111 1,111 2,279 1,366 199 150 — 1,715 10,457 104 — 10,54 1,111 1,111 2,279 1,366 199 150 — 1,715 10,457 104 — 10,54 1,111 1,111 2,279 1,366 199 150 — 1,715 10,457 104 — 10,54 1,111 1,111 2,279 1,366 199 150 — 1,715 10,457 104 — 10,54 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,111 1,	446 1,08 22 5 1,270 3,04	403 20 1,122
1,810	8,561 21,08 1,159 2,54 5,819 13,89	7,903 875 5,098
144   189   417   185   27   20   — 232   1,418   18   — 1,44     303,889   330,800   811,898   389,775   56,726   42,805   — 489,306   2,984,600   31,679   — 3,016,33     9,070   10,277   24,646   11,633   1,693   1,278   — 14,604   89,081   984   — 90,00     2,646   3,214   7,406   3,394   494   373   — 4,261   25,990   306   — 26,25     1,609   1,557   4,106   2,064   300   227   — 2,591   15,805   144   — 15,94     10,683   12,126   29,050   13,702   1,994   1,505   — 17,201   104,922   1,157   — 106,00     10,636   17,786   28,636   13,702   1,994   1,505   — 17,201   104,922   1,157   — 106,00     1,011   1,108   2,709   1,296   189   142   — 1,627   9,927   107   — 10,55     1,011   1,108   2,709   1,296   189   142   — 1,627   9,927   107   — 10,00     10,477   11,773   28,371   13,488   1,956   1,476   — 16,870   102,902   1,133   — 104,002     5,018   5,637   13,587   6,437   337   707   — 8,081   49,290   539   — 49,83     1,795   1,891   4,735   2,302   335   253   — 2,890   17,629   182   — 17,88     510   553   1,361   654   993   2,488   1,877   — 21,458   130,899   1,438   — 12,33     13,277   14,954   36,666   17,093   2,488   1,877   — 21,458   130,899   1,438   — 12,33     15,020   16,530   40,024   13,264   2,804   2,116   — 24,184   147,517   1,552   — 149,00     688   793   1,883   883   128   89   — 1,108   6,761   74   — 6,88     4,793   5,599   13,192   6,148   895   675   — 7,718   47,077   558   — 4,66     1,638   1,823   4,418   2,101   306   231   — 2,638   16,899   177   — 16,22     36,708   40,748   98,900   47,082   6,852   5,170   — 59,104   360,528   3,921   — 364,44     311   508   1,508   809   118   89   — 1,016   6,198   48   — 6,22     2,529   2,765   6,771   3,243   472   36   — 4,071   24,835   267   — 25,10     3,608   5,400   13,429   6,501   946   714   — 6,68   4,259   41   — 4,33     5,068   5,400   13,429   6,501   946   714   — 6,68   4,079   24,835   267   — 2,501     4,138   4,445   1,1200   5,307   772   366   318   147   21   16   — 6,66   4,063   442   — 4,	2,131 4,99 10,147 25,40 39,522 97,30	1,810 9,633 36,473
10,683	189 47 30,480 811,89 10,277 24,64	144 303,889 9,070
1,795       1,891       4,735       2,302       335       253       — 2,890       17,629       182       — 17,81         510       553       1,361       654       95       72       — 821       5,006       52       — 5,00         13,327       14,954       36,066       17,093       2,488       1,877       — 21,458       130,890       1,438       — 132,32         15,020       16,530       40,324       19,264       2,804       2,116       — 24,184       147,517       1,562       — 149,07         688       793       1,883       883       128       97       — 1,108       6,761       74       — 6,88         4,793       5,599       13,192       6,148       895       675       — 7,718       47,077       558       — 47,62         1,638       1,823       4,418       2,101       306       231       — 2,638       16,089       177       — 16,28         19,915       22,516       54,065       25,544       3,718       2,805       — 32,067       195,601       2,160       — 197,76         36,708       40,748       98,900       47,082       6,852       5,170       — 59,104       360,528       <	12,126 29,05 11,786 28,65 1,108 2,70	10,683 10,636 1,011
4,793       5,599       13,192       6,148       895       675       —       7,718       47,077       558       —       47,63         1,638       1,823       4,418       2,101       306       231       —       2,638       16,089       177       —       16,26         19,915       22,516       54,065       25,544       3,718       2,805       —       32,067       195,601       2,160       —       197,76         36,708       40,748       98,900       47,082       6,852       5,170       —       59,104       360,528       3,921       —       364,44         631       508       1,508       809       118       89       —       1,016       6,198       48       —       6,22         835       1,025       2,348       1,070       156       118       —       1,344       8,196       99       —       8,25         125       136       334       161       23       18       —       202       1,229       12       —       1,22         2,529       2,765       6,771       3,243       472       356       —       4,071       24,835       267       —	1,891 4,73 553 1,36 14,954 36,06	1,795 510 13,327
835       1,025       2,348       1,070       156       118       —       1,344       8,196       99       —       8,25         125       136       334       161       23       18       —       202       1,229       12       —       1,24         2,529       2,765       6,771       3,243       472       356       —       4,071       24,835       267       —       25,10         8,127       8,844       21,719       10,424       1,517       1,145       —       13,086       79,825       846       —       80,67         434       406       1,093       556       81       61       —       698       4,259       41       —       4,33         2,052       2,418       5,669       2,631       383       289       —       3,303       20,150       235       —       20,32         5,068       5,400       13,429       6,501       946       714       —       8,161       49,778       511       —       50,32         4,138       4,645       11,200       5,307       772       583       —       6,662       40,638       442       —       41,08	5,599 13,19 1,823 4,4 22,516 54,06	4,793 1,638 19,915
2,052     2,418     5,669     2,631     383     289     —     3,303     20,150     235     —     20,38       5,068     5,400     13,429     6,501     946     714     —     8,161     49,778     511     —     50,28       4,138     4,645     11,200     5,307     772     583     —     6,662     40,638     442     —     41,08       16,556     18,588     44,816     21,235     3,090     2,332     —     26,657     162,604     1,779     —     164,38       115     136     318     147     21     16     —     184     1,129     13     —     1,14       155     161     406     199     29     22     —     250     1,520     16     —     1,53	1,025 2,34 136 33 2,765 6,77	835 125 2,529
155 161 406 199 29 22 — 250 1,520 16 — 1,53	2,418 5,66 5,400 13,42 4,645 11,20	2,052 5,068 4,138
382 483 1,088 490 71 54 — 615 3,753 47 — 3,80 2,736 2,945 7,280 3,510 511 385 — 4,406 26,875 281 — 27,15	161 40 6,116 15,10 483 1,08	155 5,675 382

## $Schedule\ of\ Employer\ Allocations\ and\ Pension\ Amounts\ {\it (Continued)}$

						Differences	Net Difference Between Projected and Actual	
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Between Expected and Actual Experience	Investment Earnings on Pension Plan Investments	
Morgan School District Moroni City Mount Pleasant City Mountain Regional Water Special Service District Mountainland Association of Governments	\$ 120,805 3,507 13,446 20,573 24,273	0.1774810% 0.0051519 0.0197538 0.0302245 0.0356606	\$ 19,798 575 2,204 3,372 3,978	134,757 3,912 14,999 22,949 27,076	(67,658) (1,964) (7,530) (11,522) (13,594)		7,476 217 832 1,273 1,502	
Mt Olympus Improvement District Murray City Murray School District Myton City Ne Counseling Center	19,106 180,154 296,370 1,209 44,618	0.0280698 0.2646738 0.4354118 0.0017755 0.0655498	3,131 29,524 48,570 198 7,312	21,313 200,961 330,599 1,348 49,771	(10,701) (100,896) (165,984) (677) (24,988)	_ _ _ _	1,182 11,149 18,341 75 2,761	
Nebo Credit Union Nebo School District Nephi City Nibley City Corporation Noah Webster Academy Inc	12,050 1,670,719 28,408 15,061 41,287	0.0177026 2.4545353 0.0417352 0.0221268 0.0606575	1,975 273,802 4,656 2,468 6,766	13,441 1,863,675 31,689 16,800 46,056	(6,748) (935,695) (15,910) (8,435) (23,123)	_ _ _ _	746 103,395 1,758 932 2,555	
North Davis Co Sewer District North Emery Water Users Special Service District North Fork Special Service District North Logan City North Ogden City	14,642 4,482 5,539 16,129 43,047	0.0215107 0.0065847 0.0081381 0.0236957 0.0632419	2,400 735 908 2,643 7,055	16,333 5,000 6,179 17,992 48,018	(8,200) (2,510) (3,102) (9,033) (24,108)		906 277 343 998 2,664	
North Pointe Solid Waste North Sanpete School District North Summit School District NUAMES Charter School Ogden City Corp	21,521 103,222 36,714 37,295 290,398	0.0316178 0.1516483 0.0539379 0.0547915 0.4266376	3,527 16,916 6,017 6,112 47,591	24,007 115,143 40,954 41,602 323,937	(12,053) (57,810) (20,562) (20,887) (162,639)		1,332 6,388 2,272 2,308 17,972	
Ogden School District Ogden Weber/NEA/UEA Uniserv Ogden-Weber Technology College Oquirrh Recreation and Parks District Orderville Town	997,501 2,632 9,479 3,862 285	1.4654773 0.0038672 0.0139258 0.0056744 0.0004185	163,473 431 1,553 633 47	1,112,705 2,936 10,574 4,308 318	(558,655) (1,474) (5,309) (2,163) (160)		61,732 163 587 239 18	
Panguitch City Corporation Park City Park City Fire Service Park City School District Parowan City	8,939 393,414 15,890 411,218 7,806	0.0131328 0.5779839 0.0233449 0.6041406 0.0114677	1,465 64,474 2,604 67,391 1,279	9,971 438,851 17,725 458,711 8,707	(5,006) (220,334) (8,899) (230,305) (4,372)		553 24,347 983 25,449 483	
Payson City Perry City Piute County Piute School District Plain City	67,646 7,968 5,179 26,089 4,440	0.0993825 0.0117065 0.0076090 0.0383281 0.0065232	11,086 1,306 849 4,275 728	75,459 8,888 5,777 29,102 4,953	(37,886) (4,463) (2,901) (14,611) (2,487)		4,186 493 321 1,615 275	
Pleasant Grove City Pleasant View City Price City Price River Water Improvement Providence City	47,840 5,626 26,263 13,054 9,673	0.0702846 0.0082659 0.0385848 0.0191786 0.0142109	7,840 922 4,304 2,139 1,585	53,366 6,276 29,297 14,562 10,790	(26,793) (3,151) (14,709) (7,311) (5,417)		2,961 348 1,625 808 599	
Provo City Corp Provo Housing Authority Provo River Water Users Provo School District Recreation & Habilitation Services	455,318 16,204 9,544 1,032,168 645	0.6689307 0.0238067 0.0140220 1.5164092 0.0009480	74,619 2,656 1,564 169,154 106	507,904 18,076 10,647 1,151,376 720	(255,003) (9,075) (5,345) (578,071) (361)		28,178 1,003 591 63,877 40	
Rich County Rich School District Richfield City Richmond City Riverdale City	18,607 27,996 4,832 6,068 14,115	0.0273363 0.0411308 0.0070983 0.0089154 0.0207374	3,049 4,588 792 995 2,313	20,756 31,230 5,390 6,769 15,745	(10,421) (15,679) (2,706) (3,399) (7,905)		1,152 1,733 299 376 874	
Roosevelt City Roy City S Utah Valley Electric Service District S Utah Valley Solid Waste Salem City	22,449 54,047 14,490 4,809 12,169	0.0329814 0.0794033 0.0212885 0.0070655 0.0178777	3,679 8,857 2,375 788 1,994	25,042 60,289 16,164 5,365 13,574	(12,573) (30,269) (8,115) (2,693) (6,815)		1,389 3,345 897 298 753	

	Deferred Outflo	ws of Resources				Deferred Inflo	ws of Resources		to Emple	oyer-Paid Membe	er Contributions
Changes of Assumptions		Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
12,798 371 1,424 2,179 2,571	14,640 383 1,662 2,341 2,975	34,914 971 3,918 5,793 7,048	16,414 476 1,827 2,795 3,298	2,389 69 266 407 480	1,803 52 201 307 362	_ _ _ _	20,606 597 2,294 3,509 4,140	125,693 3,649 13,990 21,405 25,255	1,398 37 161 228 291	_ _ _ _	127,091 3,686 14,151 21,633 25,546
2,024 19,085 31,396 128 4,727	2,271 21,204 34,806	5,477 51,438 84,543 343 12,786	2,596 24,479 40,269 164 6,062	378 3,562 5,861 24 882	285 2,688 4,422 18 666		3,259 30,729 50,552 206 7,610	19,879 187,443 308,361 1,257 46,423	217 2,027 3,320 13 510		20,096 189,470 311,681 1,270 46,933
1,276 176,989 3,009 1,595 4,374	1,504 194,697	3,526 475,081 8,327 4,228 11,389	1,637 227,010 3,860 2,046 5,610	238 33,038 562 298 816	180 24,930 424 225 616		2,055 284,978 4,846 2,569 7,042	12,537 1,738,314 29,557 15,670 42,958	142 18,697 336 166 423		12,679 1,757,011 29,893 15,836 43,381
1,551 475 587 1,709 4,560	1,899 486 654 1,902	4,356 1,238 1,584 4,609 12,410	1,989 609 753 2,192 5,849	290 89 110 319 851	218 67 83 241 642		2,497 765 946 2,752 7,342	15,234 4,663 5,763 16,781 44,788	186 47 60 183 493		15,420 4,710 5,823 16,964 45,281
2,280 10,935 3,889 3,951	2,486 12,529 4,252 4,562	6,098 29,852 10,413 10,821	2,924 14,025 4,988 5,067	426 2,041 726 737	321 1,540 548 556		3,671 17,606 6,262 6,360	22,392 107,398 38,199 38,804	239 1,200 404 440		22,631 108,598 38,603 39,244
30,763 105,671 279 1,004 409	34,617 115,831 315 1,051 446	83,352 283,234 757 2,642 1,094	39,458 135,536 358 1,288 525	5,743 19,725 52 187 76	4,333 14,884 39 141 58		49,534 170,145 503 1,616 659	302,147 1,037,858 2,739 9,862 4,019	3,310 11,151 27 102 41		305,457 1,049,009 2,766 9,964 4,060
30 947 41,677 1,683 43,563	1,129 48,036 1,888 48,032	2,629 114,060 4,554 117,044	39 1,215 53,455 2,159 55,874	777 7,780 314 8,132	133 5,870 237 6,136		1,525 67,105 2,710 70,142	9,301 409,331 16,533 427,855	109 4,635 180 4,599		9,410 413,966 16,713 432,454
827 7,166 844 549	1,008 8,210 1,052 619	2,318 19,562 2,389 1,489	1,061 9,191 1,083 704	1,338 158 102	1,009 119 77		1,331 11,538 1,360 883	70,383 8,291 5,389	797 101 60		71,180 8,392 5,449
2,764 470 5,068 596 2,782	6,067 719 3,170	7,617 1,224 14,096 1,663 7,577	3,545 603 6,500 764 3,569	516 88 946 111 519	389 66 714 84 392		4,450 757 8,160 959 4,480	27,144 4,620 49,776 5,854 27,326	312 44 583 69 308		27,456 4,664 50,359 5,923 27,634
1,383 1,025 48,234 1,717 1,011	1,428 1,138 53,053 1,679 957	3,619 2,762 129,465 4,399 2,559	1,774 1,314 61,867 2,202 1,297	258 191 9,004 320 189	195 144 6,794 242 142		2,227 1,649 77,665 2,764 1,628	13,582 10,064 473,740 16,860 9,930	5,086 159 89	_ _ _ _ _	13,715 10,170 478,826 17,019 10,019
109,343 68 1,971 2,966 512	2,052 3,043	292,040 247 5,175 7,742 1,314	2,528 3,804 656	20,411 13 368 554 96	15,402 10 278 418 72		176,059 135 3,174 4,776 857	1,073,928 671 19,360 29,129 5,027	11,449 12 198 289 42		1,085,377 683 19,558 29,418 5,069
643 1,495 2,378 5,726	780 1,583 2,260 6,388	1,799 3,952 6,027 15,459	825 1,918 3,050 7,344	120 279 444 1,069	91 211 335 806		1,036 2,408 3,829 9,219	6,314 14,686 23,358 56,234	74 145 210 613		6,388 14,831 23,568 56,847
1,535 509 1,289	548	4,109 1,355 3,488	1,969 653 1,653	287 95 241	216 72 182		2,472 820 2,076	15,077 5,004 12,661	162 51 138	_ 	15,239 5,055 12,799

## Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Salina City Salt Lake Arts Academy Salt Lake City Corp Salt Lake City Public Library Salt Lake Community College	\$ 2,954 34,515 1,864,960 80,217 428,881	0.0043399% 0.0507078 2.7399053 0.1178511 0.6300908	\$ 484 5,656 305,635 13,146 70,286	3,295 38,501 2,080,350 89,482 478,414	(1,654) (19,330) (1,044,481) (44,926) (240,197)		183 2,136 115,416 4,964 26,542	
Salt Lake County Salt Lake School District San Juan County San Juan Mental Health San Juan School District	2,293,617 1,508,150 47,446 11,256 261,631	3.3696656 2.2156978 0.0697048 0.0165370 0.3843754	375,884 247,160 7,776 1,845 42,877	2,558,514 1,682,331 52,925 12,556 291,848	(1,284,552) (844,647) (26,572) (6,304) (146,528)		141,944 93,334 2,936 697 16,191	~~~
Sandy City Sandy Suburban Improvement District Sanpete County Santaquin City Sevier County	232,336 3,719 42,583 16,194 42,650	0.3413357 0.0054636 0.0625604 0.0237908 0.0626585	38,076 609 6,979 2,654 6,990	259,169 4,148 47,501 18,064 47,575	(130,121) (2,083) (23,849) (9,069) (23,886)		14,378 230 2,635 1,002 2,639	~~~
Sevier School District Six-County Association of Governments SIc Mosquito Abatement Smithfield City Corp Snow College	165,257 3,571 13,259 27,208 39,969	0.2427879 0.0052469 0.0194801 0.0399722 0.0587211	27,083 585 2,173 4,459 6,550	184,344 3,984 14,791 30,350 44,586	(92,553) (2,000) (7,426) (15,238) (22,385)		10,227 221 821 1,684 2,474	~~~
Snyder Basin Special Recreation District Snyderville Basin Water Reclamation District So Davis Recreation Center So SI Valley Mosquito Abatement So Utah Valley Animal Svcs SSD	74,286 22,076 7,980 7,342 975	0.1091374 0.0324330 0.0117242 0.0107858 0.0014325	12,174 3,618 1,308 1,203 160	82,866 24,626 8,902 8,189 1,088	(41,604) (12,364) (4,469) (4,112) (546)	_ _ _ _	4,597 1,366 494 454 60	
Soldier Hollow Charter School Solid Waste Special Service District #1 South Davis Sewer District South Ogden City South Ogden Conservancy District	22,744 10,305 7,185 22,318 20,192	0.0334146 0.0151389 0.0105558 0.0327885 0.0296650	3,727 1,689 1,177 3,658 3,309	25,371 11,495 8,015 24,896 22,524	(12,738) (5,771) (4,024) (12,499) (11,309)	_ _ _ _	1,408 638 445 1,381 1,250	
South Sanpete School District South Summit School District South Valley Sewer District South Valley Water Reclamation South Weber City	152,110 72,751 57,486 40,373 12,262	0.2234720 0.1068816 0.0844553 0.0593136 0.0180146	24,928 11,923 9,421 6,616 2,010	169,677 81,153 64,125 45,036 13,678	(85,190) (40,744) (32,195) (22,611) (6,867)	_ _ _ _ _	9,414 4,502 3,558 2,499 759	
Southeastern Utah AOG Southeastern Utah Health Southern Utah University Southwest Applied Technology Southwest Educ Development Center	3,736 12,743 168,049 38,898 16,573	0.0054889 0.0187221 0.2468898 0.0571463 0.0243487	612 2,088 27,540 6,375 2,716	4,168 14,215 187,458 43,390 18,487	(2,092) (7,137) (94,117) (21,785) (9,282)	_ _ _ _ _	231 789 10,400 2,407 1,026	
Space Dynamics Lab / USU Spanish Fork City Spring City Springville City St George Housing Authority	27,548 127,983 2,417 106,533 1,361	0.0404722 0.1880264 0.0035513 0.1565131 0.0019996	4,515 20,974 396 17,459 223	30,730 142,764 2,696 118,837 1,518	(15,428) (71,678) (1,354) (59,664) (762)		1,705 7,920 150 6,593 84	
State of Utah Success Academy Summit Academy High School Summit Academy Inc Summit County	12,956,712 20,413 56,364 205,292 192,491	19.0353440 0.0299903 0.0828065 0.3016044 0.2827979	2,123,388 3,345 9,237 33,644 31,546	14,453,115 22,771 62,873 229,002 214,722	(7,256,478) (11,433) (31,567) (114,975) (107,806)		801,835 1,263 3,488 12,705 11,913	~~~~
Sunset City SW Behavioral Health Center SW Mosquito Abatement/Control SW UT Public Health Department Syracuse City Corp	4,288 160,597 6,983 42,750 45,517	0.0062992 0.2359403 0.0102596 0.0628062 0.0668706	703 26,319 1,144 7,006 7,459	4,783 179,144 7,790 47,687 50,773	(2,401) (89,943) (3,911) (23,942) (25,492)		265 9,939 432 2,646 2,817	~~~
Taylor West Weber Water Improvement District Taylorsville-Bennion Improvement Timber Lakes Water Special Service District Timpanogos Special Service District Tintic School District	4,696 15,732 7,497 42,111 3,863	0.0068994 0.0231123 0.0110141 0.0618676 0.0056748	770 2,578 1,229 6,901 633	5,239 17,549 8,363 46,975 4,309	(2,630) (8,811) (4,199) (23,585) (2,163)		291 974 464 2,606 239	

	Deserved Garmen					Deterred mino			to 2p.	,,	
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		det Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
212	207	002	401	Γ0	44		503	2.074	27		2 111
313 3,656 197,566 8,498 45,434	387 3,889 219,288 9,216 50,911	883 9,681 532,270 22,678 122,887	401 4,690 253,402 10,900 58,274	58 683 36,879 1,586 8,481	44 515 27,828 1,197 6,400		503 5,888 318,109 13,683 73,155	3,074 35,912 1,940,414 83,463 446,233	37 373 20,991 877 4,881	_ _ _ _	3,111 36,285 1,961,405 84,340 451,114
242,976 159,767 5,026 1,192 27,716	269,852 177,631 6,015 1,194 30,858	654,772 430,732 13,977 3,083 74,765	311,646 204,921 6,447 1,529 35,549	45,355 29,823 938 223 5,174	34,225 22,504 708 168 3,904	_ _ _ _	391,226 257,248 8,093 1,920 44,627	2,386,413 1,569,168 49,365 11,712 272,217	25,833 17,006 579 114 2,966	_ _ _ _	2,412,246 1,586,174 49,944 11,826 275,183
24,613	28,665	67,656	31,569	4,594	3,467		39,630	241,736	2,741		244,477
394 4,511 1,715 4,518	429 4,868 1,843 5,075	1,053 12,014 4,560 12,232	505 5,786 2,200 5,795	74 842 320 843	55 635 242 636	_ _ _ _	634 7,263 2,762 7,274	3,869 44,306 16,849 44,375	42 462 178 482	_ _ _ _	3,911 44,768 17,027 44,857
17,507	19,427	47,161	22,454	3,268	2,466		28,188	171,944	1,872		173,816
378	443	1,042	485	71	53	_	609	3,716	45	_	3,761
1,405	1,710	3,936	1,802	262 538	198 406	_	2,262	13,796 28,309	164 314	_	13,960
2,882 4,234	3,265 5,322	7,831 12,030	3,697 5,431	790	596	_	4,641 6,817	41,587	523	_	28,623 42,110
7,870 2,339	8,591 2,586	21,058 6,291	10,094 3,000	1,469 437	1,108 329		12,671 3,766	77,292 22,969	782 249		78,074 23,218
845 778	929 953	2,268 2,185	1,084 998	158 145	119 110	_	1,361 1,253	8,303 7,639	90 91	_	8,393 7,730
103	112	275	132	19	15	_	166	1,015	10	_	1,025
2,409	2,831	6,648	3,090	450	339	_	3,879	23,664	269	_	23,933
1,092 761	1,271 818	3,001 2,024	1,400 976	204 142	154 107	_	1,758 1,225	10,721 7,476	123 77	_	10,844 7,553
2,364	2,612	6,357	3,032	441	333	_	3,806	23,221	252	_	23,473
2,139	2,389	5,778	2,744	399	301		3,444	21,009	227		21,236
16,114 7,707	18,403 8,569	43,931 20,778	20,668 9,885	3,008 1,439	2,270 1,086	_	25,946 12,410	158,264 75,694	1,772 830	_	160,036 76,524
6,090	6,810	16,458	7,811	1,137	858	_	9,806	59,812	659	_	60,471
4,277 1,299	4,660 1,356	11,436 3,414	5,486 1,666	798 242	602 183	_	6,886 2,091	42,006 12,758	447 131	_	42,453 12,889
396 1,350	453 1,460	1,080 3,599	508 1,732	74 252	56 190	14	652 2,174	3,887 13,259	45 139		3,932 13,398
17,802	19,496	47,698	22,834	3,323	2,508	_	28,665	174,849	1,844	_	176,693
4,121 1,756	4,273 2,040	10,801 4,822	5,285 2,252	769 328	580 247	_	6,634 2,827	40,471 17,244	408 196	_	40,879 17,440
2,918	3,503	8,126	3,743	545	411		4,699	28,663	342		29,005
13,558	15,107	36,585	17,390	2,531	1,910	_	21,831	133,161	1,444	_	134,605
256 11,286	279 12,534	685 30,413	328 14,475	48 2,107	36 1,590	_	412 18,172	2,515 110,843	25 1,190	_	2,540 112,033
144	152	380	185	2,107	20	_	232	1,416	1,190	_	1,431
1,372,583	1,510,051	3,684,469	1,760,498	256,221	193,336		2,210,055	13,480,917	144,356	_	13,625,273
2,163 5,971	2,433 6,400	5,859 15,859	2,774 7,658	404 1 115	305 841	_	3,483	21,239 58,644	236 629	_	21,475 59,273
21,748	24,825	59,278	27,894	1,115 4,060	3,063	_	9,614 35,017	213,598	2,372	_	215,970
20,392	22,274	54,579	26,155	3,806	2,872	_	32,833	200,279	2,116	_	202,395
454	550	1,269	583	85	64	_	732	4,461	52	_	4,513
17,013 740	19,703 805	46,655 1,977	21,821 949	3,176 138	2,396 104	_	27,393 1,191	167,094 7,266	1,904 77	_	168,998 7,343
4,529	4,951	12,126	5,809	845	638	_	7,292	44,480	479		44,959
4,822	5,117	12,756	6,185	900	679		7,764	47,358	489		47,847
497 1,667	528 1,848	1,316 4,489	638 2,138	93 311	70 235	_	801 2,684	4,886 16,368	51 176	_	4,937 16,544
794	939	2,197	1,019	148	112	_	1,279	7,800	91	_	7,891
4,461 409	4,987 345	12,054 993	5,722 525	833 76	628 58	_	7,183 659	43,815 4,019	483 32	_	44,298 4,051
107	J 13	,,,	<i>J</i>	,,				1,017	32		.,051

## Schedule of Employer Allocations and Pension Amounts (Continued)

		Employer	Net Pension	Net Pension Liability/(Asset)	Net Pension Liability/(Asset)	Differences Between Expected	Net Difference Between Projected and Actual Investment Earnings on	
Participating Employer	Employer Contributions	Allocation Percentage	Liability/(Asset) (7.20% Discount)	1.00% Decrease (6.20%)	1.00% Increase (8.20%)	and Actual Experience	Pension Plan Investments	
Tooele Applied Technology College Tooele City Tooele County Tooele County Housing Tooele School District	\$ 14,660 74,416 172,810 13,895 663,765	0.0215377% 0.1093276 0.2538839 0.0204145 0.9751693	\$ 2,403 12,195 28,321 2,277 108,779	16,353 83,010 192,769 15,500 740,425	(8,210) (41,677) (96,783) (7,782) (371,745)	_ _ _ _	907 4,605 10,695 860 41,078	
Torrey Town Town of Alta Town of Apple Valley Town of Brian Head Town of Garden City	2,467 3,483 4,381 3,618 10,386	0.0036240 0.0051166 0.0064359 0.0053147 0.0152585	404 571 718 593 1,702	2,752 3,885 4,887 4,035 11,585	(1,382) (1,951) (2,453) (2,026) (5,817)		153 216 271 224 643	
Town of Goshen Town of Manila Town of Springdale Trans-Jordan Cities Tremonton City	2,370 2,328 7,874 27,937 16,636	0.0034825 0.0034196 0.0115683 0.0410435 0.0244407	388 381 1,290 4,578 2,726	2,644 2,596 8,784 31,163 18,557	(1,328) (1,304) (4,410) (15,646) (9,317)	_ _ _ _	147 144 487 1,729 1,030	~~~~
Tridell-Lapoint Water Tuacahn High School Uintah Animal Control/Shelter Uintah Basin Applied Technology Center Uintah Basin Association of Governments	9,431 27,206 2,623 96,476 40,455	0.0138554 0.0399704 0.0038533 0.1417378 0.0594345	1,546 4,459 430 15,811 6,630	10,520 30,349 2,926 107,618 45,127	(5,282) (15,237) (1,469) (54,032) (22,657)	_ _ _ _	584 1,684 162 5,971 2,504	
Uintah Basin Asst Council Uintah Co Care Center Special Service District Uintah County Uintah Highlands Improv District Uintah Recreation District	4,730 68,462 246,398 548 23,404	0.0069489 0.1005804 0.3619962 0.0008057 0.0343835	775 11,220 40,380 90 3,835	5,276 76,369 274,856 612 26,107	(2,649) (38,342) (137,997) (307) (13,107)	_ _ _ _	293 4,237 15,249 34 1,448	
Uintah School District Uintah Transportation Special Service District Uintah Water Conservancy District Unified Fire Authority Unified Police Department	601,039 12,761 3,034 34,644 129,888	0.8830167 0.0187473 0.0044579 0.0508973 0.1908250	98,500 2,091 497 5,678 21,286	670,455 14,234 3,385 38,645 144,889	(336,615) (7,147) (1,699) (19,403) (72,745)		37,196 790 188 2,144 8,038	
University of Utah UT Municipal Power Agency UT Public Employees Association UT School Board Risk Management Utah Co Academy of Sciences	3,133,534 11,465 5,159 9,510 23,970	4.6036290 0.0168434 0.0075792 0.0139716 0.0352153	513,532 1,879 845 1,559 3,928	3,495,435 12,789 5,755 10,608 26,738	(1,754,952) (6,421) (2,889) (5,326) (13,424)		193,923 710 319 589 1,483	
Utah Co Housing Authority Utah Communications Authority Utah Counties Indemnity Pool Utah County Utah Dairy Council	35,132 9,620 3,007 484,547 5,270	0.0516138 0.0141327 0.0044177 0.7118714 0.0077431	5,757 1,576 493 79,409 864	39,189 10,731 3,354 540,508 5,879	(19,676) (5,388) (1,684) (271,373) (2,952)		2,174 595 186 29,987 326	
Utah Education Association Utah Housing Corporation Utah Lake Commission Utah League Cities/Towns Utah Local Governments Trust	18,475 117,522 1,515 4,987 24,525	0.0271429 0.1726572 0.0022256 0.0073265 0.0360306	3,028 19,260 248 817 4,019	20,609 131,095 1,690 5,563 27,357	(10,347) (65,819) (848) (2,793) (13,735)		1,143 7,273 94 309 1,518	
Utah Retirement Systems Utah Safety Council Utah School Boards Association Utah School Employees Association Utah State Fair Corp	389,155 18,216 10,272 2,038 19,594	0.5717271 0.0267627 0.0150908 0.0029937 0.0287866	63,776 2,985 1,683 334 3,211	434,100 20,320 11,458 2,273 21,857	(217,948) (10,202) (5,753) (1,141) (10,974)		24,083 1,127 636 126 1,213	
Utah State University Utah Valley Dispatch Special Service District Utah Valley University Utah Zoological Society UTOPIA	728,540 39,735 521,798 147,918 104,929	1.0703341 0.0583765 0.7665995 0.2173132 0.1541564	119,395 6,512 85,514 24,241 17,196	812,681 44,324 582,062 165,001 117,048	(408,023) (22,254) (292,236) (82,842) (58,766)		45,087 2,459 32,292 9,154 6,494	
Valley Emergency Communications Center Vernal City Vineyard Town Wasatch County Wasatch Front Regional Council	149,963 27,736 19,865 160,732 36,898	0.2203179 0.0407486 0.0291848 0.2361397 0.0542080	24,576 4,545 3,256 26,341 6,047	167,283 30,940 22,159 179,296 41,159	(83,988) (15,534) (11,126) (90,019) (20,665)		9,281 1,716 1,229 9,947 2,283	

		ws or Resources					ws or resources		to Empir	byer-Paid Meilibe	. continuations
								N	et Amortization of Deferred Amounts from		
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
1,553 7,883 18,307 1,472 70,316	1,496 8,492 20,788 1,791 76,422	3,956 20,980 49,790 4,123 187,816	1,992 10,111 23,481 1,888 90,189	290 1,472 3,417 275 13,126	219 1,110 2,579 207 9,904	_ _ _ _ _	2,501 12,693 29,477 2,370 113,219	15,253 77,426 179,802 14,458 690,620	144 807 1,989 174 7,337	_ _ _ _ _	15,397 78,233 181,791 14,632 697,957
261 369 464 383 1,100	226 362 574 401 1,235	640 947 1,309 1,008 2,978	335 473 595 492 1,411	49 69 87 72 205	37 52 65 54 155	_ _ _ _	421 594 747 618 1,771	2,567 3,624 4,558 3,764 10,806	21 35 55 38 116	_ _ _ _	2,588 3,659 4,613 3,802 10,922
251 247 834 2,960 1,762	274 270 1,052 3,250 2,016	672 661 2,373 7,939 4,808	322 316 1,070 3,796 2,260	47 46 156 552 329	35 35 117 417 248	41 — — —	445 397 1,343 4,765 2,837	2,466 2,422 8,193 29,067 17,309	21 25 101 311 194	_ _ _ _	2,487 2,447 8,294 29,378 17,503
999 2,882 278 10,220 4,286	1,029 3,169 270 11,253 4,570	2,612 7,735 710 27,444 11,360	1,281 3,697 356 13,109 5,497	186 538 52 1,908 800	141 406 39 1,440 604		1,608 4,641 447 16,457 6,901	9,812 28,307 2,729 100,379 42,092	100 301 27 1,094 437		9,912 28,608 2,756 101,473 42,529
501 7,253 26,102 58 2,479	579 7,881 28,863 64 3,053	1,373 19,371 70,214 156 6,980	643 9,302 33,479 75 3,180	94 1,354 4,872 11 463	71 1,022 3,677 8 349		808 11,678 42,028 94 3,992	4,921 71,232 256,367 571 24,351	56 762 2,784 6 299		4,977 71,994 259,151 577 24,650
63,672 1,352 321 3,670 13,760	70,394 1,654 458 3,986 15,470	171,262 3,796 967 9,800 37,268	81,666 1,734 412 4,707 17,649	11,885 252 60 685 2,568	8,969 190 45 517 1,938		102,520 2,176 517 5,909 22,155	625,357 13,277 3,157 36,046 135,143	6,804 157 45 387 1,484		632,161 13,434 3,202 36,433 136,627
331,953 1,215 547 1,007 2,539	366,216 1,280 589 1,171 2,812	892,092 3,205 1,455 2,767 6,834	425,770 1,558 701 1,292 3,257	61,964 227 102 188 474	46,758 171 77 142 358		534,492 1,956 880 1,622 4,089	3,260,312 11,929 5,368 9,895 24,940	35,924 122 54 113 272		3,296,236 12,051 5,422 10,008 25,212
3,722 1,019 319 51,331 558	4,317 1,234 348 58,353 644	10,213 2,848 853 139,671 1,528	4,774 1,307 409 65,838 716	695 190 59 9,582 104	524 144 45 7,230 79		5,993 1,641 513 82,650 899	36,553 10,009 3,129 504,151 5,484	415 119 33 5,578 62		36,968 10,128 3,162 509,729 5,546
1,957 12,450 160 528 2,598	2,541 13,412 213 619 3,306	5,641 33,135 467 1,456 7,422	2,510 15,968 206 678 3,332	365 2,324 30 99 485	276 1,754 23 74 366		3,151 20,046 259 851 4,183	19,223 122,277 1,576 5,189 25,517	252 1,284 21 58 318		19,475 123,561 1,597 5,247 25,835
41,225 1,930 1,088 216 2,076	46,018 1,797 1,065 249 1,954	111,326 4,854 2,789 591 5,243	52,877 2,475 1,396 277 2,662	7,695 360 203 40 387	5,807 272 153 30 292		66,379 3,107 1,752 347 3,341	404,900 18,953 10,687 2,120 20,387	4,414 169 99 24 191		409,314 19,122 10,786 2,144 20,578
77,178 4,209 55,277 15,670 11,116	84,350 4,623 63,878 17,442 12,781	206,615 11,291 151,447 42,266 30,391	98,991 5,399 70,900 20,098 14,257	14,407 786 10,318 2,925 2,075	10,871 593 7,786 2,207 1,566		124,269 6,778 89,004 25,230 17,898	758,016 41,343 542,909 153,902 109,174	8,222 441 6,246 1,678 1,227		766,238 41,784 549,155 155,580 110,401
15,886 2,938 2,104 17,027 3,909	18,373 2,832 2,364 19,815 4,343	43,540 7,486 5,697 46,789 10,535	20,376 3,769 2,699 21,840 5,013	2,965 548 393 3,178 730	2,238 414 296 2,398 551		25,579 4,731 3,388 27,416 6,294	156,030 28,858 20,669 167,235 38,390	1,762 274 222 1,905 413		157,792 29,132 20,891 169,140 38,803

## Schedule of Allocations and Pension Amount (Concluded)

at December 31, 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Wasatch Front Waste/Recycling Wasatch Integrated Waste Management Wasatch Mental Health Special Service District Wasatch School District Washington City	\$ 107,662 60,334 206,746 407,683 61,868	0.1581720% 0.0886394 0.3037412 0.5989478 0.0908929	\$ 17,644 9,888 33,882 66,812 10,139	120,097 67,302 230,624 454,768 69,013	(60,297) (33,790) (115,789) (228,325) (34,649)		6,663 3,734 12,795 25,230 3,829	
Washington Co Solid Waste Washington Co Water Conservancy District Washington County Washington School District Wayne County	7,899 26,396 157,830 1,328,877 13,229	0.0116051 0.0387790 0.2318753 1.9523182 0.0194357	1,295 4,326 25,866 217,780 2,168	8,811 29,444 176,058 1,482,353 14,757	(4,424) (14,783) (88,393) (744,244) (7,409)	_ _ _ _	489 1,634 9,768 82,240 819	
Wayne School District Weber Area Dispatch 911 Weber Basin Water Conservancy Weber County Corp Weber County School District	32,619 64,265 51,991 526,550 1,199,044	0.0479226 0.0944150 0.0763822 0.7735800 1.7615740	5,346 10,532 8,520 86,292 196,502	36,387 71,687 57,995 587,362 1,337,525	(18,269) (35,992) (29,118) (294,897) (671,531)		2,019 3,977 3,218 32,586 74,205	
Weber Fire District Weber Human Services Weber State University Wellington City Wellsville City Corp	1,046 266,390 257,107 6,202 1,634	0.0015364 0.3913670 0.3777285 0.0091111 0.0024008	171 43,657 42,135 1,016 268	1,167 297,156 286,801 6,918 1,823	(586) (149,193) (143,994) (3,473) (915)	_ _ _ _	65 16,486 15,911 384 101	
West Bountiful City West Kane County Special Service District #1 West Point City West Valley City White City Water Improvement District	20,156 2,833 20,840 299,908 4,181	0.0296125 0.0041623 0.0306174 0.4406098 0.0061419	3,303 464 3,415 49,150 685	22,484 3,160 23,247 334,545 4,663	(11,289) (1,587) (11,672) (167,965) (2,341)	_ _ _ _ _	1,247 175 1,290 18,560 259	
Willard City Corp Woods Cross City Workers Compensation Fund	1,622 8,563 480,842	0.0023823 0.0125804 0.7064282	266 1,403 78,802	1,809 9,552 536,376	(908) (4,796) (269,298)		100 530 29,758	
Grand Total	\$ 68,066,603	100.0000000%	\$ 11,154,934	75,927,816	(38,121,057)	_	4,212,403	
No Proportionate Share for 2016 Alpine Uniserv Aurora City Canyonlands Health Care Davis County Mosquito Abatement	\$  	0.0000000% 0.0000000 0.0000000 0.0000000	\$  	_ _ _	_ _ _	_ _ _ _	_ _ _ _	
Enterprise City Huntington City Hurricane Valley Fire Special Service District Maeser Water District		0.000000 0.000000 0.000000 0.000000	=					
Mantua City Utah Association of Counties Valley Mental Health		0.0000000 0.0000000 0.0000000						
Grand Total	\$ 68,066,603	100.0000000%	\$ 11,154,934	75,927,816	(38,121,057)	_	4,212,403	

Columns may not add to total due to rounding.

Pension Expense Excluding That Attributable
to Employer-Paid Member Contributions

Deferred Outflows of Resources	Deferred Inflows of Resource

Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
11,405	12,442	30,510	14,629	2,129	1,607 900	_	18,365	112,018	1,202 680	_	113,220
6,392 21,902	7,169 23,875	17,295 58,572	8,198 28,092	1,193 4,088	3,085	_	10,291 35,265	62,775 215,111	2,330	_	63,455 217,441
43,188	48,046	116,464	55,394	8,062	6,083	_	69,539	424,178	4,614	_	428,792
6,554	7,100	17,483	8,406	1,223	923	_	10,552	64,371	683	_	65,054
837	944	2,270	1,073	156	118	_	1,347	8,219	90	_	8,309
2,796 16,720	2,988 18,370	7,418	3,587	522 2 121	394	_	4,503	27,463	282	_	27,745
16,720 140,775	156,653	44,858 379,668	21,445 180,562	3,121 26,278	2,355 19,829	_	26,921 226,669	164,215 1,382,641	1,747 15,019	_	165,962 1,397,660
1,401	1,585	3,805	1,798	262	197	_	2,257	13,764	153	_	13,917
3,456	3,849	9,324	4,432	645	487		5,564	33,939	372		34,311
6,808	7,584	18,369	8,732	1,271	959	_	10,962	66,865	732	_	67,597
5,508	6,508	15,234	7,064	1,028	776	_	8,868	54,094	623	_	54,717
55,780 127,022	64,330 141,192	152,696 342,419	71,545 162,921	10,412 23,711	7,857 17,892	_	89,814 204,524	547,853 1,247,555	6,196 13,558	_	554,049 1,261,113
	227	403	142	21	16	114	293	1,088	13		1,101
28,220	32,123	76,829	36,196	5,268	3,975		45,439	277,168	3,072	_	280,240
27,237	29,508	72,656	34,935	5,084	3,836	_	43,855	267,509	2,859	_	270,368
657 173	761 189	1,802 463	843 222	123 32	93 24	_	1,059 278	6,453 1,700	74 17	_	6,527 1,717
2,135	2,430	5,812	2,739	399	301		3,439	20,972	236		21,208
300	310	785	385	56	42	_	483	2,948	30	_	2,978
2,208	2,403	5,901	2,832	412	311	_	3,555	21,683	229	_	21,912
31,771	35,023	85,354	40,750	5,931	4,475	_	51,156	312,042	3,348	_	315,390
443	466	1,168	568	83	62		713	4,350	46		4,396
172 907	187	459	220	32	24 128	_	276	1,687	17 99	_	1,704
50,938	1,032 55,211	2,469 135,907	1,164 65,335	169 9,508	7,175	_	1,461 82,018	8,910 500,296	5,237	_	9,009 505,533
7,210,684	7,973,122	19,396,209	9,248,577	1,345,991	1,015,667	719	11,610,954	70,820,484	764,987	_	71,585,471
	46-	40-				45-					
_	195	195	_	_	_	170 106	170 106	_	4 (11)	_	4 (11)
_	_	_	_	_	_	592	592	_	(61)	_	(61)
_	51	51	_	_	_	117	117	_	(5)	_	(5)
_						94	94		(9)	_	(9)
_	7	7	_	_	_	49	49	_	(4)	_	(4)
	87	87	_	_	_	58 91	58 91	_	4 (9)	_	4 (9)
				<u>-</u>		98	98	<u>-</u>	(10)	<u>-</u>	(10)
_	_	_	_	_	_	89	89	_	(9)	_	(9)
_	7,738	7,738				16,017	16,017		(663)		(663)
7,210,684	7,981,200	19,404,287	9,248,577	1,345,991	1,015,667	18,201	11,628,436	70,820,484	764,213	0	71,584,697

## Tier 2 Public Safety and Firefighter Contributory Retirement System

# Schedule of Employer Allocations and Pension Amounts

at December 31, 2016							Net Difference Between	
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Projected and Actual Investment Earnings on Pension Plan Investments	
American Fork City Beaver County Big Water Municipal Corp Blanding City Box Elder County	\$ 121,563 62,561 3,578 4,839 46,683	1.3686609% 0.7043602 0.0402796 0.0544802 0.5255960	\$ (11,881) (6,114) (350) (473) (4,562)	83,122 42,777 2,446 3,309 31,921	(84,888) (43,686) (2,498) (3,379) (32,599)	8,778 4,517 258 349 3,371	5,936 3,055 175 236 2,280	
Brigham City Cache County Carbon County Cedar City Cedar Mountain Fire Protection District	24,324 122,992 34,483 35,926 2,354	0.2738549 1.3847484 0.3882328 0.4044896 0.0265057	(2,377) (12,020) (3,370) (3,511) (230)	16,632 84,099 23,578 24,566 1,610	(16,985) (85,886) (24,079) (25,087) (1,644)	1,756 8,881 2,490 2,594 170	1,188 6,006 1,684 1,754 115	~~~
Centerville City City of Bountiful City of Draper City of Harrisville City of Helper	4,507 17,302 29,961 4,256 8,138	0.0507471 0.1948012 0.3373268 0.0479146 0.0916280	(441) (1,691) (2,928) (416) (795)	3,082 11,831 20,487 2,910 5,565	(3,147) (12,082) (20,922) (2,972) (5,683)	325 1,249 2,163 307 588	220 845 1,463 208 397	~~~
City of Moab City of Monticello City of Naples City of North Salt Lake City of Orem	24,883 6,436 6,320 12,437 121,513	0.2801501 0.0724612 0.0711524 0.1400266 1.3680971	(2,432) (629) (618) (1,216) (11,876)	17,014 4,401 4,321 8,504 83,087	(17,376) (4,494) (4,413) (8,685) (84,853)	1,797 465 456 898 8,774	1,215 314 309 607 5,934	
City of Santa Clara City of Saratoga Springs City of South Jordan City of South Salt Lake City of St George	2,866 47,559 126,909 87,559 133,696	0.0322655 0.5354597 1.4288409 0.9858136 1.5052599	(280) (4,648) (12,403) (8,557) (13,067)	1,960 32,520 86,776 59,871 91,418	(2,001) (33,211) (88,620) (61,143) (93,360)	207 3,434 9,164 6,323 9,654	140 2,322 6,197 4,276 6,529	
City of West Jordan Clearfield City Clinton City Cottonwood Heights City Daggett County	139,295 27,380 30,300 27,947 20,159	1.5682947 0.3082666 0.3411459 0.3146488 0.2269697	(13,614) (2,676) (2,961) (2,731) (1,970)	95,246 18,722 20,719 19,109 13,784	(97,270) (19,119) (21,159) (19,515) (14,077)	10,058 1,977 2,188 2,018 1,456	6,802 1,337 1,480 1,365 984	
Davis County Dixie State University Duchesne County East Carbon City Emery County	208,907 3,526 71,496 2,874 14,349	2.3520412 0.0396935 0.8049578 0.0323592 0.1615545	(20,417) (345) (6,988) (281) (1,402)	142,844 2,411 48,887 1,965 9,812	(145,880) (2,462) (49,926) (2,007) (10,020)	15,085 255 5,163 208 1,036	10,201 172 3,491 140 701	
Enoch City Farmington City Garfield County Garland City Grand County	1,812 28,522 25,281 2,421 45,786	0.0204017 0.3211270 0.2846389 0.0272542 0.5154929	(177) (2,788) (2,471) (237) (4,475)	1,239 19,503 17,287 1,655 31,307	(1,265) (19,917) (17,654) (1,690) (31,972)	131 2,060 1,826 175 3,306	88 1,393 1,235 118 2,236	
Grantsville City Heber City Hurricane City Hurricane Valley Fire Special Service District Iron County	21,286 33,870 11,824 8,625 77,861	0.2396518 0.3813388 0.1331246 0.0971078 0.8766194	(2,080) (3,310) (1,156) (843) (7,610)	14,555 23,160 8,085 5,898 53,239	(14,864) (23,652) (8,257) (6,023) (54,370)	1,537 2,446 854 623 5,622	1,039 1,654 577 421 3,802	
lvins City Juab County Kane County Kaysville City Laverkin City	10,689 41,945 21,746 29,683 3,333	0.1203410 0.4722557 0.2448387 0.3341964 0.0375273	(1,045) (4,099) (2,125) (2,901) (326)	7,309 28,681 14,870 20,296 2,279	(7,464) (29,291) (15,186) (20,728) (2,328)	772 3,029 1,570 2,143 241	522 2,048 1,062 1,449 163	
Layton City Lehi City Logan City Lone Peak PS District Mapleton City	81,900 102,338 85,841 54,164 12,958	0.9220961 1.1522095 0.9664638 0.6098233 0.1458921	(8,004) (10,002) (8,389) (5,294) (1,266)	56,001 69,976 58,695 37,036 8,860	(57,191) (71,463) (59,943) (37,823) (9,049)	5,914 7,390 6,199 3,911 936	3,999 4,997 4,192 2,645 633	

	Deferred Outflov	vs of Resources	Deferred Inflows of Resources				to Employer-Paid Member Contributions				
	Changes in Proportion and			Net		Changes in Proportion and			et Amortization of Deferred Amounts from Changes in Proportion and		Total
	Differences Between			Difference Between		Differences Between			Differences Between		Employer Net Pension
	Employer Contributions		Differences	Projected and Actual		Employer Contributions		Proportionate Share of	Employer Contributions		Expense Excluding That
	and	Total	Between	Investment		and	Total	Allocable	and	Proportionate	Attributable to
Changes of	Proportionate Share of	Deferred Outflows of	Expected and Actual	Earnings on Pension Plan	Changes of	Proportionate Share of	Deferred Inflows of	Plan Gross Pension	Proportionate Share of	Share of Nonemployer	Employer-Paid Member
Assumptions		Resources	Experience	Investments	Assumptions	Contributions	Resources	Expense	Contributions	Contributions	Contributions
10,391	10,472	35,577	_	2,185	1,450	_	3,635	112,712	608	_	113,320
5,348	3,265	16,185	_	1,124	746	127	1,870	58,005	187	_	58,192
306 414	518 362	1,257 1,361	_	64 87	43 58	137 458	244 603	3,317 4,487	21 (7)	_	3,338 4,480
3,990	3,413	13,054	_	839	557	430	1,396	43,284	200	_	43,484
······		~~~~	~~~~~	~~~~~	~~~~~	~~~~~	~~~~	~~~~	~~~~~	~~~~~	~~~~
2,079	10.513	5,023		437	290	1,489	2,216	22,552	(88)	_	22,464
10,513 2,948	19,513 594	44,913 7,716	_	2,210 620	1,467 411	604	3,677 1,635	114,037 31,972	1,144 (3)	_	115,181 31,969
3,071	——	7,710	_	646	429	2,588	3,663	33,310	(150)	_	33,160
201	967	1,453	_	42	28	449	519	2,183	33	_	2,216
305	~~~~~	~~~~		~~~~~		640	702		(20)		~~~~~
385 1,479	1,019	930 4,592	_	81 311	54 206	648 1,024	783 1,541	4,179 16,042	(38) (4)	_	4,141 16,038
2,561	3,265	9,452	_	538	357	1,024	895	27,779	191	_	27,970
364	1,898	2,777	_	76	51	_	127	3,946	110	_	4,056
696	_	1,681	_	146	97	1,212	1,455	7,546	(70)	_	7,476
2,127		5,139		447	297	884	1,628	23,071	(53)		23,018
550	376	1,705		116	77	65	258	5,967	19	_	5,986
540	1,317	2,622	_	114	75	51	240	5,860	72	_	5,932
1,063	1,585	4,153	_	223	148	_	371	11,531	92	_	11,623
10,387	3,209	28,304	_	2,184	1,449	_	3,633	112,665	185	_	112,850
245	457	1,049	_	51	34	546	631	2,657	(7)	_	2,650
4,065	2,276	12,097	_	855	567	_	1,422	44,096	136	_	44,232
10,848	1,706	27,915	_	2,281	1,514	3,428	7,223	117,668	(92)	_	117,576
7,484	_	18,083	_	1,573	1,044	5,388	8,005	81,184	(322)	_	80,862
11,428	7,698	35,309		2,403	1,595		3,998	123,961	449		124,410
11,907	19,167	47,934	_	2,503	1,662	_	4,165	129,152	1,110	_	130,262
2,340	2,771	8,425	_	492	327	1,529	2,348	25,386	65	_	25,451
2,590	5,262	11,520	_	544	361	_	905	28,094	309	_	28,403
2,389 1,723	4,170 1,371	9,94 <u>2</u> 5,534	_	502 362	333 240	2,121	835 2,723	25,912 18,691	244 (51)	_	26,156
······		~~~··~~		~~~~~	~~~~~	2,121	~~~~		~~~~		18,640
17,857	18,554	61,697	_	3,754	2,492	_	6,246	193,695	1,083	_	194,778
301	742	1,470		1 205	42		105	3,269	44	_	3,313
6,111 246	9,207 145	23,972 739	_	1,285 52	853 34	377	2,138 463	66,290 2,665	537 (15)	_	66,827 2,650
1,227	1,243	4,207	_	258	171	781	1,210	13,304	31	_	13,335
······		·····	~~~~~	~~~~~	~~~~~	~~~~~	~~~~	~~~··~	~~~~~	~~~~~	~~~~
155 2,438	859 2,220	1,233 8,111	_	33 513	22 340	419	474 853	1,680 26,445	24 129	_	1,704 26,574
2,450	2,220	7,587	_	454	302	_	756	23,441	139	_	23,580
207		500	_	44	29	461	534	2,244	(26)	_	2,218
3,914	3,544	13,000	_	823	546	1,848	3,217	42,452	90	_	42,542
1,819	1,108	5,503		383	254		637	19,736	66		19,802
2,895	2,858	9,853	_	609	404	_	1,013	31,404	166	_	31,570
1,011	1,102	3,544	_	212	141	_	353	10,963	67	_	11,030
737	43	1,824	_	155	103	919	1,177	7,997	(53)	_	7,944
6,655	4,694	20,773	_	1,399	929	_	2,328	72,191	279	_	72,470
914	1,015	3,223	_	192	128	_	320	9,910	61	_	9,971
3,585	4,753	13,415	_	754	500	_	1,254	38,891	276	_	39,167
1,859	1,291	5,782	_	391	259	_	650	20,163	75	_	20,238
2,537	1,090	7,219	_	533	354	1,247	2,134	27,522	(13)	_	27,509
285		689		60	40	530	630	3,090	(31)		3,059
7,001	6,022	22,936	_	1,472	977	_	2,449	75,936	354	_	76,290
8,748	147	21,282	_	1,839	1,221	471	3,531	94,887	(18)	_	94,869
7,338	9,931	27,660	_	1,543	1,024	071	2,567	79,590	568	_	80,158
4,630 1,108	4,651 1,481	15,837 4,158	_	973 233	646 155	971 —	2,590 388	50,220 12,014	207 86	_	50,427 12,100
1,108	1,401	4,136		233	133		306	12,014	00		12,100

## Tier 2 Public Safety and Firefighter Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Millard County Moab Valley Fire Protection Morgan County Murray City N Tooele Co Fire Protection SD	\$ 57,179 3,948 13,402 153,537 5,383	0.6437688% 0.0444498 0.1508930 1.7286488 0.0606067	\$ (5,588) (386) (1,310) (15,006) (526)	39,097 2,700 9,164 104,984 3,681	(39,928) (2,757) (9,359) (107,215) (3,759)	4,129 285 968 11,087 389	2,792 193 654 7,497 263	
Nephi City North Davis Fire District North Logan City North Ogden City North Park Police Agency	10,299 26,976 1,495 22,042 3,244	0.1159593 0.3037219 0.0168290 0.2481679 0.0365189	(1,007) (2,636) (146) (2,154) (317)	7,042 18,446 1,022 15,072 2,218	(7,192) (18,838) (1,044) (15,392) (2,265)	744 1,948 108 1,592 234	503 1,317 73 1,076 158	
North View Fire District Ogden City Corp Park City Park City Fire Service Parowan City	33,927 234,965 37,987 80,696 4,114	0.3819737 2.6454273 0.4276917 0.9085473 0.0463147	(3,316) (22,964) (3,713) (7,887) (402)	23,198 160,662 25,975 55,178 2,813	(23,691) (164,076) (26,527) (56,350) (2,873)	2,450 16,967 2,743 5,827 297	1,657 11,474 1,855 3,941 201	
Payson City Perry City Pleasant Grove City Pleasant View City Price City	26,322 1,666 38,796 4,740 15,395	0.2963545 0.0187578 0.4367920 0.0533640 0.1733255	(2,573) (163) (3,792) (463) (1,505)	17,998 1,139 26,527 3,241 10,526	(18,381) (1,163) (27,091) (3,310) (10,750)	1,901 120 2,801 342 1,112	1,285 81 1,894 231 752	
Provo City Corp Rich County Richfield City Riverdale City Roosevelt City	135,563 6,585 9,672 13,037 9,273	1.5262833 0.0741445 0.1088961 0.1467836 0.1044009	(13,249) (644) (945) (1,274) (906)	92,694 4,503 6,613 8,914 6,340	(94,664) (4,599) (6,754) (9,104) (6,475)	9,789 476 698 941 670	6,620 322 472 637 453	
Roy City Salem City Salina City Salit Lake City Corp Salt Lake County	91,206 1,167 3,106 453,659 589,958	1.0268670 0.0131367 0.0349753 5.1076635 6.6422289	(8,914) (114) (304) (44,337) (57,658)	62,364 798 2,124 310,199 403,396	(63,689) (815) (2,169) (316,790) (411,968)	6,586 84 224 32,758 42,601	4,454 57 152 22,153 28,809	
San Juan County Sandy City Sanpete County Santaquin City Sevier County	31,647 187,059 20,662 1,126 29,463	0.3563046 2.1060616 0.2326309 0.0126808 0.3317163	(3,093) (18,282) (2,019) (110) (2,879)	21,639 127,906 14,128 770 20,146	(22,099) (130,623) (14,428) (786) (20,574)	2,285 13,507 1,492 81 2,127	1,545 9,134 1,009 55 1,439	
Smithfield City Corp So Davis Metro Fire Agency South Ogden City Southern Utah University Spanish Fork City	15,746 74,065 32,335 1,388 21,122	0.1772772 0.8338829 0.3640513 0.0156266 0.2378124	(1,539) (7,239) (3,160) (136) (2,064)	10,766 50,643 22,110 949 14,443	(10,995) (51,720) (22,579) (969) (14,750)	1,137 5,348 2,335 100 1,525	769 3,617 1,579 68 1,031	
Springville City State of Utah Stockton Town Summit County Sunset City	46,856 2,393,235 690 60,149 8,308	0.5275480 26.9450088 0.0077729 0.6772100 0.0935393	(4,579) (233,899) (67) (5,879) (812)	32,039 1,636,422 472 41,128 5,681	(32,720) (1,671,194) (482) (42,002) (5,802)	3,383 172,819 50 4,343 600	2,288 116,867 34 2,937 406	
Syracuse City Corp Tooele City Tooele County Town of Brian Head Tremonton City	33,574 62,270 50,811 1,798 3,837	0.3780014 0.7010886 0.5720758 0.0202390 0.0432021	(3,281) (6,086) (4,966) (176) (375)	22,957 42,579 34,743 1,229 2,624	(23,445) (43,483) (35,482) (1,255) (2,680)	2,424 4,496 3,669 130 277	1,639 3,041 2,481 88 187	
Uintah County Unified Fire Authority Unified Police Department University of Utah Utah County	96,974 208,157 138,350 38,838 113,295	1.0918107 2.3436040 1.5576614 0.4372690 1.2755688	(9,478) (20,344) (13,521) (3,796) (11,073)	66,308 142,332 94,600 26,556 77,468	(67,717) (145,356) (96,610) (27,121) (79,114)	7,002 15,031 9,990 2,804 8,181	4,735 10,165 6,756 1,897 5,532	

	Deferred Outflow	vs of Resources				Deferred Inflo	ws of Resources	to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
4,888	1,904	13,713		1,028	682	_	1,710	53,016	110	_	53,126
337	389	1,204	_	71	47	45	1,710	3,661	20	_	3,681
1,146	386	3,154	_	241	160	1,161	1,562	12,426	(43)	_	12,383
13,124	11,407	43,115	_	2,759	1,831	·—	4,590	142,357	659	_	143,016
460	2,090	3,202		97	64		161	4,991	125		5,116
880	1,049	3,176	_	185	123	182	490	9,549	49	_	9,598
2,306	52	5,623	_	485	322	777	1,584	25,012	(41)	_	24,971
128	1,255	1,564	_	27	18	_	45	1,386	73	_	1,459
1,884	3,175	7,727	_	396	263	<u> </u>	659	20,437	185	_	20,622
277		669		58	39	618	715	3,007	(35)		2,972
2,900	1,709	8,716	_	610	405	_	1,015	31,456	102	_	31,558
20,084 3,247	16,718 4,058	65,243 11,903	_	4,222 683	2,803 453		7,025 1,136	217,856 35,221	984 240	_	218,840 35,461
6,898	9,311	25,977	_	1,450	963	_	2,413	74,821	548	_	75,369
352	911	1,761	_	74	49	_	123	3,814	54	_	3,868
2,250	59	5,495		473	314	676	1,463	24,405	(38)		24,367
142	1,273	1,616	_	30	20	245	295	1,545	58	_	1,603
3,316	_	8,011	_	697	463	3,696	4,856	35,971	(218)	_	35,753
405	497	1,475	_	85	57	449	591	4,395	(co)	_	4,396
1,316		3,180	<del>-</del>	277	184	1,200	1,661	14,274	(69)	<del>-</del>	14,205
11,588 563	4,633 481	32,630 1,842	_	2,436 118	1,617 79	_	4,053 197	125,692 6,106	269 29	_	125,961 6,135
827	505	2,502	_	174	115	714	1,003	8,968	(15)	_	8,953
1,114	432	3,124	_	234	156	1,105	1,495	12,088	(37)	_	12,051
793	1,928	3,844	_	167	111	177	455	8,598	99	_	8,697
7,796	6,206	25,042	_	1,639	1,088	_	2,727	84,564	365	_	84,929
100	1,610	1,851	_	21	14	_	35	1,082	94	_	1,176
266		642	_	56	37	592	685	2,880	(34)	_	2,846
38,778 50,429	20,114 92,245	113,803 214,084	_	8,152 10,602	5,412 7,037	_	13,564 17,639	420,625 547,000	1,173 5,416	_	421,798 552,416
······		~~~~	~~~~~	~~~~			~~~~		~~~~	~~~~~	
2,705 15,990	1,013 8,056	7,548 46,687	_	569 3,361	378 2,231	2,814	947 8,406	29,342 173,438	59 289	_	29,401 173,727
1,766	1,096	5,363	_	371	2,231	40	657	19,158	60	_	19,218
96	<i>_</i>	232	_	20	13	215	248	1,044	(12)	_	1,032
2,518	4,210	10,294	_	529	351	_	880	27,317	244	_	27,561
1,346	_	3,252	_	283	188	2,562	3,033	14,599	(148)	_	14,451
6,331	8,335	23,631	_	1,331	883	_	2,214	68,672	489	_	69,161
2,764 119	424	7,102 287	_	581 25	386 17	<u> </u>	967 306	29,980 1,287	25 (15)	_	30,005 1,272
1,806	1,157	5,519	_	380	252	205	837	19,584	54	_	19,638
4,005	7,026	16,702	·····	842	559	~~~~~	1,401	43,445	411		43,856
204,570	131,570	625,826	_	43,006	28,548	_	71,554	2,218,971	7,716	_	2,226,687
59	1,106	1,249	_	12	8	674	694	640	22	_	662
5,141	_	12,421	_	1,081	717	3,625	5,423	55,769	(213)	_	55,556
710	983	2,699		149	99		248	7,703	58		7,761
2,870	4,658	11,591	_	603	400	_	1,003	31,129	270	_	31,399
5,323	2,382	15,242	_	1,119	743	691	2,553	57,736	105	_	57,841
4,343 154	1,371	11,864 372	_	913 32	606 21	3,351 343	4,870 396	47,111 1,667	(125) (20)	_	46,986 1,647
328	833	1,625	_	69	46	343 —	115	3,558	50	_	3,608
8,289	13,765	33,791		1,743	1,157		2,900	89,913	796		90,709
17,793	17,194	60,183	_	3,741	2,483	_	6,224	193,000	999	_	193,999
11,826	9,227	37,799	_	2,486	1,650	_	4,136	128,276	530	_	128,806
3,320	1,006	9,027	_	698	463	_	1,161	36,010	58	_	36,068
9,684	3,845	27,242		2,036	1,351		3,387	105,045	222		105,267

## Tier 2 Public Safety and Firefighter Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	
Utah State University Vernal City	\$ 616 8,329	0.0069305% 0.0937729	\$ (60) (814)	421 5,695	(430) (5,816)	44 601	30 407	
Wasatch County Wasatch County Fire District Washington City	27,323 20,168 43,192	0.3076233 0.2270713 0.4862928	(2,670) (1,971) (4,221)	18,683 13,791 29,534	(19,080) (14,084) (30,161)	1,973 1,456 3,119	1,334 985 2,109	
Washington County Wayne County Weber County Corp Weber Fire District Wellington City	114,253 2,274 144,416 84,152 3,324	1.2863569 0.0255992 1.6259586 0.9474543 0.0374267	(11,166) (222) (14,114) (8,224) (325)	78,123 1,555 98,748 57,541 2,273	(79,783) (1,588) (100,846) (58,764) (2,321)	8,250 164 10,428 6,077 240	5,579 111 7,052 4,109 162	
West Bountiful City West Valley City Woods Cross City	19,305 296,496 15,218	0.2173542 3.3381985 0.1713381	(1,887) (28,977) (1,487)	13,200 202,736 10,406	(13,481) (207,044) (10,627)	1,394 21,410 1,099	943 14,478 743	
Grand Total	\$ 8,881,925	100.0000000%	\$ (868,058)	6,073,209	(6,202,257)	641,359	433,718	
No Proportionate Share for 2016 Ephraim City Garden City Fire District Springdale Town	\$  _	0.0000000% 0.0000000 0.0000000	\$  	_ _ _	_ _ _	_ _ _	_ _ _	
Grand Total	\$ 8,881,925	100.0000000%	\$ (868,058)	6,073,209	(6,202,257)	641,359	433,718	

Net

Columns may not add to total due to rounding.

## **Utah Retirement Systems**

# Schedule of Employer Allocations and Pension Amounts

at December 31, 2016

					Net	Net Difference Between Projected		
Retirement System	Employer Contributions	Net Pension Liability/(Asset) (7.5% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
Noncontributory Retirement System	\$ 826,162,837	3,883,039,287	7,272,332,982	1,044,992,848	13,947,796	749,810,021	430,362,836	
Contributory Retirement System	8,214,313	87,606,865	213,701,920	(19,165,254)	_	43,917,772	_	
Public Safety Retirement System	147,248,245	618,335,634	1,150,467,384	182,947,953	24,556,810	103,445,060	81,093,390	
Firefighters Retirement System	6,904,931	14,003,397	169,685,936	(114,021,841)	_	36,849,684	21,396,478	
Judges Retirement System	7,382,309	35,005,177	56,844,504	16,252,658	2,024,056	5,803,666	2,130,857	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Utah Governors and Legislators Retirement Plan	421,009	2,302,925	3,526,108	1,265,422	_	357,027	_	
Tier 2 Public Employees Contributory Retirement System	68,066,603	11,154,934	75,927,816	(38,121,057)	_	4,212,403	7,210,684	
Tier 2 Public Safety and Firefighters Contributory Retirement System	8,881,925	(868,058)	6,073,209	(6,202,257)	641,359	433,718	759,215	
Grand Total	\$ 1,073,282,173	4,650,580,161	8,948,559,859	1,067,948,472	41,170,021	944,829,351	542,953,460	

Columns may not add to total due to rounding.

Pension Expense Excluding That Attributable	e
to Employer Daid Member Contribution	,

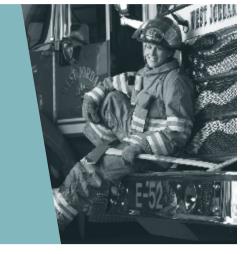
	Deferred Outflov	s of Resources	Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		of Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
53		127		11	7	117	135	571	(7)	_	564
712	_	1,720	_	150	99	893	1,142	7,722	(54)	_	7,668
2.336	2,056	7,699	_	491	326		817	25,333	119	_	25,452
1,724	699	4,864	_	362	241	2,475	3,078	18,700	(110)	_	18,590
3,692	5,631	14,551	_	776	515	· —	1,291	40,047	332	_	40,379
9,766	4,931	28,526	_	2,053	1,363	2,836	6,252	105,934	110		106,044
194	589	1,058	_	41	27	526	594	2,108	2	_	2,110
12,345	7,592	37,417	_	2,595	1,723	8	4,326	133,901	433	_	134,334
7,193	4,155	21,534	_	1,512	1,004	1,505	4,021	78,025	146	_	78,171
284	<del></del> .	686	<del></del> .	60	40	624	724	3,082	(36)	<del></del> .	3,046
1,650	919	4,906		347	230	1,146	1,723	17,900	(17)	_	17,883
25,344	4,377	65,609	_	5,328	3,537	3,469	12,334	274,907	68	_	274,975
1,301	_	3,143	_	273	182	1,645	2,100	14,110	(95)	_	14,015
759,215	610,316	2,444,608	_	159,609	105,949	72,314	337,872	8,235,182	31,356	_	8,266,538
<del>-</del>	1,520	1,520	_	_	_	_	_	_	90	_	90
_	1,221	1,221	_	_	_	_	_	_	74	_	74
	728	728							42		42
759,215	613,784	2,448,076	_	159,609	105,949	72,314	337,872	8,235,182	31,561	_	8,266,743

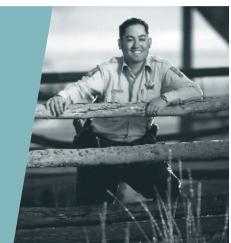
Deferred Outflo	ows of Resources				Deferred Inflo		Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		et Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
45,637,371	1,239,758,024	192,316,792	216,487,479	61,097,116	54,622,637	524,524,024	926,941,215	(3,190,009)	_	923,751,206
142,545	44,060,317	245,381	12,180,955	_	153,851	12,580,187	(13,746,772)	(78,464)	_	(13,825,236)
5,555,716	214,650,976	30,081,779	30,234,750	16,800,615	5,193,035	82,310,179	145,849,744	196,853	_	146,046,597
278,372	58,524,534	18,769,589	10,540,579	11,606,357	326,578	41,243,103	16,169,448	(9,256)	(10,568,615)	5,591,577
<del>-</del>	9,958,579	_	1,678,231	23,443	_	1,701,674	9,381,572	_	(1,469,774)	7,911,798
_	357,027	_	116,484	_	_	116,484	753,367	_	_	753,367
7,981,200	19,404,287	9,248,577	1,345,991	1,015,667	18,201	11,628,436	70,820,484	764,213	_	71,584,697
613,784	2,448,076	_	159,609	105,949	72,314	337,872	8,235,182	31,561	_	8,266,743
60,208,989	1,589,161,821	250,662,118	272,744,078	90,649,147	60,386,617	674,441,960	1,164,404,240	(2,285,102)	(12,038,389)	1,150,080,749

## Utah Retirement Systems

## Notes to the Public Safety System Schedule of Changes in Fiduciary Net Position – Pension Trust Fund by Division and Schedules of Employer Allocations and Pension Amounts

December 31, 2016





## Description of Systems

A brief description of the Utah Retirement Systems (Systems) follows. For a more complete description of plan provisions, membership and benefit statistics, see the Systems Highlights on pages 14 through 30 and Summaries of Plan Provisions on pages 166 through 181.

## A) General Information and Reporting Entity

**General** — The Utah Retirement Systems are comprised of the following pension trust funds:

- i) the Public Employees **Noncontributory Retirement** System (Noncontributory System); the Public Employees **Contributory Retirement System** (Contributory System); and the **Firefighters Retirement System** are multiple-employer, cost-sharing, public employee retirement systems;
- ii) the Public Safety Retirement System is a mixed agent and cost-sharing, multiple-employer retirement system;

- iii) the Judges Retirement System and the Utah Governors and **Legislators Retirement Plan** are single-employer service-employee retirement systems;
- iv) the Tier 2 Public Employees **Contributory Retirement System** and the Tier 2 Public Safety and Firefighter Contributory Retirement System are multipleemployer, cost-sharing public employee retirement systems; and

These Systems cover employees of the State of Utah and participating local government and public education entities.

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#### ■■■ Summary of Benefits by System

	Noncontributory System	Contributory System	Public Fire- Safety fighters System System	Judges System	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighter System
Final average salary is	Highest 3 years	Highest 5 years	Highest 3 years	Highest 2 years	Highest 5 years	Highest 5 years
Years of service required and/ or age eligible for benefit	30 years any age 25 years any age* 20 years age 60* 10 years age 62* 4 years age 65	30 years any age 20 years age 60* 10 years age 62* 4 years age 65	20 years any age 10 years age 60 4 years age 65	25 years any age 20 years age 55* 10 years age 62 6 years age 70	35 years any age 20 years age 60* 10 years age 62* 4 years age 65	25 years any age 20 years age 60* 10 years age 62* 4 years age 65
Benefit percent per year of service**	2.0% per year all years	1.25% per year to June 1975 2.0% per year July 1975 to present	2.5% per year up to 20 years 2.0% per year over 20 years	5.0% first 10 years 2.25% second 10 years 1.0% over 20 years	1.5% per year all years	1.5% per year all years

Note: The Utah Governors and Legislators Retirement Plan benefits are explained in the second paragraph of section B) below. \*With actuarial reductions.

**Reporting Entity** — These **Schedules of Employer Allocations** and Pension amounts cover all of the foregoing retirement systems administered by the Utah State Retirement Board (Board), the sole governing body for these Systems.

The Systems are established and governed by the respective sections of Title 49 of the Utah Code Annotated 1953, as amended. The Systems' defined benefit plans are amended statutorily by the State Legislature. The Utah State Retirement Office Act in Title 49 provides for the administration of the Systems under the direction of the Board, whose members are appointed by the Governor. The Systems are fiduciary funds defined as pension (and other employee benefit) trust funds. Utah Retirement Systems is a component unit of the State of Utah.

## B) Retirement and **Death Benefits**

Retirement Systems' benefits are specified by the statute in Note 1(A) and are defined benefit plans wherein benefits are based on age and/or years of service and highest average salary. Various plan options within the Systems may be selected by retiring members. Some options require actuarial reductions based on attained age, age of spouse, and similar actuarial factors. A brief summary of eligibility and benefits of the various Systems is shown in the table above.

The Utah Governors and Legislators Retirement Plan provides the following benefits. Former governors at age 65 receive \$1,360 per month per term. Legislators receive a benefit at age 65 with four or more years of service at the rate of \$29.60 per month per year of service. Retirement at age 62 with 10 or more years of service will receive an actuarial reduction. Both the governors' and legislators' benefits are adjusted based on the CPI limited to 4% of the base benefit per year.

Death benefits for active and retired employees are in accordance with retirement statutes. Upon termination of employment, members of the Systems may leave their retirement account intact for future benefits based on vesting qualification or withdraw the accumulated funds in their individual member account and forfeit service credits and rights to future benefits upon which the contributions were based.

<sup>\*\*</sup>For members and retirees in the systems, prior to January 1, 1989, there may be a 3% benefit enhancement.

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#### **■■■** Contribution Rates

	December 31, 3016	Contribu	ition Rates as a Percent of C	overed Payrol
System	•	Member	Employer	Other
Noncontribut	tory	_	18.47 - 22.19%	_
Contributory		6.00%	14.46 - 17.70	_
Public Safety	: Noncontributory	_	32.20 - 48.68	_
	Contributory	10.50 - 12.29	22.19 - 29.70	_
Firefighters:	Division A	15.05	3.89	11.649
	Division B	16.71	6.66	11.64
Judges:	Noncontributory	_	42.12	9.79
Governors an	d Legislators	_	\$ 404,409	_
Tier 2 Public	Employees	_	14.91 - 18.24%	_
Tier 2 Public :	Safety and Firefighter	_	10.75 - 37.02	_

## C) Contributions

As a condition of participation in the Defined Benefit Systems, employers and/or employees are required to contribute certain percentages of salaries and wages as authorized by statute and specified by the Board. Employee contributions may be paid in part or in whole by the employer. Contributions in some Systems are also augmented by fees or insurance premium taxes.

Employee (member) contributions are placed into member accounts, and in Systems where it is authorized, interest is credited to member accounts. Upon termination of employment, a member may withdraw his or her account balance including interest that has been credited. Upon withdrawal a member forfeits the service credit that corresponds to the member contributions withdrawn.

The noncontributory retirement systems have no required member contributions flowing into them. However, where members had a balance transferred in or purchased service credit in the system, these balances and on-going interest, where authorized, are credited to individual member accounts that may be withdrawn upon the termination of employment.

## D) Covered Employees

The **Public Employees Noncontributory Retirement** System (Noncontributory System)

was established on July 1, 1986, and is comprised of two divisions, the State and School division and the Local Government division. These divisions are not separate plans. All eligible employees of the State and School entities hired subsequent to that date are automatically members of the Noncontributory System until July 1, 2011, when Tier 2 came into effect. Local government entities had the option of adopting the new System or remaining with the Contributory System. All Contributory System members whose employers adopted the Noncontributory System were given the opportunity to transfer to the new

System during limited window periods. All eligible new hires subsequent to adoption of the noncontributory plans are automatically members of that plan.

The **Public Employees Contributory Retirement System** (Contributory System) includes eligible public employees of the State of Utah and its political subdivisions including public education employees of those entities covered by the System. The System is comprised of two divisions, the State and School division and the Local Government division. These divisions are not separate plans. Members of this System are those who did not elect to transfer to the Public **Employees Noncontributory Retirement** System during the period when they were eligible to transfer or whose employers are not participants in the Noncontributory System.

The **Public Safety Retirement System** includes eligible State and local government employees directly involved in law enforcement (e.g., game wardens, prison guards, police officers, and highway patrol officers) and is comprised of eight divisions, the State of Utah, Division A with Social Security, Salt Lake City, Ogden, Provo, Logan, Bountiful, and Division B without Social Security. These divisions are not separate plans. The Public Safety System consists of both contributory and noncontributory divisions. The noncontributory divisions were authorized by the Legislature effective July 1, 1989.

The Firefighters Retirement **System** includes eligible State and local government employees directly involved in fire fighting and is comprised of two divisions, Division A with Social Security and Division B without Social Security. These divisions are not separate

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#### ■■■ Participating Membership by System

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	and Legislators Retirement Plan	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighter System
Number of participating:								
Employers	453	158	132	62	1	1	466	150
Members:								
Active	63,214	738	6,032	1,663	115	61	24,372	2,240
Terminated vested	47,933	1,274	4,615	390	3	96	464	28
Retirees and beneficiaries:								
Service benefits	47,047	3,460	4,693	1,145	107	173	9	0
Beneficiary benefits	4,308	705	719	227	34	71	0	0

The Judges Retirement System includes justices and judges of the court as authorized by state statutes.

The Utah Governors and **Legislators Retirement Plan** includes only governors and legislators of the State.

The Tier 2 Public Employees **Contributory Retirement System** includes eligible public employees entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

The Tier 2 Public Safety and **Firefighter Contributory Retirement System** includes eligible public safety and firefighters entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

As of December 31, 2016, participating members by System are included in the table above.



## Basis of Presentation

The Schedules of Employer Allocations and Pension Amounts by Employer for the Noncontributory Retirement System, Contributory Retirement System, Public Safety Retirement System, Firefighters Retirement System, Judges Retirement System, Utah Governors and Legislators Retirement Plan, Tier 2 Public Employees Contributory Retirement System and the Tier 2 Public Safety and Firefighter Retirement System present amounts that are considered elements of the financial statements of the Systems or of its participating employers. Accordingly, they do not purport to be a complete presentation of the financial position or changes in financial position of the Systems or of its participating employers. The amounts presented in the Schedules were prepared in accordance with accounting principles generally accepted in the United State of America. Such preparation requires management of the Systems to make a number of estimates and assumptions related to the reported amounts. Due to the inherent nature of these estimates, actual results could differ from those estimates. The following are the significant accounting policies followed by the Systems:

## A) Allocation Percentage Methodology

Each employer's proportion is equal to the ratio of the employer's actual contributions to the Systems during the plan year over the total of all employer contributions to the Systems during the plan year. This allocation method

is a reasonable representation of each employer's proportionate share of the projected long-term contribution effort to the System and satisfies applicable requirements within Governmental Accounting Standards Board Statement Number 68 (GASB No. 68). The change in proportion each year is reflected in deferred outflows and deferred inflows of resources.

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#### ■■■ Net Pension Liability by Division

Year Ended December 31, 2016				(4)		(6)
System	(in thousands) (1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers Net Pension Liability/ (Asset)	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	(5) Projected Covered Employee Payroll	Net Pension Liability/ (Asset) as a Percentage of Covered Employee Payroll
Noncontributory Retirement System						
Local Government	\$ \$5,054,527,756	4,412,405,371	642,122,385	87.3%	\$ 830,405,852	77.3%
State and School	21,447,254,094	18,206,337,192	3,240,916,902	84.9	2,576,161,243	125.8
Total	26,501,781,850	22,618,742,563	3,883,039,287	85.3	3,406,567,095	114.0
Contributory Retirement System						
Local Government	459,047,687	426,236,585	32,811,102	92.9	23,958,601	136.9
State and School	833,463,040	778,667,277	54,795,763	93.4	29,656,132	184.8
Total	1,292,510,727	1,204,903,862	87,606,865	93.2	53,614,733	163.4
Public Safety Retirement System						
State of Utah	1,292,844,026	1,079,035,388	213,808,638	83.5	108,759,249	196.6
Other Division A (with Social Security)	1,501,189,365	1,298,261,752	202,927,613	86.5	139,676,959	145.3
Salt Lake City	352,364,572	260,675,677	91,688,895	74.0	28,331,159	323.6
Ogden	78,616,889	59,437,466	19,179,423	75.6	5,082,117	377.4
Provo	60,456,673	46,580,830	13,875,843	77.0	5,064,803	274.0
Logan	33,377,711	26,171,992	7,205,719	78.4	2,183,115	330.1
Bountiful	26,175,283	18,855,491	7,319,792	72.0	1,810,042	404.4
Other Division B (without Social Security)	449,858,345	387,528,634	62,329,711	86.1	61,500,780	101.3
Total	3,794,882,864	3,176,547,230	618,335,634	83.7	352,408,224	175.5
Firefighters Retirement System						
Division A (with Social Security)	192,977,520	193,765,868	(788,348)	100.4	27,266,310	(2.9)
Division B (without Social Security)	936,751,749	921,960,004	14,791,745	98.4	85,055,968	17.4
Total	1,129,729,269	1,115,725,872	14,003,397	98.8	112,322,278	12.5
Judges Retirement System	210,625,702	175,620,525	35,005,177	83.4	16,755,132	208.9
Governors and Legislators Retirement Plan	12,653,868	10,350,943	2,302,925	81.8	798,798	288.3
Tier 2 Public Employees Retirement System	228,448,413	217,293,479	11,154,934	95.1	822,195,617	1.4
Tier 2 Public Safety and Firefighter Retirement System	24,266,975	25,135,033	(868,058)	103.6	74,834,419	(1.2)
Grand Total	\$ 33,194,899,668	28,544,319,507	4,650,580,161	86.0%	\$4,839,496,296	96.1%

B) Collective Net Pension **Liability of Participating Employers and Actuarial** Information

The Systems used updated procedures to roll forward the total pension liability from January 1, 2016, to December 31, 2016. The components of the current-year pension liability/ (asset) of the employers as of December 31, 2016, were as shown in the schedule above.

## C) Actuarial Assumptions

Actuarial valuation of the ongoing Systems involve estimates of the reported amounts and assumptions about probability of occurrence of events far into the future. Examples include assumptions about future employment mortality and future salary increases. Amounts determined

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#### ■■■ Summary of Actuarial Assumptions

	Noncontributory	Contributory	Public Safety	Firefighters	Judges	Governors and Legislators	Tier 2 Public Employees	Tier 2 Public Safety and Firefighter
Valuation date	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16	1/1/16
Actuarial cost method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Amortization method	Level Percent of Payroll	Level Percent of Payroll	Level Percent of Payroll	Level Percent of Payroll	Level Percent of Payroll	Level Dollar Amount	Level Percent of Payroll	Level Percent of Payroll
Amortization period	Open Group 20-Year Open Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period	Open Group 18-Year Closed Period	Open Group 20-Year Closed Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period
Actuarial asset valuation method (All Systems under same method)	under the ex	Based on the total fair value income of investments with the excess or shortfall of actual investment income over or under the expected investment return smoothed over five years. One-fifth of the excess or shortfall is recognized each year for five years.						
Actuarial assumptions: Investment rate of return	7.20%	7.20%	7.20%	7.20%	7.20%	7.20%	7.20%	7.20%
Projected salary increases*	3.35-10.35%	3.50-10.35%	3.35-7.65%	3.35-8.90%	3.35%	None	3.35-10.35%	3.35-8.90%
Inflation rate	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%
Post-retirement cost-of-living adjustment	2.60%	2.60%	2.50% or 2.60% Depending on employer	2.60%	2.60%	2.60%	2.50%	2.50%
Mortality: (Non-educators)	Male: RP-2000 with white collar adjustments, projected with Scale AA from the year 2000.  Female: 120% of constructed mortality table based on actual experience of female educators, projected with Scale AA from the year 2000.							
Mortality: (Educators)	Male: 90% of constructed mortality table based on actual experience of male educators, projected with Scale AA from the year 2000. Female: 100% of constructed mortality table based on actual experience of female educators, projected with Scale AA from the year 2000.							

Note: All post-retirement cost-of-living adjustments are noncompounding and are based on the original benefit except for Judges, which is a compounding benefit. The cost-of-living adjustments are also limited to the actual CPI increase for the year, although unused CPI increases not met may be carried forward to subsequent years.

\*Composed of 2.60% inflation, plus 0.75% productivity increase rate, plus step-rate promotional increases for members with less than 25 years of service.

December 31, 2016

regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The last experience study was performed in 2014 and the next experience study is scheduled to be conducted in 2017. The Schedule of Employers' Net Pension Liability presents multi-year trend information about whether the plan fiduciary net positions are increasing or decreasing over time relative to the total pension liability. These schedules are presented in the Required Supplementary Information section. The total pension liability as of December 31, 2016, is based on the results of an actuarial valuation date of January 1, 2016, and rolled-forward using accepted actuarial procedures.

A summary of the actuarial assumptions, as of the latest actuarial valuation, is as shown in the table on page 281.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major assetclass. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Systems target asset allocation, as of December 31, 2016, are summarized in the top table above.

#### **■■■** Target Allocations

	Expected Return Arithmetic Bas						
Asset Class	Target Asset Allocation	Real Return Arthmetic Basis	Long-term Expected Portfolio Real Rate of Return*				
Equity securities	40%	7.06%	2.82%				
Debt securities	20	0.80	0.16				
Real assets	13	5.10	0.66				
Private equity	9	11.30	1.02				
Absolute return	18	3.15	0.57				
Cash and cash equivalents	0	0.00	0.00				
Totals	100%		5.23%				
Inflation			2.75%				
Expected arithmetic nomin	al return		7.98%				

<sup>\*</sup>The total URS Defined Benefit long-term expected rate of return is 7.20%, which is comprised of a 2.60% inflation assumption and a 4.60% net real rate of return assumption.

#### D) Discount Rate

The discount rate used to measure the total pension liability was 7.20%. The projection of cash flows used to determine the discount rate assumed contributions from participating employers will be made based on the actuarially determined rates based on the Board's funding policy, which establishes the contractually required rates under Utah State Code. Based on those assumptions, the Systems' fiduciary net position was projected to be available to make all the projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

## E) Sensitivity to the Discount Rate

The table to the right presents the current-period net pension liability/ (asset) of the employers calculated using the current-period discount rate assumption of 7.20%, as well as what the net pension liability/(asset) would be if it were calculated using a 1.00% point lower (6.20%) or a 1.00% point higher (8.20%) than the current assumption.

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## **■■■** Changes in Discount Rate

Year ended December 31, 2016

System	Net Pension Liability/(Asset) 1% Decrease (6.2%)	Net Pension Liability/(Asset) Current Discount Rate (7.2%)	Net Pension Liability/(Asset) 1% Increase (8.2%)
Noncontributory Retirement System			
Local Government	\$ 1,330,053,081	642,122,385	68,081,879
State and School	5,942,279,901	3,240,916,902	976,910,969
Total	7,272,332,982	3,883,039,287	1,044,992,848
Contributory Retirement System			
Local Government	78,987,643	32,811,102	(6,087,924)
State and School	134,714,277	54,795,763	(13,077,330)
Total	213,701,920	87,606,865	(19,165,254)
Public Safety Retirement System			
State of Utah	386,874,215	213,808,638	71,279,744
Other Division A (with Social Security)	422,043,439	202,927,613	24,816,340
Salt Lake City	138,403,464	91,688,895	53,229,415
Ogden	29,509,212	19,179,423	10,689,997
Provo	22,061,828	13,875,843	7,157,275
Logan	11,740,559	7,205,719	3,518,071
Bountiful	10,671,389	7,319,792	4,545,260
Other Division B (without Social Security)	129,163,278	62,329,711	7,711,851
Total	1,150,467,384	618,335,634	182,947,953
Firefighters Retirement System			
Division A (with Social Security)	28,508,505	(788,348)	(24,559,814)
Division B (without Social Security)	141,177,431	14,791,745	(89,462,027)
Total	169,685,936	14,003,397	(114,021,841)
Judges Retirement System	56,844,504	35,005,177	16,252,658
Governors and Legislators Retirement Plan	3,526,108	2,302,925	1,265,422
Tier 2 Public Employees Retirement System	75,927,816	11,154,934	(38,121,057)
Tier 2 Public Safety and Firefighter			
Retirement System	6,073,209	(868,058)	(6,202,257)
Grand Total	\$ 8,948,559,859	4,650,580,161	1,067,948,472

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Note 3

## Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred outflows of resources and deferred inflows of resources represent the inflows or outflows that have been deferred or delayed until a future period. What is being deferred is the recognition of those outflows and inflows as revenues and expenses.

## A) Difference Between Expected and Actual Experience

The difference between expected and actual experience with regard to economic and demographic factors is amortized over the average remaining service lives of the members (active and inactive members). The first year of amortization is recognized as a pension expense with the remaining years shown as either a deferred inflow or deferred outflow of resources. The collective amounts of the difference between the expected and actual experience for the year ended December 31, 2016, are shown in the table to the right.

## B) Changes in Assumptions

The changes in assumptions about future economic or demographic factors or other inputs is amortized over the average remaining service lives of the members (active and inactive members). The first year of amortization is recognized as a pension expense with the remaining years shown as either a deferred inflow or deferred outflow of resources.

#### **Assumptions and Methods**

The demographic assumptions and actuarial methods used to perform this valuation remain unchanged from the prior valuation. The actuary reviews the investment return assumption each year and provides consultation to the Board regarding its appropriateness. The Board has the authority to change this assumption each year and elected to decrease the assumed nominal investment return from 7.50% to 7.20% and also decrease the assumed inflation rate from 2.75% to 2.60%. In conjunction with the decrease in the assumed rate of inflation, both the payroll growth and the wage inflation assumptions were decreased by 0.15% from the prior year's assumption.

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#### ■■■ Differences Between Expected and Actual Experience

December 31, 2016

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	\$ 13,947,796	17,475,749
State and School	_	174,841,043
Total	13,947,796	192,316,792
Contributory Retirement System		
Local Government		245,381
State and School	_	_
Total	_	245,381
Public Safety Retirement System		
State of Utah	_	12,146,821
Other Division A (with Social Security)	_	16,469,529
Salt Lake City	3,006,765	357,267
0gden .	103,210	666,957
Provo	472,334	253,735
Logan	83,751	187,470
Bountiful	750,631	_
Other Division B (without Social Security)	20,140,119	_
Total	24,556,810	30,081,779
Firefighters Retirement System		
Other Division A (with Social Security)	_	1,706,241
Other Division B (without Social Security)	_	17,063,348
Total	_	18,769,589
Judges Retirement System	2,024,056	_
Governors and Legislators Retirement Plan	<i>'</i> —	_
Tier 2 Public Employees Retirement System	_	9,248,577
Tier 2 Public Safety and Firefighter		, ,
Retirement System	641,359	_
Grand Total	\$ 41,170,021	250,662,118

#### **■■■** Changes in Assumptions

December 31, 2016

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	\$ 86,734,911	20,899,685
State and School	343,627,925	40,197,431
Total	430,362,836	61,097,116
Contributory Retirement System		
Local Government	_	_
State and School	_	_
Total	_	_
Public Safety Retirement System		
State of Utah	20,953,419	4,689,400
Other Division A (with Social Security)	35,201,809	7,074,161
Salt Lake City	8,159,709	1,137,750
Ogden	1,654,009	151,890
Provo	1,496,966	341,530
Logan	784,047	150,192
Bountiful	624,469	82,204
Other Division B (without Social Security)	12,218,962	3,173,488
Total	81,093,390	16,800,615
Firefighters Retirement System		
Other Division A (with Social Security)	3,972,486	2,515,610
Other Division B (without Social Security)	17,423,992	9,090,747
Total	21,396,478	11,606,357
Judges Retirement System	2,130,857	23,443
Governors and Legislators Retirement Plan	_	_
Tier 2 Public Employees Retirement System	7,210,684	1,015,667
Tier 2 Public Safety and Firefighter		
Retirement System	759,215	105,949
Grand Total	\$ 542,953,460	90,649,147

## C) Net Difference Between **Projected and Actual Investment Earnings on** Pension Plan Investments

The difference between the System's expected rate of return of 7.2% and actual investment earnings on pension plan investments is amortized over a five-year closed period in accordance with GASB Statement

No. 68. The first year of amortization is recognized as pension expense with the remaining years shown as either a deferred outflow or deferred inflow of resources. The collective amounts of the difference between expected and actual experience for the year ended December 31, 2016, is \$944,829,351 and deferred inflows of \$272,744,078 as illustraed in the table at the top left of page 286.

December 31, 2016

#### ■■ Net Difference Between Projected and Actual Investment Earnings on Plan Investments

December 31, 2016 Deferred Deferred System Outflows Inflows Noncontributory Retirement System **Local Government** \$ 142,706,534 42,303,474 State and School 607,103,487 174,184,005 Total 749,810,021 216,487,479 **Contributory Retirement System Local Government** 15,582,771 4,098,327 State and School 28,335,001 8,082,628 Total 43,917,772 12,180,955 **Public Safety Retirement System** State of Utah 35,409,912 10,250,949 Other Division A (with Social Security) 42,711,678 12,463,953 Salt Lake City 8,524,373 2,478,861 **Ogden** 569,290 1,989,652 Provo 1,525,915 444,673 250,615 Logan 875,536 180,894 Bountiful 635,429 Other Division B (without Social Security) 11,772,565 3,595,515 Total 103,445,060 30,234,750 Firefighters Retirement System Other Division A (with Social Security) 6,197,534 1.762.286 Other Division B (without Social Security) 30,652,150 8,778,293 Total 36,849,684 10,540,579 Judges Retirement System 5,803,666 1,678,231 Governors and Legislators Retirement Plan 357,027 116,484 Tier 2 Public Employees Retirement System 4,212,403 1,345,991 Tier 2 Public Safety and Firefighter Retirement System 159,609 433,718 **Grand Total** \$ 944,829,351 272,744,078

#### **■■■** Proportionate Share of Gross Pension Expense

December 31, 2016

System	
Noncontributory Retirement System	
Local Government	\$ 220,080,826
State and School	706,860,389
Total	926,941,215
Contributory Retirement System	
Local Government	(28,073,689)
State and School	14,326,917
Total	(13,746,772)
Public Safety Retirement System	
State of Utah	41,567,836
Other Division A (with Social Security)	61,276,639
Salt Lake City	16,070,941
Ogden	3,400,351
Provo	2,803,351
Logan	1,589,033
Bountiful	1,460,663
Other Division B (without Social Security)	17,680,930
Total	145,849,744
Firefighters Retirement System	
Other Division A (with Social Security)	4,071,775
Other Division B (without Social Security)	12,097,673
Total	16,169,448
Judges Retirement System	9,381,572
Governors and Legislators Retirement Plan	753,367
Tier 2 Public Employees Retirement System	70,820,484
Tier 2 Public Safety and Firefighter Retirement System	8,235,182
Grand Total	\$ 1,164,404,240

D) Changes in Proportion and Differences Between Contributions and **Proportionate Share** of Contributions

The change in employer proportionate share is the amount of difference between the employer proportionate share of the net pension liability/(asset) in the prior year compared to the current year. The difference between the employer contributions and proportionate share of contributions is the difference between the total amount of the employer contributions and the amount of the proportionate share of the

employer contributions. The change in proportionate share and the difference between employer contributions and proportionate share of contributions is amortized over the average remaining service lives of the members (active and inactive members). The first year of amortization is recognized as pension expense with the remaining years shown as either a deferred outflow or deferred inflow of resources.

#### Notes to the Schedules of Employer Allocations and Pension Amounts (Concluded)

December 31, 2016

#### E) Proportionate Share of Allocable Gross **Pension Expense**

The collective gross pension expense includes certain current period changes in the collective net pension liability/ (asset), projected earnings on pension plan investments and amortization of deferred inflows of resources and deferred outflows of resources for the current period. The collective pension expense for the period ending December 31, 2016, is as shown in the top-right table on page 286.

#### F) Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between **Employer Contributions** and Proportionate **Share of Contributions**

The change in the employer's proportion of the collective net pension liability/(asset), since the prior measurement date (December 31, 2015), the net effect of the change on the employer's proportionate share of the collective net pension liability/(asset), and collective deferred outflows of resources and deferred inflows of resources related to pensions, determined at the beginning of the measurement period, is recognized in the employer's pension expense, beginning in the current period, using average remaining services lives for both active and inactive members. The table to the right illustrates the average remaining service lives for the cost sharing retirement plans.

#### ■■■ Net Amoritization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and **Proportionate Share of Contributions**

Year ended December 31, 2016

Cost Sharing Retirement System	Average Remaining Service Lives
Noncontributory Retirement System	
Local Government	4.34
State and School	4.20
Contributory Retirement System	
Local Government	0.88
State and School	0.45
Public Safety Retirement System	
State of Utah	3.51
Other Division A (with Social Security)	3.69
Other Division B (without Social Security)	5.39
Firefighters Retirement System	
Other Division A (with Social Security)	6.99
Other Division B (without Social Security)	5.96
Tier 2 Public Employees Retirement System	11.99
Tier 2 Public Safety and Firefighter Retirement S	ystem 18.50

#### G) Proportionate Share of Nonemployer Contributions

The Firefighters Retirement System collects fire insurance premium tax. Fire insurance premium taxes are collected by the Utah State Treasurer and are used to help fund the Firefighters Retirement System. The proportionate share of nonemployer contributions is based upon the same methodology used to calculate each employer's proportionate share of the net pension liability/ (asset) and was equal to \$10,568,615 in calendar year 2016 and was used to offset gross pension plan expense in the Firefighters Retirement System.

The Judges Retirement System collects court fees from the Utah Judiciary System and is used to help fund the retirement system. The Judges Retirement System collected \$1,469,774 in court fees in calendar year 2016 and was used to offset gross pension plan expense.

#### H) Total Employer Net Pension Plan Expense

This amount is equal to the gross pension expense less net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate of contributions and any proportionate share of nonemployer contributions.

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

# Schedule of Employer Allocations and Pension Amounts

and Pension Amounts						Net Difference		
at December 31, 2016					D:"	Between Projected		
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
4 Corners Community Behavior Health	N/A	\$ —	_	_	_	_	_	
Active Re Entry Inc Alpine City	N/A N/A	_	_	_	_	_	_	
Alpine School District Alpine Uniserv	N/A N/A N/A	_	_	_	_	_		
American Fork City	N/A	(23,248)	494,182	(439,012)	8,778	95,297	67,670	^
American Leadership Academy	N/A	_	_	_	_	_	_	
Ames Charter School Annabella Town	N/A N/A	_	_	_	_	_	_	
Ash Creek Special Service District	N/A	_	_	_	_	_	_	
Ashley Valley Improv District	N/A	_	_	_	_	_	_	
Ashley Valley Sewer Management Board Ballard Town	N/A N/A	_	_	_	_	_	_	
Bear Lake Special Service District	N/A	_	_	_	_	_	_	
Bear River Association of Governments	N/A							_
Bear River Health Department Bear River Mental Health	N/A N/A	_	_	_	_	_	_	
Bear River Water District	N/A N/A	_	_	_	_	_	_	
Beaver City	N/A		42.777		4.517			
Beaver County	N/A	(6,114)	42,777	(43,686)	4,517	3,055	5,348	~
Beaver Housing Authority Beaver School District	N/A N/A	_	_	_	_	_	_	
Beaver Valley Hospital	N/A	_	_	_	_	_	_	
Benchland Water Company Bicknell Town	N/A N/A	_	_	_	_	_	_	
Big Water Municipal Corp	N/A	(350)	2,446	(2,498)	258	175	306	~
Blanding City	N/A	(473)	3,309	(3,379)	349	236	414	
Bluffdale City Bona Vista Water Improvement	N/A N/A	_	_	_	_	_	_	
Bountiful Irrigation District	N/A			<del>-</del>				
Box Elder Co Mosquito District	N/A		_	(22.522)	_	_	_	
Box Elder County Box Elder School District	N/A N/A	(4,562)	31,921	(32,599)	3,371	2,280	3,990	
Bridgerland Applied Technology Center	N/A	_	_	_	_	_	_	
Brigham City	N/A	(8,773)	247,914	(216,233)	1,756	51,467	34,307	_
Cache County Cache Metro Planning Organization	N/A N/A	(17,358)	277,140	(252,189)	8,881	47,972	37,412	
Cache School District	N/A	_	_	_	_	_	_	
Canyons School District Carbon County	N/A N/A	(3,370)	23,578	(24,079)	2,490	1,684	2,948	
Carbon County Rec/Trans Special Service District	N/A	<del>-</del>		<del></del>	~~~~ <del>~</del>	<del>-</del>	<del></del>	~
Carbon School District	N/A	_	_	_	_	_	_	
Castle Dale City Castle Valley Special Service District	N/A N/A	_	_	_	_	_	_	
Cedar City	N/A	(16,832)	506,293	(440,090)	2,594	106,478	70,197	~
Cedar City Housing Authority Cedar Mountain Fire Protection District	N/A N/A	(230)	1,610	(1,644)	170	115	201	
Centerfield City Centerville City	N/A N/A	— (441)	3,082	(3,147)	325	220	385	
Central Davis Sewer District	N/A	( <del>44</del> 1)	J,002	(3,147)				
Central Iron Co Water Conservancy	N/A	_		_				^
Central UT Public Health Central Utah Counseling Center	N/A N/A	_	_	_	_	_	<del>-</del>	
Central Utah Water District	N/A N/A	_	_	<u> </u>	_	_	_	
Central Weber Sewer District	N/A							~
City of Aurora City of Bountiful	N/A N/A	(1.601)	11 021	(12.002)	1 2/0	945	1 470	
City of Cedar Hills	N/A N/A	(1,691)	11,831	(12,082)	1,249	845	1,479 —	
City of Draper	N/A	(3,794)	51,806	(47,903)	2,163	8,271	6,925	
City of Duchesne	N/A	_	_	_	_	_	_	

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
City of Enterprise	N/A	\$ —	_	_	_	_	_	
City of Green River City of Harrisville	N/A N/A	(416)	2,910	(2,972)	307	208	364	
City of Helper City of Holladay	N/A N/A	(795) —	5,565 —	(5,683)	588	397	696	
City of Kanab City of Milford	N/A N/A	(1,604)	58,008	(49,973)		12,610	8,083	~~~~
City of Moab City of Monticello	N/A N/A	(2,432) (629)	17,014 4,401	(17,376) (4,494)	1,797 465	1,215 314	2,127 550	
City of Naples	N/A	(618)	4,321	(4,413)	456	309	540	~~~~
City of North Salt Lake City of Orem	N/A N/A	(1,216) (11,876)	8,504 83,087	(8,685) (84,853)	898 8,774	607 5,934	1,063 10,387	
City of Riverton City of Santa Clara	N/A N/A	(3,378)	114,003	(98,525)	207	24,497	15,858	
City of Saratoga Springs	N/A	(4,648)	32,520	(33,211)	3,434	2,322	4,065	~~~~
City of South Jordan City of South Salt Lake	N/A N/A	(79,964) (84,251)	2,529,943 2,797,133	(2,193,386) (2,419,269)	9,164 6,323	537,323 599,336	351,288 388,905	
City of St George	N/A N/A	(55,064)	1,610,136	(1,401,721)	9,654	336,687	223,052	
City of Taylorsville City of Uintah	N/A N/A	_ 	_ 					
City of Washington Terrace City of Wendover	N/A N/A	(1,381)	49,938	(43,021)		10,856	6,959	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
City of West Haven City of West Jordan	N/A N/A	(13,614)	95,246	<u> </u>	10,058	6,802	11,907	
City of Woodland Hills	N/A	(13,014)	75,240 —	(71,210) —	— —		— —	~~~~
Clearfield City Cleveland Town	N/A N/A	(2,676)	18,722	(19,119)	1,977	1,337	2,340	
Clinton City Coalville City	N/A N/A	(14,574)	440,670	(382,943)	2,188	92,774	61,108	
Color Country Uniserv	N/A N/A							~~~~
Corinne City Cottonwood Heights City	N/A N/A	(2,731)	19,109	(19,515)	2,018	1,365	2,389	
Cottonwood Heights P&R Srv Cottonwood Improvement District	N/A N/A			(.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Council On Aging Golden Age SS	N/A N/A							~~~~
Daggett County Daggett School District	N/A N/A	(1,970)	13,784	(14,077)	1,456	984	1,723	
Davis & Weber County Canal Co	N/A	_	_	_	_	_	_	
Davis Applied Technology College Davis Behavioral Health Inc	N/A N/A	_	_	_	_	_	_	
Davis Co Housing Authority Davis Co Mosquito Abatement	N/A N/A		_		_	_		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Davis County	N/A	(20,417)	142,844	(145,880)	15,085	10,201	17,857	
Davis School District Davis Uniserv	N/A N/A	_	_	_	_	_	_	
Ddi Vantage Delta City	N/A N/A	_	_	_	_	_	_	~~~~
Dixie Applied Technology College	N/A				Ξ	=	=	
Dixie State University Duchesne Co Mosquito District	N/A N/A	(345)	2,411 —	(2,462)	255	172 —	301	
Duchesne Co Water Conservancy District Duchesne County	N/A N/A	<u> </u>	— 48,887	— (49,926)	<u> </u>	— 3,491	— 6,111	~~~~
Duchesne School District	N/A	(0,500)	<del></del>	(47,720)		— —		
E Duchesne Culinary Water Improvement District Eagle Mountain City	N/A N/A	_				_		~~~~
East Carbon City East Hollywood High School	N/A N/A	(281)	1,965	(2,007)	208	140	246	
Educators Mutual Insurance	N/A	_	_	_	_	_	_	
Elk Ridge City Emery Co Care & Rehab Center	N/A N/A	_	_	_	_	_	_	

Deferred Outflows of Resources

Deletted Outilo	ws or itesources				Deletted IIIII0	ws or nesources		to Lii	ipioyei-i ala mellibi	er Contributions
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
	_	_	_	_	_	_	_	_	_	
_	_	_		_	_		_	_		_
1,898	2,777	_	76	51	_	127	3,946	110	_	4,056
_	1,681	_	146	97	1,212	1,455	7,546	(70)	_	7,476
710	21,403	3,472	3,586	5,119	_	12,177	8,285	123	(5,251)	3,157
	5,139	_	447	297	884	1,628	23,071	(53)	_	23,018
376	1,705	_	116	77	65	258	5,967	19	_	5,986
1,317	2,622	_	114	75	51	240	5,860	72	_	5,932
1,585	4,153		223	148		371	11,531	92	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	11,623
3,209	28,304	_	2,184	1,449	_	3,633	112,665	185	_	112,850
457								(4.050)	(40.442)	
457 2,276	41,019 12,097	6,706	6,977 855	9,921 567	11,393	34,997 1,422	18,660 44,096	(1,858) 136	(10,143)	6,659 44,232
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	~~~~~	~~~~~	~~~~~		~~~~~	~~~~~	~~~~~	~~~~~~	~~~~~
12,162 5,654	909,937 1,000,218	146,224 163,826	153,308 170,780	217,101 242,582	3,428 6,751	520,061 583,939	466,617 472,138	1,705 480	(221,178) (247,803)	247,144 224,815
8,067	577,460	90,896	96,284	135,608	10,839	333,627	340,874	(1,294)	(137,489)	202,091
_	_	_	_	_	_	_	_		_	
_	_		_	_	_	<u> </u>	_	_		_
73	17,888	2,989	3,087	4,407	112	10,595	7,132	(8)	(4,521)	2,603
<del>-</del>	_	_	_	_	_	_	_	_	_	_
— 19,167	47,934	_	2,503	1,662	_	4,165	129,152	1,110	_	130,262
——————————————————————————————————————	-	_			_		-		_	
2,771	8,425		492	327	1,529	2,348	25,386	65		25,451
		_	_						_	25,151
5,262	161,332	25,134	26,504	37,418	2,444	91,500	88,074	(133)	(38,018)	49,923
_	_	_	_	_	_	_	_	_	_	_
<del>-</del>	·····	·····			·····	·····				
<del></del>	9,942	_	502	333	_	835	25,912	244	_	26,156
4,170	9,942	_	J02 —	333	_	633	23,912		_	20,130
<u> </u>	_	_	_	_	_	_	_	_	_	_
_	_		_	_	_	<u> </u>	_	_		_
1,371	5,534	_	362	240	2,121	2,723	18,691	(51)	_	18,640
<del>-</del>	_	_	_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
									~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
_		_	_	_	_	_	_	_	_	_
18,554	61,697	_	3,754	2,492	_	6,246	193,695	1,083	_	194,778
	_	_	_	_	_	_	_	_	_	_
		~~~~~			~~~~~~	~~~~~			~~~~~	~~~~~
_	_	_	_	_	_	_	_	_	_	
<del></del>	_	_	_	_	_	_	_	_	_	_
742	1,470	_	63	42	_	105	3,269	44	_	3,313
				<del>-</del>						
0.207	22.072	_	1 205	052	_	 2.120			_	
9,207 —	23,972	_	1,285	853	_	2,138	66,290	537	_	66,827
_	_	_	_	_	_	_	_	_	_	_
_		_	_		<u> </u>	_	_		<u> </u>	_
145	739	_	52	34	377	463	2,665	(15)	_	2,650
_	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	
_	_	_	_	_	_	_	_	_	_	_

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Emery County	N/A	\$ (1,402)	9,812	(10,020)	1,036	701	1,227
Emery County Recreation Special Service District Emery School District Emery Town Emery Water Conservancy District	N/A N/A N/A N/A	=			=	=	_ _ _
Enoch City	N/A	(177)	1,239	(1,265)	131	88	155
Ephraim Ćity Escalante City	N/A N/A	`	_		_	_	<del>-</del>
Eureka City Corporation Fairview City	N/A N/A N/A	_				_	
Farmington City Farr West City	N/A N/A	(10,590)	301,640	(262,976)	2,060	62,727	41,752
Fast Forward Charter High School	N/A	_	_	_	_	_	_
Ferron City Fillmore City	N/A N/A	_	_	_	_	_	_
Five-County Association of Governments	N/A	_	_	_			_
Fountain Green City Fox Hollow Golf Course	N/A N/A	_		_	_	_	_
Francis City Fruit Heights City	N/A N/A	_	_	_	_	_	_
Garden City Fire District	N/A						
Garfield County Garfield School District	N/A N/A	(2,471)	17,287	(17,654) —	1,826	1,235	2,161
Garland City Genola Town	N/A N/A	(237)	1,655	(1,690)	175	118	207
Grand Co Cemetery Maintenance District	N/A				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
Grand County Grand School District	N/A N/A	(4,475)	31,307	(31,972)	3,306	2,236	3,914
Grand Water/Sewer Service Granger-Hunter Improvement District	N/A N/A					_	
Granite School District Granite Uniserv	N/A N/A	_	_	_	_	_	_
Grantsville City	N/A N/A	(2,080)	14,555	(14,864)	1,537	1,039	1,819
Gunnison City Gunnison Valley Hospital	N/A N/A						
Heber City Heber Light & Power	N/A N/A	(3,310)	23,160	(23,652)	2,446	1,654	2,895
Heber Valley Historic Railroad	N/A	_	_	_	_	_	_
Heber Valley Special Service District Herriman City	N/A N/A	_		_	_	_	_
High Desert Uniserv	N/A			<del>-</del>			_
High School Activities Association Highland City	N/A N/A	_	_	_	_	_	_
Hinckley Town Honeyville City	N/A N/A		_	_	_	_	_
Hooper City	N/A				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
Hooper Water Improv District Housing Authority of Carbon Co	N/A N/A	_	_	_	_	_	_
Housing Authority of SL County Housing Authority of SLC	N/A N/A	_	_	_			
Housing Authority Ogden City Huntington City	N/A N/A	_	_	_ _ _	_	_	
Hurricane City	N/A	(1,156)	8,085	(8,257)	854	577	1,011
Hurricane Valley Fire Special Service District Hyde Park City	N/A N/A	(10,587)	358,258	(309,578)	623 —	77,021 —	49,836
Hyrum City Impact Mitigation Special Service District	N/A N/A	_	_	<u> </u>	_	_	_
Intech Collegiate High School Iron County	N/A N/A	(7,610)	 53,239	<u> </u>	 5,622	3,802	6,655
Iron School District	N/A N/A	(7,010)	J3,239 —	(34,370)	J,022 —	3,802	

Deletted Outil						ows of nesources			ipioyei-i ala mellib	
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	det Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
		•								
1,243	4,207		258	171	781	1,210	13,304	31	_	13,335
_	_	_	_		_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
859	1,233	_	33	22	419	474	1,680	24	_	1,704
1,520	1,520	_	_	_	_	_	_	90	_	90
_	_	_		_	_		_		_	_
_	_	_	_		_	_	_	_	_	_
2,220	108,759	16,886	17,954	25,236	3,124	63,200	66,742	(425)	(25,542)	40,775
·—	·—	<i>_</i>	<i>'</i> —	·—	·—	·—	·—	`—	·	·—
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1,221 2,365	1,221 7,587	_	— 454	302	_	756	23,441	74 139	_	74 23,580
- Z,505 		_	_	_	_	_			_	_
_	500	_	44	29	461	534	2,244	(26)	_	2,218
	12.000	_			1 040		42.452		_	42.542
3,544	13,000	_	823	546 —	1,848	3,217	42,452	90	_	42,542
_	_	_	_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
_	_	<del>-</del>	_	_	_	_	_	_	_	_
1 100		_	202		_		10 726		_	10.002
1,108	5,503	_	383	254	_	637	19,736	66	_	19,802
_	_	_	_	_	_	_	_	_	_	_
2,858	9,853	_	609	404	_	1,013	31,404	166	_	31,570
_	_	_	_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
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						<del>-</del>				
_	_	_	_	_	_	_	_	_	_	_
12,636	15,078	_	212	141	_	353	10,963	2,167	_	13,130
43	127,523	21,089	21,937	31,195	17,883	92,104	58,323	(3,101)	(31,899)	23,323
_	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
4,694	20,773	_	1,399	929	_	2,328	72,191	279	_	72,470
<u>'</u> —	,		<u></u>	_		<u> </u>	<u></u>	_		<u>'</u> —

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
Itineris High School	N/A	\$ —	_	_	_	_	_	
Ivins City Jordan River Commission	N/A N/A	(1,949)	40,011	(35,636)	772	7,631	5,471	
Jordan School District Jordan Uniserv	N/A N/A	_	_	<u> </u>	_ _	_ _	_ _	
Jordan Valley Water Conservancy Jordanelle Special Service District	N/A N/A	_	_	_	_	_	_	
Juab County	N/A N/A	(4,099)	28,681	(29,291)	3,029	2,048	3,585	
Juab School District Kamas City	N/A N/A	_	_	_	_	_	_	
Kane County	N/A	(2,125)	14,870	(15,186)	1,570	1,062	1,859	~~~~
Kane County Water Conservancy District	N/A							
Kane School District Kaysville City	N/A N/A	(6,629)	155,105	(136,865)	2,143	30,756	21,322	
Kearns Improvement District	N/A		·_	·····	·-	·_	·—	~~~~
Laverkin City Layton City	N/A N/A	(326) (91,303)	2,279 3,068,279	(2,328) (2,652,241)	241 5,914	163 658,846	285 426,744	
Lehi City	N/A N/A	(54,233)	1,669,484	(1,449,424)	7,390	352,718	231,630	
Lewiston City Liberty Academy Charter	N/A N/A		_	_	_	_	_	
Lindon City	N/A				<u>-</u>			~~~~
Logan City	N/A	(8,389)	58,695	(59,943)	6,199	4,192	7,338	
Logan School District Lone Peak PS District	N/A N/A	(5,294)	37,036	(37,823)	3,911	2,645	4,630	
Maeser Water Improvement District	N/A	· · · · · · · · · · · · · · · · · · ·				<u> </u>		~~~~
Magna Mosquito Abatement Manti City	N/A N/A	_	_	_	_	_	_	
Mapleton City	N/A	(1,266)	8,860	(9,049)	936	633	1,108	
Marriott-Slaterville City Mayfield Town	N/A N/A	_	_	_	_	_	_	
Mendon City	N/A							~~~~
Metro Water District SLC/Sandy	N/A	_	_	_	_	_	_	
Midvale City Midvalley Improvement District	N/A N/A	_	_	_	_	_	_	
Midway City	N/A							~~~~
Military Installation Devel Millard Co Care & Rehab Inc	N/A N/A		_	_	_	_	_	
Millard County	N/A	(5,588)	39,097	(39,928)	4,129	2,792	4,888	
Millard School District Millville City	N/A N/A	_	_	_	_	_	_	
Minersville Town	N/A					~~~~~~ <u>~</u>		~~~~
Moab Valley Fire Protection	N/A	(4,066)	135,791	(117,413)	285	29,126	18,882	
Monroe City Monticello Academy	N/A N/A	_	_	_	_	_	_	
Morgan City Corporation	N/A			<del>-</del>	<del>-</del>			~~~~
Morgan County Morgan School District	N/A N/A	(1,476)	15,179	(14,541)	968	1,962	1,984	
Moroni City	N/A	_	_	_	_	_	_	
Mount Pleasant City Mountain Regional Water Special Service District	N/A N/A	_	_	_	_	_	_	
Mountainland Association of Governments	N/A							~~~~
Mountainland Applied Technology College Mt Olympus Improvement District	N/A N/A	_	_	_	_	_	_	
Murray City	N/A	(110,295)	3,550,840	(3,075,791)	11,087	756,603	493,283	
Murray School District	N/A							~~~~
Myton City N Tooele Co Fire Protection SD	N/A N/A	(1,995)	 56,795	— (49,516)	389	11,810	7,861	
Ne Counseling Center	N/A			(17,510)	_			
Nebo Credit Union Nebo School District	N/A N/A	_	_	_	_	_	_	
	.,,.							

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Nephi City	N/A	\$ (1,007)	7,042	(7,192)	744	503	880
Nibley City Corporation	N/A	_	_	_	_	_	_
Noah Webster Academy Inc North Davis Co Sewer District	N/A N/A	_	_	_	_	_	_
North Davis Fire District	N/A	(24,327)	802,832	(694,579)	1,948	171,837	111,605
North Emery Water Users Special Service District	N/A	_	_	_			_
North Fork Special Service District	N/A	(661)	23,898	(20,588)		5,195	3,330
North Logan City North Ogden City	N/A N/A	(3,260) (2,154)	113,632 15,072	(98,056) (15,392)	108 1,592	24,554 1,076	15,819 1,884
North Park Police Agency	N/A	(317)	2,218	(2,265)	234	158	277
North Pointe Solid Waste	N/A	<u>-</u>					
North Sanpete School District	N/A	_	_	_	_	_	_
North Summit School District North View Fire District	N/A N/A	(15,603)	467,512	(406,463)	2,450	98,247	64,812
NUAMES Charter School	N/A	(13,003)		(100,105) —		-	
Oakley City	N/A	_	_	_			_
Ogden City Corp	N/A	(22,964)	160,662	(164,076)	16,967	11,474	20,084
Ogden School District Ogden Weber/NEA/UEA Uniserv	N/A N/A	_	_	_	_	_	_
Ogden-Weber Technology College	N/A			<u> </u>		<del></del> .	<del></del>
Oquirrh Recreation and Parks District	N/A			<del>_</del>	_	_	
Orangeville City Orderville Town	N/A N/A	_	_	_	_	_	_
Panguitch City Corporation	N/A N/A	_	_	_	_	_	_
Park City	N/A	(3,713)	25,975	(26,527)	2,743	1,855	3,247
Park City Fire Service	N/A	(7,887)	55,178	(56,350)	5,827	3,941	6,898
Park City School District Parowan City	N/A N/A	(402)	2,813	(2,873)	<u> </u>	201	352
Payson City	N/A N/A	(5,032)	106,931	(94,996)	1,901	20,618	14,642
Perry City	N/A	(163)	1,139	(1,163)	120	81	142
Piute County	N/A	_	_	_	_	_	_
Piute School District Plain City	N/A N/A	_	_	_	_	_	_
Pleasant Grove City	N/A	(19,534)	595,784	(517,501)	2,801	125,646	82,638
Pleasant View City	N/A	(463)	3,241	(3,310)	342	231	405
Price City	N/A	(3,547)	84,384	(74,378)	1,112	16,808	11,608
Price River Water Improvement Providence City	N/A N/A	_	_	_	_	_	_
Provo City Corp	N/A	(13,249)	92,694	(94,664)	9,789	6,620	11,588
Provo Housing Authority	N/A						
Provo River Water Users Provo School District	N/A N/A	_	_	_	_	_	_
Recreation & Habilitation Services	N/A N/A	_	_	_	_	_	_
Redmond Town	N/A				_	_	_
Rich County	N/A	(644)	4,503	(4,599)	476	322	563
Rich School District Richfield City	N/A N/A	(945)	6,613	(6,754)	698	472	— 827
Richmond City	N/A	(745)	0,015	(0,754)		——————————————————————————————————————	—
Riverdale City	N/A	(16,877)	573,143	(495,182)	941	123,296	79,736
Roosevelt City	N/A	(906)	6,340	(6,475)	670	453	793
Roosevelt City Housing Roy City	N/A N/A	(41,198)	1,229,846	(1,069,464)	6,586	258,256	170,477
Roy Water Conservancy District	N/A						
S Utah Valley Electric Service District S Utah Valley Solid Waste	N/A N/A	_	_	_	_	_	_
Salem City	N/A	(114)	700	(015)			100
Salina City	N/A N/A	(114) (304)	798 2,124	(815) (2,169)	84 224	57 152	100 266
Salt Lake Arts Academy	N/A	<u> </u>	_	_	_	_	_
Salt Lake City Corp Salt Lake City Public Library	N/A N/A	(44,337)	310,199	(316,790)	32,758	22,153	38,778
Jan Lake City I ubile Library	IV/A						

1,610

20,114

1,851

113,803

642

21

56

8,152

14

37

5,412

592

35

685

13,564

		xpense Excluding Th	
ı	Net Amortization of Deferred Amounts from		
Share of Allocable Plan Gross Pension Expense	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
9,549	49	_	9,598
_	_	_	_
137,043	2,980	(71,010)	69,013
3,413 17,470 20,437 3,007	(485) 183 185 (35)	(2,163) (10,194) —	765 7,459 20,622 2,972
_		_	_
94,916	124 —	(40,223) —	54,817 —
217,856 —	984 —	_	218,840
_	_	_	_
	_	_	_
_	_	_	_
35,221	<u> </u>	_	35,461
74,821	548		75,369
3,814 37,107 1,545	54 20 58	(8,051)	3,868 29,076 1,603
	_ _ _	_	_ _ _
117,276 4,395	1,962 1	(51,534)	67,704 4,396
24,823	(33)	(6,686)	18,104
125,692	269 —	_ _ _	125,961
_			_
_	_	_	_
6,106	29		6,135
8,968	(15)	_ _ _	8,953 —
92,675 8,598	683 99	(51,079) —	42,279 8,697
251,312 —	3,185	(105,691)	148,806 —
_	_	_	_
1,082 2,880	94 (34)		1,176 2,846
420,625	1,173	_	421,798

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Salt Lake Co Serv Area 3	N/A	\$ —	_	_	_	_	_
Salt Lake Community College Salt Lake County	N/A N/A	(57,658)	403,396	(411,968)	42,601	28,809	<u> </u>
Salt Lake School District San Juan County	N/A N/A	(3,093)	21,639	(22,099)	2,285	1,545	2,705
San Juan Mental Health	N/A	_	_	_	_	_	_
San Juan School District Sandy City	N/A N/A	(18,282)	127,906	(130,623)	13,507	9,134	 15,990
Sandy Suburban Improvement District	N/A N/A			· · · —	1,492	1,009	1 766
Sanpete County Santaguin City	N/A N/A	(2,019)	14,128 770	(14,428)	~~~~	~~~··~~	1,766
Seven County Infrastructure	N/A	(110)	——————————————————————————————————————	(786)	81 —		<del></del>
Sevier County Sevier School District	N/A N/A	(2,879)	20,146	(20,574)	2,127	1,439	2,518
Six-County Association of Governments	N/A	_	_	_	_	_	_
Slc Mosquito Abatement	N/A					_	_
Smithfield City Corp Snow College	N/A N/A	(4,909)	132,617	(115,968)	1,137	27,258	18,325
Snyder Basin Special Recreation District Snyderville Basin Water Reclamation District	N/A N/A	_	_	_	_	_	_
So Davis Metro Fire Agency	N/A	(98,379)	3,346,465	(2,891,040)	5,348	720,104	465,584
So Davis Recreation Center	N/A	(70,317)	J,570,705	(2,071,040)	J,J <del>1</del> 0	720,104	— —
So SI Valley Mosquito Abatement So Utah Valley Animal Svcs SSD	N/A N/A	_	_	_	_	_	_
So Utah Valley Power Systems	N/A	_	_	_	_	_	_
Soldier Hollow Charter School Solid Waste Special Service District #1	N/A N/A	_	_	_	_	_	_
Solitude Improvement District	N/A	_	_	_	_	_	_
South Davis Sewer District South Davis Water District	N/A N/A	_	_	_	_	_	_
South Ogden City	N/A	(20,108)	634,986	(550,566)	2,335	134,814	88,164
South Ogden Conservancy District South Sanpete School District	N/A N/A	_	_	_	_	_	_
South Summit School District	N/A	_	_	_	_	_	_
South Valley Sewer District South Valley Water Reclamation	N/A N/A				<del>-</del>	<del>-</del>	<del>-</del>
South Weber City	N/A	_	_	_	_	_	_
Southeastern Utah AOG Southeastern Utah Health	N/A N/A	_	_	_	_	_	_
Southern Utah University	N/A	(136)	949	(969)	100	68	119
Southwest Applied Technology Southwest Educ Development Center	N/A N/A	_	 _	_	_	_	_
Space Dynamics Lab / ÚSU	N/A	(2.24)	_		_	_	_
Spanish Fork City Spring City	N/A N/A	(2,064)	14,443	(14,750) —	1,525	1,031	1,806 —
Springville City	N/A	(8,480)	173,108	(154,249)	3,383	32,955	23,662
St George Housing Authority State of Utah	N/A N/A	(267,800)	2,862,354	(2,727,323)	172,819	383,375	375,396
Stockton Town	N/A N/A	(67)	472	(482)	50	34	59
Success Academy Summit Academy High School	N/A N/A	<u>-</u>			<u>-</u>	<u>-</u>	<u>-</u>
Summit Academy Inc	N/A	_	_	_	_	_	_
Summit County Sunset City	N/A N/A	(5,879) (812)	41,128 5,681	(42,002) (5,802)	4,343 600	2,937 406	5,141 710
SW Behavioral Health Center	N/A			······································			
Sw Mosquito Abatement/Control SW UT Public Health Department	N/A N/A	_	_		_	_	_
Syracuse City Corp	N/A	(17,883)	551,015	(478,362)	2,424	116,435	76,452
Taylor West Weber Water Improvement District Taylorsville-Bennion Improvement	N/A N/A	_	_	_	_	_	_

Deferred Outflo	ws of Resources				Deletteu IIIII	ows of Resources		(O EII	ipioyer-Paid Memb	er Contributions
Chamana.					Charrer:		1	Net Amortization of Deferred Amounts from		
Changes in Proportion and Differences Between Employer Contributions and	Total	Differences Between	Net Difference Between Projected and Actual Investment		Changes in Proportion and Differences Between Employer Contributions and	Total	Proportionate Share of Allocable	Changes in Proportion and Differences Between Employer Contributions and	Proportionate	Total Employer Net Pension Expense Excluding That Attributable to
Proportionate Share of Contributions	Deferred Outflows of Resources	Expected and Actual Experience	Earnings on Pension Plan Investments	Changes of Assumptions	Proportionate Share of Contributions	Deferred Inflows of Resources	Plan Gross Pension Expense	Proportionate Share of Contributions	Share of Nonemployer Contributions	Employer-Paid Member Contributions
_	_		_		_	_		_	_	_
92,245	214,084	_	10,602	7,037	_	17,639	547,000	5,416	_	552,416
1,013	7,548		569	378		947	29,342	<u></u>		29,401
	_	_			_	_			_	_
8,056	46,687	_	3,361	2,231	2,814	8,406	173,438	289 —	_	173,727 —
1,096	5,363		371	246	40	657	19,158	60		19,218
4,210	232 — 10,294	_	20 — 529	13 — 351	215	248 — 880	1,044 — 27,317	(12) — 244	_	27,561
4,210	10,294		J29 —	— —	_	— —	27,317	— —	_	27,301
		<u>-</u>								
12,921 —	59,641 —	7,293	7,815 —	10,940 —	2,562	28,610	32,003	2,028	(11,031)	23,000
	_	_	_		<u> </u>	_	_		_	_
18,154	1,209,190	197,256	205,066	291,709		694,031	539,403	2,155 —	(298,369)	243,189
 _	_	_	<u> </u>	<u> </u>	_	_	<u> </u>	<u> </u>	_	_
_	_	_	_	_	_	_	_	_	_	_
		Ξ	=		Ξ	Ξ	Ξ		=	Ξ
2,072	227,385	36,681	38,467	54,467	187	129,802	117,515	267	(55,483)	62,299
	_	_	_		<u> </u>	_	_	_	_	_
_ 	_ 				_ 	_ 			_ 	
_	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
	287		25	17	264	306	1,287	(15)		1,272
_ _ _	_	_			_	_		_ _ _	_	
1,157	5,519	_	380	252	205	837	19,584	54	_	19,638
8,282	68,282	8,443	9,562	13,007	491 —	31,503	63,593	531	(12,771)	51,353
131,570 1,106 —	1,063,160 1,249	73,372	118,788 12 —	136,725 8 —	34,684 674	363,569 694	2,394,067 640 —	1,683 22 —	(110,983)	2,284,767 662 —
983	— 12,421 2,699	_ _ _	1,081 149	717 99	3,625	5,423 248	55,769 7,703	(213) 58	_ _ _	55,556 7,761
						<u>-</u>		~~~~~		
— 4,683	 199,994	31,604	33,246	46,996	1,016	112,862	106,550	 105	(47,805)	 58,850
——————————————————————————————————————	— —	— —		— —				— —	——————————————————————————————————————	

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
Timber Lakes Water Special Service District Timpanogos Special Service District Tintic School District Tooele Applied Technology College Tooele City	N/A N/A N/A N/A N/A	\$   (6,086)	42,579	(43,483)				
Tooele County Tooele County Housing Tooele School District Tooele Valley Mosquito Abatement Torrey Town	N/A N/A N/A N/A N/A	(4,966) ———————————————————————————————————	34,743 — — —	(35,482)	3,669	2,481 — — —	4,343 — — —	
Town of Alta Town of Apple Valley Town of Brian Head Town of Daniel Town of Garden City	N/A N/A N/A N/A N/A		 1,229 	(1,255) —	130 — —	88 - -		~~~~
Town of Goshen Town of Levan Town of Manila Town of Mantua Town of Paragonah	N/A N/A N/A N/A N/A	_ _ _ _		_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	
Town of Randolph Town of Springdale Trans-Jordan Cities Tremonton City Tridell-Lapoint Water	N/A N/A N/A N/A N/A	(375)	2,624	(2,680)			328	
Tuacahn High School Uintah Animal Control/Shelter Uintah Basin Applied Technology Center Uintah Basin Association of Governments Uintah Basin Asst Council	N/A N/A N/A N/A N/A	_ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _ _	_ _ _ _ _	
Uintah Co Care Center Special Service District Uintah County Uintah Fire Suppression Special Service District Uintah Highlands Improv District Uintah Mosquito Abatement District	N/A N/A N/A N/A N/A	(9,478) (3,163) —	66,308 114,390 —	(67,717) (98,546) —	7,002	4,735 24,867 —	8,289 15,940 —	
Uintah Recreation District Uintah School District Uintah Transportation Special Service District Uintah Water Conservancy District Unified Fire Authority	N/A N/A N/A N/A N/A	(20,344)	142,332	(145,356)				~~~~
Unified Police Department University of Utah University of Utah Hospital Upper Country Water District UT Municipal Power Agency	N/A N/A N/A N/A N/A	(13,521) (3,796) — —	94,600 26,556 — —	(96,610) (27,121) — —	9,990 2,804 — —	6,756 1,897 — —	11,826 3,320 — —	
UT Public Employees Association UT School Board Risk Management Utah Association of Counties Utah Co Academy of Sciences Utah Co Housing Authority	N/A N/A N/A N/A N/A	_ _ _		_ _ _ _				~~~~
Utah Communications Authority Utah Counties Indemnity Pool Utah County Utah Dairy Council Utah Education Association	N/A N/A N/A N/A N/A	(11,073)	77,468	(79,114) ———————————————————————————————————	8,181 —	5,532 —	9,684	~~~~
Utah Housing Corporation Utah Lake Commission Utah League Cities/Towns Utah Local Governments Trust Utah Retirement Systems	N/A N/A N/A N/A N/A							

**Deferred Inflows of Resources** 

**Deferred Outflows of Resources Net Amortization** of Deferred Amounts from Changes in Proportion and Changes in Changes in Proportion and Proportion and Total Net Difference Between Differences Between Differences Between Employer Net Pension Differences Between Employer Contributions Projected and Actual Employer Contributions Proportionate Share of Employer Contributions Expense Excluding That Differences Between Expected Investment Earnings on Allocable and Total and Total and Proportionate Attributable to Proportionate Proportionate Deferred Proportionate Deferred Plan Gross Share of **Employer-Paid** Changes of Assumptions Nonemployer Contributions Share of Outflows of and Actual Pension Plan Share of Inflows of Pension Share of Contributions Resources Investments Contributions Contributions Contributions Experience Resources Expense 743 2,382 15,242 1,119 691 2,553 57,736 105 57,841 1,371 11,864 913 606 3,351 4,870 47,111 (125)46,986 372 32 21 343 396 1,667 (20)1,647 728 728 42 42 833 1,625 69 46 115 3,558 50 3,608 13,765 33,791 1,743 1,157 2,900 89,913 90,709 796 1,861 42,668 6,846 7,071 10,094 24,011 16,338 311 (10,356)6,293 \_\_\_ 17,194 60,183 3,741 2,483 6,224 193,000 999 193,999 9,227 37,799 2,486 1,650 4,136 128,276 530 128,806 1,006 9,027 698 463 36,010 58 36,068 1,161 3,845 27,242 1,351 3,387 105,045 222 2,036 105,267

(Employer's Collective Net Pension Asset for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
Utah Safety Council	N/A	\$ —	_	_	_	_	_	
Utah School Boards Association Utah School Employees Association	N/A N/A	_	_	_	_	_	_	
Utah State Fair Corp	N/A			(430)			_	
Utah State University	N/A	(60)	421	(430)	44	30	53	~~~~~
Utah Valley Dispatch Special Service District Utah Valley University	N/A N/A	_	_	_	_	_	_	
Utah Zoological Society UTOPIA	N/A N/A	_	_	_	_	_	_	
Valley Emergency Communications Center	N/A N/A	_	_	_	_	_	_	
Vernal City	N/A	(814)	5,695	(5,816)	601	407	712	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Vineyard Town Wasatch County	N/A N/A	(2,670)	18,683	(19,080)	 1,973	1,334	2,336	
Wasatch County Fire District	N/A	(21,672)	726,223	(627,838)	1,456	155,862	100,997	
Wasatch Front Regional Council	N/A							
Wasatch Front Waste/Recycling Wasatch Integrated Waste Management	N/A N/A	_	_	_	_	_	_	
Wasatch Mental Health Special Service District Wasatch School District	N/A N/A	_	_	_	_	_	_	
Wasatch Uniserv	N/A N/A	_	_	_	_	_	_	
Washington City	N/A	(9,412)	217,256	(191,882)	3,119	42,918	29,850	
Washington Co Solid Waste Washington Co Water Conservancy District	N/A N/A	_	_	_	_	_	_	
Washington County	N/A	(11,166)	78,123	(79,783)	8,250	5,579	9,766	
Washington School District Waste Management Service District #5	N/A N/A	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			<u>-</u>	<del>-</del>	<del>-</del>	
Wayne County	N/A N/A	(222)	1,555	(1,588)	164	111	194	
Wayne School District Weber Area Dispatch 911	N/A N/A	_	_	_	_	_	_	
Weber Basin Water Conservancy	N/A	_	_	_	_	_	_	
Weber Co Mosquito Abatement	N/A		_	— (400 044)		_	_	
Weber County Corp Weber County School District	N/A N/A	(14,114)	98,748	(100,846)	10,428	7,052	12,345	
Weber Fire District	N/A	(8,224)	57,541	(58,764)	6,077	4,109	7,193	
Weber Human Services Weber River Water Users	N/A N/A	·····	<u>-</u>	<u>-</u>	<del>-</del>	<u>-</u>	<u>-</u>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Weber State University	N/A	_	_	_	_	_	_	
Wellington City Wellsville City Corp	N/A N/A	(325)	2,273	(2,321)	240	162	284	
West Bountiful City	N/A	(1,887)	13,200	(13,481)	1,394	943	1,650	
West Kane County Special Service District #1	N/A	_	_	_	_	_	_	
West Point City West Valley City	N/A N/A	(28,977)	202,736	(207,044)	21,410	14,478	25,344	
White City Water Improvement District	N/A N/A			_	_			
Willard City Corp Woodland Peaks Uniserv	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····	<del>-</del>	<del>-</del>	<del>-</del>	<del>-</del>	
Woods Cross City	N/A N/A	(1,487)	10,406	(10,627)	1,099	743	1,301	
Workers Compensation Fund	N/A	_						
Grand Total		\$ (1,656,406)	34,581,714	(30,762,071)	641,359	6,631,252	4,731,701	
No Proportionate Share for 2016 Canyonlands Health Care	N/A	_	_	_	_	_	_	
Leeds Area Special Service District	N/A	_	_	_	<u> </u>	_	_	
Summit Mosquito Abatement District Sunnyside City	N/A N/A	_	_	_	_	_	_	
Valley Mental Health	N/A	_	_					
Grand Total		\$ (1,656,406)	34,581,714	(30,762,071)	641,359	6,631,252	4,731,701	

Columns may not add to total due to rounding.

Deterred outrio	ws or nesources				Deterred mine	Wy or negotirees			ipioyer raid memb	er contributions
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
_	_	_	_	_	_	_	_	_	_	_
_ _	_	_	_	_	_	_	_	_	_	_
_	 127	_				125			_	
			11	······	117	135	571	(7)		564
	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
_	1,720	_	150	99	893	1,142	7,722	(54)	_	7,668
2,056	7,699	_	— 491	326	_	817	25,333	119	_	25,452
1,355	259,670 —	42,639 —	44,402	63,107	3,966	154,114 —	120,454	(272)	(64,496)	55,686 —
_	_	_	_	<del>-</del>	_	_	_	_	_	<del>-</del>
	_	_	_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_	_	_	_
15,376	91,263	11,235	12,380	17,080	101	40,796	66,859		(16,994)	51,806
	91,203 —				—	40,730			(10,554)	_
4,931	28,526 —	_ _ _	2,053	1,363	2,836	6,252	105,934	110	_ _ _	106,044 —
_					_		_			_
589 —	1,058	_	41	27	526	594 —	2,108	2	_	2,110
_	_	_	_	_	_	_	_	_	_	_
	<u>-</u>								<u>-</u>	
7,592	37,417	_	2,595	1,723	8	4,326	133,901	433	_	134,334
— 4,155	21,534	_	 1,512	1,004	1,505	4,021	78,025	146	_	78,171
·	·		····	····		····	·			
	_	_	_	_	_	_	_	_	_	_
_	686	_	60	40	624	724	3,082	(36)	_	3,046
919	4,906	_	347	230	1,146	1,723	17,900	(17)	_	17,883
_		_	_		_	_	_	_	_	_
— 4,377	65,609	_	5,328	3,537	3,469	12,334	 274,907	68	_	<u> </u>
<u></u>	_	_	_	_	_	_		_	_	_
			<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			~~~~~	
=	3,143		273	182	1,645	2,100	14,110	(95)	_	14,015
773,813	12,778,125	1,706,241	1,921,895	2,621,559	258,109	6,507,804	12,306,957	27,186	(2,580,856)	9,753,287
 7,614	7,614	_	_	_	_	_	_	1,291	_	1,291
_	, <u> </u>	_	_	_	_	_	_	· <u> </u>	_	
781,427	12,785,739	1,706,241	1,921,895	2,621,559	258,109	6,507,804	12,306,957	28,477	(2,580,856)	9,754,578

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

## Schedule of Employer Allocations and Pension Amounts

and Pension Amounts						Net	
at December 31, 2016						Difference Between Proiected	
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
4 Corners Community Behavior Health Active Re Entry Inc Alpine City Alpine School District Alpine Uniserv	N/A N/A N/A N/A	\$ 1,479,971 334,841 546,886 235,362,883 97,830	3,114,437 614,965 1,141,696 435,895,490 179,374	120,519 100,162 51,356 67,540,901 29,489	31,923 — 11,838 —	330,517 62,763 121,833 44,883,298 18,326	205,189 35,615 74,833 25,071,278 10,373
American Fork City American Leadership Academy Ames Charter School Annabella Town Ash Creek Special Service District	N/A N/A N/A N/A	4,862,245 4,235,027 1,704,307 52,101 510,665	10,140,008 7,855,068 3,129,983 107,918 1,058,742	508,818 1,209,214 509,911 5,524 53,414	62,616 — — 1,132 11,088	1,059,144 796,771 319,454 11,579 113,523	737,971 458,818 181,259 7,037 69,084
Ashley Valley Improv District Ashley Valley Sewer Management Board Ballard Town Bear Lake Special Service District Bear River Association of Governments	N/A N/A N/A N/A	570,067 260,316 120,361 74,224 884,256	1,187,560 539,204 250,639 153,743 1,847,526	55,414 27,600 11,772 7,870 81,901	12,352 5,654 2,608 1,612 19,134	126,915 57,853 26,793 16,496 197,041	77,732 35,162 16,402 10,026 121,162
Bear River Health Department Bear River Mental Health Bear River Water District Beaver City Beaver County	N/A N/A N/A N/A N/A	2,848,020 2,237,335 119,065 613,557 4,248,651	5,974,231 4,701,367 251,631 1,286,275 8,861,260	246,147 187,298 8,898 53,602 474,051	61,519 48,290 2,563 13,257 25,761	635,411 499,431 26,625 136,863 909,437	392,798 309,453 16,624 84,538 694,983
Beaver Housing Authority Beaver School District Beaver Valley Hospital Benchland Water Company Bicknell Town	N/A N/A N/A N/A N/A	62,431 6,302,120 2,573,335 241,952 22,978	129,316 11,607,007 5,369,534 503,656 47,596	6,619 1,860,800 243,610 23,797 2,436	1,356 — 55,716 5,244 499	13,875 1,182,530 573,192 53,854 5,107	8,433 673,846 351,837 32,951 3,104
Big Water Municipal Corp Blanding City Bluffdale City Bona Vista Water Improvement Bountiful Irrigation District	N/A N/A N/A N/A N/A	15,195 772,134 896,261 340,954 321,719	31,603 1,607,953 1,895,105 708,668 668,833	1,858 80,986 66,273 34,339 32,292	11,421 19,291 7,395 6,977	3,198 168,933 200,455 75,854 71,580	2,636 114,406 125,235 46,317 43,721
Box Elder Co Mosquito District Box Elder County Box Elder School District Bridgerland Applied Technology Center Brigham City	N/A N/A N/A N/A N/A	151,359 7,134,927 40,843,204 5,389,059 4,419,342	316,077 14,933,476 75,363,043 9,910,985 9,246,585	14,143 725,702 11,942,024 1,601,957 435,214	3,276 59,365 — — 57,041	33,722 1,596,275 7,724,654 1,010,654 981,929	20,722 1,097,026 4,350,721 574,657 658,769
Cache County Cache Metro Planning Organization Cache School District Canyons School District Carbon County	N/A N/A N/A N/A N/A	10,071,107 55,669 58,122,987 123,460,003 5,773,547	20,987,608 115,309 107,663,036 228,297,421 12,120,035	1,116,678 5,902 16,636,052 35,770,427 543,683	80,310 1,209 — — 64,031	2,165,825 12,372 11,208,421 23,200,998 1,301,898	1,612,400 7,519 6,122,986 13,300,069 863,618
Carbon County Rec/Trans Special Service District Carbon School District Castle Dale City Castle Valley Special Service District Cedar City	N/A N/A N/A N/A N/A	29,035 13,553,557 66,933 429,653 4,611,400	60,142 25,055,476 140,581 926,900 9,618,400	3,079 3,927,834 5,652 13,805 484,094	631 — 1,445 7,094 56,824	6,453 2,565,607 14,939 121,478 1,003,132	3,922 1,448,585 9,251 44,455 704,479
Cedar City Housing Authority Cedar Mountain Fire Protection District Centerfield City Centerville City Central Davis Sewer District	N/A N/A N/A N/A N/A	105,105 ————————————————————————————————————	221,454 ———————————————————————————————————	8,357 ————————————————————————————————————	2,266 — 1,402 28,441 13,917	23,482 — 29,183 686,953 143,111	14,601 ————————————————————————————————————
Central Iron Co Water Conservancy Central UT Public Health Central Utah Counseling Center Central Utah Water District Central Weber Sewer District	N/A N/A N/A N/A N/A	91,208 1,009,038 1,762,241 4,476,546 1,017,915	196,002 2,107,850 3,674,387 9,340,763 2,145,140	4,403 93,749 168,846 423,798 80,623	1,949 21,836 38,167 96,923 21,942	20,503 224,835 392,438 997,118 227,427	13,084 138,217 240,647 612,048 141,457
City of Aurora City of Bountiful City of Cedar Hills City of Draper City of Duchesne	N/A N/A N/A N/A N/A	47,531 12,949,794 710,275 6,281,615 178,100	98,452 22,475,305 1,481,362 13,109,795 372,333	5,039 5,033,276 67,762 645,493 16,335	1,032 870,790 15,382 85,279 3,853	10,563 1,909,046 158,186 1,371,105 39,694	6,420 1,387,737 97,035 946,794 24,427

Deferred Outflow	s of Resources				Deferred Inflo	ws of Resources	es to Employer-Paid Member Contributions				
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	
21,236	588,865	48,562	98,067	48,775	47,028	242,432	569,287	(13,170)	_	556,117	
7,702 37,394	106,080 245,898	18,224 16,393	18,010 36,132	4,170 17,910	8,094	48,498 70,435	74,298 198,739	509 12,917	_	74,807 211,656	
3,577,724	73,532,300	13,065,412	12,883,311	2,942,358	_	28,891,081	55,208,986	1,073,772	_	56,282,758	
195	28,894	5,278	5,258	1,213	43,853	55,602	21,337	(17,155)	_	4,182	
63,332	1,923,063	247,334	312,150	163,451	122,168	845,103	1,652,228	(17,205)	_	1,635,023	
41,201	1,296,790	242,510	228,824	53,952	104,328	629,614	1,034,714	(20,155)	_	1,014,559	
34,988 124	535,701 19,872	92,740 1,418	91,667 3,432	21,219 1,696	8,815 557	214,441 7,103	378,012 17,857	7,254 (119)	_	385,266 17,738	
2,744	196,439	14,064	33,654	16,633		64,351	176,269	894	_	17,738	
10,775	227,774	16,659	37,634	18,638		72,931	203,956	3,516		207,472	
537	99,206	7,085	17,150	8,473	2,555	35,263	89,221	(559)	_	88,662	
2,299	48,102	3,501	7,945	3,934	1,502	16,882	42,939	376	_	43,315	
1,591 11,221	29,725 348,558	2,020 26,763	4,890 58,440	2,416 28,977	1,497 —	10,823 114,180	25,440 323,275	161 3,219	_	25,601 326,494	
~~~~~~	1,146,105	~~~~~	188,498	93,623		372,334	1,071,277	~~~~~	~~~~~	1,088,808	
56,377 10,194	867,368	90,213 72,251	148,173	73,649	122,493	416,566	851,914	17,531 (42,016)	_	809,898	
5,488	51,300	4,089	7,902	3,937	_	15,928	47,160	1,696	_	48,856	
2,421 147,994	237,079 1,778,175	19,305 286,385	40,599 266,683	20,160 145,784	88,969 73,497	169,033 772,349	229,810 1,376,109	(27,396) 37,573	_	202,414 1,413,682	
~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~		~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····		~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
1,930 34,766	25,594 1,891,142	1,699 348,085	4,113 339,409	2,032 78,987	27,998	7,844 794,479	21,398 1,438,573	631 2,830	_	22,029 1,441,403	
12,061	992,806	76,687	169,988	84,241	32,554	363,470	931,812	(6,853)	_	924,959	
18,617	110,666	7,008	15,969	7,906	_	30,883	86,089	5,730	_	91,819	
1,520	10,230	625	1,514	748	<del>-</del>	2,887	7,876	498	<del>-</del>	8,374	
3,005 10,498	8,839 305,258	1,233 35,335	933 49,852	530 25,779	455 31,207	3,151 142,173	4,588 262,944	1,303 (7,771)	_	5,891 255,173	
425,085	770,066	30,936	59,494	29,649	9,234	129,313	356,199	(851,652)	_	(495,453)	
11,435	141,001	9,691	22,490	11,128	10,077	53,386	119,947	1,233	_	121,180	
1,685	123,963	9,170	21,223	10,501	9,105	49,999	113,366	(3,056)		110,310	
2,528	60,248	4,553	10,001	4,958	 57 011	19,512	55,124 2,053,189	699 102 566	_	55,823 2,245,755	
71,806 378,717	2,824,472 12,454,092	421,329 2,250,188	465,568 2,217,023	234,880 510,071	57,011 417,829	1,178,788 5,395,111	9,363,350	192,566 (146,136)	_	9,217,214	
181,831	1,767,142	295,412	290,041	67,316	8,596	661,365	1,212,422	68,486	_	1,280,908	
48,961	1,746,700	220,280	288,378	146,131	67,220	722,009	1,427,707	45,905	<del>_</del>	1,473,612	
242,443	4,100,978	629,501	635,981	343,404	3,204	1,612,090	3,285,473	60,895	_	3,346,368	
1,603 982,457	22,703 18,313,864	1,515 3,168,135	3,667 3,216,324	1,812 717,891	_	6,994 7,102,350	19,080 13,362,392	522 421,023	_	19,602 13,783,415	
568,896	37,069,963	6,961,445	6,661,380	1,561,830	1,050,454	16,235,109	29,308,043	(183,169)	_	29,124,874	
136,834	2,366,381	307,865	380,558	188,854	184,437	1,061,714	1,745,075	(4,827)		1,740,248	
	11,006	790	1,913	945	1,154	4,802	9,952	(371)	_	9,581	
23,652 448	4,037,844 26,083	753,776 2,150	736,458 4,432	169,971 2,202	258,823 755	1,919,028 9,539	3,163,726 25,403	(130,662) (133)	_	3,033,064 25,270	
1,855	174,882	10,091	34,386	10,678	2,251	57,406	27,548	81,444	_	108,992	
14,719	1,779,154	241,019	295,527	155,298	114,124	805,968	1,562,850	(39,370)	_	1,523,480	
2,552	42,901	3,495	6,967	3,467	1,920	15,849	40,774	245	_	41,019	
2,556	54,191	7,686	8,585	4,567	4,476	25,314	45,175	(743)	_	44,432	
112,349 1,292	1,230,304 246,094	144,213 19,015	198,288 42,440	87,896 21,027	33,148	430,397 115,630	630,586 231,677	251,440 (10,693)	_	882,026 220,984	
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7,005 29,679	42,541 414,567	3,682 30,474	6,090 66,682	3,056 33,062	_	12,828 130,218	40,239 368,399	2,032 9,595	_	42,271 377,994	
39,236	710,488	52,056	116,377	57,656	_	226,089	634,669	13,017	_	647,686	
10,986	1,717,075	133,401	295,709	146,546	120,388	696,044	1,620,941	(40,589)	_	1,580,352	
40,105	430,931	33,917	67,485	33,585	36,114	171,101	395,420	(2,925)		392,495	
361 82,986	18,376 4,250,559	1,294 171,697	3,131 557,493	1,547 264,514	439 93,541	6,411 1,087,245	16,291 3,451,584	27 31,907	_	16,318 3,483,491	
10,337	280,940	21,048	46,910	23,243	4,421	95,622	256,302	2,188	_	258,490	
187,311	2,590,489	310,460	404,316	210,834	106,820	1,032,430	2,157,419	14,921	_	2,172,340	
8,354	76,328	5,427	11,773	5,839	7,894	30,933	65,387	674		66,061	

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
City of Enterprise City of Green River City of Harrisville City of Helper City of Holladay	N/A N/A N/A N/A N/A	\$ 224,785 185,481 741,825 423,753 736,103	465,605 387,141 1,542,453 884,931 1,536,460	23,833 17,474 82,420 45,242 69,309	4,883 4,015 8,252 3,719 15,935	49,957 41,318 160,707 91,384 163,978	30,363 25,372 114,380 67,441 100,697
City of Kanab City of Milford City of Moab City of Monticello City of Naples	N/A N/A N/A N/A N/A	653,041 157,629 1,976,364 384,717 619,213	1,367,985 331,688 4,138,030 808,652 1,336,781	65,169 12,857 191,242 34,278 26,575	7,068 3,400 28,621 6,141 3,810	141,723 35,202 432,852 84,687 168,654	102,046 21,851 296,128 56,973 77,607
City of North Salt Lake City of Orem City of Riverton City of Santa Clara City of Saratoga Springs	N/A N/A N/A N/A N/A	2,977,982 14,355,112 3,455,101 853,434 2,886,117	6,205,768 34,583,231 7,230,103 1,780,766 6,562,955	318,319 (2,388,945) 311,703 80,803 (153,713)	35,299 1,739,882 74,713 18,478 341,091	646,834 4,426,864 770,278 190,096 742,148	456,792 2,655,978 474,627 116,683 526,129
City of South Jordan City of South Salt Lake City of St George City of Taylorsville City of Uintah	N/A N/A N/A N/A N/A	9,489,517 6,859,981 21,485,497 1,246,897 48,687	19,831,687 14,338,058 45,006,221 2,610,119 103,409	945,892 716,659 2,059,215 111,837 3,256	133,080 66,567 302,132 26,959 1,046	2,093,320 1,483,344 4,756,411 278,011 10,904	1,410,399 1,082,012 3,192,018 171,381 6,853
City of Washington Terrace City of Wendover City of West Haven City of West Jordan City of Woodland Hills	N/A N/A N/A N/A	570,928 115,505 373,463 14,594,168 51,476	1,189,913 244,313 781,714 36,552,681 106,625	55,080 8,480 33,536 (3,540,632) 5,458	12,368 2,486 8,075 2,064,421 1,118	127,124 25,837 83,267 4,594,016 11,440	77,909 16,149 51,325 3,188,790 6,953
Clearfield City Cleveland Town Clinton City Coalville City Color Country Uniserv	N/A N/A N/A N/A	3,492,659 7,574 2,067,167 163,913 46,903	7,299,869 17,157 4,382,754 346,054 87,189	356,179 (290) 151,941 12,516 13,247	42,360 158 22,623 3,530	759,921 1,731 510,446 36,643 8,832	536,237 1,181 279,033 22,846 5,103
Corinne City Cottonwood Heights City Cottonwood Heights P&R Srv Cottonwood Improvement District Council On Aging Golden Age SS	N/A N/A N/A N/A	167,447 2,747,337 596,288 1,377,477 198,236	403,104 5,720,911 1,244,578 2,864,411 414,007	(31,069) 297,581 56,181 137,723 18,494	531,625 12,909 29,869 4,290	79,525 559,257 132,831 306,500 44,168	469,692 81,566 187,271 27,143
Daggett County Daggett School District Davis & Weber County Canal Co Davis Applied Technology College Davis Behavioral Health Inc	N/A N/A N/A N/A	985,587 1,544,826 1,051,837 3,970,529 5,006,511	2,051,967 2,851,330 2,541,650 7,315,868 10,522,535	108,120 451,552 (202,155) 1,170,043 417,459	10,375 — — — — 108,050	213,283 290,105 499,331 745,149 1,117,656	153,249 165,845 1,399 424,880 692,708
Davis Co Housing Authority Davis Co Mosquito Abatement Davis County Davis School District Davis Uniserv	N/A N/A N/A N/A	553,605 143,126 29,366,348 245,192,619 61,470	1,248,559 296,462 61,183,853 453,783,045 112,707	(28,914) 15,175 3,137,375 70,546,922 18,529	5,816 3,109 358,440 —	195,130 31,809 6,383,846 46,964,344 11,515	37,024 19,333 4,485,383 25,959,532 6,518
Ddi Vantage Delta City Dixie Applied Technology College Dixie State University Duchesne Co Mosquito District	N/A N/A N/A N/A	5,472,682 361,677 358,974 6,031,021 86,971	13,263,815 759,250 658,185 11,152,303 209,370	(1,080,937) 30,837 108,206 1,746,483 (16,137)	7,810 — — —	2,597,133 80,711 67,245 1,152,964 41,305	13,103 49,944 38,061 631,405
Duchesne Co Water Conservancy District Duchesne County Duchesne School District E Duchesne Culinary Water Improvement District Eagle Mountain City	N/A N/A N/A N/A N/A	109,983 5,342,525 17,985,034 41,309 1,617,287	227,813 11,574,900 33,553,065 85,565 3,402,211	11,661 179,429 4,956,834 4,380 132,590	2,389 45,801 — 897 34,890	24,443 1,486,127 3,529,014 9,181 361,144	14,856 633,126 1,891,220 5,580 224,099
East Carbon City East Hollywood High School Educators Mutual Insurance Elk Ridge City Emery Co Care & Rehab Center	N/A N/A N/A N/A N/A	318,831 842,670 7,576,400 68,727 769,361	665,337 1,572,902 14,181,224 155,701 1,864,491	32,486 233,181 2,036,139 (2,642) (151,840)	4,643 ————————————————————————————————————	69,765 158,919 1,560,435 15,712 365,114	47,506 92,373 760,810 10,724 1,818

Deferred Outflov	vs of Resources				Deferred Inflo	vs of Resources	ources to Employer-Paid Member Contributions				
Changes in					Changes in		N	et Amortization of Deferred Amounts from Changes in			
Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Deferred Outflows of	Differences Between Expected and Actual	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	<b>Changes of</b>	Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Deferred Inflows of	Proportionate Share of Allocable Plan Gross Pension	Proportion and Differences Between Employer Contributions and Proportionate Share of	Proportionate Share of Nonemployer	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member	
Contributions	Resources	Experience	Investments	Assumptions	Contributions	Resources	Expense	Contributions	Contributions	Contributions	
4,541 56,748 2,073 29,587	85,203 75,246 340,087 164,617 310,197	6,118 5,547 40,160 25,958 22,022	14,809 12,254 47,293 26,854 48,631	7,316 6,074 25,015 14,437 24,104	5,850 9,347 7,174 35,802	34,093 33,222 119,642 103,051 94,757	77,043 67,309 243,115 141,421 267,184	(1,878) (2,308) 15,987 (14,079) 8,919	_ _ _ _ _	75,165 65,001 259,102 127,342 276,103	
10,881 7,631	261,718 68,084	37,435 5,167	41,719 10,445	22,163 5,195	14,845	116,162 20,807	226,521 60,599	(353) 2,271	_	226,168 62,870	
12,210	769,811	95,455	127,752	66,310	138,007	427,524	700,092	(48,684)	_	651,408	
30,205 86,932	178,006 337,003	17,699 31,661	25,028 47,543	12,887 16,496	852 50,086	56,466 145,786	141,659 43,683	10,064 (168,927)	_	151,723 (125,244)	
60,164 110,188 67,353	1,199,089 8,932,912 1,386,971	158,134 893,668 106,466	190,482 1,287,137 228,474	100,364 842,540 113,363	119,514 46,156	448,980 3,142,859 494,459	998,699 3,445,321 1,277,320	21,778 1,016,213 8,806	(304,971)	1,020,477 4,156,563 1,286,126	
1,941 126,074	327,198 1,735,442	25,430 142,377	56,376 220,225	27,938 152,584	36,264 15,294	146,008 530,480	309,011 1,043,309	(11,575) 29,940	(37,886)	297,436 1,035,363	
2,976,547 54,266 651,371 4,022	6,613,346 2,686,189 8,901,932 480,373	453,694 406,739 1,035,495 38,571	616,416 436,224 1,400,115 82,463	315,525 233,205 713,603 40,922	83,716 174,461 — 43,784	1,469,351 1,250,629 3,149,213 205,740	3,187,147 2,320,126 7,272,797 462,079	(5,605,550) (62,882) 388,910 (18,160)	(37,000) — — —	(2,418,403) 2,257,244 7,661,707 443,919	
1,129	19,932	1,758	3,237	1,616	3,227	9,838	19,936	(638)	·····	19,298	
4,953 1,080	222,354 45,552	16,779 4,000	37,698 7,668	18,673 3,822	2,939 6,342	76,089 21,832	204,975 46,009	701 (1,695)	_	205,676 44,314	
1,234 500,708	143,901 10,347,935	11,543 1,186,165	24,699 1,353,506	12,256 1,059,158	9,630 62,596	58,128 3,661,425	138,333 5,131,732	(3,233) 63,537	(443,034)	135,100 4,752,235	
802	20,313	1,401	3,391	1,675	218	6,685	17,643	241	— ( <del>ТТ</del> 3,03 <del>Т</del> )	17,884	
8,027 242 26,827 1,243 24,097	1,346,545 3,312 838,929 64,262 38,032	186,551 455 96,492 5,567 2,716	223,876 516 146,820 10,875 2,537	117,868 264 61,580 5,416 601	193,214 4,716 20,010 726 5,968	721,509 5,951 324,902 22,584 11,822	1,201,180 4,459 411,658 64,468 11,699	(78,864) (1,587) 138,069 (41) 5,108		1,122,316 2,872 549,727 64,427 16,807	
1,064	80,589	1,252	20,915			22,167	(143,271)	138,102	<u>-</u>	(5,169)	
213,225	1,773,799	37,020	168,493	118,544	_	324,057	885,632	61,370	_	947,002	
45,087 20,082	272,393 543,722	17,831 39,384	39,393 90,878	19,525 44,972	40,014	76,749 215,248	216,374 486,308	15,417 (4,778)	_	231,791 481,530	
483	76,084	5,970	13,099	6,494	16,296	41,859	72,246	(4,946)	_	67,300	
909 34,534 7,216 184,575 75,275	377,816 490,484 507,946 1,354,604 1,993,689	55,204 86,281 9,644 219,787 162,055	62,744 83,281 131,372 213,879 331,595	33,327 19,459 197 49,814 164,833	128,985 35,612 — — 178,292	280,260 224,633 141,213 483,480 836,775	325,017 360,188 (884,380) 910,165 1,909,169	(51,881) (4,027) 861,300 61,070 (31,207)	_ _ _	273,136 356,161 (23,080) 971,235 1,877,962	
127,077	365,047	10,512	53,337	8,836	1,313	73,998	(143,264)	(69,516)	<u>-</u>	(212,780)	
1,622	55,873	3,895	9,429	4,658	8,288	26,270	49,055	(2,661)	_	46,394	
113,751 2,537,109 —	11,341,420 75,460,985 18,033	1,532,386 13,453,415 3,316	1,880,403 13,478,124 3,304	988,507 3,044,292 762	1,150,009 1,331,617 44,963	5,551,305 31,307,448 52,345	9,857,287 56,603,823 13,407	(359,014) 144,276 (15,963)	_ _ _ _	9,498,273 56,748,099 (2,556)	
45,546 1,588	2,655,782 140,053	57,579 11,552	683,489 23,944	1,846 11,896	31,533	742,914 78,925	(4,536,475) 136,763	4,662,337 (10,614)	_	125,862 126,149	
67,781	173,087	19,366	19,293	4,452	_	43,111	78,294	21,528	_	99,822	
12,749 909	1,797,118 42,214	328,841 650	331,011 10,863	78,353 —	220,502	958,707 11,513	1,367,049 (74,414)	(93,215) 69,614	<u> </u>	1,273,834 (4,800)	
10,520	52,208	2,993	7,246	3,580	4,109	17,928	37,696	1,577		39,273	
1,132,264 154,592	3,297,318 5,574,826	237,287 991,985	418,682 1,012,855	138,074 222,151	3,593 46,077	797,636 2,273,068	321,031 4,306,373	(1,722,075) 44,088	_	(1,401,044) 4,350,461	
540	16,198	1,124	2,721	1,345	866	6,056	14,158	(53)	_	14,105	
7,953	628,086	52,865	107,153	53,285	278,491	491,794	620,593	(95,058)		525,535	
8,224 17,745	130,138 269,037	14,986 49,801	20,586 45,665	10,669 10,892	38,935 13,370	85,176 119,728	110,164 218,123	(13,181) (658)	_	96,983 217,465	
74,483 2,174	2,395,728 30,042	389,513 4,130	447,398 4,682	89,073 2,402	131,676 33,762	1,057,660 44,976	1,700,383 40,480	10,984 (11,485)	_	1,711,367 28,995	
3,876	370,808	8,065	96,086	256		104,407	(638,016)	532,890		(105,126)	

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Emery County Emery County Recreation Special Service District Emery School District Emery Town Emery Water Conservancy District	N/A	\$ 3,925,528	8,224,086	384,976	38,827	889,858	587,250
	N/A	12,899	29,886	(989)	266	2,971	2,084
	N/A	12,081,078	22,328,373	3,498,316	—	2,314,271	1,274,972
	N/A	53,785	129,480	(9,980)	—	25,544	—
	N/A	155,172	328,002	11,551	3,340	34,702	21,671
Enoch City Ephraim City Escalante City Eureka City Corporation Fairview City	N/A	491,125	1,025,542	50,622	6,117	106,912	75,033
	N/A	958,870	2,001,745	97,083	13,999	209,860	142,886
	N/A	119,263	247,035	12,645	2,591	26,505	16,110
	N/A	63,958	132,479	6,781	1,389	14,214	8,639
	N/A	218,841	455,033	21,908	4,746	48,693	29,748
Farmington City Farr West City Fast Forward Charter High School Ferron City Fillmore City	N/A	2,617,101	5,476,231	259,352	34,432	571,139	397,791
	N/A	220,705	457,431	23,195	4,793	49,059	29,842
	N/A	847,763	1,572,007	242,367	—	159,481	91,801
	N/A	104,882	218,665	10,066	2,272	23,356	14,321
	N/A	249,315	523,849	20,905	5,381	55,653	34,478
Five-County Association of Governments	N/A	1,093,485	2,332,388	61,490	21,360	270,178	137,292
Fountain Green City	N/A	120,905	250,847	13,615	1,563	26,294	18,210
Fox Hollow Golf Course	N/A	92,270	191,122	9,783	2,004	20,506	12,463
Francis City	N/A	80,047	165,804	8,487	1,739	17,790	10,812
Fruit Heights City	N/A	251,249	525,199	23,084	5,436	55,995	34,453
Garden City Fire District Garfield County Garfield School District Garland City Genola Town	N/A N/A N/A N/A N/A	2,979,346 4,925,540 382,509 62,491	6,224,385 9,057,102 875,665 129,441	308,592 1,465,239 (28,162) 6,626	28,364 — — 1,357	665,210 923,671 143,723 13,888	453,156 525,074 25,123 8,441
Grand Co Cemetery Maintenance District	N/A	51,701	111,258	2,380	1,104	11,627	7,434
Grand County	N/A	3,826,659	8,069,834	313,709	54,934	895,842	534,319
Grand School District	N/A	7,345,195	13,614,418	2,104,239	—	1,381,556	794,755
Grand Water/Sewer Service	N/A	124,829	266,543	7,299	2,675	28,004	17,723
Granger-Hunter Improvement District	N/A	2,594,971	5,416,702	244,154	56,175	578,077	355,013
Granite School District Granite Uniserv Grantsville City Gunnison City Gunnison Valley Hospital	N/A N/A N/A N/A N/A	254,840,899 270,749 1,259,050 369,718 3,534,563	473,283,974 496,424 2,622,657 769,552 7,384,434	71,931,241 81,612 135,372 40,835 325,967	14,926 3,763 75,613	49,555,739 50,718 273,436 79,930 798,056	26,772,804 28,707 193,017 57,692 476,839
Heber City	N/A	2,420,588	5,075,938	235,906	27,810	526,397	375,990
Heber Light & Power	N/A	1,872,570	3,907,124	177,413	40,545	417,096	256,004
Heber Valley Historic Railroad	N/A	255,362	480,847	67,524	—	48,320	28,449
Heber Valley Special Service District	N/A	142,807	295,801	15,141	3,102	31,738	19,290
Herriman City	N/A	2,988,442	6,256,472	267,451	64,609	666,336	410,834
High Desert Uniserv High School Activities Association Highland City Hinckley Town Honeyville City	N/A N/A N/A N/A N/A	21,225 601,148 863,940 41,699 126,482	40,108 1,102,216 1,792,466 86,520 304,486	5,506 181,204 89,404 4,310 (23,468)	18,752 905	4,022 112,610 192,100 9,272 60,069	2,380 63,739 117,016 5,648
Hooper City	N/A	208,851	440,818	16,030	4,499	46,685	29,098
Hooper Water Improv District	N/A	291,781	606,937	29,032	6,326	64,930	39,688
Housing Authority of Carbon Co	N/A	196,384	406,778	20,822	4,266	43,645	26,527
Housing Authority of SL County	N/A	1,933,936	4,085,421	145,832	41,643	432,414	269,821
Housing Authority of SLC	N/A	2,035,308	4,305,127	145,454	41,913	477,858	268,541
Housing Authority Ogden City	N/A	504,616	1,051,643	48,732	10,932	112,357	68,853
Huntington City	N/A	128,920	267,036	13,669	2,800	28,651	17,414
Hurricane City	N/A	3,487,800	7,272,235	362,210	48,613	761,750	522,829
Hurricane Valley Fire Special Service District	N/A	48,772	101,024	5,171	1,059	10,839	6,588
Hyde Park City	N/A	286,779	597,291	27,969	6,214	63,841	39,090
Hyrum City Impact Mitigation Special Service District Intech Collegiate High School Iron County Iron School District	N/A N/A N/A N/A	874,555 114,487 493,724 6,616,236 31,590,942	1,819,298 237,142 919,177 13,827,129 58,281,813	86,922 12,139 138,411 687,323 9,244,676	18,961 2,487 — 65,013	194,619 25,444 93,019 1,447,756 5,969,997	118,973 15,464 53,862 1,028,379 3,366,672

Deferred Outflov	vs of Resources				Deferred Inflo	ws of Resources	Pension Expense Excluding That Attributable Resources to Employer-Paid Member Contributions				
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	
33,191 1,237	1,549,126 6,558	214,202 888	259,399 887	127,481 459	249,103 2,705	850,185 4,939	1,105,085 8,440	(8,738) (463)	_	1,096,347 7,977	
12,507	3,601,750 25,544	657,446 402	664,078 6,718	149,415 —	577,294 221	2,048,233 7,341	2,748,220 (46,020)	(206,002) 37,837	_	2,542,218 (8,183)	
2,621	62,334	5,338	10,299	5,132	2,018	22,787	61,539	129		61,668	
15,826 84,871 — — 8,925	203,888 451,616 45,206 24,242 92,112	25,696 45,105 3,246 1,741 6,251	31,502 61,931 7,857 4,214 14,437	16,547 32,090 3,882 2,082 7,144	34,213 3,890 23,746 494 10,064	107,958 143,016 38,731 8,531 37,896	168,082 332,385 40,876 21,921 77,213	(5,223) 28,158 (9,940) (185) 312	_ _ _	162,859 360,543 30,936 21,736 77,525	
73,117	1,076,479	134,270	168,398	88,121	2,863	393,652	914,551	21,101	<u>-</u>	935,652	
6,474 39,327 272 15,050	90,168 290,609 40,221 110,562	6,053 48,481 3,094 8,044	14,543 45,800 6,926 16,511	7,187 10,794 3,431 8,207	2,652 — 4,636 1,786	30,435 105,075 18,087 34,548	75,994 206,621 37,746 94,876	1,671 11,858 (1,717) 3,584	_ _ _ _	77,665 218,479 36,029 98,460	
5,408	434,238	33,264	78,512	32,635	47,891	192,302	292,575	62,341	<del>-</del>	354,916	
316 250	46,383 35,223	5,931 2,511	7,747 6,079	4,048 3,003	2,621 289	20,347 11,882	39,443 31,625	(749) 9	_	38,694 31,634	
2,560 6,350	32,901 102,234	2,179 7,647	5,274 16,608	2,605 8,237	_	10,058 32,492	27,435 92,173	823 2,143	_	28,258 94,316	
		······································				JZ,47Z					
27,110	1,173,840 1,603,935	166,924	194,328	98,028	24,428	483,708 596,360	869,502 1,106,380	66,996	_	936,498	
155,190 2,224	171,070	269,781 13,754	265,075 38,678	61,504 5,033	44,589	102,054	(158,463)	58,428 165,997	_	1,164,808 7,534	
4,070	27,756	1,701	4,117	2,034		7,852	21,418	1,406		22,824	
8,914 10,769	29,079 1,495,864	2,113 167,340	3,454 261,122	1,734 120,548	86,734	7,301 635,744	23,007 1,079,224	2,748 142,605	_	25,755 1,221,829	
32,953 1,263	2,209,264 49,665	419,151 4,748	396,745 8,316	93,426 4,161	69,975 15,980	979,297 33,205	1,783,078 52,904	(15,245) (5,085)	_	1,767,833 47,819	
6,444	995,709	77,674	171,440	84,975	118,061	452,150	942,211	(35,740)	_	906,471	
401,908 50,819	76,730,451 130,244	13,902,438 14,606	14,220,486 14,552	3,140,516 3,358	6,843,776	38,107,216 32,516	59,241,194 59,052	(2,417,601) 17,486	_	56,823,593 76,538	
1,577	482,956	66,686	80,520	42,420	53,536	243,162	420,889	(22,357)	_	398,532	
293 220,184	141,678 1,570,692	20,991 103,574	23,507 235,976	12,513 114,235	7,089	64,100 453,785	121,371 1,221,256	(2,433) 73,476	_	118,938 1,294,732	
91,462	1,021,659	135,690	155,042	82,046	·····	372,778	850,248	33,967		884,215	
4,350 28,132	717,995 104,901	55,772 15,746	123,695 13,895	61,299 3,367	86,079	326,845 33,008	677,821 71,273	(31,436) 10,191	_	646,385 81,464	
196,782	54,130 1,338,561	3,887 92,576	9,408 197,649	4,648 98,088	1,287	19,230 388,313	48,946 1,108,470	(408) 64,276	_	48,538 1,172,746	
8,234	14,636	1,331	1,157	282	5,968	8,738	6,099	149		6,248	
8,511 5,509	184,860 333,377	32,431 24,013	32,309 56,951	7,456 28,156	8,503 12,775	80,699 121,895	131,113 299,851	742 (3,207)	_	131,855 296,644	
1,898 558	17,723 60,627	1,160 946	2,749 15,798	1,359	4,734	10,002 16,744	14,481 (108,220)	(697) 105,036	_	13,784 (3,184)	
1,270	81,552	7,076	13,854	6,899	10,994	38,823	82,004	(4,041)		77,963	
7,741 —	118,685 74,438	8,374 5,345	19,252 12,938	9,528 6,392	221 11,449	37,375 36,124	103,251 67,309	2,151 (3,824)	_	105,402 63,485	
16,823 8,683	760,701 796,995	66,110 63,351	128,330 140,276	63,928 63,916	55,424 184,575	313,792 452,118	763,777 658,960	(13,695) 4,812	_	750,082 663,772	
7,879	200,021	14,820	33,318	16,503	184,373	64,697	181,085	2,103	<u>-</u>	183,188	
7	48,872	3,509	8,493	4,196	6,300	22,498	44,186	(2,174)	_	42,012	
123,518 22,175	1,456,710 40,661	168,238 1,327	224,672 3,213	116,854 1,587	58	509,764 6,185	1,192,134 16,716	44,144 7,728	_	1,236,278 24,444	
586	109,731	8,359	18,931	9,374	7,297	43,961	102,444	(2,410)		100,034	
1,112 —	333,665 43,395	25,123 3,116	57,707 7,542	28,561 3,726	29,861 3,198	141,252 17,582	309,637 39,239	(9,024) (1,034)	_	300,613 38,205	
39,233 34,871	186,114 2,576,019	28,805 381,789	26,723 424,803	6,344 222,256	225,867	61,872 1,254,715	124,849 2,133,474	14,612 (35,001)	_	139,461 2,098,473	
72,973	9,409,642	1,741,217	1,713,438	394,702	192,098	4,041,455	7,241,515	(35,764)	_	7,205,751	

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Itineris High School Ivins City Jordan River Commission Jordan School District Jordan Uniserv	N/A N/A N/A N/A N/A	\$ 1,168,561 1,777,372 61,458 166,987,228 229,204	2,150,309 3,713,799 128,359 309,228,426 420,250	346,457 182,501 5,730 47,967,667 69,089	21,090 1,330 —	219,196 386,420 13,693 31,748,287 42,936	124,740 273,589 8,415 17,837,831 24,302
Jordan Valley Water Conservancy	N/A	5,917,139	12,439,798	476,444	120,663	1,405,172	759,417
Jordanelle Special Service District	N/A	952,511	1,992,356	86,567	20,601	212,324	130,754
Juab County	N/A	2,035,758	4,259,654	201,819	22,623	459,521	302,282
Juab School District	N/A	8,181,180	15,082,530	2,404,598	—	1,535,682	876,365
Kamas City	N/A	299,992	622,551	34,056	3,513	65,044	45,831
Kane County	N/A	3,418,039	7,173,091	333,849	34,596	740,908	539,557
Kane County Water Conservancy District	N/A	291,633	611,473	25,411	6,301	65,055	40,192
Kane School District	N/A	6,002,870	11,116,671	1,723,509	—	1,143,240	640,193
Kaysville City	N/A	4,498,847	9,412,224	446,133	52,754	1,008,607	669,957
Kearns Improvement District	N/A	1,600,545	3,466,116	40,428	25,804	459,692	162,259
Laverkin City Layton City Lehi City Lewiston City Liberty Academy Charter	N/A N/A N/A N/A N/A	963,600 10,194,626 8,374,050 141,823 353,678	2,255,917 21,403,406 17,479,331 298,805 685,351	(118,209) 962,753 851,913 11,285 79,034	80 102,160 120,079 3,057	403,320 2,320,048 1,831,468 31,684 67,664	35,978 1,521,847 1,251,385 19,701 41,507
Lindon City	N/A	2,311,839	4,809,989	254,288	25,988	501,089	356,296
Logan City	N/A	16,450,494	34,425,438	1,596,248	271,521	3,794,670	2,499,537
Logan School District	N/A	20,833,141	38,648,888	5,922,912	—	4,002,301	2,210,990
Lone Peak PS District	N/A	1,213,559	3,194,499	(413,264)	330,070	404,171	320,629
Maeser Water Improvement District	N/A	216,282	447,994	22,932	4,698	48,067	29,214
Magna Mosquito Abatement	N/A	47,353	98,083	5,021	1,029	10,524	6,396
Manti City	N/A	350,822	731,295	33,757	7,599	78,120	47,887
Mapleton City	N/A	1,370,354	2,848,228	147,776	20,348	299,666	202,359
Marriott-Slaterville City	N/A	112,454	232,931	11,923	2,443	24,992	15,190
Mayfield Town	N/A	23,914	49,534	2,536	519	5,315	3,230
Mendon City Metro Water District SLC/Sandy Midvale City Midvalley Improvement District Midway City	N/A N/A N/A N/A	35,553 2,672,781 2,307,289 371,235 454,108	74,559 5,554,758 4,838,717 772,129 955,640	3,087 269,602 200,332 36,998 36,964	768 57,972 49,844 8,049 9,795	7,931 594,612 514,730 82,608 101,415	4,901 363,027 318,087 50,488 62,962
Military Installation Devel	N/A	169,023	350,105	17,921	3,671	37,564	22,831
Millard Co Care & Rehab Inc	N/A	759,294	1,609,883	52,880	16,323	169,965	106,571
Millard County	N/A	5,497,567	11,441,978	607,279	56,582	1,188,829	856,676
Millard School District	N/A	15,601,608	28,956,847	4,414,281	—	3,045,452	1,630,105
Millville City	N/A	118,626	245,715	12,578	2,577	26,364	16,023
Minersville Town Moab Valley Fire Protection Monroe City Monticello Academy Morgan City Corporation	N/A N/A N/A N/A N/A	91,666 — 304,655 1,610,671 539,773	190,713 ————————————————————————————————————	9,092 — 31,458 452,855 55,147	1,987 — 6,612 — 11,712	20,400 — 67,744 303,389 120,052	12,473 — 41,274 175,520 73,212
Morgan County	N/A	1,474,764	3,078,982	149,550	21,124	322,553	220,491
Morgan School District	N/A	7,674,393	14,169,596	2,239,670	—	1,441,370	824,399
Moroni City	N/A	57,639	122,111	4,086	1,240	12,899	8,079
Mount Pleasant City	N/A	684,504	1,430,652	69,399	8,694	149,149	104,416
Mountain Regional Water Special Service District	N/A	1,119,191	2,334,188	106,784	24,237	249,255	152,899
Mountainland Association of Governments	N/A	1,567,027	3,317,067	106,673	30,565	388,272	192,642
Mountainland Applied Technology College	N/A	1,706,599	3,129,080	514,421	—	319,688	180,947
Mt Olympus Improvement District	N/A	1,064,659	2,220,098	101,849	23,058	237,098	145,410
Murray City	N/A	15,199,225	31,930,393	1,363,474	199,066	3,519,472	2,162,506
Murray School District	N/A	23,142,771	42,737,302	6,740,809	—	4,377,732	2,469,328
Myton City	N/A	64,877	135,320	6,181	1,405	14,449	8,865
N Tooele Co Fire Protection SD	N/A	—	—	—	—	—	—
Ne Counseling Center	N/A	1,362,315	2,856,442	118,678	29,433	303,900	187,755
Nebo Credit Union	N/A	481,490	1,006,679	44,093	10,416	107,314	66,047
Nebo School District	N/A	109,258,625	201,765,463	31,849,847	—	20,559,111	11,719,514

Between   Foots   Fo	Deferred Ou	itflows of Resources	ources			Deferred Infl	ows of Resources	Pension Expense Excluding That Attributable rces to Employer-Paid Member Contributions				
84,994   766,093   95,902   113,817   60,017   44,074   313,810   608,899   17,864   —	Proportion an Difference Betwee Employe Contributior an Proportional	es es er er ens id Total te Deferred of Outflows of	Total Between ferred Expected ows of and Actual	Difference Between Projected and Actual Investment Earnings on Pension Plan		Proportion and Differences Between Employer Contributions and Proportionate Share of	Deferred Inflows of	Proportionate Share of Allocable Plan Gross Pension	of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Share of Nonemployer	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions	
26,000   398,079   29,206   62,976   31,242   5,230   128,654   351,050   5,126	84,95- 1,23 373,77	4 766,053 0 24,668 5 49,959,893	6,053 95,902 4,668 1,852 9,893 9,311,205	113,817 4,061 9,113,707	60,017 2,013 2,093,917	1,153,020	313,810 7,926 21,671,849	608,859 22,406 39,352,601	17,864 406 (302,326)	_ _ _ _	277,689 626,723 22,812 39,050,275 50,220	
10,288	26,00 10,00 122,59	0 389,679 2 794,428 0 2,534,637	19,679     29,206       14,428     105,783       4,637     454,169	62,976 134,240 440,806	31,242 66,277 102,772	5,230	128,654 344,980 997,747	351,050 591,830 1,885,674	5,126 15,220 12,926		1,949,440 356,176 607,050 1,898,600 107,779	
42,288   3,986,348   556,912   676,095   330,441   108,631   1,672,079   2,889,177   260,978   3,845,751   398,803   540,373   280,444   — 1,219,620   2,894,737   84,113   — 2,70,114,770   24,828   19,505   4,970   135,139   184,442   122,539   (42,476)   — 1,141,770   24,828   19,505   4,970   135,139   184,442   122,539   (42,476)   — 1,141,770   24,828   19,505   4,970   135,139   184,442   122,539   (42,476)   — 1,141,770   24,828   19,505   4,970   335,139   184,442   122,539   (42,476)   — 1,141,770   3,480   353,111   762,201   13,084   — 1,141,770   3,5809   6,569,100   1,153,376   1,148,768   259,516   234,769   2,796,429   4,903,648   80,050   — 4,11,293   1,066,163   107,998   119,636   111,078   22,282   360,894   399,249   (3,995)   (49,129)   — 81,979   5,886   14,249   7,040   11,841   39,016   74,129   (4,136)   — 2,282   345,228   24,258   61,649   88,423   45,678   28,818   224,568   459,802   (10,856)   — 2,892   45,517   3,061   7,409   3,660   187   14,317   38,543   794   — 3,536   3,532   3,539   3,539   3,539   3,543   794   — 3,536   3,539   3,539   3,539   3,539   3,543   794   — 3,536   3,539   3,539   3,539   3,539   3,539   3,543   794   — 3,536   3,532   3,539   3,539   3,543   794   — 3,536   3,539   3	10,28 35,98 162,67	8 121,836 4 1,819,417 3 1,893,991	1,836     9,190       9,417     333,843       3,991     231,051	19,299 328,166 295,256	9,583 75,140 147,455	31,457	38,072 768,606 673,762	109,345 1,410,684 1,365,124	3,017 4,890 159,333		1,191,691 112,362 1,415,574 1,524,457 397,432	
91,262 6,656,900 966,179 1,104,961 709,792 35,350 2,816,282 5,101,164 106,172 (242,017) 4,355,809 6,569,100 1,153,376 1,148,768 259,516 234,769 2,796,429 4,903,648 80,050 4,375,375 1,066,163 107,898 119,636 111,078 22,282 360,894 399,249 (3,995) (49,129) 1,220 1,220 1,220 1,220 1,220 1,220 1,220 1,220 1,220 1,241 1,2	42,28 238,57 4,15	8 3,986,343 9 3,441,511 9 58,601	556,912 1,511 398,803 8,601 4,714	676,095 540,373 9,401	330,441 280,444 4,678	108,631 — 8,258	1,672,079 1,219,620 27,051	2,889,117 2,894,573 55,004	260,978 84,113 (1,110)	_	5,378 3,150,095 2,978,686 53,894 80,123	
8,922       142,528       10,330       23,166       11,476       4,737       49,709       126,104       1,849       —         5,316       527,689       61,649       88,423       45,678       28,818       224,568       459,802       (10,856)       —         4,849       45,517       3,061       7,409       3,660       187       14,317       38,543       794       —         9,064       651       1,575       778       528       3,532       8,196       (165)       —         1,793       15,393       1,123       2,352       1,169       —       4,644       13,348       516       —         14,513       1,030,124       75,878       176,299       87,222       33,991       373,390       99,562       (5,412)       —         19,528       160,673       10,641       24,494       12,122       —       47,257       131,266       6,382       —         23,345       197,517       14,903       30,091       14,966       1,140       61,100       174,703       (2,482)       —         4,848       68,914       4,600       11,135       5,501       —       21,236       57,931       1,666       —	91,26 355,80	2 6,656,990 9 6,569,100 3 1,066,163	6,990 966,179 9,100 1,153,376 6,163 107,898	1,104,961 1,148,768 119,636	709,792 259,516 111,078	35,350 234,769 22,282	2,816,282 2,796,429 360,894	5,010,164 4,903,648 399,249	106,172 80,050 (3,995)	· <i>'—'</i>	775,285 4,874,319 4,983,698 346,125 69,993	
14,513       1,030,124       75,878       176,299       87,222       33,991       373,390       939,562       (5,412)       —         12,925       895,586       72,876       152,695       75,833       47,870       349,274       866,315       (11,921)       —         19,528       160,673       10,641       24,494       12,122       —       47,257       131,266       6,382       —         23,345       197,517       14,903       30,091       14,966       1,140       61,100       174,703       (2,482)       —         4,848       68,914       4,600       11,135       5,501       —       21,236       57,931       1,666       —         18,538       311,397       26,952       50,452       25,172       18,229       120,805       307,331       81       —         19,132       2,121,219       310,449       349,661       185,984       153,300       999,394       1,804,986       (100,234)       —       1,         205,771       4,881,328       842,224       873,778       191,084       80,367       1,987,453       3,575,322       47,394       —       3,         4,960       49,924       3,263       7,815	8,92 5,31	2 142,528 6 527,689 2 45,517	2,528 10,330 ,7,689 61,649 ,5,517 3,061	23,166 88,423 7,409	11,476 45,678 3,660	4,737 28,818 187	49,709 224,568 14,317	126,104 459,802 38,543	1,849 (10,856) 794		14,422 127,953 448,946 39,337 8,031	
18,538       311,397       26,952       50,452       25,172       18,229       120,805       307,331       81       —         19,132       2,121,219       310,449       349,661       185,984       153,300       999,394       1,804,986       (100,234)       —       1,         205,771       4,881,328       842,224       873,778       191,084       80,367       1,987,453       3,575,322       47,394       —       3,         4,960       49,924       3,228       7,815       3,861       —       14,904       40,658       1,548       —         2,891       37,751       2,637       6,048       2,994       2,054       13,733       32,486       452       —         9,749       125,379       8,484       20,084       9,930       —       38,498       105,855       3,147       —         59,870       538,779       93,698       87,153       20,667       27,641       229,159       405,121       6,350       —         5,226       210,202       15,164       35,593       17,603       —       68,360       188,552       1,677       —         2,945       567,113       70,398       95,169       49,399 <td< td=""><td>14,51. 12,92 19,52</td><td>3 1,030,124 5 895,586 8 160,673</td><td>0,124 75,878 15,586 72,876 0,673 10,641</td><td>176,299 152,695 24,494</td><td>87,222 75,833 12,122</td><td>47,870</td><td>373,390 349,274 47,257</td><td>939,562 866,315 131,266</td><td>(5,412) (11,921) 6,382</td><td></td><td>13,864 934,150 854,394 137,648 172,221</td></td<>	14,51. 12,92 19,52	3 1,030,124 5 895,586 8 160,673	0,124 75,878 15,586 72,876 0,673 10,641	176,299 152,695 24,494	87,222 75,833 12,122	47,870	373,390 349,274 47,257	939,562 866,315 131,266	(5,412) (11,921) 6,382		13,864 934,150 854,394 137,648 172,221	
9,749 125,379 8,484 20,084 9,930 — 38,498 105,855 3,147 — 59,870 538,779 93,698 87,153 20,667 27,641 229,159 405,121 6,350 — 5,226 210,202 15,164 35,593 17,603 — 68,360 188,552 1,677 — 2,945 567,113 70,398 95,169 49,399 77,246 292,212 510,576 (28,592) — 14,640 2,280,409 429,364 413,787 96,744 129,290 1,069,185 1,795,199 (48,614) — 1,1,671 23,889 2,029 3,828 1,909 7,053 14,819 23,207 (1,581) — 40,849 303,108 35,612 43,958 23,061 2,545 105,176 236,340 2,663 —	18,53 19,13 205,77	8 311,397 2 2,121,219 1 4,881,328	1,397 26,952 1,219 310,449 1,328 842,224	50,452 349,661 873,778	25,172 185,984 191,084	153,300	120,805 999,394 1,987,453	307,331 1,804,986 3,575,322	81 (100,234) 47,394		59,597 307,412 1,704,752 3,622,716 42,206	
14,640 2,280,409 429,364 413,787 96,744 129,290 1,069,185 1,795,199 (48,614) — 1, 1,671 23,889 2,029 3,828 1,909 7,053 14,819 23,207 (1,581) — 40,849 303,108 35,612 43,958 23,061 2,545 105,176 236,340 2,663 —	9,74 59,87	9 125,379 0 538,779	5,379 8,484 8,779 93,698	20,084 87,153	9,930 20,667	27,641	38,498 229,159	105,855 405,121	3,147 6,350	_ _ _	32,938 — 109,002 411,471 190,229	
	14,64 1,67 40,84	0 2,280,409 1 23,889 9 303,108	0,409 429,364 3,889 2,029 3,108 35,612	413,787 3,828 43,958	96,744 1,909 23,061	129,290 7,053	1,069,185 14,819 105,176	1,795,199 23,207 236,340	(48,614) (1,581) 2,663	_ _ _	481,984 1,746,585 21,626 239,003 413,332	
144,614     645,249     92,068     91,722     21,167     —     204,957     372,218     48,496     —       11,466     417,032     31,486     70,312     34,835     58,073     194,706     383,707     (13,647)     —       253,842     6,134,886     703,426     1,026,015     482,946     1,990     2,214,377     4,232,969     631,422     —     4,	144,61 11,46 253,84	4 645,249 6 417,032 2 6,134,886	5,249     92,068       7,032     31,486       4,886     703,426	91,722 70,312 1,026,015	21,167 34,835 482,946	58,073 1,990	204,957 194,706 2,214,377	372,218 383,707 4,232,969	48,496 (13,647) 631,422	_	504,834 420,714 370,060 4,864,391 5,177,477	
16,180 199,957 14,687 31,829 15,787 17,147 79,450 176,886 (2,025) —	5,29 16,18	8 526,386 0 199,957	6,386 42,939 9,957 14,687	90,151 31,829	44,768 15,787	64,389	242,247 79,450	510,836 176,886	(20,760) (2,025)	_	24,514 — 490,076 174,861 26,064,612	

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Nephi City	N/A	\$ 1,530,821	3,197,351	154,497	21,675	334,721	229,441
Nibley City Corporation	N/A	377,272	793,145	31,304	8,141	84,229	52,222
Noah Webster Academy Inc	N/A	920,653	1,721,684	252,350	—	173,748	101,272
North Davis Co Sewer District	N/A	1,866,030	3,914,917	156,094	38,000	443,942	237,855
North Davis Fire District	N/A	38,084	78,884	4,038	827	8,464	5,144
North Emery Water Users Special Service District	N/A	34,333	74,594	1,052	730	7,744	5,013
North Fork Special Service District	N/A	65,000	138,936	3,693	1,392	14,587	9,244
North Logan City	N/A	897,914	1,912,912	53,602	14,253	228,229	111,432
North Ogden City	N/A	1,983,582	4,150,068	200,868	22,351	430,784	307,920
North Park Police Agency	N/A	249,770	519,186	30,005	721	52,961	42,053
North Pointe Solid Waste	N/A	649,432	1,361,895	56,430	14,030	144,879	89,526
North Sanpete School District	N/A	9,685,607	17,874,031	2,829,692	—	1,834,018	1,030,799
North Summit School District	N/A	5,021,611	9,237,137	1,491,291	—	941,816	535,682
North View Fire District	N/A	30,829	63,857	3,269	670	6,851	4,164
NUAMES Charter School	N/A	1,981,639	3,663,766	574,597	—	372,373	213,412
Oakley City Ogden City Corp Ogden School District Ogden Weber/NEA/UEA Uniserv Ogden-Weber Technology College	N/A N/A N/A N/A	197,415 30,013,104 47,875,312 100,886 4,188,583	475,247 58,979,748 88,593,226 187,123 7,906,090	(36,629) 6,052,611 13,823,145 28,806 1,067,947	297,659 — — —	93,757 6,253,275 8,999,333 18,981 900,228	3,915,398 5,164,462 10,930 407,874
Oquirrh Recreation and Parks District	N/A	561,294	1,165,627	57,282	12,178	124,841	76,140
Orangeville City	N/A	70,530	146,092	7,478	1,532	15,675	9,527
Orderville Town	N/A	51,723	107,357	5,319	1,122	11,503	7,010
Panguitch City Corporation	N/A	138,233	293,264	9,495	2,971	30,949	19,421
Park City	N/A	11,020,795	23,547,644	645,490	153,827	2,721,993	1,468,147
Park City Fire Service	N/A	1,070,515	8,169,513	(4,787,174)	5,932	1,708,762	974,845
Park City School District	N/A	29,352,692	54,307,768	8,464,155	—	5,592,530	3,122,510
Parowan City	N/A	905,038	1,882,622	95,160	14,677	198,653	131,659
Payson City	N/A	4,005,032	8,358,461	405,222	60,520	877,600	593,020
Perry City	N/A	519,181	1,083,751	54,629	5,661	112,560	80,673
Piute County Piute School District Plain City Pleasant Grove City Pleasant View City	N/A N/A N/A N/A	486,663 1,997,737 175,274 3,597,138 967,320	1,013,513 3,684,151 366,496 7,500,557 2,011,962	51,406 586,279 16,019 377,946 106,924	6,815 — 3,791 45,674 10,826	106,265 375,039 39,066 783,165 209,617	72,777 214,127 24,047 546,970 149,100
Price City	N/A	2,744,032	5,712,477	291,731	38,201	598,965	410,519
Price River Water Improvement	N/A	984,681	2,049,740	96,864	21,342	219,170	134,100
Providence City	N/A	322,534	675,585	28,612	6,971	71,927	44,377
Provo City Corp	N/A	29,313,362	60,228,523	3,715,412	776,714	6,514,351	4,326,524
Provo Housing Authority	N/A	637,817	1,398,045	2,442	9,638	190,544	61,649
Provo River Water Users Provo School District Recreation & Habilitation Services Redmond Town Rich County	N/A N/A N/A N/A	591,086 51,966,367 36,462 61,127 938,393	1,231,746 96,607,364 76,025 126,616 2,065,599	57,160 14,616,175 3,494 6,481 4,394	12,805 — 790 1,328 5,411	131,607 10,022,618 8,120 13,585 283,006	80,641 5,519,039 4,979 8,257 100,834
Rich School District Richfield City Richmond City Riverdale City Roosevelt City	N/A N/A N/A N/A N/A	3,144,184 1,438,424 176,375 2,668,590 1,578,060	5,787,736 2,989,158 370,040 5,561,322 3,291,549	930,691 161,187 15,196 288,755 164,823	15,915 3,809 26,126 20,216	589,857 311,507 39,353 584,669 343,710	335,851 221,767 24,332 412,289 239,753
Roosevelt City Housing	N/A	26,428	54,742	2,802	574	5,874	3,570
Roy City	N/A	4,678,077	9,789,159	471,703	46,839	1,040,654	713,765
Roy Water Conservancy District	N/A	280,639	581,298	29,755	6,096	62,370	37,907
S Utah Valley Electric Service District	N/A	530,528	1,110,147	47,883	11,472	118,275	72,875
S Utah Valley Solid Waste	N/A	774,580	1,608,151	79,349	16,808	172,267	105,029
Salem City	N/A	1,653,606	3,439,874	178,427	22,350	360,485	248,289
Salina City	N/A	381,508	793,725	41,057	5,188	83,189	57,239
Salt Lake Arts Academy	N/A	1,170,040	2,173,420	331,651	—	220,254	127,113
Salt Lake City Corp	N/A	167,719,555	327,626,263	35,200,151	4,467,096	33,755,990	21,966,666
Salt Lake City Public Library	N/A	3,126,568	6,538,435	285,179	67,628	696,897	429,045

Deferred Outflo	ws of Resources				Deferred Inflo	ws of Resources	to Employer-Paid Member Contributions					
Changes in					Changes in		N	let Amortization of Deferred Amounts from Changes in				
Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions		
35,221 26,368 14,372	621,058 170,960 289,392	73,894 12,247 54,912	98,751 24,990 49,933	51,319 12,424 11,951	41,266 — 10,793	265,230 49,661 127,589	531,092 144,130 242,281	(2,789) 8,865 1,009	_ _ _	528,303 152,995 243,290		
12,576 723	732,373 15,158	50,455 1,036	129,809 2,509	57,158 1,240	45,413 937	282,835 5,722	517,110 13,053	42,091 (142)	_ 	559,201 12,911		
518 654 25,138 41,680 135,309	14,005 25,877 379,052 802,735 231,044	1,523 2,497 30,797 110,756 18,480	2,302 4,332 65,694 126,840 15,489	1,161 2,169 25,837 67,165 8,630	44 21,917 184,556 22,075	5,030 30,915 306,884 326,836 42,599	16,179 27,730 177,837 683,584 76,775	46 (6,702) 39,149 8,358 49,110	=	16,225 21,028 216,986 691,942 125,885		
14,713 52,153 4,252	263,148 2,916,970 1,481,750	20,503 532,941 275,569	42,979 526,363 270,291	21,344 120,843 62,757	11,086 2,232 53,159	95,912 1,182,379 661,776	243,769 2,218,351 1,132,126	(342) 16,518 (19,496)		243,427 2,234,869 1,112,630		
151 269,313	11,836 855,098	839 111,643	2,031 106,912	1,003 25,059	139	4,012 243,614	10,566 469,676	16 91,255	_	10,582 560,931		
1,220 253,098 324,009 10,358 1,051	94,977 10,719,430 14,487,804 40,269 1,309,153	1,476 1,957,573 2,709,495 5,777 208,307	24,658 1,800,183 2,584,011 5,451 258,003	980,511 606,659 1,285 47,736	27,351 770,979 54 251,866	26,134 4,765,618 6,671,144 12,567 765,912	(168,912) 6,652,521 11,444,052 24,649 938,234	157,986 691,948 (146,684) 3,184 (48,581)	(468,261)	(10,926) 6,876,208 11,297,368 27,833 889,653		
640 1,185	213,799 27,919	15,784 1,920	37,013 4,647	18,306 2,296	2,536	73,639 8,863	196,180 24,173	(872) 389	<u>-</u> - -	195,308 24,562		
432 8,415 492,785	20,067 61,756 4,836,752	1,445 4,937 474,752	3,410 9,187 786,318	1,686 4,585 330,797	15,597 210,198	6,541 34,306 1,802,065	18,007 56,177 2,657,083	129 (3,677) 926,289	_ _ _	18,136 52,500 3,583,372		
20,836 250,204 16,933 113,814 43,746	2,710,375 8,965,244 361,922 1,644,954 242,640	926,487 1,622,471 37,960 183,038 29,053	490,005 1,605,172 58,677 259,076 33,129	497,615 366,310 30,058 133,796 17,569	15,423 435,270 26,903 42,612 798	1,929,530 4,029,223 153,598 618,522 80,549	760,195 6,825,806 308,576 1,390,019 175,298	2,634 (67,248) (1,640) 34,002 17,945	(429,221) — — — — —	333,608 6,758,558 306,936 1,424,021 193,243		
619 6,556 16,323 80,337 62,545	186,476 595,722 83,227 1,456,146 432,088	23,207 111,088 5,353 184,377 52,310	31,340 107,655 11,587 230,781 61,690	16,287 25,114 5,747 120,976 32,620	39,400 52,120 10,884 31,630 3,101	110,234 295,977 33,571 567,764 149,721	164,881 461,928 64,444 1,219,353 317,994	(14,436) (14,655) 2,848 10,033 (4,021)		150,445 447,273 67,292 1,229,386 313,973		
3,170 1,428 1,138 53,053 2,691	1,050,855 376,040 124,413 11,670,642 264,522	131,054 28,514 10,049 1,571,562 15,709	176,638 64,989 21,335 1,898,908 53,467	91,833 32,175 10,590 1,267,991 14,683	140,260 21,542 16,416 128,755 15,985	539,785 147,220 58,390 4,867,216 99,844	926,335 350,338 120,066 8,187,086 5,104	(51,162) (7,371) (5,185) 315,243 155,778	(407,331) ———————————————————————————————————	875,173 342,967 114,881 8,094,998 160,882		
1,683 118,820 1,594 782 168,844	226,736 15,660,477 15,483 23,952 558,095	17,341 2,892,749 1,077 1,664 42,140	39,027 2,877,007 2,408 4,027 78,628	19,330 648,226 1,193 1,990 21,491	14,365 734,207 2,356 407	90,063 7,152,189 7,034 8,088 142,259	211,982 12,404,798 13,132 20,951 (47,225)	(3,932) (262,920) (129) 177 (110,247)		208,050 12,141,878 13,003 21,128 (157,472)		
44,383 5,528 7,676 5,919 51,264	970,091 554,717 75,170 1,029,003 654,943	173,179 77,810 5,598 151,074 80,622	169,292 91,664 11,674 171,438 101,295	39,359 48,494 5,799 89,263 53,067	15,519 3,888 49,713 10,611	381,830 233,487 26,959 461,488 245,595	713,891 469,014 66,424 831,847 536,713	14,604 (4,035) 1,548 (25,111) 11,434		728,495 464,979 67,972 806,736 548,147		
64,013 5,156 20,044 548	10,018 1,865,271 111,529 222,666 294,652	719 261,844 7,638 16,343 21,712	1,741 304,477 18,489 35,082 51,073	860 154,744 9,134 17,406 25,257	767 151,601 5,678 3,001 16,523	4,087 872,666 40,939 71,832 114,565	9,058 1,426,392 96,186 196,096 270,213	(248) 53,877 273 6,290 (5,475)		8,810 1,480,269 96,459 202,386 264,738		
89,668 1,976 35,420 459,748 55,608	720,792 147,592 382,787 60,649,500 1,249,178	80,192 18,441 67,506 6,909,698 95,634	106,273 24,526 63,263 9,807,181 206,700	55,379 12,775 14,957 5,716,336 102,532	17,683 — 246 9,463	241,844 73,425 145,726 22,433,461 414,329	553,343 127,869 289,870 40,218,504 1,150,556	32,035 (6,500) 10,287 2,604,673 11,142	(2,075,914) —	585,378 121,369 300,157 40,747,263 1,161,698		

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Salt Lake Co Serv Area 3 Salt Lake Community College Salt Lake County Salt Lake School District San Juan County	N/A N/A N/A N/A N/A	\$ 117,422 20,901,809 119,343,299 123,148,009 4,067,993	243,220 39,168,699 250,135,970 228,863,767 8,497,832	12,450 5,611,017 11,034,037 34,610,864 403,516	2,551 — 1,873,966 — 59,172	26,096 4,190,161 26,907,173 24,086,877 908,583	15,861 2,170,127 17,101,868 12,878,447 592,288
San Juan Mental Health San Juan School District Sandy City Sandy Suburban Improvement District Sanpete County	N/A N/A N/A N/A N/A	540,082 17,553,591 16,043,408 748,289 2,998,784	1,127,428 32,482,409 38,932,623 1,552,847 6,258,655	50,763 5,058,839 (2,904,917) 77,191 320,577	11,691 — 1,770,356 16,241 28,641	120,316 3,340,889 4,941,049 166,396 647,854	73,895 1,870,031 3,073,852 101,387 472,874
Santaquin City Seven County Infrastructure Sevier County Sevier School District Six-County Association of Governments	N/A N/A N/A N/A	1,534,259 121,579 4,144,625 18,654,028 618,783	3,196,854 251,831 8,639,385 34,393,451 1,284,482	165,501 12,891 456,011 5,473,551 63,545	17,003 2,641 34,857 — 13,428	332,580 27,020 892,396 3,529,202 137,611	237,348 16,422 660,661 1,982,939 83,881
SIc Mosquito Abatement Smithfield City Corp Snow College Snyder Basin Special Recreation District Snyderville Basin Water Reclamation District	N/A N/A N/A N/A	304,572 1,133,502 4,750,001 501,519 1,822,319	641,162 2,371,654 8,792,581 1,096,466 3,791,771	24,636 109,625 1,364,857 10,279 180,466	6,569 17,641 — 10,629 39,505	68,027 248,877 916,778 113,350 405,558	42,252 167,555 497,127 73,969 248,001
So Davis Metro Fire Agency So Davis Recreation Center So SI Valley Mosquito Abatement So Utah Valley Animal SSD So Utah Valley Power Systems	N/A N/A N/A N/A	64,967 317,500 134,562 58,393 62,604	134,568 663,843 284,421 121,709 129,674	6,888 29,056 10,028 5,628 6,638	1,411 6,868 2,897 1,265 1,360	14,438 70,765 30,092 13,002 13,913	8,775 43,555 18,792 7,969 8,456
Soldier Hollow Charter School Solid Waste Special Service District #1 Solitude Improvement District South Davis Sewer District South Davis Water District	N/A N/A N/A N/A	689,742 134,636 40,295 1,621,008 240,639	1,283,191 286,873 83,465 3,506,224 498,444	194,048 8,325 4,272 43,640 25,514	2,888 875 25,941 5,227	129,915 30,184 8,955 467,970 53,480	75,146 19,050 5,443 162,078 32,504
South Ogden City South Ogden Conservancy District South Sanpete School District South Summit School District South Valley Sewer District	N/A N/A N/A N/A N/A	2,892,612 788,273 13,592,210 6,631,985 1,872,646	6,022,993 1,648,450 25,045,534 12,219,157 3,923,495	320,984 71,918 4,004,402 1,954,744 165,356	26,457 17,051 — 40,472	623,769 175,702 2,550,900 1,244,603 417,645	456,746 108,168 1,454,626 709,619 257,766
South Valley Water Reclamation South Weber City Southeastern Utah AOG Southeastern Utah Health Southern Utah University	N/A N/A N/A N/A N/A	1,812,353 326,214 448,835 635,728 12,283,947	3,785,330 685,215 932,590 1,326,698 22,690,579	168,845 27,507 45,431 60,046 3,578,165	39,223 7,042 9,736 13,764	403,810 72,811 99,845 141,610 2,318,991	248,188 45,091 60,940 86,939 1,307,293
Southwest Applied Technology Southwest Educ Development Center Space Dynamics Lab / USU Spanish Fork City Spring City	N/A N/A N/A N/A N/A	1,617,383 415,372 2,798,578 7,581,685 132,529	2,997,202 775,100 5,153,694 15,823,769 285,221	463,822 115,105 826,787 768,930 4,992	112,183 2,299	304,188 78,327 525,102 1,660,038 36,157	174,933 45,509 299,167 1,126,820 14,554
Springville City St George Housing Authority State of Utah Stockton Town Success Academy	N/A N/A N/A N/A N/A	6,709,323 94,449 1,057,961,875 40,800 837,408	14,016,706 196,691 1,947,868,042 84,854 1,552,041	653,174 9,228 314,809,694 4,989 239,979	111,361 2,047 2,024,056 —	1,494,405 21,025 198,805,428 8,587 157,504	962,811 12,872 108,023,567 7,078 90,597
Summit Academy High School Summit Academy Inc Summit County Sunset City SW Behavioral Health Center	N/A N/A N/A N/A N/A	987,355 3,685,172 13,782,675 652,048 3,973,722	1,856,271 6,924,145 28,751,984 1,356,683 8,355,554	263,268 985,707 1,454,335 71,949 328,586	159,593 7,083 85,743	186,714 696,726 2,992,653 141,194 887,218	109,679 408,912 2,123,702 100,923 550,210
Sw Mosquito Abatement/Control SW UT Public Health Department Syracuse City Corp Taylor West Weber Water Improvement District Taylorsville-Bennion Improvement	N/A N/A N/A N/A N/A	80,910 1,380,127 2,365,314 90,472 1,345,705	173,013 2,891,886 4,944,148 191,042 2,799,621	4,546 121,645 242,741 6,881 133,596	1,733 29,826 26,861 1,948 29,175	18,159 307,811 513,640 20,227 299,473	11,514 190,004 366,360 12,614 183,090

Deferred Outflows of Resources

7,458

519,196

38,692

88,797

43,951

171,440

476,711

478,964

2,253

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Continued)

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Timber Lakes Water Special Service District	N/A	\$ 135,649	286,792	10,053	2,920	30,338	18,951
Timpanogos Special Service District	N/A	1,534,123	3,264,289	91,552	29,688	382,567	189,075
Tintic School District	N/A	1,740,276	3,193,976	522,218	—	326,117	184,860
Tooele Applied Technology College	N/A	1,039,513	1,917,912	304,406	—	195,183	111,516
Tooele City	N/A	4,345,189	9,095,933	427,291	53,623	963,486	653,040
Tooele County Tooele County Housing Tooele School District Tooele Valley Mosquito Abatement Torrey Town	N/A	8,489,215	17,769,063	831,037	113,216	1,871,825	1,273,445
	N/A	167,812	358,380	9,769	3,596	37,649	23,832
	N/A	46,770,674	86,369,733	13,629,725	—	8,820,983	5,005,249
	N/A	12,948	26,821	1,373	281	2,878	1,749
	N/A	10,319	23,289	(331)	215	2,357	1,600
Town of Alta	N/A	311,689	648,316	31,036	6,758	69,359	42,393
Town of Apple Valley	N/A	42,812	92,077	2,010	914	9,626	6,150
Town of Brian Head	N/A	678,680	1,411,586	75,663	6,992	146,732	105,652
Town of Daniel	N/A	10,838	22,449	1,149	235	2,409	1,464
Town of Garden City	N/A	126,574	270,236	7,423	2,712	28,395	17,967
Town of Goshen Town of Levan Town of Manila Town of Mantua Town of Paragonah	N/A N/A N/A N/A N/A	14,299 90,048 90,118 60,681 42,665	31,458 186,520 216,281 125,702 102,710	147 9,547 (15,922) 6,624 (7,916)	302 1,956 151 4,548	3,239 20,012 41,001 13,128 20,263	2,130 12,163 1,189 8,850
Town of Randolph	N/A	35,803	74,160	3,796	778	7,957	4,836
Town of Springdale	N/A	764,694	1,592,958	82,133	9,101	166,095	117,176
Trans-Jordan Cities	N/A	1,102,192	2,304,693	100,730	23,842	245,665	151,221
Tremonton City	N/A	1,242,702	2,590,538	129,041	17,736	271,622	185,510
Tridell-Lapoint Water	N/A	29,796	69,036	(2,287)	614	6,862	4,815
Tuacahn High School Uintah Animal Control/Shelter Uintah Basin Applied Technology Center Uintah Basin Association of Governments Uintah Basin Asst Council	N/A N/A N/A N/A N/A	1,235,194 186,064 2,968,127 657,539 43,504	2,286,924 387,438 5,520,744 1,393,379 93,783	355,744 18,213 835,886 46,356 1,881	4,032 — 14,139 928	232,231 41,418 559,013 147,163 9,789	133,374 25,353 323,248 92,208 6,273
Uintah Co Care Center Special Service District	N/A	1,628,844	3,427,016	133,169	35,137	363,741	225,754
Uintah County	N/A	9,072,948	19,020,225	867,392	123,114	1,989,119	1,371,404
Uintah Fire Suppression Special Service District	N/A	22,165	45,912	2,350	481	4,926	2,994
Uintah Highlands Improv District	N/A	39,163	81,546	3,836	849	8,718	5,336
Uintah Mosquito Abatement District	N/A	119,349	247,212	12,654	2,592	26,524	16,121
Uintah Recreation District	N/A	745,841	1,563,052	65,565	16,117	166,353	102,706
Uintah School District	N/A	25,693,763	47,887,735	7,129,773	—	4,983,737	2,728,642
Uintah Transportation Special Service District	N/A	131,421	282,120	6,565	2,809	29,533	18,821
Uintah Water Conservancy District	N/A	350,792	728,965	35,442	7,609	78,038	47,637
Unified Fire Authority	N/A	6,339,894	46,393,974	(26,712,788)	36,712	9,634,757	5,504,637
Unified Police Department	N/A	25,075,261	52,059,672	2,959,096	6,937,524	4,868,316	4,691,065
University of Utah	N/A	121,062,323	228,227,800	31,416,558	—	24,701,590	12,446,652
University of Utah Hospital	N/A	46,952,337	89,352,570	11,331,618	—	10,517,985	4,424,404
Upper Country Water District	N/A	73,185	151,591	7,760	1,590	16,265	9,886
UT Municipal Power Agency	N/A	986,179	2,051,607	97,941	21,380	219,463	134,170
UT Public Employees Association	N/A	140,547	295,125	11,923	3,035	31,367	19,417
UT School Board Risk Management	N/A	856,840	1,578,782	252,482	—	160,804	91,691
Utah Association of Counties	N/A	456,304	945,161	48,380	9,912	101,410	61,635
Utah Co Academy of Sciences	N/A	1,081,170	2,001,881	311,289	—	203,277	116,757
Utah Co Housing Authority	N/A	707,193	1,526,955	24,451	12,983	184,273	84,458
Utah Communications Authority Utah Counties Indemnity Pool Utah County Utah Dairy Council Utah Education Association	N/A N/A N/A N/A N/A	1,783,452 253,476 34,824,629 525,581 1,497,697	3,277,832 527,367 72,836,156 967,958 2,761,111	531,724 25,139 3,365,513 155,214 440,192	5,495 4,584,828 —	334,384 56,409 7,562,286 98,618 281,131	189,948 34,491 5,396,818 56,193 160,434
Utah Housing Corporation Utah Lake Commission Utah League Cities/Towns Utah Local Governments Trust Utah Retirement Systems	N/A N/A N/A N/A N/A	6,175,489 5,838 677,973 912,953 26,528,828	12,069,340 13,268 1,635,712 1,910,067 48,958,253	1,227,537 (255) (128,436) 82,636 7,759,424	121 — 19,743 —	1,503,838 1,336 321,907 203,521 4,981,638	554,790 915 528 125,373 2,847,261

Deferred Outfloo	ws of Resources				Deferred Inflo	ws of Resources			ployer-Paid Memb	
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	let Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
4,933 46,223 66,141 67,515 8,492	57,142 647,553 577,118 374,214 1,678,641	4,677 44,119 94,375 57,942 223,635	9,004 110,919 93,574 56,030 282,900	4,487 45,113 21,635 13,082 144,099	6,186 — — 129,755	18,168 206,337 209,584 127,054 780,389	53,871 374,953 383,444 241,452 1,408,403	1,323 169,457 24,088 25,424 (19,762)	_ _ _ _	55,194 544,410 407,532 266,876 1,388,641
129,240 2,841 76,422 — 1,396	3,387,726 67,918 13,902,654 4,908 5,568	423,708 6,393 2,601,128 352 605	550,895 11,181 2,532,067 853 702	282,973 5,595 587,190 421 360	154,600 252 1,435,142 7,503 1,511	1,412,176 23,421 7,155,527 9,129 3,178	2,864,117 71,194 10,872,941 4,438 5,965	45,432 392 (456,631) (2,826) (206)		2,909,549 71,586 10,416,310 1,612 5,759
11,837 20,187 168,268 5,024 1,914	130,347 36,877 427,644 9,132 50,988	8,940 1,741 38,162 295 4,809	20,566 2,860 43,156 714 8,432	10,178 1,435 22,948 353 4,219	7,320 — 15,036	39,684 6,036 111,586 1,362 32,496	110,256 18,985 221,646 3,715 53,604	3,572 6,685 (324,579) 1,709 (5,432)		113,828 25,670 (102,933) 5,424 48,172
274 3,802 4,581 4,020 250	5,945 37,933 46,922 30,546 20,513	701 2,451 1,125 1,360 319	963 5,932 10,843 3,910 5,329	488 2,931 262 2,172	5,925 — 4,099	8,077 11,314 12,230 11,541 5,648	7,234 30,863 (66,003) 20,165 (36,505)	(1,858) 1,418 27,510 (602) 32,320		5,376 32,281 (38,493) 19,563 (4,185)
526 105,812 108,975 10,508 1,748	14,097 398,184 529,703 485,376 14,039	974 40,426 33,668 58,849 2,050	2,359 48,914 72,864 80,131 2,047	1,165 25,760 36,142 41,586 1,060	141 4,431 — 13,770 380	4,639 119,531 142,674 194,336 5,537	12,271 255,797 405,263 425,031 19,494	104 41,002 32,911 (718) 261		12,375 296,799 438,174 424,313 19,755
50,709 270 11,253 4,570 1,697	416,314 71,073 893,514 258,080 18,687	70,093 5,408 172,381 23,212 1,806	66,684 12,282 160,581 43,682 2,909	15,671 6,081 38,058 21,790 1,462	19,609 193,428 36,706 513	152,448 43,380 564,448 125,390 6,690	296,737 66,353 744,294 265,184 19,566	19,051 (6,043) (74,613) (10,936) 194		315,788 60,310 669,681 254,248 19,760
32,225 2,891,723 — 893 2,198	656,857 6,375,360 8,401 15,796 47,435	53,327 459,130 603 1,138 3,248	107,924 586,386 1,460 2,585 7,863	53,672 304,653 721 1,280 3,885	59,960 72,549 3,456 — 2,829	274,883 1,422,718 6,240 5,003 17,825	625,656 3,188,552 7,597 13,963 40,906	(7,872) (7,150,300) (1,108) 280 (424)		617,784 (3,961,748) 6,489 14,243 40,482
3,053 70,394 54,459 12,358 80,049	288,229 7,782,773 105,622 145,642 15,256,155	23,374 1,437,627 5,254 9,945 5,196,770	49,347 1,430,702 8,772 23,138 2,763,315	24,500 320,716 4,399 11,446 2,795,517	20,045 773,673 25,184 — 30,315	117,266 3,962,718 43,609 44,529 10,785,917	278,666 6,227,786 57,603 123,217 4,311,950	(6,585) (222,711) 6,328 4,454 18,905		272,081 6,005,075 63,931 127,671 1,929,342
166,308 728,389 — 378 1,280	16,663,213 37,876,631 14,942,389 28,119 376,293	122,211 6,611,897 2,251,178 1,992 28,346	1,479,304 7,089,630 3,013,237 4,821 65,073	1,206,985 1,497,162 517,565 2,382 32,208	273,908 6,063,287 1,786,548 1,124 19,198	3,082,408 21,261,976 7,568,528 10,319 144,825	7,469,100 29,739,670 10,467,017 25,083 349,288	(41,305) (1,652,654) (433,081) (192) (5,759)		7,427,795 28,087,016 10,033,936 24,891 343,529
589 124,002 56,374 44,211 4,786	54,408 376,497 229,331 364,245 286,500	4,503 47,433 12,419 61,372 21,817	9,306 46,155 30,062 58,371 53,029	4,624 10,750 14,852 13,719 19,978	16,207 40,814 48,841 — 28,408	34,640 145,152 106,174 133,462 123,232	53,249 196,436 156,394 259,892 152,661	(5,657) 22,204 6,965 15,187 74,983		47,592 218,640 163,359 275,079 227,644
317,291 2,813 519,995 13,624 2,541	841,623 99,208 18,063,927 168,435 444,106	97,436 7,294 645,275 29,023 83,144	95,957 16,726 2,249,221 28,305 80,696	22,245 8,279 1,342,258 6,587 18,815	10,372 — 10,260 45,610	215,638 42,671 4,236,754 74,175 228,265	398,645 89,836 10,535,423 119,928 345,218	121,921 (2,129) 828,959 20 (14,766)		520,566 87,707 11,364,382 119,948 330,452
219,500 213 5,234 17,709 887,312	2,278,128 2,585 327,669 366,346 8,716,211	291,916 358 5,742 28,069 1,480,614	430,812 398 84,680 60,366 1,430,067	65,197 205 74 29,950 334,056	22,668 — 42,072 128,306	787,925 23,629 90,496 160,457 3,373,043	1,510,121 3,492 (574,197) 337,045 6,177,062	176,658 (8,253) 561,337 (11,465) 216,140		1,686,779 (4,761) (12,860) 325,580 6,393,202

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts (Concluded)

at December 31, 2016

Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (7.20% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (6.20%)	Net Pension Liability/(Asset) 1.00% Increase (8.20%)	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	
Utah Safety Council Utah School Boards Association Utah School Employees Association Utah State Fair Corp Utah State University	N/A N/A N/A N/A N/A	\$ 432,948 612,087 367,507 524,700 46,450,320	808,664 1,130,645 675,492 978,017 86,312,919	119,402 178,241 109,536 146,219 13,089,042	= = =	81,670 114,980 68,907 98,901 9,008,440	47,518 65,808 39,147 57,368 4,887,005	
Utah Valley Dispatch Special Service District Utah Valley University Utah Zoological Society UTOPIA Valley Emergency Communications Center	N/A N/A N/A N/A N/A	1,033,387 26,374,329 2,975,972 1,464,145 2,725,019	2,171,330 49,675,627 6,279,037 3,114,170 5,760,816	86,622 6,860,683 230,119 94,649 202,330	22,305 — 64,116 31,430 58,657	230,674 5,427,809 665,153 328,067 609,433	142,915 2,691,202 414,376 206,563 380,649	
Vernal City Vineyard Town Wasatch County Wasatch County Fire District Wasatch Front Regional Council	N/A N/A N/A N/A N/A	3,194,351 278,376 7,941,409 49,022 1,186,281	6,723,828 592,026 16,599,447 101,540 2,485,823	282,871 18,044 798,097 5,198 104,471	32,691 5,976 106,609 1,065 25,636	748,533 62,372 1,733,631 10,895 264,580	460,620 39,266 1,201,612 6,622 163,330	
Wasatch Front Waste/Recycling Wasatch Integrated Waste Management Wasatch Mental Health Special Service District Wasatch School District Wasatch Uniserv	N/A N/A N/A N/A	1,936,009 2,195,271 8,616,016 26,147,362 57,082	4,093,681 4,593,970 18,007,132 48,273,928 104,661	143,100 197,918 794,143 7,633,146 17,206	41,670 47,470 186,416 —	433,004 489,418 1,920,105 4,910,759 10,693	270,529 301,583 1,181,137 2,808,456 6,052	
Washington City Washington Co Solid Waste Washington Co Watwe Conservancy District Washington County Washington School District	N/A N/A N/A N/A	3,611,403 385,488 1,245,315 15,140,518 102,265,826	7,534,867 804,606 2,608,726 31,552,210 188,863,914	359,553 36,311 109,182 1,646,422 29,778,820	61,700 8,345 26,389 151,679	795,231 85,873 284,031 3,273,212 19,343,260	522,204 52,732 166,896 2,370,549 10,914,134	
Waste Management Service District #5 Wayne County Wayne School District Weber Area Dispatch 911 Weber Basin Water Conservancy	N/A N/A N/A N/A N/A	94,210 598,241 2,409,043 1,904,227 3,450,820	195,140 1,251,114 4,443,610 3,994,170 7,188,165	9,989 59,045 706,279 164,789 335,856	2,046 8,602 — 41,134 74,772	20,937 130,938 452,291 424,835 768,241	12,725 89,598 258,315 262,599 470,478	
Weber Co Mosquito Abatement Weber County Corp Weber County School District Weber Fire District Weber Human Services	N/A N/A N/A N/A N/A	378,618 28,410,072 120,352,188 519,569 6,732,021	784,247 59,464,064 221,661,336 4,502,295 14,151,025	40,144 2,883,626 35,533,065 (2,766,681) 559,950	8,224 281,713 — 777 145,281	84,145 6,210,497 22,590,860 967,941 1,502,921	51,142 4,429,287 12,864,143 543,459 931,653	
Weber River Water Users Weber State University Wellington City Wellsville City Corp West Bountiful City	N/A N/A N/A N/A N/A	81,145 18,615,765 135,533 212,974 843,516	195,344 34,958,806 286,183 442,408 1,766,556	(15,056) 4,921,529 12,013 21,637 84,946	1,288 4,620 8,702	38,538 3,820,742 29,395 47,373 182,806	 1,891,899 21,715 28,904 132,505	~~~~~
West Kane County Special Service District #1 West Point City West Valley City White City Water Improvement District Willard City Corp	N/A N/A N/A N/A N/A	116,080 499,357 21,336,242 283,085 283,519	242,640 1,050,511 51,682,476 589,608 589,636	10,671 40,911 (3,735,127) 27,601 31,271	2,511 10,773 3,055,682 6,134 3,285	25,870 111,509 6,371,319 63,020 61,498	15,917 69,198 4,322,664 38,588 43,501	
Woodland Peaks Uniserv Woods Cross City Workers Compensation Fund	N/A N/A N/A	143,605 1,169,393 31,424,198	263,302 2,466,807 58,705,598	43,287 95,577 8,576,929	177,251	26,901 271,212 6,269,244	15,226 174,815 3,256,200	
Grand Total	N/A	\$ 4,652,236,567	8,913,978,145	1,098,710,543	40,528,662	938,198,099	538,221,759	
No Proportionate Share for 2016 Canyonlands Health Care Leeds Area Special Service District Summit Mosquito Abatement District Sunnyside City Valley Mental Health	N/A N/A N/A N/A	\$ — — — — —	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	
Grand Total	N/A	\$ 4,652,236,567	8,913,978,145	1,098,710,543	40,528,662	938,198,099	538,221,759	

Columns may not add to total due to rounding.

Determent out.	0113 01 1103041 003					ms or mesources		10 2	.p.oyer raid memb	er continuations
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Deferred Outflows of	Differences Between Expected and Actual	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	<b>Changes of</b>	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Deferred Inflows of	Proportionate Share of Allocable Plan Gross Pension	of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionand	Proportionate Share of Nonemployer	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member
Contributions	Resources	Experience	Investments	Assumptions	Contributions	Resources	Expense	Contributions	Contributions	Contributions
65,825 79,259 249 29,268 461,058	195,013 260,047 108,303 185,537 14,356,503	25,671 34,326 20,085 30,795 2,551,414	23,468 33,009 19,774 28,415 2,585,618	5,605 7,724 4,584 6,760 581,265	20,229 76,711 4,638 594,377	54,744 95,288 121,154 70,608 6,312,674	112,730 143,819 82,202 134,126 10,885,010	22,795 16,460 (28,240) 6,876 48,444	_ _ _ _	135,525 160,279 53,962 141,002 10,933,454
4,623 810,922 61,604 56,954 18,373	400,517 8,929,933 1,205,249 623,014 1,067,112	33,346 1,412,083 100,431 53,637 93,870	68,437 1,557,121 197,387 97,401 180,872	34,016 316,135 98,279 48,661 90,132	54,485 922,591 — 63,158 181,743	190,284 4,207,930 396,097 262,857 546,617	393,294 6,338,551 1,165,577 605,101 1,081,579	(18,302) (4,525) 15,215 (9,713) (53,546)	_ _ _ _	374,992 6,334,026 1,180,792 595,388 1,028,033
12,113 82,866 183,541 3,545 39,477	1,253,957 190,480 3,225,393 22,127 493,023	165,382 10,187 399,466 1,334 37,134	217,039 18,518 511,217 3,230 78,485	100,522 9,251 266,970 1,596 38,965	112,366 — — 498 —	595,309 37,956 1,177,653 6,658 154,584	800,728 114,964 2,757,426 16,802 442,903	38,344 26,617 63,844 871 12,248		839,072 141,581 2,821,270 17,673 455,151
12,442 7,169 81,218 433,436 151	757,645 845,640 3,368,876 8,152,651 16,896	66,838 67,675 261,660 1,462,388 3,079	128,512 145,168 569,485 1,409,769 3,068	64,046 72,029 282,415 329,563 708	42,542 84,520 88,646 85,205 654	301,938 369,392 1,202,206 3,286,925 7,509	769,518 811,792 3,156,549 6,112,478 12,450	(13,457) (27,076) (2,266) 131,951 (144)		756,061 784,716 3,154,283 6,244,429 12,306
13,146 2,967 624,240 65,345 1,054,588	1,392,281 149,917 1,101,556 5,860,785 31,311,982	147,454 11,529 36,846 871,456 5,662,146	235,084 25,467 83,820 962,617 5,552,079	119,895 12,623 39,936 513,110 1,280,091	84,114 7,862 — 33,859	586,547 57,481 160,602 2,381,042 12,494,316	1,267,647 139,897 421,512 5,013,022 23,658,888	(25,799) (1,490) (1,580,959) 13,621 389,761		1,241,848 138,407 (1,159,447) 5,026,643 24,048,649
381 8,301 10,260 48,804 138,102	36,089 237,439 720,866 777,372 1,451,593	2,564 28,813 134,107 60,270 100,748	6,207 38,640 129,832 126,029 227,809	3,066 20,060 30,300 62,595 112,815	55 40,975 151,673 37,606	11,892 128,488 445,912 286,500 441,372	32,289 209,904 558,198 715,909 1,233,907	129 (10,325) (44,479) 5,245 44,018		32,418 199,579 513,719 721,154 1,277,925
3,187 199,251 141,192 25,371 182,665	146,698 11,120,748 35,596,195 1,537,548 2,762,520	10,304 1,652,891 6,643,685 528,684 218,224	24,944 1,823,242 6,483,940 276,992 445,902	12,323 956,832 1,507,874 282,145 221,667	10,292 1,249,873 913,418 114 15,265	57,863 5,682,838 15,548,917 1,087,935 901,058	129,768 9,350,091 27,455,241 364,591 2,569,536	(2,983) (272,747) (291,525) (14,833) 42,291	(246,875)	126,785 9,077,344 27,163,716 102,883 2,611,827
376 245,301 761 1,445 221,931	38,914 5,957,942 53,159 82,342 545,944	607 983,692 8,563 6,011 49,320	10,136 1,095,882 8,650 14,045 53,792	221,963 4,646 6,947 28,665	464,689 25,666 485 15,583	10,743 2,766,226 47,525 27,488 147,360	(69,429) 4,361,309 49,490 74,603 291,020	58,414 41,659 (9,513) 352 (430,452)	= = = =	(11,015) 4,402,968 39,977 74,955 (139,432)
388 2,403 108,709 1,317 13,033	44,686 193,883 13,858,374 109,059 121,317	3,532 16,329 1,425,685 8,254 15,050	7,673 33,085 1,873,238 18,688 18,104	3,805 16,453 1,380,806 9,253 9,549	1,205 3,656 538,130 1,946 9,464	16,215 69,523 5,217,859 38,141 52,167	42,574 191,662 6,698,498 101,140 93,386	(301) (922) 197,011 (211) 1,103	(506,673)	42,273 190,740 6,388,836 100,929 94,489
2,450 11,430 535,221	44,577 634,708 10,060,665	7,747 16,816 1,696,202	7,718 79,506 1,798,722	1,781 43,916 382,125	23,460	17,246 163,698 3,877,049	31,321 245,303 7,385,229	951 86,433 235,587		32,272 331,736 7,620,816
59,419,824	1,576,368,344	248,955,877	270,822,183	88,027,588	53,985,873	661,791,521	1,152,097,283	(213,209)	(9,457,533)	1,142,426,541
_	_	_	_	_	50,548	50,548	_	(19,172)	_	(19,172)
7,738	7,738		_ _ _		20,207 2,425 6,069,453	20,207 2,425 6,069,453	_ 	(6,438) (928) (2,073,832)		(6,438) (928) (2,073,832)
59,427,562	1,576,376,083	248,955,877	270,822,183	88,027,588	60,128,508	667,934,156	1,152,097,283	(2,313,579)	(9,457,533)	1,140,326,171

## Systems and Plans Statistical Highlights

Year Ended December 31, 2016

## **Defined Benefit Systems**

Defined Benefit S	ystems							Tier 2	Tier 2	
	Noncontributory	Contributory	Public Safety	Firefighters	Judges	Governors and Legislators	Tier 2 Public Employees	Public Safety and Firefighter	Defined Contribution Only	Averages and Totals All Systems
Membership Informatio	n									
<b>Total Membership</b>	161,542	6,329	14,587	3,325	257	336	27,051	2,305	5,673	221,405
Active	63,214	738	6,032	1,663	115	61	24,372	2,240	5,022	103,457
Terminated vested	47,933	1,274	4,615	390	3	96	464	28	165	54,968
Retired	51,355	4,165	5,412	1,372	141	244	9	_	_	62,698
<b>Total 2016 Active Membe</b>	rs 63,214	738	6,032	1,663	115	61	24,372	2,240	5,022	101,712
Average age	49.2	57.3	42.6	42.8	56.1	55.8	35.9	30.2	36.3	44.6
Average years of service	15.5	29.0	15.2	15.0	16.6	12.1	2.2	2.3	2.8	11.5
Average annual salary	\$ 51,984	60,936	57,381	67,114	155,852	12,285	30,809	35,363	41,246	46,829
2016 Retirees										
Number	3,965	227	368	72	7	17	8	_	N/A	4,664
Average age	64.2	62.1	53.5	55.0	65.3	66.1	67.0	_	N/A	63.2
Average years of service Final average	21.1	30.1	22.6	25.2	29.2	6.1	4.5	_	N/A	21.6
annual salary	\$ 48,980	52,211	60,881	79,969	139,428	19,603	24,789	_	N/A	50,298
Average annual benefit	21,224	30,729	34,036	47,671	106,141	7,125	1,651	_	N/A	22,880
Average annual benefit —all retirees	\$ 22,475	19,284	29,241	36,574	84,793	3,863	1,565	_	N/A	23,221
Changes in Fiduciary Net F	Position Rest (in thousand		Pensions							
Contributions	\$ 847,939	11,608	147,929	36,252	8,852	421	63,062	8,488	N/A	1,124,551
Investment income	1,783,911	97,693	249,027	87,746	13,820	849	14,059	1,591	N/A	2,248,696
Pension benefits	1,188,683	85,147	164,691	52,568	12,329	941	316	28	N/A	1,504,703
Plan fiduicary net position	\$ 22,618,743	1,204,904	3,176,545	1,115,726	175,619	10,352	217,293	25,135	N/A	28,544,317
Actuarial Information (G Employers' Net Pension L	-	<b>et)</b> (dolla	rs in thou	sands)						
Total pension liability Plan fiduciary net	\$ 26,501,781	1,292,512	3,794,880	1,129,729	210,624	12,654	228,450	24,266	N/A	33,194,896
position (market value) Employers net pension	22,618,743	1,204,904	3,176,545	1,115,726	175,619	10,352	217,293	25,135	N/A	28,544,317
liability/(asset) Percentage of the total	3,883,038	87,608	618,335	14,003	35,005	2,302	11,157	(869)	N/A	4,650,579
pension liability	85.3%	93.2%	83.7%	98.8%	83.4%	81.8%	95.1%	103.6%	N/A	86.0%
Actuarial Information (F Funding Progress	unding) (dollars in	thousand	s )							
Actuarial value of assets	\$ 22,913,647	1,221,609	3,217,221	1,130,198	177,782	10,470	219,885	25,388	N/A	28,916,200
Actuarial accrued liability Unfunded (overfunded)	\$ 26,501,781				210,624	12,654	228,450	24,266	N/A	33,194,896
actuarial accrued liability	\$ 3,588,134	70,903	577,659	(469)	32,842	2,184	8,565	(1,122)	N/A	4,278,696
Funded ratios	86.5%	94.5%	84.8%	100.0%	84.4%	82.7%	96.3%	104.6%	N/A	87.1%

### Systems and Plans Statistical Highlights $({\it Concluded})$

Year Ended December 31, 2016

### **Defined Contribution Plans**

		401(k)	457	Roth IRA	Traditional IRA		
Membership Information Number of Active Employees Eligible to Participate		105,864	101,497	221,405	221,405		
Employee contributions (excluding employer contributions):							
Number of employees contributing Percent of eligible employees contributing		39,462 37.3%	8,232 8.1%	6,376 2.9%	452 0.2%		
Average percent of salary deferred by employees  Total participants		5.5% 166,430	6.0% 17,416	3.7% 8,772	2.5% 1,763		
Average participant account balance	\$	26,071	28,389	10,165	46,247		
Financial Information Changes in Fiduciary Net Assets (in thousands)						Health Reimburse Arrangeme (HRA)	
Contributions Net investment income Refunds	\$	290,632 332,672 257,651	27,326 39,252 25,706	16,585 7,200 4,192	16,182 4,825 8,332	6,796 36 30,075	357,521 383,985 325,956
Plan net position	\$ 4	4,338,973	494,419	89,165	81,533		5,004,090





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