URS
Utah Retirement Systems

Utah Retirement Systems

A Component Unit of the State of Utah

2018 Comprehensive Annual Financial Report

For the Year Ended December 31, 2018

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

Front Cover: Jenessa Carvajal, Teacher, Freedom Elementary, Highland, Utah

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Noncontributory Retirement System
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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

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 D. Dolphin, Chief Financial Officer

Utah Retirement Systems
2018 Annual Report

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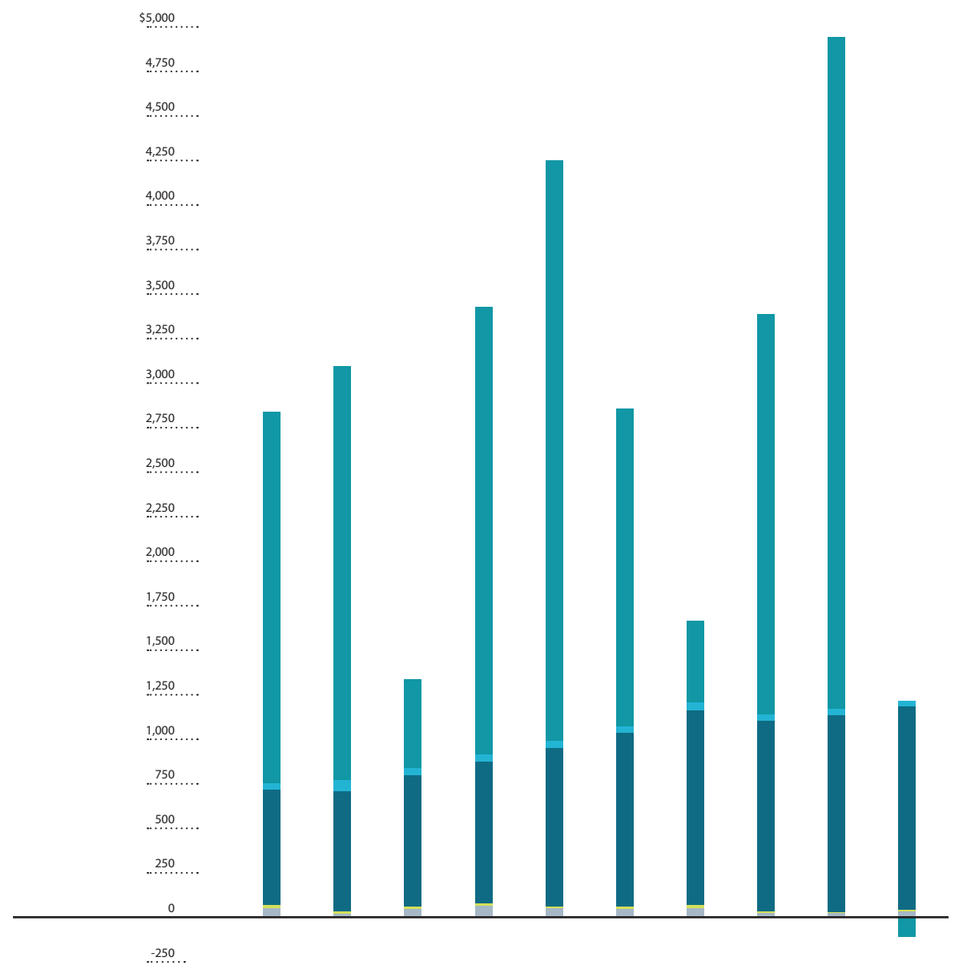
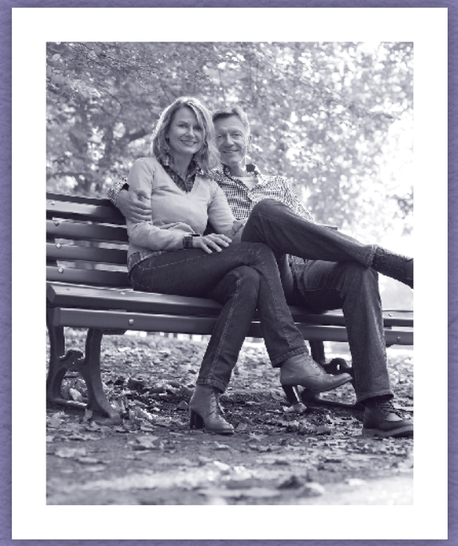
Additions by Source

(in millions)



(in millions)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net investment income (loss)	$ 2,088	2,328	502	2,513	3,261	1,786	462	2,249	3,774	(116)
Employee contributions	36	60	39	40	40	39	41	39	39	36
Employer contributions	647	682	739	796	889	974	1,036	1,073	1,113	1,139
Court fees and fire insurance tax	18	13	15	18	13	16	19	12	3	10
Transfers from systems	44	7	37	55	42	38	42	10	11	26
Totals	$ 2,833	3,090	1,332	3,422	4,245	2,853	1,600	3,383	4,940	1,095



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Utah Retirement Systems
2018 Comprehensive
Annual Financial Report

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12 Organization Chart and Administrative Staff

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Utah Retirement Systems

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 30, 2019

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

Dear Board Members:

We are pleased to present the 2018 Comprehensive Annual Financial Report of the Utah Retirement Systems (Systems), including the 401(k), 457, and Roth and Traditional IRAs (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 2018.

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, and Roth and Traditional IRA Savings Plans.

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 were established by legislation and authorized as indicated in the notes to the basic financial statements on page 56. The Summaries of Plan Provisions are presented on pages 178 through 195. 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.

Investments

The economic condition of the Systems is based primarily upon investment earnings. For 2018, the Systems experienced a (0.22)% 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 144 of this report.

The investment portfolio mix at fair value as of the end of 2018 was 17% debt securities, 35% equities, 12% private equity, 16% real assets, 5% short-term, and 15% 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 $36.9 billion in both the Defined Benefit and Defined Contribution investments at fair value as of December 31, 2018, 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 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 6.95%) 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 Eide Bailly. 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, 2017. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. 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 34 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 2018 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 ensure the successful operation and financial soundness of the Utah Retirement Systems.

Sincerely yours,

Robert D. Dolphin
Chief Financial Officer

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 30, 2019
Utah State Retirement Board
560 East 200 South
Salt Lake City, UT 84102-2044

Dear Members of the Retirement Systems:

I'm proud of the URS mission to provide retirement security to Utah's public employees and retirees. This annual report provides a comprehensive look at the condition of the pension fund that makes this mission possible.

It's a story of a conservatively run fund designed to withstand market volatility and provide a stable return for the long term. The objective is to maximize long-term returns over market cycles, with an emphasis on downside protection in unfavorable market conditions.

That last part, "downside protection," was put to the test in 2018, a year when U.S. investors suffered losses in practically every category except cash. For example, the Dow Jones Industrial Average was down 3.5% for the year, while the S&P 500 shed nearly 4.4% of its value.

Our peers, other very large pension funds across the nation, lost an average of 3.29% in 2018. URS, meanwhile, performed in the top 1 percentile, with an overall loss of just 0.22%. This is not atypical. In the negative global equity markets experienced in 2008, 2011, and 2015, our yearly returns were at or near the top 10% compared to our peers. This demonstrates the value of the lower-risk, more-diversified portfolio that URS maintains. While we might not get the same lofty returns when the markets are flying high, we generally lose less ground in years such as 2018.

Focusing on the investment performance of just a single year is like examining a single frame of a movie reel – it doesn't begin to tell the entire story. The URS pension has nearly doubled in value since 2008, growing from $15.9 billion to $31.2 billion by the end of 2018.

So, the big-picture story is this: Your pension is healthy and remains on solid footing. We're committed to providing peace of mind and retirement security for Utah's public employees and retirees and will never waiver in that mission.

Sincerely,

Laura Houston
President, Utah State Retirement Board

Utah Retirement Systems

Retirement Board

As of December 31, 2018

Pictured Left to Right

Vice President
Ryan G. Hessenthaler
Appointed August 19, 2015
Term Expires July 1, 2019
Represents Investment Community

President
Laura O. Houston
Appointed July 2, 2014
Term Expires July 1, 2022
Represents Investment Community

Board Members
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

William W. Wallace
Appointed September 18, 2013
Term Expires July 1, 2021
Represents Investment Community

Executive Director

Daniel D. Andersen

Membership Council

Executive Committee Members:

Chairperson
Mr. Marty Peterson ..... Represents Professional Firefighters of Utah

Vice Chairperson
Mr. Richard Petersen ..... Represents Utah Public Employees' Association
Mr. Stuart Bailey ..... Represents Utah Education Association
Ms. Amy Ehresman ..... Represents Utah School Employees' Association
Ms. Brandy Grace ..... Represents Utah Association of Counties

Council Members:

Mr. Brandon Baca ..... Represents Utah Education Association
Mr. Jamie Davidson ..... Represents Utah League of Cities and Towns
Mr. Larry Evans ..... Represents Utah Public Employees' Association
Senior Trooper Arlow Hancock ..... Represents Utah Peace Officers' Association
Mr. Michael Harman ..... Represents Utah Education Association
Ms. Debra McBride ..... Represents Utah Association of Retired Public Employees
Mr. Larry Millward ..... Represents Utah Retired School Employees' Association
Honorable Kara Pettit ..... Represents Utah Judicial Council

Utah Retirement Systems

Organization Chart

As of December 31, 2018

Administrative Staff

Daniel D. Andersen
Executive Director

Todd W Rupp
Deputy Executive Director

Steven M. West
Director, Internal Audit

Dee S Larsen
General Counsel

Bruce H. Cundick
Chief Investment Officer

Jeff J. Allen
Shared Services Director

Robert D. Dolphin
Chief Financial Officer

Jayne R. Knecht
Director, Human Resources

W. Kendall Rima
Chief Information Officer

Matthew K. Judd
Director, Employer Services

Craige D. Stone
Director, Defined Contribution Savings Plans

Mark M. Cain
Director, Retirement Benefits

David J. Bjarnason
Chief Compliance Officer — Investments

Ryan C. Ashcraft
Director, Retirement Planning

Tiffany G. Lund
Project Manager

Professional Service Providers

Actuary

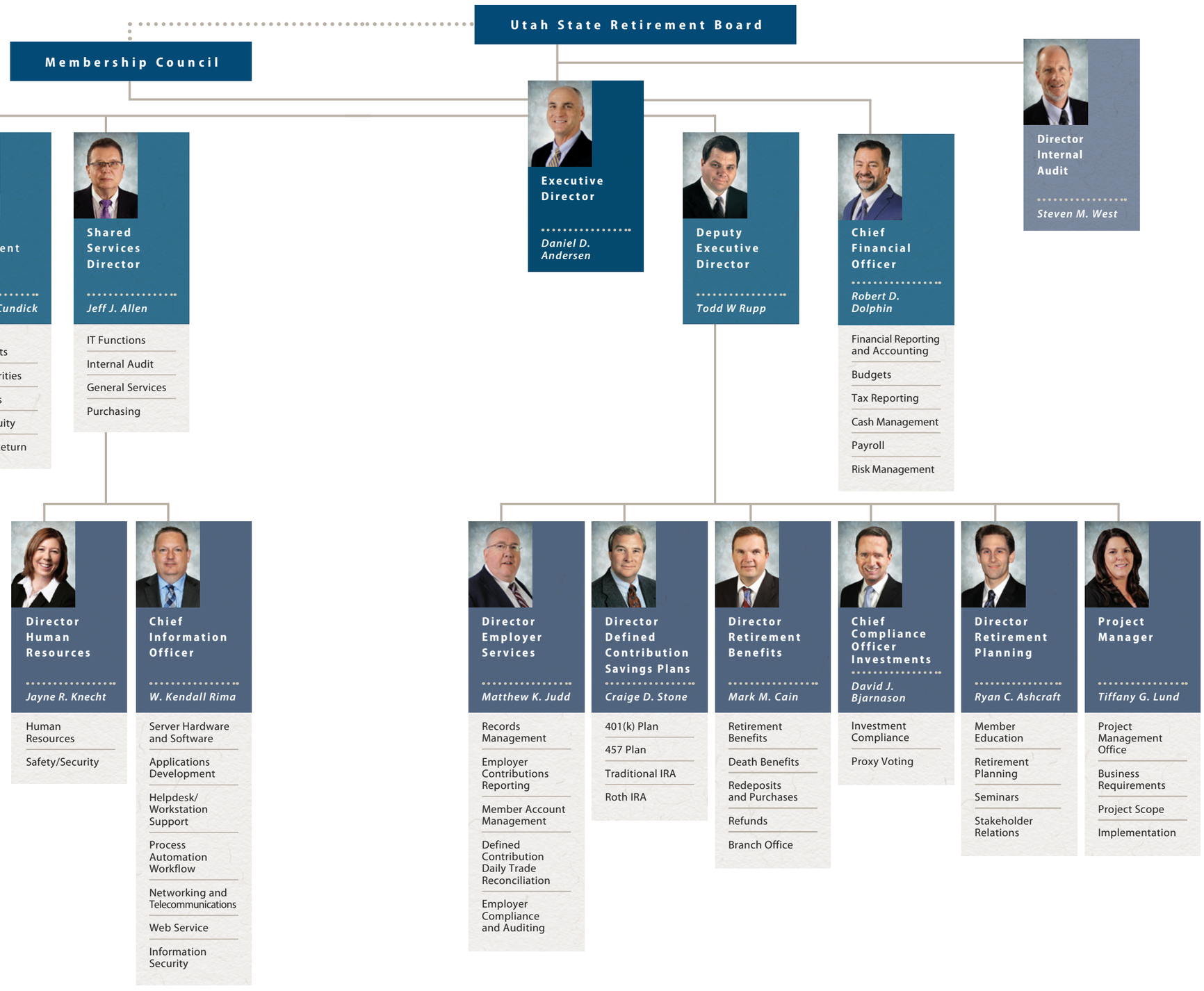
Gabriel, Roeder, Smith & Company
5605 N. MacArthur Blvd., Suite 870
Irving, TX 75038-2631

Auditor

Eide Bailly
Certified Public Accountants
5 Triad Center, Suite 600
Salt Lake City, UT 84180

Additional professional service providers are presented on pages 146 and 152.

A schedule of investment fees and commissions are presented on pages 145 and 151.



Utah Retirement Systems

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.

Composite Picture

Total Membership 159,459
Active..... 56,299
Terminated vested..... 46,756
Retired..... 56,404

2018 Active Members.....56,299
Average age 49.1
Average years of service 16.6
Average annual salary.....$57,971

2018 Retirees.....3,445
Average age 64.4
Average years of service 20.8
Final average annual salary $50,763
Average annual benefit $21,618

Average annual benefit
— all retirees.....$22,921

Noncontributory Retirement System Highlights *(Concluded)*

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 years of service x 2.00% 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

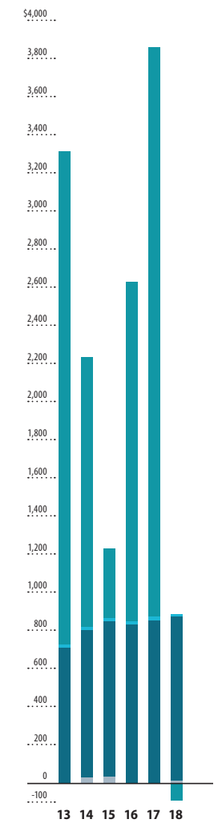
Up to 4% annually on original retirement benefit.

Contribution Rates *(as of 12-31-2018)*

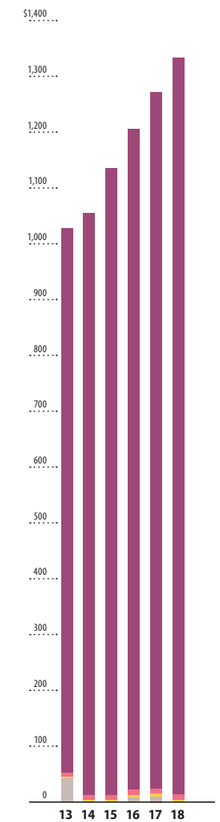
Employer rate for the State and School Division (Level A) is 22.19% of covered salary and 18.47% for the Local Government Division (Level B).

For more detail see Summary of Plan Provisions on page 178.

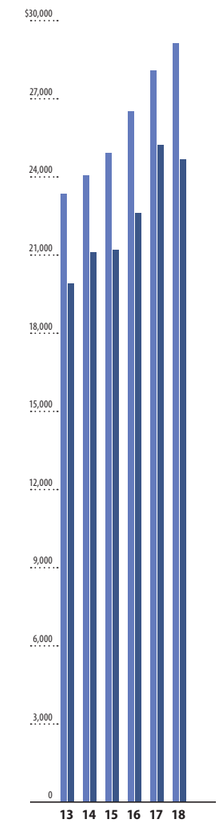
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(in millions)



		2013	2014	2015	2016	2017	2018
Additions by Source *(in millions)*	Investment income (loss)	$ 2,589.0	1,419.1	366.7	1,783.9	2,987.3	(92.2)
	Member contributions	14.2	13.6	17.0	16.3	17.3	14.6
	Employer contributions	710.9	772.4	813.5	831.6	854.3	858.4
	Transfers from systems	—	30.5	33.7	—	—	13.0
	Totals	$ 3,314.1	2,235.6	1,230.9	2,631.8	3,858.9	793.8
Deductions by Type *(in millions)*	Benefit payments	$ 974.7	1,043.8	1,123.6	1,184.3	1,248.0	1,320.2
	Administrative expense	8.3	8.8	8.8	8.9	9.6	10.0
	Refunds	2.5	2.2	2.5	4.4	4.6	2.8
	Transfers to systems	42.3	—	—	8.0	10.2	—
	Totals	$ 1,027.8	1,054.8	1,134.9	1,205.6	1,272.4	1,333.0
Schedule of Employers Net Pension Liability *(in millions)*	Total pension liability	$ 23,344.3	24,043.3	24,899.5	26,501.8	28,088.6	29,122.9
	Statement of plan net position	19,915.8	21,096.5	21,192.4	22,618.7	25,205.1	24,666.1
	Net pension liability	$ 3,428.5	2,946.8	3,707.1	3,883.1	2,883.5	4,456.8

Pictured: Carmen Thompson, Registered Nurse, Davis County Health Department

Utah Retirement Systems

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.

Composite Picture

Total Membership 5,622
Active. 519
Terminated vested. 1,186
Retired. 3,917

2018 Active Members. 519
Average age 57.1
Average years of service 30.2
Average annual salary. $64,824

2018 Retirees 110
Average age 62.4
Average years of service 31.8
Final average annual salary $55,750
Average annual benefit $32,915

Average annual benefit
— all retirees $21,028

Contributory Retirement System Highlights *(Concluded)*

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.

**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

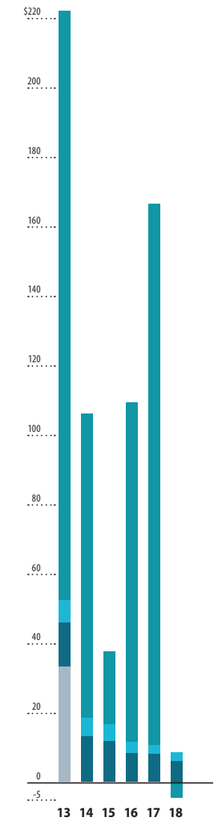
Up to 4% annually on original retirement benefit.

Contribution Rates *(as of 12-31-2018)*

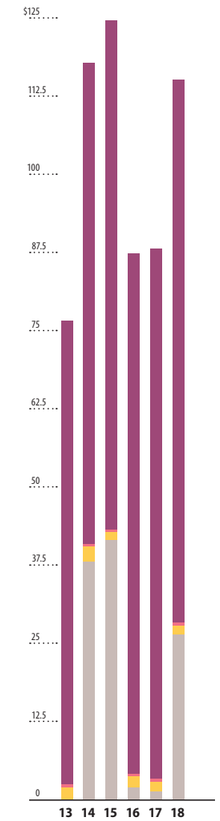
Member rate is 6.00% of covered salary. Employer rate for State and School Division (Level A) is 17.70% of covered salary and 14.46% for the Local Government Division (Level B).

For more detail see Summary of Plan Provisions on page 179.

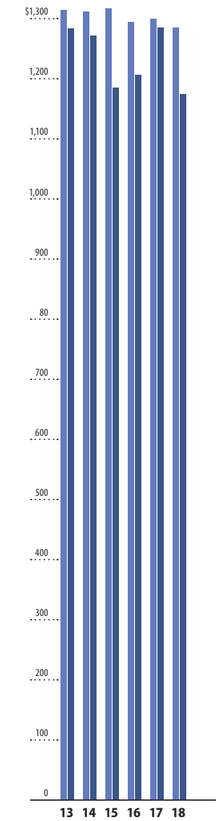
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(in millions)



			2013	2014	2015	2016	2017	2018
Additions by Source *(in millions)*	Investment income (loss)	$	169.5	87.6	21.2	97.7	155.9	(4.5)
	Member contributions		6.4	5.4	4.8	3.4	2.7	2.5
	Employer contributions		12.9	13.0	11.7	8.2	7.9	6.0
	Transfers from systems		33.1	—	—	—	—	—
	Totals	$	221.9	106.0	37.7	109.3	166.5	4.0
Deductions by Type *(in millions)*	Benefit payments	$	74.2	77.0	81.4	83.4	84.8	86.8
	Administrative expense		0.5	0.5	0.5	0.4	0.5	0.5
	Refunds		1.9	2.4	1.2	1.7	1.6	1.5
	Transfers to systems		—	38.0	41.5	1.9	1.2	26.3
	Totals	$	76.6	117.9	124.6	87.4	88.1	115.1
Schedule of Employers Net Pension Liability *(in millions)*	Total pension liability	$	1,312.9	1,309.8	1,316.0	1,292.5	1,298.2	1,284.0
	Statement of plan net position		1,281.9	1,270.0	1,183.1	1,204.9	1,283.5	1,172.4
	Net pension liability	$	31.0	39.8	132.9	87.6	14.7	111.6

Pictured: Dusty Bills, Airfield Roads and Grounds Manager, Salt Lake City Airport

Utah Retirement Systems

Public Safety

Retirement System Highlights

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

Composite Picture

Total Membership 16,193
Active. 5,305
Terminated vested. 4,921
Retired. 5,967

2018 Active Members. 5,305
Average age 42.8
Average years of service 16.4
Average annual salary. $62,721

2018 Retirees 372
Average age 52.2
Average years of service 22.4
Final average annual salary $65,895
Average annual benefit $35,358

Average annual benefit
— all retirees $30,193

Public Safety Retirement System Highlights *(Concluded)*

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

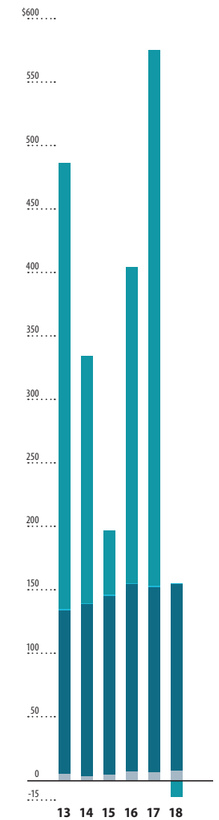
Contribution Rates *(as of 12-31-2018)*

Noncontributory
Employer rates range from 32.28% to 50.38% of covered salary.

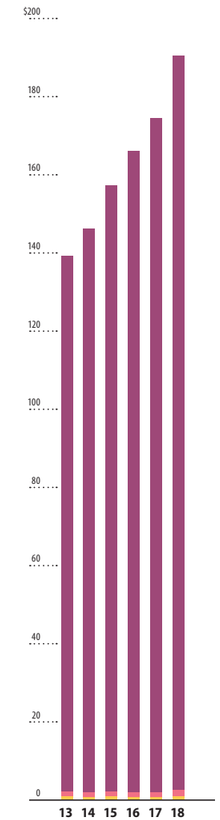
Contributory
Member rates range from 10.50% to 12.29% of covered salary. Employer rates range from 22.79% to 28.98% of covered salary.

For more detail see Summary of Plan Provisions on page 180.

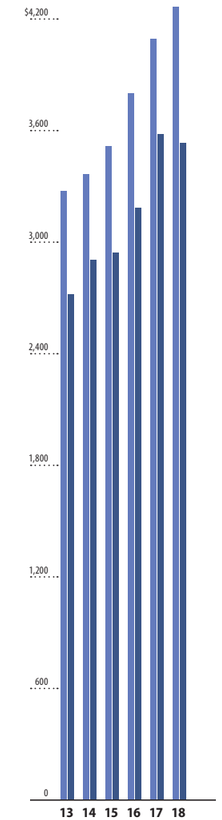
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(in millions)



			2013	2014	2015	2016	2017	2018
Additions by Source *(in millions)*	Investment income (loss)	$	350.6	194.2	50.7	249.0	421.9	(13.1)
	Member contributions		1.3	0.8	0.9	0.8	0.8	0.9
	Employer contributions		128.7	135.6	141.0	147.1	145.8	147.1
	Transfers from systems		4.7	2.7	4.0	6.7	5.9	7.0
	Totals	$	485.3	333.3	196.6	403.6	574.4	141.9
Deductions by Type *(in millions)*	Benefit payments	$	137.5	144.8	155.4	164.5	172.9	188.4
	Administrative expense		1.2	1.2	1.2	1.3	1.4	1.5
	Refunds		0.5	0.2	0.5	0.2	0.2	0.4
	Totals	$	139.2	146.2	157.1	166.0	174.5	190.3
Schedule of Employers Net Pension Liability *(in millions)*	Total pension liability	$	3,269.1	3,360.0	3,511.2	3,794.9	4,085.2	4,258.2
	Statement of plan net position		2,712.2	2,899.4	2,938.8	3,176.5	3,576.5	3,528.1
	Net pension liability	$	556.9	460.6	572.4	618.4	508.7	730.1

Pictured: Lieutenant Alex Davis, Layton City Police Department

Utah Retirement Systems

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.

Composite Picture

Total Membership 3,444
Active..... 1,540
Terminated vested..... 440
Retired..... 1,464

2018 Active Members..... 1,540
Average age 43.2
Average years of service 16.4
Average annual salary.....$71,914

2018 Retirees..... 61
Average age 53.6
Average years of service 23.2
Final average annual salary $77,913
Average annual benefit $43,976

Average annual benefit
— all retirees.....$37,777

Firefighters Retirement System Highlights *(Concluded)*

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

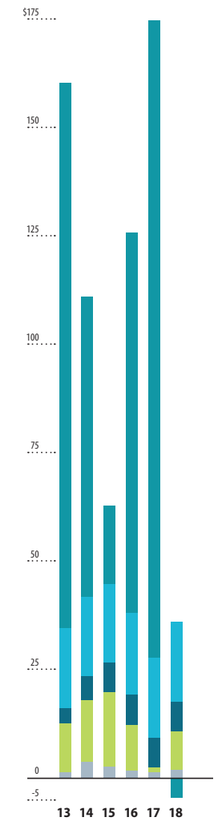
Up to 4% (depending on employer) on original retirement benefit.

Contribution Rates *(as of 12-31-2018)*

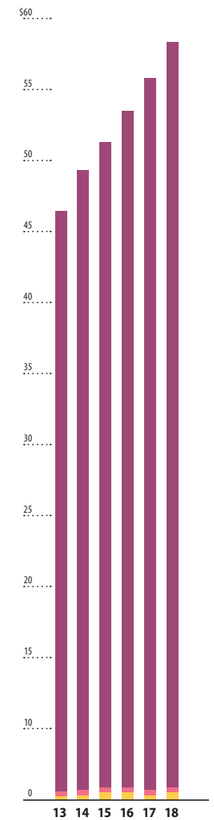
Member rate for Division A (with Social Security) is 15.05% of covered salary and for Division B (without Social Security) is 16.71% of covered salary. Employer rate for Division A is 4.61% of covered salary and 7.24% for Division B.

For more detail see Summary of Plan Provisions on page 182.

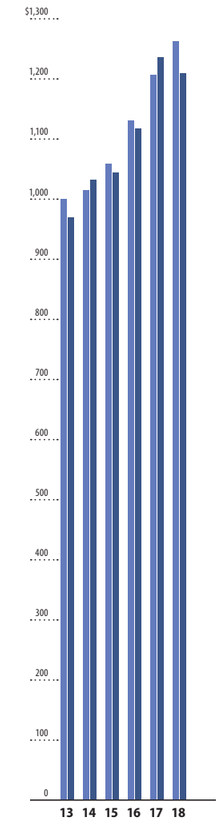
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(in millions)



			2013	2014	2015	2016	2017	2018
Additions by Source *(in millions)*	Investment income (loss)	$	125.7	69.1	17.9	87.7	146.7	(4.5)
	Member contributions		18.3	18.3	18.2	18.7	18.5	18.3
	Employer contributions		3.5	5.5	6.7	7.0	6.7	7.0
	Fire insurance tax		11.3	14.2	17.2	10.6	1.2	8.7
	Transfers from systems		1.3	3.7	2.6	1.6	1.3	1.9
	Totals	$	160.1	110.8	62.6	125.6	174.4	31.4
Deductions by Type *(in millions)*	Benefit payments	$	44.7	47.7	49.7	52.1	54.8	57.4
	Administrative expense		0.4	0.4	0.4	0.4	0.4	0.4
	Refunds		0.1	0.2	0.5	0.4	0.2	0.4
	Totals	$	45.2	48.3	50.6	52.9	55.4	58.2
Schedule of Employers Net Pension Liability *(in millions)*	Total pension liability	$	999.0	1,014.3	1,058.2	1,129.7	1,205.7	1,261.3
	Statement of plan net position		968.7	1,031.0	1,043.0	1,115.7	1,234.4	1,207.9
	Net pension liability/(asset)	$	30.3	(16.7)	15.2	14.0	(28.7)	53.4

Pictured: Bob Fitzgerald, Battalion Chief, West Valley City Fire Department

Utah Retirement Systems

Judges

Retirement System Highlights

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

Composite Picture

Total Membership 279
Active 116
Terminated vested 8
Retired 155

2018 Active Members 116
Average age 53.8
Average years of service 14.5
Average annual salary $166,280

2018 Retirees 10
Average age 66.3
Average years of service 34.0
Final average annual salary $159,652
Average annual benefit $128,017

Average annual benefit
— all retirees $92,753

Judges Retirement System Highlights *(Concluded)*

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

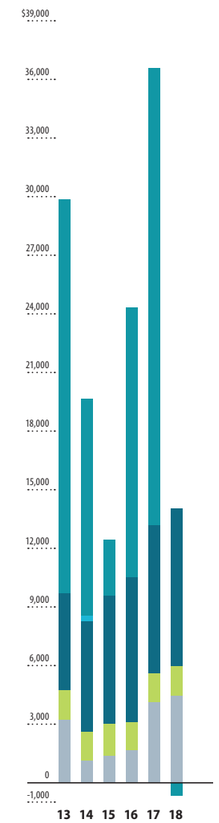
Up to 4% compounded annually.

Contribution Rates *(as of 12-31-2018)*

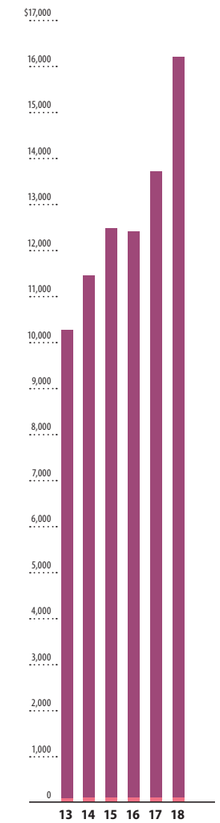
Employer rate is 43.68% of covered salary.

For more detail see Summary of Plan Provisions on page 184.

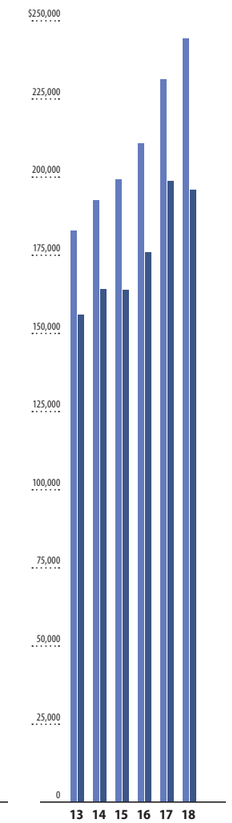
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(in thousands)



		2013	2014	2015	2016	2017	2018
Additions by Source *(in thousands)*	Investment income (loss)	$ 20,130	11,068	2,842	13,820	23,435	(730)
	Member contributions	—	317	—	—	—	—
	Employer contributions	4,990	5,627	6,555	7,382	7,563	8,091
	Court fees	1,498	1,486	1,653	1,470	1,477	1,518
	Transfers from systems	3,186	1,092	1,334	1,600	4,090	4,403
	Totals	$ 29,804	19,590	12,384	24,272	36,565	13,282
Deductions by Type *(in thousands)*	Benefit payments	$ 10,189	11,361	12,400	12,330	13,621	16,111
	Administrative expense	66	71	71	71	79	84
	Totals	$ 10,255	11,432	12,471	12,401	13,700	16,195
Schedule of Employers Net Pension Liability *(in thousands)*	Total pension liability	$ 182,638	192,285	198,986	210,623	231,069	244,209
	Statement of plan net position	155,676	163,834	163,747	175,618	198,483	195,570
	Net pension liability	$ 26,962	28,451	35,239	35,005	32,586	48,639

Pictured: Justice Paige Petersen, Utah Supreme Court

Utah Retirement Systems

Utah Governors and Legislators

Retirement Plan Highlights

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

Composite Picture

Total Membership **387**
Active 52
Terminated vested 85
Retired 250

2018 Active Members **52**
Average age 57.0
Average years of service 13.6
Average annual salary ..... N/A

2018 Retirees **7**
Average age 68.6
Average years of service 10.8
Final average annual salary ..... N/A
Average annual benefit $4,048

Average annual benefit
— all retirees $3,860

Utah Governors and Legislators Retirement Plan Highlights *(Concluded)*

Service Retirement for Governors

Age	Service	Allowance Reduction
65	1 Term	None
62	10 yrs	3% each year before age 65

Service Retirement for Legislators

Age	Years of Service	Allowance 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 Consumer Price Index. The amount as of 12-31-18 is $1,400.*

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

***Increased semi annually up to 2% based on the Consumer Price Index. The amount as of 12-31-18 is $30.40.*

Cost-of-Living Allowance

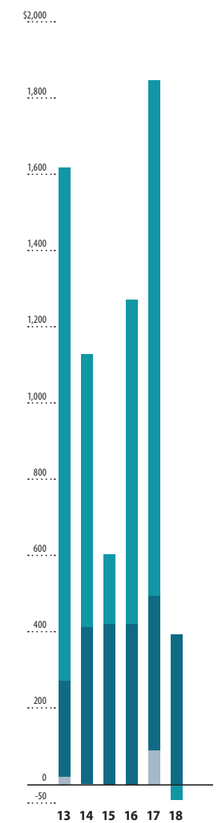
Up to 4% annually on original retirement benefit.

Contribution Rates *(as of 12-31-2018)*

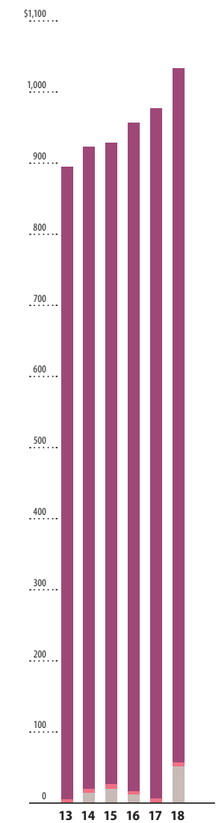
There was a 2018-19 appropriation payable by June 30, 2019, to the Utah Governors and Legislators Retirement Plan of $384,103.

For more detail see Summary of Plan Provisions on page 185.

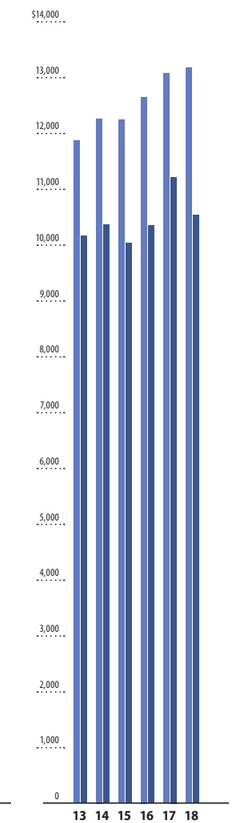
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(in thousands)



			2013	2014	2015	2016	2017	2018
Additions by Source *(in thousands)*	Investment income (loss)	$	1,346	717	181	849	1,353	(41)
	Employer contributions		252	411	421	421	404	392
	Transfers from systems		19	—	—	—	89	—
	Totals	$	1,617	1,128	602	1,270	1,846	351
Deductions by Type *(in thousands)*	Benefit payments	$	892	909	904	941	973	978
	Administrative expense		4	5	5	4	5	5
	Transfers to systems		—	14	20	12	—	51
	Totals	$	896	928	929	957	978	1,034
Schedule of Employers Net Pension Liability *(in thousands)*	Total pension liability	$	11,879	12,267	12,247	12,654	13,074	13,177
	Statement of plan net position		10,166	10,366	10,039	10,352	11,220	10,537
	Net pension liability	$	1,713	1,901	2,208	2,302	1,854	2,640

Pictured: Senator Wayne A. Harper, District 6, Salt Lake County

Utah Retirement Systems

Tier 2 Public Employees

Contributory Retirement System Highlights

The Tier 2 Public Employees 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.

Composite Picture

Total Membership 32,326
Active..... 30,291
Terminated vested..... 1,971
Retired.....64

2018 Active Members.....30,291
Average age 36.0
Average years of service 2.9
Average annual salary.....$41,840

2018 Retirees.....38
Average age 67.6
Average years of service 5.4
Final average annual salary $33,954
Average annual benefit $2,875

Average annual benefit
— all retirees..... $2,505

Tier 2 Public Employees Contributory Retirement System Highlights *(Concluded)*

Service Retirement

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

Service Benefit Formula

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

**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 2.5% annually on original retirement benefit.

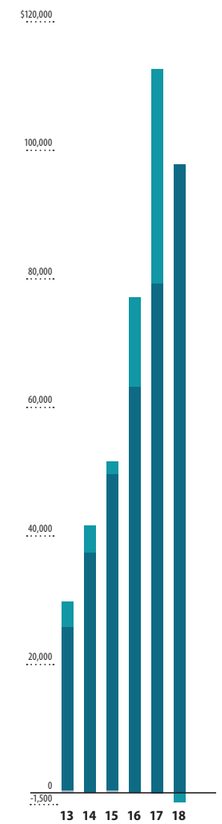
Contribution Rates *(as of 12-31-2018)*

Employer rate range from 15.54% to 18.87% of covered salary.

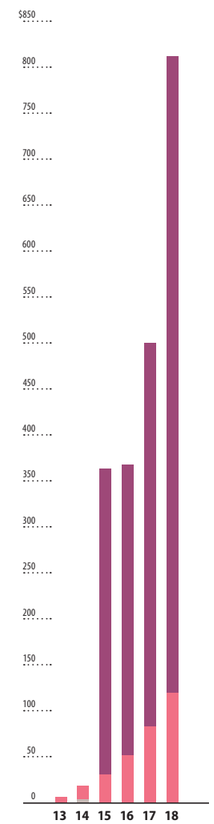
(Includes active member death benefit and Tier 1 amortization rate.)

For more detail see Summary of Plan Provisions on page 186.

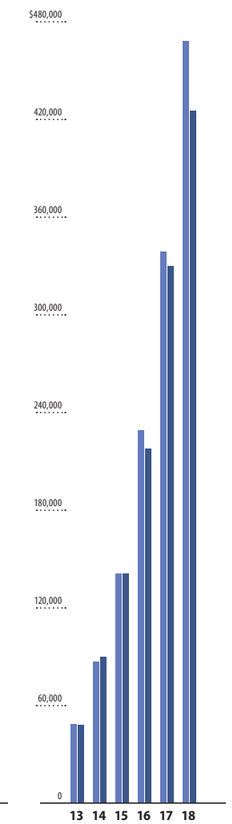
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(in thousands)



			2013	2014	2015	2016	2017	2018
Additions by Source *(in thousands)*	Investment income (loss)	$	4,017	4,320	1,963	14,059	33,249	(1,454)
	Employer contributions		25,743	37,299	49,645	63,062	79,175	97,680
	Transfers from systems		3	—	3	—	—	—
	Totals	$	29,763	41,619	51,611	77,121	112,424	96,226
Deductions by Type *(in thousands)*	Benefit payments	$	—	—	333	316	417	692
	Administrative expense		6	16	30	51	82	119
	Transfers to systems		—	2	—	—	—	—
	Totals	$	6	18	363	367	499	811
Schedule of Employers Net Pension Liability *(in thousands)*	Total pension liability	$	48,292	86,261	140,321	228,450	338,035	467,461
	Statement of plan net position		47,690	89,291	140,539	217,293	329,218	424,633
	Net pension liability/(asset)	$	602	(3,030)	(218)	11,157	8,817	42,828

Pictured: Jenessa Carvajal, Teacher, Freedom Elementary, Highland, Utah

Utah Retirement Systems

Tier 2 Public Safety and 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 or directly involved in fire fighting and whose duties are classified as hazardous.

Composite Picture

Total Membership 3,431
Active..... 3,301
Terminated vested..... 130
Retired..... —

2018 Active Members..... 3,301
Average age 29.5
Average years of service 3.0
Average annual salary.....$44,030

2018 Retirees ..... —
Average age ..... —
Average years of service ..... —
Final average annual salary ..... —
Average annual benefit ..... —

Average annual benefit
— all retirees..... —

Tier 2 Public Safety and Firefighter Contributory Retirement System Highlights *(Concluded)*

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.*

**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 2.5% annually on original retirement benefit.

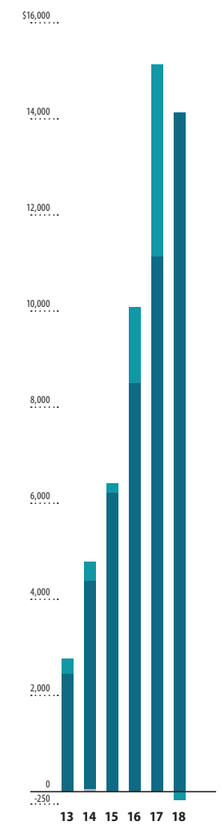
Contribution Rates *(as of 12-31-2018)*

Employer rate range from 11.34% to 38.23% of covered salary.

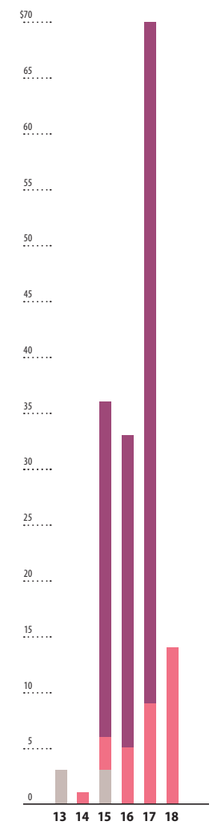
(Includes active member death benefit and Tier 1 amortization rate.)

For more detail see Summary of Plan Provisions on page 188.

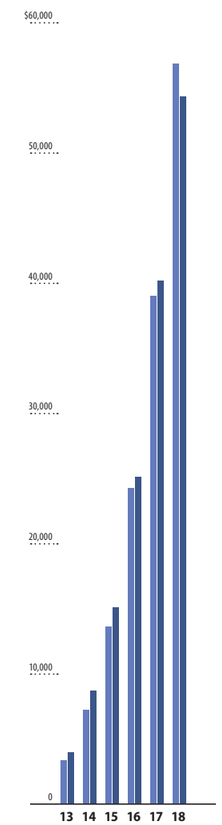
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(in thousands)



			2013	2014	2015	2016	2017	2018
Additions by Source *(in thousands)*	Investment income (loss)	$	316	404	199	1,591	3,989	(180)
	Employer contributions		2,451	4,365	6,221	8,488	11,126	14,295
	Transfers from systems		—	2	—	—	—	—
	Totals	$	2,767	4,771	6,420	10,079	15,115	14,115
Deductions by Type *(in thousands)*	Benefit payments	$	—	—	30	28	61	—
	Administrative expense		—	1	3	5	9	14
	Transfers to systems		3	—	3	—	—	—
	Totals	$	3	1	36	33	70	14
Schedule of Employers Net Pension Liability *(in thousands)*	Total pension liability	$	3,345	7,226	13,628	24,266	39,023	56,841
	Statement of plan net position		3,935	8,705	15,089	25,135	40,180	54,336
	Net pension liability/(asset)	$	(590)	(1,479)	(1,461)	(869)	(1,157)	2,505

Pictured Left: Celeste Carter, Firefighter, Lehi City Fire Department; Right: Nicole Jacobson, Police Officer, Bountiful Police Department

Defined Contribution Savings Plans

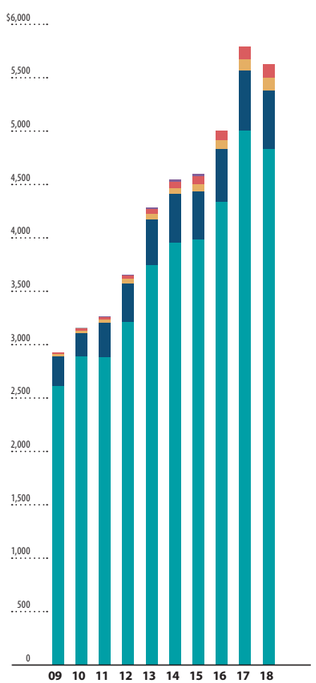
The purpose of the Savings Plans (401(k), 457, Roth and Traditional IRAs) is to allow public employees throughout Utah to adequately prepare themselves for retirement by investing a portion of their income in one or more of these retirement plans.

MEMBER INFORMATION

at December 31, 2018

	401(k)	457	Roth IRA	Traditional IRA
Number of active employees eligible to participate	107,226	103,336	228,207	228,207
Employee contributions (excluding employer contributions):				
Number of employees contributing	40,083	8,475	8,775	614
Percent of eligible employees contributing	37.4%	8.2%	3.8%	0.3%
Average % of salary deferred by employees	5.6%	6.2%	N/A	N/A
Total participants	178,010	18,336	12,232	2,383
Average participant account balance	$ 27,156	$ 29,677	$ 10,774	$ 50,317

Savings Plans Member Balances
(in millions)



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, 2018, the number of participants by savings plan was as shown in the table above.

Annualized rates of returns for the Investment Funds are shown on pages 149 and150.

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
- No sales commissions
- Low investment and administrative fees
- Plan loans (401(k) and 457)
- Hardship and emergency withdrawals
- Local customer service and counseling.

SAVINGS PLANS MEMBER BALANCES

at December 31, 2018

(in millions)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HRA*	$ 3	6	9	11	16	20	23	—	—	—
Roth IRA	12	21	24	34	48	59	70	89	119	132
Traditional IRA	22	26	30	39	50	60	69	82	102	120
457	284	317	321	360	425	451	454	494	569	544
401(k)	2,608	2,887	2,881	3,213	3,746	3,956	3,980	4,339	5,003	4,834
Totals	$ 2,929	3,257	3,265	3,657	4,285	4,546	4,596	5,004	5,793	5,630

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

Financial Section

Utah Retirement Systems 2018 Comprehensive Annual Financial Report

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Independent Auditor's Report

INDEPENDENT AUDITORS' REPORT

To the Board of Directors
Utah State Retirement Board
Salt Lake City, Utah

REPORT ON THE FINANCIAL STATEMENTS

We have audited the accompanying financial statements of each 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, 2018, and the related statements of changes in fiduciary net position of the pension plan (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 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 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 from material misstatement.

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the pension (and other employee benefit) trust funds of each of the defined benefit pension plans and of the total combined defined contribution plans of Utah State Retirement Systems, a component unit of the State of Utah, administered by the Utah State Retirement Board, at December 31, 2018, 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 $13.7 billion (35.3% of total assets) at December 31, 2018. 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.

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, employers' net pension liability, employer contributions, and investment returns, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquires of management about the methods or preparing the information and comparing the information for consistency with management's responses to our inquires, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise 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 basic financial statements. The supplementary financial supporting schedules of individual retirement systems' schedules by division and schedules of administrative and investment expenses as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

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

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

Report on Summarized Comparative Information

The financial statements include summarized prior-year comparative information. The financial statements of Utah Retirement Systems' as of December 31, 2017, were audited by other auditors, whose report dated April 26, 2018, expressed an unmodified opinion on those statements. The summarized comparative information presented herein as of and for the year ended December 31, 2017, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated April 30, 2019 on our consideration of the Utah Retirement Systems' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Utah Retirement Systems' internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Utah Retirement Systems' internal control over financial reporting and compliance.

Eide Bailly LLP

Salt Lake City, Utah
April 30, 2019

EideBailly

CPAs & BUSINESS ADVISORS

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*

To the Utah State Retirement Board
Utah State Retirement Systems
Salt Lake City, Utah

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 each of the defined benefit 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 (and other employee benefit) trust funds as of December 31, 2018 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 State Retirement Systems' basic financial statements, and have issued our report thereon dated April 30, 2019, which included in emphasis-of-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 circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Utah Retirement Systems' internal control. Accordingly, we do not express an opinion on the effectiveness of the 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 a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

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

Compliance and Other Matters

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

Purpose of this Report

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

Eide Bailly LLP

Salt Lake City, Utah
April 30, 2019

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Utah Retirement Systems

Management's Discussion and Analysis

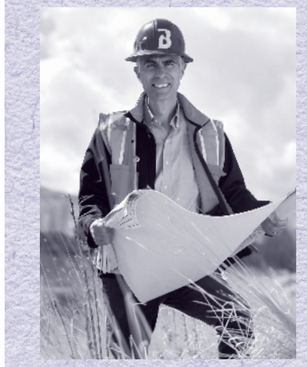
Introduction

This section presents management's discussion and analysis of the Utah Retirement Systems' (URS) financial position and performance for the year ended December 31, 2018. 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 four 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 four defined contribution plans (Plans) are the 401(k), 457, and Roth and Traditional IRAs. 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 decreased by $619.1 million, or 1.9% during calendar year 2018. The decrease was primarily due to the decrease in the markets.
- The URS Defined Benefit Pension Systems' rate of return on investments during calendar year 2018 was negative 0.22% compared with the calendar year 2017 rate of return of 13.57%. The decrease in rate of return was due primarily to the decrease in market performance in 2018.



- The URS Defined Benefit Pension Systems had a Net Pension Liability of $5.4 billion and the Net Pension Liability as a percentage of covered payroll was 105.9 % as of December 31, 2018.
- The Defined Contribution Plans' combined total net position decreased $164.1 million during calendar year 2018 primarily due to investment losses.
- The Defined Contribution Plans' rates of return for investment options ranged from a high of 2.2% to a low of negative 14.5% compared to prior year investment option returns of a high of 33.2% and a low of 1.7%.

Overview of the Financial Statements

The URS 2018 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, and
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, 2018. 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, 2018, 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 12 pension (and other employee benefit) trust funds that consist of eight defined benefit systems and four defined contribution plans.

- The Statements of Fiduciary Net Position are presented for the pension trust funds at December 31, 2018, with combined total comparative information at December 31, 2017. 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, 2018, with combined total comparative information for the year ended December 31, 2017. These financial statements reflect the changes in the resources available to pay benefits to members, including retirees and beneficiaries, for calendar years 2018 and 2017.

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:

- 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.

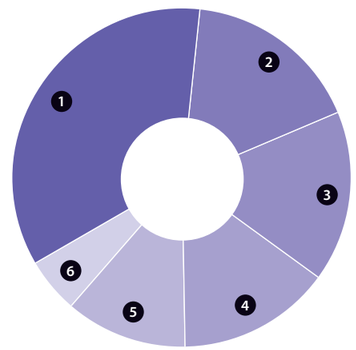
3) Required Supplementary Information

The required supplementary information consists of four schedules of changes in employers' net pension liability, employers' net pension liability, employer contributions, and the money-weighted 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 and investment expenses.

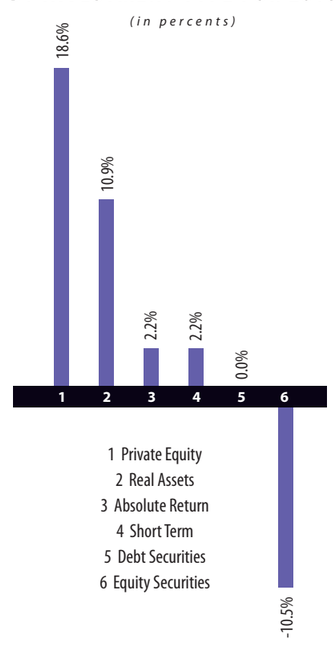
DEFINED BENEFIT SYSTEMS INVESTMENTS AT FAIR VALUE



1-Equity Securities (35.1%)
2-Debt Securities (16.9%)
3-Real Assets (16.6%)
4-Absolute Return (14.6%)
5-Private Equity (11.7%)
6-Short Term (5.1%)

DEFINED BENEFIT SYSTEMS INVESTMENT RATES OF RETURN BY INVESTMENT TYPE FOR 2018

(in percents)



Financial Analysis of the Systems — Defined Benefit Plan

Investments

Investments of the URS Defined Benefit Systems are combined in a co-mingled 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, 2018, URS Defined Benefit Systems had total net position of $31.3 billion, a decrease of $619.1 million from calendar year 2017 investment totals. The combined investment portfolio experienced a return of negative 0.22% compared with the URS investment benchmark return of negative 2.08%. Investment results over time compared with URS benchmarks are presented on page 144 in the Investment Section.

Because the investment gain in all of the retirement systems was a negative 0.22% of net position, further investment performance will not be evaluated in each respective system.

Equity Securities

As of December 31, 2018, URS Defined Benefit Systems held $11.0 billion in U.S. and international equity securities, a decrease of $1.1 billion from year 2017. Equity securities had a return of negative 10.45% for calendar year 2018 compared with the URS benchmark return of negative 10.09%.

Debt Securities

As of December 31, 2018, URS Defined Benefit Systems held $5.3 billion in U.S. debt and international debt securities, an increase of $755.9 million from year 2017. Debt securities returned a negative 0.01% in calendar year 2018 compared with the URS benchmark return of 0.02%.

Real Assets

As of December 31, 2018, URS Defined Benefit Systems held $5.2 billion in real assets investments, an increase of $461.7 million from year 2017. Real assets investments returned 10.94% in calendar year 2018 compared with the URS benchmark return of 6.77%.

Private Equity

As of December 31, 2018, URS Defined Benefit Systems held $3.7 billion in private equity investments, an increase of $210.5 million from year 2017. Private equity investments returned 18.63% in calendar year 2018. The URS benchmark for private equity investments was a negative 2.58%.

Short Term

As of December 31, 2018, URS Defined Benefit Systems held $1.6 billion in short-term investments, a decrease of $1.2 billion from year 2017. Short-term investments returned 2.24% in calendar year 2018 compared with the URS benchmark return of 1.87%.

Absolute Return

As of December 31, 2018, URS Defined Benefit Systems held $4.6 billion in absolute return investments, an increase of $139.2 million from year 2017. Absolute return investments returned 2.24% in calendar year 2018 compared with the URS benchmark return of 6.87%.

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, 2018, the Systems had $1.0 billion on loan secured by collateral of $1.1 billion. For calendar year 2018, net securities lending income to the Systems amounted to $6.0 million, an increase of $7.1 million over calendar year 2017. Security lending income increased due to higher demand for securities lent compared to 2017.

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, 2018, totaled $24.7 billion, a decrease of $539.1 million (2.1%) from $25.2 billion as of December 31, 2017. Additions to the Noncontributory System net position include employer contributions, investment income, and transfers. For the calendar year 2018, member and employer contributions increased from $871.5 million for calendar year 2017 to $873.0 million, an increase of $1.5 million (0.2%). Contributions increased because salaries increased. The system recognized a net investment loss of $92.2 million for calendar year 2018 compared with net investment gain of $3.0 billion for calendar year 2017. The decrease in investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

Deductions from the Noncontributory System net position include retirement benefits, administrative expenses, and transfers. For the calendar year 2018, benefits amounted to $1.3 billion, an increase of $70.3 million (5.6%) over calendar year 2017. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases.

For the calendar year 2018, the costs of administering the system totaled $10.0 million, an increase of $383 thousand (4.0%) from calendar year 2017.

At December 31, 2018, the Noncontributory Retirement System total pension liability was $29.12 billion. The Plan's fiduciary net position was $24.67 billion leaving a net pension liability of $4.45 billion. The Plan fiduciary net position as a percentage of the total pension liability was 84.7%.

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, 2018, totaled $1.2 billion, a decrease of $111.0 million (8.7%) from $1.3 billion as of December 31, 2017.

Additions to the Contributory System net position include employer and member contributions, investment income, and transfers. For calendar year 2018, member and employer contributions decreased from $10.6 million for calendar year 2017 to $8.5 million, a decrease of $2.1 million (20.1%). Contributions decreased because of the number of active members decreased. 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 loss of $4.5 million for calendar year 2018 compared with net investment gain of $155.9 million for the calendar year 2017. The decrease in investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

Deductions from the Contributory System net position include retirement benefits, administrative expenses, and transfers. For calendar year 2018, benefits amounted to $86.8 million, an increase of $1.9 million (2.2%) from calendar year 2017. The increase in benefit payments was due to the increase in the number of retired members in the system. For calendar year 2018, the costs of administering the system totaled $454 thousand, a decrease of $3 thousand (0.7%) from calendar year 2017.

At December 31, 2018, the Contributory Retirement System total pension liability was $1.28 billion. The Plan's fiduciary net position was $1.17 billion leaving a net pension liability of $111.6 million. The Plan fiduciary net position as a percentage of the total pension liability was 91.3%.

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, 2018, amounted to $3.5 billion, a decrease of $48.4 million (1.4%) from $3.6 billion as of December 31, 2017.

Additions to the Public Safety System net position include employer contributions, investment income, and transfers. For calendar year 2018, member and employer contributions increased from $146.6 million for calendar year 2017 to $148.0 million, an increase of $1.4 million (0.9%). Contributions increased because the total covered payroll increased. The system recognized a net investment loss of $13.1 million for calendar year 2018 compared with net investment gain of $421.9 million for calendar year 2017. The decrease in the investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

Deductions from the Public Safety System net position include retirement benefits and administrative expenses. For calendar year 2018, benefits amounted to $188.4 million, an increase of $15.7 million (9.1%) over calendar year 2017. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For calendar year 2018, the costs of administering the system totaled $1.5 million, an increase of $68 thousand (4.9%) from calendar year 2017.

At December 31, 2018, the Public Safety Retirement System total pension liability was $4.26 billion. The Plan's fiduciary net position was $3.53 billion leaving a net pension liability of $730.2 million. The Plan fiduciary net position as a percentage of the total pension liability was 82.9%.

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, 2018, totaled $1.2 billion, a decrease of $26.5 million (2.1%) from $1.2 billion as of December 31, 2017.

Additions to the Firefighters System net position consist of employer contributions, including insurance premium taxes, investment income, and transfers. For calendar year 2018, member and employer contributions increased from $26.4 million for calendar year 2017 to $34.1 million, an increase of $7.7 million (29.1%). Contributions increased because insurance premium taxes increased from $1.2 million in 2017 to $8.7 million (615%) in calendar year 2018 due the Utah State Legislature appropriation from the General Fund. Contributions also increased because the actuarial determined contribution rate increased.

Deductions from the Firefighters System net position include retirement benefits and administrative expenses. For calendar year 2018, benefits amounted to $57.4 million, an increase of $2.3 million (4.1%) over calendar year 2017. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For calendar year 2018, the costs of administering the system totaled $427 thousand, an increase of $19 thousand (4.7%) from calendar year 2017.

At December 31, 2018, the Firefighters Retirement System total pension liability was $1.26 billion. The Plan's fiduciary net position was $1.21 billion leaving a net pension liability of $53.4 million. The Plan fiduciary net position as a percentage of the total pension liability was 95.8%.

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, 2018, totaled $195.6 million, a decrease of $2.9 million (1.5%) from $198.5 million as of December 31, 2017.

Additions to the Judges System net position consist of employer contributions, including court fees, investment income, and transfers. For calendar year 2018, employer contributions increased from $9.0 million for calendar year 2017 to $9.6 million, an increase of $569 thousand (6.3%). Contributions increased because court fees increased. The system recognized a net investment loss of $730 thousand for the calendar year 2018 compared with net investment gain of $23.4 million for calendar year 2017. The decrease in investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

STATEMENTS OF FIDUCIARY NET POSITION — DEFINED BENEFIT PENSION PLANS

December 31

(dollars in thousands)

	Noncontributory System			Contributory System			Public Safety System			Firefighters System			Judges System			Utah Governors and Legislators Retirement Plan		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Assets:																		
Cash and receivables	$ 525,604	582,456	394,604	23,343	27,814	19,301	74,354	82,840	55,097	25,340	29,792	19,654	4,250	4,613	3,172	208	240	163
Investments at fair value	24,760,259	25,403,896	22,995,043	1,178,582	1,295,483	1,226,675	3,542,367	3,604,502	3,229,586	1,212,906	1,242,827	1,134,044	196,230	200,022	178,422	10,594	11,328	10,541
Invested securities lending collateral	834,951	1,058,631	554,319	39,744	53,985	29,570	119,453	150,205	77,853	40,901	51,791	27,337	6,617	8,335	4,301	357	472	254
Property and equipment	3,689	3,472	3,875	176	177	207	528	492	544	180	170	191	29	27	30	2	2	2
Total assets	26,124,503	27,048,455	23,947,841	1,241,845	1,377,459	1,275,753	3,736,702	3,838,039	3,363,080	1,279,327	1,324,580	1,181,226	207,126	212,997	185,925	11,161	12,042	10,960
Liabilities:																		
Securities lending liability	834,951	1,058,631	554,319	39,744	53,985	29,570	119,453	150,205	77,853	40,901	51,791	27,337	6,617	8,335	4,301	357	472	254
Investment accounts and other payables	623,493	784,697	774,779	29,672	40,008	41,279	89,180	111,317	108,682	30,537	38,382	38,163	4,939	6,179	6,006	267	350	354
Total liabilities	1,458,444	1,843,328	1,329,098	69,416	93,993	70,849	208,633	261,522	186,535	71,438	90,173	65,500	11,556	14,514	10,307	624	822	608
Net position restricted for pensions	$ 24,666,059	25,205,127	22,618,743	1,172,429	1,283,466	1,204,904	3,528,069	3,576,517	3,176,545	1,207,889	1,234,407	1,115,726	195,570	198,483	175,618	10,537	11,220	10,352

(dollars in thousands)

	Tier 2 Public Employees System			Tier 2 Public Safety and Firefighter System			Total Defined Benefit Pension Plans			2018 Percent Change	2017 Percent Change
	2018	2017	2016	2018	2017	2016	2018	2017	2016		
Assets:											
Cash and receivables	$ 13,763	11,918	7,015	1,653	1,361	754	668,515	741,034	499,760	(9.8)%	48.3%
Investments at fair value	421,417	327,365	217,563	54,035	40,050	25,226	31,376,390	32,125,473	29,017,100	(2.3)	10.7
Invested securities lending collateral	14,211	13,642	5,245	1,822	1,669	608	1,058,056	1,338,730	699,487	(21.0)	91.4
Property and equipment	63	45	37	8	5	4	4,675	4,390	4,890	6.5	(10.2)
Total assets	449,454	352,970	229,860	57,518	43,085	26,592	33,107,636	34,209,627	30,221,237	(3.2)	13.2
Liabilities:											
Securities lending liability	14,211	13,642	5,245	1,822	1,669	608	1,058,056	1,338,730	699,487	(21.0)	91.4
Investment accounts and other payables	10,610	10,110	7,322	1,360	1,236	849	790,058	992,279	977,434	(20.4)	1.5
Total liabilities	24,821	23,752	12,567	3,182	2,905	1,457	1,848,114	2,331,009	1,676,921	(20.7)	39.0
Total position restricted for pensions	$ 424,633	329,218	217,293	54,336	40,180	25,135	31,259,522	31,878,618	28,544,316	(1.9)%	11.7%

Deductions from the Judges System net position held in trust for benefits include retirement benefits and administrative expenses. For calendar year 2018, benefits amounted to $16.1 million, an increase of $2.5 million (18.3%) over calendar year 2017. The increase in benefit payments was due to an increase in the current year retirees. For calendar year 2018, the costs of administering the system totaled $84 thousand, an increase of 6.3% over the preceding year.

At December 31, 2018, the Judges System total pension liability was $244.2 million. The Plan's fiduciary net position was $195.6 million leaving a net pension liability of $48.7 million. The Plan fiduciary net position as a percentage of the total pension liability was 80.1%.

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, 2018, totaled $10.5 million, a decrease of $683 thousand (6.1%) from $11.2 million as of December 31, 2017.

Additions to the Governors and Legislators Retirement Plan net position include investment income and transfers. For calendar year 2018 employer contributions amounted to $392 thousand. The Plan recognized a net investment loss of $41 thousand for calendar year 2018 compared with net investment gain of $1.4 million for calendar year 2017. The decrease in investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

Deductions from the Governors and Legislators Retirement Plan net position include retirement benefits and administrative expenses. For calendar year 2018, retirement benefits amounted to $978 thousand, an increase of $5 thousand (0.5%) from calendar year 2017. The increase in benefit payments was due to an increase in the number of benefit recipients. For calendar year 2018, the costs of administering the system totaled $5 thousand, unchanged from the prior year.

At December 31, 2018, the Governors and Legislators Retirement Plan total pension liability was $13.2 million. The Plan's fiduciary net position was $10.5 million leaving a net pension liability of $2.6 million. The Plan fiduciary net position as a percentage of the total pension liability was 80.0%.

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, 2018, totaled $424.6 million, an increase of $95.4 million (29%) from $329.2 million as of December 31, 2017.

Additions to the Tier 2 Public Employees System net position consist of employer contributions, investment income, and transfers. For calendar year 2018, member and employer contributions increased from

Utah Retirement Systems

Management's Discussion and Analysis *(Continued)*

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION — DEFINED BENEFIT PENSION PLANS

Year Ended December 31

(dollars in thousands)

	Noncontributory System			Contributory System			Public Safety System			Firefighters System			Judges System			Utah Governors and Legislators Retirement Plan		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Additions:																		
Contributions	$ 873,046	871,540	847,939	8,482	10,621	11,608	147,996	146,607	147,929	34,073	26,398	36,252	9,609	9,040	8,852	392	404	421
Investment income	(92,207)	2,987,282	1,783,911	(4,513)	155,949	97,693	(13,134)	421,917	249,027	(4,509)	146,736	87,746	(730)	23,435	13,820	(41)	1,353	849
Transfers from affiliated systems	13,035	—	—	—	—	—	6,982	5,926	6,701	1,917	1,259	1,611	4,403	4,090	1,600	—	89	—
Total additions	793,874	3,858,822	2,631,850	3,969	166,570	109,301	141,844	574,450	403,657	31,481	174,393	125,609	13,282	36,565	24,272	351	1,846	1,270
Deductions:																		
Pension benefits	1,320,214	1,248,037	1,184,317	86,795	84,761	83,447	188,414	172,870	164,508	57,440	54,793	52,102	16,111	13,621	12,330	978	973	941
Refunds	2,766	4,635	4,366	1,471	1,613	1,700	428	226	183	132	511	466	—	—	—	—	—	—
Administrative expenses	9,962	9,579	8,856	454	457	446	1,450	1,382	1,260	427	408	374	84	79	71	5	5	4
Transfers to affiliated systems	—	10,187	8,005	26,286	1,177	1,895	—	—	—	—	—	—	—	—	—	51	—	12
Total deductions	1,332,942	1,272,438	1,205,544	115,006	88,008	87,488	190,292	174,478	165,951	57,999	55,712	52,942	16,195	13,700	12,401	1,034	978	957
Increase (decrease) in net position restricted for pensions	$ (539,068)	2,586,384	1,426,306	(111,037)	78,562	21,813	(48,448)	399,972	237,706	(26,518)	118,681	72,667	(2,913)	22,865	11,871	(683)	868	313

(dollars in thousands)

	Tier 2 Public Employees System			Tier 2 Public Safety and Firefighter System			Total Defined Benefit Pension Plans			2018 Percent Change	2017 Percent Change
	2018	2017	2016	2018	2017	2016	2018	2017	2016		
Additions:											
Contributions	$ 97,680	79,175	63,062	14,350	11,126	8,488	1,185,628	1,154,911	1,124,551	2.7%	2.7%
Investment income	(1,454)	33,249	14,059	(180)	3,989	1,591	(116,768)	3,773,910	2,248,696	(103.1)	67.8
Transfers from affiliated systems	—	—	—	—	—	—	26,337	11,364	9,912	131.8	14.6
Total additions	96,226	112,424	77,121	14,170	15,115	10,079	1,095,197	4,940,185	3,383,159	(77.8)	46.0
Deductions:											
Retirement benefits	692	417	316	—	61	28	1,670,644	1,575,533	1,497,989	6.0	5.2
Refunds	—	—	—	—	—	—	4,797	6,985	6,715	(31.3)	4.0
Administrative expense	119	82	51	14	9	5	12,515	12,001	11,067	4.3	8.4
Transfers to affiliated systems	—	—	—	—	—	—	26,337	11,364	9,912	131.8	14.6
Total deductions	811	499	367	14	70	33	1,714,293	1,605,883	1,525,683	6.8	5.3
Increase in net position restricted for pensions	$ 95,415	111,925	76,754	14,156	15,045	10,046	(619,096)	3,334,302	1,857,476	(118.6)%	79.5%

$79.2 million for calendar year 2017, to $97.7 million, an increase of $18.5 million (23.4%). Contributions increased because membership increased. The system recognized a net investment loss of $1.5 million for calendar year 2018 compared with an investment gain of $33.2 million for calendar year 2017. The decrease in the investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

Deductions from the Tier 2 Public Employees System net position for benefits include retirement benefits and administrative expenses. For calendar year 2018 the system paid $692 thousand in retirement benefits and $417 thousand in 2017, and increase of $275 thousand (65.9%). The costs of administering the system totaled $119 thousand, an increase of $37 thousand (45.1%) from calendar year 2017.

At December 31, 2018, the Tier 2 Public Employees Retirement System total pension liability was $467.5 million. The Plan's fiduciary net position was $424.6 million leaving a net pension liability of $42.8 million. The Plan's fiduciary net position as a percentage of the total pension liability was 90.8%.

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, 2018, totaled $54.3 million, an increase of $14.2 million (35.2%) from $40.2 million as of December 31, 2017.

Additions to the Tier 2 Public Safety and Firefighter System net position consist of employer contributions, investment income, and transfers. For calendar year 2018, member and employer contributions increased from $11.1 million for calendar year 2017, to $14.4 million in 2018, an increase of $3.2 million (29.0%). Contributions increased because membership increased. The system recognized a net investment loss of $180 thousand for calendar year 2018 compared with net investment gain of $4.0 million for calendar year 2017. The decrease in the investment gain for 2018 compared to 2017 was due to the lower rate of return realized in 2018.

Deductions from the Tier 2 Public Safety and Firefighter System net position include retirement benefits and administrative expenses. For calendar year 2018 the system paid $0 in retirement benefits and $61 thousand in 2017. The costs of administering the system totaled $14 thousand.

At December 31, 2018, the Tier 2 Public Safety and Firefighter Retirement System total pension liability was $56.8 million. The Plan's fiduciary net position was $54.3 million leaving a net pension liability of $2.5 million. The Plan's fiduciary net position as a percentage of the total pension liability was 95.6%.

Actuarial Valuations and Funding Progress

Actuarial valuation of each defined benefit system is performed annually. As of January 1, 2018, the date of the most recent actuarial valuation, the average funded ratio of the Systems using the actuarial value of assets was 87.4%. This was increased from the Systems' January 1, 2017 valuation average funded ratio of 85.2%. The funded ratio increased due to the investment gains realized in calendar year 2017 and the current contribution effort to finance the unfunded actuarial accrued liability. Absent of unfavorable actuarial experience, the Systems funded ratio will gradually increase in future years.

In determining contribution rates an actuarial value of assets is used rather than a fair 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.

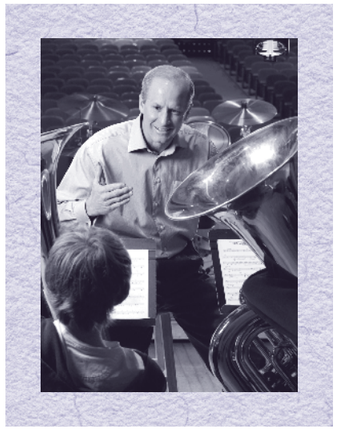
As of January 1, 2018, the Systems' underfunded actuarial accrued liability was $4.4 billion. This was a net decrease in the unfunded position of $565.7 million compared to January 1, 2017. As of January 1, 2018, the difference between the actuarial value of assets and fair value of assets was $1.0 billion in actuarially deferred gains. These actuarially deferred gains will be recognized by the actuary over the next four years.

SENSITIVITY OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

(in thousands)

System	1.00% Decrease (5.95%)	Current Discount Rate (6.95%)	1.00% Increase (7.95%)
Noncontributory Retirement System	$ 8,196,651	4,456,889	1,331,118
Contributory Retirement System	234,936	111,580	6,844
Public Safety Retirement System	1,332,728	730,178	238,045
Firefighters Retirement System	230,327	53,400	(91,667)
Judges Retirement System	75,935	48,639	25,404
Utah Governors and Legislative Retirement System	3,913	2,640	1,559
Tier 2 Public Employees System	171,577	42,828	(56,534)
Tier 2 Public Safety and Firefighter System	18,898	2,505	(10,039)
Total	$ 10,264,965	5,448,659	1,444,730

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 $22.8 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.



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 to the left presents the net pension liability/(asset) of the participating employers calculated using the discount rate of 6.95%, 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 (5.95%) or 1.00% higher (7.95%) than the current rate.

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, 2018, amounted to $4.8 billion, a decrease of $169.1 million (3.4%) over net position as of December 31, 2017. Contributions increased because of increased participation. The plan recognized a net investment loss of $202.4 million for calendar year 2018 compared with a net investment gain of $630.5 million for the calendar year 2017.

Additions to the 401(k) Plan net position include contributions and investment income. For calendar year 2018, contributions increased from those of calendar year 2017 from $295.8 million to $317.5 million or an increase of $21.7 million (7.35%).

Deductions from the 401(k) Plan net position include participant and beneficiary refunds (including rollovers) and administrative expenses. For calendar year 2018, refunds amounted to $276 million, an increase of $21.4 million (8.4%) over calendar year 2017. The increase in refunds was due to an increase in withdrawals for calendar year 2018. For calendar year 2018, the costs of administering the plan amounted to $8.0 million, an increase of $239 thousand over calendar year 2017.

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.

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, 2018, totaled $544.2 million, a decrease of $25.2 million (4.4%) over net position as of December 31, 2017.

Additions to the 457 Plan net position include contributions and investment income. For calendar year 2018, contributions increased from those of calendar year 2017 from $31.5 million to $32.6 million or an increase of $1.1 million (3.5%). Contributions increased because of increased participation. The plan recognized a net investment loss of $24.2 million for calendar year 2018 compared with a net investment gain of $72.2 million for the calendar year 2017.

Deductions from the 457 Plan net position include participant and beneficiary refunds (including rollovers) and administrative expenses. For calendar year 2018, refunds amounted to $32.7 million, an increase of $4.9 million (17.5%) over calendar year 2017. The increase in refunds was due to an increase in withdrawals for calendar year 2018. For calendar year 2018, the costs of administering the plan amounted to $901 thousand, an increase of $14 thousand over calendar year 2017.

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

Utah Retirement Systems

Management's Discussion and Analysis *(Continued)*

STATEMENTS OF FIDUCIARY NET POSITION — DEFINED CONTRIBUTION SAVINGS PLANS

December 31

(dollars in thousands)

	401(k) Plan			457 Plan			Roth IRA Plan			Traditional IRA Plan			Health Reimbursement Arrangement (HRA)*			Total Defined Contribution Plans			2018 Percent Change	2017 Percent Change
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016		
Assets:																				
Cash and receivables	$ 97,302	95,126	95,409	10,604	10,349	10,187	399	246	224	1,280	32	72	—	—	—	109,585	105,753	105,892	3.6%	(0.1)%
Investments at fair value	4,746,307	4,917,565	4,253,489	533,869	559,308	484,552	131,490	119,087	88,971	119,235	102,422	81,484	—	—	—	5,530,901	5,698,382	4,908,496	(2.9)	16.1
Total assets	4,843,609	5,012,691	4,348,898	544,473	569,657	494,739	131,889	119,333	89,195	120,515	102,454	81,556	—	—	—	5,640,486	5,804,135	5,014,388	(2.8)	15.7
Liabilities:																				
Investment accounts and other payables	9,526	9,783	9,925	316	267	320	98	36	30	610	45	23	—	—	—	10,550	10,131	10,298	4.1	(1.6)
Total liabilities	9,526	9,783	9,925	316	267	320	98	36	30	610	45	23	—	—	—	10,550	10,131	10,298	4.1	(1.6)
Net position restricted for pensions	$ 4,834,083	5,002,908	4,338,973	544,157	569,390	494,419	131,791	119,297	89,165	119,905	102,409	81,533	—	—	—	5,629,936	5,794,004	5,004,090	(2.8)%	15.8%

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

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			Traditional IRA Plan			Health Reimbursement Arrangement (HRA)*			Total Defined Contribution Plans			2018 Percent Change	2017 Percent Change
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016		
Additions:																				
Contributions	$ 317,548	295,804	290,632	32,589	31,475	27,326	25,280	19,669	16,585	30,108	20,593	16,182	—	—	6,796	405,525	367,541	357,521	10.3%	2.8%
Investment income (loss)	(202,398)	630,516	332,672	(24,212)	72,210	39,252	(7,353)	15,389	7,200	(2,287)	9,465	4,825	—	—	36	(236,250)	727,580	383,985	(132.5)	89.5
Total additions	115,150	926,320	623,304	8,377	103,685	66,578	17,927	35,058	23,785	27,821	30,058	21,007	—	—	6,832	169,275	1,095,121	741,506	(84.5)	47.7
Deductions:																				
Refunds	276,023	254,672	257,651	32,709	27,827	25,706	5,227	4,752	4,192	10,156	9,035	8,332	—	—	30,075	324,115	296,286	325,956	9.4	(9.1)
Administrative expenses	7,952	7,713	7,085	901	887	810	206	174	142	169	147	128	—	—	31	9,228	8,921	8,196	3.4	8.8
Total deductions	283,975	262,385	264,736	33,610	28,714	26,516	5,433	4,926	4,334	10,325	9,182	8,460	—	—	30,106	333,343	305,207	334,152	9.2	(8.7)
Increase (decrease) in net position restricted for pensions	$ (168,825)	663,935	358,568	(25,233)	74,971	40,062	12,494	30,132	19,451	17,496	20,876	12,547	—	—	(23,274)	(164,068)	789,914	407,354	(120.8)%	93.9%

Roth IRA Plan

The Roth IRA is a "deemed IRA" authorized by section 408(q) 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, 2018, totaled $131.8 million, an increase of $12.5 million (10.5%) over net position as of December 31, 2017.

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 2018, contributions increased from those of calendar year 2017 from $19.7 million to $25.3 million (28.5%). Contributions increased because of increased participation. The plan recognized a net investment loss of $7.4 million for calendar year 2018 compared with a net investment gain of $15.4 million for calendar year 2017.

Deductions from the Roth IRA Plan net position include participant and beneficiary refunds, transfers and rollovers, and administrative expenses. For calendar year 2018, refunds amounted to $5.2 million, an increase of $478 thousand (10.1%) over calendar year 2017. For calendar year 2018, the costs of administering the plan amounted to $206 thousand, an increase of $32 thousand over calendar year 2017.

Traditional IRA Plan

The Traditional IRA is a "deemed IRA" authorized by section 408(q) 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).

Management's Discussion and Analysis *(Concluded)*

Participants may also convert Traditional IRA funds into a Roth IRA. The plan net position as of December 31, 2018, totaled $119.9 million, an increase of $17.5 million (17.1%) over net position as of December 31, 2017.

Additions to the Traditional IRA Plan include contributions, rollovers, and investment earnings. For calendar year 2018, contributions increased from those of calendar year 2017 from $20.6 million to $30.1 million (46.2%). The plan recognized a net investment loss of $2.3 million for calendar year 2018 compared with a net investment gain of $9.5 million for calendar year 2017.

Deductions from the Traditional IRA Plan net position include participant and beneficiary refunds, rollovers and transfers, and administrative expenses. For calendar year 2018, refunds amounted to $10.2 million, an increase of $1.1 million (12.4%) over calendar year 2017. For calendar year 2018, the costs of administering the plan amounted to $169 thousand, an increase of $22 thousand over calendar year 2017.

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.

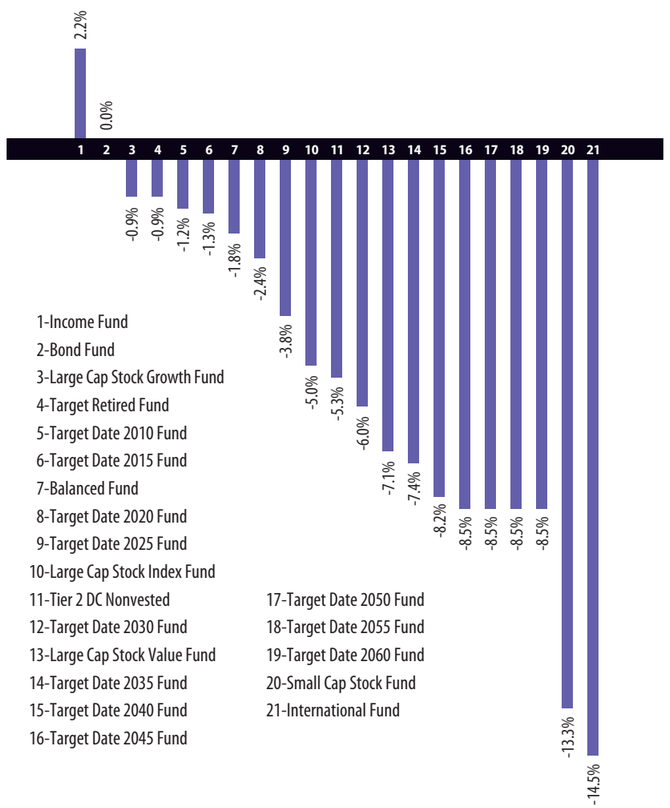
DEFINED CONTRIBUTION COMPARATIVE ANNUALIZED RATES OF RETURN

Year ended December 31

Investment Option Comparative Index	2018	2017
Income Fund	2.2%	1.7%
Bond Fund	0.0	4.6
Large Cap Stock Growth Fund	(0.9)	33.2
Target Date Retired Fund	(0.9)	6.8
Target Date 2010 Fund	(1.2)	7.7
Target Date 2015 Fund	(1.3)	8.9
Balanced Fund	(1.8)	17.1
Target Date 2020 Fund	(2.4)	11.5
Target Date 2025 Fund	(3.8)	14.1
Large Cap Stock Index Fund	(5.0)	21.4
Tier2 DC Nonvested	(5.3)	13.4
Target Date 2030 Fund	(6.0)	17.0
Large Cap Value Fund	(7.1)	18.2
Target Date 2035 Fund	(7.4)	19.4
Target Date 2040 Fund	(8.2)	20.3
Target Date 2045 Fund	(8.5)	20.7
Target Date 2050 Fund	(8.5)	20.7
Target Date 2055 Fund	(8.5)	20.7
Target Date 2060 Fund	(8.5)	20.7
Small Cap Fund	(13.3)	11.4
International Fund	(14.5)	27.6

DEFINED CONTRIBUTION SAVINGS PLANS INVESTMENT OPTION RATES OF RETURN FOR 2018

(in percents)



Basic Financial Statements

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

December 31, 2018
With Comparative Totals
for December 31, 2017

(in thousands)

	Defined Benefit Pension Plans									Defined Contribution Plans						
										Additional Combining Information						
	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	Total Defined Benefit Pension Plans	401(k) Plan	457 Plan	Roth IRA Plan	Traditional IRA Plan	Total Defined Contribution Plans	Total Pension Trust Funds 2018	Total Pension Trust Funds 2017
Assets:																
Cash	$ 3	2	20	2	1	1	2	2	33	11,722	506	399	1,280	13,907	13,940	12,602
Receivables:																
Member contributions	—	94	8	675	—	—	—	—	777	—	—	—	—	—	777	761
Employer contributions	42,975	274	5,278	274	324	—	5,547	598	55,270	—	—	—	—	—	55,270	58,465
Court fees and fire insurance tax	—	—	—	747	100	—	—	—	847	—	—	—	—	—	847	2,989
Investments	482,626	22,973	69,048	23,642	3,825	207	8,214	1,053	611,588	85,580	10,098	—	—	95,678	707,266	771,970
Total receivables	525,601	23,341	74,334	25,338	4,249	207	13,761	1,651	668,482	85,580	10,098	—	—	95,678	764,160	834,185
Investments at fair value:																
Short-term securities	1,255,301	59,751	179,591	61,493	9,949	537	21,365	2,740	1,590,727	—	—	—	—	—	1,590,727	2,758,739
Debt securities	4,192,709	199,572	599,837	205,383	33,228	1,794	71,359	9,150	5,313,032	1,710,943	180,850	36,605	66,145	1,994,543	7,307,575	6,386,435
Equity investments	8,685,749	413,440	1,242,643	425,480	68,836	3,716	147,831	18,955	11,006,650	2,837,348	331,403	87,524	48,699	3,304,974	14,311,624	15,807,433
Absolute return	3,628,762	172,728	519,156	177,758	28,759	1,553	61,761	7,919	4,598,396	—	—	—	—	—	4,598,396	4,459,239
Private equity	2,889,312	137,531	413,362	141,536	22,898	1,236	49,176	6,305	3,661,356	—	—	—	—	—	3,661,356	3,450,900
Real assets	4,108,426	195,560	587,778	201,256	32,560	1,758	69,925	8,966	5,206,229	198,016	21,616	7,361	4,391	231,384	5,437,613	4,961,109
Total investments	24,760,259	1,178,582	3,542,367	1,212,906	196,230	10,594	421,417	54,035	31,376,390	4,746,307	533,869	131,490	119,235	5,530,901	36,907,291	37,823,855
Invested securities lending collateral	834,951	39,744	119,453	40,901	6,617	357	14,211	1,822	1,058,056	—	—	—	—	—	1,058,056	1,338,730
Property and equipment at cost, net of accumulated depreciation	3,689	176	528	180	29	2	63	8	4,675	—	—	—	—	—	4,675	4,390
Total assets	26,124,503	1,241,845	3,736,702	1,279,327	207,126	11,161	449,454	57,518	33,107,636	4,843,609	544,473	131,889	120,515	5,640,486	38,748,122	40,013,762
Liabilities:																
Securities lending liability	834,951	39,744	119,453	40,901	6,617	357	14,211	1,822	1,058,056	—	—	—	—	—	1,058,056	1,338,730
Disbursements in excess of cash balance	26,045	1,204	3,617	1,239	200	11	430	55	32,801	910	129	55	559	1,653	34,454	38,013
Compensated absences, post-employment benefits and insurance reserve	16,690	795	2,387	818	132	7	284	36	21,149	—	—	—	—	—	21,149	21,926
Investment accounts payable	486,062	23,166	69,629	23,841	3,857	208	8,284	1,062	616,109	8,616	187	43	51	8,897	625,006	822,471
Real estate liabilities	94,696	4,507	13,547	4,639	750	41	1,612	207	119,999	—	—	—	—	—	119,999	120,000
Total liabilities	1,458,444	69,416	208,633	71,438	11,556	624	24,821	3,182	1,848,114	9,526	316	98	610	10,550	1,858,664	2,341,140
Net position restricted for pensions	$ 24,666,059	1,172,429	3,528,069	1,207,889	195,570	10,537	424,633	54,336	31,259,522	4,834,083	544,157	131,791	119,905	5,629,936	36,889,458	37,672,622

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

Utah Retirement Systems

Basic Financial Statements *(Concluded)*

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

Year Ended December 31, 2018
With Comparative Totals for
Year Ended December 31, 2017

(in thousands)

	Defined Benefit Pension Plans									Defined Contribution Plans					Total Pension Trust Funds	
										Additional Combining Information						
	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	Total Defined Benefit Pension Plans	401(k) Plan	457 Plan	Roth IRA Plan	Traditional IRA Plan	Total Defined Contribution Plans	2018	2017
Additions:																
Contributions:																
Member	$ 14,602	2,455	895	18,305	—	—	—	55	36,312	317,548	32,589	25,280	30,108	405,525	441,837	406,754
Employer	858,444	6,027	147,101	7,021	8,091	392	97,680	14,295	1,139,051	—	—	—	—	—	1,139,051	1,112,998
Court fees and fire insurance tax	—	—	—	8,747	1,518	—	—	—	10,265	—	—	—	—	—	10,265	2,700
Total contributions	873,046	8,482	147,996	34,073	9,609	392	97,680	14,350	1,185,628	317,548	32,589	25,280	30,108	405,525	1,591,153	1,522,452
Investment income:																
Net appreciation (depreciation) in fair value of investments	(589,575)	(28,859)	(83,966)	(28,833)	(4,660)	(262)	(8,842)	(1,106)	(746,103)	(201,890)	(24,176)	(7,234)	(2,173)	(235,473)	(981,576)	3,966,878
Interest, dividends and other investment income	541,933	26,527	77,181	26,503	4,283	240	8,049	1,009	685,725	4,022	465	—	—	4,487	690,212	589,288
Total income (loss) from investment activity	(47,642)	(2,332)	(6,785)	(2,330)	(377)	(22)	(793)	(97)	(60,378)	(197,868)	(23,711)	(7,234)	(2,173)	(230,986)	(291,364)	4,556,166
Less investment expenses	50,182	2,456	7,147	2,454	397	22	745	93	63,496	4,530	501	119	114	5,264	68,760	60,654
Net income (loss) from investment activity	(97,824)	(4,788)	(13,932)	(4,784)	(774)	(44)	(1,538)	(190)	(123,874)	(202,398)	(24,212)	(7,353)	(2,287)	(236,250)	(360,124)	4,495,512
Income from security lending activity	6,456	316	918	316	51	3	96	12	8,168	—	—	—	—	—	8,168	6,771
Less security lending expense	839	41	120	41	7	—	12	2	1,062	—	—	—	—	—	1,062	793
Net income from security lending activity	5,617	275	798	275	44	3	84	10	7,106	—	—	—	—	—	7,106	5,978
Net investment income	(92,207)	(4,513)	(13,134)	(4,509)	(730)	(41)	(1,454)	(180)	(116,768)	(202,398)	(24,212)	(7,353)	(2,287)	(236,250)	(353,018)	4,501,490
Transfers from affiliated systems	13,035	—	6,982	1,917	4,403	—	—	—	26,337	—	—	—	—	—	26,337	11,364
Total additions	793,874	3,969	141,844	31,481	13,282	351	96,226	14,170	1,095,197	115,150	8,377	17,927	27,821	169,275	1,264,472	6,035,306
Deductions:																
Retirement benefits	1,125,160	74,106	157,682	46,547	13,805	814	691	—	1,418,805	—	—	—	—	—	1,418,805	1,336,763
Cost-of-living benefits	195,054	12,638	30,517	10,700	2,306	164	1	—	251,380	—	—	—	—	—	251,380	238,260
Supplemental retirement benefits	—	51	215	193	—	—	—	—	459	—	—	—	—	—	459	510
Refunds	2,766	1,471	428	132	—	—	—	—	4,797	276,023	32,709	5,227	10,156	324,115	328,912	303,271
Administrative expenses	9,962	454	1,450	427	84	5	119	14	12,515	7,952	901	206	169	9,228	21,743	20,922
Transfers to affiliated systems	—	26,286	—	—	—	51	—	—	26,337	—	—	—	—	—	26,337	11,364
Total deductions	1,332,942	115,006	190,292	57,999	16,195	1,034	811	14	1,714,293	283,975	33,610	5,433	10,325	333,343	2,047,636	1,911,090
Increase (decrease) from operations	(539,068)	(111,037)	(48,448)	(26,518)	(2,913)	(683)	95,415	14,156	(619,096)	(168,825)	(25,233)	12,494	17,496	(164,068)	(783,164)	4,124,216
Net position restricted for pensions benefits beginning of year	25,205,127	1,283,466	3,576,517	1,234,407	198,483	11,220	329,218	40,180	31,878,618	5,002,908	569,390	119,297	102,409	5,794,004	37,672,622	33,548,406
Net position restricted for pensions benefits end of year	$ 24,666,059	1,172,429	3,528,069	1,207,889	195,570	10,537	424,633	54,336	31,259,522	4,834,083	544,157	131,791	119,905	5,629,936	36,889,458	37,672,622

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

Notes to Basic Financial Statements

December 31, 2018

Note 1
Description of Systems and Plans

A brief description of the Utah Retirement Systems (Systems), 401(k), 457, Roth and Traditional IRAs (Plans) 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 178 through 195.

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 multiple-employer, cost-sharing public employee retirement systems; and

v) four defined contribution plans comprised of the **401(k) Plan**, **457 Plan**, and **Roth** and **Traditional IRAs**.

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

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

The Systems' benefits are specified by the statute listed in Note 1(A). The 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 below.

The Utah Governors and Legislators Retirement Plan provides the following benefits. Former governors at age 65 receive $1,400 per month per term. Legislators receive a benefit at age 65 with four or more years of service at the rate of $30.40 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.

C) Defined Contribution Plans

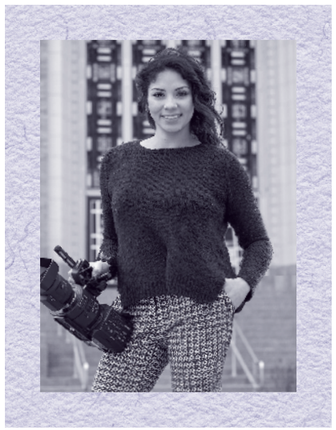
The 401(k), 457, and Roth and Traditional IRAs administered by the Board are defined contribution plans. These Plans are available as supplemental plans to the basic retirement benefits of the Retirement Systems and as a primary retirement plan for some Tier 2 participants. Contributions may be made 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 466 employers participating in the 401(k) Plan and 293 employers participating in the 457 Plan. There are 178,010 plan participants in the 401(k) Plan, 18,336 participants in the 457 Plan, 12,232 participants in the Roth IRA, and 2,383 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

SUMMARY OF BENEFITS BY SYSTEM

	Noncontributory System	Contributory System	Public Safety System / Fire-fighters 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) above.
**With actuarial reductions.*
***For members and retirees in the systems, prior to January 1, 1989, there may be a 3% benefit enhancement.*



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.

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.

DEFINED CONTRIBUTION PLANS

	401(k)	457	Roth IRA	Traditional IRA
Number of participating employers	466	293	N/A	N/A
Total participants	178,010	18,336	12,232	2,383

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, 2018, participating members by System are included in the table below.

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	463	158	134	62	1	1	476	152
Members:								
Active	56,299	519	5,305	1,540	116	52	30,291	3,301
Terminated vested	46,756	1,186	4,921	440	8	85	1,971	130
Retirees and beneficiaries:								
Service benefits	51,547	3,306	5,202	1,232	125	173	64	—
Beneficiary benefits	4,857	611	765	232	30	77	—	—

Note 2
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 92.

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 63.

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, 2017, 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 fair 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 fair 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 11.0% of the investments held in trust for pension benefits are invested in debt securities of the U.S. Government and its instrumentalities. Of the 11.0%, approximately 7.9% are U.S. Government debt securities and approximately 3.1% are debt securities of the U.S. Government instrumentalities. The Systems and Plans have no investments of any commercial or industrial organization whose fair 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, 2018:

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

Rate of return. For the year ended December 31, 2018, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was (0.38)%. 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 30, 2019, the date the basic financial statements were available to be issued. No material events were identified by the Systems and Plans.

Note 3

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	$ 13,940
Disbursements in excess of cash balances	(34,454)
Total	$ (20,514)

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, 2018, the carrying amount of deposits totaled approximately $(20,514,000) and the corresponding bank balance was $170,774 of which $0 was exposed to custodial credit risk.

B) Investments

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

(in thousands)	12/31/2018
Private equity	$ 3,661,356
Absolute return	4,598,396
Real assets	5,437,613
	$ 13,697,365

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

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.

INVESTMENTS
at December 31, 2018

(in thousands)	Fair Value		
	Defined Benefit	Defined Contribution	Total All Systems and Plans
Short-term securities pools	$ 1,590,727	—	1,590,727
Debt securities	4,925,751	1,994,543	6,920,294
Equity securities	10,400,703	3,304,974	13,705,677
Absolute return	4,598,396	—	4,598,396
Private equity	3,661,356	—	3,661,356
Real assets	5,206,229	231,384	5,437,613
Investments held by broker-dealers under securities lending program:			
Equities	605,947	—	605,947
Debt	387,281	—	387,281
Total investments	$ 31,376,390	5,530,901	36,907,291
Securities lending collateral pool (not categorized)	$ 1,058,056	—	1,058,056

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).

Level 1 Unadjusted quoted prices 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 64-65 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 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 on page 67.

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

INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE

(in thousands)

	Defined Benefit				Defined Contribution			
		Fair Value Measures Using				Fair Value Measures Using		
	12/31/18	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	12/31/18	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Investments by fair value level								
Short-term securities	$ 1,242,660	66,763	1,175,897	—	$ —	—	—	—
Debt securities								
Asset backed	264,390	—	204,696	59,694	59,674	—	36,528	23,146
Commercial mortgage-backed	108,506	—	86,915	21,591	698	—	308	390
Corporate bonds	1,396,850	—	1,395,729	1,121	289,947	—	289,517	430
Funds – other fixed income	—	—	—	—	98,580	—	98,580	—
Government agencies	95,456	—	95,456	—	31,854	—	31,854	—
Government bonds	1,043,102	—	1,043,102	—	172,613	—	172,613	—
Government mortgage backed securities	924,939	—	837,841	87,098	249,149	—	223,891	25,258
Index linked government bonds	1,413,408	—	1,413,408	—	142,185	—	142,185	—
Non-government backed C.M.O.s	77,202	—	61,721	15,481	187	—	187	—
Total debt securities	5,323,853	—	5,138,868	184,985	1,044,887	—	995,663	49,224
Equity investments								
Consumer goods	1,969,686	1,969,602	—	84	317,317	317,317	—	—
Energy	628,872	624,552	4,164	156	61,265	61,265	—	—
Equity other	8,478	8,270	2	206	223,130	223,130	—	—
Financials	1,606,241	1,572,422	27,147	6,672	157,815	157,815	—	—
Health care	1,178,456	1,178,391	—	65	240,105	240,105	—	—
Industrials	1,272,409	1,272,284	—	125	126,061	126,061	—	—
Information technology	1,371,576	1,371,498	—	78	377,683	377,683	—	—
Materials	547,738	546,103	4	1,631	35,833	35,833	—	—
Real estate investment trusts	402,993	402,966	—	27	89,744	89,744	—	—
Telecommunication services	736,082	736,062	—	20	186,210	186,210	—	—
Utilities	275,742	275,742	—	—	32,374	32,374	—	—
Total equity investments	9,998,273	9,957,892	31,317	9,064	1,847,537	1,847,537	—	—
Real assets								
Agriculture	163,191	—	—	163,191	—	—	—	—
Commodities	40,253	40,253	—	—	—	—	—	—
Real estate	1,998,259	—	—	1,998,259	—	—	—	—
Total real assets	2,201,703	40,253	—	2,161,450	—	—	—	—
Total investments by fair value level	$ 18,766,489	10,064,908	6,346,082	2,355,499	$ 2,892,035	1,847,537	995,663	49,224

Investments and Derivative Instruments Measured at Fair Value (Continued)

(in thousands)

	Defined Benefit				Defined Contribution			
		Fair Value Measures Using				Fair Value Measures Using		
	12/31/18	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	12/31/18	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Investments measured at the net asset value (NAV)								
Short-term securities	$ 347,503				$ —			
Equity investments								
Co-mingled international equity fund	$ 715,813				569,326			
Co-mingled U.S. small cap equity fund	288,086				373,364			
Co-mingled large cap equity fund	—				503,251			
Co-mingled Russell 1000 Growth equity fund	—				11,496			
Total equity investments measured at the NAV	1,003,899				1,457,437			
Absolute return								
Directional	1,217,950				—			
Equity long/short	196,330				—			
Event driven	997,085				—			
Multistrategy	826,387				—			
Relative value	1,360,644				—			
Total absolute return measured at the NAV	4,598,396				—			
Private equity – private equity partnerships	3,661,356				—			
Real assets								
Co-mingled commodities fund	—				65,605			
Co-mingled real estate equity fund	—				165,779			
Agriculture	35,697							
Energy	1,222,968				—			
Minerals	328,632				—			
Real estate	1,118,897				—			
Royalty	11,683				—			
Timber	293,133				—			
Total real assets measured at the NAV	3,011,010				231,384			
Total investments measured at the NAV	12,622,164				1,688,821			
Total investments measured at fair value	$ 31,388,653				$ 4,581,245			
Synthetic guaranteed investments contracts measured at contract value	$ —				$ 950,049			
Investments derivative instruments								
Short-term securities – options	$ 564	564	—	—	—	—	—	—
Debt securities								
Options	(125)	—	(125)	—	$ (13)	—	(13)	—
Swaptions	(3,378)	—	(3,378)	—	(47)	—	(47)	—
Swap liabilities	(17,480)	—	(17,480)	—	(733)	—	(733)	—
Swap assets	10,162	—	10,162	—	440	—	440	—
Total debt security derivatives	(10,821)	—	(10,821)	—	(393)	—	(393)	—
Equity investments – options	4,478	4,478	—	—	—	—	—	—
Real assets – swap liabilities	(6,484)	—	(6,484)	—	—	—	—	—
Total investment derivative instruments	$ (12,263)	5,042	(17,305)	—	$ (393)	—	(393)	—
Invested securities lending collateral								
Short-term securities	$ 179,260	179,260	—	—	$ —	—	—	—
Debt securities	159,470	53,425	11,021	95,024	—	—	—	—
Equity investments	719,326	719,326	—	—	—	—	—	—
Total invested securities lending collateral	$ 1,058,056	952,011	11,021	95,024	$ —	—	—	—

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 invest 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 eleven 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 nine 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 nineteen 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 $22,565 over the next 2 to 10 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 $23 million over the next 1-5 years. *Relative value funds* include investments in twenty-one funds. These funds seek returns by capitalizing on the mispricing of related securities or financial instruments. One new fund with a value of $154 million has a redemption restriction of 2 years. All other funds currently have no redemption restrictions.

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 have no plans to liquidate the total portfolio. As of December 31, 2018, 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 ownership interest in partners' capital.

5. **Energy, Mineral, and Royalty Funds.** Investments in *Energy* consist of twenty-nine private equity partnerships which invest primarily in oil and gas related investments. *Mineral funds* include seven private equity partnerships which invest in mineral mining equity securities, commodities and other mining investments. *Royalty funds* include two 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, 2018, 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 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.** *Real Estate* type includes thirty-eight investments which are invested primarily in apartments and retail space in the United States. *Timber* includes three funds which invest in timber related resources. *Agriculture* includes four investments which operate in the production, processing, and distribution of high value foods. Investments in these types can never be redeemed with the 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 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.

INVESTMENTS MEASURED AT THE NAV — DEFINED BENEFIT

(in thousands)

	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Short-term securities - beta/overlays	$ 347,503	$ —	Daily	None
Equity investments				
Co-mingled international equity fund	715,813	—	Daily	None
Co-mingled U.S. small cap equity fund	288,086	—	Daily	None
Total equity investments	1,003,899	—		
Absolute return				
Directional	1,217,950	16,192	Monthly, Quarterly	30-60 days
Equity long/short	196,330	—	Monthly, Quarterly, Annually	30-60 days
Event driven	997,085	14,400	Monthly, Quarterly, Semi-annually, Annually, Bi-annually	45-120 days
Multistrategy	826,387	—	Monthly, Quarterly, Semi-annually, Annually	45-90 days
Relative value	1,360,644	—	Weekly, Monthly, Quarterly, Semi-annually, Annually	30-90 days, N/A
Total absolute return	4,598,396	30,592		
Private equity – partnerships	3,661,356	1,722,618	Not eligible	N/A
Real assets				
Agriculture	35,697	36,658	Not eligible	N/A
Energy	1,222,968	547,214	Not eligible	N/A
Minerals	328,632	161,367	Not eligible	N/A
Real Estate	1,118,897	73,998	Not eligible	N/A
Royalty	11,683	203,300	Not eligible	N/A
Timber	293,133	—	Not eligible	N/A
Total real assets	3,011,010	1,022,537		
Total investments measured at the NAV	$12,622,642	$2,775,747		

**See redemption descriptions for these investment types on page 66.*

INVESTMENTS MEASURED AT THE NAV — DEFINED CONTRIBUTION

(in thousands)

	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Equity securities				
Co-mingled international equity fund	$ $569,326	—	Daily	None
Co-mingled U.S. small cap equity fund	373,364	—	Daily	None
Co-mingled large cap equity fund	503,251	—	Daily	None
Co-mingled Russell 1000 growth equity fund	11,496	—	Daily	None
Total equity securities	1,457,437	—		
Real assets				
Co-mingled real estate equity fund	65,605	—	Quarterly	None
Co-mingled commodities fund	165,779	—	Daily	None
Total real assets	231,384	—		
Total investments measured at the NAV	$ 1,688,821	$ —		

CREDIT RISK DEBT SECURITIES AT FAIR VALUE

at December 31, 2018 *(in thousands)*

Defined Benefit Plans

Quality Rating	Total	Asset Backed	Commercial Mortgage Backed	Corporate Bonds	Fixed Income Other	Government Agencies	Government Bonds	Government Mortgage Backed	Index Linked Bonds	Non-Government Backed C.M.O.s
AAA	$ 218,728	111,025	45,582	11,015	—	17,211	8,407	1,023	24,426	39
AA+	98,886	293	3,420	26,503	—	21,370	—	—	46,672	628
AA	17,163	9,253	—	6,370	—	1,540	—	—	—	—
AA-	159,073	1,907	595	150,657	—	1,782	4,132	—	—	—
A+	94,728	6,662	—	74,499	—	7,359	6,094	—	—	114
A	146,095	14,728	1,979	126,591	—	864	—	—	—	1,933
A-	247,610	—	2,768	244,436	—	—	341	—	—	65
BBB+	322,392	3,796	—	291,835	—	10,919	15,490	—	—	352
BBB	238,960	297	—	222,297	—	—	15,366	—	—	1,000
BBB-	178,389	—	—	160,931	—	—	17,339	—	—	119
BB+	3,998	51	—	3,746	—	—	—	—	—	201
BB	3,386	—	—	3,038	—	—	—	—	—	348
BB-	4,555	207	2,419	1,929	—	—	—	—	—	—
B+	6,906	—	—	1,532	—	—	5,374	—	—	—
B	10,476	632	—	1,206	—	1,531	6,000	—	1,084	23
B-	10,284	—	—	8,396	—	—	928	—	—	960
CCC+	2,004	—	—	2,004	—	—	—	—	—	—
CCC	855	106	—	—	—	—	—	—	—	749
CCC-	789	789	—	—	—	—	—	—	—	—
D	673	173	—	500	—	—	—	—	—	—
NR	1,985,402	114,471	51,742	58,758	39,774	45,645	204,193	672,625	777,510	20,684
Subtotal	3,751,352	264,390	108,505	1,396,243	39,774	108,221	283,664	673,648	849,692	27,215
U.S. Treasuries	1,310,389									
Explicit	251,291									
Total	$ 5,313,032									

Defined Contribution Plans

Quality Rating	Total	Asset Backed	Commercial Mortgage Backed	Corporate Bonds	Fixed Income Other	Government Agencies	Government Bonds	Government Mortgage Backed	Index Linked Bonds	Non-Government Backed C.M.O.s
AAA	$ 7,292	2,504	190	—	—	2,736	1,221	—	641	—
AA+	47,824	40,524	—	1,787	—	—	—	—	5,513	—
AA	1,391	1,000	—	391	—	—	—	—	—	—
AA-	8,359	76	99	1,092	—	6,455	637	—	—	—
A+	16,385	389	—	11,016	—	4,269	711	—	—	—
A	9,306	2,183	—	7,123	—	—	—	—	—	—
A-	29,565	—	—	29,565	—	—	—	—	—	—
BBB+	78,076	302	—	65,178	—	12,596	—	—	—	—
BBB	75,460	59	—	74,242	—	—	1,159	—	—	—
BBB-	52,962	—	—	46,494	—	4,246	2,222	—	—	—
BB+	20,152	18	—	20,134	—	—	—	—	—	—
BB	17,098	—	—	17,098	—	—	—	—	—	—
BB-	13,840	—	349	13,491	—	—	—	—	—	—
B+	2,060	—	—	215	—	—	1,845	—	—	—
B	2,052	—	—	79	—	257	1,523	—	193	—
B-	283	—	—	109	—	—	174	—	—	—
CCC+	—	—	—	—	—	—	—	—	—	—
CCC	—	—	—	—	—	—	—	—	—	—
CCC-	—	—	—	—	—	—	—	—	—	—
D	—	—	—	—	—	—	—	—	—	—
NR	503,806	12,619	60	1,933	98,187	1,295	76,680	228,446	84,399	187
Subtotal	885,911	59,674	698	289,947	98,187	31,854	86,172	228,446	90,746	187
U.S. Treasuries	137,880									
Explicit U.S. Government Agencies	20,703									
Synthetic Guaranteed Investment Contracts	950,049									
Total debt security investments	$ 1,994,543									

DEBT SECURITIES INVESTMENTS

at December 31, 2018 *(dollars in thousands)*

Investment	Defined Benefit Plans Fair Value	Defined Benefit Plans Effective Weighted Duration	Defined Contribution Plans Fair Value	Defined Contribution Plans Effective Weighted Duration	Total All Systems and Plans
Asset backed securities	$ 264,390	1.51	$ 59,674	0.55	$ 324,064
Commercial mortgage-backed	108,505	3.91	698	0.80	109,203
Corporate bonds	1,396,243	4.97	289,947	6.05	1,686,190
Fixed income other	39,774	—	98,187	—	137,961
Government agencies	108,221	4.74	31,854	8.14	140,075
Government bonds	1,030,337	9.46	172,613	8.07	1,202,950
Government mortgage backed securities	924,939	5.52	249,149	3.55	1,174,088
Index linked bonds	1,413,408	11.48	142,185	5.17	1,555,593
Non-government backed C.M.O.s	27,215	3.66	187	4.60	27,402
Total measured at fair value	5,313,032	7.47	1,044,494	5.33	6,357,526
Synthetic guaranteed investment contracts measured at contract value	—	—	950,049	—	950,049
Total	$ 5,313,032		$ 1,994,543		$ 7,307,575

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".
- Securities with a quality rating of below BBB- are considered below investment grade. For the Systems, no more than 5% of an investment manager's assets can be below investment grade and no more than 1% of an investment manager's assets can be with a single below investment grade issuer. For the Plans, no more than 15% of an investment manager's assets 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.

For the Systems, global debt securities investment managers may hold up to 25% of the fair value of their portfolios in securities rated below investment grade (below BBB-/Baa3). The remaining assets will have an investment grade rating. For the Plans, international debt securities investment managers may hold up to 20% of the fair value of their portfolios in securities rated below investment grade (below BBB-/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, 2018, was A+, and the fair value of below grade investments was $99,411,000 or 1.87%.

The government mortgage backed securities in both the Systems and Plans that are not rated include $250,379 Federal Home Loan Mortgage Corporation and $632,106 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, 2018, the table below represents the investments that have custodial credit risk. The $41,820,000 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.

CUSTODIAL CREDIT RISK

Exposed to Custodial Credit Risk

Type of Investment	Fair Value (in thousands)
Cash and cash equivalents	$ 41,820

Exposure to Custodial Credit Risk Not Determined

Investment	Fair Value (in thousands)
Other assets	$ 518,972

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 — for the Systems, no more than 2% of an investment manager's assets at market with a single issuer.
- For Debt Securities — for the Systems, no individual holding will constitute more than 10% of the fair value of outstanding debt of a single issuer with the exception of the U.S. Government or its agencies, or collateralized mortgage obligations.

As of December 31, 2018, 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 Bond Index (USD hedged) for global debt securities and the Bloomberg Barclays World Government Inflation-Linked Bond Index (USD hedged) for inflation-linked debt securities. The index duration range as of December 31, 2018, was 4.40 to 7.34 for domestic debt securities, 5.22 to 8.70 for global debt securities, and 9.65 to 14.47 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 ex-U.S. Bond Index (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 duration range as of December 31, 2018, was 4.40 to 7.34 for domestic debt securities, 6.34 to 9.50 for international debt securities, and 4.02 to 6.04 for inflation-linked debt securities.

As of December 31, 2018, no individual debt securities investment manager's portfolio was outside of the policy guidelines except for one manager in the Plans that was 0.02 below its index duration range. This manager brought its portfolio back into range on the next business day. As of December 31, 2018, the table on page 69 shows the debt securities 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 72.

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 102% of the fair value of the domestic securities on loan and 105% of the fair 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 fair value of the collateral received.

FOREIGN CURRENCY RISK

International Investment Securities at Fair Value at December 31, 2018

Currency	Short-Term	Debt	Equity	Absolute Return	Private Equity	Total	Debt	Equity	Total	Total All Systems and Plans
	(in thousands)				Defined Benefit Plans		Defined Contribution Plans			
Argentine peso	$ 227	3,606	—	—	—	3,833	876	—	876	4,709
Australian dollar	889	22,620	167,882	—	3,269	194,660	11,156	22,954	34,110	228,770
Brazilian real	453	—	91,601	—	—	92,054		10,611	10,611	102,665
British pound sterling	9,696	324,287	627,377	1,461	46,631	1,009,452	20,279	57,566	77,845	1,087,297
Canadian dollar	1,144	51,280	295,399	—	—	347,823	9,440	92,588	102,028	449,851
Cayman Islands dollar	—	—	—	—	—	—	—	18	18	18
Chilean peso	113	3,307	10,477	—	—	13,897	545	1,649	2,194	16,091
Chinese yuan renminbi	—	—	5,556	—	—	5,556	—	39,966	39,966	45,522
Colombian peso	154	—	3,967	—	—	4,121	—	562	562	4,683
Czech koruna	64	—	1,308	—	—	1,372	—	233	233	1,605
Danish krone	224	2,153	37,700	—	—	40,077	321	5,821	6,142	46,219
Egyptian pound	—	—	895	—	—	895	71,658	250	71,908	72,803
Euro	10,766	375,779	1,055,328	470,383	164,704	2,076,960	—	105,312	105,312	2,182,272
Hong Kong dollar	2,002	—	455,822	—	—	457,824	—	13,248	13,248	471,072
Hungarian forint	10	—	12,927	—	—	12,937	—	438	438	13,375
Indian rupee	375	3,054	85,970	—	—	89,399	571	14,443	15,014	104,413
Indonesian rupiah	142	—	18,636	—	—	18,778	—	3,329	3,329	22,107
Japanese yen	2,200	241,281	914,997	8,788	—	1,167,266	50,589	80,564	131,153	1,298,419
Malaysian ringgit	130	—	25,558	—	—	25,688	—	3,590	3,590	29,278
Mexican peso	106	—	58,386	28,871	—	87,363	—	3,983	3,983	91,346
Moroccan dirham	17	—	—	—	—	17	—	—	—	17
New Israeli shekel	459	917	9,056	—	—	10,432	260	1,772	2,032	12,464
New Taiwan dollar	1,300	—	117,351	—	—	118,651	—	17,289	17,289	135,940
New Zealand dollar	538	56,936	8,374	—	—	65,848	7,173	774	7,947	73,795
Norwegian krone	389	4,472	17,921	—	—	22,782	576	2,425	3,001	25,783
Pakistani rupee	—	—	—	—	—	—	—	174	174	174
Peruvian nuevo sol	39	—	203	—	—	242	—	550	550	792
Philippine peso	102	—	14,041	—	—	14,143	—	1,562	1,562	15,705
Polish zloty	135	—	8,571	—	—	8,706	—	1,787	1,787	10,493
Qatar riyal	—	—	—	—	—	—	—	1,554	1,554	1,554
Russian ruble	100	—	16,653	—	—	16,753	—	4,823	4,823	21,576
Singapore dollar	1,133	—	48,653	—	—	49,786	—	4,601	4,601	54,387
South African rand	166	—	52,435	—	—	52,601	—	8,818	8,818	61,419
South Korean won	98	—	201,404	—	—	201,502	—	20,353	20,353	221,855
Swedish krona	447	9,389	83,803	—	—	93,639	2,042	9,009	11,051	104,690
Swiss franc	1,029	—	261,365	—	—	262,394	—	28,770	28,770	291,164
Thai baht	142	1,955	36,999	—	—	39,096	575	3,673	4,248	43,344
Turkish lira	28	—	11,826	—	—	11,854	—	1,008	1,008	12,862
United Arab Emirates dirham	289	—	8,553	—	—	8,842	—	1,049	1,049	9,891
Total securities subject to foreign currency risk	$ 35,106	1,101,036	4,766,994	509,503	214,604	6,627,243	176,061	567,116	743,177	7,370,420

At December 31, 2018, there was no credit risk exposure to borrowers because the collateral exceeded the amount borrowed. The securities on loan at year end were $993,228,000 and the collateral received for those securities on loan was $1,058,050,000. 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, 2018, the Systems and Plans had five types of derivative financial instruments: futures, currency forwards, options, swaps, and Synthetic Guaranteed Investment Contracts (SGIC).

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, 2018, the Systems' and Plans' investments had the notional future balances as shown below.

FUTURES

(in thousands)		Notional Value: Defined Benefit Plans 2018	Notional Value: Defined Contribution Plans 2018
Cash & Cash Equivalents	Long	$ —	—
	Short	(90,724)	—
Equity	Long	106,895	—
	Short	(72,151)	—
Fixed Income	Long	765,935	43,327
	Short	(728,552)	(62,298)
Total Futures		$ (18,597)	(18,971)

CURRENCY FORWARDS

(in thousands)

Currency	Defined Benefit Plans: Notional Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2018	Defined Contribution Plans: Notional Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2018
Argentine peso	$ (2,094)	765	(2,902)	(2,137)	$ (569)	—	(581)	(581)
Australian dollar	(14,006)	11,989	(25,383)	(13,394)	(7,302)	1,723	(8,827)	(7,104)
Brazilian real	1,972	1,985	—	1,985	436	439	—	439
British pound sterling	(332,404)	32,305	(363,949)	(331,644)	(14,916)	1,309	(16,243)	(14,934)
Canadian dollar	(51,435)	5,389	(55,506)	(50,117)	(5,755)	131	(5,750)	(5,619)
Chilean peso	501	1,947	(1,410)	537	210	382	(169)	213
Colombian peso	1,530	1,540	—	1,540	159	160	—	160
Czech koruna	11,416	11,495	—	11,495	2,187	2,202	—	2,202
Danish krone	(2,519)	—	(2,528)	(2,528)	(303)	—	(304)	(304)
Euro	(399,880)	15,404	(417,599)	(402,195)	(81,036)	126	(81,575)	(81,449)
Hong Kong dollar	(4,667)	3,766	(8,416)	(4,650)	(1,412)	—	(1,409)	(1,409)
Hungarian forint	(1,988)	973	(2,991)	(2,018)	(483)	—	(488)	(488)
Indian rupee	700	715	—	715	210	214	—	214
Indonesian rupiah	3,273	3,354	(38)	3,316	538	545	—	545
Japanese yen	(233,729)	10,507	(251,805)	(241,298)	(44,997)	312	(46,752)	(46,440)
Malaysian ringgit	(1,949)	—	(1,980)	(1,980)	(377)	—	(382)	(382)
Mexican peso	(3,702)	22,327	(25,969)	(3,642)	(723)	627	(1,377)	(750)
New Israeli shekel	(473)	—	(470)	(470)	(176)	—	(175)	(175)
New Romanian leu	(3,678)	—	(3,696)	(3,696)	(727)	—	(731)	(731)
New Zealand dollar	(59,941)	176	(58,770)	(58,594)	(7,512)	—	(7,345)	(7,345)
Norwegian krone	12,847	12,716	—	12,716	2,834	2,804	—	2,804
Peruvian nuevo sol	(3,842)	—	(3,842)	(3,842)	(739)	—	(739)	(739)
Philippine peso	(3,645)	36	(3,696)	(3,660)	(728)	—	(731)	(731)
Russian ruble	1,913	1,839	—	1,839	376	361	—	361
Singapore dollar	2,058	2,946	(887)	2,059	462	463	—	463
South Korean won	(25,985)	21	(26,179)	(26,158)	(2,982)	—	(3,014)	(3,014)
Swedish krona	(1,097)	13,087	(14,170)	(1,083)	(582)	430	(1,022)	(592)
Swiss franc	625	2,571	(1,970)	601				
Thai baht	(1,880)	—	(1,899)	(1,899)	(552)	—	(558)	(558)
United States dollar	1,112,079	1,262,229	(150,149)	1,112,080	164,459	176,096	(11,634)	164,462
Total forwards subject to foreign currency risk	$ —	1,420,082	(1,426,204)	(6,122)	$ —	188,324	(189,806)	(1,482)

OPTIONS

(in thousands)

		Fair Value: Defined Benefit Plans 2018	Fair Value: Defined Contribution Plans 2018
Cash & Cash Equivalents	Call	$ 328	41
	Put	236	46
Equity	Call	—	—
	Put	4,478	—
Fixed Income	Call	(282)	(8)
	Put	(16)	(5)
Swaptions	Call	(2,713)	(47)
	Put	(665)	—
Interest Rate Contracts		173	5
Total Options		$ 1,539	32

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, 2018, the Systems' and Plans' investments included the currency forwards balances at left.

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 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, 2018, the Systems' and Plans' investments had the option balances shown on page 74.

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 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 fair values and are recorded in the Statements of Changes in Fiduciary Net Position. Swap fair values are determined by an independent third party. As of December 31, 2018, the Systems' and Plans' investments had the swap fair value balances as shown in the tables on pages 75-78.

REAL ESTATE PORTFOLIO INTEREST SWAPS

(in thousands)

Counterparty	Notional Amount	Utah Rate	Counterparty Rate	Maturity Date	Credit Rating	Defined Benefit Fair Value 2018
Morgan Stanley	$ 71,700	4.72%	1M Libor	10/1/20	BBB+	$ (2,910)
Morgan Stanley	43,660	5.294%	1M Libor	11/1/21	BBB+	(3,574)
Total interest rate and credit default swaps	$ 115,360					$ (6,484)

FIXED INCOME PORTFOLIO SWAPS

(in thousands)

	Defined Benefit Plans					
Counterparty	Notional Amount	Utah Rate	Counter-party Rate	Maturity Date	Credit Rating	Fair Value 2018
Goldman Sachs	$ 125,000	3M LIBOR	1.80%	9/18/20	A+	$(1,196)
Bank of America	32,940	2.23%	CPI	9/18/20	A-	(542)
Bank of America	19,930	(0.135%)	6M EURIB	11/12/20	A-	(17)
Bank of America	12,810	(0.160%)	6M EURIB	11/12/20	A-	(4)
Bank of America	7,120	(0.165%)	6M EURIB	11/12/20	A-	(2)
Goldman Sachs	44,810	(0.135%)	6M EURIB	12/11/20	A+	(38)
Goldman Sachs	28,810	0.16%	6M EURIB	12/11/20	A+	(10)
Goldman Sachs	16,000	(0.165%)	6M EURIB	12/11/20	A+	(4)
Goldman Sachs	57,050	2.857%	3M LIBOR	12/31/20	A+	(219)
Goldman Sachs	48,560	2.77%	3M LIBOR	12/31/20	A+	(112)
Bank of America	25,330	2.857%	3M LIBOR	12/31/20	A-	(97)
Bank of America	21,680	2.77%	3M LIBOR	12/31/20	A-	(50)
Bank of America	4,460	3M LIBOR	3.07%	11/22/21	A-	47
Goldman Sachs	940	3M LIBOR	3.019%	12/3/21	A+	9
Bank of America	4,310	3M LIBOR	3.024%	12/3/21	A-	42
Bank of America	4,310	3M LIBOR	3.019%	12/3/21	A-	42
Goldman Sachs	15,280	3M LIBOR	2.979%	12/6/21	A+	141
Bank of America	10,460	3M LIBOR	2.979%	12/6/21	A-	93
Goldman Sachs	2,995	3M LIBOR	2.899%	12/9/21	A+	22
Bank of America	4,395	3M LIBOR	2.891%	12/10/21	A-	32
Bank of America	7,580	3M LIBOR	2.835%	12/10/21	A-	47
Bank of America	8,790	3M LIBOR	2.925%	12/10/21	A-	70
Goldman Sachs	9,870	3M LIBOR	2.891%	12/10/21	A+	72
Goldman Sachs	19,740	3M LIBOR	2.925%	12/10/21	A+	157
Goldman Sachs	9,870	3M LIBOR	2.816%	12/12/21	A+	58
Bank of America	1,265	3M LIBOR	2.823%	12/12/21	A-	8
Bank of America	3,300	3M LIBOR	2.782%	12/12/21	A-	17
Bank of America	4,395	3M LIBOR	2.816%	12/12/21	A-	26
Goldman Sachs	7,430	3M LIBOR	2.782%	12/12/21	A+	39
Goldman Sachs	7,420	3M LIBOR	2.823%	12/12/21	A+	45
Goldman Sachs	7,965	3M LIBOR	2.890%	12/16/21	A+	58
Bank of America	4,390	3M LIBOR	2.847%	12/17/21	A-	28
Goldman Sachs	9,910	3M LIBOR	2.847%	12/17/21	A+	64
Bank of America	4,390	3M LIBOR	2.806%	12/19/21	A-	25
Goldman Sachs	9,900	3M LIBOR	2.806%	12/19/21	A+	57
Bank of America	6,600	3M LIBOR	2.751%	12/20/21	A-	31
Goldman Sachs	14,900	3M LIBOR	2.751%	12/20/21	A+	70
Bank of America	8,510	3M LIBOR	2.771%	12/23/21	A-	33
Goldman Sachs	19,150	3M LIBOR	2.771%	12/23/21	A+	75
Bank of America	4,235	3M LIBOR	2.588%	12/30/21	A-	7
Goldman Sachs	9,580	3M LIBOR	2.588%	12/30/21	A+	16
Goldman Sachs	9,590	3M LIBOR	2.642%	12/30/21	A+	26
Bank of America	4,230	3M LIBOR	2.642%	12/30/21	A-	11
Bank of America	2,120	3M LIBOR	2.597%	12/31/21	A-	4
Bank of America	2,120	3M LIBOR	2.593%	12/31/21	A-	4
Goldman Sachs	4,780	3M LIBOR	2.593%	12/31/21	A+	8
Goldman Sachs	4,780	3M LIBOR	2.597%	12/31/21	A+	9
Goldman Sachs	2,315	3M LIBOR	2.559%	1/3/22	A+	3

	Defined Benefit Plans					
Counterparty	Notional Amount	Utah Rate	Counter-party Rate	Maturity Date	Credit Rating	Fair Value 2018
Bank of America	$ 5,800	3M LIBOR	2.559%	1/3/22	A-	$ 6
Goldman Sachs	142,960	3.015%	3M LIBOR	9/14/22	A+	(675)
Goldman Sachs	44,710	3.055%	3M LIBOR	9/14/22	A+	(228)
Bank of America	27,839	3M LIBOR	2.225%	10/6/22	A-	(335)
Goldman Sachs	20,375	3.124%	3M LIBOR	10/6/22	A+	(245)
Goldman Sachs	17,580	0.42%	6M EURIB	12/17/22	A+	(58)
Bank of America	7,790	0.42%	6M EURIB	12/17/22	A-	(26)
Bank of America	2,779	3M LIBOR	2.834%	12/17/22	A-	18
Goldman Sachs	6	3M LIBOR	2.834%	12/17/22	A+	40
Bank of America	3,895	6M EURIB	0.364%	12/21/22	A-	8
Goldman Sachs	6,760	6M EURIB	0.364%	12/21/22	A+	13
Bank of America	6,550	6M EURIB	2.639%	12/22/22	A-	21
Bank of America	12,360	3M LIBOR	2.633%	12/22/22	A-	33
Bank of America	12,360	3M LIBOR	2.654%	12/22/22	A-	37
Bank of America	10,320	3M LIBOR	2.696%	12/22/22	A-	39
Bank of America	9,010	3M LIBOR	2.734%	12/22/22	A-	41
Goldman Sachs	14,740	3M LIBOR	2.639%	12/22/22	A+	41
Goldman Sachs	23,830	3M LIBOR	2.633%	12/22/22	A+	63
Goldman Sachs	23,830	3M LIBOR	2.654%	12/22/22	A+	72
Goldman Sachs	20,360	3M LIBOR	2.734%	12/22/22	A+	92
Goldman Sachs	39,610	3M LIBOR	2.696%	12/22/22	A+	151
Bank of America	32,830	1.38%	CPTFE	4/15/23	A-	(107)
Bank of America	6,296,410	6M LIBOR	0.129%	4/26/23	A-	297
Bank of America	10,820	3.256%	RPI	5/15/23	A-	303
Bank of America	27,250	1DFFUND	2.675%	5/31/23	A-	442
Goldman Sachs	61,430	1DFFUND	2.675%	5/31/23	A+	997
Bank of America	12,660	1.545%	CPTFE	7/15/23	A-	(270)
Bank of America	3,300	RPI	3.355%	8/15/23	A-	(617)
Bank of America	1,880	3.357%	RPI	8/15/23	A-	216
Bank of America	17,280	3.35%	RPI	8/15/23	A-	227
Bank of America	17,280	3.475%	RPI	9/15/23	A-	39
Goldman Sachs	7,860	3.45%	RPI	10/15/23	A+	(30)
Bank of America	17,280	3.45%	RPI	10/15/23	A-	(13)
Bank of America	32,940	RPI	3.446%	10/15/23	A-	13
Goldman Sachs	10,820	3.413%	RPI	10/15/23	A+	15
Goldman Sachs	3,310	CPI	2.164%	10/30/23	A+	266
Goldman Sachs	1,615	CPI	2.164%	10/30/23	A+	608
Goldman Sachs	38,428	3.045%	3M LIBOR	11/29/23	A+	(840)
Bank of America	25,951	3.045%	3M LIBOR	11/29/23	A-	(567)
Bank of America	1,460	3.575%	RPI	12/15/23	A-	(37)
Bank of America	250			12/20/23	A-	14
Goldman Sachs	15,290	5%	1%	12/20/23	A+	60
Goldman Sachs	53,240	2.92%	3M LIBOR	7/19/24	A+	$ (283)
Bank of America	23,720	2.92%	3M LIBOR	7/19/24	A-	(126)
Goldman Sachs	7,010	3.02%	3M LIBOR	12/3/24	A+	(145)
Bank of America	3,064	3.02%	3M LIBOR	12/3/24	A-	(63)
Bank of America	35,162	3M LIBOR	2.900%	12/10/24	A-	533
Goldman Sachs	15,010	2.872%	3M LIBOR	12/16/24	A+	(208)

	Defined Benefit Plans					
Counterparty	Notional Amount	Utah Rate	Counter-party Rate	Maturity Date	Credit Rating	Fair Value 2018
Bank of America	$ 6,530	2.872%	3M LIBOR	12/16/24	A-	$ (90)
Goldman Sachs	13,154	2.902%	3M LIBOR	12/19/24	A+	(58)
Bank of America	5,839	2.902%	3M LIBOR	12/19/24	A-	(26)
Goldman Sachs	6,190	2.776%	3M LIBOR	12/20/24	A+	(58)
Bank of America	2,740	2.776%	3M LIBOR	12/20/24	A-	(26)
Goldman Sachs	7,940	2.738%	3M LIBOR	12/23/24	A+	(61)
Bank of America	3,530	2.738%	3M LIBOR	12/23/24	A-	(27)
Goldman Sachs	21,625	2.912%	3M LIBOR	12/7/25	A+	(291)
Bank of America	9,625	2.912%	3M LIBOR	12/7/25	A-	(129)
Goldman Sachs	12,035	2.719%	3M LIBOR	12/21/25	A+	(55)
Bank of America	5,325	2.715%	3M LIBOR	12/21/25	A-	(23)
Bank of America	12,500	3M LIBOR	2.978%	7/19/26	A-	35
Goldman Sachs	28,060	3M LIBOR	2.978%	7/19/26	A+	79
Goldman Sachs	6,912	3M LIBOR	3.048%	12/17/26	A+	22
Bank of America	723,570	0.272%	6M LIBOR	8/11/27	A-	(88)
Bank of America	12,660	3.46%	UK RPI	11/15/27	A-	97
Bank of America	3,300	RPI	3.405%	1/15/28	A-	(221)
Bank of America	1,510	6M EURIB	0.761%	2/15/28	A-	3
Goldman Sachs	3,390	6M EURIB	0.761%	2/15/28	A+	7
Bank of America	2,720	6M EURIB	0.782%	2/15/28	A-	11
Goldman Sachs	6,100	6M EURIB	0.782%	2/15/28	A+	25
Bank of America	4,230	6M EURIB	0.799%	2/15/28	A-	25
Goldman Sachs	9,490	6M EURIB	0.799%	2/15/28	A+	55
Bank of America	7,950	6M EURIB	0.815%	2/15/28	A-	59
Goldman Sachs	18,090	6M EURIB	0.815%	2/15/28	A+	135
Bank of America	19,230	6M EURIB	0.827%	2/15/28	A-	167
Bank of America	12,930	3.21%	3M BBR	3/19/28	A-	(512)
Bank of America	17,250	3.21%	3M BBR	3/20/28	A-	(683)
Bank of America	3,775	1.04%	6M EURIB	3/23/28	A-	(160)
Bank of America	1,530,490	0.32%	6M LIBOR	4/27/28	A-	(235)
Bank of America	52,640	RPI	3.338%	6/15/28	A-	(110)
Goldman Sachs	2,180	3.05%	3M LIBOR	7/25/28	A+	(82)
Bank of America	980	3.050%	3M LIBOR	7/25/28	A-	(37)
Goldman Sachs	11,862	3.121%	3M LIBOR	8/15/28	A+	(403)
Bank of America	6,825	RPI	3.385%	8/15/28	A-	(219)
Bank of America	5,146	3.121%	3M LIBOR	8/15/28	A-	(175)
Bank of America	4,840	3M LIBOR	2.831%	8/15/28	A-	48
Goldman Sachs	10,980	3M LIBOR	2.831%	8/15/28	A+	109
Goldman Sachs	369	6M EURIB	0.878%	8/28/28	A+	6
Bank of America	760	6M EURIB	0.878%	8/28/28	A-	12
Bank of America	1,880	RPI	3.50%	9/15/28	A-	(104)
Goldman Sachs	19,030	3.115%	3M LIBOR	10/4/28	A+	(679)

	Defined Benefit Plans					
Counterparty	Notional Amount	Utah Rate	Counter-party Rate	Maturity Date	Credit Rating	Fair Value 2018
Bank of America	$ 250	3.115%	3M LIBOR	10/4/28	A-	$ (9)
Bank of America	5,580	3.27%	3M LIBOR	10/9/28	A-	(276)
Goldman Sachs	2,150	3.277%	3M LIBOR	10/9/28	A+	(108)
Bank of America	950	3.277%	3M LIBOR	10/9/28	A-	(48)
Bank of America	1,370	3M LIBOR	3.25%	10/9/28	A-	65
Goldman Sachs	3,110	3M LIBOR	3.25%	10/9/28	A+	148
Goldman Sachs	8,540	RPI	3.485%	10/15/28	A+	(43)
Bank of America	17,970	RPI	3.505%	10/15/28	A-	5
Goldman Sachs	1,565	RPI	3.505%	10/15/28	A+	10
Goldman Sachs	11,335	2.249%	CPI	10/30/28	A+	(924)
Bank of America	7,860	2.249%	CPI	10/30/28	A-	(404)
Bank of America	716,795	0.351%	6M LIBOR	11/1/28	A-	(138)
Goldman Sachs	5,508	3.273%	3M LIBOR	11/9/28	A+	(270)
Bank of America	2,450	3.273%	3M LIBOR	11/9/28	A-	(120)
Bank of America	14,510	3M LIBOR	3.143%	11/29/28	A-	539
Goldman Sachs	33,030	3M LIBOR	3.143%	12/29/28	A+	1,228
Goldman Sachs	5,590	1.37%	6M EURIB	2/20/29	A+	(333)
Bank of America	38,770	2.80%	3M BBR	3/20/29	A-	(9)
Bank of America	14,410	UKRPI	3.5475%	11/15/32	A-	11
Bank of America	3,060	3M LIBOR	2.997%	2/15/36	A-	64
Goldman Sachs	7,040	3M LIBOR	2.997%	12/15/36	A+	148
Bank of America	3,800	UKRPI	3.60%	11/15/42	A-	212
Goldman Sachs	23,710	3.23%	3M LIBOR	5/15/44	A+	(1,582)
Bank of America	10,540	3.23%	3M LIBOR	5/15/44	A-	(703)
Goldman Sachs	5,117	3.086%	3M LIBOR	5/15/44	A+	(206)
Bank of America	2,195	3.086%	3M LIBOR	5/15/44	A-	(88)
Bank of America	220	EUR CPI	1.832%	5/15/47	A-	39
Bank of America	17,280	3.55%	RPI	11/15/47	A-	(346)
Bank of America	15,290	EUR P CPTFE	1.974%	1/15/48	A-	104
Bank of America	1,605	EUR P CPTFE	1.991%	1/15/48	A-	114
Bank of America	3,800	3.51%	RPI	2/15/48	A-	(104)
Bank of America	1,460	3.41%	RPI	3/15/48	A-	72
Bank of America	1,460	EUR P CPTFE	1.982%	6/15/48	A-	110
Bank of America	3,310	RPI	3.440%	8/15/48	A-	(53)
Bank of America	18,825	3.433%	RPI	8/15/48	A-	7
Bank of America	17,970	EUR P CPTFE	1.9000%	12/15/48	A-	130
Goldman Sachs	1,810	3M LIBOR	3.08%	2/20/53	A+	60
Total interest rate and credit default swaps	$11,589,746					$(7,318)

3M LIBOR – Three Month London Inter-bank Offered Rate
6M LIBOR – Six Month London Inter-bank Offered Rate
RPI – Retail Price Index
1DF FUND – 1 Day Federal Funds Rate
3M BBR – New Zealand Base Bank Rate
6M EURIB – Six Month Europe Interbank Offered Rate
EUR CPI – Europe Consumer Price Index
UK RPI – United Kingdom Retail Price Index
EUR P CPTFE – Eurostat Eurozone HICP Ex Tobacco (Unrevised)

FIXED INCOME PORTFOLIO SWAPS

(in thousands)

Counterparty	Notional Amount	Utah Rate	Counter-party Rate	Maturity Date	Credit Rating	Defined Contribution Fair Value 2018
Credit Suisse First Boston	$ 1,500	2.23%	US CPI	9/18/20	BBB+	$ (24)
Credit Suisse First Boston	1,780	0.00%	6M EURIB	11/12/20	BBB+	(1)
Credit Suisse First Boston	2,300	2.86%	3M Libor	12/31/20	BBB+	(9)
Credit Suisse First Boston	1,950	2.77%	3M Libor	12/31/20	BBB+	(5)
Credit Suisse First Boston	960	3M Libor	2.98%	12/31/20	BBB+	8
Credit Suisse First Boston	410	3M Libor	3.07%	11/22/21	BBB+	4
Credit Suisse First Boston	400	3M Libor	3.02%	12/3/21	BBB+	4
Credit Suisse First Boston	400	3M Libor	3.02%	12/3/21	BBB+	4
Credit Suisse First Boston	400	3M Libor	2.89%	12/10/21	BBB+	3
Credit Suisse First Boston	800	3M Libor	2.93%	12/10/21	BBB+	6
Credit Suisse First Boston	300	3M Libor	2.82%	12/12/21	BBB+	2
Credit Suisse First Boston	400	3M Libor	2.85%	12/17/21	BBB+	2
Credit Suisse First Boston	400	3M Libor	2.82%	12/12/21	BBB+	2
Credit Suisse First Boston	400	3M Libor	2.81%	12/19/21	BBB+	2
Credit Suisse First Boston	600	3M Libor	2.75%	12/20/21	BBB+	3
Credit Suisse First Boston	800	3M Libor	2.71%	12/23/21	BBB+	3
Credit Suisse First Boston	395	3M Libor	2.59%	12/30/21	BBB+	1
Credit Suisse First Boston	400	3M Libor	2.64%	12/30/21	BBB+	1
Credit Suisse First Boston	2,087	3.12%	3M Libor	10/6/22	BBB+	(24)
Credit Suisse First Boston	710	0.42%	6M EURIB	12/17/22	BBB+	(2)
Credit Suisse First Boston	252	3M Libor	2.83%	12/17/22	BBB+	2
Credit Suisse First Boston	330	6M EURIB	0.36%	12/21/22	BBB+	1
Credit Suisse First Boston	610	3M Libor	2.64%	12/22/22	BBB+	2
Credit Suisse First Boston	975	3M Libor	2.63%	12/22/22	BBB+	3
Credit Suisse First Boston	820	3M Libor	2.73%	12/22/22	BBB+	4
Credit Suisse First Boston	975	3M Libor	2.65%	12/22/22	BBB+	3
Credit Suisse First Boston	815	1.38%	EUR CPI	4/15/23	BBB+	(10)
Credit Suisse First Boston	498,280	6M Libor	0.13%	4/26/23	BBB+	22
Credit Suisse First Boston	1,395	3.256%	UK RPI	5/15/23	BBB+	24
Credit Suisse First Boston	2,550	1D FF	2.680%	5/31/23	BBB+	41
Credit Suisse First Boston	980	1.55%	EUR CPI	7/15/23	BBB+	(19)
Credit Suisse First Boston	4,035	UK RPI	3.355%	8/15/23	BBB+	(47)
Credit Suisse First Boston	1,695	3.357%	UK RPI	8/15/23	BBB+	20
Credit Suisse First Boston	1,695	3.35%	UK RPI	8/15/23	BBB+	20
Credit Suisse First Boston	1,395	3.475%	UK RPI	9/15/23	BBB+	3
Credit Suisse First Boston	820	UK RPI	3.44625%	10/15/23	BBB+	1
Credit Suisse First Boston	715	3.450%	UK RPI	10/15/23	BBB+	(1)
Credit Suisse First Boston	1,315	US CPI	2.164%	10/30/23	BBB+	24
Credit Suisse First Boston	2,482	3.05%	3M Libor	11/29/23	BBB+	(60)
Credit Suisse First Boston	2,482	3.05%	3M Libor	11/29/23	BBB+	6
Credit Suisse First Boston	250	3.21%	1.97%	12/20/23	BBB+	13
Credit Suisse First Boston	750	3.21%	1.79534%	12/20/23	BBB+	16
Credit Suisse First Boston	2150	2.92%	3M Libor	7/19/24	BBB+	(12)
Credit Suisse First Boston	330	2.87%	3M Libor	12/16/24	BBB+	(4)
Credit Suisse First Boston	529	2.90%	3M Libor	12/19/24	BBB+	(2)
Credit Suisse First Boston	$ 250	2.78%	3M Libor	12/20/24	BBB+	$ (2)
Credit Suisse First Boston	330	2.74%	3M Libor	12/23/24	BBB+	(2)
Credit Suisse First Boston	875	2.91%	3M Libor	12/7/25	BBB+	(12)
Credit Suisse First Boston	500	2.71%	3M Libor	12/21/25	BBB+	(2)
Credit Suisse First Boston	1,810	6M EURIB	0.83%	7/19/26	BBB+	15
Credit Suisse First Boston	1,130	3M Libor	2.98%	7/19/26	BBB+	3
Credit Suisse First Boston	228	3M Libor	3.05%	12/17/26	BBB+	1
Credit Suisse First Boston	59,100	0.27%	6M Libor	8/11/27	BBB+	(7)
Credit Suisse First Boston	925	3.455%	UK RPI	11/15/27	BBB+	8
Credit Suisse First Boston	1,050	UK RPI	3.405%	1/15/28	BBB+	(19)
Credit Suisse First Boston	220	6M EURIB	0.78%	2/15/28	BBB+	1
Credit Suisse First Boston	340	6M EURIB	0.80%	2/15/28	BBB+	2
Credit Suisse First Boston	850	6M EURIB	0.82%	2/15/28	BBB+	6
Bank of America	2,150	3.21%	3M Libor	3/19/28	A-	(85)
Bank of America	2,150	3.21%	3M NDBBB3	3/19/28	A-	1
Bank of America	2,860	3.21%	3M NDBBB4	3/19/28	A-	1
Bank of America	2,860	3.21%	3M Libor	3/20/28	A-	(112)
Credit Suisse First Boston	290	1.04%	6M EURIB	3/23/28	BBB+	(12)
Credit Suisse First Boston	118,900	0.32%	6M Libor	4/27/28	BBB+	(18)
Credit Suisse First Boston	140	UK RPI	3.338%	6/15/28	BBB+	(5)
Credit Suisse First Boston	90	3.05%	3M Libor	7/25/28	BBB+	(4)
Credit Suisse First Boston	770	UK RPI	3.385%	8/15/28	BBB+	(20)
Credit Suisse First Boston	522	3.12%	3M Libor	8/15/28	BBB+	(18)
Credit Suisse First Boston	390	3M Libor	3.05%	8/15/28	BBB+	4
Credit Suisse First Boston	40	6M EURIB	0.88%	8/28/28	BBB+	1
Credit Suisse First Boston	1,395	UK RPI	3.50%	9/15/28	BBB+	(9)
Credit Suisse First Boston	130	3M Libor	3.05%	10/9/28	BBB+	7
Credit Suisse First Boston	90	3.28%	3M Libor	10/9/28	BBB+	(5)
Credit Suisse First Boston	130	3M Libor	3.25%	10/9/28	BBB+	(1)
Credit Suisse First Boston	460	3.27%	3M Libor	10/9/28	BBB+	(25)
Credit Suisse First Boston	90	3.28%	3M Libor	10/9/28	BBB+	1
Credit Suisse First Boston	460	3.27%	3M Libor	10/9/28	BBB+	3
Credit Suisse First Boston	1,315	2.249%	US CPI	10/30/28	BBB+	(35)
Credit Suisse First Boston	59,140	0.35%	6M Libor	11/1/28	BBB+	(11)
Credit Suisse First Boston	225	3.27%	3M Libor	11/9/28	BBB+	(12)
Credit Suisse First Boston	225	3.27%	3M Libor	11/9/28	BBB+	1
Credit Suisse First Boston	1,330	3M Libor	3.140%	11/29/28	BBB+	(3)
Credit Suisse First Boston	1,330	3.140%	3M Libor	11/29/28	BBB+	52
Credit Suisse First Boston	3,450	2.800%	3M Libor	3/20/29	BBB+	(20)
Credit Suisse First Boston	115	EUR CPI	1.832%	5/15/47	BBB+	3
Credit Suisse First Boston	555	3.55%	UK RPI	11/15/47	BBB+	(28)
Credit Suisse First Boston	925	UK RPI	3.5475%	11/15/32	BBB+	1
Credit Suisse First Boston	270	3M Libor	3.25%	2/15/36	BBB+	6
Credit Suisse First Boston	555	UK RPI	3.60%	11/15/42	BBB+	17
Credit Suisse First Boston	880	3.23%	3M Libor	5/15/44	BBB+	(60)
Credit Suisse First Boston	$ 120	EUR CPI	1.97375%	1/15/48	BBB+	$ 8
Credit Suisse First Boston	120	EUR CPI	1.991%	1/15/48	BBB+	9
Credit Suisse First Boston	265	UK RPI	3.51%	2/15/48	BBB+	8
Credit Suisse First Boston	255	3.51%	UK RPI	2/15/48	BBB+	(8)
Credit Suisse First Boston	120	3.41%	UK RPI	3/15/48	BBB+	6
Credit Suisse First Boston	125	EUR CPI	1.9825%	6/15/48	BBB+	9
Credit Suisse First Boston	145	2.80%	EUR CPI	7/15/48	BBB+	(12)
Credit Suisse First Boston	170	UK RPI	3.44%	8/15/48	BBB+	(5)
Credit Suisse First Boston	60	EUR CPI	1.945%	8/15/48	BBB+	3
Credit Suisse First Boston	260	3.467%	UK RPI	9/15/48	BBB+	2
Credit Suisse First Boston	300	EUR CPI	1.90%	12/15/48	BBB+	10
Total interest rate and credit default swaps	$819,797					$(333)

3M LIBOR – Three Month London Inter-bank Offered Rate
6M LIBOR – Six Month London Inter-bank Offered Rate
RPI – Retail Price Index
1DF FUND – 1 Day Federal Funds Rate
3M BBR – New Zealand Base Bank Rate
6M EURIB – Six Month Europe Interbank Offered Rate
EUR CPI – Europe Consumer Price Index
UK RPI – United Kingdom Retail Price Index
EUR P CPTFE – Eurostat Eurozone HICP Ex Tobacco (Unnrevised)

DERIVATIVE CREDIT RISK AT FAIR VALUE

(in thousands)

Quality Rating	Forwards	Options	Swaps	Total
AA+	$ (262)	—	—	(262)
AA-	(466)	—	—	(466)
A+	(315)	433	—	118
A	(334)	411	—	77
A-	(435)	1,226	(1,778)	(987)
BBB+	(141)	(1,687)	(103)	(1,931)
BBB	(5,148)	(3,127)	—	(8,275)
BBB-	(487)	—	—	(487)
NA	(14)	4,315	361	4,662
Total subject to credit risk	$ (7,602)	1,571	(1,520)	(7,551)

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, 2018, if all counterparties fail to perform as contracted was $1,631,908,723. Derivative credit risk at fair value is shown in the table above This maximum exposure is reduced by $1,644,456,218 of liabilities, resulting in $0 exposure to credit risk. Credit ratings for the wrap contracts associated with the SGICs are noted in the top table on page 80. As of December 31, 2018, the counterparties' credit ratings for currency forwards, options, and swaps are subject to credit risk.

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

SYNTHETIC GUARANTEED INVESTMENT CONTRACTS UNDERLYING INVESTMENTS

(in thousands)

Underlying Investments	1-5 Yr. Government/Credit Bond Fair Value	Market Value	Duration	Credit Rating	Intermediate Government/Credit Bond Fair Value	Market Value	Duration	Credit Rating	MetLife Separate Account Fair Value	Market Value	Duration	Credit Rating	Total Underlying Investments Fair Value	Market Value
Asset-backed securities	$ 99,295	98,526	1.27	AAA	$ 39,569	39,263	1.39	AAA	$ 47,931	48,062	1.32	AAA	$ 186,795	185,851
Agencies	49,874	49,488	2.19	AA+	33,201	32,944	3.83	AA+	11,714	11,746	2.60	AA+	94,789	94,178
Corporates	153,653	152,463	3.65	A-	102,439	101,646	4.87	A-	69,427	69,616	1.85	A-	325,519	323,725
Government mortgage-backed securities	40,724	40,408	3.06	AA+	24,085	23,899	3.83	AA+	6,052	6,069	2.60	AA+	70,861	70,376
United States treasuries	45,253	44,903	3.98	AA+	60,606	60,137	7.01	AA+	23,468	23,532	3.13	AA+	129,327	128,572
Commercial mortgage-backed securities	59,296	58,837	1.31	AA+	38,422	38,125	1.33	AA+	33,913	34,005	1.50	AA+	131,631	130,967
Cash	4,892	4,854	—	—	3,501	3,474	—	—	2,734	2,740	—	—	11,127	11,068
Total	$ 452,987	449,479			$ 301,823	299,488			$ 195,239	195,770			$ 950,049	944,737

WRAP CONTRACTS

(in thousands)

Contract Issuer	Fair Value	Market Value	Rate	Duration	Quality Rating
American General	$ 86,295	85,701	2.49%	3.08	A+
Lincoln National Life	118,535	117,257	2.28	3.08	AA-
MetLife	195,239	195,770	3.40	1.85	AA-
Transamerica	189,467	188,331	2.16	3.08	AA-
Pacific Life	206,054	203,770	2.91	3.08	AA-
Royal Bank of Canada	154,459	153,908	2.76	3.08	AA-
Subtotal wrap contracts	950,049	944,737			
Merrill Lynch repurchase	74,164	74,164			
Total	$ 1,024,213	1,018,901			

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, 2018, was $950,049,000 and the market value was $944,737,000.

K) Investment Payables

The investment accounts payable are comprised of investment advisor fees payable of $8,094,000, administrative expenses payable of $956,000, 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.

Note 4
Property and Equipment

Property and equipment consist of the amounts shown in the following table as of December 31, 2018 and 2017. There were no significant leases as of December 31, 2018 or 2017.

PROPERTY AND EQUIPMENT

(in thousands)

	2018	2017
Land	$ 1,780	1,780
Buildings and building improvements	20,270	19,312
Furniture and equipment	3,129	2,579
Computer software	6,615	5,543
Total property and equipment	31,794	29,214
Less accumulated depreciation:		
Buildings and building improvements	10,459	10,098
Furniture and equipment	2,248	1,820
Computer software	3,337	2,271
Total accumulated depreciation	16,044	14,189
Less operating reserves	11,072	10,635
Net property and equipment	$ 4,678	4,390

Note 5
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, 2018, is as shown to the right.

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 most recent experience study was conducted for the five-year period ending December 31, 2016. 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, 2018, is based on the results of an actuarial valuation date of January 1, 2018, and rolled-forward using generally accepted actuarial procedures.

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, 2018, are summarized in the table on page 82.

NET PENSION LIABILITY OF EMPLOYERS

(dollars in thousands)

System	(1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers' Net Pension Liability (1) - (2)	(4) Plan Fiduciary Net Position as a % of the Total Pension Liability (2) / (1)	(5) Projected Covered Payroll	(6) Net Pension Liability as a % of Covered Payroll (3) / (5)
Noncontributory Retirement System	$ 29,122,948	$ 24,666,059	$ 4,456,889	84.7%	$ 3,330,548	133.8%
Contributory Retirement System	1,284,009	1,172,429	111,580	91.3	39,279	284.1
Public Safety Retirement System	4,258,247	3,528,069	730,178	82.9	348,475	209.5
Firefighters Retirement System	1,261,289	1,207,889	53,400	95.8	113,587	47.0
Judges Retirement System	244,209	195,570	48,639	80.1	18,802	258.7
Utah Governors and Legislators Retirement Plan	13,177	10,537	2,640	80.0	639	413.1
Tier 2 Public Employees System	467,461	424,633	42,828	90.8	1,171,543	3.7
Tier 2 Public Safety and Firefighters System	56,841	54,336	2,505	95.6	123,439	2.0
Total	$ 36,708,181	$ 31,259,522	$ 5,448,659	85.2 %	$ 5,146,312	105.9%

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	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18
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	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%
Projected salary increases	3.25-9.75%	3.25-9.75%	3.25-7.25%	3.25-8.75%	3.25%	None	3.25-9.75%	3.25-8.75%
Inflation rate	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Post-retirement cost-of-living adjustment	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Mortality: (Non-educators)	Male: 110% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for males, projected with Scale AA from the year 2017. Female: 110% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for females, projected with Scale AA from the year 2017.							
Mortality: (Educators)	Male: 90% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for males, projected with Scale AA from the year 2017. Female: 90% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for females, projected with Scale AA from the year 2017.							

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

Asset Class	Target Asset Allocation	Expected Return Arithmetic Basis: Real Return Arithmetic Basis	Expected Return Arithmetic Basis: Long-term Expected Portfolio Real Rate of Return*
Equity securities	40%	6.15%	2.46%
Debt securities	20	0.40	0.08
Real assets	15	5.75	0.86
Private equity	9	9.95	0.89
Absolute return	16	2.85	0.46
Cash and cash equivalents	0	0.00	0.00
Totals	100%		4.75%
Inflation			2.50
Expected arithmetic nominal return			7.25%

**The total URS Defined Benefit long-term expected rate of return is 6.95%, which is comprised of a 2.50% inflation assumption and a 4.45% net real rate of return.*

The discount rate used to measure the total pension liability was 6.95%. 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.

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 below presents the net pension liability/(asset) of the participating employers calculated using the discount rate of 6.95%, 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 (5.95%) or 1.00% higher (7.95%) 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 an open 20-year amortization period. The rates are determined using the entry age actuarial cost method.

CHANGES IN DISCOUNT RATE

(dollars in thousands)

System	Net Pension Liability/(Asset) 1% Decrease (5.95%)	Net Pension Liability/(Asset) Current Discount Rate (6.95%)	Net Pension Liability/(Asset) 1% Increase (7.95%)
Noncontributory Retirement System	$ 8,196,651	4,456,889	1,331,118
Contributory Retirement System	234,936	111,580	6,844
Public Safety Retirement System	1,332,728	730,178	238,045
Firefighters Retirement System	230,327	53,400	(91,667)
Judges Retirement System	75,935	48,639	25,404
Utah Governors and Legislative Retirement Plan	3,913	2,640	1,559
Tier 2 Public Employees System	171,577	42,828	(56,534)
Tier 2 Public Safety and Firefighters System	18,898	2,505	(10,039)
Total	$ 10,264,965	5,448,659	1,444,730

Note 6
Employer Contribution Requirements

The schedule below summarizes contribution rates in effect as of December 31, 2018. 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, 2018, is indicated in the schedules shown below.

Member contributions in the 401(k), 457, Roth and Traditional IRAs, total $405,525,000, that in combination with the member contributions made in the Retirement Systems total $441,837,000.

CONTRIBUTION RATES
December 31, 3018

System		Contribution Rates as a Percent of Covered Payroll		
		Member	Employer	Other
Noncontributory		—	18.47-22.19%	—
Contributory		6.00%	14.46-17.70	—
Public Safety:	Noncontributory	—	32.28-50.38	—
	Contributory	10.50-12.29	22.79-28.98	—
Firefighters:	Division A	15.05	4.61	11.06%
	Division B	16.71	7.24	11.06
Judges:	Noncontributory	—	43.68	8.23
Governors and Legislators		—	$ 384,103	—
Tier 2 Public Employees		—	15.54-18.87%	—
Tier 2 Public Safety and Firefighter		—	11.34-38.23	—

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	$ 560,665	$ 312,381	$ 873,046	$ 873,046	$ 14,602	$ 858,444
Contributory	4,677	3,805	8,482	8,482	2,455	6,027
Public Safety	95,251	52,745	147,996	147,996	895	147,101
Firefighters	33,247	826	34,073	34,073	18,305	15,768
Judges	7,395	2,214	9,609	9,609	—	9,609
Governors & Legislators	392	—	392	392	—	392
Tier 2 Public Employees	97,680	—	97,680	97,680	—	97,680
Tier 2 Public Safety and Firefighters	14,350	—	14,350	14,350	55	14,295
Total	$ 813,657	$ 371,971	$ 1,185,628	$ 1,185,628	$ 36,312	$ 1,149,316

Note 7
Transfer to and 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.

Note 8
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.

Note 9
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.

Note 10
Commitments

As of December 31, 2018, the Systems had committed to fund certain private equity partnerships, absolute return, and real asset funds projects for an amount of $12,169,842,433. Funding of $9,394,093,897 had been provided by December 31, 2018, leaving an unfunded commitment of $2,775,748,536 as of December 31, 2018.

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, 2018, 2017, and 2016, were $3,055,948 $3,008,977, and $2,941,508, 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, 2018, 2017, and 2016, were $679,751, $596,455, and $487,794, 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

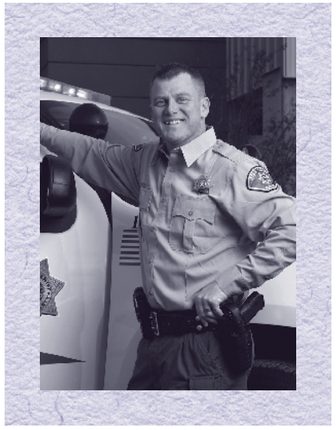
The Utah Retirement Systems offers its employees a 401(k) Plan to supplement retirement benefits accrued by participants in the Systems and may also be used as a primary retirement benefit. Employees covered by the State and School Noncontributory Retirement System have a contribution of 1.5% of covered 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, 2018, 2017, and 2016, were $1,342,138, $1,145,630, and $946,818, respectively; the employee contributions for the years ended December 31, 2018, 2017, and 2016, were $888,860, $902,966, and $755,806, 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, 2018, 2017, and 2016, were $486,440, $507,529, and $460,828, 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, 2018, 2017, and 2016, the Roth IRA employee contributions were $211,468, $192,786, and $186,088, respectively. For the years ended December 31, 2018, 2017, and 2016, the traditional IRA employee contributions were $2,719, $11,185, and $8,985, respectively.



Note 12
Post-Employment Healthcare Plan

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.

For purposes of measuring the net OPEB liability, deferred outflows/inflows of resources and expenses, information about the fiduciary net positions of the Other Postemployment Benefit Plan and additions to/ deductions from the Plans' fiduciary net positions have been determined on the same basis as they are reported by the Plans. For this purpose, the Plans recognize benefit payments when due and payable in accordance with the benefit terms. OPEB investments for the Plans are reported at fair value.

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.

Membership
(as in January 1, 2017, the last actuarial valuation date)

Number of retirees	36
Inactive, nonretired	—
Active members	89
Total membership	125

Net OPEB Liability

The net OPEB liability was measured as of December 31, 2018. The total OPEB liability, used to calculate the net OPEB liability, was determined by an actuarial valuation as of January 1, 2017 and rolled-forward using generally accepted actuarial procedures. The combined total net OPEB liability is $10.1 thousand. Below are the changes in the net OPEB liability and related ratios of the net OPEB liability:

Net OPEB Liability

Total OPEB Liability	$ 6,045,059
Plan Fiduciary Net Position	6,034,960
Net OPEB Liability	$ 10,099
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	99.83%
Net OPEB Liability as a Percentage of Covered Payroll	0.13%

The actuarial valuation was performed as of January 1, 2017. Update procedures were used to roll forward the total OPEB liability to December 31, 2018. All assumptions and methods used to develop the December 31, 2018 total OPEB liability are identical to those used in the January 1, 2017 actuarial valuation.

SUMMARY OF ACTUARIAL ASSUMPTIONS

Actuarial Cost Method	Individual Entry Age Normal
Discount Rate	6.95%, net of OPEB plan investment expense, including inflation
Inflation	2.50%
Salary Increases	3.25% to 8.50%, including inflation
Demographic Assumptions	The demographic assumptions were based on the experience study covering the five year period ending January 1, 2016 as conducted for the Utah Retirement Systems (URS).
Mortality Assumptions	Male retirees: 110% of 2017 PR UTAH Retiree Mortality Table for males, projected with Scale AA from 2017. Female retirees: 110% of 2017 PR UTAH Retiree Mortality Table for females, projected with Scale AA from 2017.
Participation Rates	All eligible members are assumed to convert all unused sick leave into health coverage at retirement.
Health Care Trend Rates	Initial trend rate of 7.50%, decreasing to an ultimate of 4.50% over 15 years.

Single Discount Rate

A Single Discount Rate of 6.95% was used to measure the total OPEB liability. This Single Discount Rate was based on the expected rate of return on OPEB plan investments of 6.95%. The funding policy is to pay the recommended actuarially determined contribution, which is based on a maximum 20-year amortization period. For both funds, the Fiduciary Net Position currently exceeds the total OPEB liability. As a result, the OPEB plan's fiduciary net position is expected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Target Allocations

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 31,2018, are summarized in the table below:

SCHEDULE OF CHANGES IN NET OPEB LIABILITY AND RELATED RATIOS MULTIYEAR*

Fiscal Year Ending December 31

	2018	2017
Total OPEB Liability		
Service cost	$ 35,009	36,798
Interest on the total OPEB liability	402,338	393,103
Changes of benefit terms	—	—
Difference between expected and actual experience	15,944	68,615
Changes of Assumptions	—	—
Benefit payments	(359,523)	(369,968)
Net change in total OPEB liability	93,768	128,548
Total OPEB liability – beginning	5,951,291	5,822,743
Total OPEB liability – ending (a)	$ 6,045,059	5,951,291
Plan Fiduciary Net Position		
Employer contributions	$ —	—
Employee contributions	—	—
OPEB plan net investment income	(23,149)	781,412
Benefit payments	(359,523)	(369,968)
OPEB plan administrative expense	(2,482)	—
Other	—	—
Net change in plan fiduciary net position	(385,154)	411,444
Plan fiduciary net position – beginning	6,420,114	6,008,670
Plan fiduciary net position – ending (b)	6,034,960	6,420,114
Net OPEB liability – ending (a) - (b)	$ 10,099	(468,823)
Plan fiduciary net position as a percentage of total OPEB liability	99.83%	107.88%
Covered payroll	$ 7,897,200	7,897,200
Net OPEB liability as a percentage of covered payroll	0.13%	(5.94)%

Additional years will be displayed as they become available.

TARGET ALLOCATIONS

Asset Class	Target Asset Allocation	Expected Return Arithmetic Basis: Real Return Arithmetic Basis	Expected Return Arithmetic Basis: Long-term Expected Portfolio Real Rate of Return*
Equity securities	40%	6.15%	2.46%
Debt securities	20	0.40	0.08
Real assets	15	5.75	0.86
Private equity	9	9.95	0.89
Absolute return	16	2.85	0.46
Cash and cash equivalents	0	0.00	0.00
Totals	100%		4.75%
Inflation			2.50
Expected arithmetic nominal return			7.25%

**The total URS Defined Benefit long-term expected rate of return is 6.95%, which is comprised of a 2.50% inflation assumption and a 4.45% net real rate of return.*

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. 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 as of the most recent actuarial valuation, January 1, 2017, was over 100% and the plan is closed to new participants.

Required Contributions

For the year ended December 31, 2018, the annual cost (expense) of $0 for UREPEHP was equal to the ARC. The net Other Post-Employment Benefits (OPEB) obligation for 2018 was as follows:

SCHEDULE OF CONTRIBUTIONS MULTIYEAR LAST 10 FISCAL YEARS

FY Ending December 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	$ 220	$ 220	$ —	$ 8,678	2.54%
2010	313	313	—	8,366	3.74
2011	285	285	—	7,835	3.64
2012	285	285	—	7,538	3.78
2013	285	285	—-	7,189	3.96
2014	285	285	—	6,955	4.10
2015	—	—	—	7,841	0.00
2016	—	—	—	7,647	0.00
2017	—	—	—	7,897	0.00
2018	—	—	—	7,897	0.00

NOTES TO THE SCHEDULE OF CONTRIBUTIONS

Valuation Date:	January 1, 2017
Methods and Assumptions Used to Determine Contribution Rates:	
Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level Dollar Contributions
Remaining Amortization Period	20 years, maximum
Asset Valuation Method	5-year smoothed
Investment Rate of Return	6.95%, net of OPEB plan investment expense, including inflation
Inflation	2.50%
Salary Increases	3.25% to 8.50%, including inflation
Demographic Assumptions	The demographic assumptions were based on the experience study covering the five year period ending January 1, 2017 as conducted for the Utah Retirement Systems (URS).
Mortality Assumptions	Male retirees: 110% of 2017 PR UTAH Retiree Mortality Table for males, projected with Scale AA from 2017. Female retirees: 110% of 2017 PR UTAH Retiree Mortality Table for females, projected with Scale AA from 2017.
Participation Rates	All eligible members are assumed to convert all unused sick leave into health coverage at retirement.
Health Care Trend Rates	Initial trend rate of 7.50%, decreasing to an ultimate of 4.50% over 15 years.

Frequency and Timing of the Actuarial Valuation

An actuarial valuation to determine the total OPEB liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the OPEB plan's fiscal year end. If update procedures are used to roll forward the total OPEB liability, the date of the actuarial valuation must be no more than 24 months earlier than the OPEB plan's most recent fiscal year-end.

The total OPEB liability shown in this report is based on an actuarial valuation performed as of January 1, 2017 and a measurement date of December 31, 2018.

SIngle Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on OPEB plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on OPEB plan investments is 6.95%; the municipal bond rate is 3.71% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.95%.

Sensitivity of Net OPEB Liability

Regarding the sensitivity of the net OPEB liability to changes in the Single Discount Rate, the following presents the plan's net OPEB liability, calculated using a Single Discount Rate of 6.95%, as well as what the plan's net OPEB liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net OPEB Liability to a Single Discount Rate Assumption

1% Decrease 5.95%	Current Single Discount Rate Assumption 6.95%	1% Increase 7.95%
$ 488,122	$ 10,999	$ (419,410)

Regarding the sensitivity of the net OPEB liability to changes in the healthcare cost trend rates, the following presents the plan's net OPEB liability, calculated using the assumed trend rates as well as what the plan's net OPEB liability would be if it were calculated using a trend rate that is one percent lower or one percent higher:

Sensitivity of Net OPEB Liability to the Healthcare Cost Trend Rate Assumption

1% Decrease	Current Healthcare Cost Trend Rate Assumption	1% Increase
$ (585,423)	$ 10,099	$ 522,236

Note 13

Compensated Absences and Insurance Reserve

The compensated absences liability for Utah Retirement Office employees as of December 31, 2018, was $6,405,946. This represents the amount of unused leave to be paid to employees upon termination. As of December 31, 2018, the insurance reserve was $4,822,000. 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 92 through 101. 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 liability consists of one line of credit. This note bears interest and is scheduled to be repaid over the next year. The rest of the liabilities are unsecured. As mentioned in Note 3, page 75, 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, 2018, there is $120 million in credit facility debt. Using interest rates as of December 31, 2018, 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
The Northern Trust	$ 120,000	8/1/2019	$120,000
Total	$ 120,000		

Year Ending December 31,	Total Principal Payments	Total Interest Payments	Total Swap Payments
2018	$ 120,000	1,781	2,464
2019	—	—	2,032
2020	—	—	753

Loan and swap interest payments are calculated using the One Month LIBOR rate at December 31, 2018.

Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability

Year Ended December 31

(in thousands)

	Noncontributory System						Contributory System						Public Safety Systems					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 404,391	403,981	407,690	394,798	407,992	441,320	4,044	4,801	5,673	8,672	9,580	10,997	80,296	78,272	78,843	75,352	76,681	81,736
Interest	1,920,238	1,877,576	1,764,653	1,775,819	1,699,693	1,646,213	87,297	90,124	91,894	95,463	93,819	93,750	280,149	269,818	249,722	248,980	236,803	229,965
Benefit changes	—	—	48,400	—	—	23,123	—	—	(45,057)	—	—	721	—	—	—	—	—	—
Difference between actual and expected experience	32,680	(84,234)	6,408	(188,166)	(204,823)	(208,501)	(17,249)	(24,988)	(13,801)	(15,289)	(22,839)	(20,520)	1,441	(3,041)	9,358	(17,164)	(25,225)	(29,228)
Assumption changes	—	642,187	563,741	—	(157,921)	—	—	22,108	22,909	—	(4,233)	—	—	118,370	110,373	—	(52,410)	—
Benefit payments	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
Refunds	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)	(428)	(226)	(183)	(533)	(199)	(467)
Net change in total pension liability	1,034,329	1,586,838	1,602,209	856,308	698,939	925,017	(14,174)	5,671	(23,529)	6,241	(3,121)	8,868	173,044	290,323	283,605	151,248	90,887	144,520
Total pension liability — beginning	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325	22,419,308	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	1,304,053	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140	3,124,620
Total pension liability — ending (a)	29,122,948	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	4,258,247	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140
Plan fiduciary net position																		
Contributions — member	14,602	17,285	16,308	17,020	13,587	14,208	2,455	2,675	3,420	4,771	5,461	6,376	895	793	830	905	835	1,258
Contributions — employer	858,444	854,255	831,631	813,449	772,420	710,933	6,027	7,946	8,188	11,719	12,954	12,874	147,101	145,814	147,099	141,024	135,588	128,744
Court fees and fire insurance tax	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net investment income	(92,207)	2,987,282	1,783,911	366,748	1,419,053	2,588,981	(4,513)	155,949	97,693	21,251	87,577	169,510	(13,134)	421,917	249,027	50,654	194,222	350,563
Benefit payments	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
Refunds	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)	(428)	(226)	(183)	(533)	(199)	(467)
Administrative expense	(9,962)	(9,579)	(8,856)	(8,797)	(8,828)	(8,329)	(454)	(457)	(446)	(478)	(494)	(480)	(1,450)	(1,382)	(1,260)	(1,233)	(1,227)	(1,161)
Net transfers with affiliated systems	13,035	(10,187)	(8,005)	33,648	30,467	(42,277)	(26,286)	(1,177)	(1,895)	(41,558)	(38,004)	33,094	6,982	5,926	6,701	4,023	2,746	4,676
Net change in plan fiduciary net position	(539,068)	2,586,384	1,426,306	95,925	1,180,697	2,286,378	(111,037)	78,562	21,813	(86,900)	(11,954)	145,294	(48,448)	399,972	237,706	39,453	187,202	346,127
Plan fiduciary net position — beginning	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815	17,629,437	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	1,136,651	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184	2,366,057
Plan fiduciary net position — ending (b)	$ 24,666,059	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	3,528,069	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184
Net pension liability/(asset) — ending (a-b)	$ 4,456,889	2,883,492	3,883,038	3,707,135	2,946,752	3,428,510	111,580	14,717	87,608	132,950	39,809	30,976	730,178	508,686	618,335	572,436	460,641	556,956
Plan fiduciary net position as a percentage of the total pension liability	84.7%	89.7%	85.3%	85.1%	87.7%	85.3%	91.3%	98.9%	93.2%	89.9%	97.0%	97.6%	82.9%	87.5%	83.7%	83.7%	86.3%	83.0%
Projected covered payroll	$ 3,330,548	3,375,321	3,406,567	3,458,286	3,570,912	3,705,771	39,279	45,177	53,615	82,426	90,623	98,023	348,475	350,782	352,407	355,171	360,750	365,998
Net pension liability/(asset) as a percentage of covered payroll	133.8%	85.4%	114.0%	107.2%	82.5%	92.5%	284.1%	32.6%	163.4%	161.3%	43.9%	31.6%	209.5%	145.0%	175.5%	161.2%	127.7%	152.2%

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

Continued on page 94.

Utah Retirement Systems

Required Supplementary Information *(Continued)*

Schedules of Changes in the Employers' Net Pension Liability *(Continued)*

Year Ended December 31

(in thousands)

	Firefighter System						Judges System						Utah Governors and Legislators Plan					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 29,378	28,775	28,652	27,182	27,266	29,577	5,682	5,325	5,023	4,794	4,895	4,537	65	68	89	99	106	100
Interest	82,819	80,386	75,334	75,212	71,490	70,259	15,697	14,866	14,064	14,136	13,641	12,924	877	879	851	890	884	860
Benefit changes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Difference between actual and expected experience	937	(9,216)	(5,525)	(8,259)	(15,077)	(13,083)	7,872	809	1,995	171	2,602	(569)	139	182	167	(105)	307	(233)
Assumption changes	—	31,357	25,572	—	(20,372)	—	—	13,067	2,885	—	(130)	—	—	264	241	—	—	—
Benefit payments	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)	(16,111)	(13,621)	(12,330)	(12,400)	(11,361)	(10,189)	(978)	(973)	(941)	(904)	(909)	(892)
Refunds	(132)	(511)	(466)	(528)	(293)	(106)	—	—	—	—	—	—	—	—	—	—	—	—
Net change in total pension liability	55,562	75,998	71,465	43,936	15,304	41,900	13,140	20,446	11,637	6,701	9,647	6,703	103	420	407	(20)	388	(165)
Total pension liability — beginning	1,205,727	1,129,729	1,058,264	1,014,328	999,024	957,124	231,069	210,623	198,986	192,285	182,638	175,935	13,074	12,654	12,247	12,267	11,879	12,044
Total pension liability — ending (a)	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024	244,209	231,069	210,623	198,986	192,285	182,638	13,177	13,074	12,654	12,247	12,267	11,879
Plan fiduciary net position																		
Contributions — member	18,305	18,460	18,729	18,175	18,300	18,325	—	—	—	—	317	—	—	—	—	—	—	—
Contributions — employer	7,021	6,715	6,954	6,690	5,514	3,494	8,091	7,563	7,382	6,555	5,627	4,990	392	404	421	421	411	252
Court fees and fire insurance tax	8,747	1,223	10,569	17,218	14,154	11,285	1,518	1,477	1,470	1,653	1,486	1,498	—	—	—	—	—	—
Net investment income	(4,509)	146,736	87,746	17,934	69,070	125,685	(730)	23,435	13,820	2,842	11,068	20,130	(41)	1,353	849	181	717	1,346
Benefit payments	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)	(16,111)	(13,621)	(12,330)	(12,400)	(11,361)	(10,189)	(978)	(973)	(941)	(904)	(909)	(892)
Refunds	(132)	(511)	(466)	(528)	(293)	(106)	—	—	—	—	—	—	—	—	—	—	—	—
Administrative expense	(427)	(408)	(374)	(371)	(370)	(355)	(84)	(79)	(71)	(71)	(71)	(66)	(5)	(5)	(4)	(5)	(5)	(4)
Net transfers with affiliated systems	1,917	1,259	1,611	2,573	3,713	1,302	4,403	4,090	1,600	1,334	1,092	3,186	(51)	89	(12)	(20)	(14)	19
Net change in plan fiduciary net position	(26,518)	118,681	72,667	12,020	62,378	114,883	(2,913)	22,865	11,871	(87)	8,158	19,549	(683)	868	313	(327)	200	721
Plan fiduciary net position — beginning	1,234,407	1,115,726	1,043,059	1,031,039	968,661	853,778	198,483	175,618	163,747	163,834	155,676	136,127	11,220	10,352	10,039	10,366	10,166	9,445
Plan fiduciary net position — ending (b)	$ 1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661	195,570	198,483	175,618	163,747	163,834	155,676	10,537	11,220	10,352	10,039	10,366	10,166
Net pension liability/(asset) — ending (a-b)	$ 53,400	(28,680)	14,003	15,205	(16,711)	30,363	48,639	32,586	35,005	35,239	28,451	26,962	2,640	1,854	2,302	2,208	1,901	1,713
Plan fiduciary net position as a percentage of the total pension liability	95.8%	102.4%	98.8%	98.6%	101.6%	97.0%	80.1%	85.9%	83.4%	82.3%	85.2%	85.2%	80.0%	85.8%	81.8%	82.0%	84.5%	85.6%
Projected covered payroll	$ 113,587	112,953	112,322	111,133	111,305	110,741	18,802	18,661	16,755	15,832	16,072	15,195	639	722	799	943	928	390
Net pension liability/(asset) as a percentage of covered payroll	47.0%	(25.4)%	12.5%	13.7%	(15.0)%	27.4%	258.7%	174.6%	208.9%	222.6%	177.0%	177.4%	413.1%	256.6%	288.1%	234.1%	204.8%	439.2%

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

Continued on page 96.

Utah Retirement Systems

Utah Retirement Systems

Required Supplementary Information *(Continued)*

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

Year Ended December 31

(in thousands)

	Tier 2 Public Employees System						Tier 2 Public Safety and Firefighter System						Total All Retirement Systems					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 104,736	84,388	69,887	51,005	39,283	29,318	13,998	10,763	8,164	5,466	3,579	2,151	642,590	616,373	604,021	567,368	569,382	599,736
Interest	27,109	19,471	12,608	8,370	4,648	2,351	3,199	2,133	1,274	746	379	159	2,417,385	2,355,253	2,210,400	2,219,616	2,121,357	2,056,481
Benefit changes	—	—	—	—	—	(119)	—	—	—	—	—	(7)	—	—	3,343	—	—	23,718
Difference between actual and expected experience	(1,727)	357	(1,917)	(4,982)	(4,577)	(4,459)	621	(2)	425	220	50	106	24,714	(120,133)	(2,890)	(233,574)	(269,582)	(276,487)
Assumption changes	—	5,786	7,867	—	(1,385)	—	—	1,924	803	—	(127)	—	—	835,063	734,391	—	(236,578)	—
Benefit payments	(692)	(417)	(316)	(333)	—	—	—	(61)	(28)	(30)	—	—	(1,670,644)	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
Refunds	—	—	—	—	—	—	—	—	—	—	—	—	(4,797)	(6,985)	(6,715)	(4,772)	(5,129)	(4,949)
Net change in total pension liability	129,426	109,585	88,129	54,060	37,969	27,091	17,818	14,757	10,638	6,402	3,881	2,409	1,409,248	2,104,038	2,044,561	1,124,876	853,894	1,156,343
Total pension liability — beginning	338,035	228,450	140,321	86,261	48,292	21,201	39,023	24,266	13,628	7,226	3,345	936	35,298,933	33,194,895	31,150,334	30,025,458	29,171,564	28,015,221
Total pension liability — ending (a)	467,461	338,035	228,450	140,321	86,261	48,292	56,841	39,023	24,266	13,628	7,226	3,345	36,708,181	35,298,933	33,194,895	31,150,334	30,025,458	29,171,564
Plan fiduciary net position																		
Contributions — member	—	—	—	—	—	—	55	—	—	—	—	—	36,312	39,213	39,287	40,871	38,500	40,167
Contributions — employer	97,680	79,175	63,062	49,645	37,299	25,743	14,295	11,126	8,488	6,221	4,365	2,451	1,139,051	1,112,998	1,073,225	1,035,724	974,178	889,481
Court fees and fire insurance tax	—	—	—	—	—	—	—	—	—	—	—	—	10,265	2,700	12,039	18,871	15,640	12,783
Net investment income	(1,454)	33,249	14,059	1,963	4,320	4,017	(180)	3,989	1,591	199	404	316	(116,768)	3,773,910	2,248,696	461,772	1,786,431	3,260,548
Benefit payments	(692)	(417)	(316)	(333)	—	—	—	(61)	(28)	(30)	—	—	(1,670,644)	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
Refunds	—	—	—	—	—	—	—	—	—	—	—	—	(4,797)	(6,985)	(6,715)	(4,772)	(5,129)	(4,949)
Administrative expense	(119)	(82)	(51)	(30)	(16)	(6)	(14)	(9)	(5)	(3)	(1)	—	(12,515)	(12,001)	(11,067)	(10,988)	(11,012)	(10,401)
Net transfers with affiliated systems	—	—	—	3	(2)	3	—	—	—	(3)	2	(3)	—	—	—	—	—	—
Net change in plan fiduciary net position	95,415	111,925	76,754	51,248	41,601	29,757	14,156	15,045	10,046	6,384	4,770	2,764	(619,096)	3,334,302	1,857,476	117,716	1,473,052	2,945,473
Plan fiduciary net position — beginning	329,218	217,293	140,539	89,291	47,690	17,933	40,180	25,135	15,089	8,705	3,935	1,171	31,878,618	28,544,316	26,686,840	26,569,124	25,096,072	22,150,599
Plan fiduciary net position — ending (b)	424,633	329,218	217,293	140,539	89,291	47,690	54,336	40,180	25,135	15,089	8,705	3,935	31,259,522	31,878,618	28,544,316	26,686,840	26,569,124	25,096,072
Net pension liability/(asset) — ending (a-b)	$ 42,828	8,817	11,157	(218)	(3,030)	602	2,505	(1,157)	(869)	(1,461)	(1,479)	(590)	5,448,659	3,420,315	4,650,579	4,463,494	3,456,334	4,075,492
Plan fiduciary net position as a percentage of the total pension liability	90.8%	97.4%	95.1%	100.2%	103.5%	98.8%	95.6%	103.0%	103.6%	110.7%	120.5%	117.6%	85.2%	90.3%	86.0%	85.7%	88.5%	86.0%
Projected covered payroll	$ 1,171,543	996,965	822,196	637,560	492,882	353,227	123,439	98,113	74,834	53,276	35,019	20,215	5,146,312	4,998,694	4,839,495	4,714,627	4,678,491	4,669,560
Net pension liability/(asset) as a percentage of covered payroll	3.7%	0.9%	1.4%	(0.0)%	(0.6)%	0.2%	2.0%	(1.2)%	(1.2)%	(2.7)%	(4.2)%	(2.9)%	105.9%	68.4%	96.1%	94.7%	73.9%	87.3%

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

Utah Retirement Systems

Required Supplementary Information *(Continued)*

Schedules of Employers' Net Pension Liability

(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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Payroll
Noncontributory Retirement System	12/31/13	$ 23,344,325	19,915,815	3,428,510	85.3%	$ 3,705,771	92.5%
	12/31/14	24,043,264	21,096,512	2,946,752	87.7	3,570,912	82.5
	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
	12/31/17	28,088,619	25,205,127	2,883,492	89.7	3,375,321	85.4
	12/31/18	29,122,948	24,666,059	4,456,889	84.7	3,330,548	133.8
Contributory Retirement System	12/31/13	$ 1,312,921	1,281,945	30,976	97.6%	$ 98,023	31.6%
	12/31/14	1,309,800	1,269,991	39,809	97.0	90,623	43.9
	12/31/15	1,316,041	1,183,091	132,950	89.9	82,426	161.3
	12/31/16	1,292,512	1,204,904	87,608	93.2	53,615	163.4
	12/31/17	1,298,183	1,283,466	14,717	98.9	45,177	32.6
	12/31/18	1,284,009	1,172,429	111,580	91.3	39,279	284.1
Public Safety Retirement System	12/31/13	$ 3,269,140	2,712,184	556,956	83.0%	$ 365,998	152.2%
	12/31/14	3,360,027	2,899,386	460,641	86.3	360,750	127.7
	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	352,407	175.5
	12/31/17	4,085,203	3,576,517	508,686	87.5	350,782	145.0
	12/31/18	4,258,247	3,528,069	730,178	82.9	348,475	209.5
Firefighters Retirement System	12/31/13	$ 999,024	968,661	30,363	97.0%	$ 110,741	27.4%
	12/31/14	1,014,328	1,031,039	(16,711)	101.6	111,305	(15.0)
	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
	12/31/17	1,205,727	1,234,407	(28,680)	102.4	112,953	(25.4)
	12/31/18	1,261,289	1,207,889	53,400	95.8	113,587	47.0
Judges Retirement System	12/31/13	$ 182,638	155,676	26,962	85.2%	$ 15,195	177.4%
	12/31/14	192,285	163,834	28,451	85.2	16,072	177.0
	12/31/15	198,986	163,747	35,239	82.3	15,832	222.6
	12/31/16	210,623	175,618	35,005	83.4	16,755	208.9
	12/31/17	231,069	198,483	32,586	85.9	18,661	174.6
	12/31/18	244,209	195,570	48,639	80.1	18,802	258.7

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

Utah Retirement Systems

Required Supplementary Information *(Continued)*

Schedules of Employers' Net Pension Liability *(Concluded)*

(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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Payroll
Utah Governors and Legislative Retirement Plan	12/31/13	$ 11,879	10,166	1,713	85.6%	$ 390	439.2%
	12/31/14	12,267	10,366	1,901	84.5	928	204.8
	12/31/15	12,247	10,039	2,208	82.0	943	234.1
	12/31/16	12,654	10,352	2,302	81.8	799	288.1
	12/31/17	13,074	11,220	1,854	85.8	722	256.6
	12/31/18	13,177	10,537	2,640	80.0	639	413.1
Tier 2 Public Employees Retirement System	12/31/13	$ 48,292	47,690	602	98.8%	$ 353,227	0.2%
	12/31/14	86,261	89,291	(3,030)	103.5	492,882	(0.6)
	12/31/15	140,321	140,539	(218)	100.2	637,560	(0.0)
	12/31/16	228,450	217,293	11,157	95.1	822,196	1.4
	12/31/17	338,035	329,218	8,817	97.4	996,965	0.9
	12/31/18	467,461	424,633	42,828	90.8	1,171,543	3.7
Tier 2 Public Safety and Firefighter Retirement System	12/31/13	$ 3,345	3,935	(590)	117.6%	$ 20,215	(2.9)%
	12/31/14	7,226	8,705	(1,479)	120.5	35,019	(4.2)
	12/31/15	13,628	15,089	(1,461)	110.7	53,276	(2.7)
	12/31/16	24,266	25,135	(869)	103.6	74,834	(1.2)
	12/31/17	39,023	40,180	(1,157)	103.0	98,113	(1.2)
	12/31/18	56,841	54,336	2,505	95.6	123,439	2.0
All Retirement Systems	12/31/13	$ 29,171,564	25,096,072	4,075,492	86.0%	$ 4,669,560	87.3%
	12/31/14	30,025,458	26,569,124	3,456,334	88.5	4,679,491	73.9
	12/31/15	31,150,334	26,686,840	4,463,494	85.7	4,714,627	94.7
	12/31/16	33,194,895	28,544,316	4,650,579	86.0	4,839,495	96.1
	12/31/17	35,298,933	31,878,618	3,420,315	90.3	4,998,694	68.4
	12/31/18	36,708,181	31,259,522	5,448,659	85.2	5,146,312	105.9

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

Utah Retirement Systems

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 Payroll	Contributions as a Percentage of Covered Payroll**
Noncontributory Retirement 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	813,449	813,449	—	3,458,286	23.52
	2016	831,631	831,631	—	3,406,567	24.41
	2017	854,255	854,255	—	3,375,321	25.31
	2018	858,444	858,444	—	3,330,548	25.77
Contributory Retirement 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	11,719	11,719	—	82,426	14.22
	2016	8,188	8,188	—	53,615	15.27
	2017	7,946	7,946	—	45,177	17.59
	2018	6,027	6,027	—	39,279	15.34
Public Safety Retirement 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	141,024	141,024	—	355,171	39.71
	2016	147,099	147,099	—	352,407	41.74
	2017	145,814	145,814	—	350,783	41.57
	2018	147,101	147,101	—	348,475	42.21
Firefighters Retirement System	2009	$ 16,159	16,159	—	107,625	15.01%
	2010	10,915	10,915	—	105,275	10.37
	2011	13,005	13,005	—	110,751	11.74
	2012	17,321	17,321	—	110,608	15.66
	2013	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
	2017	7,938	7,938	—	112,953	7.03
	2018	15,768	15,768	-	113,587	13.88
Judges Retirement 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
	2017	9,040	9,040	—	18,661	48.44
	2018	9,609	9,609	—	18,802	51.11

**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.*

Utah Retirement Systems

Required Supplementary Information *(Continued)*

Schedules of Employer Contributions *(Concluded)*

(dollars in thousands)

System	Year Ended December 31	Actuarial Determined Contribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Payroll	Contributions as a Percentage of Covered Payroll**
Utah Governors and Legislative 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
	2017	404	404	—	722	55.96
	2018	392	392	—	639	61.35
Tier 2 Public Employees Retirement System†	2011	$ 2,790	2,790	—	36,821	7.58%
	2012	14,208	14,208	—	203,779	6.97
	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
	2017	79,175	79,175	—	996,965	7.94
	2018	97,680	97,680	—	1,171,543	8.34
Tier 2 Public Safety and Firefighter Retirement System†	2011	$ 89	89	—	855	10.41%
	2012	1,031	1,031	—	10,237	10.07
	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
	2017	11,126	11,126	—	98,113	11.34
	2018	14,295	14,295	—	123,439	11.58
All Retirement Systems	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
	2017	1,115,698	1,115,698	—	4,998,694	22.32
	2018	1,149,316	1,149,316	—	5,146,312	22.33

†Additional years will be displayed as they become available.

**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.*

Schedule of Investment Returns

Year Ended December 31

	2018	2017	2016	2015	2014
Annual money weighted rate of return, net of investment expense	(0.38)%	13.38%	8.73%	2.02%	7.94%

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

Notes to Required Supplementary Information

Note 1

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.

Note 2

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, 2017 valuation is effective for the fiscal year beginning July 1, 2019.

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, 2017, 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 3

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.

Notes to Required Supplementary Information *(Concluded)*

December 31, 2018

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	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18
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 20-Year Open Period	Closed Group 16-Year Closed Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period
Actuarial asset valuation method (All Systems under same method)	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	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%
Projected salary increases*	3.25-9.75%	3.25-9.75%	3.25-7.25%	3.25-8.75%	3.25%	None	3.25-9.75%	3.25-8.75%
Inflation rate	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Post-retirement cost-of-living adjustment	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Mortality: (Non-educators)	Male: 110% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for males, projected with Scale AA from the year 2017. Female: 110% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for females, projected with Scale AA from the year 2017.							
Mortality: (Educators)	Male: 90% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for males, projected with Scale AA from the year 2017. Female: 90% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for females, projected with Scale AA from the year 2017.							

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 2.50% inflation, plus 0.75% productivity increase rate, plus step-rate promotional increases for members with less than 25 years of service.*

Noncontributory Retirement System

Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2018
With Comparative Totals for December 31, 2017

(in thousands)

	Local Government	State and School	Total All Divisions 2018	Total All Divisions 2017
Assets:				
Cash	$ 1	2	3	3
Receivables:				
Employer contributions	6,424	36,551	42,975	45,689
Investments	96,409	386,217	482,626	536,764
Total receivables	102,833	422,768	525,601	582,453
Investments at fair value:				
Short-term securities	250,757	1,004,544	1,255,301	2,181,530
Debt securities	837,530	3,355,179	4,192,709	3,603,652
Equity investments	1,735,052	6,950,697	8,685,749	9,611,772
Absolute return	724,876	2,903,886	3,628,762	3,526,238
Private equity	577,165	2,312,147	2,889,312	2,728,872
Real assets	820,693	3,287,733	4,108,426	3,751,832
Total investments	4,946,073	19,814,186	24,760,259	25,403,896
Invested securities lending collateral	166,789	668,162	834,951	1,058,631
Property and equipment at cost, net of accumulated depreciation	737	2,952	3,689	3,472
Total assets	5,216,433	20,908,070	26,124,503	27,048,455
Liabilities:				
Securities lending liability	166,789	668,162	834,951	1,058,631
Disbursements in excess of cash balance	5,051	20,994	26,045	28,974
Compensated absences, post-employment benefits and insurance reserve	3,334	13,356	16,690	17,339
Investment accounts payable	97,221	388,841	486,062	643,491
Real estate liabilities	18,916	75,780	94,696	94,893
Total liabilities	291,311	1,167,133	1,458,444	1,843,328
Net position restricted for pensions	$ 4,925,122	19,740,937	24,666,059	25,205,127

Noncontributory Retirement System

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

Year Ended December 31, 2018
With Comparative Totals for Year Ended December 31, 2017

(in thousands)

	Local Government	State and School	Total All Divisions 2018	Total All Divisions 2017
Additions:				
Contributions:				
Member	$ 4,491	10,111	14,602	17,285
Employer	176,481	681,963	858,444	854,255
Total contributions	180,972	692,074	873,046	871,540
Investment income:				
Net appreciation (depreciation) in fair value of investments	(117,096)	(472,479)	(589,575)	2,564,293
Interest, dividends, and other investment income	107,633	434,300	541,933	463,263
Total income (loss) from investment activity	(9,463)	(38,179)	(47,642)	3,027,556
Less investment expenses	9,967	40,215	50,182	45,007
Net income (loss) from investment activity	(19,430)	(78,394)	(97,824)	2,982,549
Income from security lending activity	1,282	5,174	6,456	5,361
Less security lending expense	167	672	839	628
Net income from security lending activity	1,115	4,502	5,617	4,733
Net investment income (loss)	(18,315)	(73,892)	(92,207)	2,987,282
Transfers from affiliated systems	9,583	3,452	13,035	—
Total additions	172,240	621,634	793,874	3,858,822
Deductions:				
Retirement benefits	190,213	934,947	1,125,160	1,063,894
Cost-of-living benefits	28,094	166,960	195,054	184,143
Refunds	738	2,028	2,766	4,635
Administrative expenses	1,919	8,043	9,962	9,579
Transfers to affiliated systems	—	—	—	10,187
Total deductions	220,964	1,111,978	1,332,942	1,272,438
Increase (decrease) from operations	(48,724)	(490,344)	(539,068)	2,586,384
Net position restricted for pensions beginning of year	4,973,846	20,231,281	25,205,127	22,618,743
Net position restricted for pensions end of year	$ 4,925,122	19,740,937	24,666,059	25,205,127

Noncontributory Retirement System

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

Year Ended December 31

(in thousands)

	Local Government						State and School						Total All Divisions					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 91,556	93,774	96,049	91,304	93,436	100,789	312,835	310,207	311,641	303,494	314,556	340,531	404,391	403,981	407,690	394,798	407,992	441,320
Interest	371,702	359,989	330,648	328,120	310,587	297,617	1,548,536	1,517,587	1,434,005	1,447,699	1,389,106	1,348,596	1,920,238	1,877,576	1,764,653	1,775,819	1,699,693	1,646,213
Benefit changes	—	—	48,400	—	—	6,063	—	—	—	—	—	17,060	—	—	48,400	—	—	23,123
Difference between actual and expected experience	5,305	(22,546)	18,123	(19,610)	(16,109)	(39,370)	27,375	(61,688)	(11,715)	(168,556)	(188,714)	(169,131)	32,680	(84,234)	6,408	(188,166)	(204,823)	(208,501)
Assumption changes	—	129,368	112,696	—	(52,889)	—	—	512,819	451,045	—	(105,032)	—	—	642,187	563,741	—	(157,921)	—
Benefit payments	(218,307)	(202,324)	(191,011)	(177,915)	(159,967)	(149,891)	(1,101,907)	(1,045,713)	(993,306)	(945,732)	(883,831)	(824,793)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)
Refunds	(738)	(814)	(392)	(248)	(235)	(620)	(2,028)	(3,821)	(3,974)	(2,248)	(1,969)	(1,834)	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)
Net change in total pension liability	249,518	357,447	414,513	221,651	174,823	214,588	784,811	1,229,391	1,187,696	634,657	524,116	710,429	1,034,329	1,586,838	1,602,209	856,308	698,939	925,017
Total pension liability — beginning	$ 5,411,976	5,054,529	4,640,016	4,418,365	4,243,542	4,028,954	22,676,643	21,447,252	20,259,556	19,624,899	19,100,783	18,390,354	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325	22,419,308
Total pension liability — ending (a)	5,661,494	5,411,976	5,054,529	4,640,016	4,418,365	4,243,542	23,461,454	22,676,643	21,447,252	20,259,556	19,624,899	19,100,783	29,122,948	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325
Plan fiduciary net position																		
Contributions — member	4,491	3,928	5,023	5,481	3,859	2,637	10,111	13,357	11,285	11,539	9,728	11,571	14,602	17,285	16,308	17,020	13,587	14,208
Contributions — employer	176,481	174,037	171,967	167,015	157,930	147,105	681,963	680,218	659,664	646,434	614,490	563,828	858,444	854,255	831,631	813,449	772,420	710,933
Net investment income	(18,315)	586,793	346,001	69,895	266,210	478,461	(73,892)	2,400,489	1,437,910	296,853	1,152,843	2,110,520	(92,207)	2,987,282	1,783,911	366,748	1,419,053	2,588,981
Benefit payments	(218,307)	(202,324)	(191,011)	(177,915)	(159,967)	(149,891)	(1,101,907)	(1,045,713)	(993,306)	(945,732)	(883,831)	(824,793)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)
Refunds	(738)	(814)	(392)	(248)	(235)	(620)	(2,028)	(3,821)	(3,974)	(2,248)	(1,969)	(1,834)	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)
Administrative expense	(1,919)	(1,828)	(1,671)	(1,622)	(1,604)	(1,497)	(8,043)	(7,751)	(7,185)	(7,175)	(7,224)	(6,832)	(9,962)	(9,579)	(8,856)	(8,797)	(8,828)	(8,329)
Net transfers with affiliated systems	9,583	1,647	8,323	27,420	14,058	(5,302)	3,452	(11,834)	(16,328)	6,228	16,409	(36,975)	13,035	(10,187)	(8,005)	33,648	30,467	(42,277)
Net change in plan fiduciary net position	(48,724)	561,439	338,240	90,026	280,251	470,893	(490,344)	2,024,945	1,088,066	5,899	900,446	1,815,485	(539,068)	2,586,384	1,426,306	95,925	1,180,697	2,286,378
Plan fiduciary net position — beginning	4,973,846	4,412,407	4,074,167	3,984,141	3,703,890	3,232,997	20,231,281	18,206,336	17,118,270	17,112,371	16,211,925	14,396,440	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815	17,629,437
Plan fiduciary net position — ending (b)	4,925,122	4,973,846	4,412,407	4,074,167	3,984,141	3,703,890	19,740,937	20,231,281	18,206,336	17,118,270	17,112,371	16,211,925	24,666,059	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815
Net pension liability — ending (a-b)	$ 736,372	438,130	642,122	565,849	434,224	539,652	3,720,517	2,445,362	3,240,916	3,141,286	2,512,528	2,888,858	4,456,889	2,883,492	3,883,038	3,707,135	2,946,752	3,428,510
Plan fiduciary net position as a percentage of the total pension liability	87.0%	91.9%	87.3%	87.8%	90.2%	87.3%	84.1%	89.2%	84.9%	84.5%	87.2%	84.9%	84.7%	89.7%	85.3%	85.1%	87.7%	85.3%
Projected covered payroll	$ 804,891	811,404	830,406	826,998	845,364	864,838	2,525,657	2,563,917	2,576,161	2,631,288	2,725,548	2,840,933	3,330,548	3,375,321	3,406,567	3,458,286	3,570,912	3,705,771
Net pension liability as a percentage of covered payroll	91.5%	54.0%	77.3%	68.4%	51.4%	62.4%	147.3%	95.4%	125.8%	119.4%	92.2%	101.7%	133.8%	85.4%	114.0%	107.2%	82.5%	92.5%

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

Noncontributory Retirement System

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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Payroll
Noncontributory Local Government	12/31/13	$ 4,243,542	3,703,890	539,652	87.3%	$ 864,838	62.4%
	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
	12/31/17	5,411,976	4,973,846	438,130	91.9	811,404	54.0
	12/31/18	5,661,494	4,925,122	736,372	87.0	804,891	91.5
Noncontributory State and School	12/31/13	$ 19,100,783	16,211,925	2,888,858	84.9%	$ 2,840,933	101.7%
	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
	12/31/17	22,676,643	20,231,281	2,445,362	89.2	2,563,917	95.4
	12/31/18	23,461,454	19,740,937	3,720,517	84.1	2,525,657	147.3
Total Noncontributory Retirement System	12/31/13	$ 23,344,325	19,915,815	3,428,510	85.3%	$ 3,705,771	92.5%
	12/31/14	24,043,264	21,096,512	2,946,752	87.7	3,570,912	82.5
	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
	12/31/17	28,088,619	25,205,127	2,883,492	89.7	3,375,321	85.4
	12/31/18	29,122,948	24,666,059	4,456,889	84.7	3,330,548	133.8

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

Noncontributory 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 Payroll	Contributions as a Percentage of Covered Payroll**
Noncontributory Local Government	2013	$ 147,105	147,105	—	864,838	17.01%
	2014	157,930	157,930	—	845,364	18.68
	2015	167,015	167,015	—	826,998	20.20
	2016	171,967	171,967	—	830,406	20.71
	2017	174,037	174,037	—	811,404	21.45
	2018	176,481	176,481	—	804,891	21.93
Noncontributory State and School	2013	$ 563,828	563,828	—	2,840,933	19.85%
	2014	614,490	614,490	—	2,725,548	22.55
	2015	646,490	646,434	—	2,631,288	24.57
	2016	659,664	659,664	—	2,576,161	25.61
	2017	680,218	680,218	—	2,563,917	26.53
	2018	681,963	681,963	—	2,525,657	27.00
Total Noncontributory Retirement System	2013	$ 710,933	710,933	—	3,705,771	19.18%
	2014	772,420	772,420	—	3,570,912	21.63
	2015	813,449	813,449	—	3,458,286	23.52
	2016	831,631	831,631	—	3,406,567	24.41
	2017	854,255	854,255	—	3,375,321	25.31
	2018	858,444	858,444	—	3,330,548	25.77

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

**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.*

Contributory Retirement System

Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2018
With Comparative Totals for December 31, 2017

(in thousands)

	Local Government	State and School	Total All Divisions 2018	Total All Divisions 2017
Assets:				
Cash	$ 1	1	2	2
Receivables:				
Member contributions	47	47	94	115
Employer contributions	134	140	274	325
Investments	8,202	14,771	22,973	27,372
Total receivables	8,383	14,958	23,341	27,812
Investments at fair value:				
Short-term securities	21,333	38,418	59,751	111,248
Debt securities	71,253	128,319	199,572	183,770
Equity investments	147,611	265,829	413,440	490,156
Absolute return	61,669	111,059	172,728	179,822
Private equity	49,103	88,428	137,531	139,160
Real assets	69,821	125,739	195,560	191,327
Total investments	420,790	757,792	1,178,582	1,295,483
Invested securities lending collateral	14,190	25,554	39,744	53,985
Property and equipment at cost, net of accumulated depreciation	63	113	176	177
Total assets	443,427	798,418	1,241,845	1,377,459
Liabilities:				
Securities lending collateral liability	14,190	25,554	39,744	53,985
Disbursements in excess of cash balance	430	774	1,204	1,374
Compensated absences, post-employment benefits and insurance reserve	284	511	795	884
Investment accounts payable	8,271	14,895	23,166	32,911
Real estate liabilities	1,609	2,898	4,507	4,839
Total liabilities	24,784	44,632	69,416	93,993
Net position restricted for pensions	$ 418,643	753,786	1,172,429	1,283,466

Contributory Retirement System

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

Year Ended December 31, 2018
With Comparative Totals for Year Ended December 31, 2017

(in thousands)

	Local Government	State and School	Total All Divisions 2018	Total All Divisions 2017
Additions:				
Contributions:				
Member	$ 1,068	1,387	2,455	2,675
Employer	2,762	3,265	6,027	7,946
Total contributions	3,830	4,652	8,482	10,621
Investment income:				
Net appreciation (depreciation) in fair value of investments	(10,257)	(18,602)	(28,859)	133,867
Interest, dividends, and other investment income	9,428	17,099	26,527	24,185
Total income (loss) from investment activity	(829)	(1,503)	(2,332)	158,052
Less investment expenses	873	1,583	2,456	2,350
Net income from investment activity	(1,702)	(3,086)	(4,788)	155,702
Income from securities lending activity	112	204	316	280
Less security lending expense	15	26	41	33
Net income from security lending activity	97	178	275	247
Net investment income (loss)	(1,605)	(2,908)	(4,513)	155,949
Total additions	2,225	1,744	3,969	166,570
Deductions:				
Retirement benefits	24,350	49,756	74,106	72,073
Cost-of-living benefits	3,606	9,032	12,638	12,624
Supplemental retirement benefits	8	43	51	64
Refunds	430	1,041	1,471	1,613
Administrative expenses	161	293	454	457
Transfers to affiliated systems	9,774	16,512	26,286	1,177
Total deductions	38,329	76,677	115,006	88,008
Increase (decrease) from operations	(36,104)	(74,933)	(111,037)	78,562
Net position restricted for pensions beginning of year	454,747	828,719	1,283,466	1,204,904
Net position restricted for pensions end of year	$ 418,643	753,786	1,172,429	1,283,466

Contributory Retirement System

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

Year Ended December 31

(in thousands)

	Local Government						State and School						Total All Divisions					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 1,945	2,301	2,659	5,360	5,679	6,352	2,099	2,500	3,014	3,312	3,901	4,645	4,044	4,801	5,673	8,672	9,580	10,997
Interest	31,251	32,120	34,422	35,298	34,255	33,840	56,046	58,004	57,472	60,165	59,564	59,910	87,297	90,124	91,894	95,463	93,819	93,750
Benefit changes	—	—	(45,057)	—	—	415	—	—	—	—	—	306	—	—	(45,057)	—	—	721
Difference between actual and expected experience	(8,463)	(11,176)	(4,618)	(4,833)	(8,465)	(8,020)	(8,786)	(13,814)	(9,183)	(10,456)	(14,374)	(12,500)	(17,249)	(24,990)	(13,801)	(15,289)	(22,839)	(20,520)
Assumption changes	—	8,760	8,285	—	(2,914)	—	—	13,348	14,624	—	(1,319)	—	—	22,108	22,909	—	(4,233)	—
Benefit payments	(27,964)	(27,468)	(26,126)	(26,652)	(23,177)	(21,607)	(58,831)	(57,291)	(57,321)	(54,738)	(53,838)	(52,551)	(86,795)	(84,759)	(83,447)	(81,390)	(77,015)	(74,158)
Refunds	(430)	(703)	(655)	(623)	(1,294)	(855)	(1,041)	(910)	(1,045)	(592)	(1,139)	(1,067)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
Net change in total pension liability	(3,661)	3,834	(31,090)	8,550	4,084	10,125	(10,513)	1,837	7,561	(2,309)	(7,205)	(1,257)	(14,174)	5,671	(23,529)	6,241	(3,121)	8,868
Total pension liability — beginning	462,884	459,050	490,140	481,590	477,506	467,381	835,299	833,462	825,901	828,210	835,415	836,672	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	1,304,053
Total pension liability — ending (a)	459,223	462,884	459,050	490,140	481,590	477,506	824,786	835,299	833,462	825,901	828,210	835,415	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921
Plan fiduciary net position																		
Contributions — member	1,068	1,289	1,759	2,572	3,103	3,418	1,387	1,386	1,661	2,199	2,358	2,958	2,455	2,675	3,420	4,771	5,461	6,376
Contributions — employer	2,762	2,969	3,730	6,384	7,410	6,963	3,265	4,977	4,458	5,335	5,544	5,911	6,027	7,946	8,188	11,719	12,954	12,874
Net investment income	(1,605)	55,066	34,351	7,597	30,871	58,533	(2,908)	100,883	63,342	13,654	56,706	110,977	(4,513)	155,949	97,693	21,251	87,577	169,510
Benefit payments	(27,964)	(27,468)	(26,126)	(26,652)	(23,177)	(21,607)	(58,831)	(57,293)	(57,321)	(54,738)	(53,838)	(52,551)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)
Refunds	(430)	(703)	(655)	(623)	(1,294)	(855)	(1,041)	(910)	(1,045)	(592)	(1,139)	(1,067)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
Administrative expense	(161)	(162)	(157)	(176)	(179)	(172)	(293)	(295)	(289)	(302)	(315)	(308)	(454)	(457)	(446)	(478)	(494)	(480)
Net transfers with affiliated systems	(9,774)	(2,482)	(6,519)	(21,993)	(10,140)	5,790	(16,512)	1,305	4,624	(19,565)	(27,864)	27,304	(26,286)	(1,177)	(1,895)	(41,558)	(38,004)	33,094
Net change in plan fiduciary net position	(36,104)	28,509	6,383	(32,891)	6,594	52,070	(74,933)	50,053	15,430	(54,009)	(18,548)	93,224	(111,037)	78,562	21,813	(86,900)	(11,954)	145,294
Plan fiduciary net position — beginning	454,747	426,238	419,855	452,746	446,152	394,082	828,719	778,666	763,236	817,245	835,793	742,569	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	1,136,651
Plan fiduciary net position — ending (b)	418,643	454,747	426,238	419,855	452,746	446,152	753,786	828,719	778,666	763,236	817,245	835,793	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945
Net pension liability — ending (a-b)	$ 40,580	8,137	32,812	70,285	28,844	31,354	71,000	6,580	54,796	62,665	10,965	(378)	111,580	14,717	87,608	132,950	39,809	30,976
Plan fiduciary net position as a percentage of the total pension liability	91.2%	98.2%	92.9%	85.7%	94.0%	93.4%	91.4%	99.2%	93.4%	92.4%	98.7%	100.0%	91.3%	98.9%	93.2%	89.9%	97.0%	97.6%
Projected covered payroll	$ 18,276	20,724	23,959	48,590	51,420	54,445	21,003	24,453	29,656	33,836	39,203	43,578	39,279	45,177	53,615	82,426	90,623	98,023
Net pension liability as a percentage of covered payroll	222.0%	39.3%	137.0%	144.6%	56.1%	57.6%	338.0%	26.9%	184.8%	185.2%	28.0%	(0.9)%	284.1%	32.6%	163.4%	161.3%	43.9%	31.6%

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

Contributory Retirement System

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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Payroll
Contributory Local Government	12/31/13	$ 477,506	446,152	31,354	93.4%	$ 54,445	57.6%
	12/31/14	481,590	452,746	28,844	94.0	51,420	56.1
	12/31/15	490,140	419,855	70,285	85.7	48,590	144.6
	12/31/16	459,050	426,238	32,812	92.9	23,959	137.0
	12/31/17	462,884	454,747	8,137	98.2	20,724	39.3
	12/31/18	459,223	418,643	40,580	91.2	18,276	222.0
Contributory State and School	12/31/13	$ 835,415	835,793	(378)	100.0%	$ 43,578	(0.9)%
	12/31/14	828,210	817,245	10,965	98.7	39,203	28.0
	12/31/15	825,901	763,236	62,665	92.4	33,836	185.2
	12/31/16	833,462	778,666	54,796	93.4	29,656	184.8
	12/31/17	835,299	828,719	6,580	99.2	24,453	26.9
	12/31/18	824,786	753,786	71,000	91.4	21,003	338.0
Total Contributory Retirement System	12/31/13	$ 1,312,921	1,281,945	30,976	97.6%	$ 98,023	31.6%
	12/31/14	1,309,800	1,269,991	39,809	97.0	90,623	43.9
	12/31/15	1,316,041	1,183,091	132,950	89.9	82,426	161.3
	12/31/16	1,292,512	1,204,904	87,608	93.2	53,615	163.4
	12/31/17	1,298,183	1,283,466	14,717	98.9	45,177	32.6
	12/31/18	1,284,009	1,172,429	111,580	91.3	39,279	284.1

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

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 Payroll	Contributions as a Percentage of Covered Payroll**
Contributory Local Government	2013	$ 6,963	6,963	—	54,445	12.79%
	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
	2017	2,969	2,969	—	20,724	14.33
	2018	2,762	2,762	—	18,276	15.11
Contributory State and School	2013	$ 5,911	5,911	—	43,578	13.56%
	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
	2017	4,977	4,977	—	24,453	20.35
	2018	3,265	3,265	—	21,003	15.55
Total Contributory Retirement System	2013	$ 12,874	12,874	—	98,023	13.13%
	2014	12,954	12,954	—	90,623	14.29
	2015	11,719	11,719	—	82,426	14.22
	2016	8,188	8,188	—	53,615	15.27
	2017	7,946	7,946	—	45,177	17.59
	2018	6,027	6,027	—	39,279	15.34

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

**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.*

Utah Retirement Systems

Public Safety Retirement System

Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2018

With Comparative Totals for December 31, 2017

(in thousands)

	State of Utah Public Safety	Other Division A (with Social Security)	Salt Lake City	0gden	Provo	Logan	Bountiful	Other Division B (without Social Security)	Total All Divisions 2018	Total All Divisions 2017
Assets:										
Cash	$ 2	4	2	2	2	2	2	4	20	20
Receivables:										
Member contributions	—	7	—	—	—	—	—	1	8	12
Employer contributions	1,978	1,824	585	111	91	85	39	565	5,278	6,646
Investments	23,170	27,845	5,653	1,250	994	560	399	9,177	69,048	76,162
Total receivables	25,148	29,676	6,238	1,361	1,085	645	438	9,743	74,334	82,820
Investments at fair value:										
Short-term securities	60,266	72,424	14,704	3,250	2,585	1,456	1,038	23,868	179,591	309,533
Debt securities	201,288	241,895	49,114	10,856	8,633	4,863	3,467	79,721	599,837	511,315
Equity investments	416,995	501,117	101,745	22,490	17,884	10,075	7,183	165,154	1,242,643	1,363,791
Absolute return	174,214	209,358	42,507	9,396	7,472	4,209	3,001	68,999	519,156	500,330
Private equity	138,713	166,696	33,845	7,481	5,949	3,351	2,389	54,938	413,362	387,194
Real assets	197,242	237,032	48,126	10,638	8,459	4,765	3,397	78,119	587,778	532,339
Total investments	1,188,718	1,428,522	290,041	64,111	50,982	28,719	20,475	470,799	3,542,367	3,604,502
Invested securities lending collateral	40,085	48,172	9,781	2,162	1,719	968	690	15,876	119,453	150,205
Property and equipment at cost, net of accumulated depreciation	177	213	43	10	8	4	3	70	528	492
Total assets	1,254,130	1,506,587	306,105	67,646	53,796	30,338	21,608	496,492	3,736,702	3,838,039
Liabilities:										
Securities lending liability	40,085	48,172	9,781	2,162	1,719	968	690	15,876	119,453	150,205
Disbursements in excess of cash balance	1,214	1,459	296	65	52	29	21	481	3,617	3,822
Compensated absences, post-employment benefits and insurance reserve	801	963	196	43	34	19	14	317	2,387	2,460
Investment accounts payable	23,366	28,079	5,701	1,260	1,002	565	402	9,254	69,629	91,572
Real estate liabilities	4,546	5,463	1,109	245	195	110	78	1,801	13,547	13,463
Total liabilities	70,012	84,136	17,083	3,775	3,002	1,691	1,205	27,729	208,633	261,522
Net position restricted for pensions	$ 1,184,118	1,422,451	289,022	63,871	50,794	28,647	20,403	468,763	3,528,069	3,576,517

Public Safety Retirement System

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

Year Ended December 31, 2018
With Comparative Totals for Year Ended December 31, 2017

(in thousands)

	State of Utah Public Safety	Other Division A (with Social Security)	Salt Lake City	Ogden	Provo	Logan	Bountiful	Other Division B (without Social Security)	Total All Divisions 2018	Total All Divisions 2017
Additions:										
Contributions:										
Member	$ 264	545	—	—	—	—	—	86	895	793
Employer	50,030	53,057	15,294	2,970	2,266	1,068	964	21,452	147,101	145,814
Total contributions	50,294	53,602	15,294	2,970	2,266	1,068	964	21,538	147,996	146,607
Investment income:										
Net appreciation (depreciation) in fair value of investments	(28,261)	(33,963)	(6,873)	(1,534)	(1,214)	(683)	(489)	(10,949)	(83,966)	362,177
Interest, dividends, and other investment income	25,978	31,218	6,318	1,410	1,116	628	449	10,064	77,181	65,430
Total income (loss) from investment activity	(2,283)	(2,745)	(555)	(124)	(98)	(55)	(40)	(885)	(6,785)	427,607
Less investment expenses	2,405	2,891	585	131	103	58	42	932	7,147	6,357
Net income (loss) from investment activity	(4,688)	(5,636)	(1,140)	(255)	(201)	(113)	(82)	(1,817)	(13,932)	421,250
Income from security lending activity	309	372	75	17	13	7	5	120	918	756
Less security lending expense	40	48	10	2	2	1	1	16	120	89
Net income from security lending activity	269	324	65	15	11	6	4	104	798	667
Net investment income (loss)	(4,419)	(5,312)	(1,075)	(240)	(190)	(107)	(78)	(1,713)	(13,134)	421,917
Transfers from (to) affiliated systems	738	(8,899)	2,259	106	97	185	35	12,461	6,982	5,926
Total additions	46,613	39,391	16,478	2,836	2,173	1,146	921	32,286	141,844	574,450
Deductions:										
Retirement benefits	56,695	56,506	16,113	3,894	2,640	1,327	1,306	19,201	157,682	143,774
Cost-of-living benefits	11,687	10,625	4,079	949	595	298	263	2,021	30,517	28,854
Supplemental retirement benefits	97	76	33	3	5	—	1	—	215	242
Refunds	113	85	39	—	—	—	—	191	428	226
Administrative expenses	487	569	135	30	23	12	10	184	1,450	1,382
Total deductions	69,079	67,861	20,399	4,876	3,263	1,637	1,580	21,597	190,292	174,478
Increase (decrease) from operations	(22,466)	(28,470)	(3,921)	(2,040)	(1,090)	(491)	(659)	10,689	(48,448)	399,972
Net position restricted for pensions beginning of year	1,206,584	1,450,921	292,943	65,911	51,884	29,138	21,062	458,074	3,576,517	3,176,545
Net position restricted for pensions end of year	$ 1,184,118	1,422,451	289,022	63,871	50,794	28,647	20,403	468,763	3,528,069	3,576,517

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	State of Utah						Other Division A (with Social Security)						Salt Lake City					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 24,680	24,057	24,327	23,270	24,190	26,013	31,875	30,590	31,202	29,942	30,473	32,564	6,763	6,704	6,316	5,963	5,878	6,209
Interest	94,417	91,628	86,361	87,273	83,519	81,713	110,510	107,017	98,935	98,538	93,276	90,791	25,881	24,937	23,099	23,023	22,171	21,719
Benefit changes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Difference between actual and expected experience	(7,483)	3,619	(3,139)	(14,298)	(12,067)	(2,099)	(3,170)	(21,479)	(6,830)	(12,388)	(16,141)	(25,616)	532	2,143	2,815	2,063	(1,430)	(3,743)
Assumption changes	—	32,840	29,315	—	(17,596)	—	—	50,755	48,303	—	(21,812)	—	—	11,737	11,313	—	(4,551)	—
Benefit payments	(68,479)	(64,451)	(62,622)	(59,271)	(55,075)	(52,432)	(67,207)	(60,128)	(57,652)	(54,909)	(51,394)	(48,824)	(20,225)	(18,745)	(17,681)	(17,076)	(16,398)	(15,737)
Refunds	(113)	(66)	(8)	(18)	(12)	(2)	(85)	(158)	(175)	(208)	(115)	(97)	(39)	(2)	—	—	—	(15)
Net change in total pension liability	43,022	87,627	74,234	36,956	22,959	53,193	71,923	106,597	113,783	60,975	34,287	48,818	12,912	26,774	25,862	13,973	5,670	8,433
Total pension liability — beginning	1,380,471	1,292,844	1,218,610	1,181,654	1,158,695	1,105,502	1,607,787	1,501,190	1,387,407	1,326,432	1,292,145	1,243,327	379,138	352,364	326,502	312,529	306,859	298,426
Total pension liability — ending (a)	1,423,493	1,380,471	1,292,844	1,218,610	1,181,654	1,158,695	1,679,710	1,607,787	1,501,190	1,387,407	1,326,432	1,292,145	392,050	379,138	352,364	326,502	312,529	306,859
Plan fiduciary net position																		
Contributions — member	264	221	112	115	152	103	545	366	515	701	597	714	—	—	8	—	4	13
Contributions — employer	50,030	49,386	50,554	47,449	45,810	43,393	53,057	53,112	52,359	51,677	49,156	46,421	15,294	14,899	15,260	14,100	13,519	12,426
Net investment income	(4,419)	142,696	84,744	17,349	66,949	121,520	(5,312)	171,806	102,156	20,899	80,565	146,201	(1,075)	34,603	20,441	4,178	16,113	29,378
Benefit payments	(68,479)	(64,451)	(62,622)	(59,271)	(55,075)	(52,432)	(67,207)	(60,128)	(57,652)	(54,909)	(51,394)	(48,824)	(20,225)	(18,745)	(17,681)	(17,076)	(16,398)	(15,737)
Refunds	(113)	(66)	(8)	(18)	(12)	(2)	(85)	(158)	(175)	(208)	(115)	(97)	(39)	(2)	—	—	—	(15)
Administrative expense	(487)	(470)	(432)	(431)	(434)	(413)	(569)	(542)	(496)	(485)	(482)	(458)	(135)	(129)	(118)	(116)	(116)	(110)
Net transfers with affiliated systems	738	233	3,363	2,301	1,124	757	(8,899)	(11,797)	(6,727)	(10,067)	(6,061)	(3,111)	2,259	1,642	1,369	657	620	447
Net change in plan fiduciary net position	(22,466)	127,549	75,711	7,494	58,514	112,926	(28,470)	152,659	89,980	7,608	72,266	140,846	(3,921)	32,268	19,279	1,743	13,742	26,402
Plan fiduciary net position — beginning	1,206,584	1,079,035	1,003,324	995,830	937,316	824,390	1,450,921	1,298,262	1,208,282	1,200,674	1,128,408	987,562	292,943	260,675	241,396	239,653	225,911	199,509
Plan fiduciary net position — ending (b)	1,184,118	1,206,584	1,079,035	1,003,324	995,830	937,316	1,422,451	1,450,921	1,298,262	1,208,282	1,200,674	1,128,408	289,022	292,943	260,675	241,396	239,653	225,911
Net pension liability — ending (a-b)	$ 239,375	173,887	213,809	215,286	185,824	221,379	257,259	156,866	202,928	179,125	125,758	163,737	103,028	86,195	91,689	85,106	72,876	80,948
Plan fiduciary net position as a percentage of the total pension liability	83.2%	87.4%	83.5%	82.3%	84.3%	80.9%	84.7%	90.2%	86.5%	87.1%	90.5%	87.3%	73.7%	77.3%	74.0%	73.9%	76.7%	73.6%
Projected covered payroll	$ 107,407	107,557	108,759	108,967	113,111	115,960	138,269	137,270	139,677	141,681	143,924	146,190	29,356	30,142	28,331	28,275	27,821	28,016
Net pension liability as a percentage percentage of covered payroll	222.9%	161.7%	196.6%	197.6%	164.3%	190.9%	186.1%	114.3%	145.3%	126.4%	87.4%	112.0%	351.0%	286.0%	323.6%	301.0%	261.9%	288.9%

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

Continued on page 122.

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	Ogden						Provo						Logan					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 1,143	1,200	1,139	1,164	1,170	1,304	1,091	1,122	1,134	1,099	1,141	1,181	482	465	488	485	524	580
Interest	5,838	5,549	5,232	5,359	5,185	5,028	4,323	4,282	3,972	3,916	3,748	3,680	2,389	2,364	2,220	2,201	2,110	2,029
Benefit changes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Difference between actual and expected experience	(1,850)	2,044	(288)	(1,153)	559	(713)	458	(1,391)	147	636	(638)	561	(736)	(766)	(264)	278	232	(701)
Assumption changes	—	2,724	2,544	—	(822)	—	—	1,895	1,960	—	(859)	—	—	1,056	1,103	—	(420)	—
Benefit payments	(4,846)	(4,286)	(4,208)	(4,090)	(3,956)	(3,864)	(3,240)	(3,089)	(2,701)	(2,739)	(2,503)	(2,281)	(1,625)	(1,547)	(1,516)	(1,442)	(1,366)	(1,320)
Refunds	—	—	—	—	—	—	—	—	—	—	(11)	(204)	—	—	—	—	—	—
Net change in total pension liability	285	7,231	4,419	1,280	2,136	1,755	2,632	2,819	4,512	2,912	878	2,937	510	1,572	2,031	1,522	1,080	588
Total pension liability — beginning	85,850	78,619	74,200	72,920	70,784	69,029	63,274	60,455	55,943	53,031	52,153	49,216	34,947	33,375	31,344	29,822	28,742	28,154
Total pension liability — ending (a)	86,135	85,850	78,619	74,200	72,920	70,784	65,906	63,274	60,455	55,943	53,031	52,153	35,457	34,947	33,375	31,344	29,822	28,742
Plan fiduciary net position																		
Contributions — member	—	—	—	56	—	—	—	—	—	—	—	—	—	—	—	—	35	49
Contributions — employer	2,970	3,072	3,147	2,729	2,791	2,525	2,266	2,258	2,403	2,314	2,255	2,158	1,068	1,034	1,052	1,044	989	944
Net investment income	(240)	7,843	4,696	976	3,803	6,973	(190)	6,141	3,660	749	2,877	5,204	(107)	3,456	2,068	432	1,671	3,047
Benefit payments	(4,846)	(4,286)	(4,208)	(4,090)	(3,956)	(3,864)	(3,240)	(3,089)	(2,701)	(2,739)	(2,503)	(2,281)	(1,625)	(1,547)	(1,516)	(1,442)	(1,366)	(1,320)
Refunds	—	—	—	—	—	—	—	—	—	—	(11)	(204)	—	—	—	—	—	—
Administrative expense	(30)	(29)	(27)	(26)	(27)	(26)	(23)	(22)	(20)	(20)	(19)	(19)	(12)	(12)	(11)	(11)	(11)	(10)
Net transfers with affiliated systems	106	(128)	(74)	(66)	107	535	97	16	(39)	66	145	16	185	36	(52)	(247)	100	88
Net change in plan fiduciary net position	(2,040)	6,472	3,534	(421)	2,718	6,143	(1,090)	5,304	3,303	370	2,744	4,874	(491)	2,967	1,541	(224)	1,418	2,798
Plan fiduciary net position — beginning	65,911	59,439	55,905	56,326	53,608	47,465	51,884	46,580	43,277	42,907	40,163	35,289	29,138	26,171	24,630	24,854	23,436	20,638
Plan fiduciary net position — ending (b)	63,871	65,911	59,439	55,905	56,326	53,608	50,794	51,884	46,580	43,277	42,907	40,163	28,647	29,138	26,171	24,630	24,854	23,436
Net pension liability — ending (a-b)	$ 22,264	19,939	19,180	18,295	16,594	17,176	15,112	11,390	13,875	12,666	10,124	11,990	6,810	5,809	7,204	6,714	4,968	5,306
Plan fiduciary net position as a percentage of the total pension liability	74.2%	76.8%	75.6%	75.3%	77.2%	75.7%	77.1%	82.0%	77.0%	77.4%	80.9%	77.0%	80.8%	83.4%	78.4%	78.6%	83.3%	81.5%
Projected covered payroll	$ 4,940	5,372	5,082	5,517	5,518	5,831	4,699	5,023	5,065	5,213	5,424	5,295	2,079	2,088	2,183	2,306	2,459	2,584
Net pension liability as a percentage of covered payroll	450.7%	371.2%	377.4%	331.6%	300.7%	294.6%	321.6%	226.8%	273.9%	243.0%	186.7%	226.4%	327.6%	278.2%	330.0%	291.2%	202.0%	205.3%

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

Continued on page 124.

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	Bountiful						Other Division B (with Social Security)						Total All Divisions					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 394	411	409	380	383	390	13,868	13,723	13,828	13,049	12,922	13,495	80,296	78,272	78,843	75,352	76,681	81,736
Interest	1,859	1,845	1,711	1,682	1,635	1,580	34,932	32,196	28,192	26,988	25,159	23,425	280,149	269,818	249,722	248,980	236,803	229,965
Benefit changes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Difference between actual and expected experience	(92)	(453)	383	652	297	(147)	13,782	13,242	16,534	7,046	3,963	3,230	1,441	(3,041)	9,358	(17,164)	(25,225)	(29,228)
Assumption changes	—	880	830	—	(229)	—	—	16,483	15,005	—	(6,121)	—	—	118,370	110,373	—	(52,410)	—
Benefit payments	(1,570)	(1,514)	(1,435)	(1,358)	(1,419)	(1,369)	(21,222)	(19,110)	(16,693)	(14,502)	(12,652)	(11,659)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
Refunds	—	—	—	—	—	—	(191)	—	—	(307)	(61)	(149)	(428)	(226)	(183)	(533)	(199)	(467)
Net change in total pension liability	591	1,169	1,898	1,356	667	454	41,169	56,534	56,866	32,274	23,210	28,342	173,044	290,323	283,605	151,248	90,887	144,520
Total pension liability — beginning	27,342	26,173	24,275	22,919	22,252	21,798	506,394	449,860	392,994	360,720	337,510	309,168	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140	3,124,620
Total pension liability — ending (a)	27,933	27,342	26,173	24,275	22,919	22,252	547,563	506,394	449,860	392,994	360,720	337,510	4,258,247	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140
Plan fiduciary net position																		
Contributions — member	—	—	—	—	—	—	86	206	195	33	47	379	895	793	830	905	835	1,258
Contributions — employer	964	911	943	883	822	716	21,452	21,142	21,381	20,828	20,246	20,161	147,101	145,814	147,099	141,024	135,588	128,744
Net investment income	(78)	2,498	1,493	310	1,220	2,271	(1,713)	52,874	29,769	5,761	21,024	35,969	(13,134)	421,917	249,027	50,654	194,222	350,563
Benefit payments	(1,570)	(1,514)	(1,435)	(1,358)	(1,419)	(1,369)	(21,222)	(19,110)	(16,693)	(14,502)	(12,652)	(11,659)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
Refunds	—	—	—	—	—	—	(191)	—	—	(307)	(61)	(149)	(428)	(226)	(183)	(533)	(199)	(467)
Administrative expense	(10)	(9)	(9)	(9)	(9)	(8)	(184)	(169)	(147)	(135)	(129)	(117)	(1,450)	(1,382)	(1,260)	(1,233)	(1,227)	(1,161)
Net transfers with affiliated systems	35	323	35	35	14	99	12,461	15,601	8,826	11,344	6,697	5,845	6,982	5,926	6,701	4,023	2,746	4,676
Net change in plan fiduciary net position	(659)	2,209	1,027	(139)	628	1,709	10,689	70,544	43,331	23,022	35,172	50,429	(48,448)	399,972	237,706	39,453	187,202	346,127
Plan fiduciary net position — beginning	21,062	18,853	17,826	17,965	17,337	15,628	458,074	387,530	344,199	321,177	286,005	235,576	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184	2,366,057
Plan fiduciary net position — ending (b)	20,403	21,062	18,853	17,826	17,965	17,337	468,763	458,074	387,530	344,199	321,177	286,005	3,528,069	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184
Net pension liability — ending (a-b)	$ 7,530	6,280	7,320	6,449	4,954	4,915	78,800	48,320	62,330	48,795	39,543	51,505	730,178	508,686	618,335	572,436	460,641	556,956
Plan fiduciary net position as a percentage of the total pension liability	73.0%	77.0%	72.0%	73.4%	78.4%	77.9%	85.6%	90.5%	86.1%	87.6%	89.0%	84.7%	82.9%	87.5%	83.7%	83.7%	86.3%	83.0%
Projected covered payroll	$ 1,675	1,814	1,810	1,776	1,795	1,749	60,050	61,516	61,501	61,436	60,698	60,373	348,475	350,782	352,408	355,171	360,750	365,998
Net pension liability as a percentage of covered payroll	449.6%	346.2%	404.4%	363.1%	276.0%	281.0%	131.2%	78.5%	101.3%	79.4%	65.1%	85.3%	209.5%	145.0%	175.5%	161.2%	127.7%	152.2%

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

Public Safety Retirement System

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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Payroll
Public Safety State of Utah	12/31/13	$ 1,158,695	937,316	221,379	80.9%	$ 115,960	190.9%
	12/31/14	1,181,654	995,830	185,824	84.3	113,111	164.3
	12/31/15	1,218,610	1,003,324	215,286	82.3	108,967	197.6
	12/31/16	1,292,844	1,079,035	213,809	83.5	108,759	196.6
	12/31/17	1,380,471	1,206,584	173,887	87.4	107,557	161.7
	12/31/18	1,423,493	1,184,118	239,375	83.2	107,407	222.9
Public Safety Other Division A (with Social Security)	12/31/13	$ 1,292,145	1,128,408	163,737	87.3%	$ 146,190	112.0%
	12/31/14	1,326,432	1,200,674	125,758	90.5	143,924	87.4
	12/31/15	1,387,407	1,208,282	179,125	87.1	141,681	126.4
	12/31/16	1,501,190	1,298,262	202,928	86.5	139,677	145.3
	12/31/17	1,607,787	1,450,921	156,866	90.2	137,270	114.3
	12/31/18	1,679,710	1,422,451	257,259	84.7	138,269	186.1
Public Safety Salt Lake City	12/31/13	$ 306,859	225,911	80,948	73.6%	$ 28,016	288.9%
	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
	12/31/17	379,138	292,943	86,195	77.3	30,142	286.0
	12/31/18	392,050	289,022	103,028	73.7	29,356	351.0
Public Safety Ogden	12/31/13	$ 70,784	53,608	17,176	75.7%	$ 5,831	294.6%
	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
	12/31/17	85,850	65,911	19,939	76.8	5,372	371.2
	12/31/18	86,135	63,871	22,264	74.2	4,940	450.7
Public Safety Provo	12/31/13	$ 52,153	40,163	11,990	77.0%	$ 5,295	226.4%
	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
	12/31/17	63,274	51,884	11,390	82.0	5,023	226.8
	12/31/18	65,906	50,794	15,112	77.1	4,699	321.6

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

Public Safety Retirement System

Schedules of Net Pension Liability by Division *(Concluded)*

(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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered Payroll
Public Safety Logan	12/31/13	$ 28,742	23,436	5,306	81.5%	$ 2,584	205.3%
	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
	12/31/17	34,947	29,138	5,808	83.4	2,088	278.4
	12/31/18	35,457	28,647	6,810	80.8	2,079	327.6
Public Safety Bountiful	12/31/13	$ 22,252	17,337	4,915	77.9%	$ 1,749	281.0%
	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
	12/31/17	27,342	21,062	6,280	77.0	1,814	346.2
	12/31/18	27,933	20,403	7,530	73.0	1,675	449.6
Public Safety Other Division B (without Social Security)	12/31/13	$ 337,510	286,005	51,505	84.7%	$ 60,373	85.3%
	12/31/14	360,720	321,177	39,543	89.0	60,698	65.1
	12/31/15	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
	12/31/17	506,394	458,074	48,320	90.5	61,516	78.5
	12/31/18	547,563	468,763	78,800	85.6	60,050	131.2
Total Public Safety Retirement System	12/31/13	$ 3,269,140	2,712,184	556,956	83.0%	$ 365,998	152.2%
	12/31/14	3,360,027	2,899,386	460,641	86.3	360,750	127.7
	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
	12/31/17	4,085,203	3,576,517	508,686	87.5	350,782	145.0
	12/31/18	4,258,247	3,528,069	730,178	82.9	348,475	209.5

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

Public Safety 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 Payroll	Contributions as a Percentage of Covered Payroll**
Public Safety State of Utah	2013	$ 43,393	43,393	—	115,960	37.42%
	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
	2017	49,386	49,386	—	107,557	45.92
	2018	50,030	50,030	—	107,407	46.58
Public Safety Other Division A (with Social Security)	2013	$ 46,421	46,421	—	146,190	31.75%
	2014	49,156	49,156	—	143,924	34.15
	2015	51,677	51,677	—	141,681	36.47
	2016	52,359	52,359	—	139,677	37.49
	2017	53,112	53,112	—	137,270	38.69
	2018	53,057	53,057	—	138,269	38.37
Public Safety Salt Lake City	2013	$ 12,426	12,426	—	28,016	44.35%
	2014	13,519	13,519	—	27,821	48.59
	2015	14,100	14,100	—	28,276	49.87
	2016	15,260	15,260	—	28,331	53.86
	2017	14,899	14,899	—	30,142	49.43
	2018	15,294	15,294	—	29,356	52.10
Public Safety Ogden	2013	$ 2,525	2,525	—	5,831	43.30%
	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
	2017	3,072	3,072	—	5,372	57.19
	2018	2,970	2,970	—	4,940	60.12
Public Safety Provo	2013	$ 2,158	2,158	—	5,295	40.76%
	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
	2017	2,258	2,258	—	5,023	44.95
	2018	2,266	2,266	—	4,699	48.22

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

**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.*

Public Safety Retirement System

Schedules of Employer Contributions by Division *(Concluded)*

(dollars in thousands)

System	Year Ended	Actuarial Determined Contribution*	Contributions in Relation to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Projected Covered Payroll	Contributions as a Percentage of Covered Payroll**
Public Safety Logan	2013	$ 944	944	—	2,584	36.53%
	2014	989	989	—	2,459	40.42
	2015	1,044	1,044	—	2,306	45.27
	2016	1,052	1,052	—	2,183	48.19
	2017	1,034	1,034	—	2,088	49.52
	2018	1,068	1,068	—	2,079	51.37
Public Safety Bountiful	2013	$ 716	716	—	1,749	40.94%
	2014	822	822	—	1,795	45.79
	2015	883	883	—	1,776	49.72
	2016	943	943	—	1,810	52.10
	2017	911	911	—	1,814	50.22
	2018	964	964	—	1,675	57.55
Public Safety Other Division B (without Social Security)	2013	$ 20,161	20,161	—	60,373	33.39%
	2014	20,246	20,246	—	60,698	33.36
	2015	20,828	20,828	—	61,436	33.90
	2016	21,381	21,381	—	61,501	34.77
	2017	21,142	21,142	—	61,516	34.37
	2018	21,452	21,452	—	60,050	35.72
Total Public Safety Retirement System	2013	$ 128,744	128,744	—	365,998	35.18%
	2014	135,588	135,588	—	360,750	37.59
	2015	141,024	141,024	—	355,172	39.71
	2016	147,099	147,099	—	352,408	41.74
	2017	145,814	145,814	—	350,783	41.57
	2018	147,101	147,101	—	348,475	42.21

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**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.*

Firefighters Retirement System

Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2018
With Comparative Totals for December 31, 2017

(in thousands)

	Division A (with Social Security)	Division B (without Social Security)	Total All Divisions 2018	Total All Divisions 2017
Assets:				
Cash	$ 1	1	2	2
Receivables:				
Member contributions	144	531	675	634
Employer contributions	44	230	274	235
Fire insurance tax	205	542	747	2,661
Investments	4,238	19,404	23,642	26,260
Total receivables	4,631	20,707	25,338	29,790
Investments at fair value:				
Short-term securities	11,024	50,469	61,493	106,727
Debt securities	36,817	168,566	205,383	176,300
Equity investments	76,273	349,207	425,480	470,234
Absolute return	31,865	145,893	177,758	172,512
Private equity	25,372	116,164	141,536	133,504
Real assets	36,078	165,178	201,256	183,550
Total investments	217,429	995,477	1,212,906	1,242,827
Invested securities lending collateral	7,332	33,569	40,901	51,791
Property and equipment at cost, net of accumulated depreciation	32	148	180	170
Total assets	229,425	1,049,902	1,279,327	1,324,580
Liabilities:				
Securities lending collateral liability	7,332	33,569	40,901	51,791
Disbursements in excess of cash balance	222	1,017	1,239	1,318
Compensated absences, post-employment benefits and insurance reserve	147	671	818	848
Investment accounts payable	4,274	19,567	23,841	31,574
Real estate liabilities	832	3,807	4,639	4,642
Total liabilities	12,807	58,631	71,438	90,173
Net position restricted for pensions benefits	$ 216,618	991,271	1,207,889	1,234,407

Firefighters Retirement System

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

Year Ended December 31, 2018
With Comparative Totals for Year Ended December 31, 2017

(in thousands)

	Division A (with Social Security)	Division B (without Social Security)	Total All Divisions 2018	Total All Divisions 2017
Additions:				
Contributions:				
Member	$ 4,638	13,667	18,305	18,460
Employer	1,319	5,702	7,021	6,715
Fire insurance tax	2,395	6,352	8,747	1,223
Total contributions	8,352	25,721	34,073	26,398
Investment income:				
Net appreciation (depreciation) in fair value of investments	(5,097)	(23,736)	(28,833)	125,958
Interest, dividends, and other investment income	4,685	21,818	26,503	22,756
Total income (loss) from investment activity	(412)	(1,918)	(2,330)	148,714
Less investment expenses	434	2,020	2,454	2,211
Net income (loss) from investment activity	(846)	(3,938)	(4,784)	146,503
Income from securities lending activity	56	260	316	263
Less security lending expense	7	34	41	30
Net income from security lending activity	49	226	275	233
Net investment income (loss)	(797)	(3,712)	(4,509)	146,736
Transfers from affiliated systems	(982)	2,899	1,917	1,259
Total additions	6,573	24,908	31,481	174,393
Deductions:				
Retirement benefits	6,579	39,968	46,547	44,331
Cost-of-living benefits	967	9,733	10,700	10,258
Supplemental retirement benefits	12	181	193	204
Refunds	58	74	132	511
Administrative expenses	76	351	427	408
Total deductions	7,692	50,307	57,999	55,712
Increase from operations	(1,119)	(25,399)	(26,518)	118,681
Net position restricted for pensions beginning of year	217,737	1,016,670	1,234,407	1,115,726
Net position restricted for pensions end of year	$ 216,618	991,271	1,207,889	1,234,407

Firefighters Retirement System

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

Year Ended December 31

(in thousands)

	Other Division A (with Social Security)						Other Division B (with Social Security)						Total All Divisions					
	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013	2018	2017	2016	2015	2014	2013
Total pension liability																		
Service cost	$ 7,756	7,085	7,020	6,584	6,636	7,158	21,622	21,690	21,632	20,598	20,630	22,419	29,378	28,775	28,652	27,182	27,266	29,577
Interest	14,704	13,905	12,644	12,290	11,387	10,840	68,115	66,481	62,690	62,922	60,103	59,419	82,819	80,386	75,334	75,212	71,490	70,259
Benefit changes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Difference between actual and expected experience	3,268	(1,851)	(271)	(985)	(1,199)	(1,812)	(2,331)	(7,365)	(5,254)	(7,274)	(13,878)	(11,271)	937	(9,216)	(5,525)	(8,259)	(15,077)	(13,083)
Assumption changes	—	6,170	4,636	—	(4,028)	—	—	25,187	20,936	—	(16,344)	—	—	31,357	25,572	—	(20,372)	—
Benefit payments	(7,558)	(6,670)	(6,121)	(6,243)	(5,432)	(4,889)	(49,882)	(48,123)	(45,981)	(43,428)	(42,278)	(39,858)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
Refunds	(58)	(124)	(174)	(190)	(72)	—	(74)	(387)	(292)	(338)	(221)	(106)	(132)	(511)	(466)	(528)	(293)	(106)
Net change in total pension liability	18,112	18,515	17,734	11,456	7,292	11,297	37,450	57,483	53,731	32,480	8,012	30,603	55,562	75,998	71,465	43,936	15,304	41,900
Total pension liability — beginning	211,491	192,976	175,242	163,786	156,494	145,197	994,236	936,753	883,022	850,542	842,530	811,927	1,205,727	1,129,729	1,058,264	1,014,328	999,024	957,124
Total pension liability — ending (a)	229,603	211,491	192,976	175,242	163,786	156,494	1,031,686	994,236	936,753	883,022	850,542	842,530	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024
Plan fiduciary net position																		
Contributions — member	4,638	4,457	4,214	4,063	3,983	3,977	13,667	14,003	14,515	14,112	14,317	14,348	18,305	18,460	18,729	18,175	18,300	18,325
Contributions — employer	1,319	1,147	1,124	1,055	888	745	5,702	5,568	5,830	5,635	4,626	2,749	7,021	6,715	6,954	6,690	5,514	3,494
Fire insurance tax	2,395	262	2,581	4,170	3,398	2,748	6,352	961	7,988	13,048	10,756	8,537	8,747	1,223	10,569	17,218	14,154	11,285
Net investment income	(797)	25,677	15,014	2,982	11,118	19,648	(3,712)	121,059	72,732	14,952	57,952	106,037	(4,509)	146,736	87,746	17,934	69,070	125,685
Benefit payments	(7,558)	(6,670)	(6,121)	(6,243)	(5,432)	(4,889)	(49,882)	(48,123)	(45,981)	(43,428)	(42,278)	(39,858)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
Refunds	(58)	(124)	(174)	(190)	(72)	—	(74)	(387)	(292)	(338)	(221)	(106)	(132)	(511)	(466)	(528)	(293)	(106)
Administrative expense	(76)	(70)	(62)	(60)	(58)	(54)	(351)	(338)	(312)	(311)	(312)	(301)	(427)	(408)	(374)	(371)	(370)	(355)
Net transfers with affiliated systems	(982)	(706)	135	1,784	664	796	2,899	1,965	1,476	789	3,049	506	1,917	1,259	1,611	2,573	3,713	1,302
Net change in plan fiduciary net position	(1,119)	23,973	16,711	7,561	14,489	22,971	(25,399)	94,708	55,956	4,459	47,889	91,912	(26,518)	118,681	72,667	12,020	62,378	114,883
Plan fiduciary net position — beginning	217,737	193,764	177,053	169,492	155,003	132,032	1,016,670	921,962	866,006	861,547	813,658	721,746	1,234,407	1,115,726	1,043,059	1,031,039	968,661	853,778
Plan fiduciary net position — ending (b)	$ 216,618	217,737	193,764	177,053	169,492	155,003	991,271	1,016,670	921,962	866,006	861,547	813,658	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661
Net pension liability/(asset) — ending (a-b)	$ 12,985	(6,246)	(788)	(1,811)	(5,706)	1,491	40,415	(22,434)	14,791	17,016	(11,005)	28,872	53,400	(28,680)	14,003	15,205	(16,711)	30,363
Plan fiduciary net position as a percentage of the total pension liability	94.3%	103.0%	100.4%	101.0%	103.5%	99.0%	96.1%	102.3%	98.4%	98.1%	101.3%	96.6%	95.8%	102.4%	98.8%	98.6%	101.6%	97.0%
Projected covered payroll	$ 29,680	27,603	27,266	26,672	26,873	26,521	83,907	85,350	85,056	84,461	84,432	84,220	113,587	112,953	112,322	111,133	111,305	110,741
Net pension liability as a percentage of covered payroll	43.8%	(22.6)%	(2.9)%	(6.8)%	(21.2)%	5.6%	48.2%	(26.3)%	17.4%	20.1%	(13.0)%	34.3%	47.0%	(25.4)%	12.5%	13.7%	(15.0)%	27.4%

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

Firefighters Retirement System

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 Payroll	(6) Net Pension Liability/(Asset) as a Percentage of Covered 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)
	12/31/17	211,491	217,737	(6,246)	103.0	27,603	(22.6)
	12/31/18	229,603	216,618	12,985	94.3	29,680	43.8
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
	12/31/17	994,236	1,016,670	(22,434)	102.3	85,350	(26.3)
	12/31/18	1,031,686	991,271	40,415	96.1	83,907	48.2
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
	12/31/17	1,205,727	1,234,407	(28,680)	102.4	112,953	(25.4)
	12/31/18	1,261,289	1,207,889	53,400	95.8	113,587	47.0

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

Firefighters 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 Payroll	Contributions as a Percentage of Covered Payroll**
Firefighters	2013	$ 3,493	3,493	—	26,521	13.17%
Division A	2014	5,514	5,514	—	26,873	20.52
(with Social Security)	2015	5,225	5,225	—	26,672	19.59
	2016	3,705	3,705	—	27,266	13.59
	2017	1,409	1,409	—	27,603	5.10
	2018	3,714	3,714	—	29,680	12.51
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
	2016	13,818	13,818	—	85,056	16.25
	2017	6,529	6,529	—	85,350	7.65
	2018	12,054	12,054	—	83,907	14.37
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
	2017	7,938	7,938	—	112,953	7.03
	2018	15,768	15,768	—	113,587	13.88

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

**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.*

All Retirement Systems

Schedules of Administrative and Investment Expenses

Year Ended December 31, 2018

	(in thousands) Total
Personal services:	
Salaries and wages	$ 14,957
Employee benefits	7,274
Total personal services	22,231
Professional services:	
Audit	510
Actuarial services	229
General counsel	722
Banking services	55
Security handling expense	953
Investment advisor fees	55,796
Other consulting services	3,162
Total professional services	61,427
Communications:	
Telephone	224
Postage	388
Total communications	612
Rentals:	
Office space	1,092
Office equipment rental	45
Total rentals	1,137
Miscellaneous:	
Data processing	1,796
Professional development	380
Contractual services	282
Supplies and maintenance	193
Insurance and bonding premiums	660
Office supplies	79
Other	499
Depreciation expense	1,207
Total miscellaneous	5,096
Total administrative and investment expenses	$ 90,503
Allocation of administrative expenses:	
Noncontributory Retirement System	$ 9,962
Contributory Retirement System	454
Public Safety Retirement System	1,450
Firefighters Retirement System	427
Judges Retirement System	84
Utah Governors and Legislators Retirement Plan	5
Tier 2 Public Employees Retirement System	119
Tier 2 Public Safety and Firefighter Retirement System	14
401(k) Plan	7,952
457 Plan	901
Roth IRA Plan	206
Traditional IRA Plan	169
Total administrative expenses	21,743
Investment administrative expense	12,964
Investment advisor fees:	
Investment Fund	50,532
401(k) Plan	4,530
457 Plan	501
Roth IRA Plan	119
Traditional IRA Plan	114
Total investment expenses	68,760
Total administrative and investment expense allocations	$ 90,503

Investment Section

Utah Retirement Systems 2018 Comprehensive Annual Financial Report

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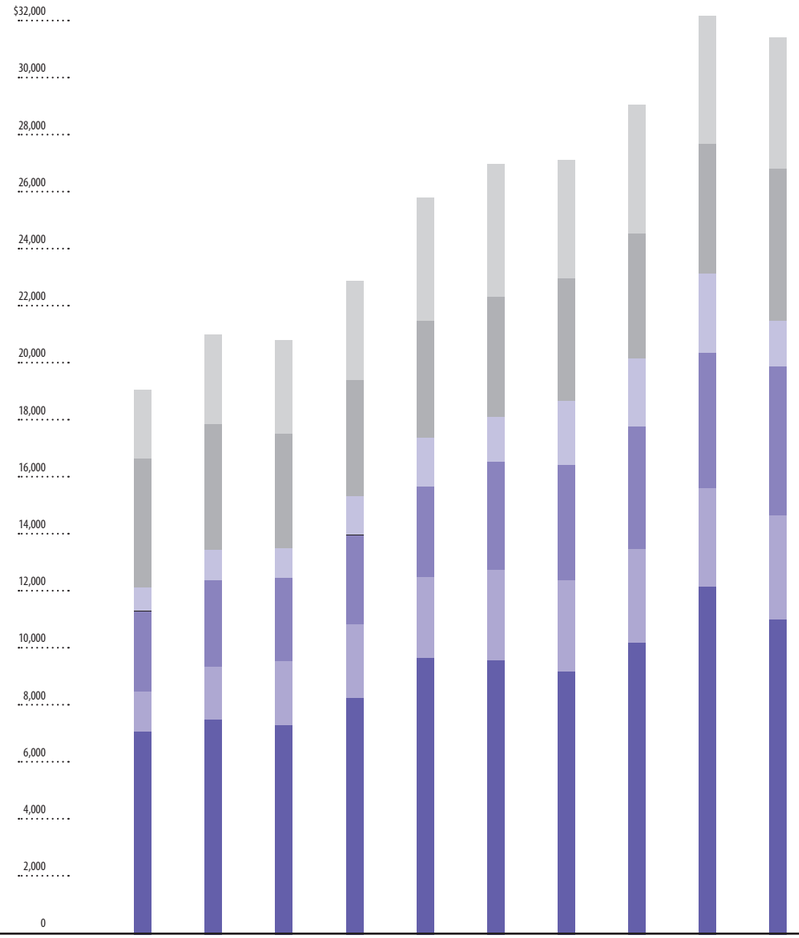
10-Year Investment Comparison

(in millions)



(in millions)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Absolute return	$ 2,411	3,138	3,287	3,474	4,298	4,643	4,141	4,509	4,459	4,598
Debt securities	4,521	4,406	4,022	4,093	4,094	4,213	4,282	4,356	4,557	5,313
Short-term securities	804	1,056	1,017	1,337	1,711	1,572	2,230	2,392	2,759	1,591
Mortgages	7	7	7	7	—	—	—	—	—	—
Real assets	2,799	3,024	2,886	3,094	3,147	3,780	4,025	4,269	4,745	5,206
Private equity	1,411	1,840	2,255	2,594	2,840	3,170	3,215	3,291	3,451	3,661
Equities	7,104	7,521	7,323	8,272	9,675	9,577	9,193	10,200	12,155	11,007
Totals	$ 19,057	20,992	20,797	22,871	25,765	26,955	27,086	29,017	32,126	31,376

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 30, 2019

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

Dear Members of Utah Retirement Systems:

In 2018 we experienced a market correction. We had been anticipating it for some time, and it finally came to fruition, though not until the fourth quarter of the year.

The year began on an optimistic note, buoyed by the tax cut and strong earnings expectations. Unemployment was down, wages were growing, and small business sentiment was positive. Inflation was still in check, and economists could not see any recession in the near term, with positive Gross Domestic Product (GDP) forecasts for 2019. Through September 2018, people assumed that the market would continue with strong growth and excellent returns. However, third quarter earnings reports showed softer revenue growth and margin pressure. The softness was partly attributable to the trade dispute between the United States and China, but investors suspected other factors could be contributing. Manufacturing, automotive, and semiconductor industries were weak due to the trade dispute; housing appeared to soften as well. Certainly, lower oil prices and increases in short-term interest rates reinforced sentiment that the economy was slowing. Globally, things weren't much better, with the European Central Bank (ECB) discontinuing its monthly bond purchases, Brexit still uncertain, a slowdown in China, and various geopolitical worries. Thus, there were more sellers than buyers.

Fourth quarter equity volatility was high, and equity markets declined sharply. Although the Standard and Poor's (S&P) 500 was down only 4.4% for the year, the fourth quarter saw it drop 13.5%. For broad equity indexes, small company stocks performed

worst in the fourth quarter, ending down 11% for the year. Although growth-style stocks also took a beating in the fourth quarter, the category displayed relative outperformance, finishing 2018 down 1.5%. This was quite a contrast from 2017, when the S&P 500 had a stellar year and growth-style stocks did exceptionally well. Value-style stocks continued to underperform, and energy stocks were off nearly 24% for the fourth quarter as oil prices fell.

The Treasury curve ended very flat for the year. The Federal Reserve increased short term interest rates by a quarter-point four times during 2018. Longer term interest rates decreased. The 10-year Treasury note reached a high of 3.24% in November but closed out the year at 2.69%. Fixed income markets, as measured by the Bloomberg Barclays U.S. Aggregate, were flat for the year, effectively no gain or loss compared to a 3.57% increase the previous year. Global bonds were negative by a little more than 1%.

Other asset classes that were negative for the year included Real Estate Investment Trusts, Commodities, Natural Resources, and Energy. The U.S. dollar strengthened against most currencies, with Japan being an exception.

Although URS did not have a positive investment year like 2017, we managed to lose very little against a market that was negative in every category except cash. Our alternative asset classes, including Absolute Return, Real Estate, and Private Equity, contributed positive numbers for the year. The most significant detractors were Public Equity and Private Energy. Public Equity is our largest alternative asset allocation, at 40%, and thus has a meaningful impact to the total portfolio.

Overall, we experienced a very small loss of 0.22% for the year, whereas our peers faired far worse. We were in the top 1% against our peer group, and our current funded status is 85.2%. We are still one of the top public pension plans in the country in regard to funded status.

We restructured the portfolio prior to the Great Recession of 2008-09 to emphasize greater diversification. This strategy helps protect in down markets and recover quickly when markets reverse their losses. The additional savings in down markets can then be put to work earning positive returns to create additional wealth and offset the loss. Although that means giving up some upside potential in positive equity markets (we generally underperform our peers during those times), it has proven to be very effective in down equity markets. The result is that the URS portfolio can compound more money than our peers in down markets. Our goal has always been to achieve our assumed actuarial return of 6.95% on average over a long period of time

This year was challenging on many fronts, and for many investors there was nowhere to hide. We were pleased with a number of areas in our portfolio as well as our relative outperformance overall. We feel we have a solid strategy to deal with volatility through the years to produce the best possible outcome for our members. The Systems' investments reported in the investment section are presented in the same basis of accounting as described in Note 2 of the financial statements and prepared using a time-weighted rate of return based on the market rate of return except for private equity which is prepared using a dollar-weighted return.

Bruce H. Cundick
Chief Investment Officer
Utah Retirement Systems

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 ranges;
- Describe plan and manager policies and objectives for performance evaluation;
- Communicate investment performance standards to investment managers.

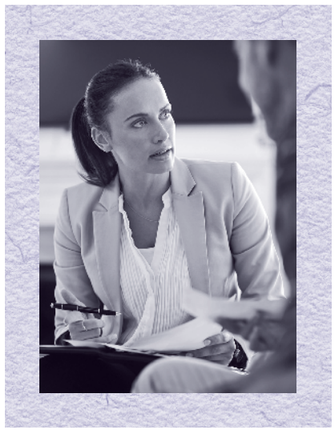
The primary investment objectives are to preserve Fund assets and generate an appropriate level of risk-adjusted return to meet future pension obligations. The Systems periodically complete an asset allocation and liability study to determine the optimal portfolio diversification to meet those obligations.

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.

2018 Investment Summary

(dollars in thousands)

	2018 Beginning Fair Value	Purchases	Sales and Redemptions	Increase (Decrease) in Fair Value	2018 Ending Fair Value Balance	Percent of Total Fair Value
Short-term securities	$ 2,758,739	110,999,660	(112,176,244)	8,572	1,590,727	5.07%
Equities	12,154,933	3,679,715	(2,790,589)	(2,037,409)	11,006,650	35.08
Debt securities	4,557,137	40,737,066	(39,836,022)	(145,149)	5,313,032	16.93
Real assets	4,744,525	881,009	(682,496)	263,191	5,206,229	16.59
Private equity	3,450,900	536,051	(381,449)	55,854	3,661,356	11.67
Absolute return	4,459,239	1,527,492	(1,360,261)	(28,074)	4,598,396	14.66
Totals	$ 32,125,473	158,360,993	(157,227,061)	(1,883,015)	31,376,390	100.00%



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 are expected to communicate with the staff at least quarterly.

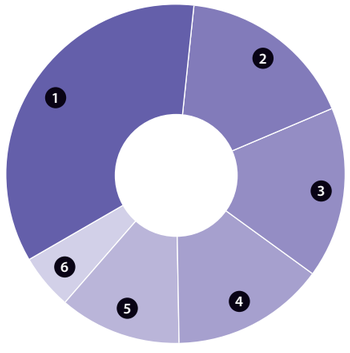
Managers' portfolios are evaluated both against appropriate market indices and similar manager style groups. The investment policy outlines appropriate benchmarks.

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 37.2%, Debt securities 20.2%, Absolute return 14.7%, Private equity 11.7% and Real assets 16.2%. 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.

DEFINED BENEFIT SYSTEMS INVESTMENTS AT FAIR VALUE

December 31, 2018

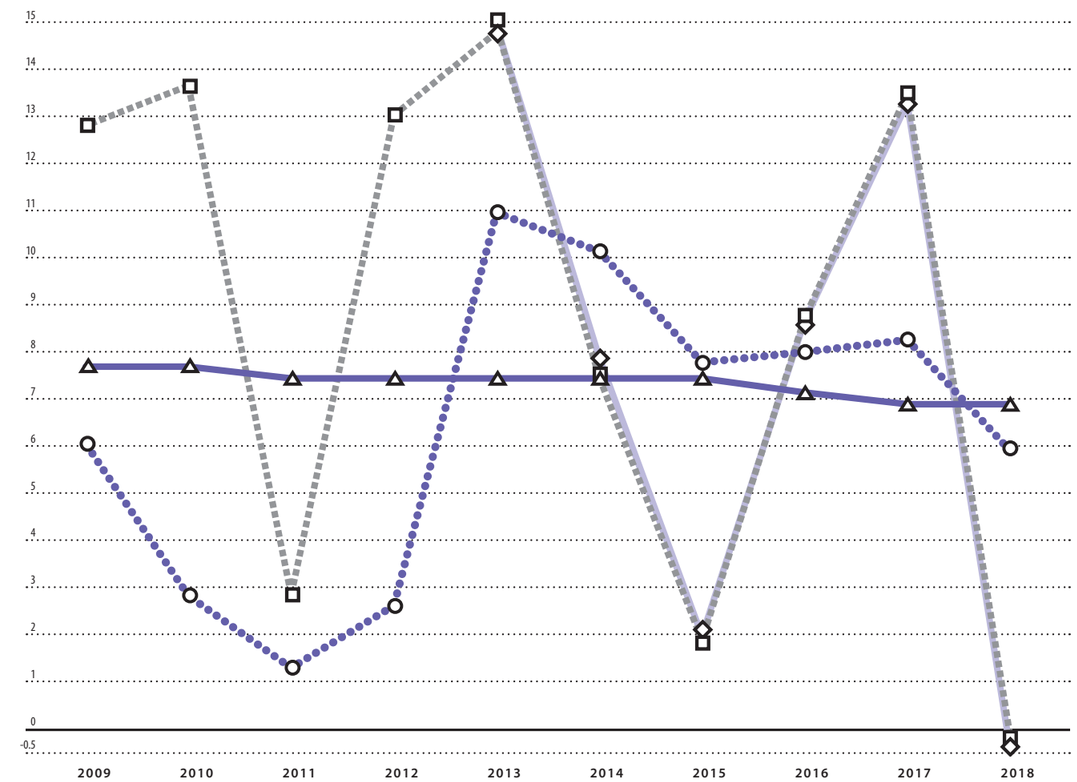


1 Equity Securities (35.1%)
2 Debt Securities (16.9%)
3 Real Assets (16.6%)
4 Absolute Return (14.6%)
5 Private Equity (11.7%)
6 Short Term (5.1%)

December 31,	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Equities securities	37.3%	35.8	35.2	36.2	37.5	35.5	33.9	35.2	37.8	35.1
Debt securities	23.7	21.0	19.4	17.9	16.0	15.7	15.8	15.0	14.2	16.9
Private equity	7.4	8.8	10.8	11.3	11.0	11.8	11.9	11.3	10.7	11.7
Real assets	14.7	14.4	13.9	13.5	12.2	14.0	14.9	14.7	14.8	16.6
Short-term securities	4.2	5.0	4.9	5.9	6.6	5.8	8.2	8.2	8.6	5.1
Absolute return	12.7	15.0	15.8	15.2	16.7	17.2	15.3	15.6	13.9	14.6
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 in millions)

	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
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
2017	32,125	8.32	13.57	6.95	13.38
2018	31,376	5.99	(0.22)	6.95	(0.38)

(1) **Smoothed Expected Rate of Return** consists of investment income in excess or shortfall of the expected 6.95% 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 2018, (0.39)% 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)(4)

Year Ended December 31, 2018

Investment Option Comparative Index	1 Year	3 Year	5 Year	10 Year
Global Equity	**(10.45)%**	**6.52%**	**4.32%**	**10.89%**
Russell Global Equity Index	(10.09)	6.48	4.18	9.79
Global Debt Securities	**(0.01)**	**2.81**	**3.18**	**4.82**
Fund Benchmark	0.02	2.87	3.17	3.86
Benchmark consisting of:				
60% Bloomberg Barclays U.S. Aggregate Bond Index				
15% Bloombergs Barclays Global Aggregate Bond Index Hedged				
25% Bloomberg Barclays World Government Inflation-Linked Bond Index				
Real Assets*	**10.94**	**11.10**	**10.87**	**6.31**
U.S. Consumer Price Index + 5.0%	6.77	6.98	6.33	6.80
Private Equity	**18.63**	**15.53**	**15.52**	**12.70**
Private Equity Benchmark	(2.58)	11.55	10.47	15.80
Benchmark consisting of:				
Russell 3000 + 2.5%				
Absolute Return	**2.24**	**4.62**	**3.63**	**6.28**
3-Month Treasury Bills + 5.0%	6.87	6.02	5.63	5.38
Short Term	**2.24**	**1.10**	**0.70**	**0.59**
3-Month Treasury Bills	1.87	1.02	0.63	0.37
Total Fund**	**(0.22)**	**7.22**	**6.17**	**8.70**
Fund Benchmark	(2.08)	6.32	5.23	8.24
Benchmark consisting of:				
40% Russell Global Equity Index				
16% 3-Month Treasury Bill + 5%				
15% CPI-W+5%				
12% Bloomberg Barclays U.S. Aggregate Bond Index				
8% Russell 3000 Index + 2.5%				
5% Bloomberg Barclays World Government Inflation-Linked Bond Index				
3% Bloomberg Barclays Global Aggregate Bond Index Hedged				
0.4% Credit Suisse Leveraged Loan Index				
0.4% Bloomberg Corporate High Yield Index				
0.2% Russel 2000 Index				
CAI Public Fund—Very Large Database Median	(3.29)	6.87	5.65	9.03
Inflation	**1.77**	**1.98**	**1.33**	**1.80**

(1) Investment measurement services provided by Callan Associates Inc.

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

(3) Investment return calculations were prepared using a time-weighted return except private equity which is prepared using a dollar weighted return.

(4) Global Equities and Debt Securities returns are reported gross of investment fees for comparability to the benchmark; whereas Real Assets, Private Equity, Absolute Return, and Short-Term returns are reported net of investment fees..

**The non real estate portion of Real Assets only reflects returns for years 1, 3 and 5. Year 10 is for real estate only using a NCREIF Total Index Benchmark.*

***Total Fund return is a blended return that is based upon a gross return for Global Equities and Debt Securities and net return for Real Assets, Private Equity, Absolute Return and Short-term. The Total Fund net return is (0.39)%, 7.04%, 5.98%, and 8.50% on a 1, 3, 5, and 10-year basis.*

List of Largest Assets Held

December 31, 2018

LARGEST EQUITY HOLDINGS*

(By Fair Value)

Description	Shares	Fair Value
Alphabet Inc.	116,365	$121,154,684
Microsoft Corp.	1,092,692	110,984,726
Apple Inc.	696,895	109,928,217
Amazon Inc.	66,538	99,938,080
Citigroup	1,234,834	64,753,998
Berkshire Hathaway	296,638	60,567,547
Visa Inc.	393,304	51,892,530
Nestle SA	636,632	51,535,031
Johnson & Johnson	387,030	49,946,222
United Health Group	196,488	48,949,091

LARGEST DEBT SECURITIES HOLDINGS

(By Fair Value)

Description	Par Value	Fair Value
US Treasury Note 2.875% Due 11-30-2023	$ 68,505,000	$ 69,698,494
GNMA II Jumbos 4% 30 Year	66,510,500	68,100,500
US Treasury Note 2% Due 11-15-2026	67,553,000	64,484,067
US Treasury Bond 3.125% Due 11-15-2028	53,835,000	55,841,215
US Treasury Note 0.375% Due 1-15-2027	55,252,000	54,934,539
US Treasury Note 0.125% Due 4-15-2022	54,585,000	54,901,778
US Treasury Note 2.875% Due 5-15-2028	52,200,000	53,001,374
Government of Japan 0.1% Index Linked Due 3-2027	5,078,600,000	48,731,740
Government of Japan 0.1% Due 6-20-2021	4,713,000,000	43,222,783
US Treasury Note 2.625% Due 7-15-2021	$ 42,075,000	42,224,577

**As required by SEC Rule 13F, a list of publicly traded equity securities held by Utah Retirement Systems is available online through the SEC Electronic Data Gathering, Analysis, and Retrieval (EDGAR) website. This list is also available upon request.*

Schedules of Fees and Commissions

Year Ended December 31, 2018

BROKER COMMISSION FEES

Broker	Total Commission Fees
Instinet	$ 529,555
Merrill Lynch	387,899
Jefferies	229,740
JP Morgan	193,860
UBS	178,669
RBC	158,716
Frank Russell	134,826
Cowen & Company	118,820
Barclays	136,386
Morgan Stanley	104,566
All Others	1,276,665
Total	$ 3,449,702

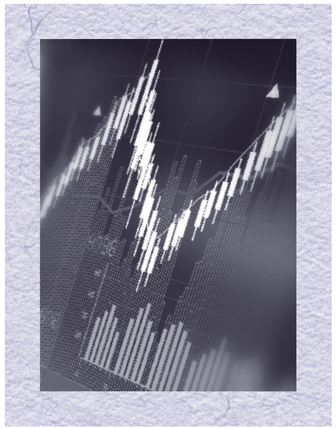
SCHEDULE OF INVESTMENT FEES AND COMMISSIONS

Investment advisor fees:*	
Absolute Return	$ 8,301,508
Equity	29,225,831
Fixed Income	7,317,082
Private Equity	4,530,876
Real Assets	259,551
Short Term	897,152
Total investment advisor fees	50,532,000
Investment brokerage fees	3,449,702
Total fees and commissions	$ 53,981,702

**Represents fees that are invoiced and paid directly by URS. These numbers do not represent all management, performance, carried interest, or other fees charged directly by investment advisors. These and other investment related fees are netted from returns.*

Utah Retirement Systems uses a commission recapture program as part of its trading strategies. During the year ending December 31, 2018, Utah Retirement Systems recaptured approximately $132,970 from the gross commission charges. This recaptured sum was used to cover or offset the $197,347 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

Investment Highlights

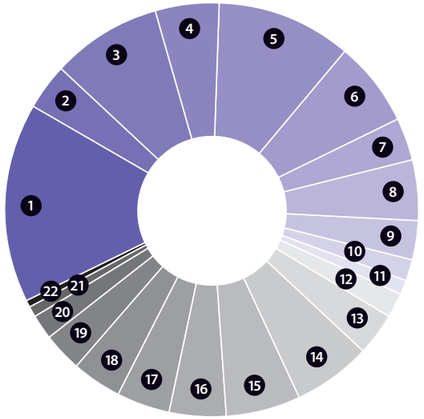
Utah Retirement Systems' 401(k), 457, Roth and Traditional IRAs are tax-advantaged retirement savings plans authorized under sections 401(k), 457(b), and 408 of the Internal Revenue Code. These plans are available to employees of the state, local government, and public education employers throughout 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 right shows the total assets in the various investment options. The graph to the right and the table shows the asset distribution as of December 31, 2018.

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 148 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 was a flat rate of $25 per quarter. Investment fees and broker commissions are paid by the participant according to the trading and securities selected within the brokerage window.



SAVINGS PLANS INVESTMENTS

December 31, 2018

Investment Options	Total (in thousands)
Income Fund	$ 866,170
Bond Fund	205,752
Balanced Fund	476,768
Large Cap Stock Value Fund	277,596
Large Cap Stock Index Fund	580,003
Large Cap Stock Growth Fund	374,273
International Fund	180,003
Small Cap Stock Fund	260,140
Brokerage Window	172,028
Tier 2 Nonvested Fund	94,684
Target Retired Fund	65,429
Target Date 2010 Fund	98,823
Target Date 2015 Fund	192,627
Target Date 2020 Fund	333,010
Target Date 2025 Fund	323,870
Target Date 2030 Fund	241,186
Target Date 2035 Fund	234,887
Target Date 2040 Fund	215,632
Target Date 2045 Fund	173,881
Target Date 2050 Fund	106,481
Target Date 2055 Fund	46,837
Target Date 2060 Fund	10,821
Totals	$ 5,530,901

1 Income Fund (15.66%)
2 Bond Fund (3.72%)
3 Balanced Fund (8.62%)
4 Large Cap Stock Value Fund (5.02%)
5 Large Cap Stock Index Fund (10.49%)
6 Large Cap Stock Growth Fund (6.77%)
7 International Fund (3.25%)
8 Small Cap Stock Fund (4.70%)
9 Brokerage Window (3.11%)
10 Tier 2 Nonvested Fund (1.71%)
11 Target Retired Fund (1.18%)
12 Target Date 2010 Fund (1.79%)
13 Target Date 2015 Fund (3.48%)
14 Target Date 2020 Fund (6.02%)
15 Target Date 2025 Fund (5.86%)
16 Target Date 2030 Fund (4.36%)
17 Target Date 2035 Fund (4.25%)
18 Target Date 2040 Fund (3.90%)
19 Target Date 2045 Fund (3.14%)
20 Target Date 2050 Fund (1.93%)
21 Target Date 2055 Fund (0.85%)
22 Target Date 2060 Fund (0.20%)

2018 INVESTMENT SUMMARY AND INVESTMENT AND ADMINISTRATIVE FEES

(dollars in thousands)

Fund	2018 Beginning Fair Value	Purchases	Sales and Redemptions	Increase (Decrease) in Fair Value	2018 Ending Fair Value	Percent of Total Fair Value	Invest-ment Fees	Admin-istrative Fees	Total Fees
Income Fund	$ 822,758	114,346	77,950	7,016	866,170	15.66%	0.26%	0.16%	0.42%
Bond Fund	219,220	19,737	27,338	(5,867)	205,752	3.72	0.10	0.16	0.26
Balanced Fund	505,758	23,842	7,538	(45,294)	476,768	8.62	0.24	0.16	0.40
Large Cap Stock Value Fund	318,526	16,314	19,814	(37,430)	277,596	5.02	0.42	0.16	0.58
Large Cap Stock Index Fund	636,315	22,939	37,284	(41,967)	580,003	10.49	0.03	0.16	0.19
Large Cap Stock Growth Fund	381,348	50,430	31,819	(25,686)	374,273	6.77	0.26	0.16	0.42
International Fund	230,130	9,263	20,345	(39,045)	180,003	3.25	0.06	0.16	0.22
Small Cap Stock Index Fund	319,648	16,826	18,907	(57,427)	260,140	4.70	0.37	0.16	0.53
Brokerage Window	179,557	26,168	17,056	(16,641)	172,028	3.11	N/A	N/A	N/A
Tier 2 Nonvested	99,940	23,780	19,093	(9,943)	94,684	1.71	0.18	0.16	0.34
Target Date Retired Fund	63,688	15,552	12,270	(1,541)	65,429	1.18	0.19	0.16	0.35
Target Date 2010 Fund	98,431	16,011	13,034	(2,585)	98,823	1.79	0.18	0.16	0.34
Target Date 2015 Fund	193,774	24,329	18,681	(6,795)	192,627	3.48	0.20	0.16	0.36
Target Date 2020 Fund	323,541	48,448	22,593	(16,386)	333,010	6.02	0.21	0.16	0.37
Target Date 2025 Fund	315,662	42,533	15,816	(18,509)	323,870	5.86	0.21	0.16	0.37
Target Date 2030 Fund	234,217	34,981	8,801	(19,211)	241,186	4.36	0.22	0.16	0.38
Target Date 2035 Fund	230,576	30,335	5,220	(20,804)	234,887	4.25	0.22	0.16	0.38
Target Date 2040 Fund	214,593	25,822	4,689	(20,094)	215,632	3.90	0.21	0.16	0.37
Target Date 2045 Fund	169,578	24,290	2,225	(17,762)	173,881	3.14	0.21	0.16	0.37
Target Date 2050 Fund	97,339	22,099	2,031	(10,926)	106,481	1.93	0.21	0.16	0.37
Target Date 2055 Fund	34,531	17,555	358	(4,891)	46,837	0.85	0.21	0.16	0.37
Target Date 2060 Fund	9,252	5,164	2,524	(1,071)	10,821	0.20	0.21	0.16	0.37
Total	$ 5,698,382	630,764	385,386	(412,859)	5,530,901	100.00%			

By administering the savings 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 on amounts traded).

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, 2018

Investment Option / Comparative Index	Annualized 1-Year	3-Year	5-Year	10-Year
Income Fund	**2.16%**	**1.83%**	**1.74%**	**1.88%**
90-day Treasury Bills Index	1.87	1.02	0.63	0.37
Bond Fund	**(0.04)**	**3.45**	**3.18**	**5.21**
Bloomberg Aggregate Index	0.01	2.06	2.52	3.48
Balanced Fund	**(1.77)**	**7.94**	**6.79**	**10.86**
Balanced Index (1)	(2.59)	6.41	6.12	9.36
Large Cap Stock Value Fund	**(7.13)**	**10.01**	**6.99**	**13.07**
*Russell 1000 Value Index	(8.27)	6.95	5.95	11.18
Large Cap Stock Index Fund	**(5.00)**	**8.86**	**7.99**	**12.73**
Large Cap Stock Blended Index (2)	(4.78)	9.09	8.21	12.97
Large Cap Stock Growth Fund	**(0.91)**	**10.11**	**10.21**	**14.75**
*Russell 1000 Growth Index	(1.51)	11.15	10.40	15.29
International Fund	**(14.51)**	**4.43**	**0.87**	**5.56**
International Blended Index (3)	(14.76)	4.39	0.85	5.59
Small Cap Stock Fund	**(13.28)**	**6.00**	**3.70**	**13.17**
*Russell 2000 Index	(11.01)	7.36	4.41	11.97
Target Retired Fund	**(0.87)**	**3.95**	**N/A**	**N/A**
Target Date Retirement Index (4)	(0.49)	3.34	—	—
Target Date 2010 Fund	**(1.16)**	**4.14**	**N/A**	**N/A**
Target Date 2010 Index (5)	(0.61)	3.70	—	—
Target Date 2015 Fund	**(1.30)**	**4.71**	**N/A**	**N/A**
Target Date 2015 Index (6)	(0.89)	4.29	—	—
Target Date 2020 Fund	**(2.35)**	**5.45**	**N/A**	**N/A**
Target Date 2020 Index (7)	(1.81)	5.02	—	—

Continued on page 150.

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 US Aggregate Bond through 12/31/2014, 60% Russell 1000*, 40% Bloomberg Barclays US Aggregate Bond thereafter*

(2) ***Large Cap Stock Blended Index:*** *S&P 500 through 6/30/2011, Russell 1000 Index* thereafter*

(3) ***International Blended Index:*** *MSCI EAFE through 3/31/2011, MSCI ACWI ex US IMI thereafter*

(4) ***Target Date Retired Index:*** *25% 90 Day T-Bills, 20% Bloomberg Barclays 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 Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 3% NFI-ODCE (Value Weighted)*

(5) ***Target Date 2010 Index:*** *23% 90 Day T-Bills, 20% Bloomberg Barclays US Aggregate Bond, 16% 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 Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 3% NFI-ODCE (Value Weighted)*

(6) ***Target Date 2015 Index:*** *18% 90 Day T-Bills, 21% Bloomberg Barclays US Aggregate Bond, 18% Russell 1000 Index*, 6% MSCI ACWI ex. US IMI, 2% Russell 2000 Index*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 15% Bloomberg Barclays Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 7% NFI-ODCE (Value Weighted)*

(7) ***Target Date 2020 Index:*** *13% 90 Day T-Bills, 18% Bloomberg Barclays US Aggregate Bond, 23% Russell 1000 Index*, 10% MSCI ACWI ex. US IMI, 3% Russell 2000 Index*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 10% Bloomberg Barclays 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, 2018

Investment Option / Comparative Index	1-Year	3-Year	5-Year	10-Year
			Annualized	
Target Date 2025 Fund	**(3.78)%**	**6.06%**	**N/A**	**N/A**
Target Date 2025 Index[8]	(3.19)	5.78	—	—
Target Date 2030 Fund	**(5.96)**	**6.33**	**N/A**	**N/A**
Target Date 2030 Index[9]	(5.05)	6.25	—	—
Target Date 2035 Fund	**(7.35)**	**6.68**	**N/A**	**N/A**
Target Date 2035 Index[10]	(6.90)	6.52	—	—
Target Date 2040 Fund	**(8.18)**	**6.68**	**N/A**	**N/A**
Target Date 2040 Index[11]	(7.84)	6.57	—	—
Target Date 2045 Fund	**(8.50)**	**6.71**	**N/A**	**N/A**
Target Date 2045 Index[12]	(8.21)	6.53	—	—
Target Date 2050 Fund	**(8.50)**	**6.71**	**N/A**	**N/A**
Target Date 2050 Index[13]	(8.21)	6.53	—	—
Target Date 2055 Fund	**(8.50)**	**6.71**	**N/A**	**N/A**
Target Date 2055 Index[14]	(8.21)	6.53	—	—
Target Date 2060 Fund	**(8.50)**	**6.71**	**N/A**	**N/A**
Target Date 2060 Index[15]	(8.21)	6.53	—	—
Tier 2 Nonvested Fund	**(5.29)**	**5.17**	**3.69%**	**N/A**
Tier 2 Nonvested Index[16]	(4.49)	4.87	3.76	—

Past performance does not guarantee future results.

(8) ***Target Date 2025 Index:*** *8% 90 Day T-Bills, 16% Bloomberg Barclays US Aggregate Bond, 2% Russell 1000 Value Index*, 24% Russell 1000 Index*, 2% Russell 1000 Growth Index*, 15% MSCI ACWI ex. US IMI, 4% Russell 2000 Index*, 9% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 2% Russell Fundamental US Select Real Estate Index**, 3% Bloomberg Commodity Index, 5% Bloomberg Barclays Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 10% NFI-ODCE (Value Weighted)*

(9) ***Target Date 2030 Index:*** *3% 90 Day T-Bills, 11% Bloomberg Barclays US Aggregate Bond, 4% Russell 1000 Value Index*, 24% Russell 1000 Index*, 4% Russell 1000 Growth Index*, 22% MSCI ACWI ex. US IMI, 6% Russell 2000 Index*, 7% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index**, 1% Bloomberg Barclays Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 4% Bloomberg Commodity Index, 10% NFI-ODCE (Value Weighted)*

(10) ***Target Date 2035 Index:*** *7% Bloomberg Barclays US Aggregate Bond, 6% Russell 1000 Value Index*, 23% Russell 1000 Index*, 6% Russell 1000 Growth Index*, 29% MSCI ACWI ex. US IMI, 9% Russell 2000 Index, 4% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index**, 4% Bloomberg Commodity Index, 8% NFI-ODCE (Value Weighted)*

(11) ***Target Date 2040 Index:*** *4% Bloomberg Barclays US Aggregate Bond, 8.5% Russell 1000 Value Index*, 21% Russell 1000 Index*, 8.5% Russell 1000 Growth Index*, 32% MSCI ACWI ex. US IMI, 10% 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, 5% NFI-ODCE (Value Weighted)*

(12) ***Target Date 2045 Index:*** *3% Bloomberg Barclays 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 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 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 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 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 Global Inflation-Linked Bond Index 1-10 Year (USD Hedged)*

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List of Largest Assets Held

December 31, 2018

LARGEST EQUITY HOLDINGS*

(By Fair Value)

Description	Shares	Fair Value
Amazon Inc.	40,455	$ 60,762,196
Alphabet Inc.	56,375	58,367,451
Microsoft Corp.	528,016	53,630,585
Apple Inc.	313,313	49,421,993
Visa Inc.	234,172	30,896,654
Mastercard Inc.	158,752	29,948,565
Facebook Inc.	228,374	29,937,548
Salesforce Inc.	200,389	27,447,281
Netflix Inc.	101,910	27,277,231
Boeing Inc.	73,699	23,767,928

LARGEST DEBT SECURITIES HOLDINGS

(By Fair Value)

Description	Par Value	Fair Value
US Treasury Note 2.75% Due 5-31-2023	$ 25,000,000	$ 25,333,223
US Treasury Note 1.75% Due 5-31-2022	20,330,000	19,878,612
SLM Student Loan Due 1-25-2041	19,797,000	19,340,972
SLM Student Loan Due 4-25-2040	18,274,000	17,920,338
FNMA Pool 4% Due 10-1-2045	15,677,266	16,052,021
FNMA Pool 4.5% Due 5-1-2048	14,601,097	15,125,787
FHLMC Pool 4.5% Due 7-1-2047	13,563,095	14,100,732
Government of Germany 2.5% 8-15-2046	8,450,000	13,703,062
Government of Japan 0.5% 12-20-2024	1,136,600,000	10,761,202
US Treasury Note 3% Due 10-31-2025	9,890,000	10,196,668

**As required by SEC Rule 13F, a list of publicly traded equity securities held by Utah Retirement Systems is available online through the SEC Electronic Data Gathering, Analysis, and Retrieval (EDGAR) website. This list is also available upon request.*

Schedules of Fees and Commissions

Year Ended December 31, 2018

BROKER COMMISSION FEES

Broker	Total Commission Fees
Frank Russell	$ 30,838
Merrill Lynch	24,660
Morgan Stanley	19,206
Bear Sterns	11,008
Goldman Sachs	8,701
Instinet	7,155
Jefferies	7,039
Cowen & Company	3,004
RBC Dain Rauscher	2,587
Allen & Company	2,582
All Others	24,253
Total	$ 141,033

SCHEDULE OF INVESTMENT FEES AND COMMISSIONS

Investment advisor fees:*	
Debt securities	$ 1,898,465
Equity securities	3,145,768
Real assets	220,238
Total investment advisor fees	5,264,471
Investment brokerage fees	141,033
Total fees and commissions	$ 5,405,503

**Represents fees that are invoiced and paid directly by URS. These numbers do not represent all management, wrap, or other fees charged directly by investment advisors. These and other fees are netted from returns.*

Utah Retirement Systems uses a commission recapture program as part of its trading strategies. During the year ending December 31, 2018, Utah Retirement Systems recaptured $29,296 from the gross commission charges. This recaptured sum was used to cover or offset the $39,811 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

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

Actuarial Section

Utah Retirement Systems
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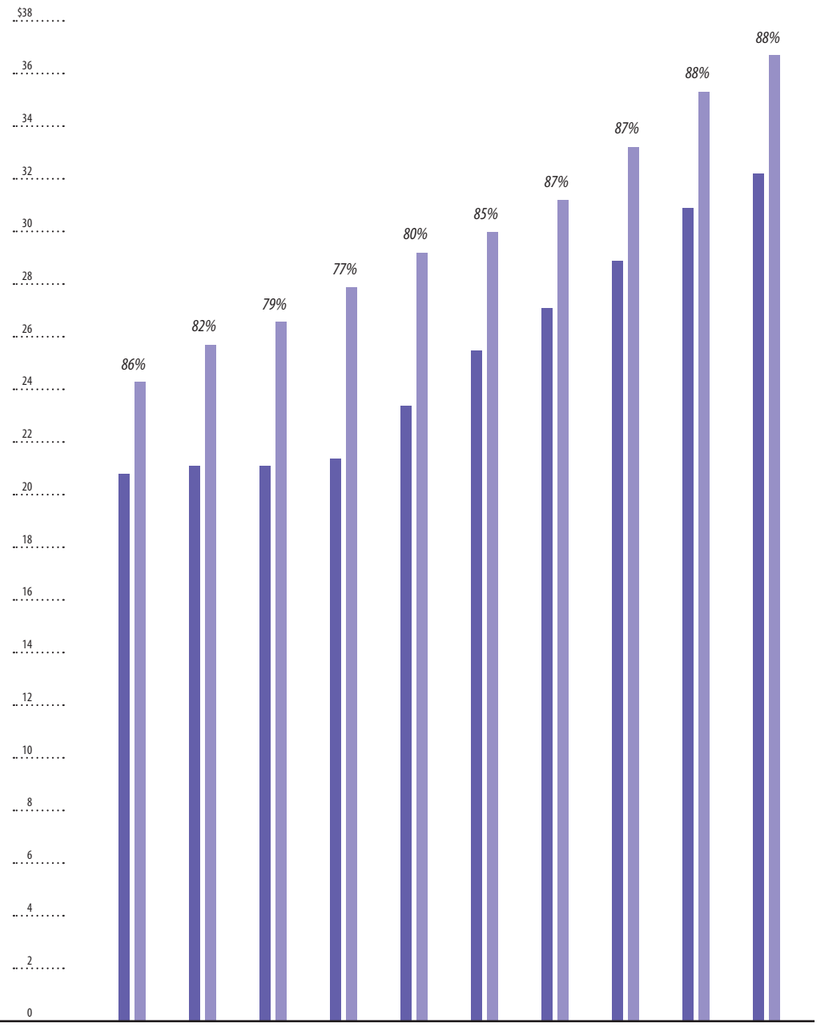
Funding Progress with Funding Ratios

(dollars in billions)



(dollars in billions)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Actuarial value of assets	$20.8	21.1	21.1	21.4	23.4	25.5	27.1	28.9	30.9	32.2
Accrued actuarial liability	24.3	25.7	26.6	27.9	29.2	30.0	31.2	33.2	35.3	36.7
Funding Ratios	86%	82%	79%	77%	80%	85%	87%	87%	88%	88%

Actuary's Certification Letter

GRS Retirement Consulting

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August 9, 2018

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, 2018

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, the Board may choose to maintain 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, 2018 actuarial valuation will be used by the Board when certifying the employer contribution rates for the 12-month period beginning July 1, 2019 and ending June 30, 2020. If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board certified contribution rates will be updated 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.

5605 North MacArthur Boulevard | Suite 870 | Irving, Texas 75038-2631

Actuary's Certification Letter *(Continued)*

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 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 certified 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%.

Since the prior year's valuation, the funded ratio on a combined basis increased from 85.2% to 87.4%. The improvement in the funded ratio is due to investment gains on an actuarial value of asset basis and the current contribution effort to finance the unfunded actuarial accrued liability. Absent unfavorable actuarial experience, we expect the funded ratio to continue to 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 90.3% compared to 84.1% in the prior year. The increase in the funded ratio on a market value basis is attributable to the 13.3% return on the market value of assets during the prior year and the current contribution effort to finance the unfunded actuarial accrued liability

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on January 1, 2018. SB 21 was enacted during the 2018 legislative session that modified the death benefits for certain Tier I public safety members and firefighters. As a result, the certified contribution rates for those applicable funds were increased (from those shown in the prior valuation report) for the fiscal year beginning July 1, 2018, to finance these benefit improvements.

Assumptions and methods

The economic and 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. The demographic assumptions are reviewed in detail every three years. The next experience analysis to review the demographic assumptions is scheduled for 2020.

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.

GRS Retirement Consulting

Actuary's Certification Letter *(Concluded)*

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. Also, these assumptions and methods used for funding purposes satisfy the parameters set by the Actuarial Standards of Practice.

Data

Member data for retired, active and inactive members was supplied as of December 31, 2017 by the URS staff. The staff also supplied asset information as of December 31, 2017. 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, 2018.

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

GRS Retirement Consulting

Summary of Actuarial Assumptions and Methods

as of January 1, 2018

Actuarial Assumptions and Methods

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, 2018).

In calculating this minimum, amortization payments are designed to remain level as a percent of payroll, and payroll is assumed to increase 3.00% 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 6.95%, compounded annually. This rate is made up of a 2.50% assumed inflation rate and a 4.45% assumed real rate of return. This assumption was adopted January 1, 2017.

c) The total rates of assumed annual salary increase are shown on the actuarial schedule on page 163. The rates include increases due to promotion and longevity and a 3.25% per annum rate of increase in the general wage level of the membership. Salaries of judges are assumed to increase at 3.25%. All of these assumptions were adopted January 1, 2017.

d) Post-retirement benefit increases are based on the consumer price index (CPI), limited by the provisions of each System. The increases are assumed to be 2.5% for all Systems. 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 remaining.

e) Tables of mortality rates for male members retired for service and beneficiaries were developed from actual experience of URS retirees. Mortality rates for female members retired for service and beneficiaries were developed from actual experience of the URS retirees.

Summary of Actuarial Assumptions and Methods *(Continued)*

as of January 1, 2018

RETIRED MEMBER MORTALITY

Class of Member	
Educators and Judges	
Men	2017URSM (90%)
Women	2017URSF (90%)
Public Safety and Firefighters	
Men	2017URSM (110%)
Women	2017URSF (110%)
Local Government, Public Employees	
Men	2017URSM (110%)
Women	2017URSF (110%)

2017URSM = Constructed mortality table based on actual experience of male URS retirees multiplied by given percentage

2017URSF = Constructed mortality table based on actual experience of female URS retirees multiplied by given percentage

The mortality basis is adjusted based 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 2017. All of these rates were adopted January 1, 2017. Mortality rates for active members use the RP2014 employees mortality tables with white collar adjustment as the underlying assumption with scaling factors applied based on employee group and gender. The assumptions were adopted effective January 1, 2017.

f) Mortality among disabled members is based on 110% of the RP2014 disabled mortality table for males, and 120% of the RP2014 disabled mortality table for females. The rates for males and females are also adjusted for future improvement in mortality using published Scale AA projected from the year 2006.

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 co-mingled 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 2017, 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, 2018

		Percent Retiring Within Next Year Among Active Members						
		Eligible for Retirement						
		Male			Female			Governors and Legislators Retirement Plan
		State and School Division		Local Government Division	State and School Division		Local Government Division	
	Retirement Age	Educators	Public Employees		Educators	Public Employees		
Tier 1 Noncontributory and Contributory Retirement Systems *Adopted January 1, 2017*	50	20.00%	15.00%	15.00%	30.00%	17.00%	20.00%	0.00%
	51	20.00	15.00	15.00	30.00	16.00	20.00	0.00
	52	20.00	15.00	15.00	30.00	16.00	20.00	0.00
	53	20.00	15.00	15.00	14.00	16.00	20.00	0.00
	54	15.00	15.00	15.00	14.00	16.00	20.00	0.00
	55	15.00	16.00	15.00	14.00	16.00	25.00	0.00
	56	15.00	16.00	15.00	18.00	16.00	25.00	0.00
	57	15.00	16.00	15.00	18.00	16.00	25.00	0.00
	58	15.00	16.00	15.00	18.00	20.00	25.00	0.00
	59	15.00	16.00	15.00	18.00	20.00	25.00	0.00
	60	23.00	20.00	20.00	30.00	25.00	30.00	0.00
	61	23.00	20.00	20.00	30.00	25.00	30.00	0.00
	62	33.00	30.00	23.00	35.00	33.00	30.00	100.00
	63	33.00	30.00	23.00	35.00	33.00	30.00	100.00
	64	33.00	30.00	23.00	35.00	33.00	30.00	100.00
	65	33.00	22.00	23.00	35.00	28.00	25.00	100.00
	66	33.00	22.00	30.00	35.00	28.00	25.00	100.00
	67	30.00	22.00	22.00	35.00	28.00	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

	Percent Retiring Within Next Year Among Active Members Eligible for Retirement											
	Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age	
Tier 1 Public Safety Retirement System *Adopted January 1, 2017*	45	15.00%	50	15.00%	55	15.00%	59	20.00%	63	35.00%	67	50.00%
	46	15.00	51	15.00	56	15.00	60	20.00	64	35.00	68	50.00
	47	15.00	52	15.00	57	15.00	61	20.00	65	35.00	69	50.00
	48	15.00	53	15.00	58	15.00	62	35.00	66	50.00	70	100.00
	49	15.00	54	15.00								

	Percent Retiring Within Next Year Among Active Members Eligible for Retirement											
	Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age	
Tier 1 Firefighters Retirement System *Adopted January 1, 2017*	45	15.00%	50	15.00%	55	15.00%	59	20.00%	63	25.00%	67	50.00%
	46	15.00	51	15.00	56	15.00	60	20.00	64	25.00	68	50.00
	47	15.00	52	15.00	57	15.00	61	20.00	65	50.00	69	50.00
	48	15.00	53	15.00	58	20.00	62	25.00	66	50.00	70	100.00
	49	15.00	54	15.00								

	Percent Retiring Within Next Year Among Active Members Eligible for Retirement											
	Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age	
Judges Retirement System *Adopted January 1, 2017*	45	10.00%	50	10.00%	55	10.00%	59	10.00%	63	10.00%	67	20.00%
	46	10.00	51	10.00	56	10.00	60	10.00	64	15.00	68	20.00
	47	10.00	52	10.00	57	10.00	61	10.00	65	15.00	69	20.00
	48	10.00	53	10.00	58	10.00	62	10.00	66	20.00	70	100.00
	49	10.00	54	10.00								

Summary of Actuarial Assumptions and Methods *(Continued)*

as of January 1, 2018

		Percent Retiring Within Next Year Among Active Members						
		Eligible for Retirement						
		Male			Female			Governors and Legislators Retirement Plan
		State and School Division		Local Government Division	State and School Division		Local Government Division	
	Retirement Age	Educators	Public Employees		Educators	Public Employees		
Tier 2 Public Employees Retirement System *Adopted January 1, 2014*	50	20.00%	15.00%	15.00%	30.00%	17.00%	20.00%	0.00%
	51	20.00	15.00	15.00	30.00	16.00	20.00	0.00
	52	20.00	15.00	15.00	30.00	16.00	20.00	0.00
	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%.

	Percent Retiring Within Next Year Among Active Members Eligible for Retirement											
Tier 2 Public Safety and Firefighter Retirement System	Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age	
Public Safety *Adopted January 1, 2014*	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
	47	12.00	52	12.00	57	12.00	61	30.00	65	50.00	69	50.00
	48	12.00	53	12.00	58	12.00	62	35.00	66	50.00	70	100.00
	49	12.00	54	12.00								

	Percent Retiring Within Next Year Among Active Members Eligible for Retirement											
	Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age	
Firefighters *Adopted January 1, 2014*	45	9.00%	50	9.00%	55	12.00%	59	12.00%	63	40.00%	67	60.00%
	46	9.00	51	9.00	56	12.00	60	40.00	64	40.00	68	60.00
	47	9.00	52	9.00	57	12.00	61	40.00	65	60.00	69	60.00
	48	9.00	53	9.00	58	12.00	62	40.00	66	60.00	70	100.00
	49	9.00	54	9.00								

Summary of Actuarial Assumptions and Methods *(Continued)*

as of January 1, 2018

		Other Termination of Employment Percent of Active Members Separating Within Next Year						
		Male			Female			Governors and Legislators Retirement Plan
		State and School Division			State and School Division			
	Years of Service	Educators	Public Employees	Local Government Division	Educators	Public Employees	Local Government Division	
Noncontributory and Contributory Retirement Systems *Adopted January 1, 2017*	0	14.00%	25.00%	17.00%	16.00%	28.00%	22.00%	10.00%
	1	11.00	20.00	13.00	15.00	23.00	18.00	10.00
	2	8.00	14.00	9.00	12.00	17.00	13.00	10.00
	3	7.00	10.00	8.00	10.00	13.00	11.00	10.00
	4	6.50	10.00	7.50	9.00	12.50	10.50	10.00
	5	6.00	10.00	7.00	8.00	11.00	10.00	10.00
	6	5.50	9.00	6.50	7.50	10.00	9.50	10.00
	7	4.00	7.50	6.00	6.00	7.50	9.00	10.00
	8	3.50	6.00	5.50	5.00	6.50	7.50	10.00
	9	3.00	5.50	4.75	4.50	6.00	7.00	10.00
	10	2.75	5.00	4.50	4.00	5.50	6.00	10.00
	11	2.50	4.50	4.00	3.50	4.75	5.50	10.00
	12	2.50	4.00	3.50	3.25	4.50	5.25	10.00
	13	2.25	3.75	3.00	3.00	4.25	5.00	10.00
	14	2.00	3.50	3.00	2.50	3.75	4.50	10.00
	15	2.00	3.00	2.75	2.25	3.50	4.00	10.00
	16	1.75	2.75	2.75	2.00	3.00	3.75	10.00
	17	1.75	2.50	2.75	1.75	2.75	3.50	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	3.00	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+	1.00	1.00	1.00	1.00	1.00	1.00	10.00

	Other Termination of Employment of Active Members Separating Within Next Year									
	Years of Service		Years of Service		Years of Service		Years of Service		Years of Service	
Public Safety Retirement System *Adopted January 1, 2014*	0	12.00%	5	4.50%	9	3.25%	13	2.25%	17	1.50%
	1	6.50	6	4.25	10	3.00	14	1.50	18	1.50
	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+	1.00
	4	5.00								

	Other Termination of Employment of Active Members Separating Within Next Year									
	Years of Service		Years of Service		Years of Service		Years of Service		Years of Service	
Firefighters Retirement System *Adopted January 1, 2010*	0	6.00%	5	2.50%	9	1.50%	13	0.50%	17	0.50%
	1	5.00	6	2.25	10	1.50	14	0.50	18	0.50
	2	4.00	7	2.00	11	1.50	15	0.50	19	0.50
	3	3.50	8	1.75	12	0.50	16	0.50	20+	0.50
	4	3.00								

	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, 2018

		Total Annual Increase in Salary (Male and Female)										
		State and School Division						State and School Division				
	Years of Service	Educators	Public Employees	Local Government Division	Public Safety Retirement System	Firefighters Retirement System	Years of Service	Educators	Public Employees	Local Government Division	Public Safety Retirement System	Firefighters Retirement System
All Retirement Systems *Adopted January 1, 2017*	0	9.75%	8.50%	8.75%	7.25%	8.75%	13	4.75%	4.25%	4.00%	4.50%	4.50%
	1	9.00	7.75	7.25	6.25	8.25	14	4.50	4.00	4.00	4.25	4.50
	2	8.00	6.75	6.50	6.00	8.00	15	4.25	3.75	4.00	4.25	4.50
	3	7.50	6.00	6.00	5.75	7.75	16	4.00	3.75	3.75	4.25	4.50
	4	7.25	5.75	5.50	5.75	7.50	17	3.75	3.75	3.75	4.00	4.25
	5	7.00	5.25	5.25	5.75	7.25	18	3.75	3.75	3.75	4.00	4.00
	6	7.00	5.00	5.00	5.75	7.25	19	3.75	3.75	3.75	4.00	4.00
	7	6.75	4.75	4.75	5.50	6.75	20	3.75	3.50	3.50	4.00	4.00
	8	6.75	4.75	4.50	5.25	6.50	21	3.75	3.50	3.50	3.75	3.75
	9	6.50	4.50	4.50	5.25	6.25	22	3.75	3.50	3.50	3.75	3.50
	10	6.00	4.50	4.25	5.00	5.75	23	3.75	3.50	3.25	3.50	3.50
	11	5.50	4.25	4.00	4.75	5.00	24	3.50	3.25	3.25	3.50	3.50
	12	5.25	4.25	4.00	4.50	5.00	25+	3.25	3.25	3.25	3.25	3.25

		Probability of Mortality Within the Next Year for Active Members							
		Male		Female			Male		Female
	Age	Educators	Local Government and Public Employees	Educators	Local Government and Public Employees	Age	Educators	Local Government and Public Employees	Educators	Local Government and Public Employees
Noncontributory and Contributory Retirement Systems *Adopted January 1, 2017*	20	0.0228%	0.0285%	0.0069%	0.0110%	50	0.0946%	0.1182%	0.0465%	0.0744%
	25	0.0271	0.0339	0.0073	0.0117	55	0.1564	0.1955	0.0706	0.1130
	30	0.0254	0.0317	0.0092	0.0147	60	0.2630	0.3288	0.1030	0.1648
	35	0.0294	0.0367	0.0121	0.0193	65	0.4644	0.5805	0.1560	0.2495
	40	0.0352	0.0440	0.0167	0.0267	70	0.8223	1.0279	0.2717	0.4346
	45	0.0546	0.0682	0.0277	0.0443					

		Percent Electing a Refund of Contributions Upon Termination While Vested					
		Male			Female		
	Years of Service	Educators	Public Employees	Local Government Division	Educators	Public Employees	Local Government Division
Noncontributory and Contributory Retirement Systems *Adopted January 1, 1993*	0-3	100%	100%	100%	100%	100%	100%
	4	75	86	75	65	80	77
	5	73	83	73	64	79	75
	10	54	73	61	53	64	61
	15	33	63	49	32	52	40
	19	9	29	23	8	22	13
	20	0	0	0	0	0	0

	Probability of Mortality Within the Next Year for Active Members							
	Public Safety and Firefighters Employees							
	Age		Age		Age		Age	
Public Safety Retirement System and Firefighters Retirement System *Adopted January 1, 2017*	20	0.0285%	35	0.0367%	50	0.1182%	65	0.5805%
	25	0.0339	40	0.0440	55	0.1955	70	1.0279
	30	0.0317	45	0.0682	60	0.3288		

	Percent Electing a Refund of Contributions Upon Termination While Vested			
	Public Safety and Firefighters Retirement Employees			
	Years of Service		Years of Service	
Public Safety Retirement System and Firefighters Retirement System *Adopted January 1, 1993*	0-3	100%	15	35%
	4	76	19	15
	5	74	20	0
	10	57		

Calculation of Actuarial Value of Assets

January 1, 2018 *(dollars in thousands)*

1. Fair value of assets			$ 31,878,618
2. Deferral to smooth asset values based on (excess)/shortfall of expected investment income for:			
Year	Total Excess/ (Shortfall)	% Deferred	Amount Deferred
a. 2017	$ 1,792,941	80%	$ 1,434,354
b. 2016	329,863	60%	197,920
c. 2015	(1,529,412)	40%	(611,763)
d. 2014	(95,447)	20%	(19,087)
e. 2013	1,600,276	0%	—
f. Total deferred gains (losses)			1,001,424
g. Total deferred (gains) losses			(1,001,424)
3. Actuarial value of assets available for benefits*			$ 30,877,194

December 31, 2018 *(dollars in thousands)*

1. Fair value of assets			$ 31,259,522
2. Deferral to smooth asset values based on (excess)/shortfall of expected investment income for:			
Year	Total Excess/ (Shortfall)	% Deferred	Amount Deferred
a. 2018	$(2,327,819)	80%	$(1,862,255)
b. 2017	1,792,944	60%	1,075,766
c. 2016	329,864	40%	131,946
d. 2015	(1,529,413)	20%	(305,883)
e. 2014	(95,448)	0%	—
f. Total deferred gains (losses)			(960,426)
g. Total deferred (gains) losses			960,426
3. Actuarial value of assets available for benefits*			$ 32,219,948

**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, 2018 *(in thousands)*

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Governors and Legislators	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighter System	Total All Systems
1. Net assets available for benefits at fair value	$ 25,205,127	1,283,466	3,576,517	1,234,407	198,483	11,220	329,218	40,180	31,878,618
2. Adjustments to smooth asset values based on (excess)/shortfall of expected investment income on fair value for:	(775,039)	(55,155)	(113,598)	(39,049)	(6,446)	(365)	(10,464)	(1,308)	(1,001,424)
3. Actuarial value of assets available for benefits (1-2)	$ 24,430,088	1,228,311	3,462,919	1,195,358	192,037	10,855	318,754	38,872	30,877,194

December 31, 2018 *(in thousands)*

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Governors and Legislators	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighter System	Total All Systems
1. Net assets available for benefits at fair value	$ 24,666,059	1,172,429	3,528,069	1,207,889	195,570	10,537	424,633	54,336	31,259,522
2. Adjustments to smooth asset values based on (excess)/shortfall of expected investment income on fair value for:	758,492	36,831	107,756	36,807	5,755	315	13,733	1,737	960,426
3. Actuarial value of assets available for benefits (1-2)	$ 25,423,551	1,209,260	3,635,825	1,244,696	201,325	10,852	438,366	56,073	32,219,948

Analysis of Financial Experience

(in thousands)

System	January 1, 2018 Unfunded Actuarial Accrued Liability	Amortization Payments	Liability (Gain) Loss	Asset (Gain) Loss	Changes in Actuarial Assumptions	Change in Benefit Provisions	Asset Transfers	January 1, 2019 Unfunded Actuarial Accrued Liability
Noncontributory	$ 4,170,251	(185,981)	39,163	(312,934)	—	—	(21,424)	3,689,075
Contributory	65,782	(3,065)	(13,455)	(16,935)	—	—	21,424	53,751
Public Safety	691,571	(19,769)	(4,850)	(43,593)	272	—	—	623,631
Firefighters	22,404	4,492	(719)	(15,264)	332	—	—	11,245
Judges	46,189	(515)	3,271	(2,549)	—	—	—	46,396
Utah Governors and Legislators	2,674	(159)	36	(158)	—	—	—	2,393
Tier 2 Public Employees	11,320	5,078	3,361	(2,095)	—	—	—	17,664
Tier 2 Public Safety and Firefighter	421	590	(11)	(269)	—	—	—	731

Member and Employer Contribution Rates

As of December 31

System	Year	Contributory Member	Contributory Employer: State and School	Contributory Employer: Local Government	Noncontributory Employer: State and School	Noncontributory Employer: Local Government
Noncontributory and Contributory Retirement Systems	2009	6.00%	9.73%	7.65%	14.22%	11.66%
	2010	6.00	11.83	9.36	16.32	13.37
	2011	6.00	12.37	9.76	16.86	13.77
	2012	6.00	14.27	12.03	18.76	16.04
	2013	6.00	15.97	13.28	20.46	17.29
	2014	6.00	17.70	14.46	22.19	18.47
	2015	6.00	17.70	14.46	22.19	18.47
	2016	6.00	17.70	14.46	22.19	18.47
	2017	6.00	17.70	14.46	22.19	18.47
	2018	6.00	17.70	14.46	22.19	18.47

		Division A (with Social Security) Member	Division A (with Social Security) Employer	Division B (without Social Security) Member	Division B (without Social Security) Employer	All Divisions Fire Insurance Premium Tax
Firefighters Retirement System	2009	13.49%	—	9.68%	—	12.34%
	2010	15.05	—	16.18	—	11.87
	2011	15.05	0.50%	16.18	—	12.29
	2012	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
	2017	15.05	3.93	16.71	6.70	11.60
	2018	15.05	4.61	16.71	7.24	11.06

		Judges Contributory Member	Judges Contributory Employer	Judges Noncontributory Employer	Judges Court Fees	Governors and Legislators Appropriation
Judges Retirement System	2009	2.00%	15.09%	17.09%	13.83%	$ —
	2010	—	—	23.72	14.08	—
	2011	—	—	25.82	14.26	153,000
Utah Governors and Legislators 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	421,009
	2016	—	—	42.12	9.79	404,409
	2017	—	—	42.39	9.22	391,883
	2018	—	—	43.68	8.23	384,103

Member and Employer Contribution Rates *(Continued)*

As of December 31

System	Year	State of Utah Member	State of Utah Employer	2.5% COLA Other Division A (with Social Security) Member	2.5% COLA Other Division A (with Social Security) Employer	4.0% COLA Other Division A (with Social Security) Member	4.0% COLA Other Division A (with Social Security) Employer	Bountiful Member	Bountiful Employer
Public Safety Retirement System Noncontributory Division A	2009	—	30.18%	—	23.34%	—	25.90%	—	23.07%
	2010	—	32.75	—	26.13	—	28.82	—	27.73
	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
	2014	—	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
	2017	—	41.35	—	34.04	—	35.71	—	49.58
	2018	—	41.35	—	34.04	—	35.71	—	50.38
Public Safety Retirement System Contributory Division A	2009	12.29%	19.01%	12.29%	12.47%	12.29%	15.01%	—	—
	2010	12.29	21.68	12.29	14.86	12.29	18.34	—	—
	2011	12.29	22.88	12.29	15.78	12.29	18.34	—	—
	2012	12.29	25.52	12.29	19.08	12.29	22.34	—	—
	2013	12.29	27.63	12.29	20.83	12.29	22.75	—	—
	2014	12.29	29.70	12.29	22.75	12.29	24.33	—	—
	2015	12.29	29.70	12.29	22.75	12.29	24.33	—	—
	2016	12.29	29.70	12.29	22.75	12.29	24.33	—	—
	2017	12.29	29.70	12.29	22.75	12.29	24.33	—	—
	2018	—*	—*	12.29	22.79	12.29	24.37	—	—

	Year	Salt Lake City Member	Salt Lake City Employer	Ogden Member	Ogden Employer	Logan Member	Logan Employer	Provo Member	Provo Employer	2.5% COLA Other Division B (without Soc Sec) Member	2.5% COLA Other Division B (without Soc Sec) Employer	4.0% COLA Other Division B (without Soc Sec) Member	4.0% COLA Other Division B (without Soc Sec) Employer
Public Safety Retirement System Noncontributory Division B	2009	—	35.71%	—	33.11%	—	27.74%	—	30.91%	—	26.21%	—	28.73%
	2010	—	36.31	—	34.93	—	31.49	—	32.98	—	28.24	—	32.70
	2011	—	36.71	—	36.13	—	31.91	—	33.05	—	28.64	—	32.70
	2012	—	41.95	—	42.21	—	38.18	—	38.54	—	32.20	—	36.97
	2013	—	44.83	—	44.98	—	39.84	—	39.97	—	32.20	—	37.45
	2014	—	46.67	—	48.68	—	41.92	—	42.16	—	34.04	—	38.94
	2015	—	46.67	—	48.68	—	41.92	—	42.16	—	34.04	—	38.94
	2016	—	46.67	—	48.68	—	41.92	—	42.16	—	34.04	—	38.94
	2017	—	46.67	—	48.68	—	41.92	—	42.16	—	34.04	—	38.94
	2018	—	46.71	—	48.72	—	41.97	—	42.23	—	32.28	—	38.97
Public Safety Retirement System Contributory Division B	2009	—	—	—	—	11.13%	17.81%	—	—	10.50%	16.67%	10.50%	19.17%
	2010	—	—	—	—	11.13	20.95	—	—	10.50	18.98	10.50	23.22
	2011	—	—	—	—	11.13	21.36	—	—	10.50	19.48	10.50	23.22
	2012	—	—	—	—	11.13	27.95	—	—	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	31.80	—	—	10.50	22.29	10.50	28.95
	2016	—	—	—	—	11.13	31.80	—	—	10.50	22.29	10.50	28.95
	2017	—	—	—	—	11.13	31.80	—	—	10.50	22.29	10.50	28.95
	2018	—	—	—	—	—*	—*	—	—	10.50	22.81	10.50	28.98

**No active participants in the system.*

Member and Employer Contribution Rates *(Continued)*

As of December 31

System	Year	Contributory Employer	Noncontributory Employer	Noncontributory Employer
		Local Government	State and School	Local Government
Tier 2 Public Employees Contributory Retirement System*	2011	12.40%	12.74%	10.33%
	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
	2017	16.67	18.44	15.11
	2018	17.30	18.87	15.54

Tier 2 Public Safety and Firefighter Contributory Retirement System*	Year	State of Utah Employer	Bountiful Employer	2.5% COLA Other Division A (with Soc Sec) Employer	4% COLA Other Division A (with Soc Sec) Employer
Public Safety Noncontributory Division A	2011	22.06%	18.15%	16.27%	17.18%
	2012	25.46	25.89	19.25	21.94
	2013	27.40	31.38	20.85	22.37
	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
	2017	29.28	37.71	22.57	23.73
	2018	29.80	38.23	23.09	24.25
Public Safety Contributory Division A	2011	—	—	16.27%	17.47%
	2012	—	—	19.25	21.94
	2013	—	—	20.85	22.37
	2014	—	—	20.66	23.71
	2015	—	—	20.61	23.66
	2016	—	—	20.61	23.66
	2017	—	—	20.61	23.73
	2018	—	—	23.11	24.27

**Includes active member death benefit and Tier 1 amortization rate. Does not include the 401(k) component of the contribution rate.*

Member and Employer Contribution Rates *(Concluded)*

As of December 31

Tier 2 Public Safety and Firefighter Contributory Retirement System *(Continued)**	Year	Salt Lake City Employer	Ogden Employer	Logan Employer	Provo Employer	2.5% COLA Other Division B (without Soc Sec) Employer	4.% COLA Other Division B (without Soc Sec) Employer
Public Safety Noncontributory Division B	2011	25.82%	25.21%	21.15%	22.01%	17.72%	20.89%
	2012	30.47	30.78	26.59	27.08	20.71	25.05
	2013	33.27	33.47	28.19	28.19	20.77	25.38
	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
	2017	34.99	37.09	30.38	30.38	20.50	26.74
	2018	35.54	37.64	30.71	30.95	21.00	27.28
Public Safety Contributory Division B	2011	—	—	—	—	17.72%	20.89%
	2012	—	—	—	—	20.71	25.05
	2013	—	—	—	—	20.77	25.38
	2014	—	—	—	—	20.55	26.72
	2015	—	—	—	—	20.50	26.67
	2016	—	—	—	—	20.50	26.67
	2017	—	—	—	—	20.57	26.74
	2018	—	—	—	—	21.11	27.28

Firefighters	Year	Other Division A (with Social Security) Employer	Other Division B (with Social Security) Employer
	2011	10.64%	10.64%
	2012	11.10	11.10
	2013	11.02	11.02
	2014	10.80	10.80
	2015	10.75	10.75
	2016	10.75	10.75
	2017	10.82	10.82
	2018	11.34	11.34

**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)

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)
		Based on Actuarial Value of Assets					
Noncontributory Retirement System	1/01/10	$ 16,619,831	19,384,503	2,764,672	85.7%	$ 3,955,040	69.9%
	1/01/11	16,852,691	20,388,759	3,536,068	82.7	3,888,179	90.9
	1/01/12	16,805,952	21,260,843	4,454,891	79.0	3,900,106	114.2
	1/01/13	16,969,392	22,200,896	5,231,504	76.4	3,794,929	137.9
	1/01/14	18,601,513	22,981,585	4,380,072	80.9	3,705,771	118.2
	1/01/15	20,240,645	23,868,225	3,627,580	84.8	3,570,912	101.6
	1/01/16	21,528,737	25,476,579	3,947,842	84.5	3,458,286	114.2
	1/01/17	22,908,184	27,078,436	4,170,252	84.6	3,406,567	122.4
	1/01/18	24,430,088	28,119,177	3,689,089	86.9	3,337,061	110.5
	12/31/18	25,423,551	29,122,948	3,699,397	87.3	3,330,548	111.1
Contributory Retirement System	1/01/10	$ 1,116,736	1,236,009	119,273	90.4%	$ 127,804	93.3%
	1/01/11	1,132,661	1,251,412	118,751	90.5	116,395	102.0
	1/01/12	1,135,251	1,269,042	133,791	89.5	110,103	121.5
	1/01/13	1,133,433	1,280,836	147,403	88.5	103,074	143.0
	1/01/14	1,165,002	1,285,851	120,849	90.6	98,023	123.3
	1/01/15	1,198,862	1,295,581	96,719	92.5	90,623	106.7
	1/01/16	1,209,069	1,282,510	73,441	94.3	82,426	89.1
	1/01/17	1,227,072	1,292,854	65,782	94.9	53,615	122.7
	1/01/18	1,228,311	1,282,052	53,741	95.8	45,177	119.0
	12/31/18	1,209,260	1,284,009	74,749	94.2	39,279	190.3
Public Safety Retirement System	1/01/10	$ 2,137,027	2,650,675	513,648	80.6%	$ 373,959	137.4%
	1/01/11	2,194,015	2,844,101	650,086	77.1	363,037	179.1
	1/01/12	2,222,202	2,948,481	726,279	75.4	374,293	194.0
	1/01/13	2,283,911	3,093,227	809,316	73.8	366,471	220.8
	1/01/14	2,530,709	3,191,506	660,797	79.3	365,998	180.5
	1/01/15	2,781,314	3,344,059	562,745	83.2	360,750	156.0
	1/01/16	2,988,371	3,622,965	634,594	82.5	355,172	178.7
	1/01/17	3,217,221	3,908,793	691,572	82.3	352,408	196.2
	1/01/18	3,462,919	4,086,551	623,632	84.7	350,782	177.8
	12/31/18	3,635,825	4,258,247	622,422	85.4	348,475	178.6
Firefighters Retirement System	1/01/10	$ 802,576	833,844	31,268	96.3	$ 107,625	29.1%
	1/01/11	810,216	872,133	61,917	92.9	105,275	58.8
	1/01/12	810,764	903,399	92,635	89.7	110,751	83.6
	1/01/13	824,060	944,791	120,731	87.2	110,608	109.2
	1/01/14	903,627	963,574	59,947	93.8	110,741	54.1
	1/01/15	988,806	1,006,646	17,840	98.2	111,305	16.0
	1/01/16	1,060,312	1,076,963	16,651	98.5	111,133	15.0
	1/01/17	1,130,198	1,152,602	22,404	98.1	112,322	19.9
	1/01/18	1,195,358	1,206,602	11,244	99.1	112,953	10.0
	12/31/18	1,244,696	1,261,289	16,593	98.7	113,587	14.6
Judges Retirement System	1/01/10	$ 131,491	158,303	26,812	83.1%	14,434	185.8%
	1/01/11	131,869	167,581	35,712	78.7	14,234	250.9
	1/01/12	130,561	167,982	37,421	77.7	14,981	249.8
	1/01/13	131,217	174,923	43,706	75.0	14,885	293.6
	1/01/14	145,121	185,113	39,992	78.4	15,195	263.2
	1/01/15	156,956	192,445	35,489	81.6	16,072	220.8
	1/01/16	166,298	203,540	37,242	81.7	15,832	235.2
	1/01/17	177,782	223,971	46,189	79.4	16,755	275.7
	1/01/18	192,037	238,433	46,396	80.5	18,661	248.6
	12/31/18	201,325	244,209	42,884	82.4	18,802	228.1

See accompanying notes to required supplementary information.

Schedules of Funding Progress *(Concluded)*

(dollars in thousands)

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)
		Based on Actuarial Value of Assets					
Governors and Legislators Retirement Plan	1/01/10	$ 10,769	11,305	536	95.3%	$ 910	58.9%
	1/01/11	10,197	11,513	1,316	88.6	910	144.6
	1/01/12	9,565	12,029	2,464	79.5	910	270.8
	1/01/13	9,077	11,925	2,848	76.1	910	313.0
	1/01/14	9,457	12,186	2,729	77.6	390	699.7
	1/01/15	9,908	12,223	2,315	81.1	928	249.5
	1/01/16	10,173	12,684	2,511	80.2	943	266.3
	1/01/17	10,470	13,144	2,674	79.7	799	334.7
	1/01/18	10,856	13,249	2,393	81.9	722	331.4
	12/31/18	10,852	13,177	2,325	82.4	639	363.8
Tier 2 Public Employees Contributory Retirement System*	1/01/12	$ 2,833	3,055	222	92.7%	$ 36,821	0.6%
	1/01/13	17,818	16,755	(1,063)	106.3	203,779	(0.5)
	1/01/14	46,241	42,328	(3,913)	109.2	353,227	(1.1)
	1/01/15	88,743	81,624	(7,119)	108.7	492,882	(1.4)
	1/01/16	145,518	145,871	353	99.8	637,560	0.1
	1/01/17	219,885	231,205	11,320	95.1	822,196	1.4
	1/01/18	318,755	336,419	17,664	94.7	996,965	1.8
	12/31/18	438,366	467,461	29,095	93.8	1,171,543	2.5
Tier 2 Public Safety and Firefighter Contributory Retirement System*	1/01/12	$ 90	101	11	89.1%	$ 855	1.3%
	1/01/13	1,161	1,042	(119)	111.4	10,237	(1.2)
	1/01/14	3,822	3,269	(553)	116.9	20,215	(2.7)
	1/01/15	8,666	7,432	(1,234)	116.6	35,019	(3.5)
	1/01/16	15,618	14,774	(844)	105.7	53,276	(1.6)
	1/01/17	25,388	25,809	421	98.4	74,834	0.6
	1/01/18	38,872	39,603	731	98.2	98,113	0.7
	12/31/18	56,073	56,841	768	98.6	123,439	0.6
All Retirement Systems	1/01/10	$ 20,818,430	24,274,639	3,456,209	85.8%	$ 4,579,772	75.5%
	1/01/11	21,131,649	25,535,499	4,403,850	82.8	4,488,030	98.1
	1/01/12	21,117,218	26,564,932	5,447,714	79.5	4,548,820	119.8
	1/01/11	21,370,069	27,724,395	6,354,326	77.1	4,604,893	138.0
	1/01/14	23,405,492	28,665,412	5,259,920	81.7	4,669,560	112.6
	1/01/15	25,473,901	29,808,235	4,334,334	85.5	4,678,491	92.6
	1/01/16	27,124,096	31,835,886	4,711,790	85.2	4,714,628	99.9
	1/01/17	28,916,200	33,926,814	5,010,614	85.2	4,839,496	103.5
	1/01/18	30,877,196	35,322,086	4,444,890	87.4	4,960,434	89.6
	12/31/18	32,219,948	36,708,181	4,488,233	87.8	5,146,312	87.2

**New system additional years will be added as they become available.*

See accompanying notes to required supplementary information.

Solvency Tests

System	Date	Actuarial Accrued Liabilities (1) Active Members Contributions	(2) Retired and Beneficiaries	(3) Active Member (Employer Financed Portion)	(4) Total Actuarial Accrued Liabilities	Actuarial Value of Assets	Portion of Actuarial Accrued Liabilities Covered by Assets (1)	(2)	(3)	(4)
Noncontributory Retirement 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
	1/01/17	331,097	13,201,269	13,546,070	27,078,436	22,908,184	100	100	69	85
	1/01/18	292,923	13,900,793	13,925,461	28,119,177	24,430,088	100	100	74	87
	12/31/18	266,731	14,397,010	14,459,207	29,122,948	25,424,399	100	100	74	87
Contributory Retirement 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
	1/01/17	206,024	898,668	188,162	1,292,854	1,227,072	100	100	65	95
	1/01/18	188,260	928,948	164,844	1,282,052	1,228,311	100	100	67	96
	12/31/18	173,928	930,366	179,715	1,284,009	1,209,301	100	100	58	94
Public Safety Retirement 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
	1/01/17	61,343	2,093,058	1,754,392	3,908,793	3,217,221	100	100	61	82
	1/01/18	59,056	2,202,058	1,636,935	3,898,049	3,277,704	100	100	62	84
	12/31/18	54,621	2,405,538	1,798,088	4,258,247	3,635,948	100	100	65	85
Firefighters Retirement 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
	1/01/16	162,377	600,565	314,021	1,076,963	1,060,312	100	100	95	98
	1/01/17	171,328	636,389	344,885	1,152,602	1,130,198	100	100	94	98
	1/01/18	178,991	669,170	358,441	1,206,602	1,195,358	100	100	97	99
	12/31/18	187,332	699,499	374,458	1,261,289	1,244,737	100	100	96	99

Solvency Tests *(Concluded)*

System	Date	Actuarial Accrued Liabilities (1) Active Members Contributions	(2) Retired and Beneficiaries	(3) Active Member (Employer Financed Portion)	(4) Total Actuarial Accrued Liabilities	Actuarial Value of Assets	Portion of Actuarial Accrued Liabilities Covered by Assets (1)	(2)	(3)	(4)
Judges Retirement 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
	1/01/17	2,540	136,618	84,813	223,971	177,782	100	100	46	79
	1/01/18	2,524	152,585	83,324	238,433	192,037	100	100	44	81
	12/31/18	1,329	156,281	86,599	244,209	201,332	100	100	50	82
Utah Governors and Legislators Retirement Plan	1/01/10	$ 119	6,508	4,678	11,305	10,769	100%	100%	89%	95%
	1/01/11	102	6,315	5,096	11,513	10,197	100	100	74	89
	1/01/12	107	6,482	5,440	12,029	9,565	100	100	55	80
	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
	1/01/17	46	8,254	4,844	13,144	10,470	100	100	45	80
	1/01/18	27	8,537	4,685	13,249	10,856	100	100	49	82
	12/31/18	27	8,491	4,659	13,177	10,853	100	100	50	82
Tier 2 Public Employees Contributory Retirement System*	1/01/12	$ —	—	3,055	3,055	2,833	100%	100%	100%	93%
	1/01/13	—	—	16,755	16,755	17,818	100	100	106	106
	1/01/14	—	—	42,328	42,328	46,241	100	100	109	109
	1/01/15	—	—	81,624	81,624	88,743	100	100	109	109
	1/01/16	—	12	145,859	145,871	145,518	100	100	100	100
	1/01/17	—	181	231,024	231,205	219,885	100	100	95	95
	1/01/18	—	651	335,768	336,419	318,755	100	100	95	95
	12/31/18	56	905	466,500	467,461	438,380	100	100	94	94
Tier 2 Public Safety and Firefighter Contributory Retirement System*	1/01/12	$ —	—	101	101	90	100%	100%	100%	89%
	1/01/13	—	—	1,042	1,042	1,161	100	100	100	100
	1/01/14	—	—	3,269	3,269	3,822	100	100	100	117
	1/01/15	—	—	7,432	7,432	8,666	100	100	100	117
	1/01/16	—	—	14,774	14,774	15,618	100	100	100	106
	1/01/17	—	—	25,809	25,809	25,388	100	100	98	98
	1/01/18	—	—	39,603	39,603	38,872	100	100	98	98
	12/31/18	—	—	56,841	56,841	56,076	100	100	99	99

**New systems' additional years will be added as they become available.*

Schedules of Active Member Valuation Data

Year Ended December 31

System	Year	Number of Participating Employers	Active Members	Active Members: Projected Annual Payroll	Active Members: Average Pay	Active Members: Percent Increase	Inflation Increase (CPI)
Noncontributory Retirement 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
	2017	457	59,578	3,375,321,000	54,845	5.50	2.10
	2018	463	56,299	3,330,548,000	57,971	5.70	1.90
Contributory Retirement 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
	2017	158	621	45,178,000	62,264	2.18	2.10
	2018	159	519	39,279,000	64,824	4.11	1.90
Public Safety Retirement 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
	2017	133	5,704	350,783,000	59,841	4.29	2.10
	2018	134	5,305	348,476,000	62,721	4.81	1.90
Firefighters Retirement 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
	2017	62	1,602	112,954,000	69,242	3.17	2.10
	2018	62	1,540	113,587,000	71,914	3.86	1.90

Schedules of Active Member Valuation Data *(Concluded)*

Year Ended December 31

System	Year	Number of Participating Employers	Active Members	Active Members: Projected Annual Payroll	Active Members: Average Pay	Active Members: Percent Increase	Inflation Increase (CPI)
Judges Retirement 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
	2017	1	114	18,661,000	162,345	4.17	2.10
	2018	1	116	18,802,000	166,280	2.42	1.90
Utah Governors and Legislators 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
	2017	1	52	722,000	12,285	0.00	2.10
	2018	1	52	639,000	12,285	0.00	1.90
Tier 2 Public Employees Contributory Retirement System*	2011	456	4,777	$ 36,821,000	7,708	100.00%	1.50%
	2012	461	10,356	203,779,000	27,030	250.68	2.10
	2013	461	13,718	349,257,000	30,279	12.02	1.50
	2014	463	17,225	353,227,000	32,388	6.97	1.60
	2015	465	21,778	637,560,000	34,031	5.07	0.10
	2016	466	24,372	822,196,000	30,809	(9.47)	1.30
	2017	470	27,152	996,965,000	39,229	27.33	2.10
	2018	476	30,291	1,171,543,000	41,840	6.66	1.90
Tier 2 Public Safety and Firefighter Contributory Retirement System*	2011	145	99	$ 855,000	8,636	100.00%	1.50%
	2012	145	477	10,237,000	33,394	286.68	2.10
	2013	145	885	24,656,000	33,902	1.52	1.50
	2014	149	1,331	35,019,000	35,871	5.81	1.60
	2015	149	1,824	53,276,000	37,051	3.29	0.10
	2016	150	2,240	74,834,000	35,363	(4.56)	1.30
	2017	151	2,699	98,113,000	41,946	18.62	2.10
	2018	151	3,301	123,439,000	44,030	4.97	1.90

**New systems' additional years will be added as they become available.*

Schedules of Retirants and Beneficiaries

Year Ended December 31

System	Year	Added to Rolls Number	Added to Rolls Allowances	Removed from Rolls Number	Removed from Rolls Allowances	Rolls End of Year Number	Rolls End of Year Allowances	% Increase in Annual Allowances	Average Annual Allowances
Noncontributory Retirement 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	51,355	1,184,317,000	5.40	22,475
	2017	3,340	148,952,000	797	85,232,000	53,898	1,248,037,000	5.38	22,576
	2018	3,445	149,257,000	939	77,080,000	56,404	1,320,214,000	5.78	22,921
Contributory Retirement 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
	2017	123	8,205,000	246	6,891,000	4,042	84,761,000	1.57	19,831
	2018	110	7,241,000	235	5,207,000	3,917	86,795,000	2.40	21,028
Public Safety Retirement 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
	2012	195	13,695,000	28	5,725,000	4,292	128,539,000	6.61	27,693
	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
	2017	266	16,937,000	40	8,575,000	5,638	172,870,000	5.08	29,504
	2018	372	26,373,000	43	10,829,000	5,967	188,414,000	8.99	30,193
Firefighters Retirement System	2009	38	$ 4,503,000	9	$ 1,547,000	1,112	$ 38,311,000	8.36%	$ 30,158
	2010	44	5,173,000	7	2,354,000	1,149	41,130,000	7.36	31,044
	2011	32	3,171,000	8	2,897,000	1,173	41,404,000	0.67	31,874
	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
	2017	62	5,126,000	11	2,435,000	1,423	54,793,000	5.16	37,191
	2018	61	5,365,000	20	2,718,000	1,464	57,440,000	4.83	37,777

Schedules of Retirants and Beneficiaries *(Concluded)*

Year Ended December 31

System	Year	Added to Rolls Number	Added to Rolls Allowances	Removed from Rolls Number	Removed from Rolls Allowances	Rolls End of Year Number	Rolls End of Year Allowances	% Increase in Annual Allowances	Average Annual Allowances
Judges Retirement 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
	2017	10	2,315,000	3	1,024,000	148	13,621,000	10.47	87,512
	2018	10	2,560,000	3	70,000	155	16,111,000	18.28	92,753
Utah Governors and Legislators 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
	2017	11	87,000	2	55,000	253	973,000	3.40	3,883
	2018	7	57,000	10	52,000	250	978,000	0.51	3,860
Tier 2 Public Employees Contributory Retirement System	2011	—	—	—	—	—	—	—	—
	2012	—	—	—	—	—	—	—	—
	2013	—	—	—	—	—	—	—	—
	2014	—	—	—	—	—	—	—	—
	2015	1	$ 401,000	—	$ 68,000	1	$ 333,000	—	$ 865
	2016	8	26,000	—	43,000	9	316,000	(5.11)%	1,565
	2017	17	72,000	—	(29,000)	26	417,000	31.96	1,932
	2018	38	219,000	—	(56,000)	64	692,000	65.95	2,505
Tier 2 Public Safety and Firefighter Contributory Retirement System*	2011	—	—	—	—	—	—	—	—
	2012	—	—	—	—	—	—	—	—
	2013	—	—	—	—	—	—	—	—
	2014	—	—	—	—	—	—	—	—
	2015	—	$ 30,000	—	—	—	$ 30,000	—	—
	2016	—	—	—	$ 2,000	—	28,000	(6.67)%	—
	2017	—	—	—	(33,000)	—	61,000	117.86	—
	2018	—	—	—	61,000	—	—	(100.00)	—

**There are currently no retirees in the system.*

Utah Retirement Systems

Defined Benefit Systems Summary of Plan Provisions

as of January 1, 2018

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

† *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

Noncontributory Retirement System (Concluded)

qualifications or has 15 or more years of service credit.

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 12-31-2018)

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 6.95% 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	4	None

† *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

Contributory Retirement System (Concluded)

months and 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 12-31-2018)

Member contribution rate is 6%* 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 6.95% 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. Specific employers have provided an enhanced cost-of-living (COLA) benefit to their Public Safety retirees that raise the maximum COLA from 2.5 to 4% based on the CPI. Eligible after one year.

Public Safety Retirement System (Concluded)

Death Benefits

Division A
(with Social Security coverage)
Non-Retired Member (Active)

If the member dies in the line of duty, the spouse at the time of death, will receive a lump-sum payment equal to six months of the member's final average salary plus a monthly benefit of 30% of the final average monthly salary. If the member's death is not in the line of duty and has fewer than 10 years of public safety service credit, the beneficiary(ies) will receive a $1,000 lump-sum payment or a refund of member contributions, whichever is greater. If the member has 10 or more years, but less than 20, the spouse will receive a $500 lump-sum payment, plus a monthly benefit of 2% of the member's final average monthly salary for each year of service, up to 30% of the final average monthly salary. If the member dies and has 20 or more years of public safety service credit, they will be considered retired. The spouse, at the time of death, will receive 65% of the member's monthly benefit.

Division B
(without Social Security coverage)
Non-Retired Member (Active)

If the member dies in the line of duty, the spouse, at the time of death, will receive a lump-sum-payment equal to six months of the member's final average salary, plus a monthly benefit of 37.5% of the final average monthly salary. Each unmarried child under age 18 or dependent unmarried child who is mentally or physically disabled will receive $50 per month, if the member has two or more years of public safety service credit. Total monthly payments cannot exceed 75% of the final average monthly salary. If the member's death is not in the line of duty and has fewer than two years of public safety service credit, the spouse, at the time of death, will receive a refund of member contributions plus 50% of the last 12 months' salary. If the member has two or more years, the spouse, at the time of death, will receive a lump-sum payment of $1,500 plus a monthly benefit of 37.5% of the member's final average monthly salary. Each unmarried child under age 18 or dependent unmarried child who is mentally or physically disabled will receive $50 per month, if the member has two or more years of public safety service credit. Total monthly payments to the beneficiary(ies) cannot exceed 75% of the final average monthly salary. If the member dies and has 20 or more years of public safety service credit, the spouse at the time of death, will receive 65% of the member's monthly benefit or a monthly benefit of 37.5% of the final average monthly salary, whichever is greater.

Both Divisions
Non-Retired Member (Active)

If the member dies and leaves no spouse or minor children, the beneficiary(ies) will receive a 100% refund of member contributions or $500, whichever is greater.

Non-Retired Member (Inactive)

If the member is inactive with less than 20 years of public safety service credit, the spouse, at the time of death, or if the member dies leaving no spouse or minor children, the beneficiary(ies) will receive a refund of member contributions or $500 whichever is greater. If the member is inactive with 20 or more years of public safety service credit when the member dies, the spouse, at the time of death, will receive a benefit of 50% of the amount payable to the member had they retired on the first of the month, following the month, in which the member's death occurred.

Retired Member

After the member's death, the spouse, at the time of death, will receive a monthly benefit equal to 65% of the member's monthly benefit. If they elected a smaller monthly benefit at the time of retirement, the spouse will receive 75% of the monthly benefit.

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 12-31-2018)

Noncontributory Option

Employer rates for Division A are: State units 41.35%; Bountiful 50.38%; 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 46.71%; Ogden 48.72%; Provo 42.23%; Logan 41.97%; other law enforcement units with a 2.5% COLA 32.28% and units with a 4.0% COLA 38.97% 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 with a 2.5% COLA are 22.79% and units with a 4.0% COLA are 24.37% of covered salary. Employer rates for Division B are other law enforcement units with a 2.5% COLA 22.81% and units with a 4.0% COLA 28.98% of salary.

**Employers have the option of paying all or part of member contributions on behalf of their employees.*

Interest

Up to 6.95% on member accounts.

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.

Firefighter Retirement System (Concluded)

Death Benefits

For surviving spouse benefits, a member must have been married for at least six months prior to death.

Division A
(with Social Security coverage)
Non-Retired Member (Active)

If the member dies in the line of duty and has less than 20 years of firefighter service credit, the spouse at the time of death, will receive a lump-sum payment equal to six months of the member's final average salary plus a monthly benefit of 30% of the final average monthly salary. If the member's death is not in the line of duty and has less than 10 years of firefighter service credit, the beneficiary(ies) will receive a $1,000 lump-sum payment or a refund of member contributions, whichever is greater. If the member has 10 or more, but less than 20 years of firefighter service credit, the spouse will receive a $500 lump-sum payment, plus a monthly benefit of 2% of the member's final average monthly salary for each year of service, up to 30% of the final average monthly salary. If the member dies and has 20 or more years of firefighter service credit, they will be considered retired and the spouse, at the time of death, will receive the death benefit payable as a retired member.

Division B
(without Social Security coverage)
Non-Retired Member (Active)

If the member dies in the line of duty and the member has less than 20 years of firefighter service credit, the spouse, at the time of death, will receive a lump-sum payment equal to six months of the member's final average salary, plus a monthly benefit of 37.5% of the final average monthly salary. Each unmarried child under age 21 or dependent unmarried child who is mentally or physically disabled will receive $75 per month, if the member has five or more years of firefighter service credit.

Total monthly payments to the beneficiary(ies) cannot exceed 75% of the final average monthly salary. If the member's death is in the line of duty and has 20 or more years of firefighter service credit, the member will be considered retired and the spouse at the time of death, will receive the death benefit payable as a retired member. If the member's death is not in the line of duty and has less than five years of firefighter service credit, the spouse, at the time of death, will receive a refund of member contributions plus 50% of the most recent 12 months' salary. If the member has five or more years of firefighter service credit, the spouse, at the time of death, will receive a lump-sum payment of $1,500 plus a monthly benefit of 37.5% of the member's final average monthly salary. Each unmarried child under age 21 or dependent unmarried child who is mentally or physically disabled will receive $75 per month, if the member has five or more years of firefighter service credit. Total monthly benefits to the beneficiaries cannot exceed 75% of the final average monthly salary.

Both Divisions
Non-Retired Member (Active)

If the member dies and leaves no spouse or minor children, the beneficiary(ies) will be paid a 100% refund of member contributions or $500, whichever is greater.

Non-Retired Member (Inactive)

If the member is inactive with less than 20 years of firefighter service credit, the spouse, at the time of death, or if the member dies leaving no spouse or minor children, the beneficiary(ies) will receive a refund of member contributions or $500 whichever is greater. If the member is inactive with 20 or more years of firefighter service credit when the member dies, the spouse, at the time of death, will receive a benefit of 50% of the amount payable to the member had they retired on the first of the month, following the month, in which the member's death occurred.

Retired Member

After the member's death, the spouse, at the time of death, will receive 75% of the member's monthly benefit.

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 12-31-2018)

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 4.61% and in Division B is 7.24% of covered salary. A fire insurance premium tax equal to 11.06% 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 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 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.

Death Benefits

For surviving spouse benefits, a member must have been married for at least six months prior to death.

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.

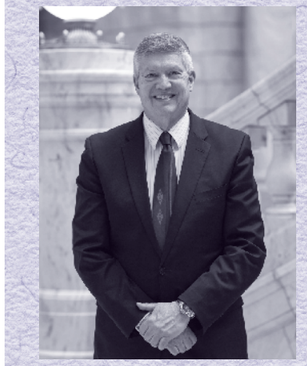
Contribution Rates

(as of 12-31-2018)

Employer rate includes 43.68% of covered salary and 8.16% from court fees.

Interest

Up to 6.95% 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 for Governors

Age	Years of Service	Allowance Reduction
65	1 Term	None
62	10 yrs	3% each year before age 65

Service Retirement for Legislators

Age	Years of Service	Allowance 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 12-31-18 is $1,400.

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 12-31-18 is $30.40.

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 12-31-2018)

There was a 2018-19 appropriation payable by June 30, 2018, to the Utah Governors and Legislators Retirement Plan of $384,103.

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 after July 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.

**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.*

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

† 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.

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 12-31-2018)

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.*

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.*

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.

Tier 2 Public Safety and Firefighter Contributory Retirement System (Concluded)

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 upon death, he or she will be considered to have retired with an option one selection, calculated without an actuarial reduction, and his or her spouse 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 theTier 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 12-31-2018)

Public Safety rates range from a low of 21.74% to a high of 38.97% of salary. The Firefighter rate is 12.08% of salary.

**Includes 401(k) portion of the contribution rate.*

Changes in Plan Provisions

2018 Legislation

The following retirement-related bills were passed by the 2018 Utah Legislature:

Public Safety and Firefighter Retirement System

S.B. 21: Public Safety and Firefighter Retirement Death Benefit Amendments

Amends retirement death benefits for certain public safety and firefighter members to provide a minimum benefit equal to the amount the member's surviving spouse would have received if the member had retired the day before their death and then died.

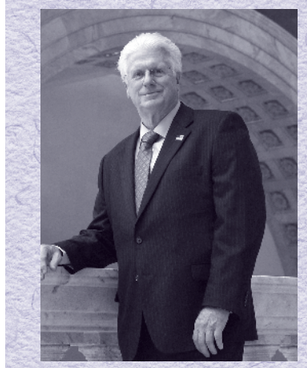
H.B. 146: Postretirement Reemployment Restrictions Act Amendments

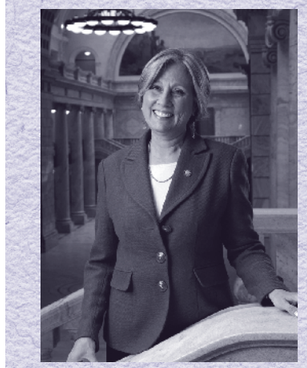
Repeals the requirement that for a retiree who is reemployed as an affiliated emergency services worker, the termination date of the reemployment is considered the retiree's retirement date for the purpose of calculating the one-year separation requirement.

General

H.B. 28: Retirement System Amendments

The annual administrative and technical amendments to Title 49 recommended to the Legislature by URS. The changes in this bill include: Establishing when a Domestic Relations Order (DRO) must be received by URS to be valid for determining benefits following a member's death; Modifying cancellation, reinstatement, and calculation provisions for a retiree's retirement allowance affected by reemployment; and Correcting certain Public Safety death benefit payments.





Defined Contributions Savings Plans Summary of Plan Provisions

Defined Contribution Plans

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. 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 2018 to an annual maximum of $18,500. Employer contributions and employee deferrals combined could not exceed the lesser of $55,000 or 100% of compensation.

457 — Limited to an annual maximum of $18,500 or 100% of includable compensation.

Roth and Traditional IRA — Limited to an annual maximum of $5,500 into all IRAs owned by the participant.

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 59½, retirement, disability, death, or hardship caused by immediate and heavy financial needs. (Hardships from employee deferrals only.)

457 — Allowable upon termination of employment, age 70½, 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 59½.

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.

Summary of Plan Provisions *(Continued)*

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.

2018 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.

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 NASDAQ.

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.

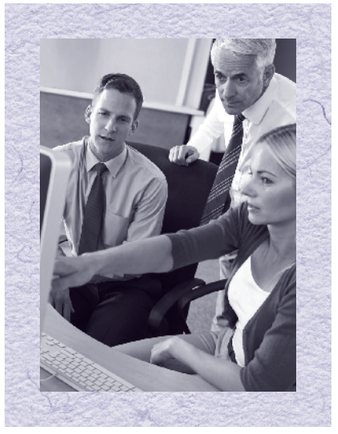
Private Real Estate

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.

Summary of Plan Provisions *(Concluded)*

TARGET DATE FUNDS ASSET ALLOCATION

Asset Classes	Retired	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
	Target Date Funds											
URS Income Fund	25%	23%	18%	13%	8%	3%	—	—	—	—	—	—
URS Bond Fund	20	20	21	18	16	11	7%	4%	3%	3%	3%	3%
URS Large Cap Stock Value Fund	—	—	—	—	2	4	6	8.5	10	10	10	10
URS Large Cap Stock Index Fund	14	16	18	23	24	24	23	21	20	20	20	20
URS Large Cap Stock Growth Fund	—	—	—	—	2	4	6	8.5	10	10	10	10
URS International Stock Fund	4	4	6	10	15	22	29	32	33	33	33	33
URS Small Cap Stock Fund	1	1	2	3	4	6	9	10	10	10	10	10
International Bonds	10	10	10	10	9	7	4	3	2	2	2	2
U.S. Real Estate Investment Trusts	—	—	—	—	2	4	4	4	4	4	4	4
Commodities	3	3	3	3	3	4	4	4	4	4	4	4
Global Inflation-Linked Bonds	20	20	15	10	5	1	—	—	—	—	—	—
Private Real Estate	3	3	7	10	10	10	8	5	4	4	4	4
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%



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.*

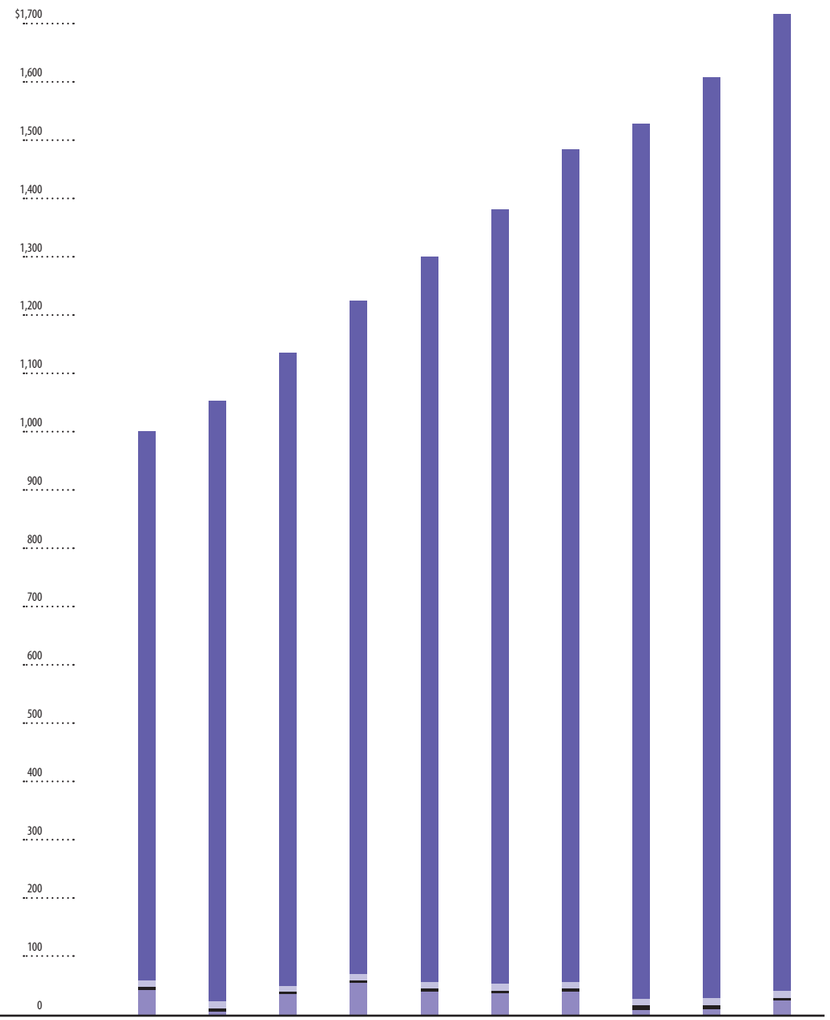
URS Target Date Funds

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 149 and 150.

Deductions by Type

(in millions)



(in millions)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Benefits	$ 941	1,028	1,083	1,153	1,242	1,326	1,424	1,498	1,576	1,671
Administrative expense	10	11	9	10	10	11	11	11	12	12
Refunds	6	6	5	5	5	5	5	7	7	5
Transfers to systems	44	7	37	56	42	38	42	10	11	26
Totals	$ 1,001	1,052	1,134	1,224	1,299	1,380	1,482	1,526	1,606	1,714

Statistical Section

Utah Retirement Systems 2018 Comprehensive Annual Financial Report

198 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.

202 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.

204 Schedules of Benefit Deductions by Type
These schedules provide readers with information regarding the type of benefit deductions for the last 10 years.

206 Schedules of Retired Members by Type of Benefit Option
These schedules provide readers with information regarding benefit payments by years of service.

208 Schedules of Average Benefit Payments
These schedules provide readers with information regarding benefit payments by years of service.

212 Schedules of Active Members by Age and Gender
These schedules provide readers with information regarding members by age and gender.

213 Schedules of Retirees by Age and Gender
These schedules provide readers with information regarding retirees by age and gender.

214 Schedules of Principal Participating Employers
These schedules provide readers with information regarding the largest participating employers.

220 Schedule of Utah Retirement Office Employees
This schedule provides readers with information regarding the number of Utah Retirement Systems' employees.

221 Schedules of Participating Employers
This schedule provides readers with information regarding the participating employers and the systems in which they participate.

227 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

(dollars in thousands)

System	Year	Beginning Net Position	Member Contributions	Total Employer Contributions: Employer Contributions	Total Employer Contributions: Court Fees/ Fire Insurance Tax	Contributions as a Percent of Covered Payroll	Net Investment Income	Transfers from Systems	Total Additions	Benefit Payments	Refunds	Administrative & Actuarial Expense	Transfers to Systems	Total Deductions	Changes in Net Position	Ending Net Position
Noncontributory Retirement System	2009	$ 12,714,371	14,109	535,298	—	13.53%	$ 1,667,478	—	2,216,885	723,052	2,882	8,340	44,420	778,694	1,438,191	14,152,562
	2010	14,152,562	33,528	564,154	—	14.51	1,860,976	—	2,458,658	793,804	3,620	8,389	3,202	809,015	1,649,643	15,802,205
	2011	15,802,205	12,879	610,270	—	15.65	401,105	—	1,024,254	843,696	2,514	7,304	37,473	890,987	133,267	15,935,472
	2012	15,935,472	15,014	644,907	—	16.99	2,000,995	—	2,660,916	900,133	2,858	8,397	55,563	966,951	1,693,965	17,629,437
	2013	17,629,437	14,208	710,933	—	19.18	2,588,981	—	3,314,122	974,684	2,454	8,329	42,277	1,027,744	2,286,378	19,915,815
	2014	19,915,815	13,587	772,420	—	21.63	1,419,053	30,467	2,235,527	1,043,798	2,204	8,828	—	1,054,830	1,180,697	21,096,512
	2015	21,096,512	17,020	813,449	—	23.26	366,748	33,648	1,230,865	1,123,647	2,496	8,797	—	1,134,940	95,925	21,192,437
	2016	21,192,437	16,308	831,631	—	24.05	1,783,911	—	2,631,850	1,184,317	4,366	8,856	8,005	1,205,544	1,426,306	22,618,743
	2017	22,618,743	17,285	854,255	—	25.31	2,987,282	—	3,858,822	1,248,037	4,635	9,579	10,187	1,272,438	2,586,384	25,205,127
	2018	25,205,127	14,602	858,444	—	25.77	(92,207)	13,035	793,874	1,320,214	2,766	9,962	—	1,332,942	(539,068)	24,666,059
Contributory Retirement System	2009	$ 835,370	8,655	10,865	—	8.50%	$ 112,626	37,633	169,779	64,849	2,158	555	—	67,562	102,217	937,587
	2010	937,587	10,299	11,851	—	10.18	121,153	—	143,303	67,565	1,632	535	3,910	73,642	69,661	1,007,248
	2011	1,007,248	7,300	11,125	—	10.10	26,009	32,064	76,498	68,375	1,872	449	—	70,696	5,802	1,013,050
	2012	1,013,050	6,962	11,705	—	11.36	131,169	47,098	196,934	70,855	1,975	503	—	73,333	123,601	1,136,651
	2013	1,136,651	6,376	12,874	—	13.13	169,510	33,094	221,854	74,158	1,922	480	—	76,560	145,294	1,281,945
	2014	1,281,945	5,461	12,954	—	14.29	87,577	—	105,992	77,015	2,433	494	38,004	117,946	(11,954)	1,269,991
	2015	1,269,991	4,771	11,719	—	16.50	21,251	—	37,741	81,390	1,215	478	41,558	124,641	(86,900)	1,183,091
	2016	1,183,091	3,420	8,188	—	15.27	97,693	—	109,301	83,447	1,700	446	1,895	87,488	21,813	1,204,904
	2017	1,204,904	2,675	7,946	—	17.59	155,949	—	166,570	84,761	1,613	457	1,177	88,008	78,562	1,283,466
	2018	1,283,466	2,455	6,027	—	15.34	(4,513)	—	3,969	86,795	1,471	454	26,286	115,006	(111,037)	1,172,429
Public Safety Retirement System	2009	$ 1,614,057	1,556	98,729	—	26.40%	$ 213,627	4,578	318,490	106,272	390	1,127	—	107,789	210,701	1,824,758
	2010	1,824,758	1,713	103,586	—	28.53	241,203	4,248	350,750	115,831	512	1,146	—	117,489	233,261	2,058,019
	2011	2,058,019	1,070	110,829	—	29.61	52,655	3,303	167,857	120,570	536	1,019	—	122,125	45,732	2,103,751
	2012	2,103,751	1,155	117,975	—	32.19	266,753	6,411	392,294	128,532	292	1,164	—	129,988	262,306	2,366,057
	2013	2,366,057	1,258	128,744	—	35.18	350,563	4,676	485,241	137,486	467	1,161	—	139,114	346,127	2,712,184
	2014	2,712,184	835	135,588	—	37.59	194,222	2,746	333,391	144,763	199	1,227	—	146,189	187,202	2,899,386
	2015	2,899,386	905	141,024	—	39.51	50,654	4,023	196,606	155,387	533	1,233	—	157,153	39,453	2,938,839
	2016	2,938,839	830	147,099	—	41.74	249,027	6,701	403,657	164,508	183	1,260	—	165,951	237,706	3,176,545
	2017	3,176,545	793	145,814	—	41.57	421,917	5,926	574,450	172,870	226	1,382	—	174,478	399,972	3,576,517
	2018	3,576,517	895	147,101	—	42.21	(13,134)	6,982	141,844	188,414	428	1,450	—	190,292	(48,448)	3,528,069
Firefighters Retirement System	2009	$ 612,699	11,273	—	16,159	15.01%	$ 79,811	1,173	108,416	38,311	231	354	—	38,896	69,520	682,219
	2010	682,219	14,112	238	10,677	10.37	89,122	1,784	115,933	41,130	401	361	—	41,892	74,041	756,260
	2011	756,260	17,328	316	12,689	11.74	19,218	1,699	51,250	41,406	268	312	—	41,986	9,264	765,524
	2012	765,524	17,503	1,264	16,057	15.66	96,255	1,325	132,404	43,660	133	357	—	44,150	88,254	853,778
	2013	853,778	18,325	3,494	11,285	13.35	125,685	1,302	160,091	44,747	106	355	—	45,208	114,883	968,661
	2014	968,661	18,300	5,514	14,154	17.67	69,070	3,713	110,751	47,710	293	370	—	48,373	62,378	1,031,039
	2015	1,031,039	18,175	6,690	17,218	21.08	17,934	2,573	62,590	49,671	528	371	—	50,570	12,020	1,043,059
	2016	1,043,059	18,729	6,954	10,569	15.60	87,746	1,611	125,609	52,102	466	374	—	52,942	72,667	1,115,726
	2017	1,115,726	18,460	6,715	1,223	7.03	146,736	1,259	174,393	54,793	511	408	—	55,712	118,681	1,234,407
	2018	1,234,407	18,305	7,021	8,747	13.88	(4,509)	1,917	31,481	57,440	132	427	—	57,999	(26,518)	1,207,889
Judges Retirement System	2009	$ 100,895	67	2,083	2,101	28.99%	$ 13,214	1,027	18,492	7,595	—	66	—	7,661	10,831	111,726
	2010	111,726	—	2,771	1,944	33.12	14,597	1,078	20,390	9,010	—	69	—	9,079	11,311	123,037
	2011	123,037	—	3,588	1,815	36.22	3,114	390	8,907	8,649	—	60	—	8,709	198	123,235
	2012	123,235	—	4,232	1,666	39.62	15,485	710	22,093	9,135	—	66	—	9,201	12,892	136,127
	2013	136,127	—	4,990	1,498	42.70	20,130	3,186	29,804	10,189	—	66	—	10,255	19,549	155,676
	2014	155,676	317	5,627	1,486	44.26	11,068	1,092	19,590	11,361	—	71	—	11,432	8,158	163,834
	2015	163,834	—	6,555	1,653	49.78	2,842	1,334	12,384	12,400	—	71	—	12,471	(87)	163,747
	2016	163,747	—	7,382	1,470	52.83	13,820	1,600	24,272	12,340	—	71	—	12,401	11,871	175,618
	2017	175,618	—	7,563	1,477	48.44	23,435	4,090	36,565	13,621	—	79	—	13,700	22,865	198,483
	2018	198,483	—	8,091	1,518	51.11	(730)	4,403	13,282	16,111	—	84	—	16,195	(2,913)	195,570

Continued on page 200.

Schedules of Changes in Net Position — Defined Benefit Systems *(Concluded)*

Year Ended December 31

(dollars in thousands)

System	Year	Beginning Net Position	Member Contributions	Employer Contributions	Total Employer Contributions: Court Fees/ Fire Insurance Tax	Contributions as a Percent of Covered Payroll	Net Investment Income	Transfers from Systems	Total Additions	Benefit Payments	Refunds	Administrative & Actuarial Expense	Transfers to Systems	Total Deductions	Changes in Net Position	Ending Net Position
Utah Governors and Legislators Retirement Plan	2009	$ 8,675	—	—	—	—	$ 1,098	9	1,107	784	—	5	—	789	318	8,993
	2010	8,993	—	—	—	—	1,142	2	1,144	790	5	5	—	800	344	9,337
	2011	9,337	—	153	—	26.94%	231	17	401	801	—	4	—	805	(404)	8,933
	2012	8,933	—	214	—	46.22	1,100	19	1,333	815	1	5	—	821	512	9,445
	2013	9,445	—	252	—	64.62	1,346	19	1,617	892	—	4	—	896	721	10,166
	2014	10,166	—	411	—	44.29	717	—	1,128	909	—	5	14	928	200	10,366
	2015	10,366	—	421	—	44.50	181	—	602	904	—	5	20	929	(327)	10,039
	2016	10,039	—	421	—	52.69	849	—	1,270	941	—	4	12	957	313	10,352
	2017	10,352	—	404	—	55.96	1,353	89	1,846	973	—	5	—	978	868	11,220
	2018	11,220	—	392	—	61.35	(41)	—	351	978	—	5	51	1,034	(683)	10,537
Tier 2 Public Employees Contributory Retirement System*	2011	$ —	—	2,790	—	7.58%	$ 9	—	2,799	—	—	—	—	—	2,799	2,799
	2012	2,799	—	14,208	—	6.97	922	5	15,135	—	—	1	—	1	15,134	17,933
	2013	17,933	—	25,743	—	7.29	4,017	3	29,763	—	—	6	—	6	29,757	47,690
	2014	47,690	—	37,299	—	7.57	4,320	—	41,619	—	—	16	2	18	41,601	89,291
	2015	89,291	—	49,645	—	7.64	1,963	3	51,611	333	—	30	—	363	51,248	140,539
	2016	140,539	—	63,062	—	7.67	14,059	—	77,121	316	—	51	—	367	76,754	217,293
	2017	217,293	—	79,175	—	7.94	33,249	—	112,424	417	—	82	—	499	111,925	329,218
	2018	329,218	—	97,680	—	8.34	(1,454)	—	96,226	692	—	119	—	811	95,415	424,633
Tier 2 Public Safety and Firefighter Contributory Retirement System*	2011	$ —	—	89	—	10.41%	$ —	—	89	—	—	—	—	—	89	89
	2012	89	—	1,031	—	10.07	56	—	1,087	—	—	—	5	5	1,082	1,171
	2013	1,171	—	2,451	—	12.12	316	—	2,767	—	—	—	3	3	2,764	3,935
	2014	3,935	—	4,365	—	12.46	404	2	4,771	—	—	1	—	1	4,770	8,705
	2015	8,705	—	6,221	—	10.38	199	—	6,420	30	—	3	3	36	6,384	15,089
	2016	15,089	—	8,488	—	11.34	1,591	—	10,079	28	—	5	—	33	10,046	25,135
	2017	25,135	—	11,126	—	11.34	3,989	—	15,115	61	—	9	—	70	15,045	40,180
	2018	40,180	55	14,295	—	11.58	(180)	—	14,170	—	—	14	—	14	14,156	54,336
All Retirement Systems	2009	$ 15,886,067	35,660	646,975	18,260	14.53%	$ 2,087,854	44,420	2,833,169	940,863	5,661	10,447	44,420	1,001,391	1,831,778	17,717,845
	2010	17,717,845	59,652	682,600	12,621	15.49	2,328,193	7,112	3,090,178	1,028,130	6,170	10,505	7,112	1,051,917	2,038,261	19,756,106
	2011	19,756,106	38,577	739,160	14,504	16.57	502,341	37,473	1,332,055	1,083,497	5,190	9,148	37,473	1,135,308	196,747	19,952,853
	2012	19,952,853	40,634	795,536	17,723	17.66	2,512,735	55,568	3,422,196	1,153,130	5,259	10,493	55,568	1,224,450	2,197,746	22,150,599
	2013	22,150,599	40,167	889,481	12,783	19.32	3,260,548	42,280	4,245,259	1,242,156	4,949	10,401	42,280	1,299,786	2,945,473	25,096,072
	2014	25,096,072	38,500	974,178	15,640	21.16	1,786,431	38,020	2,852,769	1,325,556	5,129	11,012	38,020	1,379,717	1,473,052	26,569,124
	2015	26,569,124	40,871	1,035,724	18,871	22.37	461,772	41,581	1,598,819	1,423,762	4,772	10,988	41,581	1,481,103	117,716	26,686,840
	2016	26,686,840	39,287	1,073,225	12,039	22.19	2,248,696	9,912	3,383,159	1,497,988	6,715	11,067	9,912	1,525,682	1,857,477	28,544,317
	2017	28,544,316	39,213	1,112,998	2,700	22.32	3,773,910	11,364	4,940,185	1,575,533	6,985	12,001	11,364	1,605,883	3,334,302	31,878,618
	2018	31,878,618	36,312	1,139,051	10,265	22.33	(116,768)	26,337	1,095,197	1,670,644	4,797	12,515	26,337	1,714,293	(619,096)	31,259,522

**Additional years will be added as they become available.*

Utah Retirement Systems

Schedules of Changes in Net Position — Defined Contribution Plans

Year Ended December 31

(in thousands)

System	Year	Beginning Net Position	Contributions	Net Investment Income / (Loss)	Total Additions	Refunds	Administrative Expenses	Total Deductions	Changes in Net Position	Ending Net Position
401(k) Plan	2009	$ 2,131,945	222,369	386,989	609,358	127,675	6,341	134,016	475,342	2,607,287
	2010	2,607,287	222,474	254,289	476,763	190,963	6,410	197,373	279,390	2,886,677
	2011	2,886,677	210,592	(14,864)	195,728	194,933	6,465	201,398	(5,670)	2,881,007
	2012	2,881,007	218,888	313,374	532,262	194,538	5,857	200,395	331,867	3,212,874
	2013	3,212,874	230,086	532,216	762,302	223,523	5,372	228,895	533,407	3,746,281
	2014	3,746,281	255,044	213,230	468,274	251,496	6,308	257,804	210,470	3,956,751
	2015	3,956,751	271,097	10,658	281,755	251,436	6,665	258,101	23,654	3,980,405
	2016	3,980,405	290,632	332,672	623,304	257,651	7,085	264,736	358,568	4,338,973
	2017	4,338,973	295,804	630,516	926,320	254,672	7,713	262,385	663,935	5,002,908
	2018	5,002,908	317,548	(202,398)	115,150	276,023	7,952	283,975	(168,825)	4,834,083
457 Plan	2009	$ 229,469	26,617	41,581	68,198	13,349	699	14,048	54,150	283,619
	2010	283,619	26,522	27,628	54,150	20,184	711	20,895	33,255	316,874
	2011	316,874	26,441	(2,422)	24,019	18,811	726	19,537	4,482	321,356
	2012	321,356	24,501	35,065	59,566	19,877	664	20,541	39,025	360,381
	2013	360,381	25,696	60,421	86,117	21,314	616	21,930	64,187	424,568
	2014	424,568	26,711	23,342	50,053	22,920	727	23,647	26,406	450,974
	2015	450,974	26,968	259	27,227	23,082	762	23,844	3,383	454,357
	2016	454,357	27,326	39,252	66,578	25,706	810	26,516	40,062	494,419
	2017	494,419	31,475	72,210	103,685	27,827	887	28,714	74,971	569,390
	2018	569,390	32,589	(24,212)	8,377	32,708	901	33,609	(25,233)	544,157
Roth IRA Plan	2009	$ 7,088	3,623	2,008	5,631	445	26	471	5,160	12,248
	2010	12,248	8,116	1,827	9,943	1,582	38	1,620	8,323	20,571
	2011	20,571	6,619	(508)	6,111	2,230	52	2,282	3,829	24,400
	2012	24,400	7,685	3,256	10,941	1,538	53	1,591	9,350	33,750
	2013	33,750	9,113	6,870	15,983	1,908	62	1,970	14,013	47,763
	2014	47,763	11,664	2,816	14,480	3,310	91	3,401	11,079	58,842
	2015	58,842	14,073	(308)	13,765	2,781	112	2,893	10,872	69,714
	2016	69,714	16,585	7,200	23,785	4,192	142	4,334	19,451	89,165
	2017	89,165	19,669	15,389	35,058	4,752	174	4,926	30,132	119,297
	2018	119,297	25,280	(7,353)	17,927	5,230	206	5,436	12,494	131,791
Traditional IRA Plan	2009	$ 19,194	3,161	2,803	5,964	2,635	52	2,687	3,277	22,471
	2010	22,471	6,097	1,692	7,789	3,954	55	4,009	3,780	26,251
	2011	26,251	7,346	(55)	7,291	3,469	60	3,529	3,762	30,013
	2012	30,013	9,799	2,811	12,610	3,967	61	4,028	8,582	38,595
	2013	38,595	11,213	5,050	16,263	4,940	66	5,006	11,257	49,852
	2014	49,852	14,930	2,645	17,575	7,514	91	7,605	9,970	59,822
	2015	59,822	17,206	211	17,417	8,148	105	8,253	9,164	68,986
	2016	68,986	16,182	4,825	21,007	8,332	128	8,460	12,547	81,533
	2017	81,533	20,593	9,465	30,058	9,035	147	9,182	20,876	102,409
	2018	102,409	30,108	(2,287)	27,821	10,156	169	10,325	17,496	119,905
HRA Plan*	2009	$ 1,546	1,974	7	1,981	533	6	539	1,442	2,988
	2010	2,988	4,274	11	4,285	987	11	998	3,287	6,275
	2011	6,275	4,264	17	4,281	1,426	17	1,443	2,838	9,113
	2012	9,113	4,092	22	4,114	1,736	22	1,758	2,356	11,469
	2013	11,469	6,750	30	6,780	2,041	24	2,065	4,715	16,184
	2014	16,184	6,393	24	6,417	2,690	31	2,721	3,696	19,880
	2015	19,880	6,318	35	6,353	2,924	35	2,959	3,394	23,274
	2016	23,274	6,796	36	6,832	30,075	31	30,106	(23,274)	—
	2017	—	—	—	—	—	—	—	—	—
	2018	—	—	—	—	—	—	—	—	—
All Defined Contribution Plans	2009	$ 2,389,242	257,744	433,388	691,132	144,637	7,124	151,761	539,371	2,928,613
	2010	2,928,613	267,483	285,447	552,930	217,670	7,225	224,895	328,035	3,256,648
	2011	3,256,648	255,262	(17,832)	237,430	220,869	7,320	228,189	9,241	3,265,889
	2012	3,265,889	264,965	354,528	619,493	221,656	6,657	228,313	391,180	3,657,069
	2013	3,657,069	282,858	604,587	887,445	253,726	6,140	259,866	627,579	4,284,648
	2014	4,284,648	314,742	242,058	556,800	287,922	7,256	295,178	261,622	4,546,270
	2015	4,546,269	335,662	10,857	346,519	288,373	7,679	296,052	50,467	4,596,736
	2016	4,596,736	357,521	383,985	741,506	325,956	8,196	334,152	407,354	5,004,090
	2017	5,004,090	367,541	727,580	1,095,121	296,286	8,921	305,207	789,914	5,794,004
	2018	5,794,004	405,525	(236,250)	169,275	324,117	9,228	333,345	(164,068)	5,629,936

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

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 Retirement 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
	2017	1,063,894	184,143	—	1,248,037
	2018	1,125,160	195,054	—	1,320,214
Contributory Retirement 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
	2017	72,073	12,624	64	84,761
	2018	74,106	12,638	51	86,795
Public Safety Retirement 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
	2017	143,774	28,854	242	172,870
	2018	157,682	30,517	215	188,414
Firefighters Retirement 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
	2017	44,331	10,258	204	54,793
	2018	46,547	10,700	193	57,440

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 Retirement 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
	2017	11,405	2,216	—	13,621
	2018	13,805	2,306	—	16,111
Utah Governors and Legislators 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
	2017	808	165	—	973
	2018	814	164	—	978
Tier 2 Public Employees Contributory Retirement System*	2011	—	—	—	—
	2012	—	—	—	—
	2013	—	—	—	—
	2014	—	—	—	—
	2015	$ 333	—	—	333
	2016	316	—	—	316
	2017	417	—	—	417
	2018	691	1	—	692
Tier 2 Public Safety and Firefighter Contributory Retirement System*	2011	—	—	—	—
	2012	—	—	—	—
	2013	—	—	—	—
	2014	—	—	—	—
	2015	$ 30	—	—	30
	2016	28	—	—	28
	2017	61	—	—	61
	2018	—	—	—	—

**Additional years will be added as they become available.*

Schedules of Retired Members by Type of Benefit Option

Year Ended December 31, 2018

System	Amount of Monthly Benefit	Number of Retirees by Benefit Option 1	2	3	4	5	6	7	8	9
Noncontributory Retirement System	$ 1-1,000	10,253	634	3,673	395	3,700	928	—	—	—
	1,001-2,000	5,107	696	2,583	460	3,219	1,079	—	—	—
	2,001-3,000	3,207	748	2,381	299	3,030	869	—	—	—
	3,001-4,000	2,419	695	1,976	242	2,212	634	—	—	—
	4,001-5,000	927	247	931	142	730	229	—	—	—
	Over 5,000	414	115	663	72	371	124	—	—	—
Contributory Retirement System	$ 1-1,000	485	207	226	45	261	92	—	—	—
	1,001-2,000	314	175	238	31	246	57	—	—	—
	2,001-3,000	217	162	204	33	219	43	—	—	—
	3,001-4,000	114	79	87	17	113	29	—	—	—
	4,001-5,000	34	32	34	7	21	19	—	—	—
	Over 5,000	18	14	32	2	7	3	—	—	—
Public Safety Retirement System	$ 1-1,000	—	—	2	—	—	—	—	552	138
	1,001-2,000	—	—	2	—	—	—	—	925	296
	2,001-3,000	—	—	2	—	—	—	—	1,526	784
	3,001-4,000	—	—	—	—	—	—	—	712	324
	4,001-5,000	—	—	—	—	—	—	—	288	167
	Over 5,000	—	—	—	—	—	—	—	157	92
Firefighters Retirement System	$ 1-1,000	—	—	1	—	—	—	—	—	68
	1,001-2,000	—	—	1	—	—	—	—	—	219
	2,001-3,000	—	—	—	—	—	—	—	—	425
	3,001-4,000	—	—	—	—	—	—	—	—	370
	4,001-5,000	—	—	—	—	—	—	—	—	229
	Over 5,000	—	—	—	—	—	—	—	—	151

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– Refund of reserves for members whose monthly benefit would be $25 or less.

8– 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.

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 retiree's death.

Schedules of Retired Members by Type of Benefit Option *(Concluded)*

Year Ended December 31, 2018

System	Amount of Monthly Benefit	Number of Retirees by Benefit Option 1	2	3	4	5	6	7	8	9
Judges Retirement System	$ 1-1,000	—	—	—	—	—	—	—	—	—
	1,001-2,000	—	—	—	—	—	—	—	4	1
	2,001-3,000	—	—	—	—	—	—	—	5	3
	3,001-4,000	—	—	—	—	—	—	—	4	1
	4,001-5,000	—	—	—	—	—	—	—	3	4
	Over 5,000	—	—	—	—	—	—	—	64	66
Utah Governors and Legislators Retirement Plan*	$ 1-1,000	—	—	3	239	1	—	—	—	—
	1,001-2,000	—	—	—	6	—	—	—	—	—
	2,001-3,000	—	—	—	—	—	—	—	—	—
	3,001-4,000	—	—	—	1	—	—	—	—	—
	4,001-5,000	—	—	—	—	—	—	—	—	—
	Over 5,000	—	—	—	—	—	—	—	—	—
Tier 2 Public Employees Retirement System	$ 1-1,000	30	—	17	—	13	4	—	—	—
	1,001-2,000	—	—	—	—	—	—	—	—	—
	2,001-3,000	—	—	—	—	—	—	—	—	—
	3,001-4,000	—	—	—	—	—	—	—	—	—
	4,001-5,000	—	—	—	—	—	—	—	—	—
	Over 5,000	—	—	—	—	—	—	—	—	—
Tier 2 Public Public Safety and Firefighter Retirement System**	$ 1-1,000	—	—	—	—	—	—	—	—	—
	1,001-2,000	—	—	—	—	—	—	—	—	—
	2,001-3,000	—	—	—	—	—	—	—	—	—
	3,001-4,000	—	—	—	—	—	—	—	—	—
	4,001-5,000	—	—	—	—	—	—	—	—	—
	Over 5,000	—	—	—	—	—	—	—	—	—

**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.*

***There are currently no retirees in the system.*

Schedules of Average Benefit Payments

December 31

System			Years of Credited Service 4-10	11-15	16-20	21-25	26-30	31+
Noncontributory Retirement System	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
	2017	Average Monthly Benefit	$ 402	856	1,277	1,800	2,668	3,688
		Monthly Final Average Salary	$ 2,745	3,466	3,903	4,363	5,042	5,682
		Number of Active Retired	640	438	466	456	779	561
	2018	Average Monthly Benefit	$ 399	851	1,321	1,829	2,728	3,738
		Monthly Final Average Salary	$ 2,674	3,567	3,919	4,428	5,148	5,862
		Number of Active Retired	759	447	485	490	734	530
Contributory Retirement System	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
	2017	Average Monthly Benefit	$ 339	604	1,031	3,758	2,243	3,249
		Monthly Final Average Salary	$ 2,456	2,227	2,974	7,936	4,098	5,063
		Number of Active Retired	9	9	3	5	7	90
	2018	Average Monthly Benefit	$ 270	424	1,348	2,280	3,263	3,097
		Monthly Final Average Salary	$ 2,267	1,942	4,049	5,001	5,459	4,924
		Number of Active Retired	7	4	4	3	6	86

Schedules of Average Benefit Payments *(Continued)*

December 31

System			Years of Credited Service 4-10	11-15	16-20	21-25	26-30	31+
Public Safety Retirement System	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
	2017	Average Monthly Benefit	$ 776	1,344	2,354	2,879	3,559	4,219
		Monthly Final Average Salary	$ 3,160	3,834	4,961	5,205	5,542	5,793
		Number of Active Retired	13	13	104	92	31	13
	2018	Average Monthly Benefit	$ 602	1,537	2,541	3,043	3,708	5,255
		Monthly Final Average Salary	$ 3,075	4,251	5,241	5,706	5,983	6,971
		Number of Active Retired	14	18	143	114	56	27
Firefighters Retirement System	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
	2017	Average Monthly Benefit	$ 1,427	5,958	2,365	3,447	3,926	6,650
		Monthly Final Average Salary	$ 4,571	6,402	5,801	6,841	7,186	7,220
		Number of Active Retired	5	2	21	14	14	6
	2018	Average Monthly Benefit	$ 1,590	4,064	2,863	4,009	3,890	5,815
		Monthly Final Average Salary	$ 3,871	5,786	5,662	7,341	6,982	7,755
		Number of Active Retired	2	2	24	14	12	7

Continued on page 210.

Schedules of Average Benefit Payments *(Continued)*

December 31

System			Years of Credited Service 4-10	11-15	16-20	21-25	26-30	31+
Judges Retirement System	2013	Average Monthly Benefit	$ —	—	7,204	8,215	6,647	11,006
		Monthly Final Average Salary	$ —	—	11,151	11,163	11,688	11,132
		Number of Active Retired	—	—	2	4	1	4
	2014	Average Monthly Benefit	$ —	—	9,263	8,850	9,836	9,180
		Monthly Final Average Salary	$ —	—	11,201	11,149	11,225	11,180
		Number of Active Retired	—	—	2	2	2	1
	2015	Average Monthly Benefit	$ 3,747	4,162	7,807	—	8,884	12,033
		Monthly Final Average Salary	$ 9,556	7,570	11,635	—	11,252	11,690
		Number of Active Retired	2	1	3	—	1	2
	2016	Average Monthly Benefit	$ —	—	—	8,736	—	11,741
		Monthly Final Average Salary	$ —	—	—	11,988	—	11,638
		Number of Active Retired	—	2	—	3	—	2
	2017	Average Monthly Benefit	$ —	7,184	8,109	8,849	—	12,045
		Monthly Final Average Salary	$ —	13,279	13,374	12,736	—	12,653
		Number of Active Retired	—	2	2	2	—	4
	2018	Average Monthly Benefit	$ —	—	7,697	8,980	—	12,221
		Monthly Final Average Salary	$ —	—	13,233	13,429	—	13,287
		Number of Active Retired	—	—	2	2	—	6
Utah Governors and Legislators Retirement Plan	2013	Average Monthly Benefit	$ 216	314	475	555	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	13	3	4	1	—	—
	2014	Average Monthly Benefit	$ 256	342	—	846	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	4	2	—	1	—	—
	2015	Average Monthly Benefit	$ 223	347	319	—	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	7	4	1	—	—	—
	2016	Average Monthly Benefit	$ 594	—	—	—	—	—
		Monthly Final Average Salary	$ 1,634	—	—	—	—	—
		Number of Active Retired	17	—	—	—	—	—
	2017	Average Monthly Benefit	$ 201	365	491	—	—	1,016
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	7	2	1	—	—	1
	2018	Average Monthly Benefit	$ 263	311	—	734	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	5	1	—	1	—	—

Schedules of Average Benefit Payments *(Concluded)*

December 31

System			Years of Credited Service 4-10	11-15	16-20	21-25	26-30	31+
Tier 2 Public Employees Contributory Retirement System	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	—	—	—	—	—
	2017	Average Monthly Benefit	$ 176	—	—	—	—	—
		Monthly Final Average Salary	$ 2,710	—	—	—	—	—
		Number of Active Retired	17	—	—	—	—	—
	2018	Average Monthly Benefit	$ 240	—	—	—	—	—
		Monthly Final Average Salary	$ 2,829	—	—	—	—	—
		Number of Active Retired	38	—	—	—	—	—
Tier 2 Public Safety and Firefighter Contributory Retirement System*	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	$ —	—	—	—	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	—	—	—	—	—	—
	2016	Average Monthly Benefit	$ —	—	—	—	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	—	—	—	—	—	—
	2017	Average Monthly Benefit	$ —	—	—	—	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	—	—	—	—	—	—
	2018	Average Monthly Benefit	$ —	—	—	—	—	—
		Monthly Final Average Salary	$ —	—	—	—	—	—
		Number of Active Retired	—	—	—	—	—	—

**There are currently no retirees in the system.*

Schedules of Active Members by Age and Gender

Year Ended December 31, 2018

System	Ages	Male	Female	Total
Noncontributory Retirement System	Under 20	—	—	—
	20 to 29	255	350	605
	30 to 39	4,249	6,177	10,426
	40 to 49	6,758	10,689	17,447
	50 to 54	3,243	5,710	8,953
	55 to 59	3,233	6,473	9,706
	60 to 69	2,929	5,676	8,605
	70 and Older	261	296	557
	Total	20,928	35,371	56,299
Contributory Retirement System	Under 20	—	—	—
	20 to 29	1	2	3
	30 to 39	5	16	21
	40 to 49	11	24	35
	50 to 54	34	40	74
	55 to 59	93	92	185
	60 to 69	102	87	189
	70 and Older	7	5	12
	Total	253	266	519
Public Safety Retirement System	Under 20	—	—	—
	20 to 29	69	12	81
	30 to 39	1,714	198	1,912
	40 to 49	2,024	260	2,284
	50 to 54	455	88	543
	55 to 59	267	51	318
	60 to 69	132	31	163
	70 and Older	3	1	4
	Total	4,664	641	5,305
Firefighters Retirement System	Under 20	—	—	—
	20 to 29	21	—	21
	30 to 39	512	19	531
	40 to 49	673	17	690
	50 to 54	160	5	165
	55 to 59	86	1	87
	60 to 69	46	—	46
	70 and Older	—	—	—
	Total	1,498	42	1,540
Judges Retirement System	Under 20	—	—	—
	20 to 29	—	—	—
	30 to 39	1	—	1
	40 to 49	24	14	38
	50 to 54	17	8	25
	55 to 59	15	7	22
	60 to 69	26	2	28
	70 and Older	2	—	2
	Total	85	31	116

System	Ages	Male	Female	Total
Utah Governors and Legislators Retirement Plan	Under 20	—	—	—
	20 to 29	—	—	—
	30 to 39	—	1	1
	40 to 49	11	1	12
	50 to 54	6	1	7
	55 to 59	4	3	7
	60 to 69	19	3	22
	70 and Older	3	—	3
	Total	43	9	52
Tier 2 Public Employees Contributory Retirement System	Under 20	230	174	404
	20 to 29	3,671	7,058	10,729
	30 to 39	3,857	4,904	8,761
	40 to 49	1,846	4,230	6,076
	50 to 54	622	1,162	1,784
	55 to 59	576	840	1,416
	60 to 69	555	476	1,031
	70 and Older	70	20	90
	Total	11,427	18,864	30,291
Tier 2 Public Safety and Firefighter Contributory Retirement System	Under 20	8	2	10
	20 to 29	1,700	215	1,915
	30 to 39	1,013	122	1,135
	40 to 49	180	29	209
	50 to 54	14	4	18
	55 to 59	4	4	8
	60 to 69	6	—	6
	70 and Older	—	—	—
	Total	2,925	376	3,301
Tier 2 DC Only Public Employees Contributory Retirement System	Under 20	10	2	12
	20 to 29	547	1,432	1,979
	30 to 39	917	947	1,864
	40 to 49	376	802	1,178
	50 to 54	113	246	359
	55 to 59	113	207	320
	60 to 69	142	101	243
	70 and Older	18	5	23
	Total	2,236	3,742	5,978
Tier 2 DC Only Public Safety and Firefighter Contributory Retirement System	Under 20	—	—	—
	20 to 29	159	30	189
	30 to 39	155	12	167
	40 to 49	40	8	48
	50 to 54	7	1	8
	55 to 59	5	1	6
	60 to 69	1	—	1
	70 and Older	—	—	—
	Total	367	52	419

Schedules of Retirees by Age and Gender

Year Ended December 31, 2018

System	Ages	Male	Female	Total
Noncontributory Retirement System	Under 55	189	269	458
	55 to 59	645	929	1,574
	60 to 64	1,962	3,665	5,627
	65 to 69	4,705	9,630	14,335
	70 to 74	4,763	8,977	13,740
	75 to 79	3,481	5,980	9,461
	80 to 84	2,288	3,902	6,190
	85 to 89	1,291	2,175	3,466
	90 to 94	439	904	1,343
	95 to 100	50	148	198
	Over 100	1	11	12
	Total	19,814	36,590	56,404
Contributory Retirement System	Under 55	18	24	42
	55 to 59	104	119	223
	60 to 64	214	280	494
	65 to 69	317	438	755
	70 to 74	255	461	716
	75 to 79	192	347	539
	80 to 84	107	263	370
	85 to 89	69	195	264
	90 to 94	82	202	284
	95 to 100	28	181	209
	Over 100	1	20	21
	Total	1,387	2,530	3,917
Public Safety Retirement System	Under 55	945	266	1,211
	55 to 59	501	148	649
	60 to 64	717	211	928
	65 to 69	813	242	1,055
	70 to 74	729	226	955
	75 to 79	390	162	552
	80 to 84	226	133	359
	85 to 89	94	90	184
	90 to 94	20	33	53
	95 to 100	3	17	20
	Over 100	—	1	1
	Total	4,438	1,529	5,967
Firefighters Retirement System	Under 55	147	48	195
	55 to 59	109	26	135
	60 to 64	196	43	239
	65 to 69	265	53	318
	70 to 74	190	38	228
	75 to 79	132	38	170
	80 to 84	57	33	90
	85 to 89	28	23	51
	90 to 94	14	13	27
	95 to 100	1	9	10
	Over 100	—	1	1
	Total	1,139	325	1,464

System	Ages	Male	Female	Total
Judges Retirement System	Under 55	—	2	2
	55 to 59	1	2	3
	60 to 64	8	3	11
	65 to 69	26	9	35
	70 to 74	26	8	34
	75 to 79	17	7	24
	80 to 84	12	6	18
	85 to 89	7	7	14
	90 to 94	7	3	10
	95 to 100	—	4	4
	Over 100	—	—	—
	Total	104	51	155
Utah Governors and Legislators Retirement Plan	UUnder 55	—	1	1
	55 to 59	1	—	1
	60 to 64	1	5	6
	65 to 69	35	12	47
	70 to 74	30	17	47
	75 to 79	22	18	40
	80 to 84	26	11	37
	85 to 89	19	19	38
	90 to 94	6	16	22
	95 to 100	3	6	9
	Over 100	1	1	2
	Total	144	106	250
Tier 2 Public Employees Contributory Retirement System	Under 55	—	—	—
	55 to 59	—	—	—
	60 to 64	—	—	—
	65 to 69	24	25	49
	70 to 74	12	1	13
	75 to 79	1	1	2
	80 to 84	—	—	—
	85 to 89	—	—	—
	90 to 94	—	—	—
	95 to 100	—	—	—
	Over 100	—	—	—
	Total	37	27	64
Tier 2 Public Safety and Firefighter Contributory Retirement System*	Under 55	—	—	—
	55 to 59	—	—	—
	60 to 64	—	—	—
	65 to 69	—	—	—
	70 to 74	—	—	—
	75 to 79	—	—	—
	80 to 84	—	—	—
	85 to 89	—	—	—
	90 to 94	—	—	—
	95 to 100	—	—	—
	Over 100	—	—	—
	Total	—	—	—

**There are no retirees in this system.*

Schedules of Principal Participating Employers

Year Ended December 31

System/ Employer	2018 Active Members	2018 Rank	2018 Percent of Total Active Member	2017 Active Members	2017 Rank	2017 Percent of Total Active Member	2016 Active Members	2016 Rank	2016 Percent of Total Active Members	2015 Active Members	2015 Rank	2015 Percent of Total Active Members
Noncontributory Retirement System												
State of Utah	9,587	1	17.03%	10,277	1	17.25%	10,898	1	17.24%	11,788	1	17.27%
Davis School District	3,453	2	6.13	3,668	2	6.16	3,904	2	6.18	4,090	2	5.99
Granite School District	3,283	3	5.83	3,460	3	5.81	3,740	3	5.92	4,044	3	5.92
Alpine School District	3,155	4	5.60	3,305	4	5.55	3,458	4	5.47	3,711	4	5.44
Jordan School District	2,243	5	3.98	2,329	5	3.91	2,424	5	3.83	2,635	5	3.86
Weber County School District	1,891	6	3.36	2,006	6	3.37	2,130	6	3.37	2,286	6	3.35
Salt Lake County	1,842	7	3.27	1,962	7	3.29	2,079	7	3.29	2,194	7	3.21
Nebo School District	1,546	8	2.75	1,614	9	2.71	1,753	9	2.77	1,868	9	2.74
University of Utah	1,518	9	2.70	1,620	8	2.72	1,774	8	2.81	1,864	10	2.73
Salt Lake School District	1,479	10	2.63	—	—	—	1,684	10	2.66	—	—	—
Canyons School District	—	—	—	1,588	10	2.67	—	—	—	1,880	8	2.75
Other	26,302		46.72	27,749		46.58	29,370		46.46	31,913		46.74
Total Noncontributory System active members	56,299		100.00%	59,578		100.00%	63,214		100.00%	68,273		100.00%
Contributory Retirement System												
State of Utah	76	1	14.64%	101	1	16.26%	117	1	15.85%	152	1	16.13%
DDI Vantage	61	2	11.75	65	2	10.47	68	2	9.21	70	2	7.42
University of Utah	31	3	5.97	36	4	5.80	44	3	5.96	60	3	6.36
University of Utah Hospital	30	4	5.78	33	6	5.31	38	6	5.15	42	6	4.45
Granite School District	28	5	5.39	34	5	5.48	39	5	5.28	53	4	5.62
Salt Lake City Corp.	27	6	5.20	36	3	5.80	44	3	5.96	53	4	5.62
Salt Lake County	21	7	4.05	23	7	3.70	26	7	3.52	37	7	3.92
Davis School District	16	8	3.08	18	8	2.90	23	8	3.12	30	8	3.18
Duchesne County	15	9	2.89	16	10	2.58	17	10	2.30	24	10	2.55
Orem City	14	10	2.70	—	—	—	—	—	—	—	—	—
Salt Lake School District	—	—	—	17	9	2.74	20	9	2.71	25	9	2.65
South Jordan City	—	—	—	—	—	—	—	—	—	—	—	—
Uintah County	—	—	—	—	—	—	—	—	—	—	—	—
Other	200		38.54	242	—	38.97	302		40.92	397		42.10
Total Contributory System active members	519		100.00%	621		100.00%	738		100.00%	943		100.00%
Public Safety Retirement System												
State of Utah	1,678	1	31.63%	1,789	1	31.36%	1,881	1	31.18%	2,006	1	31.35%
Salt Lake City Corp.	381	2	7.18	400	2	7.01	424	2	7.03	412	2	6.44
Salt Lake County	344	3	6.48	371	3	6.50	381	3	6.32	397	3	6.205
Unified Police Department	297	4	5.60	337	4	5.91	355	4	5.89	359	4	5.61
Utah County	203	5	3.83	220	5	3.86	232	5	3.85	236	5	3.69
Weber County Corp.	160	6	3.02	185	6	3.24	194	6	3.22	211	6	3.30
Davis County	111	7	2.09	135	7	2.37	145	7	2.40	163	7	2.55
West Valley City	103	8	1.94	118	8	2.07	127	8	2.11	145	8	2.27
Washington County	84	9	1.58	87	9	1.53	96	9	1.59	109	9	1.70
St. George City	75	10	1.41	—	—	—	—	—	—	—	—	—
Ogden City Corp.	—	—	—	—	—	—	—	—	—	97	10	1.52
Sandy City	—	—	—	—	—	—	—	—	—	—	—	—
West Jordan City	—	—	—	80	10	1.40	89	10	1.48	—	—	—
Other	1,869		35.23	1,982		34.75	2,108		34.95	2,264		35.38
Total Public Safety System active members	5,305		100.00%	5,704		100.00%	6,032		100.00%	6,399		100.00%

System/ Employer	2014 Active Members	2014 Rank	2014 Percent of Total Active Members	2013 Active Members	2013 Rank	2013 Percent of Total Active Members	2012 Active Members	2012 Rank	2012 Percent of Total Active Members	2011 Active Members	2011 Rank	2011 Percent of Total Active Members	2010 Active Members	2010 Rank	2010 Percent of Total Active Members	2009 Active Members	2009 Rank	2009 Percent of Total Active Members
Noncontributory Retirement System																		
State of Utah	12,550	1	17.47%	13,510	1	17.58%	14,450	1	17.57%	15,273	1	17.38%	16,071	1	17.39%	16,435	1	17.72%
Davis School District	4,338	2	6.04	4,624	3	6.02	4,871	3	5.92	5,113	3	5.82	5,330	4	5.77	5,433	4	5.86
Granite School District	4,337	3	6.04	4,702	2	6.12	5,012	2	6.09	5,400	2	6.14	5,781	2	6.26	6,148	2	6.63
Alpine School District	3,938	4	5.48	4,280	4	5.57	4,659	4	5.66	5,095	4	5.80	5,551	3	6.01	5,487	3	5.91
Jordan School District	2,747	5	3.82	2,943	5	3.83	3,099	5	3.77	3,239	6	3.68	3,366	6	3.64	3,560	6	3.84
Weber County School District	2,360	6	3.29	2,503	6	3.26	2,660	6	3.23	2,784	8	3.17	2,861	8	3.10	2,875	8	3.10
Salt Lake County	2,352	7	3.27	2,476	7	3.22	2,605	8	3.17	2,813	7	3.20	2,869	7	3.11	2,968	7	3.20
Nebo School District	1,941	10	2.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
University of Utah	2,039	8	2.84	2,290	8	2.98	2,646	7	3.22	3,895	5	4.43	4,217	5	4.56	4,274	5	4.61
Salt Lake School District	1,977	9	2.75	2,144	9	2.79	2,343	9	2.85	2,520	9	2.87	2,683	9	2.90	2,842	9	3.06
Canyons School District	—	—	—	2,076	10	2.70	2,281	10	2.77	2,460	10	2.80	2,637	10	2.85	2,572	10	2.77
Other	33,248		46.29	35,297	—	45.93	37,633		45.75	39,309		44.72	41,026		44.40	40,172		43.30
Total Noncontributory System active members	71,827		100.00%	76,845		100.00%	82,259		100.00%	87,901		100.00%	92,392		100.00%	92,766		100.00%
Contributory Retirement System																		
State of Utah	186	1	12.38%	237	1	13.68%	269	1	13.89%	293	1	13.71%	325	1	13.95%	387	1	15.39%
DDI Vantage	70	5	4.66	76	6	4.39	85	6	4.39	94	7	4.40	91	8	3.91	82	8	3.26
University of Utah	68	6	4.52	75	7	4.33	84	7	4.34	153	4	7.16	162	4	6.95	178	4	7.08
University of Utah Hospital	47	9	3.13	50	9	2.89	56	9	2.89	—	—	—	—	—	—	—	—	—
Granite School District	67	8	4.46	81	5	4.67	91	5	4.70	102	6	4.77	114	5	4.89	131	5	5.21
Salt Lake City Corp.	73	4	4.86	84	4	4.85	93	4	4.80	104	5	4.87	112	6	4.81	128	6	5.09
Salt Lake County	45	10	2.99	47	10	2.71	52	10	2.68	59	9	2.76	61	9	2.62	80	9	3.18
Davis School District	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Duchesne County	68	6	4.52	73	8	4.21	77	8	3.98	82	8	3.84	104	7	4.46	90	7	3.58
Orem City	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Salt Lake School District	—	—	—	—	—	—	—	—	—	55	10	2.57	58	10	2.49	67	10	2.66
South Jordan City	153	2	10.18	167	2	9.64	177	2	9.14	196	2	9.17	203	2	8.71	208	2	8.27
Uintah County	136	3	9.05	146	3	8.42	158	3	8.16	168	3	7.86	187	3	8.03	193	3	7.67
Other	590		39.25	697	—	40.22%	795		41.04	831		38.89	913		39.18	971		38.61
Total Contributory System active members	1,503		100.00%	1,733		100.00%	1,937		100.00%	2,137		100.00%	2,330		100.00%	2,515		100.00%
Public Safety Retirement System																		
State of Utah	2,076	1	31.12%	2,211	1	31.50%	2,317	1	31.68%	2,390	1	31.37%	2,380	1	31.22%	2,448	1	31.81%
Salt Lake City Corp.	423	3	6.34	432	3	6.15	452	3	6.18	463	3	6.08	480	3	6.30	480	3	6.24
Salt Lake County	424	2	6.35	459	2	6.54	494	2	6.76	540	2	7.09	547	2	7.17	828	2	10.76
Unified Police Department	365	4	5.47	378	4	5.39	377	4	5.16	329	4	4.32	293	4	3.84	—	—	—
Utah County	239	5	3.58	237	5	3.38	239	5	3.27	236	6	3.10	233	6	3.06	238	5	3.09
Weber County Corp.	221	6	3.31	228	6	3.25	237	6	3.24	249	5	3.27	246	5	3.23	252	4	3.27
Davis County	179	7	2.68	193	7	2.75	201	7	2.75	208	7	2.73	209	7	2.74	209	6	2.72
West Valley City	169	8	2.53	162	8	2.31	172	8	2.35	177	8	2.32	177	8	2.32	175	7	2.27
Washington County	113	9	1.69	120	9	1.71	129	9	1.76	129	9	1.69	126	9	1.65	123	8	1.60
St. George City	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ogden City Corp.	110	10	1.65	116	10	1.65	122	10	1.67	127	10	1.67	119	10	1.56	117	9	1.52
Sandy City	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	109	10	1.42
West Jordan City	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	2,353		35.27	2,483	—	35.38%	2,573		35.18	2,771		36.37	2,814		36.91	2,716		35.30
Total Public Safety System active members	6,672		100.00%	7,019		100.00%	7,313		100.00%	7,619		100.00%	7,624		100.00%	7,695		100.00%

Continued on page 216.

Utah Retirement Systems

Schedules of Principal Participating Employers *(Continued)*

Year Ended December 31

System/ Employer	2018 Active Members	2018 Rank	2018 Percent of Total Active Member	2017 Active Members	2017 Rank	2017 Percent of Total Active Member	2016 Active Members	2016 Rank	2016 Percent of Total Active Members	2015 Active Members	2015 Rank	2015 Percent of Total Active Members
Firefighters Retirement System												
Unified Fire Authority	334	1	21.69%	354	1	22.10%	380	1	22.85%	386	1	22.25%
Salt Lake City Corp.	268	2	17.40	273	2	17.04	274	2	16.48	295	2	17.00
West Valley City	76	3	4.94	79	3	4.93	80	4	4.81	80	4	4.61
Ogden City Corp.	67	4	4.35	72	4	4.49	82	3	4.93	85	3	4.90
Provo City	59	5	3.83	60	6	3.75	63	6	3.79	67	5	3.86
West Jordan City	58	6	3.77	62	5	3.87	64	5	3.85	66	6	3.80
Park City Fire Service	50	7	3.25	56	7	3.50	63	6	3.79	65	7	3.75
South Davis Metro Fire Agency	47	8	3.05	48	9	3.00	—	—	—	—	—	—
Sandy City	46	9	2.99	51	8	3.18	57	8	3.43	59	8	3.40
Orem City	45	10	2.92	—	—	—	49	10	2.95	52	10	3.00
Murray City	—	—	—	47	10	2.93	—	—	—	—	—	—
Weber Fire District	—	—	—	—	—	—	51	9	3.07	53	9	3.05
Other	490		31.82%	500		31.21	500		30.07	527		30.37
Total Firefighters System active members	1,540		100.00%	1,602		100.00%	1,663		100.00%	1,735		100.00%
Judges Retirement System												
State of Utah	116	1	100.00%	114	1	100.00%	115	1	100.00%	112	1	100.00%
Utah Governors and Legislators Retirement Plan												
State of Utah	52	1	100.00%	52	1	100.00%	61	1	100.00%	93	1	100.00%
Tier 2 Public Employees Contributory Retirement System												
State of Utah	5,474	1	18.07%	4,951	1	18.23%	4,345	1	17.83%	3,642	1	16.72%
Alpine School District	1,729	2	5.71	1,524	2	5.61	1,361	2	5.58	1,232	3	5.66
Davis School District	1,605	3	5.30	1,426	3	5.25	1,263	4	5.18	980	5	4.50
Granite School District	1,599	4	5.28	1,408	4	5.19	1,302	3	5.34	1,028	4	4.72
Jordan School District	1,456	5	4.81	1,205	5	4.44	1,095	6	4.49	962	6	4.42
Canyons School District	1,128	6	3.72	1,003	6	3.69	858	7	3.52	781	7	3.59
Salt Lake County	992	7	3.27	870	8	3.20	786	8	3.23	655	8	3.01
Nebo School District	852	8	2.81	836	9	3.08	692	9	2.84	624	9	2.87
University of Utah	713	9	2.35	887	7	3.27	1,181	5	4.85	1,458	2	6.69
Washington School District	684	10	2.26	635	10	2.34	—	—	—	—	—	—
Provo School District	—	—	—	—	—	—	—	—	—	—	—	—
Salt Lake City District	—	—	—	—	—	—	—	—	—	479	10	2.20
Weber County School District	—	—	—	—	—	—	494	10	2.03	—	—	—
Other	14,059		46.41%	12,407		45.69	10,995		45.11	9,937		45.63
Total Tier 2 Public Employees System active members	30,291		100.00%	27,152		100.00%	24,372		100.00%	21,778		100.00%

System/ Employer	2014 Active Members	2014 Rank	2014 Percent of Total Active Members	2013 Active Members	2013 Rank	2013 Percent of Total Active Members	2012 Active Members	2012 Rank	2012 Percent of Total Active Members	2011 Active Members	2011 Rank	2011 Percent of Total Active Members	2010 Active Members	2010 Rank	2010 Percent of Total Active Members	2009 Active Members	2009 Rank	2009 Percent of Total Active Members
Firefighters Retirement System																		
Unified Fire Authority	395	1	22.10%	398	1	21.57%	404	1	21.44%	404	1	20.91%	356	1	18.87%	365	1	19.14%
Salt Lake City Corp.	302	2	16.90	309	2	16.75	309	2	16.40	314	2	16.25	312	2	16.53	309	2	16.20
West Valley City	87	4	4.87	89	4	4.82	92	4	4.88	96	4	4.97	100	4	5.30	97	4	5.09
Ogden City Corp.	90	3	5.04	102	3	5.53	109	3	5.79	110	3	5.69	111	3	5.88	113	3	5.93
Provo City	70	5	3.92	72	5	3.90	74	5	3.93	78	5	4.04	64	9	3.39	76	6	3.99
West Jordan City	66	7	3.69	68	8	3.69	72	6	3.82	73	7	3.78	73	6	3.87	70	8	3.67
Park City Fire Service	68	6	3.81	71	6	3.85	72	6	3.82	74	6	3.83	77	5	4.08	80	5	4.20
South Davis Metro Fire Agency	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sandy City	64	8	3.58	69	7	3.74	69	8	3.66	70	8	3.62	70	7	3.71	72	7	3.78
Orem City	56	9	3.13	62	9	3.36	67	9	3.56	68	9	3.52	68	10	3.60	69	9	3.62
Murray City	51	10	2.85	55	10	2.98	—	—	—	56	10	2.90	60	10	3.18	59	10	3.09
Weber Fire District	—	—	—	—	—	—	56	10	2.97	—	—	—	—	—	—	—	—	—
Other	538		30.11	550		29.81	560		29.75	589		30.49	596		31.58	597		31.31
Total Firefighters System active members	1,787		100.00%	1,845		100.00%	1,884		100.00%	1,932		100.00%	1,887		100.00%	1,907		100.00%
Judges Retirement System																		
State of Utah	114	1	100.00%	112	1	100.00%	111	1	100.00%	111	1	100.00%	109	1	100.00%	104	1	100.00%
Utah Governors and Legislators Retirement Plan																		
State of Utah	105	1	100.00%	99	1	100.00%	113	1	100.00%	115	1	100.00%	125	1	100.00%	119	1	100.00%
Tier 2 Public Employees Contributory Retirement System																		
State of Utah	2,772	1	16.09%	2,173	1	15.84%	1,523	1	14.71%	600	1	12.56%						
Alpine School District	1,090	3	6.33	1,080	2	7.87	1,072	2	10.35	574	2	12.02						
Davis School District	778	5	4.52	591	7	4.31	463	5	4.47	235	6	4.92						
Granite School District	829	4	4.81	664	4	4.84	638	4	6.16	336	3	7.03						
Jordan School District	755	6	4.38	661	5	4.82	417	6	4.03	238	5	4.98						
Canyons School District	614	7	3.56	593	6	4.32	387	7	3.74	177	8	3.71						
Salt Lake County	484	9	2.81	378	9	2.76	—	—	—	—	—	—						
Nebo School District	549	8	3.19	403	8	2.94	327	8	3.16	165	9	3.45						
University of Utah	1,223	2	7.10	944	3	6.88	738	3	7.13	323	4	6.76						
Washington School District	360	10	2.09	—	—	—	—	—	—	—	—	—						
Provo School District	—	—	—	—	—	—	310	9	2.99	186	7	3.89						
Salt Lake City District	—	—	—	363	10	2.65	302	10	2.92	165	10	3.45						
Weber County School District	—	—	—	—	—	—	—	—	—	—	—	—						
Other	7,771		45.11	5,868		42.78	4,179		40.34	1,778		37.22						
Total Tier 2 Public Employees System active members	17,225		100.00%	13,718		100.00%	10,356		100.00%	4,777		100.00%						

Additional information will be added when it becomes available.

Continued on page 218.

Schedules of Principal Participating Employers *(Concluded)*

Year Ended December 31

System/ Employer	2018 Active Members	2018 Rank	2018 Percent of Total Active Member	2017 Active Members	2017 Rank	2017 Percent of Total Active Member	2016 Active Members	2016 Rank	2016 Percent of Total Active Members	2015 Active Members	2015 Rank	2015 Percent of Total Active Members
Tier 2 Public Safety and Firefighter Contributory Retirement System												
State of Utah	821	1	24.87%	705	1	26.12%	626	1	27.95%	523	1	28.67%
Salt Lake County	218	2	6.60	203	2	7.52	176	2	7.86	132	2	7.24
Salt Lake City Corp.	161	3	4.88	116	3	4.30	95	3	4.24	58	3	3.18
West Valley City	125	4	3.79	88	4	3.26	68	4	3.04	32	7	1.75
Ogden City Corp.	92	5	2.79	76	5	2.82	54	5	2.41	29	9	1.59
Davis County	79	6	2.39	51	8	1.89	48	7	2.14	43	5	2.36
Unified Fire Authority	77	7	2.33	49	9	1.82	53	6	2.37	44	4	2.41
Weber County Corp.	64	8	1.94	56	7	2.07	41	9	1.83	39	6	2.14
West Jordan City	63	9	1.91	—	—	—	—	—	—	—	—	—
Sandy City	61	10	1.85	58	6	2.15	46	8	2.05	—	—	—
Cache County	—	—	—	—	—	—	—	—	—	31	8	1.70
Duchesne County	—	—	—	—	—	—	—	—	—	—	—	—
Grand County	—	—	—	—	—	—	—	—	—	—	—	—
Iron County	—	—	—	—	—	—	—	—	—	—	—	—
Layton City	—	—	—	—	—	—	—	—	—	—	—	—
Murray City	—	—	—	—	—	—	—	—	—	—	—	—
Park City Fire Service	—	—	—	—	—	—	—	—	—	—	—	—
South Jordan City	—	—	—	46	10	1.70	35	10	1.56	—	—	—
St. George City	—	—	—	—	—	—	—	—	—	—	—	—
Unified Police Department	—	—	—	—	—	—	—	—	—	29	9	1.59
Utah County	—	—	—	—	—	—	—	—	—	—	—	—
Other	1,540		46.65	1,251		46.35	998		44.55	864		47.37
Total Tier 2 Public Safety and Firefighter System active members	3,301		100.00%	2,699		100.00%	2,240		100.00%	1,824		100.00%
Tier 2 DC Only Public Employees System												
State of Utah	1,390	1	23.25%									
Jordan School District	302	2	5.05									
Alpine School District	278	3	4.65									
Granite School District	272	4	4.55									
Canyons School District	248	5	4.15									
Davis School District	245	6	4.10									
Salt Lake County	231	7	3.86									
University of Utah	188	8	3.14									
Salt Lake City Corp.	164	9	2.74									
Salt Lake School District	140	10	2.34									
Other	2,520		42.15									
Total Tier 2 DC only Public Employees System active members	5,978		100.00%									
Tier 2 DC Only Public Safety and Firefighter System												
State of Utah	112	1	26.73%									
Salt Lake City Corp.	36	2	8.59									
Salt Lake County	26	3	6.21									
Ogden City Corp.	19	4	4.53									
West Valley City	17	5	4.06									
Unified Fire Authority	11	6	2.63									
Logan City	11	7	2.63									
Cache County	10	8	2.39									
Unified Police Department	10	9	2.39									
Provo City Corp.	10	10	2.39									
Other	157		37.47									
Total Tier 2 DC only Public Safety and Firefigher System active members	419		100.00%									

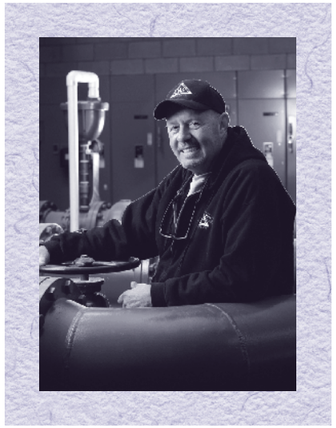
System/ Employer	2014 Active Members	2014 Rank	2014 Percent of Total Active Members	2013 Active Members	2013 Rank	2013 Percent of Total Active Members	2012 Active Members	2012 Rank	2012 Percent of Total Active Members	2011 Active Members	2011 Rank	2011 Percent of Total Active Members
Tier 2 Public Safety and Firefighter Contributory Retirement System												
State of Utah	371	1	27.87%	274	1	30.96%	144	1	30.19%	3	9	3.03%
Salt Lake County	122	2	9.17	93	2	10.51	46	2	9.64	17	1	17.17
Salt Lake City Corp.	51	3	3.83	38	3	4.29	34	3	7.13	6	3	6.06
West Valley City	22	7	1.65	—	—	—	—	—	—	4	8	4.04
Ogden City Corp.	21	9	1.58	11	9	1.24	—	—	—	4	7	4.04
Davis County	31	5	2.33	22	4	2.49	12	4	2.52	4	5	4.04
Unified Fire Authority	40	4	3.01	13	7	1.47	—	—	—	—	—	—
Weber County Corp.	22	7	1.65	15	6	1.69	—	—	—	—	—	—
West Jordan City	—	—	—	—	—	—	—	—	—	—	—	—
Sandy City	—	—	—	—	—	—	—	—	—	—	—	—
Cache County	26	6	1.95	22	4	2.49	8	6	1.68	—	—	—
Duchesne County	—	—	—	—	—	—	8	6	1.68	—	—	—
Grand County	—	—	—	—	—	—	—	—	—	3	10	3.03
Iron County	—	—	—	11	9	1.24	—	—	—	—	—	—
Layton City	—	—	—	—	—	—	6	9	1.26	—	—	—
Murray City	—	—	—	—	—	—	9	5	1.89	—	—	—
Park City Fire Service	—	—	—	12	8	1.36	—	—	—	8	2	8.08
South Jordan City	—	—	—	—	—	—	—	—	—	—	—	—
St. George City	—	—	—	—	—	—	—	—	—	4	6	4.04
Unified Police Department	20	10	1.50	—	—	—	—	—	—	—	—	—
Utah County	—	—	—	—	—	—	7	8	1.47	5	4	5.05
Other	605		45.45	374		42.26	197		41.28	41		41.41
Total Tier 2 Public Safety and Firefighter System active members	1,331		100.00%	885		100.00%	477		100.00%	99		100.00%

Additional information will be added when it becomes available.

Schedule of Utah Retirement Office Employees

Year Ended December 31

Year	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Number of employees	172	171	176	169	162	168	163	161	161	165



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

School Districts and Education Employers

Employer	N	C	PS	F	T	D	K
Academy for Math, Engineering and Science Charter School (AMES)	N				T	D	K
Active Re-Entry Incorporated	N				T		K
Alpine School District	N	C			T	D	K
Alpine Uniserv	N				T	D	K
American Leadership Academy	N				T		K
Beaver School District	N				T	D	K
Bonneville Uniserv	N				T	D	K
Box Elder School District	N	C			T	D	K
Bridgerland Applied Technology Center	N				T	D	K
Cache School District	N	C			T	D	K
Canyons School District	N				T	D	K
Carbon School District	N	C			T	D	K
Color Country Uniserv	N				T	D	K
Daggett School District	N	C			T	D	K
Davis Applied Technology College	N				T	D	K
Davis School District	N	C			T	D	K
Davis Uniserv	N				T	D	K
Dixie Applied Technology College	N				T		K
Dixie State University	N	C	PS		T	D	K
Duchesne School District	N	C			T	D	K
East Hollywood High School	N				T	D	K
Educators Mutual Insurance	N	C			T	D	K
Emery School District	N	C			T	D	K
Fast Forward Charter High School	N				T		K
Garfield School District	N	C			T		K
Grand School District	N	C			T	D	K
Granite School District	N	C			T	D	K
Granite Uniserv	N				T	D	K
High Desert Uniserv	N				T	D	K
High School Activity Association	N	C			T		K
Intech Collegiate High School	N				T		K
Iron School District	N	C			T	D	K
Itineris High School	N				T		K
Jordan School District	N	C			T	D	K
Jordan Uniserv	N				T	D	K
Juab School District	N	C			T	D	K
Kane School District	N	C			T	D	K
Liberty Academy Charter School	N				T		K
Logan School District	N	C			T	D	K
Master Academy, Inc	N				T		K
Millard School District	N	C			T	D	K
Monticello Academy	N				T	D	K
Morgan School District	N				T	D	K
Mountainland Applied Technology Center	N				T	D	K
Murray School District	N	C			T	D	K
Nebo School District	N	C			T	D	K
Noah Webster Academy, Inc	N				T	D	K
North Sanpete School District	N	C			T	D	K
North Summit School District	N	C			T	D	K
Northern Utah Academy of Math, Engineering and Science Charter School (NUAMES)	N				T	D	K
Ogden School District	N	C			T	D	K
Ogden-Weber Applied Technical Center	N	C			T	D	K
Ogden Weber/NEA/UEA Uniserv	N				T	D	K
Park City School District	N	C			T	D	K
Piute School District	N	C			T		K
Provo School District	N	C			T	D	K
Recreation and Habilitation Services	N				T		K
Rich School District	N	C			T	D	K
Salt Lake Arts Academy	N				T	D	K
Salt Lake Community College	N	C			T	D	K
Salt Lake School District	N	C			T	D	K
San Juan School District	N	C			T	D	K
Sevier School District	N	C			T	D	K
Snow College	N	C			T	D	K
Soldier Hollow Charter School	N				T		K
South Sanpete School District	N	C			T	D	K
South Summit School District	N				T	D	K
Southern Utah University	N	C	PS		T	D	K
Southwest Applied Technology Center	N				T		K
Southwest Educational Development Center	N				T		K
Space Dynamics Lab/USU	N				T	D	K
Success Academy	N				T		K
Summit Academy Charter School	N				T	D	K
Summit Academy High School	N				T		K
Tintic School District	N	C			T	D	K
Tooele Applied Technology College	N				T		K
Tooele School District	N	C			T	D	K
Tuacahn High School	N				T		K
Uintah Basin Applied Technology Center	N	C			T	D	K
Uintah School District	N	C			T	D	K
University of Utah	N	C	PS		T		K
University of Utah Hospital	N	C					K
Utah County Academy of Sciences	N				T		K
Utah Education Association	N	C			T	D	K
Utah School Boards Association	N				T		K
Utah School Boards Risk Man Mut Ins Assn	N				T	D	K
Utah School Employee Association	N				T	D	K
Utah State University	N	C	PS		T	D	K
Utah Uniserv	N	C			T	D	K
Utah Valley University	N	C			T	D	K
Wasatch School District	N	C			T	D	K
Wasatch Uniserv	N				T	D	K
Washington School District	N	C			T	D	K
Wayne School District	N				T	D	K
Weber County School District	N	C			T	D	K
Weber State University	N	C			T	D	K
Woodland Peaks Uniserv	N				T		K

Schedules of Participating Employers *(Continued)*

Employer	N	C	PS	F	T	D	K
State and Other Employers							
Heber Valley Historic Railroad	N				T		K
State of Utah (also participates in the Judges Retirement System and the Utah Governors and Legislators Retirement Plan).	N	C	PS	F	T	D	K
Utah Communications Authority	N				T	D	K
Utah Dairy Council	N				T		K
Utah Housing Corporation	N	C			T	D	K
Utah Retirement Systems	N				T	D	K
Utah Safety Council	N				T		K
Utah State Fair Corporation	N				T		K
Workers Compensation Fund	N	C			T	D	K
Counties and County Organizations							
Beaver County	N		PS		T	D	K
Box Elder County	N	C	PS		T	D	K
Cache County	N	C	PS	F	T	D	K
Carbon County	N	C	PS		T	D	K
Daggett County	N		PS		T		K
Davis County	N		PS		T	D	K
Duchesne County	N	C	PS		T	D	K
Emery County	N	C	PS		T	D	K
Garfield County	N	C	PS		T	D	K
Grand County	N	C	PS		T	D	K
Iron County	N	C	PS		T	D	K
Juab County	N	C	PS		T		K
Juab Special Service District	N				T	D	K
Kane County	N		PS		T	D	K
Millard County	N	C	PS		T	D	K
Morgan County	N		PS		T	D	K
Piute County	N		PS		T		K
Rich County		C	PS		T		K
Salt Lake County	N	C	PS	F	T	D	K
San Juan County	N	C	PS		T	D	K
Sanpete County	N	C	PS		T		K
Sevier County	N	C	PS		T	D	K
Summit County	N	C	PS		T		K
Tooele County	N	C	PS	F	T	D	K
Uintah County	N	C	PS		T	D	K
Unified Fire Authority	N		PS	F	T	D	K
Utah County	N	C	PS		T	D	K
Wasatch County	N		PS		T	D	K
Wasatch Co. Fire District	N			F	T		K
Washington County	N		PS		T	D	K
Wayne County	N		PS		T		K
Weber County	N	C	PS		T	D	K
Weber Fire District	N	C		F	T	D	K
Cities and Towns							
Alpine City	N				T	D	K
Alta Town	N				T		K
American Fork City	N		PS	F	T		K
Annabella Town	N				T		K
Apple Valley Town	N				T		K
Aurora City	N				T		K

Employer	N	C	PS	F	T	D	K
Ballard City	N				T	D	K
Beaver City	N				T	D	K
Bicknell Town	N				T		
Big Water Municipal Corp	N		PS		T		K
Blanding City	N		PS		T		K
Bluffdale City	N	C	PS		T	D	K
Bountiful City	N	C	PS	F	T	D	K
Brian Head Town	N	C	PS		T	D	K
Brigham City	N	C	PS	F	T	D	K
Castle Dale City	N				T		K
Cedar City	N		PS	F	T	D	K
Cedar Hills City	N				T	D	K
Centerfield City	N		PS		T	D	K
Centerville City	N	C	PS		T	D	K
Clearfield City	N		PS	F	T	D	K
Cleveland Town	N				T		K
Clinton City	N	C	PS	F	T	D	K
Coalville City	N				T		K
Corinne City		C			T		
Cottonwood Heights City	N		PS		T	D	K
Daniel Town	N				T		K
Delta City	N	C			T		K
Draper City	N				T	D	K
Duchesne City	N				T		K
Eagle Mountain City	N			F	T	D	K
East Carbon City	N		PS		T	D	K
Elk Ridge Town	N				T		K
Emery Town		C			T		K
Enoch City	N		PS		T		K
Enterprise City	N				T		K
Ephraim City	N		PS		T	D	K
Escalante Town	N		PS		T	D	K
Eureka City	N				T	D	
Fairview City	N		PS		T	D	K
Farmington City	N		PS	F	T	D	K
Farr West City	N				T	D	K
Ferron City	N				T		K
Fillmore City	N				T	D	K
Fountain Green City	N		PS		T		
Francis Town	N				T		K
Fruit Heights City	N				T	D	K
Garden City	N				T		K
Garland City		C	PS		T	D	K
Genola Town	N				T		K
Goshen Town	N				T		K
Grantsville City	N		PS		T	D	K
Green River City	N				T		K
Gunnison City	N		PS		T	D	K
Harrisville City	N	C	PS		T	D	K
Heber City	N		PS		T	D	K
Helper City	N		PS		T		K
Herriman City	N		PS		T	D	K
Highland City	N				T	D	K
Hinckley Town	N				T		K
Holden Town	N				T		
Holladay City	N				T	D	K

Schedules of Participating Employers *(Continued)*

Employer	N	C	PS	F	T	D	K
Hooper City	N				T		K
Huntington City	N				T	D	K
Hurricane City	N		PS	F	T	D	K
Hyde Park City	N				T		K
Hyrum City	N				T	D	K
Ivins City	N		PS	F	T	D	K
Kamas City	N		PS		T	D	K
Kanab City	N		PS	F	T	D	K
Kaysville City	N	C	PS		T		K
LaVerkin City		C	PS		T		K
Layton City	N	C	PS	F	T	D	K
Lehi City	N	C	PS	F	T	D	K
Levan Town	N				T		
Lewiston City	N				T		K
Lindon City	N		PS		T	D	K
Logan City	N	C	PS	F	T	D	K
Manila Town	N	C			T		K
Manti City	N				T		K
Mantua City	N		PS		T		K
Mapleton City	N		PS		T	D	K
Marriott/Slaterville City	N				T		K
Mayfield Town	N				T		K
Meadow Town	N				T		K
Mendon City	N				T		K
Midvale City	N	C	PS	F	T	D	K
Midway City	N	C			T	D	K
Milford City	N		PS		T		K
Millcreek City	N				T	D	K
Millville City	N				T	D	K
Minersville Town	N				T		K
Moab City	N	C	PS		T	D	K
Monroe City	N				T		K
Monticello City	N		PS		T	D	K
Morgan City	N				T		K
Moroni City	N		PS		T		K
Mt Pleasant City	N	C	PS		T		K
Murray City	N	C	PS	F	T	D	K
Myton City	N				T		K
Naples City	N	C	PS		T	D	K
Nephi City	N		PS		T	D	K
Nibley City	N				T	D	K
North Logan City	N	C	PS	F	T	D	K
North Ogden City	N	C	PS	F	T		K
North Salt Lake City	N		PS		T	D	K
Oakley City		C			T	D	K
Ogden City	N	C	PS	F	T	D	K
Orangeville City	N				T		K
Orderville Town	N				T		K
Orem City	N	C	PS	F	T	D	K
Panguitch City	N				T	D	K
Paragonah Town		C			T		
Park City	N	C	PS		T		K
Parowan City	N	C	PS		T	D	K
Payson City	N		PS	F	T	D	K
Perry City	N		PS		T	D	K

Employer	N	C	PS	F	T	D	K
Plain City	N				T	D	K
Pleasant Grove City	N		PS	F	T		K
Pleasant View City	N	C	PS		T	D	K
Price City	N	C	PS	F	T	D	K
Providence City	N				T	D	K
Provo City	N	C	PS	F	T	D	K
Randolph Town	N				T		
Redmond Town	N				T		
Richfield City	N	C	PS		T	D	K
Richmond City	N				T		K
Riverdale City	N	C	PS	F	T	D	K
Riverton City	N	C		F	T	D	K
Roosevelt City	N		PS	F	T	D	K
Roy City	N	C	PS	F	T	D	K
Salem City	N		PS		T	D	K
Salina City	N		PS		T	D	K
Salt Lake City	N	C	PS	F	T	D	K
Sandy City	N	C	PS	F	T	D	K
Santa Clara City	N		PS	F	T	D	K
Santaquin City	N		PS		T	D	K
Saratoga Springs Town	N		PS	F	T	D	K
Smithfield City	N		PS	F	T		K
South Jordan City	N	C	PS	F	T	D	K
South Ogden City	N		PS	F	T	D	K
South Salt Lake City	N		PS	F	T	D	K
South Weber City	N				T		K
Spanish Fork City	N		PS		T		K
Spring City	N	C	PS		T		K
Springdale Town	N		PS		T	D	K
Springville City	N	C	PS	F	T		K
St. George City	N	C	PS		T	D	K
Stockton Town	N				T		K
Sunset City	N	C	PS		T	D	K
Syracuse City	N		PS	F	T	D	K
Taylorsville City	N		PS		T	D	K
Tooele City	N	C	PS		T	D	K
Toquerville City	N				T	D	K
Torrey Town	N				T		K
Tremonton City	N	C	PS		T	D	K
Uintah City	N				T		K
Vernal City	N	C	PS		T	D	K
Vineyard Town	N				T		K
Washington City	N			F	T	D	K
Washington Terrace City	N		PS	F	T	D	K
Wellington City	N		PS		T		K
Wellsville City	N				T		K
Wendover City	N		PS		T	D	K
West Bountiful City	N	C	PS		T	D	K
West Haven City	N				T	D	K
West Jordan City	N	C	PS	F	T	D	K
West Point City	N				T	D	K
West Valley City	N	C	PS	F	T	D	K
Willard City	N		PS		T	D	K
Woods Cross City	N	C	PS		T	D	K

Schedules of Participating Employers *(Continued)*

Other Government Entities

Employer	N	C	PS	F	T	D	K
Ash Creek Special Service District	N				T	D	K
Ashley Valley Sewer Management Board	N				T	D	K
Ashley Valley Improvement District	N				T		K
Bear Lake Special Service District	N				T		K
Bear River Association of Governments	N				T	D	K
Bear River Health Department	N	C			T	D	K
Bear River Mental Health	N				T	D	K
Bear River Water District	N				T		K
Beaver Housing Authority	N				T		K
Beaver Valley Hospital	N				T	D	K
Benchland Water Company	N				T		K
Big Plains Water and Sewer Special Service District	N				T	D	K
Bona Vista Water Improvement	N				T	D	K
Bountiful Irrigation District	N				T	D	K
Box Elder County Mosquito District	N				T		K
Cache Metro Planning Organization	N				T		K
Carbon County Recreation and Transportation Special Service District	N				T		K
Castle Valley Special Service District	N	C			T	D	K
Cedar City Housing Authority	N				T	D	K
Cedar Mountain Fire Protection District	N			F	T		K
Central Iron County Water Conservancy Dist	N				T		K
Central Davis Sewer District	N				T	D	K
Central Utah Counseling Center	N				T	D	K
Central Utah Public Health	N				T	D	K
Central Utah Water District	N				T	D	K
Central Wasatch Commission	N				T	D	K
Central Weber Sewer District	N	C			T	D	K
Children's Aid Society—Utah	N				T		K
Cottonwood Heights P&R Services	N				T	D	K
Cottonwood Improvement District	N				T	D	K
Council on Aging — Golden Age Center Special Service District	N				T	D	K
Davis & Weber Counties Canal Company		C			T	D	K
Davis Behavioral Health	N				T	D	K
Davis County Housing Authority	N	C			T		K
Davis County Mosquito Abatement	N				T		K
Davis County Solid Waste Management	N				T	D	K
DDI Advantage		C			T		K
Duchesne County Mosquito District		C			T		
Duchesne County Water Conservancy District	N				T	D	K
East Duchesne Culinary Water Imp District	N				T		K
Emery County Care and Rehabilitation Center		C			T	D	K
Emery County Recreation Special Service District	N				T		K
Emery Water Conservancy District	N				T		K
Five-County Association of Governments	N	C			T	D	K
Four Corners Regional Care Center	N	C			T	D	K
Fox Hollow Golf Course	N				T		K
Garden City Fire District				F	T		K
Grand County Cemetery Maintenance District	N				T		K
Grand County Water Sewer/Service	N				T		K
Granger-Hunter Improvement District	N				T	D	K
Gunnison Valley Fire Department	N		PS		T	D	K
Gunnison Valley Hospital	N	C			T	D	K
Heber Light & Power	N				T	D	K
Heber Valley Special District	N				T		
Hooper Water Improvement District	N				T	D	K
Housing Authority of Carbon County	N				T		K
Housing Authority of Ogden City	N				T		K
Housing Authority of Salt Lake City	N	C			T	D	K
Housing Authority of Salt Lake County	N				T		K
Hurricane Valley Fire Spec. Service District				F	T		K
Impact Mitigation Special Service District	N				T		K
Jordan River Commission	N				T	D	K
Jordan Valley Water Conservancy District	N	C			T	D	K
Jordanelle Special Service District	N				T	D	K
Kane Water Conservancy District	N				T		K
Kearns Improvement District	N	C			T	D	K
Leeds Area Special Service District				F	T		
Lone Peak Safety District	N		PS	F	T	D	K
Maesar Water Improvement District	N				T		K
Magna Mosquito Abatement	N				T		K
Metro Water District—SLC/Sandy	N				T	D	K
Midvalley Improvement District	N				T		K
Military Installation Development Authority	N				T		K
Millard County Care and Rehabilitation, Inc	N				T		K
Moab Valley Fire Protection	N			F	T		K
Mountain Regional Water Special Service District	N				T		K
Mountainland Association of Governments	N	C			T	D	K
Mt. Olympus Improvement District	N				T		K
Nebo Credit Union	N				T		K
North Davis County Sewer District	N	C			T		K
North Davis Fire District	N			F	T		K
North East Counseling Center	N				T	D	K
North Emery Water Users Special Service District	N				T		K
North Fork Special Service District	N				T		K
North Park Police Agency	N		PS		T	D	K
North Pointe Solid Waste Special Service District	N				T	D	K
North Tooele County Fire Protection Service District	N			F	T	D	K
North View Fire District	N			F	T		K
Northern Utah Environmental Resource Agency	N				T	D	K
Oquirrh Recreation and Parks District	N				T	D	K
Park City Fire Service District	N			F	T	D	K
Price River Water Improvement	N				T	D	K
Provo Housing Authority	N				T		K
Provo River Water Users	N				T	D	K
Roosevelt City Housing Authority	N				T		
Roy Water Conservancy District	N				T	D	K
Salt Lake County Service Area 3	;N				T		K
Salt Lake City Library	N				T	D	K
Salt Lake City Mosquito Abatement	N				T		K

Schedules of Participating Employers *(Continued)*

Employer	N	C	PS	F	T	D	K
Salt Lake City Sub. Sanitation #1	N				T		K
San Juan Mental Health/Substance Abuse District	N				T		K
Sandy Suburban Improvement District	N				T	D	K
Six-County Association of Governments	N	C			T	D	K
Six-County Infrastructure Coalition	N				T		K
Snyderville Basin Special Reclamation District	N	C			T	D	K
Snyderville Basin Water Reclamation District	N	C			T	D	K
Solid Waste Management Special Service District #1	N				T		K
Solitude Improvement District	N				T		K
South Davis County Sewer Improvement District	N	C			T	D	K
South Davis County Water Improvement District	N				T	D	K
South Davis Metro Fire Agency	N			F	T	D	K
South Davis Recreation Center	N				T	D	K
South Ogden Conservancy District	N				T	D	K
South Utah Valley Animal Services Special Service District	N				T		K
South Utah Valley Electric Service District	N				T		K
South Utah Valley Solid Waste	N				T		K
South Valley Sewer District	N	C			T	D	K
South Valley Water Reclamation Facility	N				T		K
Southeastern Utah Assoc. of Governments	N	C			T	D	K
Southeastern Utah Health	N	C			T		K
Southern Salt Lake Valley Mosquito Abatement	N				T	D	K
Southern Utah Valley Power System	N				T	D	K
Southwest Behavioral Health Center	N				T	D	K
Southwest Mosquito Abatement and Control District	N				T		K
Southwest Utah Public Health Department	N	C			T	D	K
St. George Housing Authority	N				T		K
Stansbury Park Improvement District	N				T	D	K
Stansbury Service Agency							K
Summit Mosquito Abatement District	N				T		K
Taylor West Weber Water Improvement District	N						K
Taylorsville – Bennion Improvement	N				T	D	K
Timber Lakes Special Service District	N				T		K
Timpanogos Special Service District	N	C			T		K
Tooele County Housing	N				T	D	K
Tooele Valley Mosquito Abatement District	N				T		K
Trans-Jordan Cities	N				T	D	K
Tridell-Lapoint Water District	N				T		K
Uintah Animal Control and Shelter Special Service District	N				T		K
Uintah Basin Assistance Council	N				T		K
Uintah Basin Association of Government	N				T	D	K
Uintah County Care Center	N				T	D	K
Uintah County Mosquito Abatement	N				T		K
Uintah Fire Suppression Special Service District				F	T		K
Uintah Highlands Improvement District	N				T		K
Uintah Recreation District	N				T	D	K
Uintah Transportation Special Service District	N				T		K
Uintah Water Conservancy District	N				T		K
Unified Police Department	N		PS		T	D	K
Upper Country Water District	N					D	
Utah Association of Counties	N				T		K
Utah Counties Indemnity Pool	N				T		K
Utah County Housing Authority	N	C			T	D	K
Utah Local Governments Trust	N				T	D	K
Utah Lake Commission	N				T		K
Utah League of Cities & Towns		C			T		K
Utah Municipal Power Agency	N				T		K
Utah Public Employees Association	N	C			T	D	K
Utah Telecommunication Open Infrastructure Agency (UTOPIA)	N				T	D	K
Utah Valley Dispatch Special Services District	N				T		K
Utah Zoological Society	N	C			T		K
Valley Emergency Communication Center	N				T	D	K
Wasatch Front Regional Council		C			T	D	K
Wasatch Front Waste and Recycling District	N				T	D	K
Wasatch Integrated Waste Management	N				T	D	K
Wasatch Mental Health Special Services District	N	C			T	D	K
Washington County Solid Waste #1	N				T	D	K
Washington County Water District	N	C			T		K
Waste Management Service District #5	N				T		K
Weber Area Dispatch 911 & Emergency Services District	N				T	D	K
Weber Basin Water Conservancy	N				T	D	K
Weber County Mosquito Abatement	N				T	D	K
Weber Human Services	N				T	D	K
Weber River Water Users		C			T		K
Western Kane County Special Service District #1	N				T		K
White City Water Improvement District	N				T	D	K

Total Participating Employers

Noncontributory	463
Contributory	158
Public Safety	134
Firefighters	62
Judges	1
Governor and Legislators	1
Tier 2 Public Employees	476
Tier 2 Public Safety and Firefighter	152
457 Plan	293
401(k) Plan	466

Schedules of Participating Employers *(Concluded)*

Employer

Inactive Units

American Fork Hospital
Bay Area Refuse Disposal
Bear River City
Bingham City
Bonneville Uniserv
Box Elder County Nursing Home
Canyonlands Care Center
Carbon County Hospital
Carbon Nursing Home
Cedar City Library
Central Utah Ed Serv
Children's Aid Society
Circleville Town
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 Care Center
Golden Hours Homemaker
Grand County Road Special Services District
Hiawatha Town
Holden Town
I W Allen Hospital
Juab County Hospital
Kanosh Town Corporation
Leeds Area Special Service District
Leeds Town
Marysvale Town
Master Academy Inc
Meadow 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
Reg 2 Law Enforcement Plan Agency
S L City Credit Union
Salt Lake County Fair
Salt Lake School Credit Union
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 Association of Prosecutors
Sugarhouse Park Authority
Summit Employment
Summit Mosquito Abatement District
Summit Park Water Speical Service District
Sunnyside City
Thomas Edison Charter
Timpanogos Academy
Tooele Council on Aging
Tooele Valley Hospital
Trail Incorporated
Twin Creeks Special Service District
U of U Research Institute
U S H Patients Fund
Uintah Basin Counseling
Uintah Basin District Health
Uintah Basin Medical Center
Uintah County Council on Aging
Uintah County Hospital
USU Community Credit Union
USU Credit Union
UT Association of Secondary School Principals
UT County Council of Governments
UT Partnership for Education Economics
Utah College of Applied Technology
Utah Industries for the Blind
Utah Local Governments Trust
Utah Risk Management Mutual Association
Utah Technical Finance Corporation
Utah Uniserv
Valley Mental Health
Wasatch County Hospital
Wasatch County Special Service District Area 1
Washington County A.R.C.
Weber County Hospital
Weber Economic Development Corporation
Weber River Water Quality Council
West Millard Hospital
West Millard Recreation

A Highlight History 1907-2018

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.

A Highlight History 1907-2018 *(Continued)*

1961 | The Public Employees Retirement System is created with a seven member board.

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 3,000 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.

A Highlight History 1907-2018 *(Continued)*

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.

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 view and 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.

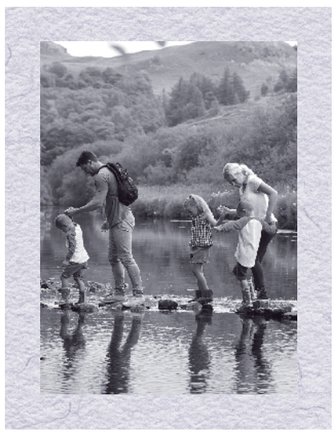
IRS Private Letter Ruling confirms URS 457 Plan is an eligible deferred compensation plan as defined in IRC Section 457(b).

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.

A Highlight History 1907-2018 *(Concluded)*



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 post-retirement 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.

2017 | URS broadened the scope of member education. The "Your Benefits, Your Way" campaign debuted, encouraging members to learn about their benefits in the way that best fits their learning style. Options include publications, videos, live trainings and, new for 2017, regular webinars. The online Message Center debuted, allowing members to send secure messages to URS through their myURS account. URS published targeted editions of the member newsletter *ViewPoint*, tailored to three specific audiences, Tier 1 members, Tier 2 members, and members within their first year of employment. URS continued to increase participation in individual retirement planning sessions. More than 3,700 members attended such sessions in 2017.

2018 | The University of Utah's Kem C. Gardner Policy Institute conducted a study demonstrating how URS pension payments bolstered the Utah economy in 2018. According to the study the economic activity generated by URS pension payments in 2018 supported almost 9,000 Utah jobs, $360 million in wages, and $59 million in state and local tax revenue. In 2018, URS paid more than $1.5 billion in pension benefits to more than 60,000 Utahns, an amount so large, it was equivalent to 1.1 percent of the state's total personal income.

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of Employer Allocation and Pension Reporting Section

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Utah Retirement Systems

Independent Auditor's Report for Agent Plans

INDEPENDENT AUDITORS' REPORT

To the Board of Directors
Utah State Retirement Board
Salt Lake City, Utah

Utah State Retirement Board:

REPORT ON THE SCHEDULE

We have audited the fiduciary net position as of December 31, 2018, and the changes in fiduciary net position for the year then ended, including the accompanying Schedule of Changes in Fiduciary Net Position by Employer – Pension Trust Fund by Division (the Schedule) of the Public Safety Retirement System of Utah Retirements 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the fiduciary net position and the changes in fiduciary 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 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, 2018, 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, 2018, and our report thereon, dated April 30, 2019, 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 and should not be used by anyone other than these specified parties.

Eide Bailly LLP

Salt Lake City, Utah
April 30, 2019

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Utah Retirement Systems

Public Safety Retirement System

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

Year Ended December 31, 2018
With Comparative Totals for Year Ended December 31, 2017

(in thousands)

				Agent Plans		Cost Sharing Plans			Total All Divisions	
	Salt Lake City	Ogden	Provo	Logan	Bountiful	State of Utah Public Safety	Other Division A (with Social Security)	Other Division B (without Social Security)	2018	2017
Additions:										
Contributions:										
Member	$ —	—	—	—	—	264	545	86	895	793
Employer	15,294	2,970	2,266	1,068	964	50,030	53,057	21,452	147,101	145,814
Total contributions	15,294	2,970	2,266	1,068	964	50,294	53,602	21,538	147,996	146,607
Investment income:										
Net appreciation in fair value of investments	(6,873)	(1,534)	(1,214)	(683)	(489)	(28,261)	(33,963)	(10,949)	(83,966)	362,177
Interest, dividends, and other investment income	6,318	1,410	1,116	628	449	25,978	31,218	10,064	77,181	65,430
Total income from investment activity	(555)	(124)	(98)	(55)	(40)	(2,283)	(2,745)	(885)	(6,785)	427,607
Less investment expenses	585	131	103	58	42	2,405	2,891	932	7,147	6,357
Net income from investment activity	(1,140)	(255)	(201)	(113)	(82)	(4,688)	(5,636)	(1,817)	(13,932)	421,250
Income from security lending activity	75	17	13	7	5	309	372	120	918	756
Less security lending expense	10	2	2	1	1	40	48	16	120	89
Net income from security lending activity	65	15	11	6	4	269	324	104	798	667
Net investment income	(1,075)	(240)	(190)	(107)	(78)	(4,419)	(5,312)	(1,713)	(13,134)	421,917
Transfers from (to) affiliated systems	2,259	106	97	185	35	738	(8,899)	12,461	6,982	5,926
Total additions	16,478	2,836	2,173	1,146	921	46,613	39,391	32,286	141,844	574,450
Deductions:										
Retirement benefits	16,113	3,894	2,640	1,327	1,306	56,695	56,506	19,201	157,682	143,774
Cost-of-living benefits	4,079	949	595	298	263	11,687	10,625	2,021	30,517	28,854
Supplemental retirement benefits	33	3	5	—	1	97	76	—	215	242
Refunds	39	—	—	—	—	113	85	191	428	226
Administrative expenses	135	30	23	12	10	487	569	184	1,450	1,382
Total deductions	20,399	4,876	3,263	1,637	1,580	69,079	67,861	21,597	190,292	174,478
Increase from operations	(3,921)	(2,040)	(1,090)	(491)	(659)	(22,466)	(28,470)	10,689	(48,448)	399,972
Net position restricted for pensions beginning of year	292,943	65,911	51,884	29,138	21,062	1,206,584	1,450,921	458,074	3,576,517	3,176,545
Net position restricted for pensions end of year	$ 289,022	63,871	50,794	28,647	20,403	1,184,118	1,422,451	468,763	3,528,069	3,576,517

Utah Retirement Systems

Independent Auditor's Report for Cost Sharing Plans

EideBailly

CPAs & BUSINESS ADVISORS

INDEPENDENT AUDITORS' REPORT

To the Board of Directors
Utah State Retirement Board
Salt Lake City, Utah

REPORT ON SCHEDULE THE SCHEDULES

We have audited the employer allocations and the total for all entities of the columns titled employer contributions, net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total employer net pension expense excluding that attributable to employer-paid member contributions (specified column totals) including in the accompanying schedules of employer allocations and pension amounts of the Noncontributory Retirement System, Contributory 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 (URS or the System), a component unit of the State of Utah, administered by the Utah State Retirement Board, as of and for the year ended December 31, 2018, and the related notes.

Management's Responsibility for the Schedules

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

Auditors' Responsibility

Our responsibility is to express opinions 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the employer allocations and specified column totals included in the schedule of employer allocations and pension amounts are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and specified column totals included in the schedule 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 schedule of employer allocations and the specified column totals included in the schedule of employer allocations and the specified column totals included in the schedules of employer allocations, 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 schedule 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 System'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 schedule of employer allocations and specified column totals included in the schedule 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 opinions.

Opinion

In our opinion, the Schedules referred to above present fairly, in all material respects, the employer allocations and the total employer contributions, net pension liability, 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 URS, a component unit of the State of Utah, administered by the Utah State Retirement board as of and for the year ended December 31, 2018, 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, the financial statements of Utah Retirement Systems as of and for the year ended December 31, 2018, and our report thereon, dated April 30, 2019, expressed an unmodified opinion on those financial statements.

Restrictions on Use

Our report is intended solely for the information and use of the 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 and should not be used by anyone other than these specified parties.

Eide Bailly LLP

Salt Lake City, Utah
April 30, 2019

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Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
4 Corners Comm Behavior Health	$ 417,342	0.2384364%	$ 1,755,780	3,598,401	221,363	22,582	801,982	235,207	23,958	1,083,729	32,747	436,624	—	11,046	480,417	486,053	(4,732)	—	481,321
Alpine City	133,672	0.0763697	562,365	1,152,545	70,901	7,233	256,870	75,335	10,452	349,890	10,489	139,848	—	25,617	175,954	155,680	1,506	—	157,186
American Fork City	777,251	0.4440602	3,269,937	6,701,605	412,263	42,056	1,493,598	438,045	62,592	2,036,291	60,988	813,162	—	131,422	1,005,572	905,218	(15,797)	—	889,421
Annabella Town	15,310	0.0087471	64,411	132,008	8,121	828	29,421	8,629	1,440	40,318	1,201	16,018	—	224	17,443	17,831	562	—	18,393
Ash Creek SS District	170,228	0.0972550	716,159	1,467,739	90,291	9,211	327,118	95,938	46,209	478,476	13,357	178,093	—	—	191,450	198,255	21,646	—	219,901
Ashley Valley Improv Dist	140,224	0.0801128	589,929	1,209,035	74,376	7,587	269,460	79,028	3,005	359,080	11,003	146,702	—	23,104	180,809	163,310	(7,717)	—	155,593
Ashley Valley Sewer Mgmt Board	74,670	0.0426605	314,140	643,818	39,606	4,040	143,489	42,083	6,188	195,800	5,859	78,120	—	1,110	85,089	86,964	1,644	—	88,608
Ballard Town	31,631	0.0180717	133,075	272,732	16,778	1,712	60,784	17,827	618	80,941	2,482	33,093	—	2,541	38,116	36,839	(592)	—	36,247
Bear Lake SSD	22,339	0.0127627	93,981	192,610	11,849	1,209	42,927	12,590	3,262	59,988	1,753	23,371	—	601	25,725	26,017	1,501	—	27,518
Bear River Assn of Govts	215,792	0.1232865	907,848	1,860,598	114,459	11,676	414,675	121,617	2,759	550,727	16,932	225,762	—	48,014	290,708	251,320	(15,677)	—	235,643
Bear River Health Dept	760,831	0.4346791	3,200,857	6,560,029	403,554	41,167	1,462,045	428,791	11,810	1,943,813	59,699	795,983	—	27,219	882,901	886,094	3,993	—	890,087
Bear River Mental Health	588,705	0.3363397	2,476,713	5,075,924	312,256	31,854	1,131,280	331,784	—	1,494,918	46,193	615,904	—	71,414	733,511	685,629	(58,679)	—	626,950
Bear River Water District	30,251	0.0172831	127,268	260,831	16,046	1,637	58,132	17,049	1,429	78,247	2,374	31,649	—	4,039	38,062	35,232	64	—	35,296
Beaver City	173,183	0.0989431	728,590	1,493,215	91,858	9,371	332,796	97,603	10,785	450,555	13,589	181,184	—	34,034	228,807	201,696	(23,796)	—	177,900
Beaver County	327,942	0.1873602	1,379,669	2,827,576	173,944	17,744	630,187	184,822	14,921	847,674	25,732	343,093	—	33,086	401,911	381,934	(10,506)	—	371,428
Beaver Housing Authority	20,156	0.0115155	84,797	173,788	10,691	1,091	38,732	11,360	5,342	56,525	1,582	21,087	—	—	22,669	23,474	2,715	—	26,189
Beaver Valley Hospital	753,368	0.4304154	3,169,460	6,495,682	399,595	40,764	1,447,704	424,585	80,082	1,993,135	59,114	788,175	—	33,320	880,609	877,403	25,449	—	902,852
Benchland Water Company	72,455	0.0413949	304,821	624,718	38,431	3,920	139,232	40,834	15,964	199,950	5,685	75,802	—	—	81,487	84,384	9,913	—	94,297
Bicknell Town	5,849	0.0033417	24,607	50,432	3,102	316	11,240	3,296	523	15,375	459	6,119	—	658	7,236	6,812	175	—	6,987
Big Cottonwood Canyon Imp Dist	11,821	0.0067534	49,730	101,920	6,270	640	22,715	6,662	1,378	31,395	928	12,367	—	965	14,260	13,767	126	—	13,893
Big Plains Water & Sewer Spec Service Dist	5,575	0.0031853	23,456	48,071	2,957	302	10,714	3,142	10,689	24,847	437	5,833	—	—	6,270	6,493	3,962	—	10,455
Blanding City	143,709	0.0821038	604,590	1,239,083	76,225	7,776	276,156	80,992	3,234	368,158	11,276	150,348	—	10,962	172,586	167,369	(12,376)	—	154,993
Bluffdale City	251,966	0.1439537	1,060,035	2,172,500	133,646	13,634	484,189	142,004	151,779	791,606	19,771	263,608	—	—	283,379	293,450	144,957	—	438,407
Bona Vista Water Improve	81,727	0.0466924	343,830	704,666	43,349	4,422	157,050	46,060	2,582	210,114	6,413	85,503	—	23,084	115,000	95,183	(7,101)	—	88,082
Bountiful Irrigation District	83,146	0.0475034	349,802	716,905	44,102	4,499	159,778	46,860	524	211,661	6,524	86,988	—	9,713	103,225	96,836	(6,671)	—	90,165
Box Elder Co Mosq Dist	43,275	0.0247237	182,058	373,122	22,953	2,342	83,158	24,389	3,788	113,677	3,396	45,274	—	—	48,670	50,399	1,928	—	52,327
Box Elder County	786,147	0.4491424	3,307,361	6,778,304	416,982	42,537	1,510,692	443,059	54,669	2,050,957	61,686	822,468	—	17,515	901,669	915,578	21,622	—	937,200
Brigham City	733,052	0.4188080	3,083,986	6,320,507	388,819	39,664	1,408,662	413,135	19,526	1,880,987	57,520	766,920	—	17,235	841,675	853,741	(9,891)	—	843,850
Cache County	1,043,931	0.5964200	4,391,872	9,000,967	553,713	56,486	2,006,061	588,341	64,904	2,715,792	81,913	1,092,162	—	—	1,174,075	1,215,804	42,225	—	1,258,029
Cache Metro Planning Org	15,802	0.0090282	66,481	136,251	8,382	855	30,366	8,906	1,326	41,453	1,240	16,532	—	—	17,772	18,404	867	—	19,271
Carbon County	684,263	0.3909340	2,878,730	5,899,842	362,941	37,024	1,314,908	385,639	—	1,737,571	53,691	715,877	—	282,440	1,052,008	796,920	(135,126)	—	661,794
Carbon County Rec/Trans SSD	8,302	0.0047430	34,926	71,580	4,403	449	15,953	4,679	540	21,621	651	8,685	—	574	9,910	9,669	(153)	—	9,516
Castle Dale City	19,380	0.0110723	81,533	167,099	10,279	1,049	37,242	10,922	2,054	51,267	1,521	20,276	—	303	22,100	22,571	612	—	23,183
Castle Valley SSD	78,711	0.0449694	331,142	678,663	41,749	4,259	151,255	44,360	1,189	201,063	6,176	82,348	—	23,618	112,142	91,670	(8,301)	—	83,369
Cedar City	718,727	0.4106241	3,023,722	6,196,999	381,221	38,889	1,381,136	405,062	5,540	1,830,627	56,396	751,933	—	37,249	845,578	837,058	(34,377)	—	802,681
Cedar City Housing Auth	30,461	0.0174028	128,149	262,637	16,157	1,648	58,534	17,167	3,109	80,458	2,390	31,868	—	771	35,029	35,476	1,427	—	36,903
Cedar Mtn Fire Protection Dist	1,711	0.0009775	7,198	14,752	908	93	3,288	964	3,280	7,625	134	1,790	—	—	1,924	1,993	1,216	—	3,209
Centerfield City	11,704	0.0066865	49,238	100,910	6,208	633	22,490	6,596	—	29,719	918	12,244	—	9,666	22,828	13,630	(5,173)	—	8,457
Centerville City	300,624	0.1717530	1,264,742	2,592,038	159,455	16,266	577,692	169,427	7,061	770,446	23,589	314,514	—	92,338	430,441	350,119	(35,470)	—	314,649
Central Davis Sewer Dist	171,696	0.0980936	722,334	1,480,395	91,070	9,290	329,938	96,765	—	435,993	13,472	179,629	—	18,369	211,470	199,964	(13,916)	—	186,048
Central Iron Co Water Conserv	26,333	0.0150448	110,786	227,051	13,968	1,425	50,603	14,841	4,864	71,733	2,066	27,550	—	—	29,616	30,669	3,102	—	33,771
Central Ut Public Health	253,779	0.1449893	1,067,661	2,188,129	134,607	13,732	487,672	143,025	8,441	652,870	19,913	265,504	—	34,128	319,545	295,561	(6,353)	—	289,208
Central Utah Counseling Center	460,232	0.2629401	1,936,218	3,968,202	244,112	24,902	884,400	259,379	35,685	1,204,366	36,112	481,495	—	79,919	597,526	536,004	(3,980)	—	532,024
Central Utah Water Dist	1,281,214	0.7319850	5,390,135	11,046,868	679,571	69,325	2,462,035	722,070	74,589	3,328,019	100,532	1,340,408	—	37,090	1,478,030	1,492,153	(4,162)	—	1,487,991
Central Wasatch Commission	8,622	0.0049258	36,272	74,338	4,573	467	16,568	4,859	16,529	38,423	677	9,020	—	—	9,697	10,041	6,126	—	16,167
Central Weber Sewer Dist	272,059	0.1554333	1,144,568	2,345,746	144,303	14,721	522,801	153,328	18,504	709,354	21,347	284,629	—	25,952	331,928	316,851	(7,562)	—	309,289
City of Aurora	13,533	0.0077314	56,932	116,680	7,178	732	26,005	7,627	728	35,092	1,062	14,158	—	134	15,354	15,760	359	—	16,119
City of Bountiful	1,433,979	0.8192627	6,032,824	12,364,033	760,599	77,591	2,755,594	808,166	25,802	3,667,153	112,518	1,500,231	—	144,615	1,757,364	1,670,069	(76,580)	—	1,593,489
City of Cedar Hills	177,899	0.1016374	748,430	1,533,877	94,360	9,626	341,858	100,261	2,062	453,807	13,959	186,118	—	26,659	226,736	207,188	(9,610)	—	197,578
City of Draper	1,095,657	0.6259723	4,609,487	9,446,960	581,150	59,284	2,105,461	617,493	124,354	2,906,592	85,972	1,146,278	—	52,435	1,284,685	1,276,046	13,701	—	1,289,747
City of Duchesne	44,223	0.0252654	186,047	381,297	23,456	2,393	84,980	24,923	1,833	114,129	3,470	46,266	—	10,409	60,145	51,504	(2,550)	—	48,954
City of Enterprise	66,946	0.0382475	281,644	577,218	35,509	3,622	128,646	37,729	8,497	178,494	5,253	70,039	—	2,018	77,310	77,968	1,733	—	79,701
City of Green River	59,123	0.0337780	248,732	509,766	31,359	3,199	113,612	33,320	15,017	165,148	4,639	61,854	—	5,424	71,917	68,857	3,318	—	72,175
City of Harrisville	106,196	0.0606721	446,773	915,643	56,328	5,746	204,071	59,850	15,620	285,287	8,333	111,103	—	1,854	121,290	123,680	9,428	—	133,108
City of Helper	40,244	0.0229925	169,310	346,995	21,346	2,178	77,335	22,681	525	102,719	3,158	42,104	—	13,322	58,584	46,870	(5,828)	—	41,042

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
City of Holladay	$ 184,663	0.1055020%	$ 776,888	1,592,200	97,948	9,992	354,856	104,073	21,215	490,136	14,490	193,195	—	30,465	238,150	215,066	(2,839)	—	212,227
City of Kanab	85,484	0.0488386	359,634	737,055	45,342	4,625	164,269	48,177	101	217,172	6,708	89,433	—	13,135	109,276	99,558	(7,088)	—	92,470
City of Milford	47,453	0.0271111	199,639	409,151	25,170	2,568	91,188	26,744	9,733	130,233	3,723	49,646	—	—	53,369	55,266	5,288	—	60,554
City of Moab	528,676	0.3020442	2,224,170	4,558,348	280,416	28,606	1,015,927	297,953	252,441	1,594,927	41,483	553,102	—	34,451	629,036	615,718	75,179	—	690,897
City of Monticello	62,877	0.0359230	264,527	542,138	33,351	3,402	120,827	35,436	3,855	163,520	4,934	65,782	—	25,815	96,531	73,229	(5,961)	—	67,268
City of Naples	58,475	0.0334079	246,007	504,181	31,016	3,164	112,368	32,955	47,773	196,260	4,588	61,176	—	—	65,764	68,102	34,520	—	102,622
City of North Salt Lake	440,286	0.2515451	1,852,309	3,796,233	233,533	23,823	846,073	248,138	30,179	1,148,213	34,547	460,629	—	23,203	518,379	512,775	8,923	—	521,698
City of Orem	2,049,687	1.1710300	8,623,141	17,672,785	1,087,178	110,906	3,938,764	1,155,168	81,966	5,286,804	160,830	2,144,386	—	71,694	2,376,910	2,387,148	(13,746)	—	2,373,402
City of Riverton	883,896	0.5049889	3,718,599	7,621,120	468,829	47,826	1,698,532	498,149	13,243	2,257,750	69,356	924,734	—	102,478	1,096,568	1,029,421	(34,788)	—	994,633
City of Santa Clara	270,704	0.1546589	1,138,865	2,334,059	143,585	14,647	520,196	152,564	61,790	749,197	21,241	283,211	—	12,737	317,189	315,273	14,051	—	329,324
City of Saratoga Springs	553,587	0.3162762	2,328,971	4,773,132	293,629	29,954	1,063,796	311,992	104,549	1,510,291	43,438	579,164	—	—	622,602	644,730	53,149	—	697,879
City of South Jordan	1,811,196	1.0347750	7,619,797	15,616,471	960,680	98,001	3,480,470	1,020,759	1,176,779	5,776,009	142,117	1,894,876	—	—	2,036,993	2,109,392	1,051,363	—	3,160,755
City of South Salt Lake	811,943	0.4638804	3,415,887	7,000,725	430,664	43,933	1,560,264	457,597	15,957	2,077,751	63,710	849,456	—	56,762	969,928	945,621	(33,037)	—	912,584
City of St George	3,806,294	2.1746171	16,013,280	32,818,579	2,018,904	205,953	7,314,334	2,145,161	95,080	9,760,528	298,664	3,982,151	—	26,938	4,307,753	4,432,963	74,039	—	4,507,002
City of Taylorsville	336,326	0.1921505	1,414,943	2,899,870	178,392	18,198	646,299	189,548	77,606	931,651	26,390	351,865	—	67,141	445,396	391,699	(12,243)	—	379,456
City of Uintah	20,194	0.0115374	84,958	174,119	10,711	1,093	38,806	11,381	11,214	62,494	1,585	21,127	—	1,295	24,007	23,519	4,180	—	27,699
City of Washington Terrace	160,023	0.0914244	673,224	1,379,746	84,878	8,659	307,506	90,186	5,948	412,299	12,556	167,416	—	1,727	181,699	186,369	2,981	—	189,350
City of Wendover	42,607	0.0243421	179,248	367,363	22,599	2,305	81,875	24,012	18,454	126,646	3,343	44,575	—	7,469	55,387	49,621	5,841	—	55,462
City of West Haven	115,822	0.0661714	487,268	998,636	61,433	6,267	222,568	65,275	20,873	314,983	9,088	121,173	—	2,926	133,187	134,891	6,116	—	141,007
City of West Jordan	2,182,352	1.2468246	9,181,272	18,816,651	1,157,546	118,084	4,193,700	1,229,936	141,611	5,683,331	171,240	2,283,181	—	99,523	2,553,944	2,541,655	62,550	—	2,604,205
City of Woodland Hills	44,111	0.0252014	185,576	380,331	23,397	2,387	84,765	24,860	48,583	160,595	3,461	46,149	—	88	49,698	51,373	21,173	—	72,546
Clearfield City	563,939	0.3221902	2,372,520	4,862,385	299,120	30,514	1,083,688	317,826	42,186	1,474,214	44,250	589,994	—	24,218	658,462	656,786	(12,633)	—	644,153
Cleveland Town	2,089	0.0011934	8,788	18,010	1,108	113	4,014	1,177	154	5,458	164	2,185	—	1,539	3,888	2,433	(1,548)	—	885
Clinton City	294,996	0.1685376	1,241,064	2,543,512	156,469	15,962	566,877	166,255	15,005	764,099	23,147	308,625	—	7,334	339,106	343,564	(254)	—	343,310
Coalville City	47,873	0.0273507	201,403	412,767	25,392	2,590	91,994	26,980	5,089	126,653	3,756	50,085	—	291	54,132	55,754	2,080	—	57,834
Cottonwood Heights City	310,253	0.1772544	1,305,252	2,675,063	164,562	16,787	596,196	174,853	61,870	849,706	24,344	324,588	—	50,733	399,665	361,334	30,004	—	391,338
Cottonwood Heights P&R Srv	157,369	0.0899081	662,058	1,356,862	83,470	8,515	302,406	88,690	13,130	412,741	12,348	164,639	—	10,813	187,800	183,278	11,033	—	194,311
Cottonwood Imp District	343,630	0.1963233	1,445,671	2,962,844	182,266	18,593	660,334	193,664	4,323	876,914	26,963	359,507	—	75,433	461,903	400,206	(29,148)	—	371,058
Council On Aging Golden Age SS	46,257	0.0264275	194,605	398,835	24,535	2,503	88,889	26,070	—	117,462	3,630	48,394	—	17,503	69,527	53,873	(10,545)	—	43,328
Daggett County	92,253	0.0527063	388,115	795,425	48,932	4,992	177,278	51,992	—	234,262	7,239	96,516	—	69,865	173,620	107,442	(40,567)	—	66,875
Davis Behavioral Health Inc	1,477,332	0.8440316	6,215,216	12,737,837	783,595	79,936	2,838,904	832,599	185,734	3,937,173	115,920	1,545,588	—	71,562	1,733,070	1,720,561	43,085	—	1,763,646
Davis Co Housing Authority	63,153	0.0360808	265,689	544,519	33,497	3,417	121,358	35,592	41,960	202,327	4,955	66,071	—	17,037	88,063	73,551	34,772	—	108,323
Davis Co Mosquito Abate	43,167	0.0246622	181,606	372,194	22,896	2,336	82,951	24,328	7,670	117,285	3,387	45,161	—	1,919	50,467	50,274	45	—	50,319
Davis County	4,625,756	2.6427938	19,460,803	39,884,142	2,453,556	250,293	8,889,048	2,606,997	151,995	11,898,333	362,964	4,839,475	—	215,588	5,418,027	5,387,342	(57,700)	—	5,329,642
Delta City	102,698	0.0586737	432,057	885,483	54,472	5,557	197,349	57,879	5,834	266,619	8,058	107,443	—	10,976	126,477	119,606	(8,133)	—	111,473
Duchesne Co Water Conserv Dist	36,939	0.0211042	155,405	318,497	19,593	1,999	70,984	20,818	14,627	108,428	2,898	38,646	—	965	42,509	43,021	6,242	—	49,263
Duchesne County	564,353	0.3224271	2,374,264	4,865,960	299,340	30,536	1,084,485	318,060	388,529	1,821,610	44,282	590,427	—	21,143	655,852	657,268	317,476	—	974,744
E Duchesne Cul Water Imp Dist	11,891	0.0067936	50,026	102,527	6,307	643	22,850	6,702	880	31,075	933	12,440	—	348	13,721	13,849	316	—	14,165
Eagle Mountain City	458,407	0.2618979	1,928,544	3,952,474	243,145	24,804	880,895	258,350	32,347	1,196,396	35,969	479,587	—	86,965	602,521	533,880	(83,891)	—	449,989
East Carbon City	35,150	0.0200820	147,878	303,071	18,644	1,902	67,546	19,810	1,799	91,057	2,758	36,774	—	41,651	81,183	40,937	(15,836)	—	25,101
Elk Ridge City	23,755	0.0135720	99,940	204,824	12,600	1,285	45,649	13,388	13,989	74,311	1,864	24,853	—	12,602	39,319	27,667	(7,652)	—	20,015
Emery County	456,265	0.2606737	1,919,529	3,933,998	242,008	24,688	876,777	257,143	9,832	1,168,440	35,801	477,345	—	131,276	644,422	531,384	(74,934)	—	456,450
Emery County Recreation SSD	2,792	0.0015950	11,745	24,071	1,481	151	5,365	1,573	186	7,275	219	2,921	—	1,904	5,044	3,251	(902)	—	2,349
Emery Water Conserv Dist	45,455	0.0259695	191,232	391,923	24,110	2,460	87,349	25,618	6,750	122,177	3,567	47,555	—	3,818	54,940	52,939	2,186	—	55,125
Enoch City	76,220	0.0435459	320,660	657,180	40,428	4,124	146,467	42,956	—	193,547	5,981	79,741	—	2,826	88,548	88,768	(1,476)	—	87,292
Ephraim City	193,399	0.1104928	813,638	1,667,520	102,581	10,465	371,643	108,996	39,337	530,441	15,175	202,334	—	914	218,423	225,240	18,939	—	244,179
Escalante City	33,852	0.0193404	142,417	291,879	17,956	1,832	65,052	19,078	1,637	87,599	2,656	35,416	—	2,105	40,177	39,425	(1,653)	—	37,772
Eureka City Corporation	15,895	0.0090812	66,871	137,050	8,431	860	30,545	8,958	2,949	43,312	1,247	16,629	—	7,583	25,459	18,512	(1,435)	—	17,077
Fairview City	41,756	0.0238559	175,668	360,025	22,148	2,259	80,239	23,533	2,022	108,053	3,276	43,685	—	35,725	82,686	48,630	(12,596)	—	36,034
Farmington City	428,171	0.2446235	1,801,340	3,691,774	227,107	23,168	822,792	241,310	33,612	1,120,882	33,597	447,954	—	40,113	521,664	498,666	6,684	—	505,350
Farr West City	70,574	0.0403204	296,908	608,502	37,433	3,819	135,618	39,774	15,539	194,750	5,538	73,835	—	1,064	80,437	82,193	8,513	—	90,706
Ferron City	17,132	0.0097880	72,076	147,717	9,087	927	32,922	9,655	—	43,504	1,344	17,924	—	18,392	37,660	19,953	(9,804)	—	10,149
Fillmore City	68,252	0.0389938	287,140	588,481	36,202	3,693	131,156	38,466	8,480	181,795	5,355	71,405	—	4,311	81,071	79,489	3,523	—	83,012
Five-County Assn of Govts	270,860	0.1547481	1,139,522	2,335,405	143,667	14,656	520,496	152,652	5,181	692,985	21,253	283,374	—	19,618	324,245	315,454	(17,095)	—	298,359
Fountain Green City	16,593	0.0094802	69,810	143,072	8,801	898	31,887	9,352	74	42,211	1,302	17,360	—	5,251	23,913	19,325	(2,637)	—	16,688

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Fox Hollow Golf Course	$ 27,957	0.0159724%	$ 117,616	241,050	14,829	1,513	53,723	15,756	6,412	77,404	2,194	29,249	—	1,088	32,531	32,560	1,865	—	34,425
Francis City	26,181	0.0149577	110,144	225,737	13,887	1,417	50,310	14,755	7,881	74,363	2,054	27,390	—	—	29,444	30,491	3,747	—	34,238
Fruit Heights City	71,373	0.0407770	300,271	615,393	37,857	3,862	137,154	40,225	5,653	186,894	5,600	74,671	—	991	81,262	83,124	3,837	—	86,961
Garfield County	328,176	0.1874938	1,380,653	2,829,592	174,068	17,757	630,636	184,954	—	833,347	25,751	343,338	—	63,886	432,975	382,207	(29,407)	—	352,800
Genola Town	17,759	0.0101460	74,712	153,120	9,419	961	34,126	10,009	2,282	47,378	1,393	18,579	—	—	19,972	20,683	1,814	—	22,497
Grand Co Cemetery Mtce Dist	17,588	0.0100483	73,993	151,646	9,329	952	33,797	9,912	9,201	53,862	1,380	18,400	—	—	19,780	20,483	5,222	—	25,705
Grand County	739,734	0.4226258	3,112,100	6,378,124	392,364	40,026	1,421,504	416,901	85,583	1,964,014	58,044	773,911	—	55,223	887,178	861,524	5,309	—	866,833
Grand Water/Sewer Service	47,608	0.0271994	200,289	410,484	25,252	2,576	91,485	26,831	23,318	144,210	3,736	49,807	—	5,575	59,118	55,446	4,448	—	59,894
Granger-Hunter Imp Dist	662,004	0.3782173	2,785,088	5,707,926	351,135	35,820	1,272,136	373,094	—	1,681,050	51,945	692,590	—	115,894	860,429	770,997	(70,273)	—	700,724
Grantsville City	186,660	0.1066429	785,289	1,609,418	99,007	10,100	358,694	105,198	1,206	475,198	14,646	195,284	—	10,611	220,541	217,392	(8,545)	—	208,847
Gunnison City	44,201	0.0252528	185,955	381,107	23,445	2,392	84,938	24,911	884	113,125	3,468	46,243	—	7,142	56,853	51,478	(3,960)	—	47,518
Gunnison Valley Hospital	948,034	0.5416321	3,988,429	8,174,127	502,849	51,297	1,821,782	534,296	89,853	2,497,228	74,388	991,835	—	25,155	1,091,378	1,104,118	64,669	—	1,168,787
Gunnison Valley Police Dept	11,866	0.0067793	49,921	102,311	6,294	642	22,802	6,687	17,003	47,134	931	12,414	—	—	13,345	13,820	8,205	—	22,025
Heber City	442,178	0.2526255	1,860,264	3,812,538	234,536	23,926	849,707	249,204	142,987	1,265,824	34,696	462,607	—	—	497,303	514,978	69,611	—	584,589
Heber Light & Power	516,642	0.2951687	2,173,541	4,454,585	274,033	27,955	992,801	291,171	37,971	1,349,898	40,539	540,512	—	70,091	651,142	601,702	(30,048)	—	571,654
Heber Valley SSD	34,216	0.0195482	143,948	295,015	18,148	1,851	65,750	19,283	—	86,884	2,685	35,797	—	7,520	46,002	39,849	(3,891)	—	35,958
Herriman City	907,245	0.5183287	3,816,829	7,822,440	481,214	49,090	1,743,401	511,308	218,160	2,521,959	71,188	949,162	—	—	1,020,350	1,056,614	126,339	—	1,182,953
Highland City	219,738	0.1255408	924,448	1,894,619	116,551	11,890	422,257	123,840	2,968	560,955	17,242	229,890	—	38,028	285,160	255,915	(15,754)	—	240,161
Hinckley Town	12,097	0.0069110	50,891	104,298	6,416	655	23,245	6,817	3,921	34,638	949	12,655	—	3,474	17,078	14,088	(217)	—	13,871
Hooper City	48,982	0.0279846	206,071	422,334	25,981	2,650	94,126	27,606	3,710	128,092	3,843	51,245	—	23,244	78,332	57,047	(9,882)	—	47,165
Hooper Water Improv Dist	87,637	0.0500689	368,694	755,623	46,484	4,742	168,407	49,391	16,558	239,098	6,877	91,686	—	52	98,615	102,066	7,451	—	109,517
Housing Auth of Carbon Co	44,109	0.0252005	185,570	380,317	23,396	2,387	84,762	24,859	6,563	118,571	3,461	46,147	—	21,632	71,240	51,371	(10,545)	—	40,826
Housing Auth of SI County	520,665	0.2974673	2,190,467	4,489,275	276,167	28,172	1,000,533	293,438	15,702	1,337,845	40,854	544,721	—	55,543	641,118	606,388	(19,706)	—	586,682
Housing Authority of SLC	553,357	0.3161449	2,328,004	4,771,151	293,507	29,941	1,063,355	311,863	36,376	1,441,535	43,420	578,923	—	60,472	682,815	644,462	(46,113)	—	598,349
Housing Authority Ogden City	116,826	0.0667449	491,491	1,007,291	61,966	6,321	224,497	65,841	2,697	299,356	9,167	122,223	—	37,723	169,113	136,060	(13,175)	—	122,885
Huntington City	31,311	0.0178888	131,728	269,972	16,608	1,694	60,169	17,646	2,593	82,102	2,457	32,758	—	13,545	48,760	36,466	(5,152)	—	31,314
Hurricane City	618,819	0.3535448	2,603,406	5,335,577	328,229	33,483	1,189,149	348,756	55,374	1,626,762	48,556	647,410	—	17,680	713,646	720,702	23,472	—	744,174
Hurricane Valley Fire SSD	16,395	0.0093666	68,973	141,358	8,696	887	31,505	9,240	11,427	53,059	1,286	17,152	—	—	18,438	19,094	9,809	—	28,903
Hyde Park City	87,506	0.0499939	368,141	754,491	46,414	4,735	168,155	49,317	16,207	238,414	6,866	91,549	—	2,364	100,779	101,913	3,792	—	105,705
Hyrum City	241,575	0.1380172	1,016,321	2,082,908	128,134	13,071	464,221	136,148	15,385	628,825	18,955	252,737	—	30,590	302,282	281,348	(8,268)	—	273,080
Impact Mitigation SSD	18,890	0.0107925	79,473	162,877	10,020	1,022	36,301	10,646	370	48,339	1,482	19,763	—	25,788	47,033	22,001	(9,984)	—	12,017
Iron County	755,345	0.4315446	3,177,775	6,512,724	400,644	40,871	1,451,502	425,699	9,755	1,927,827	59,269	790,243	—	121,461	970,973	879,705	(79,878)	—	799,827
Ivins City	243,496	0.1391147	1,024,402	2,099,472	129,153	13,175	467,913	137,230	7,505	625,823	19,106	254,746	—	50,198	324,050	283,586	(17,143)	—	266,443
Jordan River Commission	16,550	0.0094553	69,626	142,696	8,778	895	31,803	9,327	2,721	44,746	1,299	17,315	—	2,099	20,713	19,275	220	—	19,495
Jordan Valley Water Conserv	1,516,395	0.8663487	6,379,552	13,074,639	804,314	82,050	2,913,968	854,614	1,917	3,852,549	118,985	1,586,455	—	42,058	1,747,498	1,766,054	(26,313)	—	1,739,741
Jordanelle SSD	265,995	0.1519688	1,119,056	2,293,461	141,087	14,393	511,148	149,910	30,147	705,598	20,872	278,285	—	8,887	308,044	309,789	8,672	—	318,461
Juab County	320,829	0.1832967	1,349,746	2,766,251	170,172	17,360	616,519	180,814	57,003	871,696	25,174	335,652	—	5,859	366,685	373,651	16,996	—	390,647
Juab Special Service Fire District	4,127	0.0023579	17,363	35,585	2,189	223	7,931	2,326	7,912	18,392	324	4,318	—	—	4,642	4,807	2,933	—	7,740
Kamas City	40,166	0.0229475	168,979	346,316	21,304	2,173	77,184	22,637	529	102,523	3,152	42,021	—	6,382	51,555	46,779	(2,142)	—	44,637
Kane County	442,300	0.2526955	1,860,780	3,813,594	234,601	23,932	849,942	249,273	15,168	1,138,315	34,705	462,735	—	33,894	531,334	515,120	(10,576)	—	504,544
Kane County Water Conserv Dist	70,044	0.0400175	294,678	603,930	37,152	3,790	134,599	39,475	3,359	181,223	5,496	73,280	—	16,134	94,910	81,576	(3,890)	—	77,686
Kaysville City	652,430	0.3727471	2,744,807	5,625,372	346,057	35,302	1,253,736	367,698	48,434	1,705,170	51,193	682,573	—	40,192	773,958	759,846	15,920	—	775,766
Kearns Improvement Dist	323,982	0.1850976	1,363,008	2,793,430	171,844	17,530	622,577	182,590	12,717	835,414	25,421	338,950	—	12,888	377,259	377,322	(3,851)	—	373,471
Laverkin City	101,873	0.0582024	428,586	878,371	54,035	5,512	195,764	57,414	140,864	399,554	7,994	106,580	—	—	114,574	118,646	70,139	—	188,785
Layton City	1,201,919	0.6866822	5,056,538	10,363,173	637,512	65,034	2,309,659	677,381	—	3,052,074	94,310	1,257,450	—	166,306	1,518,066	1,399,803	(94,181)	—	1,305,622
Lehi City	1,666,053	0.9518516	7,009,172	14,365,019	883,694	90,148	3,201,557	938,959	278,306	4,508,970	130,728	1,743,027	—	—	1,873,755	1,940,352	131,428	—	2,071,780
Lewiston City	30,993	0.0177069	130,389	267,226	16,439	1,677	59,557	17,467	791	79,492	2,432	32,425	—	14,538	49,395	36,096	(6,520)	—	29,576
Lindon City	357,006	0.2039654	1,501,945	3,078,176	189,360	19,317	686,038	201,203	46,708	953,266	28,013	373,501	—	1,397	402,911	415,784	23,927	—	439,711
Logan City	2,282,979	1.3043148	9,604,614	19,684,274	1,210,919	123,529	4,387,068	1,286,648	26,775	5,824,020	179,136	2,388,457	—	132,145	2,699,738	2,658,849	(54,229)	—	2,604,620
Lone Peak PS District	41,065	0.0234613	172,763	354,070	21,781	2,222	78,912	23,144	18,092	122,370	3,222	42,962	—	1,576	47,760	47,826	5,636	—	53,462
Maeser Water Improve Dist	59,402	0.0339377	249,908	512,176	31,508	3,214	114,150	33,478	171	151,013	4,661	62,147	—	3,859	70,667	69,182	(4,174)	—	65,008
Magna Mosquito Abatement	19,956	0.0114011	83,955	172,062	10,585	1,080	38,348	11,247	12,203	62,878	1,566	20,878	—	1,148	23,592	23,241	3,075	—	26,316
Manti City	84,414	0.0482278	355,136	727,837	44,774	4,568	162,214	47,575	2,922	217,279	6,624	88,315	—	25,823	120,762	98,312	(6,580)	—	91,732
Mapleton City	234,788	0.1341395	987,766	2,024,388	124,534	12,704	451,179	132,323	1,008	597,214	18,423	245,636	—	34,140	298,199	273,444	(15,382)	—	258,062
Marriott-Slaterville City	32,737	0.0187032	137,725	282,262	17,364	1,771	62,908	18,450	4,487	87,616	2,569	34,249	—	44	36,862	38,127	2,080	—	40,207

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Mayfield Town	$ 10,405	0.0059448%	$ 43,776	89,717	5,519	563	19,995	5,864	6,223	32,645	816	10,886	—	197	11,899	12,118	2,512	—	14,630
Mendon City	10,523	0.0060120	44,271	90,731	5,582	569	20,221	5,931	1,798	28,519	826	11,009	—	—	11,835	12,255	1,057	—	13,312
Metro Water Dist Slc/Sandy	713,615	0.4077037	3,002,217	6,152,925	378,510	38,613	1,371,313	402,181	2,760	1,814,867	55,994	746,586	—	43,110	845,690	831,105	(19,643)	—	811,462
Midvale City	640,127	0.3657182	2,693,048	5,519,294	339,531	34,636	1,230,095	360,764	19,539	1,645,034	50,228	669,702	—	19,846	739,776	745,518	(6,204)	—	739,314
Midvalley Improvement District	118,651	0.0677878	499,171	1,023,030	62,934	6,420	228,005	66,870	31,854	333,149	9,310	124,133	—	—	133,443	138,186	17,991	—	156,177
Midway City	113,321	0.0647429	476,749	977,078	60,107	6,132	217,763	63,866	5,056	292,817	8,892	118,557	—	18,531	145,980	131,979	438	—	132,417
Military Installation Devel	24,935	0.0142456	104,901	214,990	13,226	1,349	47,915	14,053	4,649	67,966	1,957	26,086	—	45,772	73,815	29,040	(13,691)	—	15,349
Millard Co Care & Rehab Inc	223,628	0.1277634	940,814	1,928,162	118,615	12,100	429,733	126,033	35,204	603,070	17,547	233,960	—	7,317	258,824	260,446	11,647	—	272,093
Millard County	668,493	0.3819245	2,812,387	5,763,874	354,577	36,171	1,284,605	376,751	—	1,697,527	52,454	699,379	—	135,242	887,075	778,554	(72,910)	—	705,644
Millcreek City	199,702	0.1140939	840,156	1,721,866	105,924	10,806	383,755	112,548	372,907	880,016	15,670	208,928	—	—	224,598	232,581	141,513	—	374,094
Millville City	27,146	0.0155088	114,203	234,054	14,398	1,469	52,164	15,299	1,863	70,795	2,130	28,400	—	9,197	39,727	31,615	(2,288)	—	29,327
Minersville Town	28,576	0.0163259	120,219	246,385	15,157	1,546	54,912	16,105	5,801	78,364	2,242	29,896	—	824	32,962	33,280	2,815	—	36,095
Moab Valley Fire Protection	5,302	0.0030294	22,308	45,719	2,812	287	10,189	2,988	10,165	23,629	416	5,547	—	—	5,963	6,175	3,768	—	9,943
Monroe City	82,623	0.0472042	347,599	712,390	43,824	4,471	158,772	46,565	7,717	217,525	6,483	86,440	—	8,341	101,264	96,226	2,294	—	98,520
Morgan City Corporation	136,927	0.0782296	576,061	1,180,614	72,628	7,409	263,126	77,170	12,303	360,008	10,744	143,254	—	37,172	191,170	159,471	(6,594)	—	152,877
Morgan County	231,405	0.1322064	973,531	1,995,214	122,740	12,521	444,677	130,416	2,376	589,990	18,157	242,096	—	80,212	340,465	269,503	(33,037)	—	236,466
Moroni City	16,687	0.0095338	70,204	143,881	8,851	903	32,067	9,405	1,787	44,162	1,309	17,458	—	2,831	21,598	19,435	(926)	—	18,509
Mount Pleasant City	110,378	0.0630613	464,366	951,700	58,546	5,972	212,107	62,207	13,691	293,977	8,661	115,478	—	466	124,605	128,551	10,550	—	139,101
Mountain Regional Water SSD	295,667	0.1689206	1,243,885	2,549,292	156,825	15,998	568,165	166,633	7,171	757,967	23,200	309,327	—	20,431	352,958	344,345	1,401	—	345,746
Mountainland Assn of Govt	403,414	0.2304793	1,697,186	3,478,315	213,976	21,828	775,218	227,357	31,596	1,055,999	31,654	422,053	—	—	453,707	469,833	16,720	—	486,553
Mt Olympus Improvement Dist	299,786	0.1712743	1,261,217	2,584,813	159,010	16,221	576,082	168,954	14,142	775,399	23,523	313,637	—	23,309	360,469	349,143	(8,356)	—	340,787
Murray City	2,471,027	1.4117505	10,395,741	21,305,657	1,310,662	133,704	4,748,429	1,392,628	68,446	6,343,207	193,891	2,585,193	—	102,896	2,881,980	2,877,857	(22,289)	—	2,855,568
Myton City	14,804	0.0084576	62,279	127,639	7,852	801	28,447	8,343	8,676	46,267	1,162	15,488	—	14,185	30,835	17,241	(1,131)	—	16,110
N Ut Environmental Rsrc Agcy	71,576	0.0408931	301,125	617,145	37,965	3,873	137,544	40,339	103,906	285,662	5,616	74,883	—	—	80,499	83,361	49,548	—	132,909
Nebo Credit Union	139,865	0.0799079	588,420	1,205,943	74,186	7,568	268,771	78,826	19,049	374,214	10,975	146,327	—	4,028	161,330	162,892	3,449	—	166,341
Nephi City	277,154	0.1583441	1,166,002	2,389,675	147,006	14,996	532,591	156,199	5,485	709,271	21,747	289,959	—	13,660	325,366	322,785	(13,139)	—	309,646
Nibley City Corporation	111,420	0.0636569	468,752	960,688	59,099	6,029	214,110	62,795	23,231	306,165	8,743	116,568	—	—	125,311	129,765	14,644	—	144,409
North Davis Co Sewer Dist	480,640	0.2746000	2,022,079	4,144,169	254,937	26,007	923,618	270,880	8,867	1,229,372	37,714	502,847	—	22,537	563,098	559,773	(9,225)	—	550,548
North Davis Fire District	11,527	0.0065856	48,495	99,388	6,114	624	22,151	6,496	2,149	31,420	904	12,060	—	220	13,184	13,425	602	—	14,027
North Emery Water Users SSD	6,014	0.0034359	25,301	51,853	3,190	325	11,557	3,389	2,804	18,075	472	6,292	—	6,291	13,055	7,004	(2,185)	—	4,819
North Fork SSD	20,759	0.0118602	87,335	178,990	11,011	1,123	39,892	11,700	5,835	58,550	1,629	21,718	—	8,394	31,741	24,177	(4,539)	—	19,638
North Logan City	120,981	0.0691193	508,975	1,043,125	64,170	6,546	232,483	68,183	3,860	311,072	9,493	126,571	—	123,443	259,507	140,900	(52,113)	—	88,787
North Ogden City	311,882	0.1781850	1,312,105	2,689,107	165,426	16,876	599,326	175,771	50,188	842,161	24,472	326,292	—	7,046	357,810	363,231	12,864	—	376,095
North Park Police Agency	15,728	0.0089855	66,167	135,606	8,342	851	30,223	8,864	15,996	55,934	1,234	16,454	—	—	17,688	18,317	9,672	—	27,989
North Pointe Solid Waste	184,565	0.1054460	776,475	1,591,355	97,896	9,987	354,668	104,018	15,415	484,088	14,482	193,092	—	2,604	210,178	214,952	4,265	—	219,217
North View Fire District	8,914	0.0050926	37,500	76,856	4,728	482	17,129	5,024	741	23,376	699	9,326	—	56	10,081	10,381	322	—	10,703
Northeastern Counseling Ctr	353,057	0.2017090	1,485,329	3,044,123	187,266	19,103	678,449	198,977	2,640	899,169	27,703	369,369	—	62,985	460,057	411,184	(35,161)	—	376,023
Ogden City Corp	2,436,229	1.3918699	10,249,345	21,005,625	1,292,205	131,821	4,681,560	1,373,017	72,830	6,259,228	191,161	2,548,787	—	34,616	2,774,564	2,837,330	49,147	—	2,886,477
Oquirrh Rec And Parks District	156,168	0.0892220	657,006	1,346,508	82,833	8,450	300,099	88,013	26,495	423,057	12,254	163,383	—	34,522	210,159	181,879	75	—	181,954
Orangeville City	19,928	0.0113851	83,837	171,820	10,570	1,078	38,294	11,231	1,267	51,870	1,564	20,848	—	—	22,412	23,209	763	—	23,972
Orderville Town	15,469	0.0088379	65,080	133,379	8,205	837	29,726	8,718	2,148	41,429	1,214	16,184	—	—	17,398	18,016	1,006	—	19,022
Panguitch City Corporation	41,596	0.0237645	174,995	358,646	22,063	2,251	79,932	23,443	8,665	114,291	3,264	43,517	—	3,664	50,445	48,444	(1,024)	—	47,420
Park City	2,123,512	1.2132077	8,933,726	18,309,316	1,126,336	114,900	4,080,629	1,196,775	299,520	5,691,824	166,623	2,221,622	—	84,369	2,472,614	2,473,127	112,830	—	2,585,957
Park City Fire Service	73,466	0.0419730	309,078	633,442	38,968	3,975	141,176	41,404	11,812	198,367	5,765	76,861	—	5,289	87,915	85,562	4,749	—	90,311
Parowan City	172,869	0.0987636	727,268	1,490,507	91,692	9,354	332,192	97,426	2,330	441,302	13,564	180,856	—	33,079	227,499	201,330	(13,332)	—	187,998
Payson City	760,440	0.4344554	3,199,210	6,556,653	403,346	41,146	1,461,293	428,571	16,413	1,947,423	59,669	795,573	—	28,967	884,209	885,638	35	—	885,673
Perry City	68,412	0.0390854	287,814	589,864	36,287	3,702	131,464	38,556	2,342	176,064	5,368	71,573	—	5,331	82,272	79,676	1,317	—	80,993
Piute County	83,126	0.0474916	349,715	716,727	44,091	4,498	159,738	46,848	5,504	216,588	6,523	86,966	—	23,894	117,383	96,812	(15,504)	—	81,308
Plain City	60,956	0.0348254	256,445	525,573	32,332	3,298	117,135	34,354	23,348	178,135	4,783	63,772	—	4,368	72,923	70,992	11,811	—	82,803
Pleasant Grove City	547,241	0.3126507	2,302,273	4,718,418	290,263	29,610	1,051,602	308,416	27,985	1,417,613	42,940	572,525	—	51,740	667,205	637,339	1,495	—	638,834
Pleasant View City	133,718	0.0763960	562,559	1,152,942	70,926	7,235	256,958	75,361	6,503	346,057	10,492	139,896	—	5,147	155,535	155,733	7,367	—	163,100
Price City	438,111	0.2503023	1,843,157	3,777,477	232,379	23,706	841,893	246,912	—	1,112,511	34,377	458,353	—	95,776	588,506	510,242	(52,691)	—	457,551
Price River Water Improve	240,974	0.1376738	1,013,792	2,077,726	127,816	13,039	463,066	135,809	—	611,914	18,908	252,108	—	55,548	326,564	280,648	(27,956)	—	252,692
Providence City	96,863	0.0553400	407,508	835,172	51,377	5,241	186,136	54,590	21,182	267,149	7,600	101,338	—	9,087	118,025	112,811	891	—	113,702
Provo City Corp	3,647,968	2.0841620	15,347,193	31,453,461	1,934,926	197,386	7,010,088	2,055,932	—	9,263,406	286,241	3,816,510	—	355,731	4,458,482	4,248,570	(186,854)	—	4,061,716

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Provo Housing Authority	$ 113,896	0.0650714	$ 479,168	982,035	60,412	6,163	218,868	64,190	—	289,221	8,937	119,159	—	17,404	145,500	132,648	(11,007)	—	121,641
Provo River Water Users	156,727	0.0895415	659,359	1,351,330	83,130	8,480	301,173	88,329	171	398,153	12,298	163,968	—	15,304	191,570	182,531	(7,798)	—	174,733
Recreation & Habilitation Srvs	9,152	0.0052285	38,501	78,907	4,854	495	17,586	5,158	342	23,581	718	9,574	—	2,194	12,486	10,658	(726)	—	9,932
Redmond Town	17,484	0.0099887	73,554	150,746	9,273	946	33,597	9,853	1,162	45,558	1,372	18,291	—	163	19,826	20,362	646	—	21,008
Rich County	107,610	0.0614798	452,720	927,832	57,078	5,823	206,788	60,647	109,087	382,345	8,444	112,582	—	—	121,026	125,327	65,542	—	190,869
Richfield City	190,977	0.1091094	803,451	1,646,642	101,297	10,334	366,990	107,631	7,101	492,056	14,985	199,801	—	33,801	248,587	222,420	(13,168)	—	209,252
Richmond City	45,881	0.0262126	193,022	395,592	24,336	2,483	88,166	25,858	16,061	132,568	3,600	48,000	—	14,786	66,386	53,434	37	—	53,471
Riverdale City	321,905	0.1839114	1,354,273	2,775,528	170,742	17,418	618,587	181,420	7,063	824,488	25,259	336,778	—	28,287	390,324	374,904	(6,772)	—	368,132
Roosevelt City	230,476	0.1316759	969,625	1,987,208	122,247	12,471	442,892	129,892	11,916	597,171	18,085	241,124	—	35,380	294,589	268,422	(7,281)	—	261,141
Roosevelt City Housing	7,055	0.0040309	29,682	60,833	3,742	382	13,558	3,976	—	17,916	554	7,381	—	636	8,571	8,217	(396)	—	7,821
Roy City	613,358	0.3504247	2,580,431	5,288,490	325,333	33,188	1,178,655	345,678	39,210	1,596,731	48,128	641,697	—	43,875	733,700	714,342	(3,198)	—	711,144
Roy Water Conserv Dist	79,892	0.0456437	336,108	688,839	42,375	4,323	153,523	45,025	5,142	208,013	6,269	83,583	—	2,279	92,131	93,045	2,163	—	95,208
S Utah Valley Electric Svc Dst	164,629	0.0940559	692,602	1,419,460	87,321	8,908	316,357	92,782	36,395	454,442	12,918	172,235	—	1,205	186,358	191,733	19,724	—	211,457
S Utah Valley Solid Waste	150,271	0.0858531	632,199	1,295,666	79,706	8,131	288,767	84,690	10,535	392,123	11,791	157,214	—	96,543	265,548	175,012	(48,372)	—	126,640
Salem City	296,263	0.1692616	1,246,396	2,554,438	157,142	16,030	569,312	166,969	32,836	785,147	23,247	309,951	—	3,369	336,567	345,040	20,262	—	365,302
Salina City	52,530	0.0300116	220,997	452,925	27,863	2,842	100,944	29,605	638	134,029	4,122	54,957	—	20,786	79,865	61,179	(11,535)	—	49,644
Salt Lake City Corp	17,667,549	10.0938494	74,328,318	152,332,929	9,371,079	955,966	33,950,706	9,957,126	71,092	44,934,890	1,386,299	18,483,823	—	1,193,985	21,064,107	20,576,339	(483,348)	—	20,092,991
Salt Lake City Public Library	857,412	0.4898576	3,607,176	7,392,764	454,781	46,393	1,647,638	483,222	67,474	2,244,727	67,278	897,026	—	34,476	998,780	998,576	11,816	—	1,010,392
Salt Lake Co Serv Area 3	32,478	0.0185555	136,638	280,033	17,227	1,757	62,412	18,304	2,559	85,032	2,548	33,979	—	1,207	37,734	37,825	515	—	38,340
Salt Lake County	23,684,795	13.5316317	99,643,196	204,214,764	12,562,695	1,281,545	45,513,703	13,348,343	117,215	60,260,806	1,858,449	24,779,078	—	1,107,067	27,744,594	27,584,265	(869,578)	—	26,714,687
San Juan County	697,094	0.3982648	2,932,712	6,010,476	369,747	37,719	1,339,565	392,870	12,694	1,782,848	54,698	729,301	—	114,606	898,605	811,864	(28,138)	—	783,726
San Juan Mental Health	124,998	0.0714143	525,875	1,077,760	66,301	6,763	240,202	70,447	14,998	332,410	9,808	130,774	—	40,589	181,171	145,578	(1,281)	—	144,297
Sandy City	2,585,202	1.4769813	10,876,082	22,290,098	1,371,222	139,882	4,967,833	1,456,975	60,354	6,625,044	202,850	2,704,643	—	213,939	3,121,432	3,010,830	(57,628)	—	2,953,202
Sandy Suburban Imp Dist	207,838	0.1187424	874,386	1,792,020	110,240	11,246	399,391	117,134	9,476	537,247	16,308	217,441	—	15,163	248,912	242,057	(6,275)	—	235,782
Sanpete County	331,743	0.1895316	1,395,658	2,860,346	175,960	17,950	637,490	186,964	2,710	845,114	26,030	347,070	—	61,426	434,526	386,361	(26,635)	—	359,726
Santaquin City	219,325	0.1253051	922,712	1,891,062	116,333	11,867	421,464	123,608	15,079	572,018	17,210	229,458	—	518	247,186	255,435	11,256	—	266,691
Sevier County	425,583	0.2431449	1,790,452	3,669,460	225,735	23,028	817,819	239,851	48,480	1,129,178	33,394	445,246	—	133,768	612,408	495,652	(66,342)	—	429,310
Six-County Assoc of Govt	168,644	0.0963502	709,496	1,454,084	89,451	9,125	324,074	95,045	8,023	436,267	13,233	176,436	—	25,178	214,847	196,410	(20,353)	—	176,057
Slc Mosquito Abatement	86,399	0.0493614	363,484	744,945	45,827	4,675	166,027	48,693	13,268	232,663	6,779	90,390	—	7,216	104,385	100,623	2,781	—	103,404
Smithfield City Corp	214,893	0.1227727	904,064	1,852,844	113,982	11,628	412,947	121,110	1,585	547,270	16,862	224,821	—	25,641	267,324	250,272	(12,557)	—	237,715
Snyder Basin Special Rec Dist	166,039	0.0948618	698,536	1,431,622	88,069	8,984	319,068	93,577	147,574	569,203	13,028	173,711	—	—	186,739	193,376	97,324	—	290,700
Snyderville Basin W R D	540,546	0.3088254	2,274,105	4,660,688	286,712	29,248	1,038,736	304,642	65,575	1,438,201	42,414	565,520	—	6,765	614,699	629,541	31,901	—	661,442
So Davis Metro Fire Agency	24,580	0.0140429	103,408	211,931	13,037	1,330	47,233	13,853	12,306	74,722	1,929	25,715	—	—	27,644	28,626	4,962	—	33,588
So Davis Recreation Center	88,474	0.0505473	372,216	762,843	46,928	4,787	170,016	49,863	8,327	232,993	6,942	92,562	—	7,043	106,547	103,041	(1,548)	—	101,493
So Sl Valley Mosq Abate	40,909	0.0233722	172,106	352,725	21,699	2,214	78,612	23,056	8,045	111,927	3,210	42,799	—	165	46,174	47,644	3,209	—	50,853
So Utah Valley Animal Svcs SSD	16,020	0.0091528	67,399	138,131	8,497	867	30,785	9,029	4,665	45,346	1,257	16,761	—	637	18,655	18,658	2,865	—	21,523
So Utah Valley Power Systems	17,456	0.0099730	73,438	150,509	9,259	945	33,544	9,838	511	44,838	1,370	18,263	—	297	19,930	20,330	148	—	20,478
Solid Waste SSD #1	25,260	0.0144317	106,271	217,798	13,398	1,367	48,541	14,236	846	64,990	1,982	26,427	—	16,598	45,007	29,419	(7,844)	—	21,575
South Davis Sewer Dist	324,531	0.1854115	1,365,319	2,798,167	172,135	17,560	623,632	182,900	20,838	844,930	25,465	339,525	—	9,954	374,944	377,962	10,638	—	388,600
South Davis Water Dist	65,148	0.0372207	274,083	561,722	34,556	3,525	125,192	36,717	581	166,015	5,112	68,158	—	2,069	75,339	75,874	110	—	75,984
South Ogden City	343,181	0.1960667	1,443,781	2,958,972	182,027	18,569	659,471	193,411	33,468	904,919	26,928	359,037	—	7,649	393,614	399,682	12,792	—	412,474
South Ogden Conserv Dist	210,948	0.1205189	887,468	1,818,830	111,889	11,414	405,366	118,886	—	535,666	16,552	220,694	—	47,491	284,737	245,678	(36,392)	—	209,286
South Valley Sewer District	545,168	0.3114660	2,293,550	4,700,539	289,163	29,498	1,047,617	307,247	61,049	1,445,411	42,777	570,355	—	—	613,132	634,924	30,813	—	665,737
South Valley Water Reclamation	501,104	0.2862913	2,108,170	4,320,611	265,791	27,114	962,942	282,413	36,975	1,309,444	39,320	524,256	—	14,230	577,806	583,606	14,151	—	597,757
South Weber City	74,193	0.0423883	312,136	639,710	39,353	4,015	142,573	41,814	5,244	193,646	5,822	77,621	—	33,892	117,335	86,409	(8,743)	—	77,666
Southeastern Utah AOG	129,001	0.0737009	542,713	1,112,269	68,424	6,980	247,893	72,703	9,574	337,150	10,122	134,961	—	22,968	168,051	150,239	(20,565)	—	129,674
Southeastern Utah Health	151,816	0.0867356	638,697	1,308,984	80,525	8,215	291,736	85,561	—	385,512	11,912	158,830	—	69,519	240,261	176,811	(52,626)	—	124,185
Spanish Fork City	1,504,292	0.8594345	6,328,638	12,970,292	797,895	81,395	2,890,712	847,793	178,624	3,998,524	118,036	1,573,794	—	—	1,691,830	1,751,959	99,222	—	1,851,181
Spring City	28,722	0.0164096	120,836	247,648	15,235	1,554	55,194	16,187	25,990	98,925	2,254	30,049	—	6,582	38,885	33,451	15,991	—	49,442
Springville City	1,332,913	0.7615219	5,607,637	11,492,629	706,993	72,122	2,561,382	751,207	13,144	3,397,855	104,588	1,394,496	—	141,785	1,640,869	1,552,364	(78,195)	—	1,474,169
St George Housing Auth	27,178	0.0155271	114,337	234,330	14,415	1,471	52,225	15,317	1,826	70,839	2,133	28,433	—	670	31,236	31,652	561	—	32,213
Stansbury Park Improvement District	41,523	0.0237228	174,688	358,016	22,024	2,247	79,792	23,401	79,606	185,046	3,258	43,441	—	—	46,699	48,359	29,505	—	77,864
Stansbury Service Agency	14,965	0.0085498	62,958	129,031	7,938	810	28,757	8,434	28,690	66,691	1,174	15,656	—	—	16,830	17,429	10,634	—	28,063
Summit County	1,983,214	1.1330529	8,343,489	17,099,648	1,051,921	107,309	3,811,028	1,117,705	96,345	5,132,387	155,615	2,074,843	—	100,535	2,330,993	2,309,731	17,918	—	2,327,649
Sunset City	83,659	0.0477963	351,959	721,325	44,374	4,527	160,763	47,149	5,895	218,334	6,564	87,524	—	10,869	104,957	97,433	(1,325)	—	96,108

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Sw Behavioral Health Center	$ 1,103,192	0.6302772%	$ 4,641,187	9,511,928	585,146	59,692	2,119,940	621,740	68,801	2,870,173	86,563	1,154,161	—	15,623	1,256,347	1,284,822	19,602	—	1,304,424
Sw Mosquito Abatement/Control	24,815	0.0141771	104,396	213,956	13,162	1,343	47,685	13,985	7,151	70,164	1,947	25,961	—	—	27,908	28,900	4,002	—	32,902
Sw Ut Public Health Dept	358,852	0.2050196	1,509,708	3,094,086	190,339	19,417	689,584	202,243	—	911,244	28,158	375,431	—	63,084	466,673	417,933	(42,996)	—	374,937
Syracuse City Corp	333,429	0.1904952	1,402,754	2,874,889	176,855	18,041	640,731	187,915	10,706	857,393	26,163	348,834	—	36,701	411,698	388,325	(15,229)	—	373,096
Taylor West Weber Wtr Imp Dist	28,320	0.0161796	119,142	244,177	15,021	1,532	54,420	15,960	6,942	78,854	2,222	29,628	—	—	31,850	32,982	3,982	—	36,964
Taylorsville-Bennion Imp	358,676	0.2049192	1,508,968	3,092,571	190,246	19,407	689,247	202,144	17,550	928,348	28,144	375,247	—	43,352	446,743	417,728	(5,731)	—	411,997
Timberlakes Water SSD	40,589	0.0231893	170,760	349,965	21,529	2,196	77,997	22,875	9,655	112,723	3,185	42,464	—	811	46,460	47,271	3,826	—	51,097
Timpanogos SSD	344,739	0.1969565	1,450,333	2,972,400	182,853	18,653	662,464	194,289	9,501	884,907	27,050	360,666	—	59,297	447,013	401,496	(8,324)	—	393,172
Tooele City	663,137	0.3788645	2,789,854	5,717,694	351,736	35,881	1,274,312	373,733	18,817	1,702,743	52,034	693,775	—	53,930	799,739	772,316	(26,157)	—	746,159
Tooele County	1,462,702	0.8356732	6,153,667	12,611,695	775,835	79,145	2,810,790	824,354	72,467	3,786,756	114,772	1,530,282	—	32,596	1,677,650	1,703,522	37,699	—	1,741,221
Tooele County Housing	46,605	0.0266265	196,070	401,838	24,720	2,522	89,558	26,266	1,936	120,282	3,657	48,758	—	59	52,474	54,278	972	—	55,250
Tooele Valley Mosquito Abtmnt	4,040	0.0023083	16,998	34,836	2,143	219	7,764	2,277	671	10,931	317	4,227	—	1,850	6,394	4,705	(2,495)	—	2,210
Toquerville City	18,641	0.0106502	78,425	160,729	9,888	1,009	35,822	10,506	26,839	74,176	1,463	19,503	—	—	20,966	21,710	12,896	—	34,606
Torrey Town	2,925	0.0016709	12,304	25,217	1,551	158	5,620	1,648	909	8,335	229	3,060	—	602	3,891	3,406	(94)	—	3,312
Town of Alta	81,587	0.0466123	343,240	703,457	43,275	4,415	156,781	45,981	4,400	211,577	6,402	85,356	—	5,430	97,188	95,019	814	—	95,833
Town of Apple Valley	5,842	0.0033379	24,579	50,374	3,099	316	11,227	3,293	7,009	21,845	458	6,112	—	11,928	18,498	6,804	2,548	—	9,352
Town of Brian Head	87,443	0.0499581	367,878	753,951	46,381	4,731	168,034	49,281	48,100	270,146	6,861	91,483	—	1,497	99,841	101,840	50,015	—	151,855
Town of Daniel	9,437	0.0053916	39,702	81,368	5,006	511	18,135	5,319	12,064	36,029	740	9,873	—	—	10,613	10,991	6,222	—	17,213
Town of Garden City	38,482	0.0219854	161,894	331,796	20,411	2,082	73,948	21,688	6,508	104,226	3,019	40,260	—	4,497	47,776	44,817	(2,706)	—	42,111
Town of Goshen	6,350	0.0036280	26,716	54,753	3,368	344	12,203	3,579	4,286	20,412	498	6,644	—	2,126	9,268	7,396	(106)	—	7,290
Town of Levan	24,690	0.0141062	103,874	212,886	13,096	1,336	47,446	13,915	966	63,663	1,937	25,831	—	116	27,884	28,756	1,371	—	30,127
Town of Manila	4,343	0.0024812	18,271	37,445	2,304	235	8,346	2,448	5,409	16,438	341	4,544	—	1,025	5,910	5,058	2,732	—	7,790
Town of Mantua	14,893	0.0085085	62,654	128,407	7,899	806	28,618	8,393	1,665	39,482	1,169	15,581	—	984	17,734	17,345	(709)	—	16,636
Town of Randolph	8,855	0.0050589	37,252	76,347	4,697	479	17,016	4,990	211	22,696	695	9,264	—	1,863	11,822	10,313	(596)	—	9,717
Town of Springdale	126,600	0.0723295	532,614	1,091,572	67,150	6,850	243,281	71,350	22,480	343,961	9,934	132,450	—	1,778	144,162	147,444	9,630	—	157,074
Trans-Jordan Cities	278,772	0.1592683	1,172,808	2,403,623	147,864	15,084	535,700	157,111	41,998	749,893	21,874	291,652	—	31,853	345,379	324,669	16,794	—	341,463
Tremonton City	224,369	0.1281869	943,933	1,934,553	119,008	12,140	431,157	126,451	4,959	574,707	17,605	234,735	—	11,905	264,245	261,309	(3,195)	—	258,114
Tridell-Lapoint Water	7,294	0.0041674	30,688	62,893	3,869	395	14,017	4,111	255	18,778	572	7,631	—	1,182	9,385	8,495	(176)	—	8,319
Uintah Animal Control/Shelter	46,440	0.0265323	195,377	400,416	24,632	2,513	89,242	26,173	4,803	122,731	3,644	48,586	—	16,988	69,218	54,086	(9,175)	—	44,911
Uintah Basin Assn of Govt	169,579	0.0968843	713,429	1,462,145	89,947	9,176	325,871	95,572	—	430,619	13,306	177,414	—	26,986	217,706	197,499	(17,843)	—	179,656
Uintah Basin Asst Council	7,724	0.0044128	32,495	66,596	4,097	418	14,842	4,353	4,792	24,405	606	8,081	—	8,548	17,235	8,996	(2,578)	—	6,418
Uintah Co Care Center SSD	385,893	0.2204688	1,623,471	3,327,240	204,682	20,880	741,548	217,483	5,718	985,629	30,279	403,722	—	114,929	548,930	449,426	(49,589)	—	399,837
Uintah County	1,344,238	0.7679920	5,655,281	11,590,273	713,000	72,735	2,583,144	757,589	997,796	4,411,264	105,477	1,406,344	—	341,321	1,853,142	1,565,554	735,167	—	2,300,721
Uintah Fire Suppression SSD	5,922	0.0033831	24,912	51,057	3,141	320	11,379	3,337	973	16,009	465	6,195	—	2,151	8,811	6,896	(1,215)	—	5,681
Uintah Highlands Improv Dist	14,139	0.0080778	59,483	121,907	7,499	765	27,170	7,968	5,047	40,950	1,109	14,792	—	—	15,901	16,467	2,619	—	19,086
Uintah Mosquito Abate District	31,671	0.0180945	133,243	273,076	16,799	1,714	60,861	17,849	882	81,306	2,485	33,135	—	2,515	38,135	36,886	(1,223)	—	35,663
Uintah Recreation District	176,544	0.1008632	742,729	1,522,193	93,641	9,553	339,254	99,497	—	448,304	13,853	184,700	—	49,249	247,802	205,610	(26,017)	—	179,593
Uintah Transportation SSD	22,875	0.0130692	96,238	197,236	12,133	1,238	43,958	12,892	21,195	79,283	1,795	23,932	—	28,564	54,291	26,642	(2,776)	—	23,866
Uintah Water Conserv Dist	92,391	0.0527850	388,694	796,613	49,005	4,999	177,543	52,070	6,221	240,833	7,250	96,660	—	7,444	111,354	107,602	1,751	—	109,353
Unified Fire Authority	519,446	0.2967706	2,185,337	4,478,761	275,520	28,106	998,189	292,751	99,902	1,418,948	40,759	543,445	—	5,105	589,309	604,968	54,118	—	659,086
Unified Police Department	1,055,801	0.6032015	4,441,809	9,103,311	560,009	57,128	2,028,871	595,031	39,576	2,720,606	82,844	1,104,581	—	83,826	1,271,251	1,229,628	(26,768)	—	1,202,860
Upper Country Water Dist	20,056	0.0114584	84,376	172,926	10,638	1,085	38,540	11,303	291	51,219	1,574	20,983	—	867	23,424	23,358	(242)	—	23,116
Ut Municipal Power Agency	332,820	0.1901471	1,400,191	2,869,635	176,532	18,008	639,561	187,572	132,395	977,536	26,115	348,197	—	16,628	390,940	387,615	38,472	—	426,087
Ut Public Employees Assn	29,959	0.0171160	126,037	258,309	15,890	1,621	57,570	16,884	760	76,835	2,351	31,343	—	22,076	55,770	34,891	(11,729)	—	23,162
Utah Assn of Counties	100,892	0.0576419	424,459	869,912	53,514	5,459	193,879	56,861	13,242	269,441	7,917	105,554	—	53,625	167,096	117,503	(9,966)	—	107,537
Utah Co Housing Authority	154,787	0.0884331	651,197	1,334,602	82,101	8,375	297,445	87,235	—	393,055	12,145	161,938	—	27,608	201,691	180,271	(15,975)	—	164,296
Utah Counties Indemnity Pool	72,369	0.0413459	304,460	623,978	38,385	3,916	139,067	40,786	8,723	192,492	5,678	75,712	—	6,084	87,474	84,284	(129)	—	84,155
Utah County	5,590,995	3.1942554	23,521,614	48,206,612	2,965,531	302,521	10,743,892	3,150,989	325,670	14,523,072	438,702	5,849,310	—	422,308	6,710,320	6,511,498	(58,815)	—	6,452,683
Utah Lake Commission	2,610	0.0014913	10,982	22,506	1,385	141	5,016	1,471	1,562	8,190	205	2,731	—	6,121	9,057	3,040	(7,530)	—	(4,490)
Utah Local Governments Trust	238,513	0.1362675	1,003,436	2,056,503	126,510	12,906	458,336	134,422	5,781	611,445	18,715	249,533	—	29,769	298,017	277,782	(19,799)	—	257,983
Utah Valley Dispatch SSD	288,843	0.1650224	1,215,179	2,490,462	153,206	15,629	555,054	162,787	25,473	758,943	22,664	302,188	—	26,071	350,923	336,399	(13,959)	—	322,440
Utah Zoological Society	761,875	0.4352753	3,205,247	6,569,026	404,107	41,224	1,464,050	429,379	17,087	1,951,740	59,781	797,075	—	93,959	950,815	887,310	(21,708)	—	865,602
UTOPIA	464,835	0.2655702	1,955,586	4,007,895	246,554	25,152	893,247	261,973	137,288	1,317,660	36,474	486,311	—	14,835	537,620	541,366	36,327	—	577,693
Valley Emergency Comm Ctr	755,314	0.4315271	3,177,646	6,512,460	400,628	40,869	1,451,443	425,682	52,101	1,970,095	59,266	790,211	—	90,313	939,790	879,669	(45,845)	—	833,824
Vernal City	356,191	0.2034997	1,498,516	3,071,148	188,928	19,273	684,472	200,743	2,152	906,640	27,949	372,648	—	102,622	503,219	414,835	(45,591)	—	369,244

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Vineyard Town	$ 145,928	0.0833720%	$ 613,928	1,258,222	77,402	7,896	280,422	82,243	133,549	504,110	11,450	152,671	—	—	164,121	169,954	75,200	—	245,154
Wasatch County	1,374,463	0.7852599	5,782,437	11,850,874	729,031	74,370	2,641,225	774,623	84,913	3,575,131	107,848	1,437,965	—	11,104	1,556,917	1,600,754	49,131	—	1,649,885
Wasatch County Fire District	8,775	0.0050135	36,918	75,662	4,655	475	16,863	4,946	3,717	26,001	689	9,181	—	12,415	22,285	10,220	(2,510)	—	7,710
Wasatch Front Regional Council	337,144	0.1926173	1,418,381	2,906,915	178,825	18,242	647,869	190,008	34,993	891,112	26,454	352,720	—	—	379,174	392,651	20,797	—	413,448
Wasatch Front Waste/Recycling	503,301	0.2875468	2,117,415	4,339,558	266,957	27,233	967,165	283,652	5,375	1,283,425	39,492	526,555	—	67,178	633,225	586,165	(31,898)	—	554,267
Wasatch Integrated Waste Mgmt	292,063	0.1668616	1,228,723	2,518,218	154,913	15,803	561,240	164,601	—	741,644	22,917	305,556	—	527,172	855,645	340,148	(243,475)	—	96,673
Wasatch Mental Health SSD	2,427,422	1.3868382	10,212,293	20,929,689	1,287,534	131,344	4,664,636	1,368,053	169,871	6,333,904	190,470	2,539,573	—	129,268	2,859,311	2,827,073	40,968	—	2,868,041
Washington City	866,161	0.4948566	3,643,987	7,468,207	459,422	46,867	1,664,452	488,154	129,804	2,329,277	67,964	906,180	—	21,830	995,974	1,008,766	34,710	—	1,043,476
Washington Co Solid Waste	104,586	0.0597524	440,000	901,763	55,474	5,659	200,977	58,943	4,652	270,231	8,206	109,418	—	7,473	125,097	121,805	(2,248)	—	119,557
Washington Co Wat Con Dist	325,874	0.1861789	1,370,970	2,809,748	172,848	17,633	626,214	183,657	246,089	1,073,593	25,570	340,930	—	26,935	393,435	379,526	182,272	—	561,798
Washington County	1,772,414	1.0126182	7,456,641	15,282,088	940,110	95,903	3,405,946	998,902	—	4,500,751	139,074	1,854,303	—	244,269	2,237,646	2,064,225	(113,708)	—	1,950,517
Waste Management Serv Dist #5	27,350	0.0156254	115,061	235,813	14,507	1,480	52,556	15,414	2,410	71,860	2,146	28,613	—	22	30,781	31,852	1,140	—	32,992
Wayne County	103,134	0.0589225	433,889	889,238	54,703	5,580	198,186	58,124	—	261,890	8,092	107,899	—	24,439	140,430	120,114	(16,623)	—	103,491
Weber Area Dispatch 911	486,551	0.2779773	2,046,948	4,195,139	258,073	26,327	934,978	274,212	9,682	1,245,199	38,178	509,031	—	77,189	624,398	566,657	(19,588)	—	547,069
Weber Basin Water Conserv	932,043	0.5324962	3,921,155	8,036,251	494,367	50,432	1,791,053	525,283	68,127	2,434,895	73,134	975,105	—	60,938	1,109,177	1,085,495	32,781	—	1,118,276
Weber Co Mosquito Abate	83,325	0.0476055	350,554	718,446	44,197	4,509	160,121	46,961	1,279	212,870	6,538	87,175	—	34,517	128,230	97,044	(17,439)	—	79,605
Weber County Corp	3,620,554	2.0685003	15,231,865	31,217,100	1,920,385	195,903	6,957,410	2,040,482	221,637	9,415,432	284,090	3,787,831	—	400,251	4,472,172	4,216,643	(96,439)	—	4,120,204
Weber Fire District	15,479	0.0088433	65,120	133,460	8,210	838	29,744	8,724	23,990	63,296	1,215	16,194	—	12,973	30,382	18,027	9,250	—	27,277
Weber Human Services	1,774,379	1.0137409	7,464,908	15,299,032	941,152	96,009	3,409,722	1,000,010	60,424	4,566,165	139,228	1,856,359	—	112,182	2,107,769	2,066,513	(6,027)	—	2,060,486
Wellington City	19,878	0.0113565	83,626	171,388	10,543	1,076	38,198	11,203	7,407	57,884	1,560	20,796	—	1,823	24,179	23,150	487	—	23,637
Wellsville City Corp	60,722	0.0346920	255,462	523,560	32,208	3,286	116,687	34,222	7,673	161,868	4,765	63,528	—	6,455	74,748	70,720	1,803	—	72,523
West Bountiful City	114,715	0.0655392	482,613	989,095	60,846	6,207	220,441	64,651	72,747	364,046	9,001	120,015	—	—	129,016	133,602	65,960	—	199,562
West Kane County SSD #1	34,068	0.0194636	143,325	293,738	18,070	1,843	65,466	19,200	3,182	89,691	2,673	35,642	—	484	38,799	39,677	1,242	—	40,919
West Point City	121,031	0.0691477	509,185	1,043,553	64,196	6,549	232,579	68,211	—	307,339	9,497	126,623	—	27,471	163,591	140,958	(11,911)	—	129,047
West Valley City	2,952,703	1.6869427	12,422,180	25,458,763	1,566,149	159,767	5,674,039	1,664,093	90,773	7,588,672	231,686	3,089,124	—	138,444	3,459,254	3,438,837	(56,464)	—	3,382,373
White City Water Imp Dist	81,228	0.0464072	341,730	700,362	43,084	4,395	156,091	45,779	5,881	212,146	6,374	84,981	—	781	92,136	94,601	2,244	—	96,845
Willard City Corp	43,308	0.0247425	182,197	373,405	22,971	2,343	83,222	24,407	5,494	115,466	3,398	45,308	—	3,285	51,991	50,438	(626)	—	49,812
Woods Cross City	186,438	0.1065157	784,352	1,607,499	98,889	10,088	358,266	105,073	67,270	540,697	14,629	195,051	—	1,268	210,948	217,133	27,113	—	244,246
Grand Total	$ 175,032,818	100.0000000%	$ 736,372,374	1,509,165,864	92,839,498	9,470,779	336,350,427	98,645,479	12,716,195	457,182,880	13,734,101	183,119,660	—	13,809,336	210,663,097	203,850,263	215,480	—	204,065,743
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Six County Infrastructure Coal	$ —	0.0000000%	$ —	—	—	—	—	—	14,305	14,305	—	—	—	46,244	46,244	—	(3,663)	—	(3,663)
N Tooele Co Fire Protection SD	—	0.0000000	—	—	—	—	—	—	860	860	—	—	—	1,230	1,230	—	(15)	—	(15)
Canyonlands Health Care	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	11,734	11,734	—	(19,111)	—	(19,111)
Sunnyside City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	570	570	—	(928)	—	(928)
Valley Mental Health	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	1,918,104	1,918,104	—	(2,067,355)	—	(2,067,355)
Summit Mosquito Abatement Dist	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	7,331	7,331	—	(6,438)	—	(6,438)
Grand Total	$ 175,032,818	100.0000000%	$ 736,372,374	1,509,165,864	92,839,498	9,470,779	336,350,427	98,645,479	12,731,360	457,198,045	13,734,101	183,119,660	—	15,794,548	212,648,309	203,850,263	(1,882,030)	—	201,968,233

Columns may not add to total due to rounding.

Noncontributory Retirement System
State and School Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Active Re Entry Inc	$ 76,000	0.0111790%	$ 415,917	747,594	138,427	2,216	152,907	42,304	16,010	213,437	5,836	83,710	—	3,022	92,568	93,624	6,025	—	99,649
Alpine School District	50,640,824	7.4488935	277,137,360	498,143,626	92,238,024	1,476,349	101,886,491	28,188,550	4,198,023	135,749,413	3,888,549	55,778,517	—	—	59,667,066	62,384,072	2,500,511	—	64,884,583
Alpine Uniserv	22,709	0.0033403	124,276	223,382	41,362	662	45,689	12,641	11,611	70,603	1,744	25,013	—	13,500	40,257	27,975	(14,916)	—	13,059
American Leadership Academy	883,682	0.1299831	4,836,044	8,692,600	1,609,552	25,762	1,777,918	491,890	97,313	2,392,883	67,855	973,334	—	194,468	1,235,657	1,088,601	(32,303)	—	1,056,298
AMES Charter School	385,746	0.0567405	2,111,040	3,794,512	702,605	11,246	776,101	214,721	69,175	1,071,243	29,620	424,882	—	1,771	456,273	475,199	33,308	—	508,507
Beaver School District	1,306,406	0.1921627	7,149,446	12,850,851	2,379,509	38,086	2,628,415	727,194	24,494	3,418,189	100,315	1,438,945	—	69,192	1,608,452	1,609,352	(21,579)	—	1,587,773
Box Elder School District	9,122,398	1.3418377	49,923,302	89,735,193	16,615,684	265,948	18,353,751	5,077,863	1,456,705	25,154,267	700,480	10,047,897	—	83,966	10,832,343	11,237,817	495,012	—	11,732,829
Bridgerland Technical College	1,060,277	0.1559590	5,802,481	10,429,735	1,931,206	30,911	2,133,218	590,189	35,565	2,789,883	81,415	1,167,846	—	177,766	1,427,027	1,306,148	(11,745)	—	1,294,403
Cache School District	12,993,313	1.9112210	71,107,305	127,812,615	23,666,233	378,798	26,141,816	7,232,557	2,396,154	36,149,325	997,715	14,311,531	—	—	15,309,246	16,006,370	1,276,700	—	17,283,070
Canyons School District	26,364,444	3.8780162	144,282,258	259,341,747	48,020,629	768,612	53,043,779	14,675,422	938,706	69,426,519	2,024,442	29,039,211	—	393,715	31,457,368	32,478,172	146,673	—	32,624,845
Carbon School District	2,756,505	0.4054617	15,085,272	27,115,190	5,020,744	80,361	5,545,934	1,534,372	—	7,160,667	211,663	3,036,163	—	253,201	3,501,027	3,395,719	(191,578)	—	3,204,141
Color Country Uniserv	18,394	0.0027056	100,662	180,937	33,503	536	37,007	10,239	25,503	73,285	1,412	20,260	—	1,199	22,871	22,659	13,663	—	36,322
Daggett School District	323,056	0.0475192	1,767,960	3,177,839	588,420	9,418	649,971	179,825	46,779	885,993	24,806	355,831	—	65,562	446,199	397,971	(8,169)	—	389,802
Davis School District	52,159,690	7.6723075	285,449,516	513,084,404	95,004,511	1,520,629	104,942,363	29,034,006	2,841,697	138,338,695	4,005,178	57,451,477	—	267,600	61,724,255	64,255,152	1,180,321	—	65,435,473
Davis Technical College	871,106	0.1281333	4,767,221	8,568,895	1,586,647	25,396	1,752,616	484,890	140,303	2,403,205	66,889	959,483	—	—	1,026,372	1,073,109	94,887	—	1,167,996
Davis Uniserv	13,095	0.0019262	71,665	128,814	23,852	382	26,347	7,289	212	34,230	1,006	14,424	—	13,037	28,467	16,132	(15,864)	—	268
Dixie Applied Tech College	139,213	0.0204772	761,858	1,369,410	253,565	4,059	280,089	77,491	190,601	552,240	10,690	153,337	—	—	164,027	171,495	87,732	—	259,227
Dixie State University	1,150,394	0.1692145	6,295,654	11,316,194	2,095,346	33,538	2,314,528	640,352	153,107	3,141,525	88,335	1,267,105	—	215,653	1,571,093	1,417,162	(82,675)	—	1,334,487
Duchesne School District	3,645,779	0.5362673	19,951,917	35,862,795	6,640,481	106,287	7,335,102	2,029,375	45,874	9,516,638	279,948	4,015,656	—	127,073	4,422,677	4,491,209	(18,603)	—	4,472,606
East Hollywood High School	221,212	0.0325387	1,210,608	2,176,021	402,920	6,449	445,067	123,135	108,190	682,841	16,986	243,655	—	2,687	263,328	272,510	44,436	—	316,946
Educators Mutual Insurance	1,424,343	0.2095105	7,794,874	14,010,983	2,594,323	41,524	2,865,699	792,842	34,979	3,735,044	109,371	1,568,848	—	197,153	1,875,372	1,754,639	(117,126)	—	1,637,513
Emery School District	2,428,640	0.3572352	13,290,997	23,890,050	4,423,566	70,803	4,886,288	1,351,871	—	6,308,962	186,488	2,675,035	—	388,759	3,250,282	2,991,825	(293,046)	—	2,698,779
Fast Forward Charter HS	198,687	0.0292254	1,087,336	1,954,444	361,892	5,792	399,747	110,597	56,552	572,688	15,257	218,845	—	—	234,102	244,761	32,136	—	276,897
Garfield School District	983,784	0.1447075	5,383,867	9,677,292	1,791,881	28,681	1,979,319	547,611	35,479	2,591,090	75,542	1,083,593	—	133,338	1,292,473	1,211,917	(220)	—	1,211,697
Grand School District	1,624,078	0.2388900	8,887,943	15,975,733	2,958,123	47,347	3,267,554	904,022	214,542	4,433,465	124,708	1,788,847	—	26,227	1,939,782	2,000,691	64,005	—	2,064,696
Granite School District	55,072,438	8.1007513	301,389,841	541,736,518	100,309,837	1,605,545	110,802,648	30,655,349	5,960,278	149,023,820	4,228,839	60,659,733	—	2,116,143	67,004,715	67,843,345	128,496	—	67,971,841
Granite Uniserv	59,194	0.0087070	323,945	582,279	107,817	1,726	119,095	32,950	20,207	173,978	4,545	65,199	—	—	69,744	72,921	19,476	—	92,397
Heber Valley Historic Railroad	55,805	0.0082084	305,395	548,936	101,643	1,627	112,275	31,063	12,521	157,486	4,285	61,466	—	—	65,751	68,745	12,470	—	81,215
High Desert Uniserv	9,197	0.0013529	50,335	90,475	16,753	268	18,505	5,120	12,397	36,290	706	10,131	—	1,199	12,036	11,330	4,926	—	16,256
High School Activities Assn	122,251	0.0179822	669,031	1,202,557	222,670	3,564	245,962	68,049	6,022	323,597	9,387	134,654	—	15,406	159,447	150,600	(4,056)	—	146,544
Intech Collegiate High School	117,351	0.0172615	642,217	1,154,360	213,745	3,421	236,104	65,322	40,754	345,601	9,011	129,257	—	9,710	147,978	144,564	27,816	—	172,380
Iron School District	6,780,625	0.9973802	37,107,701	66,699,650	12,350,342	197,678	13,642,237	3,774,346	320,121	17,934,382	520,663	7,468,544	—	71,999	8,061,206	8,353,004	95,924	—	8,448,928
Itineris High School	237,607	0.0349503	1,300,332	2,337,296	432,782	6,927	478,053	132,261	10,913	628,154	18,245	261,713	—	24,392	304,350	292,707	3,574	—	296,281
Jordan School District	36,897,227	5.4273112	201,924,044	362,950,616	67,205,211	1,075,677	74,235,145	20,538,357	4,817,121	100,666,300	2,833,221	40,640,582	—	432,157	43,905,960	45,453,432	1,660,183	—	47,113,615
Jordan Uniserv	38,428	0.0056525	210,302	378,010	69,994	1,120	77,315	21,391	157	99,983	2,951	42,327	—	23,739	69,017	47,339	(10,110)	—	37,229
Juab School District	1,876,134	0.2759655	10,267,344	18,455,151	3,417,221	54,696	3,774,676	1,044,325	373,131	5,246,828	144,062	2,066,474	—	—	2,210,536	2,311,196	197,897	—	2,509,093
Kane School District	1,266,731	0.1863269	6,932,324	12,460,583	2,307,245	36,929	2,548,592	705,109	33,795	3,324,425	97,268	1,395,246	—	11,790	1,504,304	1,560,478	11,264	—	1,571,742
Logan School District	4,200,422	0.6178512	22,987,260	41,318,706	7,650,717	122,456	8,451,012	2,338,110	80,679	10,992,257	322,537	4,626,570	—	358,203	5,307,310	5,174,470	(83,338)	—	5,091,132
Millard School District	3,153,014	0.4637851	17,255,204	31,015,558	5,742,950	91,921	6,343,685	1,755,083	37,616	8,228,305	242,110	3,472,898	—	187,360	3,902,368	3,884,175	(17,404)	—	3,866,771
Monticello Academy	268,389	0.0394781	1,468,789	2,640,092	488,849	7,824	539,984	149,395	20,148	717,351	20,609	295,618	—	168,852	485,079	330,627	(66,544)	—	264,083
Morgan School District	1,740,237	0.2559761	9,523,635	17,118,363	3,169,696	50,734	3,501,259	968,680	315,063	4,835,736	133,627	1,916,790	—	29,268	2,079,685	2,143,786	77,012	—	2,220,798
Mountainland Technical College	366,253	0.0538732	2,004,362	3,602,762	667,100	10,678	736,881	203,870	74,133	1,025,562	28,123	403,411	—	7,970	439,504	451,185	54,398	—	505,583
Murray School District	5,276,157	0.7760840	28,874,338	51,900,500	9,610,079	153,818	10,615,332	2,936,904	1,003,886	14,709,940	405,139	5,811,442	—	195,128	6,411,709	6,499,661	244,825	—	6,744,486
Nebo School District	23,339,965	3.4331375	127,730,469	229,590,551	42,511,793	680,438	46,958,697	12,991,885	1,327,810	61,958,830	1,792,202	25,707,888	—	524,584	28,024,674	28,752,337	833,819	—	29,586,156
Noah Webster Academy Inc	191,387	0.0281516	1,047,385	1,882,634	348,595	5,580	385,060	106,533	7,936	505,109	14,696	210,804	—	11,662	237,162	235,768	(1,164)	—	234,604
North Sanpete School Dist	2,036,475	0.2995505	11,144,828	20,032,394	3,709,269	59,370	4,097,273	1,133,577	38,291	5,328,511	156,374	2,243,083	—	11,653	2,411,110	2,508,719	14,521	—	2,523,240
North Summit School District	1,206,959	0.1775348	6,605,213	11,872,613	2,198,375	35,187	2,428,334	671,838	374,242	3,509,601	92,679	1,329,409	—	13,359	1,435,447	1,486,844	132,657	—	1,619,501
Nuames Charter School	528,219	0.0776972	2,890,738	5,195,988	962,107	15,399	1,062,748	294,026	335,647	1,707,820	40,560	581,809	—	—	622,369	650,710	204,177	—	854,887
Ogden School District	9,197,298	1.3528550	50,333,202	90,471,973	16,752,108	268,132	18,504,446	5,119,555	41,835	23,933,968	706,231	10,130,397	—	2,677,629	13,514,257	11,330,086	(1,093,082)	—	10,237,004
Ogden Weber/Nea/Uea Uniserv	26,661	0.0039216	145,904	262,256	48,560	777	53,640	14,840	14,748	84,005	2,047	29,366	—	—	31,413	32,843	8,635	—	41,478
Ogden-Weber Tech College	707,621	0.1040858	3,872,530	6,960,722	1,288,872	20,630	1,423,693	393,888	—	1,838,211	54,336	779,411	—	316,591	1,150,338	871,713	(185,858)	—	685,855
Park City School District	6,682,215	0.9829048	36,569,142	65,731,610	12,171,096	194,809	13,444,241	3,719,567	1,397,266	18,755,883	513,106	7,360,150	—	163,141	8,036,397	8,231,773	507,692	—	8,739,465
Piute School District	386,333	0.0568267	2,114,247	3,800,277	703,673	11,263	777,280	215,047	667	1,004,257	29,665	425,528	—	105,984	561,177	475,920	(51,419)	—	424,501
Provo School District	10,681,310	1.5711423	58,454,619	105,069,904	19,455,112	311,396	21,490,195	5,945,611	619,495	28,366,697	820,184	11,764,967	—	1,408,169	13,993,320	13,158,230	(391,064)	—	12,767,166
Rich School District	699,062	0.1028268	3,825,689	6,876,527	1,273,282	20,380	1,406,472	389,123	87,710	1,903,685	53,679	769,984	—	—	823,663	861,169	50,102	—	911,271

Noncontributory Retirement System
State and School Division

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Salt Lake Arts Academy	$ 279,855	0.0411646%	$ 1,531,536	2,752,876	509,732	8,159	563,052	155,778	89,162	816,151	21,489	308,247	—	—	329,736	344,751	44,467	—	389,218
Salt Lake Community College	3,864,635	0.5684594	21,149,629	38,015,636	7,039,109	112,667	7,775,428	2,151,198	556,383	10,595,676	296,753	4,256,716	—	824,756	5,378,225	4,760,816	107,364	—	4,868,180
Salt Lake School District	25,043,503	3.6837155	137,053,267	246,347,917	45,614,646	730,102	50,386,120	13,940,137	—	65,056,359	1,923,012	27,584,256	—	1,652,076	31,159,344	30,850,914	(1,034,026)	—	29,816,888
San Juan School District	3,656,387	0.5378277	20,009,972	35,967,146	6,659,803	106,596	7,356,445	2,035,280	49,201	9,547,522	280,762	4,027,341	—	122,807	4,430,910	4,504,277	(49,825)	—	4,454,452
Sevier School District	3,973,447	0.5844650	21,745,121	39,086,008	7,237,303	115,839	7,994,353	2,211,768	152,228	10,474,188	305,109	4,376,568	—	70,592	4,752,269	4,894,862	8,431	—	4,903,293
Snow College	922,050	0.1356267	5,046,015	9,070,015	1,679,436	26,881	1,855,112	513,247	51,693	2,446,933	70,801	1,015,595	—	85,958	1,172,354	1,135,866	(1,964)	—	1,133,902
Soldier Hollow Charter School	148,332	0.0218185	811,761	1,459,109	270,174	4,324	298,435	82,567	21,102	406,428	11,390	163,380	—	41,408	216,178	182,729	(35,614)	—	147,115
South Sanpete School Dist	2,864,679	0.4213732	15,677,262	28,179,269	5,217,772	83,515	5,763,572	1,594,586	—	7,441,673	219,970	3,155,311	—	49,523	3,424,804	3,528,977	(67,042)	—	3,461,935
South Summit School District	1,482,807	0.2181100	8,114,820	14,586,073	2,700,809	43,229	2,983,324	825,385	172,950	4,024,888	113,860	1,633,243	—	12,750	1,759,853	1,826,659	67,517	—	1,894,176
Southern Utah University	2,593,187	0.3814387	14,191,492	25,508,655	4,723,272	75,600	5,217,345	1,443,463	206,084	6,942,492	199,123	2,856,275	—	5,700	3,061,098	3,194,528	127,100	—	3,321,628
Southwest Educ Development Ctr	83,676	0.0123081	457,925	823,102	152,409	2,439	168,351	46,577	18,052	235,419	6,425	92,165	—	17,745	116,335	103,080	12,763	—	115,843
Southwest Technical College	338,663	0.0498148	1,853,368	3,331,357	616,846	9,873	681,370	188,512	66,679	946,434	26,005	373,021	—	16,227	415,253	417,196	64,174	—	481,370
Space Dynamics Lab / USU	659,574	0.0970186	3,609,594	6,488,104	1,201,360	19,229	1,327,027	367,144	219,622	1,933,022	50,647	726,491	—	—	777,138	812,525	141,235	—	953,760
State of Utah	156,472,818	23.0160023	856,314,317	1,539,191,676	285,002,133	4,561,702	314,814,501	87,098,534	4,348,576	410,823,313	12,015,054	172,347,540	—	24,757,586	209,120,180	192,757,749	(9,407,248)	—	183,350,501
Success Academy	206,298	0.0303449	1,128,987	2,029,311	375,754	6,014	415,060	114,833	79,516	615,423	15,841	227,228	—	—	243,069	254,137	44,934	—	299,071
Summit Academy High School	223,663	0.0328992	1,224,020	2,200,129	407,384	6,521	449,998	124,499	47,716	628,734	17,174	246,355	—	—	263,529	275,529	27,581	—	303,110
Summit Academy Inc	1,041,957	0.1532643	5,702,225	10,249,527	1,897,838	30,377	2,096,360	579,992	735,330	3,442,059	80,009	1,147,668	—	—	1,227,677	1,283,580	464,975	—	1,748,555
Tintic School District	358,411	0.0527197	1,961,445	3,525,622	652,817	10,449	721,104	199,505	17,902	948,960	27,521	394,774	—	26,421	448,716	441,525	14,103	—	455,628
Tooele School District	10,465,327	1.5393727	57,272,625	102,945,316	19,061,716	305,099	21,055,648	5,825,386	1,628,664	28,814,797	803,599	11,527,071	—	482,534	12,813,204	12,892,161	175,605	—	13,067,766
Tooele Technical College	250,433	0.0368368	1,370,519	2,463,455	456,142	7,301	503,856	139,400	91,287	741,844	19,230	275,840	—	—	295,070	308,506	57,501	—	366,007
Tuacahn High School	216,952	0.0319121	1,187,295	2,134,117	395,161	6,325	436,496	120,764	10,039	573,624	16,659	238,963	—	105,636	361,258	267,262	(26,054)	—	241,208
Uintah Basin Technical College	632,202	0.0929923	3,459,794	6,218,846	1,151,503	18,431	1,271,955	351,907	52,349	1,694,642	48,545	696,341	—	62,920	807,806	778,805	(66,775)	—	712,030
Uintah Fire Suppression SSD	439	0.0000646	2,403	4,320	800	13	884	244	1,215	2,356	34	484	—	—	518	541	463	—	1,004
Uintah School District	5,169,074	0.7603328	28,288,312	50,847,141	9,415,035	150,696	10,399,886	2,877,297	—	13,427,879	396,917	5,693,495	—	565,315	6,655,727	6,367,745	(401,573)	—	5,966,172
University of Utah	19,836,205	2.9177602	108,555,768	195,124,772	36,129,988	578,292	39,909,330	11,041,563	—	51,529,185	1,523,160	21,848,659	—	10,708,827	34,080,646	24,436,081	(5,735,587)	—	18,700,494
University of Utah Hospital	8,382,818	1.2330509	45,875,870	82,460,092	15,268,600	244,387	16,865,757	4,666,185	—	21,776,329	643,690	9,233,284	—	1,640,437	11,517,411	10,326,733	(1,049,476)	—	9,277,257
UT School Board Risk Mgmt	193,851	0.0285141	1,060,872	1,906,876	353,084	5,651	390,018	107,905	78,547	582,121	14,885	213,518	—	8,202	236,605	238,804	35,596	—	274,400
Utah Co Academy of Sciences	264,402	0.0388917	1,446,972	2,600,877	481,587	7,708	531,963	147,176	112,000	798,847	20,303	291,227	—	—	311,530	325,716	53,477	—	379,193
Utah Communications Authority	514,948	0.0757451	2,818,109	5,065,442	937,935	15,012	1,036,047	286,639	367,914	1,705,612	39,541	567,192	—	—	606,733	634,361	262,354	—	896,715
Utah Dairy Council	34,493	0.0050736	188,764	339,296	62,825	1,006	69,397	19,200	4,865	94,468	2,649	37,992	—	210,614	251,255	42,491	(80,484)	—	(37,993)
Utah Education Association	296,937	0.0436773	1,625,021	2,920,913	540,846	8,657	597,421	165,286	—	771,364	22,801	327,063	—	61,853	411,717	365,795	(34,777)	—	331,018
Utah Housing Corporation	1,121,851	0.1650161	6,139,452	11,035,427	2,043,358	32,706	2,257,102	624,464	162,936	3,077,208	86,143	1,235,667	—	—	1,321,810	1,382,001	119,466	—	1,501,467
Utah Retirement Systems	5,774,827	0.8494347	31,603,364	56,805,817	10,518,365	168,355	11,618,628	3,214,482	798,428	15,799,893	443,431	6,360,704	—	233,328	7,037,463	7,113,969	387,300	—	7,501,269
Utah Safety Council	79,213	0.0116517	433,503	779,206	144,280	2,309	159,373	44,093	18,776	224,551	6,083	87,250	—	26,054	119,387	97,582	10,662	—	108,244
Utah School Boards Association	171,188	0.0251805	936,845	1,683,942	311,805	4,991	344,421	95,290	119,852	564,554	13,145	188,556	—	4,065	205,766	210,885	59,234	—	270,119
Utah School Employees Assn	77,339	0.0113760	423,246	760,768	140,867	2,255	155,602	43,050	6,459	207,366	5,939	85,185	—	25,197	116,321	95,273	(28,445)	—	66,828
Utah State Fair Corp	103,427	0.0152133	566,013	1,017,387	188,383	3,015	208,089	57,571	10,237	278,912	7,942	113,920	—	19,732	141,594	127,411	(521)	—	126,890
Utah State University	8,711,955	1.2814646	47,677,110	85,697,751	15,868,097	253,983	17,527,963	4,849,395	74,465	22,705,806	668,963	9,595,814	—	1,862,067	12,126,844	10,732,195	(789,969)	—	9,942,226
Utah Valley University	4,952,213	0.7284342	27,101,519	48,713,927	9,020,042	144,374	9,963,574	2,756,584	150,125	13,014,657	380,265	5,454,633	—	1,058,447	6,893,345	6,100,596	(303,371)	—	5,797,225
Wasatch School District	6,043,442	0.8889460	33,073,388	59,448,129	11,007,624	176,187	12,159,066	3,364,003	1,374,862	17,074,118	464,057	6,656,571	—	31,935	7,152,563	7,444,874	675,050	—	8,119,924
Wasatch Uniserv	27,868	0.0040992	152,511	274,133	50,759	812	56,069	15,512	37,326	109,719	2,140	30,695	—	245	33,080	34,331	16,134	—	50,465
Washington School District	21,968,647	3.2314267	120,225,784	216,101,172	40,014,052	640,459	44,199,682	12,228,559	1,337,078	58,405,778	1,686,903	24,197,445	—	—	25,884,348	27,063,020	832,060	—	27,895,080
Wayne School District	496,843	0.0730820	2,719,028	4,887,348	904,958	14,485	999,621	276,561	36,511	1,327,178	38,151	547,250	—	102,806	688,207	612,058	(55,655)	—	556,403
Weber County School District	25,732,960	3.7851295	140,826,392	253,129,963	46,870,433	750,202	51,773,268	14,323,914	719,700	67,567,084	1,975,953	28,343,661	—	337,490	30,657,104	31,700,251	50,001	—	31,750,252
Weber State University	3,518,797	0.5175892	19,256,995	34,613,699	6,409,194	102,585	7,079,622	1,958,692	43,366	9,184,265	270,197	3,875,791	—	666,495	4,812,483	4,334,781	(266,187)	—	4,068,594
Woodland Peaks Uniserv	32,499	0.0047804	177,856	319,689	59,195	947	65,387	18,090	6,454	90,878	2,496	35,796	—	1	38,293	40,036	3,201	—	43,237
Workers Compensation Fund	6,523,748	0.9595955	35,701,915	64,172,804	11,882,462	190,189	13,125,415	3,631,359	563,401	17,510,364	500,938	7,185,606	—	220,071	7,906,615	8,036,559	287,149	—	8,323,708
Grand Total	$ 679,843,579	100.0000000%	$ 3,720,517,145	6,687,484,874	1,238,278,191	19,819,710	1,367,807,052	378,425,998	45,161,217	1,811,213,977	52,203,041	748,816,143	—	57,632,796	858,651,980	837,494,481	(7,731,282)	—	829,763,199
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Liberty Academy Charter School	$ —	0.0000000%	$ —	—	—	—	—	—	11,160	11,160	—	—	—	267,871	267,871	—	(120,536)	—	(120,536)
Grand Total	$ 679,843,579	100.0000000%	$ 3,720,517,145	6,687,484,874	1,238,278,191	19,819,710	1,367,807,052	378,425,998	45,172,377	1,811,225,137	52,203,041	748,816,143	—	57,900,667	858,919,851	837,494,481	(7,851,817)	—	829,642,664

Columns may not add to total due to rounding.

Contributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Box Elder County	$ 16,882	0.6237643%	$ 253,125	537,344	13,872	—	190,759	—	—	190,759	—	107,571	—	—	107,571	54,949	(1,066)	—	53,883
Brigham City	5,753	0.2125654	86,260	183,115	4,727	—	65,007	—	—	65,007	—	36,658	—	—	36,658	18,725	(8,976)	—	9,749
Carbon County	6,990	0.2582532	104,800	222,473	5,743	—	78,979	—	—	78,979	—	44,537	—	—	44,537	22,750	(61,181)	—	(38,431)
Castle Valley SSD	11,381	0.4205240	170,650	362,262	9,352	—	128,605	—	—	128,605	—	72,521	—	—	72,521	37,045	2,361	—	39,406
Centerville City	27,384	1.0117884	410,587	871,608	22,502	—	309,425	—	—	309,425	—	174,487	—	—	174,487	89,131	19,367	—	108,498
City of Naples	6,376	0.2355772	95,598	202,939	5,239	—	72,044	—	—	72,044	—	40,626	—	—	40,626	20,753	(14,040)	—	6,713
City of Orem	137,380	5.0759551	2,059,837	4,372,697	112,888	—	1,552,327	—	—	1,552,327	—	875,370	—	—	875,370	447,153	98,856	—	546,009
City of St George	15,957	0.5895800	239,253	507,895	13,112	—	180,305	—	—	180,305	—	101,676	—	—	101,676	51,938	13,048	—	64,986
City of West Jordan	9,181	0.3392182	137,656	292,221	7,544	—	103,740	—	—	103,740	—	58,500	—	—	58,500	29,883	6,937	—	36,820
Clinton City	14,458	0.5342150	216,786	460,201	11,881	—	163,373	—	—	163,373	—	92,128	—	—	92,128	47,060	12,217	—	59,277
Corinne City	18,829	0.6956870	282,312	599,302	15,472	—	212,755	—	—	212,755	—	119,974	—	—	119,974	61,285	14,630	—	75,915
Davis & Weber County Canal Co	100,316	3.7065045	1,504,110	3,192,980	82,432	—	1,133,522	—	—	1,133,522	—	639,203	—	—	639,203	326,515	49,341	—	375,856
Davis Co Housing Authority	30,893	1.1414456	463,202	983,302	25,385	—	349,077	—	—	349,077	—	196,847	—	—	196,847	100,553	39,769	—	140,322
DDI Vantage	585,446	21.6312928	8,778,037	18,634,345	481,078	—	6,615,276	—	—	6,615,276	—	3,730,409	—	—	3,730,409	1,905,550	407,496	—	2,313,046
Duchesne Co Mosquito Dist	9,197	0.3397983	137,891	292,720	7,557	—	103,917	—	—	103,917	—	58,600	—	—	58,600	29,934	5,400	—	35,334
Duchesne County	109,923	4.0614960	1,648,166	3,498,788	90,327	—	1,242,085	—	—	1,242,085	—	700,422	—	—	700,422	357,787	20,215	—	378,002
Emery Co Care & Rehab Ctr	87,483	3.2323735	1,311,706	2,784,538	71,887	—	988,523	—	—	988,523	—	557,437	—	—	557,437	284,747	113,644	—	398,391
Emery County	3,135	0.1158303	47,004	99,782	2,576	—	35,423	—	—	35,423	—	19,975	—	—	19,975	10,204	(81,769)	—	(71,565)
Emery Town	5,244	0.1937738	78,634	166,927	4,309	—	59,260	—	—	59,260	—	33,417	—	—	33,417	17,070	(1,828)	—	15,242
Five-County Assn of Govts	11,650	0.4304542	174,680	370,816	9,573	—	131,641	—	—	131,641	—	74,234	—	—	74,234	37,920	10,686	—	48,606
Garfield County	9,282	0.3429552	139,172	295,440	7,627	—	104,882	—	—	104,882	—	59,144	—	—	59,144	30,212	6,624	—	36,836
Garland City	23,820	0.8801261	357,158	758,187	19,574	—	269,160	—	—	269,160	—	151,782	—	—	151,782	77,532	2,472	—	80,004
Grand County	16,948	0.6261914	254,110	539,434	13,926	—	191,502	—	—	191,502	—	107,989	—	—	107,989	55,163	(2,733)	—	52,430
Honeyville City	13,499	0.4987648	202,400	429,662	11,092	—	152,532	—	—	152,532	—	86,014	—	—	86,014	43,937	7,459	—	51,396
Housing Authority of SLC	3,858	0.1425389	57,843	122,791	3,170	—	43,591	—	—	43,591	—	24,581	—	—	24,581	12,557	(26,137)	—	(13,580)
Iron County	7,298	0.2696592	109,428	232,299	5,997	—	82,467	—	—	82,467	—	46,504	—	—	46,504	23,755	7,817	—	31,572
Jordan Valley Water Conserv	34,877	1.2886544	522,940	1,110,115	28,659	—	394,096	—	—	394,096	—	222,234	—	—	222,234	113,521	(1,103)	—	112,418
Juab County	7,624	0.2817006	114,315	242,672	6,265	—	86,150	—	—	86,150	—	48,580	—	—	48,580	24,816	2,938	—	27,754
Kaysville City	12,681	0.4685318	190,132	403,618	10,420	—	143,286	—	—	143,286	—	80,800	—	—	80,800	41,274	9,575	—	50,849
Kearns Improvement Dist	33,668	1.2439919	504,815	1,071,641	27,666	—	380,437	—	—	380,437	—	214,532	—	—	214,532	109,586	(4,649)	—	104,937
Layton City	28,474	1.0520582	426,928	906,299	23,398	—	321,740	—	—	321,740	—	181,432	—	—	181,432	92,678	(41,759)	—	50,919
Logan City	13,291	0.4910925	199,287	423,053	10,922	—	150,186	—	—	150,186	—	84,691	—	—	84,691	43,262	11,017	—	54,279
Mountainland Assn of Govt	17,893	0.6611221	268,285	569,526	14,703	—	202,184	—	—	202,184	—	114,013	—	—	114,013	58,240	16,624	—	74,864
Murray City	56,786	2.0981454	851,433	1,807,454	46,662	—	641,654	—	—	641,654	—	361,834	—	—	361,834	184,831	(989)	—	183,842
North Davis Co Sewer Dist	12,608	0.4658564	189,046	401,313	10,361	—	142,468	—	—	142,468	—	80,339	—	—	80,339	41,038	9,576	—	50,614
Oakley City	23,217	0.8578229	348,107	738,974	19,078	—	262,339	—	—	262,339	—	147,935	—	—	147,935	75,568	31,446	—	107,014
Ogden City Corp	73,960	2.7327216	1,108,946	2,354,111	60,775	—	835,720	—	—	835,720	—	471,270	—	—	471,270	240,732	(3,504)	—	237,228
Park City	119,466	4.4140715	1,791,243	3,802,515	98,168	—	1,349,910	—	—	1,349,910	—	761,226	—	—	761,226	388,846	25,485	—	414,331
Provo City Corp	42,930	1.5861985	643,684	1,366,436	35,277	—	485,091	—	—	485,091	—	273,547	—	—	273,547	139,732	(106,620)	—	33,112
Provo Housing Authority	20,317	0.7506751	304,626	646,671	16,695	—	229,571	—	—	229,571	—	129,457	—	—	129,457	66,129	17,132	—	83,261
Roy City	12,762	0.4715379	191,351	406,208	10,487	—	144,206	—	—	144,206	—	81,319	—	—	81,319	41,539	9,651	—	51,190
Salt Lake City Corp	326,130	12.0499896	4,889,920	10,380,500	267,989	—	3,685,124	—	—	3,685,124	—	2,078,072	—	—	2,078,072	1,061,512	(399,422)	—	662,090
Salt Lake County	207,231	7.6568638	3,107,177	6,596,029	170,287	—	2,341,620	—	—	2,341,620	—	1,320,459	—	—	1,320,459	674,511	(16,208)	—	658,303
Sandy City	79,410	2.9340912	1,190,662	2,527,582	65,254	—	897,303	—	—	897,303	—	505,997	—	—	505,997	258,471	(32,020)	—	226,451
South Davis Sewer Dist	46,248	1.7087889	693,431	1,472,041	38,003	—	522,581	—	—	522,581	—	294,688	—	—	294,688	150,531	32,601	—	183,132
Tooele County	7,892	0.2915943	118,330	251,195	6,485	—	89,175	—	—	89,175	—	50,287	—	—	50,287	25,687	6,861	—	32,548
Town of Manila	8,003	0.2957019	119,997	254,733	6,576	—	90,431	—	—	90,431	—	50,995	—	—	50,995	26,049	1,190	—	27,239
Town of Paragonah	6,870	0.2538308	103,005	218,663	5,645	—	77,626	—	—	77,626	—	43,774	—	—	43,774	22,361	12,652	—	35,013
Utah Co Housing Authority	6,902	0.2550132	103,485	219,682	5,671	—	77,988	—	—	77,988	—	43,978	—	—	43,978	22,465	(26,588)	—	(4,123)
Utah County	70,182	2.5930994	1,052,287	2,233,833	57,670	—	793,021	—	—	793,021	—	447,191	—	—	447,191	228,432	(34,736)	—	193,696

Contributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Utah League Cities/Towns	$ 69,031	2.5505988%	$ 1,035,040	2,197,221	56,725	—	780,023	—	—	780,023	—	439,862	—	—	439,862	224,688	148,229	—	372,917
Vernal City	23,213	0.8576699	348,045	738,842	19,074	—	262,292	—	—	262,292	—	147,909	—	—	147,909	75,554	13,001	—	88,555
Weber County Corp	13,943	0.5151625	209,054	443,788	11,457	—	157,547	—	—	157,547	—	88,842	—	—	88,842	45,382	(11,165)	—	34,217
Weber River Water Users	8,960	0.3310545	134,343	285,188	7,363	—	101,243	—	—	101,243	—	57,092	—	—	57,092	29,163	4,029	—	33,192
West Valley City	20,261	0.7485990	303,784	644,883	16,649	—	228,936	—	—	228,936	—	129,099	—	—	129,099	65,946	(174,717)	—	(108,771)
Woods Cross City	13,084	0.4834290	196,177	416,451	10,751	—	147,842	—	—	147,842	—	83,369	—	—	83,369	42,586	12,399	—	54,985
Grand Total	$ 2,706,476	100.0000000%	$ 40,580,280	86,145,305	2,223,977	—	30,581,967	—	—	30,581,967	—	17,245,429	—	—	17,245,429	8,809,238	151,534	—	8,960,772
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
LaVerkin City	$ —	0.0000000%	$ —	—	—	—	—	—	—	—	—	—	—	—	—	—	(44,741)	—	(44,741)
North Logan City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(63,373)	—	(63,373)
Rich County	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(71,539)	—	(71,539)
South Jordan City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(8,691)	—	(8,691)
Tooele City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(18,937)	—	(18,937)
Bountiful City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gunnison Valley Hospital	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Riverdale City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
San Juan County	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spring City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Springville City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Timpanogos Special Service District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uintah County	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Washington County Water District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Weber Fire District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bluffdale City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brian Head Town	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Millard County	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Southeastern Utah Asscoc. of Governments	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunset City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
West Bountiful City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cache County	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Midway City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mount Pleasant City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pleasant View City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sevier County	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
South Valley Sewer District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Southeastern Utah Health	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Valley Mental Health	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grand Total	$ 2,706,476	100.0000000%	$ 40,580,280	86,145,305	2,223,977	—	30,581,967	—	—	30,581,967	—	17,245,429	—	—	17,245,429	8,809,238	(55,747)	—	8,753,491

Columns may not add to total due to rounding.

Utah Retirement Systems

Contributory Retirement System
State and School Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Alpine School District	$ 117,064	3.4078692%	$ 2,419,601	5,070,607	157,427	—	1,889,074	—	—	1,889,074	—	1,091,336	—	—	1,091,336	667,359	(100,142)	—	567,217
Box Elder School District	16,709	0.4864327	345,369	723,769	22,471	—	269,643	—	—	269,643	—	155,775	—	—	155,775	95,258	38,199	—	133,457
Cache School District	52,587	1.5308611	1,086,917	2,277,786	70,719	—	848,598	—	—	848,598	—	490,243	—	—	490,243	299,787	(51,109)	—	248,678
Carbon School District	1,108	0.0322572	22,903	47,996	1,490	—	17,881	—	—	17,881	—	10,330	—	—	10,330	6,317	(10,719)	—	(4,402)
Davis School District	199,060	5.7948812	4,114,389	8,622,270	267,696	—	3,212,259	—	—	3,212,259	—	1,855,752	—	—	1,855,752	1,134,805	210,976	—	1,345,781
Dixie State University	8,383	0.2440379	173,268	363,107	11,273	—	135,277	—	—	135,277	—	78,151	—	—	78,151	47,790	12,672	—	60,462
Duchesne School District	30,996	0.9023387	640,664	1,342,600	41,684	—	500,191	—	—	500,191	—	288,965	—	—	288,965	176,704	16,351	—	193,055
Educators Mutual Insurance	24,482	0.7126974	506,018	1,060,431	32,923	—	395,067	—	—	395,067	—	228,234	—	—	228,234	139,567	512	—	140,079
Emery School District	12,853	0.3741780	265,668	556,744	17,285	—	207,417	—	—	207,417	—	119,827	—	—	119,827	73,275	21,310	—	94,585
Granite School District	332,411	9.6768717	6,870,617	14,398,327	447,026	—	5,364,152	—	—	5,364,152	—	3,098,921	—	—	3,098,921	1,895,011	96,781	—	1,991,792
Iron School District	10,820	0.3149850	223,641	468,670	14,551	—	174,605	—	—	174,605	—	100,871	—	—	100,871	61,683	19,731	—	81,414
Jordan School District	70,097	2.0405932	1,448,829	3,036,222	94,266	—	1,131,156	—	—	1,131,156	—	653,479	—	—	653,479	399,607	(38,973)	—	360,634
Logan School District	26,672	0.7764555	551,286	1,155,297	35,869	—	430,410	—	—	430,410	—	248,652	—	—	248,652	152,052	57,248	—	209,300
Millard School District	31,964	0.9305180	660,671	1,384,528	42,986	—	515,811	—	—	515,811	—	297,989	—	—	297,989	182,222	59,138	—	241,360
Murray School District	10,194	0.2967661	210,705	441,562	13,709	—	164,505	—	—	164,505	—	95,036	—	—	95,036	58,115	20,377	—	78,492
Nebo School District	6,418	0.1868411	132,658	278,003	8,631	—	103,571	—	—	103,571	—	59,834	—	—	59,834	36,589	(27,029)	—	9,560
Provo School District	31,510	0.9173062	651,291	1,364,870	42,375	—	508,488	—	—	508,488	—	293,758	—	—	293,758	179,635	(76,123)	—	103,512
Salt Lake Community College	47,469	1.3818834	981,143	2,056,120	63,836	—	766,015	—	—	766,015	—	442,534	—	—	442,534	270,613	81,286	—	351,899
Salt Lake School District	192,671	5.6088741	3,982,323	8,345,508	259,104	—	3,109,151	—	—	3,109,151	—	1,796,186	—	—	1,796,186	1,098,380	24,286	—	1,122,666
San Juan School District	3,667	0.1067437	75,788	158,825	4,931	—	59,171	—	—	59,171	—	34,184	—	—	34,184	20,904	5,758	—	26,662
Sevier School District	3,390	0.0986855	70,067	146,835	4,559	—	54,704	—	—	54,704	—	31,603	—	—	31,603	19,325	(31,395)	—	(12,070)
Snow College	8,377	0.2438650	173,145	362,850	11,265	—	135,181	—	—	135,181	—	78,095	—	—	78,095	47,756	15,419	—	63,175
Southern Utah University	5,596	0.1629085	115,666	242,393	7,526	—	90,305	—	—	90,305	—	52,170	—	—	52,170	31,902	9,136	—	41,038
State of Utah	991,034	28.8501673	20,483,732	42,926,489	1,332,742	—	15,992,430	—	—	15,992,430	—	9,238,977	—	—	9,238,977	5,649,697	(616,843)	—	5,032,854
Uintah School District	23,973	0.6978786	495,497	1,038,382	32,239	—	386,853	—	—	386,853	—	223,489	—	—	223,489	136,665	(18,251)	—	118,414
University of Utah	340,054	9.8993752	7,028,595	14,729,393	457,304	—	5,487,491	—	—	5,487,491	—	3,170,175	—	—	3,170,175	1,938,584	(3,928)	—	1,934,656
University of Utah Hospital	393,049	11.4421282	8,123,956	17,024,873	528,572	—	6,342,681	—	—	6,342,681	—	3,664,227	—	—	3,664,227	2,240,700	402,856	—	2,643,556
Utah Housing Corporation	100,007	2.9113361	2,067,060	4,331,810	134,490	—	1,613,832	—	—	1,613,832	—	932,326	—	—	932,326	570,124	162,762	—	732,886
Utah State University	72,354	2.1063074	1,495,487	3,133,999	97,301	—	1,167,583	—	—	1,167,583	—	674,524	—	—	674,524	412,476	81,194	—	493,670
Utah Valley University	80,649	2.3477838	1,666,936	3,493,294	108,457	—	1,301,440	—	—	1,301,440	—	751,854	—	—	751,854	459,764	28,567	—	488,331
Washington School District	24,389	0.7099909	504,096	1,056,404	32,798	—	393,567	—	—	393,567	—	227,367	—	—	227,367	139,037	(28,050)	—	110,987
Weber State University	72,211	2.1021497	1,492,535	3,127,812	97,109	—	1,165,278	—	—	1,165,278	—	673,192	—	—	673,192	411,662	(1,578)	—	410,084
Workers Compensation Fund	92,886	2.7040324	1,919,874	4,023,361	124,914	—	1,498,918	—	—	1,498,918	—	865,939	—	—	865,939	529,528	71,910	—	601,438
Grand Total	$ 3,435,106	100.0000000%	$ 71,000,395	148,791,137	4,619,528	—	55,432,705	—	—	55,432,705	—	32,023,995	—	—	32,023,995	19,582,893	432,325	—	20,015,218
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Kane School District	$ —	0.0000000%	$ —	—	—	—	—	—	—	—	—	—	—	—	—	—	(18,248)	—	(18,248)
North Sanpete School District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(22,820)	—	(22,820)
Ogden-Weber Applied Technology Center	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(120,756)	—	(120,756)
Park City School District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(79,207)	—	(79,207)
Tooele School District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(21,196)	—	(21,196)
Juab School District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Weber County School District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Juab School District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Weber County School District	—	0.0000000%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grand Total	$ 3,435,106	100.0000000%	$ 71,000,395	148,791,137	4,619,528	—	55,432,705	—	—	55,432,705	—	32,023,995	—	—	32,023,995	19,582,893	170,098	—	19,752,991

Columns may not add to total due to rounding.

Utah Retirement Systems

Public Safety Retirement System
Other Division A with Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
American Fork City	$ 540,928	1.0127761%	$ 2,605,453	5,107,147	574,627	—	992,790	299,487	43,477	1,335,754	123,994	543,178	—	14,652	681,824	810,193	9,597	—	819,790
Beaver County	822,099	1.5392092%	3,959,747	7,761,802	873,313	—	1,508,835	455,158	60,510	2,024,503	188,446	825,518	—	—	1,013,964	1,231,324	69,361	—	1,300,685
Big Water Municipal Corp	5,856	0.0109645%	28,207	55,291	6,221	—	10,748	3,242	4,195	18,185	1,342	5,881	—	202	7,425	8,771	3,230	—	12,001
Blanding City	87,807	0.1644007%	422,935	829,027	93,277	—	161,156	48,615	42,952	252,723	20,128	88,172	—	—	108,300	131,516	26,856	—	158,372
Box Elder County	1,013,787	1.8981060%	4,883,039	9,571,618	1,076,943	—	1,860,649	561,287	719	2,422,655	232,385	1,018,004	—	117,427	1,367,816	1,518,432	(61,024)	—	1,457,408
Brigham City	474,430	0.8882721%	2,285,156	4,479,308	503,986	—	870,743	262,670	42,952	1,176,365	108,751	476,404	—	427	585,582	710,593	27,497	—	738,090
Cache County	1,588,189	2.9735539%	7,649,720	14,994,802	1,687,129	—	2,914,875	879,307	27,867	3,822,049	364,052	1,594,795	—	103,603	2,062,450	2,378,760	(7,039)	—	2,371,721
Carbon County	629,223	1.1780900%	3,030,737	5,940,779	668,422	—	1,154,842	348,372	5,876	1,509,090	144,234	631,841	—	143,522	919,597	942,439	(15,673)	—	926,766
Cedar City	517,436	0.9687915%	2,492,299	4,885,345	549,671	—	949,674	286,480	35,761	1,271,915	118,609	519,588	—	67,500	705,697	775,006	(13,593)	—	761,413
Centerville City	343,700	0.6435060%	1,655,474	3,245,021	365,111	—	630,807	190,290	25,410	846,507	78,784	345,129	—	—	423,913	514,787	40,912	—	555,699
City of Draper	654,261	1.2249678%	3,151,334	6,177,171	695,020	—	1,200,795	362,234	151,214	1,714,243	149,973	656,982	—	29,962	836,917	979,940	56,509	—	1,036,449
City of Harrisville	98,885	0.1851420%	476,294	933,619	105,045	—	181,488	54,748	28,916	265,152	22,667	99,297	—	7,354	129,318	148,108	12,675	—	160,783
City of Helper	61,717	0.1155523%	297,268	582,698	65,562	—	113,272	34,170	—	147,442	14,147	61,974	—	14,785	90,906	92,439	(17,542)	—	74,897
City of Kanab	83,563	0.1564540%	402,491	788,954	88,769	—	153,367	46,265	2,238	201,870	19,155	83,910	—	5,920	108,985	125,159	1,793	—	126,952
City of Moab	221,841	0.4153505%	1,068,524	2,094,497	235,661	—	407,154	122,823	93,974	623,951	50,851	222,763	—	455	274,069	332,269	41,287	—	373,556
City of Monticello	31,621	0.0592034%	152,306	298,546	33,591	—	58,035	17,507	13,668	89,210	7,248	31,752	—	5,232	44,232	47,361	9,991	—	57,352
City of Naples	65,243	0.1221534%	314,250	615,985	69,307	—	119,743	36,122	11,288	167,153	14,955	65,514	—	31,452	111,921	97,719	(33,365)	—	64,354
City of North Salt Lake	402,183	0.7530044%	1,937,168	3,797,191	427,238	—	738,145	222,670	101,291	1,062,106	92,190	403,856	—	—	496,046	602,383	57,128	—	659,511
City of South Jordan	894,274	1.6743433%	4,307,391	8,443,246	949,985	—	1,641,302	495,118	127,495	2,263,915	204,990	897,994	—	22,796	1,125,780	1,339,428	69,743	—	1,409,171
City of South Salt Lake	945,689	1.7706054%	4,555,033	8,928,669	1,004,602	—	1,735,665	523,584	26,730	2,285,979	216,775	949,622	—	78,543	1,244,940	1,416,435	(91,586)	—	1,324,849
City of St George	1,918,102	3.5912484%	9,238,792	18,109,663	2,037,595	—	3,520,380	1,061,964	202,771	4,785,115	439,677	1,926,081	—	63,146	2,428,904	2,872,898	136,875	—	3,009,773
Clearfield City	404,253	0.7568791%	1,947,136	3,816,730	429,436	—	741,943	223,816	5,877	971,636	92,665	405,934	—	15,369	513,968	605,482	(46,110)	—	559,372
Clinton City	216,929	0.4061546%	1,044,867	2,048,124	230,443	—	398,140	120,104	19,530	537,774	49,726	217,831	—	—	267,557	324,912	20,067	—	344,979
Daggett County	37,726	0.0706350%	181,715	356,193	40,077	—	69,241	20,887	—	90,128	8,648	37,883	—	161,072	207,603	56,506	(128,537)	—	(72,031)
Davis County	3,021,859	5.6578036%	14,555,181	28,530,723	3,210,113	—	5,546,154	1,673,063	448	7,219,665	692,685	3,034,429	—	775,371	4,502,485	4,526,085	(577,333)	—	3,948,752
Duchesne County	463,595	0.8679856%	2,232,967	4,377,009	492,476	—	850,857	256,671	22,107	1,129,635	106,268	465,523	—	63,534	635,325	694,364	(20,510)	—	673,854
East Carbon City	27,345	0.0511981%	131,711	258,178	29,049	—	50,188	15,140	55	65,383	6,268	27,459	—	3,739	37,466	40,957	(13,949)	—	27,008
Emery County	483,871	0.9059478%	2,330,628	4,568,442	514,015	—	888,070	267,897	30,649	1,186,616	110,915	485,884	—	152,100	748,899	724,733	(61,556)	—	663,177
Enoch City	52,107	0.0975602%	250,982	491,969	55,353	—	95,635	28,849	11,567	136,051	11,944	52,324	—	17,801	82,069	78,045	(6,292)	—	71,753
Ephraim City	113,884	0.2132244%	548,538	1,075,231	120,979	—	209,017	63,052	90,500	362,569	26,105	114,358	—	5,863	146,326	170,574	53,953	—	224,527
Fairview City	22,375	0.0418927%	107,773	211,253	23,769	—	41,066	12,388	47,313	100,767	5,129	22,468	—	—	27,597	33,513	22,928	—	56,441
Farmington City	274,185	0.5133541%	1,320,647	2,588,701	291,266	—	503,224	151,803	64,932	719,959	62,850	275,325	—	26,459	364,634	410,669	16,760	—	427,429
Fountain Green City	12,595	0.0235814%	60,665	118,914	13,380	—	23,116	6,973	—	30,089	2,887	12,647	—	481	16,015	18,864	(550)	—	18,314
Garfield County	419,736	0.7858683%	2,021,713	3,962,914	445,884	—	770,360	232,388	24,184	1,026,932	96,214	421,482	—	7,571	525,267	628,673	14,485	—	643,158
Garland City	30,358	0.0568383%	146,221	286,620	32,249	—	55,717	16,808	2,324	74,849	6,959	30,484	—	15,972	53,415	45,469	(25,824)	—	19,645
Grand County	306,389	0.5736490%	1,475,761	2,892,752	325,476	—	562,329	169,633	42,545	774,507	70,232	307,663	—	2,621	380,516	458,903	17,391	—	476,294
Grantsville City	176,190	0.3298798%	848,644	1,663,492	187,166	—	323,370	97,548	55,306	476,224	40,387	176,923	—	3,966	221,276	263,895	11,516	—	275,411
Heber City	344,832	0.6456268%	1,660,930	3,255,716	366,314	—	632,886	190,918	74,767	898,571	79,044	346,267	—	—	425,311	516,483	70,484	—	586,967
Hurricane City	373,047	0.6984523%	1,796,828	3,522,100	396,286	—	684,669	206,539	116,281	1,007,489	85,512	374,598	—	5,061	465,171	558,742	71,713	—	630,455
Iron County	949,012	1.7768286%	4,571,043	8,960,050	1,008,133	—	1,741,765	525,424	181,729	2,448,918	217,537	952,960	—	89,086	1,259,583	1,421,413	(28,007)	—	1,393,406
Ivins City	163,556	0.3062241%	787,788	1,544,203	173,745	—	300,181	90,553	12,084	402,818	37,491	164,236	—	80,886	282,613	244,971	(26,925)	—	218,046
Juab County	247,599	0.4635781%	1,192,594	2,337,695	263,024	—	454,430	137,084	27,393	618,907	56,756	248,629	—	37,732	343,117	370,850	(3,294)	—	367,556
Kamas City	42,204	0.0790177%	203,280	398,464	44,833	—	77,458	23,366	15,911	116,735	9,674	42,379	—	1,012	53,065	63,212	15,928	—	79,140
Kane County	508,540	0.9521351%	2,449,449	4,801,351	540,220	—	933,346	281,555	67,218	1,282,119	116,570	510,655	—	1,095	628,320	761,682	41,330	—	803,012
Kaysville City	493,661	0.9242781%	2,377,784	4,660,876	524,415	—	906,039	273,317	53,125	1,232,481	113,159	495,715	—	41,435	650,309	739,397	21,779	—	761,176
Laverkin City	69,966	0.1309972%	337,001	660,582	74,325	—	128,412	38,737	36,210	203,359	16,038	70,257	—	6,267	92,562	104,794	10,389	—	115,183
Layton City	1,255,756	2.3511425%	6,048,514	11,856,155	1,333,986	—	2,304,746	695,254	6,989	3,006,989	287,851	1,260,979	—	96,668	1,645,498	1,880,848	(60,073)	—	1,820,775
Lehi City	762,844	1.4282679%	3,674,341	7,202,356	810,368	—	1,400,083	422,352	128,602	1,951,037	174,863	766,018	—	33,647	974,528	1,142,574	79,442	—	1,222,016
Lindon City	322,038	0.6029487%	1,551,137	3,040,502	342,100	—	591,050	178,297	52,425	821,772	73,819	323,377	—	—	397,196	482,342	36,791	—	519,133
Mapleton City	125,032	0.2340956%	602,231	1,180,479	132,821	—	229,476	69,224	22,183	320,883	28,660	125,552	—	1,899	156,111	187,270	193	—	187,463
Millard County	685,534	1.2835196%	3,301,963	6,472,431	728,241	—	1,258,191	379,548	288	1,638,027	157,141	688,385	—	153,664	999,190	1,026,780	(76,943)	—	949,837
Morgan County	127,673	0.2390415%	614,955	1,205,420	135,627	—	234,324	70,687	4,558	309,569	29,266	128,204	—	26,205	183,675	191,227	(25,097)	—	166,130
Moroni City	8,450	0.0158201%	40,699	79,776	8,976	—	15,508	4,678	18,044	38,230	1,937	8,485	—	—	10,422	12,656	8,684	—	21,340
Mount Pleasant City	79,542	0.1489266%	383,126	750,995	84,498	—	145,988	44,039	11,472	201,499	18,233	79,873	—	31	98,137	119,137	6,929	—	126,066
Murray City	1,378,936	2.5817706%	6,641,824	13,019,148	1,464,839	—	2,530,823	763,453	289,979	3,584,255	316,086	1,384,671	—	130,926	1,831,683	2,065,344	97,048	—	2,162,392

Public Safety Retirement System
Other Division A with Social Security

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Nephi City	$ 134,906	0.2525839%	% 649,794	1,273,710	143,311	—	247,599	74,691	23,148	345,438	30,924	135,467	—	13,448	179,839	202,060	9,416	—	211,476
North Ogden City	268,155	0.5020646	1,291,604	2,531,772	284,860	—	492,157	148,465	31,944	672,566	61,468	269,270	—	—	330,738	401,638	33,132	—	434,770
North Park Police Agency	101,432	0.1899099	488,559	957,663	107,751	—	186,162	56,158	93,291	335,611	23,251	101,854	—	—	125,105	151,923	85,241	—	237,164
Park City	736,649	1.3792220	3,548,166	6,955,031	782,540	—	1,352,005	407,848	106,562	1,866,415	168,858	739,713	—	29,063	937,634	1,103,339	141,112	—	1,244,451
Parowan City	66,387	0.1242954	319,760	626,787	70,522	—	121,843	36,755	9,039	167,637	15,217	66,663	—	183	82,063	99,433	8,355	—	107,788
Payson City	286,466	0.5363490	1,379,803	2,704,658	304,313	—	525,765	158,603	13,939	698,307	65,665	287,658	—	43,509	396,832	429,064	2,488	—	431,552
Perry City	98,019	0.1835199	472,121	925,440	104,125	—	179,898	54,268	46,793	280,959	22,468	98,427	—	—	120,895	146,811	42,403	—	189,214
Piute County	45,605	0.0853855	219,661	430,575	48,446	—	83,701	25,249	2,353	111,303	10,454	45,794	—	3,593	59,841	68,306	(1,123)	—	67,183
Pleasant Grove City	350,228	0.6557293	1,686,919	3,306,660	372,046	—	642,789	193,905	—	836,694	80,281	351,685	—	66,378	498,344	524,565	(51,568)	—	472,997
Pleasant View City	131,733	0.2466434	634,511	1,243,754	139,940	—	241,776	72,935	29,447	344,158	30,197	132,281	—	2,870	165,348	197,308	24,624	—	221,932
Price City	285,454	0.5344528	1,374,925	2,695,096	303,237	—	523,906	158,042	55,222	737,170	65,433	286,641	—	15,143	367,217	427,547	(2,492)	—	425,055
Rich County	79,608	0.1490501	383,444	751,618	84,568	—	146,109	44,075	2,847	193,031	18,248	79,939	—	36,498	134,685	119,236	(3,497)	—	115,739
Richfield City	184,838	0.3460717	890,299	1,745,143	196,353	—	339,242	102,337	5,062	446,641	42,370	185,607	—	7,148	235,125	276,848	872	—	277,720
Riverdale City	391,253	0.7325404	1,884,522	3,693,997	415,627	—	718,085	216,619	20,070	954,774	89,685	392,881	—	7,455	490,021	586,012	(3,633)	—	582,379
Roosevelt City	175,641	0.3288513	845,998	1,658,305	186,583	—	322,362	97,244	23,731	443,337	40,261	176,372	—	3,272	219,905	263,072	8,112	—	271,184
Roy City	660,352	1.2363720	3,180,672	6,234,679	701,490	—	1,211,974	365,606	46,236	1,623,816	151,369	663,099	—	3,585	818,053	989,063	7,191	—	996,254
Salem City	166,404	0.3115569	801,507	1,571,094	176,770	—	305,409	92,130	26,876	424,415	38,144	167,096	—	5,047	210,287	249,237	24,314	—	273,551
Salina City	35,148	0.0658075	169,295	331,849	37,338	—	64,509	19,460	—	83,969	8,057	35,294	—	4,674	48,025	52,644	(6,074)	—	46,570
Salt Lake County	8,290,723	15.5226584	39,933,354	78,276,432	8,807,213	—	15,216,342	4,590,192	668,129	20,474,663	1,900,444	8,325,215	—	72,074	10,297,733	12,417,693	101,546	—	12,519,239
San Juan County	336,918	0.6308095	1,622,811	3,180,996	357,907	—	618,361	186,536	32,185	837,082	77,230	338,320	—	24,497	440,047	504,630	(21,173)	—	483,457
Sanpete County	432,311	0.8094125	2,082,282	4,081,641	459,243	—	793,440	239,351	13,254	1,046,045	99,096	434,109	—	22,404	555,609	647,507	(1,846)	—	645,661
Santaquin City	201,086	0.3764920	968,558	1,898,544	213,613	—	369,062	111,332	32,524	512,918	46,094	201,923	—	10,044	258,061	301,183	31,163	—	332,346
Sevier County	648,367	1.2139329	3,122,946	6,121,525	688,759	—	1,189,978	358,971	33,072	1,582,021	148,622	651,064	—	66,326	866,012	971,112	(64,848)	—	906,264
Smithfield City Corp	98,353	0.1841455	473,730	928,594	104,480	—	180,512	54,453	27,054	262,019	22,545	98,762	—	1,912	123,219	147,311	(5,964)	—	141,347
South Ogden City	415,801	0.7785005	2,002,759	3,925,761	441,704	—	763,138	230,210	22,152	1,015,500	95,312	417,530	—	66,779	579,621	622,779	(21,306)	—	601,473
Spanish Fork City	647,958	1.2131674	3,120,976	6,117,664	688,324	—	1,189,227	358,744	41,626	1,589,597	148,528	650,654	—	—	799,182	970,500	55,717	—	1,026,217
Springville City	356,789	0.6680134	1,718,521	3,368,605	379,016	—	654,831	197,538	—	852,369	81,785	358,273	—	62,551	502,609	534,392	(75,379)	—	459,013
Stockton Town	15,937	0.0298396	76,765	150,473	16,930	—	29,251	8,824	11,912	49,987	3,653	16,004	—	92	19,749	23,871	7,681	—	31,552
Summit County	1,794,129	3.3591343	8,641,659	16,939,176	1,905,898	—	3,292,846	993,326	316,729	4,602,901	411,259	1,801,592	—	—	2,212,851	2,687,214	322,026	—	3,009,240
Sunset City	91,769	0.1718187	442,018	866,434	97,486	—	168,428	50,808	13,342	232,578	21,036	92,151	—	456	113,643	137,450	(3,791)	—	133,659
Syracuse City Corp	376,181	0.7043201	1,811,923	3,551,690	399,616	—	690,421	208,274	143,470	1,042,165	86,230	377,745	—	—	463,975	563,436	98,399	—	661,835
Tooele City	463,078	0.8670173	2,230,476	4,372,126	491,926	—	849,908	256,385	5,023	1,111,316	106,149	465,004	—	33,041	604,194	693,590	(45,242)	—	648,348
Tooele County	856,314	1.6032702	4,124,549	8,084,844	909,660	—	1,571,632	474,101	27,713	2,073,446	196,289	859,876	—	12,138	1,068,303	1,282,571	(10,624)	—	1,271,947
Town of Brian Head	97,329	0.1822286	468,799	918,928	103,392	—	178,633	53,887	11,650	244,170	22,310	97,734	—	—	120,044	145,778	10,949	—	156,727
Town of Springdale	179,231	0.3355729	863,290	1,692,200	190,397	—	328,951	99,232	163,789	591,972	41,084	179,977	—	—	221,061	268,449	124,298	—	392,747
Tremonton City	138,686	0.2596603	667,998	1,309,394	147,326	—	254,536	76,784	55,792	387,112	31,790	139,263	—	—	171,053	207,721	29,770	—	237,491
Uintah County	777,060	1.4548833	3,742,811	7,336,570	825,469	—	1,426,173	430,222	1,927	1,858,322	178,121	780,292	—	153,814	1,112,227	1,163,866	(65,967)	—	1,097,899
Unified Fire Authority	55,193	0.1033371	265,843	521,100	58,631	—	101,298	30,558	7,039	138,895	12,652	55,422	—	—	68,074	82,667	4,685	—	87,352
Vernal City	359,314	0.6727411	1,730,684	3,392,445	381,698	—	659,465	198,936	—	858,401	82,364	360,809	—	49,146	492,319	538,174	(60,429)	—	477,745
Wasatch County	798,898	1.4957706	3,847,997	7,542,753	848,667	—	1,466,254	442,313	51,693	1,960,260	183,127	802,221	—	7,371	992,719	1,196,575	41,192	—	1,237,767
Washington City	219,401	0.4107826	1,056,773	2,071,462	233,069	—	402,676	121,472	33,325	557,473	50,292	220,313	—	3,395	274,000	328,615	16,981	—	345,596
Washington County	1,971,238	3.6907337	9,494,726	18,611,339	2,094,041	—	3,617,902	1,091,383	17,584	4,726,869	451,857	1,979,437	—	209,976	2,641,270	2,952,484	(123,487)	—	2,828,997
Wayne County	58,502	0.1095321	281,781	552,340	62,146	—	107,371	32,390	11,382	151,143	13,410	58,745	—	4,113	76,268	87,623	7,245	—	94,868
Weber County Corp	3,945,556	7.3872345	19,004,289	37,251,760	4,191,353	—	7,241,457	2,184,471	721,112	10,147,040	904,420	3,961,968	—	1,488,765	6,355,153	5,909,581	(334,597)	—	5,574,984
Wellington City	15,176	0.0284131	73,095	143,279	16,121	—	27,852	8,402	676	36,930	3,479	15,239	—	16,007	34,725	22,730	(12,300)	—	10,430
West Bountiful City	129,886	0.2431848	625,614	1,226,313	137,978	—	238,386	71,912	28,955	339,253	29,773	130,426	—	2,880	163,079	194,541	24,033	—	218,574
Willard City Corp	38,546	0.0721694	185,662	363,930	40,947	—	70,745	21,341	8,356	100,442	8,836	38,706	—	4,544	52,086	57,734	6,103	—	63,837
Grand Total	$ 53,410,462	100.0000000%	257,258,503	504,272,072	56,737,787	—	98,026,634	29,570,896	5,623,923	133,221,453	12,243,009	53,632,627	—	5,218,706	71,094,342	79,997,209	194,148	—	80,191,357
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Centerfield City	$ —	0.0000000%	—	—	—	—	—	—	599	599	—	—	—	25,899	25,899	—	(16,744)	—	(16,744)
Gunnison City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	74,014	74,014	—	(48,625)	—	(48,625)
Escalante Town	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	1,762	1,762	—	(7,548)	—	(7,548)
Taylorsville City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	359	359	—	(8,757)	—	(8,757)
North Logan City	—	0.0000000	—	—	—	—	—	—	121	121	—	—	—	72,040	72,040	—	(73,677)	—	(73,677)
Grand Total	$ 53,410,462	100.0000000%	$ 257,258,503	504,272,072	56,737,787	—	98,026,634	29,570,896	5,624,643	133,222,173	12,243,009	53,632,627	—	5,392,781	71,268,417	79,997,209	38,798	—	80,036,007

Columns may not add to total due to rounding.

Utah Retirement Systems

Public Safety Retirement System
State of Utah

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Dixie State University	$ 76,420	0.1505029%	$ 360,266	649,456	122,555	2,104	122,706	25,452	207	150,469	8,178	66,893	—	32,645	107,716	93,044	(21,633)	—	71,411
Snow College	22,582	0.0444741	106,460	191,916	36,216	622	36,260	7,521	7,900	52,303	2,416	19,767	—	15,401	37,584	27,495	12,931	—	40,426
Southern Utah University	89,740	0.1767365	423,063	762,661	143,918	2,470	144,095	29,888	9,840	186,293	9,603	78,553	—	30,402	118,558	109,262	(12,079)	—	97,183
State of Utah	49,537,405	97.5602149	233,534,875	420,995,878	79,443,888	1,363,627	79,541,585	16,498,637	616,986	98,020,835	5,300,890	43,361,800	—	—	48,662,690	60,313,703	387,689	—	60,701,392
University of Utah	883,958	1.7408888	4,167,255	7,512,355	1,417,617	24,333	1,419,360	294,406	228,566	1,966,665	94,590	773,759	—	—	868,349	1,076,253	306,399	—	1,382,652
Utah State University	166,131	0.3271828	783,194	1,411,873	266,427	4,573	266,755	55,331	3,828	330,487	17,777	145,420	—	24,232	187,429	202,271	(7,221)	—	195,050
Grand Total	$ 50,776,236	100.0000000%	$ 239,375,113	431,524,139	81,430,621	1,397,729	81,530,761	16,911,235	867,326	100,707,051	5,433,454	44,446,192	—	102,680	49,982,326	61,822,028	666,085	—	62,488,113

Columns may not add to total due to rounding.

Public Safety Retirement System
Salt Lake City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Salt Lake City Corp	$ 15,294,371	100.000000%	$ 103,028,050	155,807,761	59,653,139	1,785,729	19,814,195	7,068,399	—	28,668,323	—	10,787,734	—	—	10,787,734	21,999,491	—	—	21,999,491

Public Safety Retirement System
Ogden City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Ogden City Corp	$ 2,970,415	100.0000000%	$ 22,263,653	33,874,092	12,757,018	379,429	4,446,695	505,834	—	5,331,958	980,568	2,452,099	—	—	3,432,667	4,755,024	—	—	4,755,024

Public Safety Retirement System
Provo City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Provo City Corp	$ 2,265,693	100.0000000%	$ 15,111,749	24,169,945	7,692,917	453,535	3,503,297	1,504,912	—	5,461,744	685,781	1,912,395	—	—	2,598,176	2,959,535	—	—	2,959,535

Public Safety Retirement System
Logan City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Logan City	$ 1,067,969	100.0000000%	$ 6,809,837	11,762,835	2,801,647	—	1,976,763	489,104	—	2,465,867	744,436	1,078,735	—	—	1,823,171	1,063,559	—	—	1,063,559

Public Safety Retirement System
Bountiful City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Pension Net Expense Excluding That Attributable to Employer-Paid Member Contributions
City of Bountiful	$ 964,252	100.0000000%	$ 7,529,711	11,131,858	4,554,737	157,772	1,420,345	614,798	—	2,192,915	265,888	781,608	—	—	1,047,496	1,572,472	—	—	1,572,472

Public Safety Retirement System
Other Division B without Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
City of Orem	$ 1,558,296	7.3044190%	$ 5,755,853	11,700,624	907,013	2,092,584	2,263,255	1,188,385	19,639	5,563,863	—	1,197,608	88,272	104,108	1,389,988	1,845,250	(31,933)	—	1,813,317
City of Saratoga Springs	379,315	1.7780179	1,401,071	2,848,128	220,782	509,370	550,914	289,273	47,552	1,397,109	—	291,518	21,487	7,274	320,279	449,165	11,787	—	460,952
City of Wendover	994	0.0046591	3,671	7,463	579	1,335	1,444	758	595	4,132	—	764	56	—	820	1,177	178	—	1,355
City of West Jordan	1,957,210	9.1743034	7,229,314	14,695,909	1,139,203	2,628,272	2,842,633	1,492,604	142,528	7,106,037	—	1,504,188	110,870	41,043	1,656,101	2,317,623	59,799	—	2,377,422
Cottonwood Heights City	517,784	2.4270798	1,912,529	3,887,831	301,378	695,315	752,024	394,871	43,339	1,885,549	—	397,936	29,331	14,702	441,969	613,132	16,570	—	629,702
Gunnison Valley Police Dept	61,168	0.2867228	225,936	459,289	35,603	82,141	88,840	46,648	40,588	258,217	—	47,010	3,465	—	50,475	72,432	14,092	—	86,524
Herriman City	258,236	1.2104672	953,843	1,938,994	150,308	346,777	375,060	196,936	154,471	1,073,244	—	198,464	14,628	—	213,092	305,790	46,138	—	351,928
Lone Peak PS District	373,644	1.7514353	1,380,124	2,805,546	217,481	501,755	542,677	284,948	21,525	1,350,905	—	287,159	21,166	12,125	320,450	442,450	1,045	—	443,495
Sandy City	1,581,515	7.4132550	5,841,615	11,874,964	920,528	2,123,764	2,296,977	1,206,092	2,249	5,629,082	—	1,215,452	89,588	118,671	1,423,711	1,872,745	(44,827)	—	1,827,918
Town of Mantua	19,115	0.0895990	70,604	143,525	11,126	25,668	27,762	14,577	12,578	80,585	—	14,690	1,083	—	15,773	22,635	4,596	—	27,231
Unified Police Department	7,197,558	33.7381234	26,585,504	54,043,600	4,189,370	9,665,362	10,453,667	5,488,990	231,622	25,839,641	—	5,531,587	407,718	297,495	6,236,800	8,522,961	(24,716)	—	8,498,245
Utah County	4,352,991	20.4043850	16,078,573	32,684,877	2,533,678	5,845,488	6,322,244	3,319,671	154,531	15,641,934	—	3,345,433	246,583	78,136	3,670,152	5,154,578	37,838	—	5,192,416
West Valley City	2,872,287	13.4636722	10,609,319	21,566,858	1,671,827	3,857,099	4,171,682	2,190,459	—	10,219,240	—	2,207,458	162,706	294,609	2,664,773	3,401,208	(118,539)	—	3,282,669
Woods Cross City	203,493	0.9538609	751,639	1,527,947	118,444	273,264	295,551	155,187	18,146	742,148	—	156,392	11,527	11,043	178,962	240,965	1,333	—	242,298
Grand Total	$ 21,333,605	100.0000000%	$ 78,799,595	160,185,555	12,417,320	28,648,194	30,984,730	16,269,399	889,364	76,791,687	—	16,395,659	1,208,480	979,206	18,583,345	25,262,111	(26,641)	—	25,235,470

Columns may not add to total due to rounding.

Utah Retirement Systems

Firefighters Retirement System
Other Division A with Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
American Fork City	$ 32,201	2.4297297%	$ 315,494	1,177,314	(382,349)	66,681	357,609	167,804	2,113	594,207	56,889	193,211	36,625	30,727	317,452	176,895	(5,975)	(58,199)	112,721
Brigham City	18,275	1.3789193	179,049	668,149	(216,991)	37,843	202,950	95,232	—	336,025	32,285	109,651	20,785	34,039	196,760	100,392	(7,912)	(33,029)	59,451
Cache County	9,068	0.6841959	88,841	331,524	(107,667)	18,777	100,700	47,253	1,203	167,933	16,020	54,407	10,313	824	81,564	49,813	88	(16,388)	33,513
Cedar City	22,244	1.6784452	217,942	813,283	(264,125)	46,063	247,034	115,918	6,260	415,275	39,298	133,469	25,300	7,632	205,699	122,199	(432)	(40,203)	81,564
City of Draper	82,196	6.2021181	805,328	3,005,207	(975,982)	170,209	912,830	428,336	—	1,511,375	145,214	493,190	93,488	196,457	928,349	451,543	(42,341)	(148,558)	260,644
City of Kanab	2,681	0.2022597	26,263	98,004	(31,828)	5,551	29,769	13,969	526	49,815	4,736	16,084	3,049	8	23,877	14,725	136	(4,845)	10,016
City of Santa Clara	5,150	0.3886043	50,459	188,296	(61,152)	10,665	57,195	26,838	457	95,155	9,099	30,902	5,858	7,568	53,427	28,292	(1,858)	(9,308)	17,126
City of South Jordan	101,364	7.6484656	993,132	3,706,028	(1,203,584)	209,902	1,125,704	528,225	32,416	1,896,247	179,078	608,203	115,289	—	902,570	556,843	6,804	(183,201)	380,446
City of South Salt Lake	98,096	7.4018263	961,107	3,586,520	(1,164,772)	203,134	1,089,404	511,192	74,927	1,878,657	173,304	588,590	111,571	907	874,372	538,887	16,272	(177,294)	377,865
City of St George	64,843	4.8927419	635,309	2,370,755	(769,935)	134,275	720,116	337,907	14,433	1,206,731	114,557	389,069	73,751	7,218	584,595	356,214	1,330	(117,194)	240,350
City of Washington Terrace	2,219	0.1674643	21,745	81,144	(26,353)	4,596	24,647	11,566	279	41,088	3,921	13,317	2,524	71	19,833	12,192	39	(4,011)	8,220
Clinton City	13,676	1.0319315	133,993	500,017	(162,388)	28,320	151,880	71,268	14,648	266,116	24,161	82,059	15,555	1,560	123,335	75,129	2,778	(24,718)	53,189
Farmington City	17,545	1.3238220	171,895	641,452	(208,320)	36,331	194,841	91,427	—	322,599	30,995	105,270	19,955	11,670	167,890	96,380	(2,523)	(31,709)	62,148
Hurricane Valley Fire SSD	21,066	1.5895500	206,399	770,209	(250,136)	43,623	233,951	109,779	45	387,398	37,217	126,400	23,960	20,188	207,765	115,727	(4,816)	(38,074)	72,837
Kaysville City	8,832	0.6664376	86,535	322,919	(104,872)	18,290	98,087	46,026	—	162,403	15,604	52,995	10,046	19,764	98,409	48,520	(4,670)	(15,963)	27,887
Layton City	119,971	9.0524398	1,175,435	4,386,317	(1,424,517)	248,433	1,332,342	625,188	59,582	2,265,545	211,950	719,847	136,452	—	1,068,249	659,059	13,252	(216,830)	455,481
Lehi City	70,016	5.2830772	685,993	2,559,890	(831,360)	144,987	777,565	364,865	10,485	1,297,902	123,696	420,108	79,634	7,499	630,937	384,632	315	(126,544)	258,403
Moab Valley Fire Protection	5,658	0.4269416	55,437	206,873	(67,185)	11,717	62,837	29,486	1,648	105,688	9,996	33,950	6,436	1,603	51,985	31,083	(34)	(10,226)	20,823
Morgan County	2,744	0.2070631	26,887	100,331	(32,584)	5,683	30,476	14,300	891	51,350	4,848	16,466	3,121	8,182	32,617	15,075	(1,680)	(4,960)	8,435
Murray City	150,581	11.3620768	1,475,335	5,505,437	(1,787,966)	311,816	1,672,275	784,698	25,361	2,794,150	266,029	903,509	171,266	17,589	1,358,393	827,214	1,171	(272,152)	556,233
N Tooele Co Fire Protection SD	2,549	0.1923381	24,975	93,197	(30,267)	5,278	28,308	13,283	2,074	48,943	4,503	15,295	2,899	291	22,988	14,003	482	(4,607)	9,878
North Davis Fire District	36,153	2.7279109	354,212	1,321,796	(429,272)	74,864	401,495	188,397	14,687	679,443	63,870	216,922	41,119	1,333	323,244	198,604	3,367	(65,341)	136,630
North Fork SSD	2,254	0.1700720	22,083	82,408	(26,763)	4,667	25,031	11,746	1,895	43,339	3,982	13,524	2,564	7,266	27,336	12,382	(1,282)	(4,074)	7,026
North Logan City	6,615	0.4991053	64,807	241,839	(78,541)	13,697	73,459	34,470	893	122,519	11,686	39,689	7,523	4,050	62,948	36,337	(710)	(11,955)	23,672
North View Fire District	25,696	1.9389011	251,761	939,485	(305,111)	53,211	285,368	133,906	483	472,968	45,397	154,181	29,226	12,516	241,320	141,161	(2,576)	(46,442)	92,143
Payson City	3,931	0.2965966	38,512	143,714	(46,673)	8,140	43,653	20,484	805	73,082	6,944	23,585	4,471	86	35,086	21,594	157	(7,104)	14,647
Pleasant Grove City	20,507	1.5473661	200,921	749,769	(243,498)	42,465	227,742	106,866	23,080	400,153	36,229	123,046	23,324	—	182,599	112,655	5,358	(37,064)	80,949
Price City	3,254	0.2455664	31,886	118,988	(38,643)	6,739	36,143	16,960	547	60,389	5,750	19,527	3,702	4	28,983	17,878	117	(5,882)	12,113
Riverdale City	21,160	1.5966201	207,317	773,635	(251,249)	43,817	234,991	110,267	14,492	403,567	37,383	126,963	24,067	—	188,413	116,241	3,180	(38,243)	81,178
Roy City	43,266	3.2646087	423,901	1,581,851	(513,728)	89,593	480,486	225,463	35,087	830,629	76,436	259,600	49,209	—	385,245	237,679	7,628	(78,196)	167,111
Smithfield City Corp	5,716	0.4313059	56,004	208,987	(67,871)	11,837	63,480	29,787	9,046	114,150	10,098	34,297	6,501	453	51,349	31,401	2,197	(10,331)	23,267
So Davis Metro Fire Agency	140,195	10.5784551	1,373,584	5,125,740	(1,664,655)	290,312	1,556,941	730,579	37,616	2,615,448	247,680	841,195	159,454	—	1,248,329	770,160	8,290	(253,383)	525,067
South Ogden City	27,595	2.0822122	270,370	1,008,926	(327,663)	57,144	306,461	143,804	3,074	510,483	48,752	165,577	31,386	119	245,834	151,595	634	(49,875)	102,354
Springville City	6,526	0.4924004	63,937	238,590	(77,485)	13,513	72,472	34,007	1,754	121,746	11,529	39,155	7,422	1,397	59,503	35,849	53	(11,794)	24,108
State of Utah	50,423	3.8046416	494,022	1,843,521	(598,709)	104,413	559,969	262,760	16,901	944,043	89,080	302,544	57,349	22,618	471,591	276,995	(2,282)	(91,131)	183,582
Syracuse City Corp	26,910	2.0304809	263,652	983,860	(319,522)	55,724	298,847	140,231	1,146	495,948	47,541	161,463	30,606	6,179	245,789	147,828	(962)	(48,636)	98,230
Uintah Fire Suppression SSD	5,310	0.4006870	52,028	194,151	(63,053)	10,996	58,973	27,673	1,560	99,202	9,382	31,862	6,040	378	47,662	29,172	287	(9,598)	19,861
Wasatch County Fire District	42,782	3.2281322	419,164	1,564,176	(507,988)	88,592	475,118	222,944	437	787,091	75,582	256,700	48,659	22,989	403,930	235,023	(4,785)	(77,323)	152,915
Washington City	6,023	0.4544895	59,014	220,221	(71,520)	12,473	66,892	31,388	12,505	123,258	10,641	36,141	6,851	64	53,697	33,089	2,844	(10,886)	25,047
Grand Total	$ 1,325,291	100.0000000%	$ 12,984,728	48,454,523	(15,736,277)	2,744,371	14,718,041	6,906,292	423,356	24,792,060	2,341,362	7,951,963	1,507,350	453,248	12,253,923	7,280,460	(8,058)	(2,395,271)	4,877,131
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Hurricane City	$ —	0.0000000%	$ —	—	—	—	—	—	7,333	7,333	—	—	—	—	—	—	2,101	—	2,101
Leeds Area Special Service District	—	0.0000000	—	—	—	—	—	—	5,032	5,032	—	—	—	—	—	—	1,291	—	1,291
Ivins City	—	0.0000000	—	—	—	—	—	—	8,875	8,875	—	—	—	—	—	—	2,148	—	2,148
Grand Total	$ 1,325,291	100.0000000%	$ 12,984,728	48,454,523	(15,736,277)	2,744,371	14,718,041	6,906,292	444,595	24,813,299	2,341,362	7,951,963	1,507,350	453,248	12,253,923	7,280,460	(2,519)	(2,395,271)	4,882,670

Columns may not add to total due to rounding.

Firefighters Retirement System
Other Division B without Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
City of Orem	$ 212,855	3.7318322%	$ 1,508,227	6,787,181	(2,833,589)	—	2,566,006	993,110	679	3,559,795	578,938	1,409,044	158,799	11,922	2,158,703	565,095	(4,742)	(237,062)	323,291
City of Saratoga Springs	29,110	0.5103655	206,265	928,215	(387,522)	—	350,927	135,818	5,048	491,793	79,176	192,701	21,717	114	293,708	77,282	1,978	(32,421)	46,839
City of West Jordan	321,234	5.6319581	2,276,167	10,242,989	(4,276,358)	—	3,872,532	1,498,769	30,222	5,401,523	873,714	2,126,483	239,654	—	3,239,851	852,823	12,329	(357,765)	507,387
Logan City	149,486	2.6208221	1,059,211	4,766,558	(1,989,996)	—	1,802,076	697,449	2,008	2,501,533	406,581	989,555	111,522	6,963	1,514,621	396,860	(2,165)	(166,486)	228,209
Lone Peak PS District	29,305	0.5137804	207,645	934,426	(390,115)	—	353,275	136,727	2,607	492,609	79,705	193,990	21,863	367	295,925	77,800	939	(32,637)	46,102
Ogden City Corp	329,131	5.7704081	2,332,122	10,494,792	(4,381,484)	—	3,967,730	1,535,613	9,940	5,513,283	895,192	2,178,759	245,545	14,698	3,334,194	873,788	(3,278)	(366,560)	503,950
Park City Fire Service	280,031	4.9095708	1,984,213	8,929,165	(3,727,848)	—	3,375,819	1,306,528	1,706	4,684,053	761,646	1,853,728	208,914	8,768	2,833,056	743,435	(2,953)	(311,876)	428,606
Provo City Corp	287,789	5.0455792	2,039,181	9,176,527	(3,831,120)	—	3,469,338	1,342,722	—	4,812,060	782,746	1,905,082	214,702	4,202	2,906,732	764,030	(1,487)	(320,516)	442,027
Salt Lake City Corp	1,511,321	26.4968276	10,708,746	48,190,472	(20,119,100)	—	18,219,209	7,051,298	774	25,271,281	4,110,585	10,004,525	1,127,505	7,003	15,249,618	4,012,300	(1,468)	(1,683,189)	2,327,643
Sandy City	264,803	4.6425852	1,876,310	8,443,591	(3,525,125)	—	3,192,240	1,235,478	6,378	4,434,096	720,227	1,752,921	197,553	4,680	2,675,381	703,007	891	(294,916)	408,982
Unified Fire Authority	1,718,503	30.1291902	12,176,773	54,796,744	(22,877,161)	—	20,716,820	8,017,937	18,781	28,753,538	4,674,091	11,376,012	1,282,071	10,503	17,342,677	4,562,333	3,363	(1,913,932)	2,651,764
Weber Fire District	180,142	3.1582865	1,276,428	5,744,058	(2,398,094)	—	2,171,637	840,479	4,803	3,016,919	489,961	1,192,488	134,393	—	1,816,842	478,246	1,814	(200,628)	279,432
West Valley City	390,070	6.8387941	2,763,912	12,437,893	(5,192,712)	—	4,702,352	1,819,930	4,528	6,526,810	1,060,936	2,582,154	291,007	20,258	3,954,355	1,035,569	(7,102)	(434,429)	594,038
Grand Total	$ 5,703,779	100.0000000%	$ 40,415,201	181,872,609	(75,930,223)	—	68,759,961	26,611,858	87,473	95,459,292	15,513,498	37,757,442	4,255,245	89,478	57,615,663	15,142,568	(1,882)	(6,352,417)	8,788,269

Columns may not add to total due to rounding.

Judges Retirement System

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
State of Utah	$ 8,091,313	100.0000000%	$ 48,638,543	75,935,463	25,403,548	6,756,482	13,427,925	7,135,437	—	27,319,844	—	7,324,361	—	—	7,324,361	12,356,757	—	(1,518,442)	10,838,315

Utah Governors and Legislators Retirement Plan

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
State Of Utah	$ 391,883	100.0000000%	$ 2,640,357	3,912,507	1,558,808	—	754,302	—	—	754,302	—	433,138	—	—	433,138	506,329	—	—	506,329

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
4 Corners Comm Behavior Health	$ 101,227	0.0993556%	$ 42,552	170,471	(56,170)	299	23,330	10,665	13,123	47,417	8,795	9,473	764	—	19,032	108,612	1,378	—	109,990
Active Re Entry Inc	1,114	0.0010938	468	1,877	(618)	3	257	117	201	578	97	104	8	135	344	1,196	8	—	1,204
Alpine City	19,831	0.0194641	8,336	33,396	(11,004)	59	4,570	2,089	2,557	9,275	1,723	1,856	150	—	3,729	21,277	271	—	21,548
Alpine School District	5,685,454	5.5803606	2,389,949	9,574,595	(3,154,801)	16,774	1,310,336	599,026	716,045	2,642,181	493,950	532,063	42,938	—	1,068,951	6,100,237	75,602	—	6,175,839
American Fork City	76,287	0.0748773	32,068	128,472	(42,331)	225	17,582	8,038	8,600	34,445	6,628	7,139	576	—	14,343	81,853	976	—	82,829
American Leadership Academy	154,146	0.1512965	64,797	259,589	(85,534)	455	35,526	16,241	18,830	71,052	13,392	14,425	1,164	—	28,981	165,392	2,048	—	167,440
AMES Charter School	8,690	0.0085294	3,653	14,634	(4,822)	26	2,003	916	1,325	4,270	755	813	66	168	1,802	9,324	120	—	9,444
Ash Creek SS District	8,969	0.0088035	3,770	15,105	(4,977)	26	2,067	945	1,474	4,512	779	839	68	—	1,686	9,624	136	—	9,760
Ashley Valley Improv Dist	16,516	0.0162111	6,943	27,814	(9,165)	49	3,807	1,740	2,195	7,791	1,435	1,546	125	—	3,106	17,721	221	—	17,942
Ballard Town	1,864	0.0018294	783	3,139	(1,034)	5	430	196	196	827	162	174	14	—	350	2,000	22	—	2,022
Bear River Assn of Govts	32,475	0.0318747	13,651	54,690	(18,020)	96	7,485	3,422	4,298	15,301	2,821	3,039	245	—	6,105	34,844	448	—	35,292
Bear River Health Dept	133,752	0.1312800	56,224	225,246	(74,218)	395	30,826	14,092	16,995	62,308	11,620	12,517	1,010	—	25,147	143,510	1,822	—	145,332
Bear River Mental Health	112,747	0.1106632	47,395	189,872	(62,562)	333	25,985	11,879	13,838	52,035	9,795	10,551	851	—	21,197	120,973	1,490	—	122,463
Bear River Water District	12,596	0.0123636	5,295	21,213	(6,990)	37	2,903	1,327	1,824	6,091	1,094	1,179	95	—	2,368	13,515	185	—	13,700
Beaver City	29,548	0.0290020	12,421	49,761	(16,396)	87	6,810	3,113	3,786	13,796	2,567	2,765	223	—	5,555	31,704	403	—	32,107
Beaver County	61,095	0.0599660	25,682	102,888	(33,901)	180	14,081	6,437	7,396	28,094	5,308	5,717	461	—	11,486	65,553	804	—	66,357
Beaver School District	101,110	0.0992407	42,503	170,274	(56,105)	298	23,303	10,653	13,240	47,494	8,784	9,462	764	—	19,010	108,486	1,372	—	109,858
Beaver Valley Hospital	93,957	0.0922198	39,496	158,228	(52,136)	277	21,654	9,899	12,599	44,429	8,163	8,793	710	—	17,666	100,811	1,292	—	102,103
Benchland Water Company	6,851	0.0067240	2,880	11,537	(3,801)	20	1,579	722	990	3,311	595	641	52	—	1,288	7,350	98	—	7,448
Big Plains Water & Sewer Spec Service Dist	1,917	0.0018816	806	3,228	(1,064)	6	442	202	346	996	167	179	14	—	360	2,057	31	—	2,088
Blanding City	19,364	0.0190057	8,140	32,609	(10,745)	57	4,463	2,040	2,740	9,300	1,682	1,812	146	—	3,640	20,776	276	—	21,052
Bluffdale City	85,874	0.0842863	36,098	144,616	(47,650)	253	19,791	9,048	11,426	40,518	7,461	8,036	649	—	16,146	92,139	1,185	—	93,324
Bona Vista Water Improve	5,161	0.0050660	2,170	8,692	(2,864)	15	1,190	544	751	2,500	448	483	39	—	970	5,538	79	—	5,617
Bountiful Irrigation District	6,948	0.0068198	2,921	11,701	(3,856)	20	1,601	732	972	3,325	604	650	52	—	1,306	7,455	99	—	7,554
Box Elder Co Mosq Dist	4,874	0.0047839	2,049	8,208	(2,705)	14	1,123	514	624	2,275	423	456	37	—	916	5,230	65	—	5,295
Box Elder County	94,903	0.0931490	39,894	159,822	(52,661)	280	21,873	9,999	12,545	44,697	8,245	8,881	717	—	17,843	101,827	1,314	—	103,141
Box Elder School District	836,451	0.8209890	351,612	1,408,625	(464,138)	2,468	192,778	88,129	112,940	396,315	72,671	78,278	6,317	—	157,266	897,474	11,549	—	909,023
Bridgerland Technical College	39,716	0.0389818	16,695	66,884	(22,038)	117	9,153	4,185	4,899	18,354	3,451	3,717	300	192	7,660	42,613	546	—	43,159
Brigham City	96,012	0.0942375	40,360	161,690	(53,276)	283	22,128	10,116	11,538	44,065	8,342	8,985	725	—	18,052	103,017	1,237	—	104,254
Cache County	149,946	0.1471746	63,032	252,517	(83,204)	442	34,558	15,799	19,975	70,774	13,027	14,032	1,132	—	28,191	160,886	2,044	—	162,930
Cache School District	1,302,898	1.2788148	547,689	2,194,147	(722,965)	3,844	300,281	137,275	178,735	620,135	113,195	121,929	9,840	—	244,964	1,397,951	18,162	—	1,416,113
Canyons School District	3,837,819	3.7668784	1,613,273	6,463,083	(2,129,567)	11,323	884,508	404,357	492,797	1,792,985	333,428	359,155	28,984	—	721,567	4,117,807	51,325	—	4,169,132
Carbon County	122,244	0.1199844	51,387	205,865	(67,832)	361	28,174	12,880	14,458	55,873	10,621	11,440	923	—	22,984	131,162	1,607	—	132,769
Carbon School District	297,855	0.2923491	125,207	501,603	(165,277)	879	68,647	31,382	36,590	137,498	25,878	27,874	2,249	—	56,001	319,585	3,910	—	323,495
Castle Dale City	2,896	0.0028425	1,217	4,877	(1,607)	9	667	305	398	1,379	252	271	22	60	605	3,107	36	—	3,143
Castle Valley SSD	5,895	0.0057860	2,478	9,927	(3,271)	17	1,359	621	795	2,792	512	552	45	—	1,109	6,325	80	—	6,405
Cedar City	109,301	0.1072807	45,946	184,069	(60,650)	322	25,191	11,516	14,352	51,381	9,496	10,229	825	—	20,550	117,275	1,505	—	118,780
Cedar City Housing Auth	5,804	0.0056967	2,440	9,774	(3,221)	17	1,338	612	662	2,629	504	543	44	—	1,091	6,227	73	—	6,300
Cedar Mtn Fire Protection Dist	2,289	0.0022466	962	3,855	(1,270)	7	528	241	414	1,190	199	214	17	—	430	2,456	37	—	2,493
Centerville City	27,920	0.0274036	11,736	47,018	(15,492)	82	6,435	2,942	3,948	13,407	2,426	2,613	211	—	5,250	29,957	390	—	30,347
Central Davis Sewer Dist	11,889	0.0116693	4,998	20,022	(6,597)	35	2,740	1,253	1,234	5,262	1,033	1,113	90	—	2,236	12,756	139	—	12,895
Central Iron Co Water Conserv	12,556	0.0123242	5,278	21,145	(6,967)	37	2,894	1,323	1,504	5,758	1,091	1,175	95	—	2,361	13,472	161	—	13,633
Central Ut Public Health	48,988	0.0480826	20,593	82,499	(27,183)	145	11,290	5,161	6,743	23,339	4,256	4,584	370	—	9,210	52,562	676	—	53,238
Central Utah Counseling Center	60,294	0.0591798	25,345	101,539	(33,457)	178	13,896	6,353	7,955	28,382	5,238	5,643	455	—	11,336	64,693	801	—	65,494
Central Utah Water Dist	167,200	0.1641094	70,285	281,573	(92,778)	493	38,535	17,616	22,509	79,153	14,526	15,647	1,263	—	31,436	179,398	2,355	—	181,753
Central Wasatch Commission	5,736	0.0056297	2,411	9,659	(3,183)	17	1,322	604	1,035	2,978	498	537	43	—	1,078	6,154	92	—	6,246
Central Weber Sewer Dist	67,354	0.0661088	28,313	113,427	(37,374)	199	15,523	7,096	8,122	30,940	5,852	6,303	509	—	12,664	72,268	880	—	73,148
City of Bountiful	217,961	0.2139319	91,622	367,057	(120,944)	643	50,234	22,965	27,712	101,554	18,936	20,397	1,646	—	40,979	233,862	2,945	—	236,807
City of Cedar Hills	15,001	0.0147242	6,306	25,263	(8,324)	44	3,457	1,581	1,712	6,794	1,303	1,404	113	—	2,820	16,096	196	—	16,292
City of Draper	182,558	0.1791831	76,740	307,436	(101,299)	539	42,074	19,234	24,594	86,441	15,861	17,084	1,379	—	34,324	195,876	2,518	—	198,394
City of Duchesne	6,995	0.0068655	2,940	11,780	(3,881)	21	1,612	737	939	3,309	608	655	53	—	1,316	7,505	97	—	7,602
City of Enterprise	2,558	0.0025102	1,075	4,307	(1,419)	8	589	269	461	1,327	222	239	19	75	555	2,744	32	—	2,776
City of Green River	13,416	0.0131676	5,639	22,593	(7,444)	40	3,092	1,413	1,987	6,532	1,166	1,255	101	—	2,522	14,394	195	—	14,589
City of Harrisville	10,684	0.0104868	4,491	17,993	(5,929)	32	2,462	1,126	1,564	5,184	928	1,000	81	—	2,009	11,464	155	—	11,619
City of Helper	9,034	0.0088673	3,798	15,214	(5,013)	27	2,082	952	1,139	4,200	785	845	68	—	1,698	9,693	121	—	9,814
City of Holladay	21,984	0.0215773	9,241	37,022	(12,199)	65	5,067	2,316	2,855	10,303	1,910	2,057	166	—	4,133	23,587	294	—	23,881
City of Kanab	31,414	0.0308330	13,205	52,902	(17,431)	93	7,240	3,310	4,274	14,917	2,729	2,940	237	—	5,906	33,705	435	—	34,140
City of Milford	11,590	0.0113756	4,872	19,518	(6,431)	34	2,671	1,221	1,510	5,436	1,007	1,085	88	—	2,180	12,435	156	—	12,591
City of Moab	111,902	0.1098332	47,039	188,448	(62,093)	330	25,790	11,790	15,520	53,430	9,722	10,472	845	—	21,039	120,065	1,567	—	121,632
City of Monticello	14,084	0.0138239	5,920	23,719	(7,815)	42	3,246	1,484	1,635	6,407	1,224	1,318	106	123	2,771	15,112	178	—	15,290
City of Naples	8,721	0.0085602	3,666	14,687	(4,839)	26	2,010	919	1,138	4,093	758	816	66	—	1,640	9,358	130	—	9,488
City of North Salt Lake	50,913	0.0499722	21,402	85,741	(28,251)	150	11,734	5,364	6,321	23,569	4,423	4,765	385	—	9,573	54,628	663	—	55,291
City of Orem	275,775	0.2706777	115,925	464,420	(153,025)	814	63,558	29,056	34,056	127,484	23,959	25,808	2,083	—	51,850	295,895	3,685	—	299,580
City of Riverton	132,950	0.1304926	55,887	223,895	(73,773)	392	30,641	14,008	16,378	61,419	11,551	12,442	1,004	—	24,997	142,650	1,750	—	144,400
City of Santa Clara	33,140	0.0325277	13,931	55,810	(18,389)	98	7,638	3,492	4,435	15,663	2,879	3,101	250	—	6,230	35,558	458	—	36,016

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
City of Saratoga Springs	$ 128,133	0.1257648%	$ 53,862	215,783	(71,100)	378	29,531	13,500	16,802	60,211	11,132	11,991	968	—	24,091	137,481	1,767	—	139,248
City of South Jordan	264,502	0.2596129	111,187	445,435	(146,770)	780	60,960	27,868	35,023	124,631	22,980	24,753	1,998	—	49,731	283,799	3,655	—	287,454
City of South Salt Lake	164,878	0.1618299	69,308	277,662	(91,489)	486	38,000	17,372	19,906	75,764	14,325	15,430	1,245	—	31,000	176,906	2,136	—	179,042
City of St George	670,899	0.6584972	282,020	1,129,827	(372,275)	1,979	154,623	70,687	83,842	311,131	58,287	62,785	5,067	—	126,139	719,844	8,912	—	728,756
City of Taylorsville	49,019	0.0481128	20,606	82,550	(27,200)	145	11,297	5,165	6,148	22,755	4,259	4,587	370	—	9,216	52,595	648	—	53,243
City of Uintah	295	0.0002892	124	496	(163)	1	68	31	346	446	26	28	2	460	516	316	(5)	—	311
City of Washington Terrace	12,048	0.0118255	5,065	20,290	(6,685)	36	2,777	1,269	1,449	5,531	1,047	1,128	91	—	2,266	12,927	157	—	13,084
City of Wendover	20,045	0.0196743	8,426	33,757	(11,123)	59	4,620	2,112	2,697	9,488	1,741	1,876	151	—	3,768	21,507	276	—	21,783
City of West Haven	19,536	0.0191745	8,212	32,899	(10,840)	58	4,502	2,058	2,578	9,196	1,697	1,828	148	—	3,673	20,961	268	—	21,229
City of West Jordan	370,041	0.3632005	155,551	623,167	(205,332)	1,092	85,284	38,988	50,172	175,536	32,149	34,630	2,795	—	69,574	397,037	5,180	—	402,217
City of Woodland Hills	6,595	0.0064729	2,772	11,106	(3,659)	19	1,520	695	1,075	3,309	573	617	50	—	1,240	7,076	101	—	7,177
Clearfield City	106,482	0.1045139	44,761	179,321	(59,086)	314	24,541	11,219	13,401	49,475	9,251	9,965	804	—	20,020	114,251	1,429	—	115,680
Cleveland Town	2,755	0.0027039	1,158	4,639	(1,529)	8	635	290	350	1,283	239	258	21	—	518	2,956	39	—	2,995
Clinton City	29,508	0.0289622	12,404	49,692	(16,373)	87	6,801	3,109	3,812	13,809	2,564	2,761	223	—	5,548	31,660	396	—	32,056
Coalville City	9,805	0.0096233	4,121	16,511	(5,440)	29	2,260	1,033	1,168	4,490	852	918	74	—	1,844	10,520	132	—	10,652
Color Country Uniserv	1,639	0.0016089	689	2,760	(910)	5	378	173	198	754	142	153	12	—	307	1,759	23	—	1,782
Cottonwood Heights City	69,884	0.0685926	29,377	117,689	(38,778)	206	16,106	7,363	9,259	32,934	6,072	6,540	528	—	13,140	74,983	958	—	75,941
Cottonwood Heights P&R Srv	22,448	0.0220330	9,436	37,803	(12,456)	66	5,174	2,365	2,919	10,524	1,950	2,101	170	—	4,221	24,086	302	—	24,388
Cottonwood Imp District	22,878	0.0224549	9,617	38,527	(12,695)	67	5,273	2,410	2,905	10,655	1,988	2,141	173	—	4,302	24,547	304	—	24,851
Council On Aging Golden Age SS	5,243	0.0051460	2,204	8,829	(2,909)	15	1,208	552	601	2,376	456	491	40	—	987	5,625	66	—	5,691
Daggett County	16,963	0.0166498	7,131	28,567	(9,413)	50	3,910	1,787	2,414	8,161	1,474	1,587	128	—	3,189	18,201	243	—	18,444
Daggett School District	32,094	0.0315012	13,491	54,049	(17,809)	95	7,397	3,382	3,938	14,812	2,788	3,003	242	—	6,033	34,436	421	—	34,857
Davis & Weber County Canal Co	3,998	0.0039244	1,681	6,733	(2,219)	12	921	421	1,243	2,597	347	374	30	1,320	2,071	4,290	16	—	4,306
Davis Behavioral Health Inc	323,510	0.3175303	135,991	544,808	(179,513)	954	74,560	34,085	42,712	152,311	28,106	30,275	2,443	—	60,824	347,112	4,409	—	351,521
Davis Co Housing Authority	10,662	0.0104652	4,482	17,956	(5,916)	31	2,457	1,123	1,257	4,868	926	998	81	—	2,005	11,440	139	—	11,579
Davis Co Mosquito Abate	2,795	0.0027436	1,175	4,707	(1,551)	8	644	295	545	1,492	243	262	21	96	622	2,999	39	—	3,038
Davis County	534,748	0.5248632	224,788	900,543	(296,726)	1,578	123,244	56,342	70,596	251,760	46,459	50,043	4,039	—	100,541	573,760	7,312	—	581,072
Davis School District	5,087,749	4.9937037	2,138,696	8,568,028	(2,823,141)	15,010	1,172,582	536,051	665,470	2,389,113	442,022	476,127	38,424	—	956,573	5,458,926	69,110	—	5,528,036
Davis Technical College	73,518	0.0721595	30,904	123,809	(40,795)	217	16,944	7,746	9,705	34,612	6,387	6,880	555	—	13,822	78,882	1,000	—	79,882
DDI Vantage	156,047	0.1531628	65,596	262,792	(86,589)	460	35,964	16,441	18,676	71,541	13,557	14,603	1,179	—	29,339	167,432	2,019	—	169,451
Delta City	16,999	0.0166849	7,146	28,627	(9,433)	50	3,918	1,791	2,123	7,882	1,477	1,591	128	—	3,196	18,239	229	—	18,468
Dixie Applied Tech College	2,868	0.0028150	1,206	4,830	(1,591)	8	661	302	518	1,489	249	268	22	—	539	3,077	46	—	3,123
Dixie State University	61,113	0.0599834	25,690	102,917	(33,911)	180	14,085	6,439	6,676	27,380	5,309	5,719	462	—	11,490	65,572	764	—	66,336
Duchesne Co Water Conserv Dist	2,016	0.0019790	848	3,396	(1,119)	6	465	212	364	1,047	175	189	15	—	379	2,163	32	—	2,195
Duchesne County	141,924	0.1393001	59,659	239,006	(78,752)	419	32,709	14,953	18,565	66,646	12,330	13,282	1,072	—	26,684	152,278	1,925	—	154,203
Duchesne School District	538,363	0.5284115	226,307	906,631	(298,732)	1,588	124,077	56,723	68,437	250,825	46,773	50,382	4,066	—	101,221	577,639	7,238	—	584,877
Eagle Mountain City	100,292	0.0984386	42,159	168,898	(55,651)	296	23,115	10,567	12,616	46,594	8,713	9,386	757	—	18,856	107,609	1,342	—	108,951
East Carbon City	7,533	0.0073937	3,167	12,686	(4,180)	22	1,736	794	899	3,451	654	705	57	—	1,416	8,083	96	—	8,179
East Hollywood High School	44,886	0.0440558	18,868	75,589	(24,907)	132	10,345	4,729	5,489	20,695	3,900	4,201	339	—	8,440	48,160	592	—	48,752
Educators Mutual Insurance	28,980	0.0284445	12,182	48,804	(16,081)	85	6,679	3,053	2,706	12,523	2,518	2,712	219	4	5,453	31,094	316	—	31,410
Elk Ridge City	16,548	0.0162421	6,956	27,868	(9,182)	49	3,814	1,744	1,889	7,496	1,438	1,549	125	55	3,167	17,755	217	—	17,972
Emery Co Care & Rehab Ctr	24,115	0.0236693	10,137	40,611	(13,381)	71	5,558	2,541	3,118	11,288	2,095	2,257	182	72	4,606	25,874	319	—	26,193
Emery County	49,148	0.0482394	20,660	82,768	(27,272)	145	11,327	5,178	6,403	23,053	4,270	4,599	371	—	9,240	52,733	680	—	53,413
Emery County Recreation SSD	3,680	0.0036123	1,547	6,198	(2,042)	11	848	388	389	1,636	320	344	28	44	736	3,949	43	—	3,992
Emery School District	172,294	0.1691091	72,426	290,152	(95,604)	508	39,709	18,153	22,490	80,860	14,969	16,124	1,301	—	32,394	184,864	2,342	—	187,206
Emery Water Conserv Dist	12,938	0.0126984	5,438	21,787	(7,179)	38	2,982	1,363	1,542	5,925	1,124	1,211	98	—	2,433	13,881	166	—	14,047
Enoch City	20,736	0.0203524	8,716	34,920	(11,506)	61	4,779	2,185	2,881	9,906	1,802	1,941	157	—	3,900	22,248	291	—	22,539
Ephraim City	28,318	0.0277947	11,904	47,689	(15,713)	84	6,527	2,984	3,706	13,301	2,460	2,650	214	—	5,324	30,384	385	—	30,769
Fairview City	2,854	0.0028009	1,200	4,806	(1,583)	8	658	301	374	1,341	248	267	22	—	537	3,062	43	—	3,105
Farmington City	70,745	0.0694376	29,739	119,139	(39,256)	209	16,305	7,454	8,135	32,103	6,146	6,621	534	—	13,301	75,907	910	—	76,817
Farr West City	3,919	0.0038470	1,648	6,601	(2,175)	12	903	413	669	1,997	341	367	30	—	738	4,205	61	—	4,266
Fast Forward Charter HS	39,992	0.0392524	16,811	67,348	(22,191)	118	9,217	4,214	5,291	18,840	3,474	3,743	302	—	7,519	42,909	542	—	43,451
Ferron City	6,610	0.0064880	2,779	11,132	(3,668)	20	1,523	696	1,017	3,256	574	619	50	—	1,243	7,092	103	—	7,195
Fillmore City	11,205	0.0109975	4,710	18,869	(6,217)	33	2,582	1,181	1,632	5,428	973	1,049	85	230	2,337	12,022	148	—	12,170
Five-County Assn of Govts	58,135	0.0570609	24,438	97,903	(32,259)	172	13,399	6,125	6,938	26,634	5,051	5,441	439	—	10,931	62,377	746	—	63,123
Fox Hollow Golf Course	4,026	0.0039519	1,693	6,781	(2,234)	12	928	424	727	2,091	350	377	30	—	757	4,320	65	—	4,385
Francis City	3,488	0.0034234	1,466	5,874	(1,935)	10	804	367	588	1,769	303	326	26	—	655	3,742	54	—	3,796
Fruit Heights City	9,098	0.0089296	3,824	15,321	(5,048)	27	2,097	959	1,112	4,195	790	851	69	—	1,710	9,761	116	—	9,877
Garfield County	36,045	0.0353786	15,152	60,701	(20,001)	106	8,307	3,798	5,049	17,260	3,132	3,373	272	—	6,777	38,675	508	—	39,183
Garfield School District	72,153	0.0708196	30,331	121,510	(40,037)	213	16,629	7,602	9,974	34,418	6,269	6,752	545	—	13,566	77,417	996	—	78,413
Garland City	7,299	0.0071643	3,068	12,292	(4,050)	22	1,682	769	1,065	3,538	634	683	55	—	1,372	7,832	106	—	7,938
Grand Co Cemetery Mtce Dist	5,976	0.0058655	2,512	10,064	(3,316)	18	1,377	630	759	2,784	519	559	45	—	1,123	6,412	88	—	6,500
Grand County	130,172	0.1277655	54,719	219,216	(72,231)	384	30,001	13,715	16,850	60,950	11,309	12,182	983	—	24,474	139,668	1,780	—	141,448
Grand School District	279,451	0.2742852	117,470	470,609	(155,064)	824	64,405	29,443	36,118	130,790	24,279	26,152	2,110	—	52,541	299,838	3,797	—	303,635
Grand Water/Sewer Service	15,691	0.0154009	6,596	26,424	(8,707)	46	3,616	1,653	2,113	7,428	1,363	1,468	119	—	2,950	16,836	215	—	17,051

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Granger-Hunter Imp Dist	$ 112,370	0.1102929%	$ 47,236	189,237	(62,353)	332	25,898	11,839	15,402	53,471	9,763	10,516	849	—	21,128	120,568	1,571	—	122,139
Granite School District	5,408,324	5.3083528	2,273,454	9,107,893	(3,001,024)	15,956	1,246,465	569,827	695,719	2,527,967	469,873	506,128	40,845	—	1,016,846	5,802,888	73,017	—	5,875,905
Grantsville City	43,442	0.0426390	18,261	73,159	(24,106)	128	10,012	4,577	6,568	21,285	3,774	4,065	328	—	8,167	46,611	643	—	47,254
Gunnison City	4,838	0.0047490	2,034	8,148	(2,685)	14	1,115	510	650	2,289	420	453	37	—	910	5,191	66	—	5,257
Gunnison Valley Hospital	107,281	0.1052979	45,097	180,667	(59,529)	317	24,725	11,303	13,886	50,231	9,321	10,040	810	—	20,171	115,108	1,430	—	116,538
Heber City	105,061	0.1031187	44,164	176,928	(58,297)	310	24,214	11,069	13,238	48,831	9,128	9,832	793	—	19,753	112,725	1,400	—	114,125
Heber Light & Power	56,993	0.0559398	23,958	95,980	(31,625)	168	13,135	6,005	7,272	26,580	4,952	5,334	430	—	10,716	61,151	769	—	61,920
Heber Valley Historic Railroad	16,292	0.0159904	6,848	27,436	(9,040)	48	3,755	1,716	1,808	7,327	1,415	1,525	123	—	3,063	17,480	210	—	17,690
Herriman City	148,449	0.1457050	62,402	249,996	(82,373)	438	34,213	15,641	20,002	70,294	12,897	13,892	1,121	—	27,910	159,279	2,059	—	161,338
High Desert Uniserv	1,751	0.0017185	736	2,949	(972)	5	404	184	219	812	152	164	13	—	329	1,879	25	—	1,904
High School Activities Assn	6,469	0.0063499	2,720	10,895	(3,590)	19	1,491	682	1,072	3,264	562	605	49	—	1,216	6,941	100	—	7,041
Highland City	21,853	0.0214487	9,186	36,801	(12,126)	64	5,036	2,302	3,445	10,847	1,899	2,045	165	332	4,441	23,447	294	—	23,741
Hinckley Town	7,378	0.0072418	3,102	12,425	(4,094)	22	1,700	777	1,156	3,655	641	690	56	—	1,387	7,916	111	—	8,027
Hooper City	21,085	0.0206948	8,863	35,507	(11,700)	62	4,859	2,221	2,917	10,059	1,832	1,973	159	—	3,964	22,623	296	—	22,919
Hooper Water Improv Dist	5,519	0.0054169	2,320	9,294	(3,062)	16	1,272	581	758	2,627	479	516	42	—	1,037	5,922	78	—	6,000
Housing Auth of Carbon Co	6,964	0.0068357	2,928	11,728	(3,864)	21	1,605	734	1,178	3,538	605	652	53	—	1,310	7,473	109	—	7,582
Housing Auth of SI County	181,809	0.1784486	76,426	306,176	(100,884)	536	41,902	19,156	24,457	86,051	15,796	17,014	1,373	—	34,183	195,073	2,535	—	197,608
Housing Authority of SLC	152,669	0.1498468	64,176	257,102	(84,714)	450	35,186	16,085	21,018	72,739	13,264	14,287	1,153	—	28,704	163,807	2,113	—	165,920
Housing Authority Ogden City	19,932	0.0195633	8,379	33,566	(11,060)	59	4,594	2,100	3,119	9,872	1,732	1,865	151	—	3,748	21,386	309	—	21,695
Hurricane City	79,860	0.0783841	33,570	134,489	(44,314)	236	18,406	8,414	10,616	37,672	6,938	7,474	603	—	15,015	85,687	1,098	—	86,785
Hurricane Valley Fire SSD	2,319	0.0022766	975	3,906	(1,287)	7	535	244	439	1,225	202	217	18	47	484	2,489	39	—	2,528
Hyde Park City	2,850	0.0027973	1,198	4,800	(1,581)	8	657	300	543	1,508	248	267	22	279	816	3,058	39	—	3,097
Hyrum City	15,483	0.0151968	6,508	26,074	(8,591)	46	3,568	1,631	1,967	7,212	1,345	1,449	117	—	2,911	16,613	201	—	16,814
Intech Collegiate High School	28,966	0.0284303	12,176	48,780	(16,073)	85	6,676	3,052	3,909	13,722	2,517	2,711	219	—	5,447	31,079	411	—	31,490
Iron County	150,213	0.1474363	63,144	252,966	(83,352)	443	34,620	15,827	19,201	70,091	13,050	14,057	1,134	—	28,241	161,172	1,986	—	163,158
Iron School District	571,593	0.5610270	240,276	962,591	(317,171)	1,686	131,736	60,224	73,881	267,527	49,660	53,491	4,317	—	107,468	613,293	7,675	—	620,968
Itineris High School	25,116	0.0246517	10,558	42,297	(13,937)	74	5,789	2,646	3,663	12,172	2,182	2,350	190	—	4,722	26,948	368	—	27,316
Ivins City	44,289	0.0434702	18,617	74,585	(24,575)	131	10,207	4,666	5,532	20,536	3,848	4,145	334	—	8,327	47,520	596	—	48,116
Jordan School District	4,600,455	4.5154166	1,933,856	7,747,400	(2,552,746)	13,573	1,060,274	484,709	590,975	2,149,531	399,686	430,525	34,744	—	864,955	4,936,081	61,687	—	4,997,768
Jordan Uniserv	3,555	0.0034892	1,494	5,987	(1,973)	10	819	375	641	1,845	309	333	27	—	669	3,814	57	—	3,871
Jordan Valley Water Conserv	133,933	0.1314570	56,300	225,549	(74,318)	395	30,868	14,111	17,399	62,773	11,636	12,534	1,011	—	25,181	143,704	1,827	—	145,531
Jordanelle SSD	36,938	0.0362552	15,527	62,205	(20,497)	109	8,513	3,892	4,977	17,491	3,209	3,457	279	—	6,945	39,633	523	—	40,156
Juab County	31,291	0.0307129	13,154	52,696	(17,363)	92	7,212	3,297	4,113	14,714	2,719	2,928	236	—	5,883	33,574	409	—	33,983
Juab School District	173,028	0.1698297	72,734	291,388	(96,012)	510	39,878	18,230	22,876	81,494	15,033	16,193	1,307	—	32,533	185,651	2,378	—	188,029
Kamas City	4,666	0.0045793	1,961	7,857	(2,589)	14	1,075	492	809	2,390	405	437	35	—	877	5,006	74	—	5,080
Kane County	144,398	0.1417289	60,699	243,174	(80,125)	426	33,280	15,214	18,050	66,970	12,545	13,513	1,091	—	27,149	154,933	1,923	—	156,856
Kane County Water Conserv Dist	15,542	0.0152542	6,533	26,173	(8,624)	46	3,582	1,637	1,957	7,222	1,350	1,454	117	—	2,921	16,675	208	—	16,883
Kane School District	143,002	0.1403588	60,113	240,823	(79,350)	422	32,958	15,067	17,949	66,396	12,424	13,383	1,080	—	26,887	153,435	1,920	—	155,355
Kaysville City	67,220	0.0659779	28,257	113,203	(37,300)	198	15,492	7,082	8,130	30,902	5,840	6,291	508	—	12,639	72,125	885	—	73,010
Kearns Improvement Dist	26,219	0.0257346	11,022	44,155	(14,549)	77	6,043	2,762	3,227	12,109	2,278	2,454	198	—	4,930	28,132	342	—	28,474
Laverkin City	11,205	0.0109977	4,710	18,869	(6,217)	33	2,582	1,181	1,606	5,402	973	1,049	85	—	2,107	12,022	158	—	12,180
Layton City	226,267	0.2220847	95,114	381,045	(125,553)	668	52,148	23,840	30,301	106,957	19,658	21,175	1,709	—	42,542	242,775	3,130	—	245,905
Lehi City	266,837	0.2619050	112,168	449,368	(148,065)	787	61,498	28,114	35,777	126,176	23,183	24,971	2,015	—	50,169	286,305	3,646	—	289,951
Lewiston City	12,384	0.0121546	5,206	20,854	(6,871)	37	2,854	1,305	1,715	5,911	1,076	1,159	94	—	2,329	13,287	172	—	13,459
Lindon City	26,009	0.0255285	10,933	43,801	(14,432)	77	5,994	2,740	3,443	12,254	2,260	2,434	196	—	4,890	27,907	359	—	28,266
Logan City	313,470	0.3076753	131,771	527,899	(173,941)	925	72,246	33,028	41,492	147,691	27,234	29,335	2,367	—	58,936	336,339	4,316	—	340,655
Logan School District	448,348	0.4400608	188,469	755,041	(248,784)	1,323	103,332	47,239	53,827	205,721	38,952	41,958	3,386	—	84,296	481,058	5,871	—	486,929
Manti City	18,529	0.0181870	7,789	31,205	(10,282)	55	4,271	1,952	2,644	8,922	1,610	1,734	140	—	3,484	19,881	252	—	20,133
Mapleton City	26,998	0.0264985	11,349	45,465	(14,981)	80	6,222	2,844	4,046	13,192	2,346	2,527	204	—	5,077	28,967	401	—	29,368
Marriott-Slaterville City	3,419	0.0033562	1,437	5,758	(1,897)	10	788	360	539	1,697	297	320	26	—	643	3,669	51	—	3,720
Mendon City	1,914	0.0018790	805	3,224	(1,062)	6	441	202	236	885	166	179	14	—	359	2,054	25	—	2,079
Metro Water Dist Slc/Sandy	41,368	0.0406038	17,390	69,667	(22,955)	122	9,534	4,359	5,319	19,334	3,594	3,871	312	—	7,777	44,387	559	—	44,946
Midvale City	137,613	0.1350688	57,847	231,746	(76,360)	406	31,716	14,499	18,234	64,855	11,956	12,878	1,039	—	25,873	147,652	1,874	—	149,526
Midvalley Improvement District	6,150	0.0060362	2,585	10,357	(3,413)	18	1,417	648	728	2,811	534	576	46	—	1,156	6,599	78	—	6,677
Midway City	25,897	0.0254179	10,886	43,611	(14,370)	76	5,968	2,728	3,316	12,088	2,250	2,423	196	—	4,869	27,786	360	—	28,146
Millard Co Care & Rehab Inc	65,256	0.0640495	27,431	109,894	(36,210)	193	15,040	6,875	7,993	30,101	5,669	6,107	493	—	12,269	70,016	840	—	70,856
Millard County	72,334	0.0709973	30,407	121,815	(40,138)	213	16,671	7,621	9,334	33,839	6,284	6,769	546	—	13,599	77,612	980	—	78,592
Millard School District	269,423	0.2644433	113,255	453,723	(149,500)	795	62,094	28,387	35,646	126,922	23,407	25,213	2,035	—	50,655	289,079	3,697	—	292,776
Millcreek City	35,676	0.0350169	14,997	60,081	(19,796)	105	8,222	3,759	6,317	18,403	3,100	3,339	269	—	6,708	38,279	569	—	38,848
Millville City	1,778	0.0017452	747	2,994	(987)	5	410	187	497	1,099	154	166	13	278	611	1,908	24	—	1,932
Minersville Town	748	0.0007346	315	1,260	(415)	2	172	79	125	378	65	70	6	65	206	803	8	—	811
Monroe City	2,887	0.0028335	1,214	4,862	(1,602)	9	665	304	398	1,376	251	270	22	—	543	3,097	40	—	3,137
Monticello Academy	87,946	0.0863206	36,969	148,106	(48,800)	259	20,269	9,266	11,384	41,178	7,641	8,230	664	—	16,535	94,362	1,184	—	95,546
Morgan City Corporation	14,062	0.0138019	5,911	23,681	(7,803)	41	3,241	1,482	2,263	7,027	1,222	1,316	106	—	2,644	15,088	217	—	15,305
Morgan County	26,005	0.0255248	10,932	43,795	(14,430)	77	5,994	2,740	2,707	11,518	2,259	2,434	196	—	4,889	27,903	312	—	28,215

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Morgan School District	$ 233,278	0.22896575	$ 98,061	392,852	(129,443)	688	53,764	24,578	31,926	110,956	20,267	21,831	1,762	—	43,860	250,297	3,267	—	253,564
Moroni City	3,975	0.0039015	1,671	6,694	(2,206)	12	916	419	420	1,767	345	372	30	—	747	4,265	48	—	4,313
Mount Pleasant City	14,926	0.0146500	6,274	25,136	(8,282)	44	3,440	1,573	1,708	6,765	1,297	1,397	113	—	2,807	16,015	197	—	16,212
Mountain Regional Water SSD	29,094	0.0285559	12,230	48,995	(16,144)	86	6,705	3,065	3,664	13,520	2,528	2,723	220	—	5,471	31,216	388	—	31,604
Mountainland Assn of Govt	43,150	0.0423527	18,139	72,667	(23,944)	127	9,945	4,546	5,878	20,496	3,749	4,038	326	—	8,113	46,298	613	—	46,911
Mt Olympus Improvement Dist	30,531	0.0299666	12,834	51,416	(16,941)	90	7,037	3,217	4,042	14,386	2,653	2,857	231	—	5,741	32,758	418	—	33,176
Murray City	266,802	0.2618701	112,153	449,308	(148,046)	787	61,490	28,111	34,138	124,526	23,180	24,968	2,015	—	50,163	286,266	3,584	—	289,850
Murray School District	530,230	0.5204289	222,889	892,934	(294,219)	1,564	122,203	55,866	70,446	250,079	46,066	49,621	4,004	—	99,691	568,913	7,255	—	576,168
Myton City	2,563	0.0025158	1,077	4,317	(1,422)	8	591	270	336	1,205	223	240	19	—	482	2,750	34	—	2,784
N Ut Environmental Rsrc Agcy	3,884	0.0038121	1,633	6,541	(2,155)	11	895	409	596	1,911	337	363	29	—	729	4,167	58	—	4,225
Nebo Credit Union	16,590	0.0162832	6,974	27,938	(9,206)	49	3,823	1,748	2,165	7,785	1,441	1,553	125	—	3,119	17,800	228	—	18,028
Nebo School District	2,745,581	2.6948295	1,154,138	4,623,698	(1,523,495)	8,100	632,778	289,278	354,423	1,284,579	238,535	256,940	20,735	—	516,210	2,945,885	37,084	—	2,982,969
Nephi City	49,629	0.0487121	20,862	83,579	(27,539)	146	11,438	5,229	6,790	23,603	4,312	4,644	375	—	9,331	53,250	697	—	53,947
Nibley City Corporation	27,292	0.0267875	11,473	45,961	(15,144)	81	6,290	2,876	3,588	12,835	2,371	2,554	206	—	5,131	29,283	372	—	29,655
Noah Webster Academy Inc	62,568	0.0614118	26,301	105,368	(34,719)	185	14,420	6,592	7,431	28,628	5,436	5,855	473	—	11,764	67,133	788	—	67,921
North Davis Co Sewer Dist	30,803	0.0302331	12,948	51,873	(17,092)	91	7,099	3,245	4,329	14,764	2,676	2,883	233	—	5,792	33,050	449	—	33,499
North Davis Fire District	387	0.0003799	163	652	(215)	1	89	41	70	201	34	36	3	—	73	415	6	—	421
North Emery Water Users SSD	7,945	0.0077978	3,340	13,379	(4,408)	23	1,831	837	1,068	3,759	690	743	60	—	1,493	8,524	108	—	8,632
North Logan City	40,143	0.0394013	16,875	67,603	(22,275)	118	9,252	4,230	5,744	19,344	3,488	3,757	303	—	7,548	43,072	573	—	43,645
North Ogden City	69,948	0.0686548	29,403	117,796	(38,813)	206	16,121	7,370	9,215	32,912	6,077	6,546	528	—	13,151	75,051	958	—	76,009
North Park Police Agency	924	0.0009069	388	1,556	(513)	3	213	97	167	480	80	86	7	—	173	991	15	—	1,006
North Pointe Solid Waste	30,237	0.0296783	12,711	50,921	(16,778)	89	6,969	3,186	3,716	13,960	2,627	2,830	228	—	5,685	32,443	398	—	32,841
North Sanpete School Dist	165,916	0.1628490	69,745	279,411	(92,065)	489	38,239	17,481	21,851	78,060	14,415	15,527	1,253	—	31,195	178,020	2,286	—	180,306
North Summit School District	67,855	0.0666005	28,524	114,271	(37,652)	200	15,639	7,149	9,260	32,248	5,895	6,350	512	—	12,757	72,805	935	—	73,740
Northeastern Counseling Ctr	76,276	0.0748664	32,064	128,453	(42,325)	225	17,580	8,037	10,226	36,068	6,627	7,138	576	—	14,341	81,841	1,055	—	82,896
Nuames Charter School	61,161	0.0600306	25,710	102,998	(33,938)	180	14,096	6,444	8,369	29,089	5,314	5,724	462	—	11,500	65,623	862	—	66,485
Oakley City	9,978	0.0097938	4,194	16,804	(5,537)	29	2,300	1,051	1,640	5,020	867	934	75	—	1,876	10,706	153	—	10,859
Ogden City Corp	461,525	0.4529936	194,007	777,231	(256,095)	1,362	106,368	48,627	59,845	216,202	40,097	43,191	3,486	—	86,774	495,195	6,273	—	501,468
Ogden School District	1,338,569	1.3138256	562,683	2,254,218	(742,758)	3,949	308,502	141,033	160,619	614,103	116,294	125,267	10,109	—	251,670	1,436,224	17,454	—	1,453,678
Ogden-Weber Tech College	22,032	0.0216246	9,261	37,103	(12,225)	65	5,078	2,321	3,007	10,471	1,914	2,062	166	—	4,142	23,639	304	—	23,943
Oquirrh Rec And Parks District	9,549	0.0093728	4,014	16,082	(5,299)	28	2,201	1,006	1,624	4,859	830	894	72	152	1,948	10,246	138	—	10,384
Orangeville City	1,049	0.0010296	441	1,767	(582)	3	242	111	170	526	91	98	8	—	197	1,126	16	—	1,142
Orderville Town	1,653	0.0016225	695	2,784	(917)	5	381	174	248	808	144	155	12	—	311	1,774	24	—	1,798
Panguitch City Corporation	10,386	0.0101937	4,366	17,490	(5,763)	31	2,394	1,094	1,253	4,772	902	972	78	—	1,952	11,143	141	—	11,284
Park City	692,368	0.6795699	291,045	1,165,983	(384,188)	2,043	159,571	72,949	93,175	327,738	60,153	64,794	5,229	—	130,176	742,880	9,690	—	752,570
Park City Fire Service	11,795	0.0115771	4,958	19,864	(6,545)	35	2,718	1,243	1,527	5,523	1,025	1,104	89	532	2,750	12,656	133	—	12,789
Park City School District	859,447	0.8435607	361,279	1,447,353	(476,899)	2,536	198,078	90,552	118,619	409,785	74,668	80,430	6,491	—	161,589	922,148	11,996	—	934,144
Parowan City	6,339	0.0062215	2,665	10,675	(3,517)	19	1,461	668	1,452	3,600	551	593	48	935	2,127	6,801	77	—	6,878
Payson City	95,617	0.0938492	40,194	161,023	(53,057)	282	22,037	10,074	11,990	44,383	8,307	8,948	722	—	17,977	102,592	1,300	—	103,892
Perry City	10,786	0.0105870	4,534	18,165	(5,985)	32	2,486	1,136	1,845	5,499	937	1,009	81	318	2,345	11,573	159	—	11,732
Piute County	6,287	0.0061705	2,643	10,587	(3,488)	19	1,449	662	746	2,876	546	588	47	—	1,181	6,745	83	—	6,828
Piute School District	36,690	0.0360117	15,423	61,788	(20,359)	108	8,456	3,866	4,603	17,033	3,188	3,434	277	—	6,899	39,367	500	—	39,867
Plain City	7,494	0.0073559	3,150	12,621	(4,159)	22	1,727	790	998	3,537	651	701	57	—	1,409	8,041	99	—	8,140
Pleasant Grove City	75,973	0.0745687	31,936	127,942	(42,157)	224	17,510	8,005	10,264	36,003	6,601	7,110	574	—	14,285	81,516	1,075	—	82,591
Pleasant View City	17,982	0.0176501	7,559	30,283	(9,978)	53	4,144	1,895	2,607	8,699	1,562	1,683	136	—	3,381	19,294	262	—	19,556
Price City	41,537	0.0407696	17,461	69,951	(23,049)	123	9,573	4,376	5,386	19,458	3,609	3,887	314	—	7,810	44,568	573	—	45,141
Price River Water Improve	25,147	0.0246820	10,571	42,349	(13,954)	74	5,796	2,649	3,348	11,867	2,185	2,353	190	—	4,728	26,981	335	—	27,316
Providence City	17,982	0.0176496	7,559	30,283	(9,978)	53	4,144	1,895	2,445	8,537	1,562	1,683	136	—	3,381	19,294	246	—	19,540
Provo City Corp	687,616	0.6749052	289,047	1,157,980	(381,551)	2,029	158,476	72,448	87,271	320,224	59,740	64,349	5,193	—	129,282	737,781	9,193	—	746,974
Provo Housing Authority	22,092	0.0216832	9,286	37,203	(12,258)	65	5,091	2,328	3,008	10,492	1,919	2,067	167	713	4,866	23,703	258	—	23,961
Provo River Water Users	12,030	0.0118077	5,057	20,259	(6,675)	35	2,773	1,268	1,285	5,361	1,045	1,126	91	38	2,300	12,908	136	—	13,044
Provo School District	1,486,801	1.4593175	624,994	2,503,848	(825,011)	4,386	342,665	156,651	183,213	686,915	129,173	139,139	11,229	—	279,541	1,595,270	19,586	—	1,614,856
Rich County	19,549	0.0191879	8,218	32,922	(10,848)	58	4,506	2,060	2,008	8,632	1,698	1,829	148	—	3,675	20,975	232	—	21,207
Rich School District	45,907	0.0450583	19,298	77,310	(25,473)	135	10,580	4,837	5,722	21,274	3,988	4,296	347	—	8,631	49,256	594	—	49,850
Richfield City	8,824	0.0086606	3,709	14,860	(4,896)	26	2,034	930	1,136	4,126	767	826	67	26	1,686	9,467	110	—	9,577
Richmond City	15,082	0.0148036	6,340	25,400	(8,369)	44	3,476	1,589	2,153	7,262	1,310	1,411	114	—	2,835	16,183	217	—	16,400
Riverdale City	26,121	0.0256377	10,980	43,988	(14,494)	77	6,020	2,752	3,423	12,272	2,269	2,444	197	—	4,910	28,026	345	—	28,371
Roosevelt City	36,350	0.0356783	15,280	61,216	(20,170)	107	8,378	3,830	4,527	16,842	3,158	3,402	275	—	6,835	39,002	455	—	39,457
Roy City	79,076	0.0776142	33,241	133,168	(43,878)	233	18,225	8,332	9,846	36,636	6,870	7,400	597	—	14,867	84,845	1,053	—	85,898
S Utah Valley Electric Svc Dst	21,566	0.0211677	9,066	36,319	(11,967)	64	4,970	2,272	2,677	9,983	1,874	2,018	163	—	4,055	23,140	286	—	23,426
S Utah Valley Solid Waste	14,207	0.0139441	5,972	23,925	(7,883)	42	3,274	1,497	2,403	7,216	1,234	1,330	107	164	2,835	15,243	209	—	15,452
Salem City	31,391	0.0308109	13,196	52,864	(17,419)	93	7,235	3,307	4,558	15,193	2,727	2,938	237	—	5,902	33,681	451	—	34,132
Salina City	6,184	0.0060694	2,599	10,414	(3,431)	18	1,425	652	868	2,963	537	579	47	—	1,163	6,635	89	—	6,724
Salt Lake Arts Academy	35,464	0.0348080	14,908	59,722	(19,678)	105	8,173	3,736	3,700	15,714	3,081	3,319	268	—	6,668	38,051	425	—	38,476
Salt Lake City Corp	2,792,215	2.7406022	1,173,741	4,702,233	(1,549,372)	8,238	643,526	294,191	355,251	1,301,206	242,587	261,304	21,087	—	524,978	2,995,922	37,448	—	3,033,370

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Salt Lake City Public Library	$ 157,635	0.1547207%	$ 66,264	265,465	(87,470)	465	36,330	16,609	21,619	75,023	13,695	14,752	1,190	—	29,637	169,135	2,177	—	171,312
Salt Lake Community College	389,493	0.3822929	163,728	655,925	(216,125)	1,149	89,767	41,037	43,441	175,394	33,839	36,450	2,942	3,237	76,468	417,908	4,768	—	422,676
Salt Lake County	3,537,538	3.4721476	1,487,046	5,957,394	(1,962,944)	10,437	815,302	372,719	454,518	1,652,976	307,340	331,054	26,716	—	665,110	3,795,619	47,685	—	3,843,304
Salt Lake School District	2,278,301	2.2361874	957,711	3,836,775	(1,264,206)	6,722	525,084	240,044	289,155	1,061,005	197,938	213,211	17,206	—	428,355	2,444,515	30,550	—	2,475,065
San Juan County	95,878	0.0941054	40,303	161,463	(53,202)	283	22,097	10,102	13,620	46,102	8,330	8,973	724	—	18,027	102,872	1,386	—	104,258
San Juan Mental Health	20,959	0.0205713	8,810	35,296	(11,630)	62	4,830	2,208	2,897	9,997	1,821	1,961	158	29	3,969	22,488	284	—	22,772
San Juan School District	399,260	0.3918798	167,834	672,374	(221,545)	1,178	92,018	42,066	50,891	186,153	34,688	37,364	3,015	—	75,067	428,388	5,380	—	433,768
Sandy City	389,024	0.3818330	163,531	655,136	(215,865)	1,148	89,659	40,988	52,801	184,596	33,798	36,406	2,938	—	73,142	417,405	5,455	—	422,860
Sandy Suburban Imp Dist	4,298	0.0042186	1,807	7,238	(2,385)	13	991	453	485	1,942	373	402	32	—	807	4,612	54	—	4,666
Sanpete County	59,339	0.0582417	24,944	99,929	(32,926)	175	13,676	6,252	7,190	27,293	5,155	5,553	448	—	11,156	63,668	766	—	64,434
Santaquin City	26,253	0.0257681	11,036	44,212	(14,568)	77	6,051	2,766	3,347	12,241	2,281	2,457	198	—	4,936	28,169	351	—	28,520
Sevier County	58,659	0.0575746	24,658	98,785	(32,549)	173	13,519	6,180	7,224	27,096	5,096	5,489	443	—	11,028	62,938	774	—	63,712
Sevier School District	258,644	0.2538630	108,724	435,570	(143,519)	763	59,610	27,251	33,772	121,396	22,471	24,205	1,953	—	48,629	277,513	3,525	—	281,038
Six-County Assoc of Govt	11,083	0.0108779	4,659	18,664	(6,150)	33	2,554	1,168	1,744	5,499	963	1,037	84	—	2,084	11,891	169	—	12,060
Slc Mosquito Abatement	23,031	0.0226058	9,682	38,786	(12,780)	68	5,308	2,427	3,150	10,953	2,001	2,155	174	—	4,330	24,712	329	—	25,041
Smithfield City Corp	22,807	0.0223850	9,587	38,407	(12,655)	67	5,256	2,403	2,935	10,661	1,981	2,134	172	803	5,090	24,470	271	—	24,741
Snow College	42,538	0.0417512	17,881	71,635	(23,604)	125	9,804	4,482	5,234	19,645	3,696	3,981	321	—	7,998	45,641	609	—	46,250
Snyder Basin Special Rec Dist	62,383	0.0612298	26,223	105,056	(34,616)	184	14,377	6,573	8,284	29,418	5,420	5,838	471	2,036	13,765	66,934	694	—	67,628
Snyderville Basin W R D	29,467	0.0289220	12,387	49,623	(16,351)	87	6,791	3,105	3,613	13,596	2,560	2,758	223	—	5,541	31,616	389	—	32,005
So Davis Metro Fire Agency	2,386	0.0023424	1,003	4,019	(1,324)	7	550	251	431	1,239	207	223	18	—	448	2,561	38	—	2,599
So Davis Recreation Center	18,274	0.0179359	7,682	30,774	(10,140)	54	4,212	1,925	2,668	8,859	1,588	1,710	138	—	3,436	19,607	263	—	19,870
So Sl Valley Mosq Abate	12,269	0.0120419	5,157	20,661	(6,808)	36	2,828	1,293	1,729	5,886	1,066	1,148	93	—	2,307	13,164	178	—	13,342
So Utah Valley Animal Svcs SSD	5,266	0.0051690	2,214	8,869	(2,922)	16	1,214	555	767	2,552	458	493	40	—	991	5,651	75	—	5,726
Soldier Hollow Charter School	30,632	0.0300662	12,877	51,587	(16,998)	90	7,060	3,227	3,885	14,262	2,661	2,867	231	—	5,759	32,867	416	—	33,283
Solid Waste SSD #1	16,995	0.0166812	7,144	28,621	(9,431)	50	3,917	1,791	2,151	7,909	1,477	1,590	128	—	3,195	18,235	233	—	18,468
South Davis Sewer Dist	31,318	0.0307391	13,165	52,741	(17,378)	92	7,218	3,300	4,979	15,589	2,721	2,931	237	—	5,889	33,603	468	—	34,071
South Davis Water Dist	783	0.0007682	329	1,318	(434)	2	180	82	142	406	68	73	6	—	147	840	13	—	853
South Ogden City	25,354	0.0248852	10,658	42,697	(14,069)	75	5,843	2,671	3,287	11,876	2,203	2,373	191	286	5,053	27,204	329	—	27,533
South Ogden Conserv Dist	43,666	0.0428590	18,356	73,536	(24,230)	129	10,064	4,601	6,125	20,919	3,794	4,086	330	—	8,210	46,852	614	—	47,466
South Sanpete School Dist	206,765	0.2029434	86,916	348,203	(114,732)	610	47,654	21,785	25,860	95,909	17,964	19,350	1,562	—	38,876	221,850	2,789	—	224,639
South Summit School District	119,797	0.1175826	50,358	201,744	(66,474)	353	27,610	12,622	15,716	56,301	10,408	11,211	905	—	22,524	128,537	1,643	—	130,180
South Valley Sewer District	91,688	0.0899936	38,542	154,408	(50,877)	271	21,132	9,660	12,066	43,129	7,966	8,580	692	—	17,238	98,378	1,260	—	99,638
South Valley Water Reclamation	62,695	0.0615360	26,355	105,581	(34,789)	185	14,449	6,606	7,964	29,204	5,447	5,867	473	—	11,787	67,269	837	—	68,106
South Weber City	23,458	0.0230247	9,861	39,505	(13,017)	69	5,406	2,472	3,171	11,118	2,038	2,195	177	—	4,410	25,170	320	—	25,490
Southeastern Utah AOG	22,239	0.0218281	9,349	37,452	(12,340)	66	5,126	2,343	3,490	11,025	1,932	2,081	168	11	4,192	23,862	336	—	24,198
Southeastern Utah Health	38,221	0.0375144	16,067	64,366	(21,208)	113	8,809	4,027	5,538	18,487	3,321	3,577	289	—	7,187	41,009	545	—	41,554
Southern Utah University	327,050	0.3210046	137,479	550,769	(181,477)	965	75,376	34,458	43,105	153,904	28,414	30,606	2,470	—	61,490	350,910	4,435	—	355,345
Southwest Educ Development Ctr	18,773	0.0184259	7,891	31,615	(10,417)	55	4,327	1,978	2,207	8,567	1,631	1,757	142	—	3,530	20,142	248	—	20,390
Southwest Technical College	66,660	0.0654277	28,021	112,259	(36,989)	197	15,363	7,023	8,700	31,283	5,791	6,238	503	—	12,532	71,523	887	—	72,410
Space Dynamics Lab / USU	28,471	0.0279449	11,968	47,947	(15,798)	84	6,562	3,000	3,295	12,941	2,474	2,664	215	—	5,353	30,548	386	—	30,934
Spanish Fork City	239,290	0.2348667	100,588	402,976	(132,780)	706	55,150	25,212	32,179	113,247	20,789	22,393	1,807	—	44,989	256,747	3,303	—	260,050
Spring City	2,985	0.0029294	1,255	5,026	(1,656)	9	688	314	345	1,356	259	279	23	—	561	3,202	37	—	3,239
Springville City	196,983	0.1933419	82,804	331,730	(109,304)	581	45,399	20,754	25,931	92,665	17,114	18,434	1,488	—	37,036	211,354	2,682	—	214,036
St George Housing Auth	2,098	0.0020595	882	3,534	(1,164)	6	484	221	259	970	182	196	16	—	394	2,251	27	—	2,278
Stansbury Park Improvement District	1,542	0.0015139	648	2,597	(856)	5	355	163	279	802	134	144	12	—	290	1,655	25	—	1,680
Stansbury Service Agency	19,891	0.0195237	8,362	33,498	(11,038)	59	4,584	2,096	3,591	10,330	1,728	1,861	150	—	3,739	21,343	320	—	21,663
State of Utah	18,488,665	18.1469081	7,771,932	31,135,853	(10,259,174)	54,546	4,261,112	1,947,987	2,301,167	8,564,812	1,606,289	1,730,227	139,630	—	3,476,146	19,837,506	244,399	—	20,081,905
Success Academy	27,877	0.0273617	11,718	46,946	(15,469)	82	6,425	2,937	3,452	12,896	2,422	2,609	211	—	5,242	29,911	374	—	30,285
Summit Academy High School	89,522	0.0878673	37,632	150,760	(49,675)	264	20,632	9,432	11,733	42,061	7,778	8,378	676	—	16,832	96,053	1,222	—	97,275
Summit Academy Inc	341,871	0.3355521	143,710	575,729	(189,701)	1,009	78,792	36,020	44,570	160,391	29,702	31,993	2,582	—	64,277	366,813	4,679	—	371,492
Summit County	243,103	0.2386095	102,191	409,398	(134,896)	717	56,028	25,614	29,085	111,444	21,121	22,750	1,836	—	45,707	260,839	3,125	—	263,964
Sunset City	11,481	0.0112687	4,826	19,334	(6,371)	34	2,646	1,210	1,727	5,617	997	1,074	87	—	2,158	12,319	169	—	12,488
Sw Behavioral Health Center	204,991	0.2012015	86,170	345,215	(113,747)	605	47,245	21,598	25,191	94,639	17,810	19,184	1,548	—	38,542	219,946	2,768	—	222,714
Sw Mosquito Abatement/Control	11,453	0.0112409	4,814	19,287	(6,355)	34	2,639	1,207	1,494	5,374	995	1,072	86	—	2,153	12,288	154	—	12,442
Sw Ut Public Health Dept	62,294	0.0611427	26,186	104,907	(34,566)	184	14,357	6,563	7,671	28,775	5,412	5,830	470	—	11,712	66,839	825	—	67,664
Syracuse City Corp	66,822	0.0655864	28,089	112,531	(37,079)	197	15,400	7,040	8,090	30,727	5,805	6,253	505	—	12,563	71,697	862	—	72,559
Taylor West Weber Wtr Imp Dist	5,417	0.0053171	2,277	9,123	(3,006)	16	1,249	571	600	2,436	471	507	41	—	1,019	5,812	67	—	5,879
Taylorsville-Bennion Imp	40,308	0.0395628	16,944	67,881	(22,366)	119	9,290	4,247	5,806	19,462	3,502	3,772	304	—	7,578	43,249	575	—	43,824
Timberlakes Water SSD	9,010	0.0088435	3,787	15,173	(5,000)	27	2,077	949	1,097	4,150	783	843	68	—	1,694	9,667	123	—	9,790
Timpanogos SSD	61,198	0.0600669	25,725	103,061	(33,958)	181	14,104	6,448	7,779	28,512	5,317	5,727	462	—	11,506	65,663	828	—	66,491
Tintic School District	16,184	0.0158851	6,803	27,255	(8,980)	48	3,730	1,705	2,358	7,841	1,406	1,515	122	—	3,043	17,365	226	—	17,591
Tooele City	108,009	0.1060123	45,403	181,892	(59,933)	319	24,893	11,380	13,244	49,836	9,384	10,108	816	—	20,308	115,889	1,403	—	117,292
Tooele County	277,133	0.2720104	116,496	466,706	(153,778)	818	63,871	29,199	35,898	129,786	24,077	25,935	2,093	—	52,105	297,351	3,777	—	301,128
Tooele County Housing	15,495	0.0152085	6,513	26,094	(8,598)	46	3,571	1,633	1,877	7,127	1,346	1,450	117	—	2,913	16,625	214	—	16,839
Tooele School District	1,111,118	1.0905795	467,072	1,871,180	(616,548)	3,278	256,081	117,069	145,033	521,461	96,534	103,982	8,391	—	208,907	1,192,180	15,028	—	1,207,208

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Tooele Technical College	$ 27,850	0.0273347%	$ 11,707	46,900	(15,453)	82	6,419	2,934	3,668	13,103	2,420	2,606	210	—	5,236	29,881	368	—	30,249
Toquerville City	15,528	0.0152410	6,527	26,150	(8,616)	46	3,579	1,636	2,450	7,711	1,349	1,453	117	—	2,919	16,661	234	—	16,895
Torrey Town	2,878	0.0028251	1,210	4,847	(1,597)	8	663	303	273	1,247	250	269	22	—	541	3,088	30	—	3,118
Town of Alta	4,583	0.0044984	1,927	7,718	(2,543)	14	1,056	483	533	2,086	398	429	35	—	862	4,917	56	—	4,973
Town of Apple Valley	1,639	0.0016085	689	2,760	(909)	5	378	173	525	1,081	142	153	12	511	818	1,758	15	—	1,773
Town of Brian Head	6,280	0.0061638	2,640	10,576	(3,485)	19	1,447	662	796	2,924	546	588	47	—	1,181	6,738	83	—	6,821
Town of Garden City	12,545	0.0123131	5,273	21,126	(6,961)	37	2,891	1,322	1,451	5,701	1,090	1,174	95	—	2,359	13,460	160	—	13,620
Town of Goshen	8,375	0.0082207	3,521	14,105	(4,647)	25	1,930	882	1,228	4,065	728	784	63	33	1,608	8,987	115	—	9,102
Town of Manila	4,736	0.0046485	1,991	7,976	(2,628)	14	1,092	499	785	2,390	411	443	36	214	1,104	5,082	61	—	5,143
Town of Paragonah	2,459	0.0024133	1,034	4,141	(1,364)	7	567	259	409	1,242	214	230	19	—	463	2,638	38	—	2,676
Town of Springdale	29,738	0.0291885	12,501	50,081	(16,501)	88	6,854	3,133	4,610	14,685	2,584	2,783	225	—	5,592	31,908	449	—	32,357
Trans-Jordan Cities	49,564	0.0486481	20,835	83,469	(27,503)	146	11,423	5,222	6,602	23,393	4,306	4,638	374	—	9,318	53,180	679	—	53,859
Tremonton City	21,538	0.0211401	9,054	36,271	(11,951)	64	4,964	2,269	2,664	9,961	1,871	2,016	163	—	4,050	23,110	289	—	23,399
Tridell-Lapoint Water	9,599	0.0094220	4,035	16,166	(5,327)	28	2,212	1,011	959	4,210	834	898	72	—	1,804	10,300	112	—	10,412
Tuacahn High School	56,797	0.0557468	23,875	95,648	(31,516)	168	13,090	5,984	7,897	27,139	4,934	5,315	429	—	10,678	60,940	792	—	61,732
Uintah Animal Control/Shelter	6,381	0.0062626	2,682	10,745	(3,540)	19	1,471	672	908	3,070	554	597	48	—	1,199	6,846	89	—	6,935
Uintah Basin Assn of Govt	59,035	0.0579434	24,816	99,417	(32,758)	174	13,606	6,220	7,157	27,157	5,129	5,525	446	—	11,100	63,342	763	—	64,105
Uintah Basin Asst Council	4,355	0.0042744	1,831	7,334	(2,416)	13	1,004	459	587	2,063	378	408	33	105	924	4,673	57	—	4,730
Uintah Basin Technical College	135,849	0.1333377	57,106	228,776	(75,381)	401	31,309	14,313	16,832	62,855	11,802	12,713	1,026	—	25,541	145,760	1,812	—	147,572
Uintah Co Care Center SSD	72,383	0.0710454	30,427	121,897	(40,165)	214	16,682	7,626	7,881	32,403	6,289	6,774	547	—	13,610	77,664	901	—	78,565
Uintah County	258,231	0.2534581	108,551	434,875	(143,290)	762	59,515	27,208	28,338	115,823	22,435	24,166	1,950	—	48,551	277,071	3,244	—	280,315
Uintah Fire Suppression SSD	394	0.0003870	166	664	(219)	1	91	42	71	205	34	37	3	—	74	423	6	—	429
Uintah Highlands Improv Dist	4,726	0.0046386	1,987	7,959	(2,622)	14	1,089	498	704	2,305	411	442	36	—	889	5,071	69	—	5,140
Uintah Recreation District	24,544	0.0240900	10,317	41,333	(13,619)	72	5,657	2,586	2,895	11,210	2,132	2,297	185	—	4,614	26,334	341	—	26,675
Uintah School District	699,060	0.6861385	293,858	1,177,253	(387,902)	2,062	161,114	73,654	81,019	317,849	60,734	65,420	5,279	—	131,433	750,060	9,016	—	759,076
Uintah Transportation SSD	21,629	0.0212296	9,092	36,425	(12,002)	64	4,985	2,279	2,949	10,277	1,879	2,024	163	—	4,066	23,207	308	—	23,515
Unified Fire Authority	56,906	0.0558541	23,921	95,833	(31,577)	168	13,115	5,996	7,462	26,741	4,944	5,325	430	—	10,699	61,058	775	—	61,833
Unified Police Department	174,189	0.1709688	73,222	293,343	(96,656)	514	40,146	18,353	21,603	80,616	15,133	16,301	1,316	—	32,750	186,897	2,320	—	189,217
University of Utah	2,432,964	2.3879912	1,022,726	4,097,235	(1,350,027)	7,178	560,729	256,340	294,368	1,118,615	211,375	227,684	18,374	75,730	533,163	2,610,461	28,708	—	2,639,169
University of Utah Hospital	4,213	0.0041348	1,771	7,094	(2,338)	12	971	444	663	2,090	366	394	32	—	792	4,520	63	—	4,583
Ut Municipal Power Agency	59,927	0.0588189	25,191	100,919	(33,253)	177	13,811	6,314	9,919	30,221	5,206	5,608	453	—	11,267	64,299	915	—	65,214
Ut Public Employees Assn	3,866	0.0037949	1,625	6,511	(2,145)	11	891	407	744	2,053	336	362	29	483	1,210	4,148	37	—	4,185
UT School Board Risk Mgmt	19,002	0.0186508	7,988	32,000	(10,544)	56	4,379	2,002	2,753	9,190	1,651	1,778	144	—	3,573	20,388	275	—	20,663
Utah Assn of Counties	12,166	0.0119409	5,114	20,488	(6,751)	36	2,804	1,282	2,174	6,296	1,057	1,139	92	71	2,359	13,053	186	—	13,239
Utah Co Academy of Sciences	31,860	0.0312706	13,393	53,653	(17,679)	94	7,343	3,357	3,904	14,698	2,768	2,982	241	—	5,991	34,184	422	—	34,606
Utah Co Housing Authority	40,770	0.0400161	17,138	68,658	(22,623)	120	9,396	4,296	4,712	18,524	3,542	3,815	308	—	7,665	43,744	535	—	44,279
Utah Communications Authority	31,282	0.0307039	13,150	52,681	(17,358)	92	7,210	3,296	5,022	15,620	2,718	2,927	236	—	5,881	33,564	478	—	34,042
Utah Counties Indemnity Pool	3,321	0.0032592	1,396	5,592	(1,843)	10	765	350	404	1,529	288	311	25	22	646	3,563	42	—	3,605
Utah County	767,284	0.7531009	322,537	1,292,145	(425,758)	2,264	176,837	80,842	99,942	359,885	66,661	71,805	5,795	—	144,261	823,261	10,480	—	833,741
Utah Dairy Council	1,317	0.0012931	554	2,219	(731)	4	304	139	527	974	114	123	10	652	899	1,414	4	—	1,418
Utah Education Association	23,219	0.0227895	9,760	39,101	(12,884)	69	5,351	2,446	3,029	10,895	2,017	2,173	175	—	4,365	24,913	345	—	25,258
Utah Housing Corporation	173,836	0.1706225	73,074	292,748	(96,460)	513	40,064	18,316	21,576	80,469	15,103	16,268	1,313	—	32,684	186,518	2,283	—	188,801
Utah League Cities/Towns	4,497	0.0044143	1,891	7,574	(2,496)	13	1,037	474	651	2,175	391	421	34	143	989	4,826	57	—	4,883
Utah Local Governments Trust	29,862	0.0293102	12,553	50,289	(16,570)	88	6,882	3,146	3,858	13,974	2,594	2,795	226	—	5,615	32,041	428	—	32,469
Utah Retirement Systems	548,017	0.5378870	230,365	922,888	(304,089)	1,617	126,302	57,740	68,017	253,676	47,612	51,285	4,139	—	103,036	587,998	7,289	—	595,287
Utah Safety Council	17,058	0.0167425	7,170	28,726	(9,465)	50	3,931	1,797	1,605	7,383	1,482	1,596	129	152	3,359	18,302	170	—	18,472
Utah School Boards Association	23,005	0.0225798	9,670	38,742	(12,765)	68	5,302	2,424	3,089	10,883	1,999	2,153	174	—	4,326	24,683	306	—	24,989
Utah School Employees Assn	6,315	0.0061987	2,655	10,636	(3,504)	19	1,456	665	922	3,062	549	591	48	—	1,188	6,776	92	—	6,868
Utah State Fair Corp	10,012	0.0098265	4,208	16,860	(5,555)	30	2,307	1,055	1,906	5,298	870	937	76	1,504	3,387	10,742	73	—	10,815
Utah State University	636,440	0.6246761	267,535	1,071,798	(353,154)	1,878	146,681	67,056	70,069	285,684	55,294	59,560	4,807	7,840	127,501	682,872	7,645	—	690,517
Utah Valley Dispatch SSD	54,573	0.0535640	22,940	91,903	(30,282)	161	12,577	5,750	6,795	25,283	4,741	5,107	412	—	10,260	58,554	720	—	59,274
Utah Valley University	462,476	0.4539268	194,407	778,832	(256,623)	1,364	106,587	48,727	52,586	209,264	40,180	43,280	3,493	4,328	91,281	496,215	5,928	—	502,143
Utah Zoological Society	192,986	0.1894190	81,124	324,999	(107,086)	569	44,478	20,333	23,497	88,877	16,767	18,060	1,457	—	36,284	207,066	2,545	—	209,611
UTOPIA	123,983	0.1216916	52,118	208,794	(68,797)	366	28,575	13,063	14,677	56,681	10,772	11,603	936	—	23,311	133,029	1,634	—	134,663
Valley Emergency Comm Ctr	224,334	0.2201876	94,302	377,790	(124,481)	662	51,703	23,636	28,875	104,876	19,490	20,994	1,694	—	42,178	240,701	3,071	—	243,772

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Vernal City	$ 38,863	0.0381442%	$ 16,336	65,447	(21,564)	115	8,957	4,095	4,471	17,638	3,376	3,637	293	—	7,306	41,698	477	—	42,175
Vineyard Town	55,506	0.0544800	23,333	93,475	(30,800)	164	12,793	5,848	7,761	26,566	4,822	5,194	419	—	10,435	59,555	780	—	60,335
Wasatch County	242,779	0.2382910	102,055	408,852	(134,715)	716	55,954	25,579	31,260	113,509	21,093	22,720	1,834	—	45,647	260,491	3,337	—	263,828
Wasatch County Fire District	2,885	0.0028315	1,213	4,858	(1,601)	9	665	304	521	1,499	251	270	22	—	543	3,095	46	—	3,141
Wasatch Front Regional Council	46,673	0.0458105	19,620	78,600	(25,899)	138	10,757	4,918	5,630	21,443	4,055	4,368	352	—	8,775	50,078	607	—	50,685
Wasatch Front Waste/Recycling	139,730	0.1371472	58,737	235,313	(77,535)	412	32,204	14,722	16,609	63,947	12,140	13,076	1,055	—	26,271	149,924	1,815	—	151,739
Wasatch Integrated Waste Mgmt	41,135	0.0403751	17,292	69,274	(22,826)	121	9,481	4,334	5,809	19,745	3,574	3,850	311	2,679	10,414	44,137	441	—	44,578
Wasatch Mental Health SSD	338,934	0.3326693	142,475	570,783	(188,071)	1,000	78,115	35,711	43,766	158,592	29,447	31,719	2,560	—	63,726	363,661	4,606	—	368,267
Wasatch School District	766,901	0.7527252	322,376	1,291,501	(425,546)	2,263	176,749	80,802	103,941	363,755	66,628	71,769	5,792	—	144,189	822,850	10,640	—	833,490
Washington City	112,414	0.1103358	47,254	189,310	(62,377)	332	25,908	11,844	14,963	53,047	9,766	10,520	849	—	21,135	120,615	1,536	—	122,151
Washington Co Solid Waste	14,208	0.0139449	5,972	23,926	(7,884)	42	3,274	1,497	1,843	6,656	1,234	1,330	107	—	2,671	15,244	193	—	15,437
Washington Co Wat Con Dist	49,206	0.0482961	20,684	82,865	(27,304)	145	11,341	5,184	6,533	23,203	4,275	4,605	372	—	9,252	52,795	664	—	53,459
Washington County	254,273	0.2495727	106,887	428,208	(141,093)	750	58,603	26,790	32,274	118,417	22,091	23,796	1,920	—	47,807	272,823	3,388	—	276,211
Washington School District	2,344,433	2.3010966	985,510	3,948,144	(1,300,902)	6,917	540,325	247,012	310,807	1,105,061	203,683	219,399	17,706	—	440,788	2,515,471	32,157	—	2,547,628
Wayne County	18,333	0.0179939	7,706	30,873	(10,173)	54	4,225	1,932	2,297	8,508	1,593	1,716	138	—	3,447	19,670	247	—	19,917
Wayne School District	38,502	0.0377901	16,185	64,839	(21,364)	114	8,874	4,057	4,421	17,466	3,345	3,603	291	—	7,239	41,311	497	—	41,808
Weber Area Dispatch 911	101,164	0.0992940	42,525	170,365	(56,135)	298	23,315	10,659	13,055	47,327	8,789	9,467	764	—	19,020	108,544	1,374	—	109,918
Weber Basin Water Conserv	85,017	0.0834452	35,738	143,172	(47,175)	251	19,594	8,957	11,618	40,420	7,386	7,956	642	—	15,984	91,219	1,202	—	92,421
Weber Co Mosquito Abate	4,652	0.0045665	1,956	7,835	(2,582)	14	1,072	490	840	2,416	404	435	35	—	874	4,992	75	—	5,067
Weber County Corp	807,240	0.7923187	339,333	1,359,434	(447,930)	2,382	186,046	85,052	104,569	378,049	70,133	75,544	6,096	—	151,773	866,133	11,100	—	877,233
Weber County School District	1,995,793	1.9589016	838,956	3,361,017	(1,107,446)	5,888	459,974	210,279	260,926	937,067	173,394	186,773	15,073	—	375,240	2,141,396	27,198	—	2,168,594
Weber Human Services	348,842	0.3423936	146,640	587,467	(193,569)	1,029	80,398	36,754	43,212	161,393	30,307	32,646	2,635	—	65,588	374,292	4,656	—	378,948
Weber State University	276,943	0.2718236	116,416	466,386	(153,673)	817	63,827	29,179	30,205	124,028	24,061	25,917	2,092	—	52,070	297,147	3,452	—	300,599
Wellington City	6,729	0.0066050	2,829	11,333	(3,734)	20	1,551	709	776	3,056	585	630	51	—	1,266	7,220	89	—	7,309
Wellsville City Corp	7,282	0.0071470	3,061	12,263	(4,040)	21	1,678	767	1,044	3,510	633	681	55	—	1,369	7,813	103	—	7,916
West Bountiful City	25,123	0.0246587	10,561	42,309	(13,941)	74	5,790	2,647	2,992	11,503	2,183	2,351	190	—	4,724	26,956	333	—	27,289
West Kane County SSD #1	12,843	0.0126054	5,399	21,628	(7,126)	38	2,960	1,353	2,056	6,407	1,116	1,202	97	—	2,415	13,780	193	—	13,973
West Point City	33,685	0.0330625	14,160	56,728	(18,692)	99	7,763	3,549	4,238	15,649	2,927	3,152	254	—	6,333	36,143	447	—	36,590
West Valley City	387,270	0.3801113	162,794	652,182	(214,892)	1,143	89,255	40,803	46,775	177,976	33,646	36,242	2,925	—	72,813	415,523	5,045	—	420,568
White City Water Imp Dist	5,310	0.0052116	2,232	8,942	(2,946)	16	1,224	559	618	2,417	461	497	40	—	998	5,697	68	—	5,765
Willard City Corp	4,211	0.0041330	1,770	7,091	(2,337)	12	970	444	571	1,997	366	394	32	—	792	4,518	57	—	4,575
Woods Cross City	10,158	0.0099701	4,270	17,106	(5,636)	30	2,341	1,070	1,170	4,611	883	951	77	—	1,911	10,899	132	—	11,031
Workers Compensation Fund	770,149	0.7559131	323,741	1,296,970	(427,348)	2,272	177,497	81,144	98,551	359,464	66,910	72,073	5,816	—	144,799	826,335	10,238	—	836,573
Grand Total	$ 101,883,279	100.0000000%	$ 42,827,859	171,576,632	(56,534,003)	300,586	23,481,199	10,734,536	13,005,142	47,521,463	8,851,587	9,534,546	769,448	107,785	19,263,366	109,316,174	1,363,615	—	110,679,789
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Liberty Academy Charter School	$ —	0.0000000%	$ —	—	—	—	—	—	6,006	6,006	—	—	—	9,420	9,420	—	(133)	—	(133)
North Fork SS District	—	0.0000000	—	—	—	—	—	—	534	534	—	—	—	923	923	—	(23)	—	(23)
Utah Lake Commission	—	0.0000000	—	—	—	—	—	—	379	379	—	—	—	504	504	—	(4)	—	(4)
Weber Fire District	—	0.0000000	—	—	—	—	—	—	1,571	1,571	—	—	—	1,942	1,942	—	(16)	—	(16)
Centerfield City	—	0.0000000	—	—	—	—	—	—	176	176	—	—	—	293	293	—	(7)	—	(7)
Lone Peak PS District	—	0.0000000	—	—	—	—	—	—	91	91	—	—	—	109	109	—	(1)	—	(1)
Aurora City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	84	84	—	(11)	—	(11)
Canyonlands Health Care	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	471	471	—	(61)	—	(61)
Alpine Uniserv	—	0.0000000	—	—	—	—	—	—	155	155	—	—	—	139	139	—	4	—	4
Huntington City	—	0.0000000	—	—	—	—	—	—	5	5	—	—	—	40	40	—	(4)	—	(4)
Maeser Water District	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	73	73	—	(9)	—	(9)
Mantua City	—	0.0000000	—	—	—	—	—	—	—	—	—	—	—	78	78	—	(10)	—	(10)
Valley Mental Health	—	0.0000000	—	—	—	—	—	—	6,149	6,149	—	—	—	13,101	13,101	—	(663)	—	(663)
Jordan River Commission	—	0.0000000	—	—	—	—	—	—	152	152	—	—	—	190	190	—	(0)	—	(0)
Ogden Weber/NEA/UEA Uniserv	—	0.0000000	—	—	—	—	—	—	250	250	—	—	—	411	411	—	(9)	—	(9)
Recreation and Habilitation Services	—	0.0000000	—	—	—	—	—	—	110	110	—	—	—	110	110	—	3	—	3
Uintah Water Conserv Dist	—	0.0000000	—	—	—	—	—	—	367	367	—	—	—	423	423	—	4	—	4
Grand Total	$ 101,883,279	100.0000000%	$ 42,827,856	171,576,632	(56,534,003)	300,586	23,481,199	10,734,536	13,021,087	47,537,408	8,851,587	9,534,546	769,448	136,097	19,291,678	109,316,174	1,362,677	—	110,678,851

Columns may not add to total due to rounding.

Tier 2 Public Safety and Firefighter Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

						Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
American Fork City	$ 173,599	1.1694804%	$ 29,302	221,013	(117,405)	13,464	34,080	27,878	24,168	99,590	38	13,427	1,075	—	14,540	169,869	1,496	—	171,365
Beaver County	85,791	0.5779426%	14,481	109,222	(58,020)	6,654	16,842	13,777	10,506	47,779	19	6,636	531	—	7,186	83,947	645	—	84,592
Big Water Municipal Corp	5,528	0.0372397%	933	7,038	(3,739)	429	1,085	888	757	3,159	1	428	34	121	584	5,409	40	—	5,449
Blanding City	4,790	0.0322714%	809	6,099	(3,240)	372	940	769	1,048	3,129	1	371	30	402	804	4,687	37	—	4,724
Bluffdale City	9,336	0.0628969%	1,576	11,887	(6,314)	724	1,833	1,499	569	4,625	2	722	58	1,386	2,168	9,136	(53)	—	9,083
Box Elder County	99,856	0.6726949%	16,855	127,129	(67,532)	7,745	19,603	16,036	5,639	49,023	22	7,724	618	1,012	9,376	97,710	291	—	98,001
Brigham City	42,971	0.2894805%	7,253	54,707	(29,061)	3,333	8,436	6,901	1,713	20,383	9	3,324	266	1,314	4,913	42,048	15	—	42,063
Cache County	178,253	1.2008330%	30,088	226,939	(120,553)	13,825	34,994	28,626	30,531	107,976	39	13,787	1,104	—	14,930	174,423	1,948	—	176,371
Carbon County	62,425	0.4205372%	10,537	79,475	(42,218)	4,842	12,255	10,025	3,384	30,506	14	4,828	387	720	5,949	61,084	154	—	61,238
Cedar City	72,582	0.4889595%	12,251	92,406	(49,087)	5,629	14,249	11,656	1,680	33,214	16	5,614	449	2,378	8,457	71,022	(57)	—	70,965
Cedar Mtn Fire Protection Dist	9,514	0.0640940%	1,606	12,113	(6,434)	738	1,868	1,528	849	4,983	2	736	59	1,000	1,797	9,310	(3)	—	9,307
Centerville City	5,918	0.0398694%	999	7,535	(4,003)	459	1,162	950	539	3,110	1	458	37	573	1,069	5,791	(5)	—	5,786
City of Bountiful	44,421	0.2992494%	7,498	56,553	(30,042)	3,445	8,720	7,134	902	20,201	10	3,436	275	1,381	5,102	43,467	(34)	—	43,433
City of Draper	131,153	0.8835336%	22,137	166,974	(88,699)	10,172	25,747	21,062	2,884	59,865	29	10,144	812	6,956	17,941	128,335	(237)	—	128,098
City of Harrisville	12,716	0.0856616%	2,146	16,189	(8,600)	986	2,496	2,042	1,996	7,520	3	984	79	530	1,596	12,443	96	—	12,539
City of Helper	7,062	0.0475747%	1,192	8,991	(4,776)	548	1,386	1,134	1,590	4,658	2	546	44	1,072	1,664	6,910	25	—	6,935
City of Kanab	3,818	0.0257228%	645	4,861	(2,582)	296	750	613	—	1,659	1	295	24	578	898	3,736	(34)	—	3,702
City of Moab	33,987	0.2289598%	5,737	43,270	(22,985)	2,636	6,672	5,458	2,966	17,732	7	2,629	210	779	3,625	33,257	126	—	33,383
City of Monticello	8,953	0.0603111%	1,511	11,398	(6,055)	694	1,758	1,438	1,320	5,210	2	692	55	126	875	8,760	73	—	8,833
City of Naples	11,848	0.0798141%	2,000	15,084	(8,013)	919	2,326	1,903	1,466	6,614	3	916	73	63	1,055	11,593	90	—	11,683
City of North Salt Lake	28,153	0.1896608%	4,752	35,843	(19,040)	2,184	5,527	4,521	3,381	15,613	6	2,178	174	1,329	3,687	27,549	126	—	27,675
City of Orem	242,287	1.6322111%	40,896	308,462	(163,859)	18,792	47,564	38,909	11,387	116,652	53	18,740	1,500	1,967	22,260	237,082	566	—	237,648
City of Santa Clara	16,604	0.1118523%	2,803	21,138	(11,229)	1,288	3,259	2,666	1,033	8,246	4	1,284	103	2,895	4,286	16,247	(110)	—	16,137
City of Saratoga Springs	105,616	0.7115034%	17,827	134,463	(71,428)	8,192	20,734	16,961	3,186	49,073	23	8,169	654	1,083	9,929	103,347	146	—	103,493
City of South Jordan	264,264	1.7802629%	44,606	336,442	(178,722)	20,496	51,879	42,438	9,587	124,400	58	20,440	1,636	5,692	27,826	258,587	219	—	258,806
City of South Salt Lake	122,492	0.8251895%	20,676	155,948	(82,842)	9,500	24,047	19,671	10,744	63,962	27	9,474	758	4,743	15,002	119,860	320	—	120,180
City of St George	194,687	1.3115396%	32,861	247,860	(131,667)	15,100	38,220	31,265	20,980	105,565	43	15,058	1,206	—	16,307	190,504	1,306	—	191,810
City of Wendover	1,167	0.0078605%	197	1,486	(789)	90	229	187	—	506	—	90	7	177	274	1,142	(10)	—	1,132
City of West Jordan	274,914	1.8520053%	46,403	350,000	(185,925)	21,322	53,969	44,148	22,238	141,677	60	21,264	1,702	—	23,026	269,007	1,435	—	270,442
Clearfield City	54,091	0.3643941%	9,130	68,865	(36,582)	4,195	10,619	8,686	5,537	29,037	12	4,184	335	2,541	7,072	52,929	173	—	53,102
Clinton City	61,184	0.4121786%	10,327	77,895	(41,379)	4,745	12,011	9,826	5,791	32,373	13	4,732	379	—	5,124	59,870	378	—	60,248
Cottonwood Heights City	65,408	0.4406332%	11,040	83,273	(44,236)	5,073	12,841	10,504	5,722	34,140	14	5,059	405	1,530	7,008	64,003	269	—	64,272
Daggett County	576	0.0038795%	97	733	(389)	45	113	92	6,425	6,675	—	45	4	1,864	1,913	564	269	—	833
Davis County	335,449	2.2598123%	56,621	427,069	(226,865)	26,017	65,853	53,870	34,732	180,472	74	25,946	2,077	—	28,097	328,242	2,192	—	330,434
Dixie State University	8,182	0.0551163%	1,381	10,416	(5,533)	635	1,606	1,314	739	4,294	2	633	51	129	815	8,006	41	—	8,047
Duchesne County	79,827	0.5377712%	13,474	101,630	(53,987)	6,191	15,671	12,819	19,143	53,824	18	6,174	494	—	6,686	78,112	1,199	—	79,311
East Carbon City	8,297	0.0558912%	1,400	10,563	(5,611)	643	1,629	1,332	836	4,440	2	642	51	1,003	1,698	8,118	(15)	—	8,103
Emery County	40,700	0.2741843%	6,870	51,817	(27,526)	3,157	7,990	6,536	2,014	19,697	9	3,148	252	2,143	5,552	39,826	(5)	—	39,821
Enoch City	9,726	0.0655209%	1,642	12,382	(6,578)	754	1,909	1,562	1,630	5,855	2	752	60	1,563	2,377	9,517	1	—	9,518
Ephraim City	2,432	0.0163839%	411	3,096	(1,645)	189	477	391	1,478	2,535	1	188	15	354	558	2,380	76	—	2,456
Farmington City	53,188	0.3583076%	8,978	67,715	(35,971)	4,125	10,441	8,541	4,095	27,202	12	4,114	329	161	4,616	52,045	245	—	52,290
Garfield County	30,607	0.2061891%	5,166	38,967	(20,700)	2,374	6,009	4,915	5,743	19,041	7	2,367	190	—	2,564	29,949	358	—	30,307
Garland City	4,711	0.0317335%	795	5,997	(3,186)	365	925	756	350	2,396	1	364	29	561	955	4,609	(15)	—	4,594
Grand County	69,519	0.4683234%	11,734	88,506	(47,015)	5,392	13,647	11,164	7,800	38,003	15	5,377	430	1,623	7,445	68,025	371	—	68,396
Grantsville City	30,011	0.2021772%	5,066	38,208	(20,297)	2,328	5,892	4,820	3,366	16,406	7	2,321	186	—	2,514	29,367	210	—	29,577
Gunnison Valley Police Dept	4,563	0.0307378%	770	5,809	(3,086)	354	896	733	148	2,131	1	353	28	586	968	4,465	(28)	—	4,437
Heber City	40,025	0.2696340%	6,756	50,957	(27,069)	3,104	7,857	6,428	7,105	24,494	9	3,096	248	—	3,353	39,165	444	—	39,609
Herriman City	8,820	0.0594155%	1,489	11,229	(5,965)	684	1,731	1,416	—	3,831	2	682	55	1,336	2,075	8,630	(79)	—	8,551
Hurricane City	30,674	0.2066393%	5,177	39,052	(20,745)	2,379	6,022	4,926	968	14,295	7	2,373	190	492	3,062	30,015	38	—	30,053
Hurricane Valley Fire SSD	74,798	0.5038905%	12,625	95,227	(50,586)	5,801	14,684	12,012	1,163	33,660	16	5,785	463	7,406	13,670	73,191	(397)	—	72,794
Iron County	126,940	0.8551498%	21,426	161,610	(85,849)	9,845	24,920	20,385	10,767	65,917	28	9,818	786	—	10,632	124,212	679	—	124,891
Ivins City	25,790	0.1737393%	4,353	32,834	(17,442)	2,000	5,063	4,142	1,085	12,290	6	1,995	160	255	2,416	25,236	56	—	25,292
Juab County	61,811	0.4163973%	10,433	78,693	(41,803)	4,794	12,134	9,926	8,480	35,334	14	4,781	383	—	5,178	60,483	535	—	61,018
Kane County	38,763	0.2611323%	6,543	49,350	(26,215)	3,006	7,610	6,225	3,207	20,048	9	2,998	240	240	3,487	37,930	181	—	38,111
Kaysville City	65,442	0.4408629%	11,046	83,316	(44,259)	5,076	12,847	10,509	2,574	31,006	14	5,062	405	2,945	8,426	64,036	(22)	—	64,014
Layton City	188,318	1.2686344%	31,786	239,752	(127,359)	14,606	36,969	30,242	8,599	90,416	41	14,566	1,166	2,244	18,017	184,272	409	—	184,681
Lehi City	248,064	1.6711253%	41,871	315,816	(167,766)	19,240	48,698	39,836	129	107,903	55	19,187	1,536	1,925	22,703	242,734	(109)	—	242,625
Lindon City	2,158	0.0145344%	364	2,747	(1,459)	167	424	346	—	937	—	167	13	327	507	2,111	(19)	—	2,092
Logan City	133,313	0.8980839%	22,502	169,724	(90,159)	10,340	26,171	21,409	16,638	74,558	29	10,311	825	—	11,165	130,448	1,044	—	131,492
Lone Peak PS District	67,895	0.4573848%	11,460	86,439	(45,917)	5,266	13,329	10,903	11,332	40,830	15	5,251	420	853	6,539	66,436	642	—	67,078

Tier 2 Public Safety and Firefighter Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

						Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Mapleton City	$ 18,686	0.1258785%	$ 3,154	23,789	(12,637)	1,449	3,668	3,001	2,664	10,782	4	1,445	116	—	1,565	18,284	168	—	18,452
Millard County	84,505	0.5692838	14,264	107,586	(57,151)	6,554	16,590	13,571	8,074	44,789	19	6,536	523	—	7,078	82,690	493	—	83,183
Moab Valley Fire Protection	4,355	0.0293378	735	5,544	(2,945)	338	855	699	960	2,852	1	337	27	39	404	4,261	57	—	4,318
Morgan County	16,900	0.1138477	2,853	21,515	(11,429)	1,311	3,318	2,714	2,829	10,172	4	1,307	105	1,285	2,701	16,537	88	—	16,625
Murray City	219,399	1.4780218	37,033	279,323	(148,380)	17,017	43,071	35,233	26,760	122,081	48	16,970	1,359	—	18,377	214,686	1,668	—	216,354
N Tooele Co Fire Protection SD	12,262	0.0826083	2,070	15,612	(8,293)	951	2,407	1,969	2,387	7,714	3	948	76	366	1,393	11,999	134	—	12,133
Nephi City	17,246	0.1161777	2,911	21,956	(11,663)	1,338	3,386	2,769	1,870	9,363	4	1,334	107	160	1,605	16,875	105	—	16,980
North Davis Fire District	41,462	0.2793127	6,998	52,786	(28,040)	3,216	8,139	6,658	2,887	20,900	9	3,207	257	688	4,161	40,571	128	—	40,699
North Logan City	5,028	0.0338694	849	6,401	(3,400)	390	987	807	1,474	3,658	1	389	31	761	1,182	4,920	51	—	4,971
North Ogden City	31,446	0.2118440	5,308	40,035	(21,267)	2,439	6,173	5,050	5,265	18,927	7	2,432	195	—	2,634	30,771	334	—	31,105
North Park Police Agency	10,167	0.0684911	1,716	12,944	(6,876)	789	1,996	1,633	1,642	6,060	2	786	63	1,979	2,830	9,948	(28)	—	9,920
North View Fire District	47,351	0.3189911	7,993	60,284	(32,024)	3,673	9,296	7,604	5,708	26,281	10	3,663	293	—	3,966	46,334	353	—	46,687
Ogden City Corp	406,426	2.7379556	68,601	517,431	(274,866)	31,522	79,787	65,268	32,566	209,143	89	31,436	2,517	—	34,042	397,693	2,054	—	399,747
Park City	22,786	0.1535009	3,846	29,009	(15,410)	1,767	4,473	3,659	11,822	21,721	5	1,762	141	—	1,908	22,296	738	—	23,034
Park City Fire Service	126,568	0.8526445	21,364	161,136	(85,598)	9,817	24,847	20,325	15,982	70,971	28	9,790	784	—	10,602	123,848	1,015	—	124,863
Parowan City	8,053	0.0542512	1,359	10,253	(5,446)	625	1,581	1,293	1,515	5,014	2	623	50	346	1,021	7,880	74	—	7,954
Payson City	38,170	0.2571392	6,443	48,595	(25,814)	2,960	7,493	6,130	3,025	19,608	8	2,952	236	594	3,790	37,350	141	—	37,491
Perry City	9,465	0.0637599	1,598	12,050	(6,401)	734	1,858	1,520	1,128	5,240	2	732	59	915	1,708	9,261	16	—	9,277
Pleasant Grove City	75,058	0.5056422	12,669	95,558	(50,762)	5,821	14,735	12,054	2,741	35,351	17	5,806	465	3,654	9,942	73,446	(81)	—	73,365
Pleasant View City	5,778	0.0389251	975	7,356	(3,908)	448	1,134	928	1,097	3,607	1	447	36	394	878	5,654	41	—	5,695
Price City	17,742	0.1195244	2,995	22,588	(11,999)	1,376	3,483	2,849	2,206	9,914	4	1,372	110	1,062	2,548	17,361	64	—	17,425
Provo City Corp	230,164	1.5505388	38,850	293,028	(155,660)	17,851	45,184	36,962	16,149	116,146	51	17,803	1,425	—	19,279	225,219	982	—	226,201
Rich County	9,792	0.0659631	1,653	12,466	(6,622)	759	1,922	1,572	1,159	5,412	2	757	61	238	1,058	9,581	61	—	9,642
Richfield City	13,686	0.0921997	2,310	17,424	(9,256)	1,061	2,687	2,198	1,534	7,480	3	1,059	85	627	1,774	13,392	51	—	13,443
Riverdale City	34,754	0.2341277	5,866	44,246	(23,504)	2,696	6,823	5,581	1,241	16,341	8	2,688	215	2,078	4,989	34,008	(54)	—	33,954
Roosevelt City	11,186	0.0753564	1,888	14,241	(7,565)	868	2,196	1,796	3,019	7,879	2	865	69	156	1,092	10,946	178	—	11,124
Roy City	128,629	0.8665285	21,711	163,760	(86,992)	9,976	25,252	20,656	16,078	71,962	28	9,949	796	—	10,773	125,865	1,003	—	126,868
Salem City	5,097	0.0343344	860	6,489	(3,447)	395	1,001	818	2,687	4,901	1	394	32	1,139	1,566	4,987	98	—	5,085
Salina City	926	0.0062348	156	1,178	(626)	72	182	149	895	1,298	—	72	6	525	603	906	19	—	925
Salt Lake City Corp	769,652	5.1848956	129,911	979,864	(520,517)	59,694	151,093	123,598	55,098	389,483	169	59,531	4,766	—	64,466	753,116	3,405	—	756,521
Salt Lake County	991,040	6.6763113	167,279	1,261,718	(670,241)	76,865	194,555	159,150	133,117	563,687	218	76,654	6,137	—	83,009	969,747	8,492	—	978,239
San Juan County	46,794	0.3152344	7,898	59,574	(31,647)	3,629	9,186	7,515	4,328	24,658	10	3,619	290	—	3,919	45,788	265	—	46,053
Sandy City	302,268	2.0362817	51,020	384,825	(204,424)	23,444	59,339	48,541	24,308	155,632	67	23,380	1,872	2,472	27,791	295,774	1,318	—	297,092
Sanpete County	41,551	0.2799141	7,013	52,899	(28,101)	3,223	8,157	6,673	1,955	20,008	9	3,214	257	523	4,003	40,658	93	—	40,751
Santaquin City	13,356	0.0899718	2,254	17,003	(9,032)	1,036	2,622	2,145	—	5,803	3	1,033	83	1,525	2,644	13,069	(93)	—	12,976
Sevier County	53,248	0.3587112	8,988	67,791	(36,011)	4,130	10,453	8,551	5,287	28,421	12	4,119	330	—	4,461	52,104	341	—	52,445
Smithfield City Corp	35,574	0.2396497	6,005	45,290	(24,059)	2,759	6,984	5,713	552	16,008	8	2,752	220	2,575	5,555	34,810	(135)	—	34,675
So Davis Metro Fire Agency	177,785	1.1976765	30,009	226,342	(120,236)	13,789	34,902	28,550	10,844	88,085	39	13,751	1,101	6,059	20,950	173,965	349	—	174,314
South Ogden City	50,624	0.3410389	8,545	64,451	(34,237)	3,926	9,938	8,130	3,377	25,371	11	3,916	313	—	4,240	49,537	207	—	49,744
Southern Utah University	4,129	0.0278155	697	5,257	(2,792)	320	811	663	276	2,070	1	319	26	526	872	4,040	(17)	—	4,023
Spanish Fork City	53,080	0.3575857	8,960	67,578	(35,898)	4,117	10,420	8,524	2,574	25,635	12	4,106	329	1,727	6,174	51,940	49	—	51,989
Springville City	69,327	0.4670312	11,702	88,262	(46,886)	5,377	13,610	11,133	11,309	41,429	15	5,362	429	—	5,806	67,837	717	—	68,554
State of Utah	3,572,919	24.0695883	603,078	4,548,775	(2,416,369)	277,116	701,415	573,774	370,169	1,922,474	787	276,357	22,121	—	299,265	3,496,152	22,979	—	3,519,131
Summit County	76,575	0.5158581	12,925	97,489	(51,787)	5,939	15,033	12,297	7,929	41,198	17	5,923	474	3,200	9,614	74,929	265	—	75,194
Sunset City	11,298	0.0761079	1,907	14,383	(7,641)	876	2,218	1,814	2,137	7,045	2	874	70	55	1,001	11,055	129	—	11,184
Syracuse City Corp	47,737	0.3215853	8,058	60,775	(32,284)	3,702	9,371	7,666	8,109	28,848	11	3,692	296	—	3,999	46,711	509	—	47,220
Tooele City	101,646	0.6847533	17,157	129,408	(68,743)	7,884	19,954	16,323	7,819	51,980	22	7,862	629	612	9,125	99,462	447	—	99,909
Tooele County	81,589	0.5496396	13,772	103,873	(55,179)	6,328	16,017	13,102	5,407	40,854	18	6,311	505	2,943	9,777	79,836	131	—	79,967
Town of Brian Head	4,468	0.0300984	754	5,688	(3,022)	347	877	717	330	2,271	1	346	28	569	944	4,372	(17)	—	4,355
Tremonton City	13,421	0.0904154	2,265	17,087	(9,077)	1,041	2,635	2,155	734	6,565	3	1,038	83	600	1,724	13,133	14	—	13,147
Uintah County	139,033	0.9366188	23,468	177,006	(94,028)	10,783	27,294	22,327	22,873	83,277	31	10,754	861	—	11,646	136,046	1,442	—	137,488
Unified Fire Authority	266,015	1.7920577	44,901	338,671	(179,906)	20,632	52,222	42,719	44,705	160,278	59	20,576	1,647	—	22,282	260,300	2,759	—	263,059
Unified Police Department	319,352	2.1513669	53,904	406,575	(215,978)	24,769	62,693	51,284	10,239	148,985	70	24,701	1,977	3,029	29,777	312,490	481	—	312,971
University of Utah	53,406	0.3597768	9,014	67,992	(36,118)	4,142	10,484	8,576	4,818	28,020	12	4,131	331	—	4,474	52,258	301	—	52,559
Utah County	249,288	1.6793698	42,078	317,375	(168,594)	19,335	48,939	40,033	8,612	116,919	55	19,282	1,544	2,382	23,263	243,932	380	—	244,312
Utah State University	7,508	0.0505758	1,267	9,558	(5,077)	582	1,474	1,206	—	3,262	2	581	46	824	1,453	7,346	(51)	—	7,295
Vernal City	13,093	0.0882044	2,210	16,669	(8,855)	1,016	2,570	2,103	1,021	6,710	3	1,013	81	852	1,949	12,812	2	—	12,814
Wasatch County	61,207	0.4123328	10,331	77,924	(41,394)	4,747	12,016	9,829	2,672	29,264	13	4,734	379	953	6,079	59,892	116	—	60,008
Wasatch County Fire District	45,411	0.3059206	7,665	57,814	(30,712)	3,522	8,915	7,293	1,156	20,886	10	3,512	281	2,779	6,582	44,436	(113)	—	44,323
Washington City	74,445	0.5015148	12,566	94,778	(50,348)	5,774	14,615	11,955	7,895	40,239	16	5,758	461	—	6,235	72,846	511	—	73,357

Tier 2 Public Safety and Firefighter Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

Participating Employer	Employer Contributions	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Washington County	$ 193,405	1.3029052%	$ 32,645	246,229	(130,800)	15,000	37,968	31,059	13,141	97,168	43	14,959	1,198	2,491	18,691	189,250	640	—	189,890
Wayne County	3,540	0.0238498	598	4,507	(2,394)	275	695	569	757	2,296	1	274	22	462	759	3,464	16	—	3,480
Weber County Corp	253,441	1.7073504	42,779	322,662	(171,403)	19,657	49,754	40,700	25,387	135,498	56	19,603	1,569	4,633	25,861	247,996	1,245	—	249,241
Weber Fire District	169,205	1.1398782	28,560	215,419	(114,433)	13,123	33,217	27,172	7,547	81,059	37	13,088	1,048	3,099	17,272	165,570	282	—	165,852
Wellington City	2,219	0.0149460	374	2,825	(1,500)	172	436	356	772	1,736	—	172	14	553	739	2,171	10	—	2,181
West Bountiful City	29,333	0.1976089	4,951	37,345	(19,838)	2,275	5,759	4,711	2,760	15,505	6	2,269	182	1,007	3,464	28,703	100	—	28,803
West Valley City	542,174	3.6524471	91,514	690,255	(366,673)	42,051	106,436	87,067	23,068	258,622	119	41,936	3,357	3,073	48,485	530,525	1,216	—	531,741
Woods Cross City	24,901	0.1677520	4,203	31,702	(16,841)	1,931	4,888	3,999	3,117	13,935	5	1,926	154	2,555	4,640	24,366	21	—	24,387
Grand Total	$ 14,844,124	100.0000000%	$ 2,505,563	18,898,433	(10,039,094)	1,151,305	2,914,107	2,383,807	1,368,200	7,817,419	3,266	1,148,154	91,915	139,444	1,382,779	14,525,195	76,488	—	14,601,683
Units without a proportionate share for 2018 but had a proportionate share in a prior year																			
Laverkin City	$ —	0.0000000%	$ —	—	—	—	—	—	898	898	—	—	—	468	468	—	24	—	24
Springdale Town	—	0.0000000	—	—	—	—	—	—	644	644	—	—	—	—	—	—	42	—	42
Garden City Fire District	—	0.0000000	—	—	—	—	—	—	1,072	1,072	—	—	—	—	—	—	74	—	74
Stockton Town	—	0.0000000	—	—	—	—	—	—	1,148	1,148	—	—	—	592	592	—	33	—	33
Grand Total	$ 14,844,124	100.0000000%	$ 2,505,563	18,898,433	(10,039,094)	1,151,305	2,914,107	2,383,807	1,371,962	7,821,181	3,266	1,148,154	91,915	140,504	1,383,839	14,525,195	76,661	—	14,601,856

Columns may not add to total due to rounding.

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

Retirement System	Employer Contributions	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	Deferred Outflows of Resources: Net Differences Between Expected and Actual Experience	Deferred Outflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Outflows of Resources: Changes of Assumptions	Deferred Outflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources: Total Deferred Outflows of Resources	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Deferred Inflows of Resources: Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Deferred Inflows of Resources: Changes of Assumptions	Deferred Inflows of Resources: Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Deferred Inflows of Resources: Total Deferred Inflows of Resources	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Allocable Plan Gross Pension Expense	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Proportionate Share of Nonemployer Contributions	Pension Expense Excluding That Attributable to Employer-Paid Member Contributions: Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
Noncontributory Retirement System	$ 854,876,397	4,456,889,519	8,196,650,737	1,331,117,689	29,290,489	1,704,157,479	477,071,477	57,903,737	2,268,423,182	65,937,142	931,935,803	—	73,695,216	1,071,568,161	1,041,344,744	(9,733,847)	—	1,031,610,897
Contributory Retirement System	6,141,582	111,580,675	234,936,442	6,843,505	—	86,014,672	—	—	86,014,672	—	49,269,424	—	—	49,269,424	28,392,131	114,351	—	28,506,482
Public Safety Retirement System	148,083,004	730,176,210	1,332,728,257	238,045,186	32,822,388	241,703,420	72,934,577	7,381,334	354,841,719	20,353,136	131,487,049	1,208,480	6,474,667	159,523,332	199,431,429	678,242	—	200,109,671
Firefighters Retirement System	7,029,071	53,399,929	230,327,132	(91,666,500)	2,744,371	83,478,002	33,518,150	532,068	120,272,591	17,854,860	45,709,405	5,762,595	542,726	69,869,586	22,423,028	(4,401)	(8,747,688)	13,670,939
Judges Retirement System	8,091,313	48,638,543	75,935,463	25,403,548	6,756,482	13,427,925	7,135,437	—	27,319,844	—	7,324,361	—	—	7,324,361	12,356,757	—	(1,518,442)	10,838,315
Utah Governors and Legislators Retirement Plan	391,883	2,640,357	3,912,507	1,558,808	—	754,302	—	—	754,302	—	433,138	—	—	433,138	506,329	—	—	506,329
Tier 2 Public Employees Contributory Retirement System	101,883,279	42,827,859	171,576,629	(56,534,006)	300,586	23,481,199	10,734,536	13,021,087	47,537,408	8,851,587	9,534,546	769,448	136,097	19,291,678	109,316,174	1,362,677	—	110,678,851
Tier 2 Public Safety & Firefighters Contributory Retirement System	14,844,124	2,505,563	18,898,433	(10,039,094)	1,151,305	2,914,107	2,383,807	1,371,962	7,821,181	3,266	1,148,154	91,915	140,504	1,383,839	14,525,195	76,661	—	14,601,856
Grand Total	$1,141,340,651	5,448,658,655	10,264,965,601	1,444,729,135	73,065,621	2,155,931,106	603,777,984	80,210,188	2,912,984,899	112,999,991	1,176,841,880	7,832,438	80,989,209	1,378,663,518	1,428,295,787	(7,506,316)	(10,266,130)	1,410,523,341

Columns may not add to total due to rounding.

Notes to the Public Safety System Schedule of Changes in Fiduciary Net Position—Pension Trust Fund by Division and Schedules or Employer Allocations and Pension Amounts

December 31, 2018

Note 1
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 178 through 195.

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; and

iv) the **Tier 2 Public Employees Contributory Retirement System** and the **Tier 2 Public Safety and Firefighter Contributory Retirement System** are multiple-employer, cost-sharing public employee retirement systems.

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

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.

Notes to the Schedules of Employer Allocations and Pension Amounts *(Continued)*

December 31, 2018

SUMMARY OF BENEFITS BY SYSTEM

	Noncontributory System	Contributory System	Public Safety System / Fire-fighters 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.*
***For members and retirees in the systems, prior to January 1, 1989, there may be a 3% benefit enhancement.*

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 $1,400 per month per term. Legislators receive a benefit at age 65 with four or more years of service at the rate of $30.40 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.

CONTRIBUTION RATES

December 31, 3018

System		Contribution Rates as a Percent of Covered Payroll: Member	Employer	Other
Noncontributory		—	18.47-22.19%	—
Contributory		6.00%	14.46-17.70	—
Public Safety:	Noncontributory	—	32.20-50.38	—
	Contributory	10.50-12.29	22.79-28.98	—
Firefighters:	Division A	15.05	4.61	11.06%
	Division B	16.71	7.24	11.06
Judges:	Noncontributory	—	43.68	8.23
Governors and Legislators		—	$ 384,103	—
Tier 2 Public Employees		—	15.54-18.87%	—
Tier 2 Public Safety and Firefighter		—	11.34-38.23	—

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 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.

As of December 31, 2018, participating members by System are included in the table below.

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	463	158	134	62	1	1	476	152
Members:								
Active	56,299	519	5,305	1,540	116	52	30,291	3,301
Terminated vested	46,756	1,186	4,921	440	8	85	1,971	130
Retirees and beneficiaries:								
Service benefits	51,547	3,306	5,202	1,232	125	173	64	—
Beneficiary benefits	4,857	611	765	232	30	77	—	—

Note 2
Basis of Presentation

The Schedules of Employer Allocations and Pension Amounts 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.

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, 2018, to December 31, 2018. The components of the current-year pension liability/(asset) of the employers as of December 31, 2018, were as shown in the schedule on page 298.

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 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.

Notes to the Schedules of Employer Allocations and Pension Amounts *(Continued)*

December 31, 2018

The last experience study was performed in 2017 and the next experience study is scheduled to be conducted in 2020. 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, 2018, is based on the results of an actuarial valuation date of January 1, 2018, 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 299.

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

NET PENSION LIABILITY BY DIVISION

Year Ended December 31, 2018

System	(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 Pension Liability	(5) Projected Covered Payroll	(6) Net Pension Liability/ (Asset) as a Percentage of Covered Payroll
Noncontributory Retirement System						
Local Government	$ 5,661,492,405	4,925,120,031	736,372,374	87.0%	$ 804,890,981	91.5%
State and School	23,461,454,081	19,740,936,936	3,720,517,145	84.1	2,525,657,176	147.3
Total	29,122,946,486	24,666,056,967	4,456,889,519	84.7	3,330,548,157	133.8
Contributory Retirement System						
Local Government	459,222,849	418,642,569	40,580,280	91.2	18,276,267	222.0
State and School	824,785,364	753,784,969	71,000,395	91.4	21,002,798	338.1
Total	1,284,008,213	1,172,427,538	111,580,675	91.3	39,279,065	284.1
Public Safety Retirement System						
State of Utah	1,423,493,301	1,184,118,188	239,375,113	83.2	107,406,875	222.9
Other Division A (with Social Security)	1,679,707,073	1,422,448,570	257,258,503	84.7	138,269,182	186.1
Salt Lake City	392,051,728	289,023,677	103,028,051	73.7	29,357,367	350.9
Ogden	86,132,897	63,869,244	22,263,653	74.2	4,940,024	450.7
Provo	65,904,906	50,793,158	15,111,748	77.1	4,698,726	321.6
Logan	35,456,823	28,646,987	6,809,836	80.8	2,078,757	327.6
Bountiful	27,932,215	20,402,504	7,529,711	73.0	1,675,338	449.4
Other Division B (without Social Security)	547,564,034	468,764,439	78,799,595	85.6	60,050,030	131.2
Total	4,258,242,977	3,528,066,767	730,176,210	82.9	348,476,299	209.5
Firefighters Retirement System						
Division A (with Social Security)	229,603,428	216,618,700	12,984,728	94.3	29,680,466	43.7
Division B (without Social Security)	1,031,688,546	991,273,345	40,415,201	96.1	83,906,696	48.2
Total	1,261,291,974	1,207,892,045	53,399,929	95.8	113,587,162	47.0
Judges Retirement System	244,206,713	195,568,170	48,638,543	80.1	18,801,879	258.7
Governors and Legislators Retirement Plan	13,177,511	10,537,154	2,640,357	80.0	638,820	413.3
Tier 2 Public Employees Retirement System	467,462,324	424,634,465	42,827,859	90.8	1,171,542,690	3.7
Tier 2 Public Safety and Firefighter Retirement System	56,840,023	54,334,460	2,505,563	95.6	123,438,710	2.0
Grand Total	$ 36,708,176,221	31,259,517,566	5,448,658,655	85.2%	$ 5,146,312,782	105.9%

Notes to the Schedules of Employer Allocations and Pension Amounts *(Continued)*

December 31, 2018

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	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18	1/1/18
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 20-Year Open Period	Closed Group 16-Year Closed Period	Open Group 20-Year Open Period	Open Group 20-Year Open Period
Actuarial asset valuation method (All Systems under same method)	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	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%	6.95%
Projected salary increases*	3.25-9.75%	3.25-9.75%	3.25-7.25%	3.25-8.75%	3.25%	None	3.25-9.75%	3.25-8.75%
Inflation rate	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Post-retirement cost-of-living adjustment	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Mortality: (Non-educators)	Male: 110% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for males, projected with Scale AA from the year 2017. Female: 110% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for females, projected with Scale AA from the year 2017.							
Mortality: (Educators)	Male: 90% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for males, projected with Scale AA from the year 2017. Female: 90% of 2017 Public Retirees of Utah (PR Utah) Mortality Table for females, projected with Scale AA from the year 2017.							

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 2.50% inflation, plus 0.75% productivity increase rate, plus step-rate promotional increases for members with less than 25 years of service.*

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, 2018, are summarized in the top table below.

D) Discount Rate

The discount rate used to measure the total pension liability was 6.95%. 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 6.95%, as well as what the net pension liability/(asset) would be if it were calculated using a 1.00% point lower (5.95%) or a 1.00% point higher (7.95%) than the current assumption.

TARGET ALLOCATIONS

		Expected Return Arthmetic Basis	
Asset Class	Target Asset Allocation	Real Return Arithmetic Basis	Long-term Expected Portfolio Real Rate of Return*
Equity securities	40%	6.15%	2.46%
Debt securities	20	0.40	0.08
Real assets	15	5.75	0.86
Private equity	9	9.95	0.89
Absolute return	16	2.85	0.46
Cash and cash equivalents	0	0.00	0.00
Totals	100%		4.75%
Inflation			2.50%
Expected arithmetic nominal return			7.25%

**The total URS Defined Benefit long-term expected rate of return is 6.95%, which is comprised of a 2.50% inflation assumption and a 4.45% net real rate of return assumption.*

CHANGES IN DISCOUNT RATE

Year ended December 31, 2018

System	Net Pension Liability/(Asset) 1% Decrease (5.95%)	Net Pension Liability/(Asset) Current Discount Rate (6.95%)	Net Pension Liability/(Asset) 1% Increase (7.95%)
Noncontributory Retirement System			
Local Government	$ 1,509,165,864	736,372,374	92,839,498
State and School	6,687,484,874	3,720,517,145	1,238,278,191
Total	8,196,650,738	4,456,889,519	1,331,117,689
Contributory Retirement System			
Local Government	86,145,305	40,580,280	2,223,977
State and School	148,791,137	71,000,395	4,619,528
Total	234,936,442	111,580,675	6,843,505
Public Safety Retirement System			
State of Utah	431,524,139	239,375,113	81,430,621
Other Division A (with Social Security)	504,272,072	257,258,503	56,737,787
Salt Lake City	155,807,761	103,028,051	59,653,139
Ogden	33,874,092	22,263,653	12,757,018
Provo	24,169,945	15,111,748	7,692,917
Logan	11,762,835	6,809,836	2,801,647
Bountiful	11,131,858	7,529,711	4,554,737
Other Division B (without Social Security)	160,185,555	78,799,595	12,417,320
Total	1,332,728,257	730,176,210	238,045,186
Firefighters Retirement System			
Division A (with Social Security)	48,454,523	12,984,728	(15,736,277)
Division B (without Social Security)	181,872,609	40,415,201	(75,930,223)
Total	230,327,132	53,399,929	(91,666,500)
Judges Retirement System	75,935,463	48,638,543	25,403,548
Governors and Legislators Retirement Plan	3,912,507	2,640,357	1,558,808
Tier 2 Public Employees Retirement System	171,576,629	42,827,859	(56,534,006)
Tier 2 Public Safety and Firefighter Retirement System	18,898,433	2,505,563	(10,039,094)
Grand Total	$ 10,264,965,601	5,448,658,655	1,444,729,136

Note 3
Deferred Outflows of Resources and Deferred Infows 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, 2018, are shown in the left table below.

DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE

December 31, 2018

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	$ 9,470,779	13,734,101
State and School	19,819,710	52,203,041
Total	29,290,489	65,937,142
Contributory Retirement System		
Local Government	—	—
State and School	—	—
Total	—	—
Public Safety Retirement System		
State of Utah	1,397,729	5,433,454
Other Division A (with Social Security)	—	12,243,009
Salt Lake City	1,785,729	—
Ogden	379,429	980,568
Provo	453,535	685,781
Logan	—	744,436
Bountiful	157,772	265,888
Other Division B (without Social Security)	28,648,194	—
Total	32,822,388	20,353,136
Firefighters Retirement System		
Other Division A (with Social Security)	2,744,371	2,341,362
Other Division B (without Social Security)	—	15,513,498
Total	2,744,371	17,854,860
Judges Retirement System	6,756,482	—
Governors and Legislators Retirement Plan	—	—
Tier 2 Public Employees Retirement System	300,586	8,851,587
Tier 2 Public Safety and Firefighter Retirement System	1,151,305	3,266
Grand Total	$ 73,065,621	112,999,991

CHANGES IN ASSUMPTIONS

December 31, 2018

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	$ 98,645,479	—
State and School	378,425,998	—
Total	477,071,477	—
Contributory Retirement System		
Local Government	—	—
State and School	—	—
Total	—	—
Public Safety Retirement System		
State of Utah	16,911,235	—
Other Division A (with Social Security)	29,570,896	—
Salt Lake City	7,068,399	—
Ogden	505,834	—
Provo	1,504,912	—
Logan	489,104	—
Bountiful	614,798	—
Other Division B (without Social Security)	16,269,399	1,208,480
Total	72,934,577	1,208,480
Firefighters Retirement System		
Other Division A (with Social Security)	6,906,292	1,507,350
Other Division B (without Social Security)	26,611,858	4,255,245
Total	33,518,150	5,762,595
Judges Retirement System	7,135,437	—
Governors and Legislators Retirement Plan	—	—
Tier 2 Public Employees Retirement System	10,734,536	769,448
Tier 2 Public Safety and Firefighter Retirement System	2,383,807	91,915
Grand Total	$ 603,777,984	7,832,438

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

Every three years in conjunction with the actuarial valuation the actuary performs an experience study.

Based upon the 2017 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 earnings assumptions from 7.2% to 6.95%, decrease the inflation assumptions from 2.6% to 2.5%, and construct a new post-retirement mortality table based on actual experience (increases life expectancy for most groups). Additional changes by the Board were a decrease to the wage inflation assumption from 3.35% to 3.25% and a decrease to the payroll growth assumption from 3.1% to 3.0%.

C) Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments

The difference between the System's expected rate of return of 6.95% 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 deferred outflow amounts of the difference between expected and actual experience for the year ended December 31, 2018, is $2,155,931,106 and deferred inflows of $1,176,841,880 as illustrated in the bottom-left table on page 302.

NET DIFFERENCE BETWEEN PROJECTED AND ACTUAL INVESTMENT EARNINGS ON PLAN INVESTMENTS

December 31, 2018

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	$ 336,350,427	183,119,660
State and School	1,367,807,052	748,816,143
Total	1,704,157,479	931,935,803
Contributory Retirement System		
Local Government	30,581,967	17,245,429
State and School	55,432,705	32,023,995
Total	86,014,672	49,269,424
Public Safety Retirement System		
State of Utah	81,530,761	44,446,192
Other Division A (with Social Security)	98,026,634	53,632,627
Salt Lake City	19,814,195	10,787,734
Ogden	4,446,695	2,452,099
Provo	3,503,297	1,912,395
Logan	1,976,763	1,078,735
Bountiful	1,420,345	781,608
Other Division B (without Social Security)	30,984,730	16,395,659
Total	241,703,420	131,487,049
Firefighters Retirement System		
Other Division A (with Social Security)	14,718,041	7,951,963
Other Division B (without Social Security)	68,759,961	37,757,442
Total	83,478,002	45,709,405
Judges Retirement System	13,427,925	7,324,361
Governors and Legislators Retirement Plan	754,302	433,138
Tier 2 Public Employees Retirement System	23,481,199	9,534,546
Tier 2 Public Safety and Firefighter Retirement System	2,914,107	1,148,154
Grand Total	$ 2,155,931,106	1,176,841,880

PROPORTIONATE SHARE OF GROSS PENSION EXPENSE

December 31, 2018

System	
Noncontributory Retirement System	
Local Government	$ 203,850,263
State and School	837,494,481
Total	1,041,344,744
Contributory Retirement System	
Local Government	8,809,238
State and School	19,582,893
Total	28,392,131
Public Safety Retirement System	
State of Utah	61,822,028
Other Division A (with Social Security)	79,997,209
Salt Lake City	21,999,491
Ogden	4,755,024
Provo	2,959,535
Logan	1,063,559
Bountiful	1,572,472
Other Division B (without Social Security)	25,262,111
Total	199,431,429
Firefighters Retirement System	
Other Division A (with Social Security)	7,280,460
Other Division B (without Social Security)	15,142,568
Total	22,423,028
Judges Retirement System	12,356,757
Governors and Legislators Retirement Plan	506,329
Tier 2 Public Employees Retirement System	109,316,174
Tier 2 Public Safety and Firefighter Retirement System	14,525,195
Grand Total	$ 1,428,295,787

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.

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 year ended December 31, 2018, is as shown in the bottom-right table on page 302.

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, 2017), 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.

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 $8,747,688 in calendar year 2018 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 $1,518,442 in court fees in calendar year 2018 and was used to offset gross pension plan expense.

NET AMORTIZATION OF DEFERRED AMOUNTS FROM CHANGES IN PROPORTION AND DIFFERENCES BETWEEN EMPLOYER CONTRIBUTIONS AND PROPORTIONATE SHARE OF CONTRIBUTIONS

Year ended December 31, 2018

Cost Sharing Retirement System	Average Remaining Service Lives
Noncontributory Retirement System	
Local Government	3.70
State and School	3.62
Contributory Retirement System	
Local Government	0.65
State and School	0.32
Public Safety Retirement System	
State of Utah	2.99
Other Division A (with Social Security)	3.08
Other Division B (without Social Security)	4.35
Firefighters Retirement System	
Other Division A (with Social Security)	6.24
Other Division B (without Social Security)	5.14
Tier 2 Public Employees Retirement System	12.21
Tier 2 Public Safety and Firefighter Retirement System	17.98

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.

Utah Retirement Systems

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
4 Corners Comm Behavior Health	N/A	$ 1,798,332	3,768,872	165,193	22,881	825,312	245,872	37,081	1,131,146	41,542	446,097	764	11,046	499,449	594,665	(3,353)	—	591,312
Active Re Entry Inc	N/A	416,385	749,471	137,809	2,219	153,164	42,421	16,211	214,015	5,933	83,814	8	3,157	92,912	94,820	6,033	—	100,853
Alpine City	N/A	570,701	1,185,941	59,897	7,292	261,440	77,424	13,009	359,165	12,212	141,704	150	25,617	179,683	176,957	1,776	—	178,733
Alpine School District	N/A	281,946,910	512,788,828	89,240,650	1,493,123	105,085,901	28,787,576	4,914,068	140,280,668	4,382,499	57,401,916	42,938	—	61,827,353	69,151,668	2,475,971	—	71,627,639
Alpine Uniserv	N/A	124,276	223,382	41,362	662	45,689	12,641	11,766	70,758	1,744	25,013	—	13,639	40,396	27,975	(14,911)	—	13,064
American Fork City	N/A	6,252,254	13,335,551	444,805	122,426	2,895,659	941,252	140,951	4,100,288	248,537	1,570,117	38,276	176,801	2,033,731	2,144,028	(9,703)	(58,199)	2,076,126
American Leadership Academy	N/A	4,900,841	8,952,189	1,524,018	26,217	1,813,444	508,131	116,143	2,463,935	81,247	987,759	1,164	194,468	1,264,638	1,253,993	(30,255)	—	1,223,738
Ames Charter School	N/A	2,114,693	3,809,146	697,783	11,272	778,104	215,637	70,500	1,075,513	30,375	425,695	66	1,940	458,076	484,523	33,428	—	517,951
Annabella Town	N/A	64,411	132,008	8,121	828	29,421	8,629	1,440	40,318	1,201	16,018	—	224	17,443	17,831	562	—	18,393
Ash Creek SS District	N/A	719,929	1,482,844	85,314	9,237	329,185	96,883	47,683	482,988	14,136	178,932	68	—	193,136	207,879	21,782	—	229,661
Ashley Valley Improv Dist	N/A	596,872	1,236,849	65,211	7,636	273,267	80,768	5,199	366,870	12,438	148,248	125	23,104	183,915	181,031	(7,496)	—	173,535
Ashley Valley Sewer Mgmt Board	N/A	314,140	643,818	39,606	4,040	143,489	42,083	6,188	195,800	5,859	78,120	—	1,110	85,089	86,964	1,644	—	88,608
Ballard Town	N/A	133,858	275,871	15,744	1,717	61,214	18,023	814	81,768	2,644	33,267	14	2,541	38,466	38,839	(570)	—	38,269
Bear Lake SSD	N/A	93,981	192,610	11,849	1,209	42,927	12,590	3,262	59,988	1,753	23,371	—	601	25,725	26,017	1,501	—	27,518
Bear River Assn of Govts	N/A	921,499	1,915,288	96,439	11,772	422,160	125,039	7,058	566,029	19,753	228,801	245	48,014	296,813	286,164	(15,228)	—	270,936
Bear River Health Dept	N/A	3,257,081	6,785,275	329,336	41,562	1,492,871	442,883	28,804	2,006,120	71,319	808,500	1,010	27,219	908,048	1,029,604	5,815	—	1,035,419
Bear River Mental Health	N/A	2,524,108	5,265,796	249,694	32,187	1,157,265	343,663	13,838	1,546,953	55,988	626,455	851	71,414	754,708	806,602	(57,189)	—	749,413
Bear River Water District	N/A	132,563	282,044	9,056	1,674	61,035	18,376	3,252	84,337	3,468	32,828	95	4,039	40,430	48,747	249	—	48,996
Beaver City	N/A	741,011	1,542,976	75,462	9,458	339,606	100,716	14,572	464,352	16,156	183,949	223	34,034	234,362	233,400	(23,393)	—	210,007
Beaver County	N/A	5,379,579	10,801,488	955,336	24,578	2,169,945	660,194	93,333	2,948,050	219,505	1,180,964	992	33,086	1,434,547	1,762,758	60,303	—	1,823,061
Beaver Housing Authority	N/A	84,797	173,788	10,691	1,091	38,732	11,360	5,342	56,525	1,582	21,087	—	—	22,669	23,474	2,715	—	26,189
Beaver School District	N/A	7,191,949	13,021,125	2,323,404	38,384	2,651,718	737,847	37,733	3,465,682	109,099	1,448,407	764	69,192	1,627,462	1,717,838	(20,207)	—	1,697,631
Beaver Valley Hospital	N/A	3,208,956	6,653,910	347,459	41,041	1,469,358	434,484	92,680	2,037,563	67,277	796,968	710	33,320	898,275	978,214	26,740	—	1,004,954
Benchland Water Company	N/A	307,701	636,255	34,630	3,940	140,811	41,556	16,954	203,261	6,280	76,443	52	—	82,775	91,734	10,010	—	101,744
Bicknell Town	N/A	24,607	50,432	3,102	316	11,240	3,296	523	15,375	459	6,119	—	658	7,236	6,812	175	—	6,987
Big Cottonwood Canyon Imp Dist	N/A	49,730	101,920	6,270	640	22,715	6,662	1,378	31,395	928	12,367	—	965	14,260	13,767	126	—	13,893
Big Plains Water & Sewer Spec Service Dist	N/A	24,262	51,299	1,893	308	11,156	3,344	11,035	25,843	604	6,012	14	—	6,630	8,550	3,993	—	12,543
Big Water Municipal Corp	N/A	29,140	62,329	2,482	429	11,833	4,130	4,951	21,343	1,343	6,309	34	322	8,008	14,180	3,270	—	17,450
Blanding City	N/A	1,036,474	2,106,818	155,517	8,205	442,715	132,416	49,973	633,309	33,087	240,703	176	11,363	285,329	324,348	14,793	—	339,141
Bluffdale City	N/A	1,097,709	2,329,003	79,682	14,611	505,813	152,551	163,774	836,749	27,234	272,366	707	1,386	301,693	394,725	146,089	—	540,814
Bona Vista Water Improve	N/A	346,000	713,358	40,485	4,437	158,240	46,604	3,334	212,615	6,861	85,986	39	23,084	115,970	100,721	(7,022)	—	93,699
Bountiful Irrigation District	N/A	352,723	728,606	40,246	4,519	161,379	47,592	1,496	214,986	7,128	87,638	52	9,713	104,531	104,291	(6,572)	—	97,719
Box Elder Co Mosq Dist	N/A	184,107	381,330	20,248	2,356	84,281	24,903	4,412	115,952	3,819	45,730	37	—	49,586	55,629	1,993	—	57,622
Box Elder County	N/A	8,500,274	17,174,217	1,387,604	50,562	3,603,576	1,030,381	73,571	4,758,090	302,338	1,964,648	1,335	135,953	2,404,274	2,688,496	(38,862)	—	2,649,634
Box Elder School District	N/A	50,620,283	91,867,587	16,174,017	268,416	18,816,172	5,165,992	1,569,645	25,820,225	773,151	10,281,950	6,317	83,966	11,145,384	12,230,549	544,761	—	12,775,310
Bridgerland Applied Tech Ctr	N/A	5,819,176	10,496,619	1,909,168	31,028	2,142,371	594,374	40,464	2,808,237	84,866	1,171,563	300	177,958	1,434,687	1,348,761	(11,199)	—	1,337,562
Brigham City	N/A	5,682,064	11,867,476	598,204	81,123	2,577,926	788,054	75,728	3,522,831	206,907	1,401,942	21,776	53,015	1,683,640	1,828,516	1,969	(33,029)	1,797,456
Cache County	N/A	12,223,553	24,806,749	1,929,418	89,530	5,091,188	1,559,326	144,480	6,884,524	475,051	2,769,183	12,549	104,427	3,361,210	3,979,686	39,267	(16,388)	4,002,565
Cache Metro Planning Org	N/A	66,481	136,251	8,382	855	30,366	8,906	1,326	41,453	1,240	16,532	—	—	17,772	18,404	867	—	19,271
Cache School District	N/A	72,741,911	132,284,548	23,013,987	382,642	27,290,695	7,369,832	2,574,888	37,618,057	1,110,910	14,923,703	9,840	—	16,044,453	17,704,108	1,243,753	—	18,947,861
Canyons School District	N/A	145,895,531	265,804,830	45,891,062	779,935	53,928,287	15,079,779	1,431,502	71,219,503	2,357,870	29,398,366	28,984	393,715	32,178,935	36,595,979	197,998	—	36,793,977
Carbon County	N/A	6,076,191	12,348,434	927,056	42,227	2,589,158	756,916	23,718	3,412,019	208,560	1,408,523	1,310	426,683	2,045,076	1,954,355	(210,218)	—	1,744,137
Carbon County Rec/Trans SSD	N/A	34,926	71,580	4,403	449	15,953	4,679	540	21,621	651	8,685	—	574	9,910	9,669	(153)	—	9,516
Carbon School District	N/A	15,233,382	27,664,789	4,856,957	81,240	5,632,462	1,565,754	36,590	7,316,046	237,541	3,074,367	2,249	253,201	3,567,358	3,721,621	(198,387)	—	3,523,234
Castle Dale City	N/A	82,750	171,976	8,672	1,058	37,909	11,227	2,452	52,646	1,773	20,547	22	363	22,705	25,678	649	—	26,327
Castle Valley SSD	N/A	504,270	1,050,852	47,830	4,276	281,219	44,981	1,983	332,459	6,688	155,421	45	23,618	185,772	135,040	(5,860)	—	129,180
Cedar City	N/A	5,792,160	12,172,102	557,030	90,903	2,617,284	830,632	63,592	3,602,411	223,815	1,420,833	26,574	114,759	1,785,981	1,922,560	(46,953)	(40,203)	1,835,404
Cedar City Housing Auth	N/A	130,589	272,411	12,936	1,665	59,872	17,779	3,771	83,087	2,894	32,411	44	771	36,120	41,703	1,500	—	43,203
Cedar Mtn Fire Protection Dist	N/A	9,766	30,720	(6,796)	838	5,684	2,733	4,543	13,798	335	2,740	76	1,000	4,151	13,759	1,250	—	15,009
Centerfield City	N/A	49,238	100,910	6,208	633	22,490	6,596	774	30,493	918	12,244	—	35,858	49,020	13,630	(21,925)	—	(8,295)
Centerville City	N/A	3,343,538	6,763,220	527,573	16,807	1,525,521	363,609	36,957	1,942,894	104,800	837,201	248	92,911	1,035,160	989,785	25,193	—	1,014,978
Central Davis Sewer Dist	N/A	727,332	1,500,417	84,473	9,325	332,678	98,018	1,234	441,255	14,505	180,742	90	18,369	213,706	212,720	(13,778)	—	198,942
Central Iron Co Water Conserv	N/A	116,064	248,196	7,001	1,462	53,497	16,164	6,368	77,491	3,157	28,725	95	—	31,977	44,141	3,262	—	47,403
Central UT Public Health	N/A	1,088,254	2,270,628	107,424	13,877	498,962	148,186	15,184	676,209	24,169	270,088	370	34,128	328,755	348,123	(5,677)	—	342,446
Central Utah Counseling Center	N/A	1,961,563	4,069,741	210,655	25,080	898,296	265,732	43,640	1,232,748	41,350	487,138	455	79,919	608,862	600,697	(3,179)	—	597,518
Central Utah Water Dist	N/A	5,460,420	11,328,441	586,793	69,818	2,500,570	739,686	97,098	3,407,172	115,058	1,356,055	1,263	37,090	1,509,466	1,671,551	(1,807)	—	1,669,744
Central Wasatch Commission	N/A	38,683	83,997	1,390	484	17,890	5,463	17,564	41,401	1,175	9,557	43	—	10,775	16,195	6,219	—	22,414
Central Weber Sewer Dist	N/A	1,172,881	2,459,173	106,929	14,920	538,324	160,424	26,625	740,293	27,199	290,932	509	25,952	344,592	389,119	(6,682)	—	382,437
City of Aurora	N/A	56,932	116,680	7,178	732	26,005	7,627	728	35,092	1,062	14,158	—	218	15,438	15,760	348	—	16,108
City of Bountiful	N/A	13,661,655	23,919,501	5,164,350	239,451	4,234,893	1,453,063	54,416	5,981,823	397,352	2,305,672	1,921	145,996	2,850,941	3,519,870	(73,668)	—	3,446,202
City of Cedar Hills	N/A	754,736	1,559,140	86,036	9,670	345,315	101,842	3,774	460,601	15,262	187,522	113	26,659	229,556	223,284	(9,414)	—	213,870
City of Draper	N/A	8,665,026	19,103,748	110,190	240,204	4,286,907	1,448,359	303,047	6,278,517	397,049	2,323,678	95,679	285,810	3,102,216	3,031,740	30,149	(148,558)	2,913,331

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
City of Duchesne	N/A	$ 188,987	393,077	19,575	2,414	86,592	25,660	2,772	117,438	4,078	46,921	53	10,409	61,461	59,009	(2,453)	—	56,556
City of Enterprise	N/A	282,719	581,525	34,090	3,630	129,235	37,998	8,959	179,822	5,475	70,278	19	2,093	77,865	80,712	1,764	—	82,476
City of Green River	N/A	254,371	532,359	23,915	3,239	116,704	34,733	17,004	171,680	5,805	63,109	101	5,424	74,439	83,251	3,513	—	86,764
City of Harrisville	N/A	929,704	1,883,444	146,844	6,764	390,517	117,766	48,096	563,143	31,931	212,384	160	9,738	254,213	295,695	22,355	—	318,050
City of Helper	N/A	471,568	953,898	77,119	2,753	194,075	58,937	3,254	259,019	18,092	105,469	112	29,179	152,852	155,912	(23,224)	—	132,688
City of Holladay	N/A	786,129	1,629,222	85,749	10,057	359,923	106,389	24,070	500,439	16,400	195,252	166	30,465	242,283	238,653	(2,545)	—	236,108
City of Kanab	N/A	802,238	1,681,776	82,270	10,565	355,395	112,334	7,139	485,433	33,329	192,662	3,310	19,641	248,942	276,883	(4,758)	(4,845)	267,280
City of Milford	N/A	204,511	428,669	18,739	2,602	93,859	27,965	11,244	135,670	4,730	50,731	88	—	55,549	67,701	5,444	—	73,145
City of Moab	N/A	3,345,470	6,884,563	430,999	31,572	1,455,543	438,024	364,901	2,290,040	102,063	788,966	1,055	35,685	927,769	1,101,309	118,160	—	1,219,469
City of Monticello	N/A	424,264	875,801	53,072	4,138	183,866	55,865	20,479	264,348	13,408	99,544	161	31,296	144,409	144,462	4,281	—	148,743
City of Naples	N/A	661,521	1,352,876	92,710	4,109	308,491	71,899	61,666	446,165	20,304	169,048	139	31,515	221,006	207,525	(12,666)	—	194,859
City of North Salt Lake	N/A	3,815,631	7,715,008	613,480	26,157	1,601,479	480,693	141,173	2,249,502	131,166	871,428	559	24,533	1,027,686	1,197,335	66,841	—	1,264,176
City of Orem	N/A	18,103,879	41,306,169	(1,043,394)	2,223,096	10,431,474	3,404,628	147,727	16,206,925	763,780	5,670,956	250,654	189,692	6,875,082	5,777,623	52,685	(237,062)	5,593,246
City of Riverton	N/A	3,774,486	7,845,015	395,056	48,218	1,729,173	512,157	29,622	2,319,170	80,907	937,176	1,004	102,478	1,121,565	1,172,071	(33,038)	—	1,139,033
City of Santa Clara	N/A	1,206,058	2,599,303	52,815	26,698	588,288	185,560	67,716	868,262	33,223	318,498	6,211	23,199	381,131	395,370	12,541	(9,308)	398,603
City of Saratoga Springs	N/A	4,007,996	8,899,721	(15,639)	547,894	2,015,902	767,544	177,137	3,508,477	133,769	1,083,543	44,826	8,471	1,270,609	1,412,005	68,827	(32,421)	1,448,411
City of South Jordan	N/A	13,076,113	28,547,622	381,589	329,179	6,360,315	2,114,408	1,381,300	10,185,202	549,223	3,446,266	118,923	28,488	4,142,900	4,548,049	1,123,093	(183,201)	5,487,941
City of South Salt Lake	N/A	9,022,011	19,949,524	96,163	257,053	4,447,380	1,529,416	148,264	6,382,113	468,141	2,412,572	113,574	140,955	3,135,242	3,197,709	(105,895)	(177,294)	2,914,520
City of St George	N/A	26,441,515	55,184,579	2,795,734	357,307	11,927,978	3,646,984	417,106	16,349,375	911,228	6,476,820	80,024	97,302	7,565,374	8,624,361	235,511	(117,194)	8,742,678
City of Taylorsville	N/A	1,435,549	2,982,420	151,192	18,343	657,596	194,713	83,754	954,406	30,649	356,452	370	67,500	454,971	444,294	(20,352)	—	423,942
City of Uintah	N/A	85,082	174,615	10,548	1,094	38,874	11,412	11,560	62,940	1,611	21,155	2	1,755	24,523	23,835	4,175	—	28,010
City of Washington Terrace	N/A	700,034	1,481,180	51,840	13,291	334,930	103,021	7,676	458,918	17,524	181,861	2,615	1,798	203,798	211,488	3,177	(4,011)	210,654
City of Wendover	N/A	191,542	410,069	11,266	3,789	88,168	27,069	21,745	140,771	5,084	47,305	214	7,646	60,249	73,447	6,284	—	79,731
City of West Haven	N/A	495,480	1,031,535	50,593	6,325	227,070	67,333	23,451	324,179	10,785	123,001	148	2,926	136,860	155,852	6,384	—	162,236
City of West Jordan	N/A	19,026,363	45,020,937	(2,363,322)	2,768,770	11,151,858	4,304,445	386,772	18,611,845	1,077,163	6,028,246	355,021	140,566	7,600,996	6,408,028	148,230	(357,765)	6,198,493
City of Woodland Hills	N/A	188,348	391,437	19,738	2,406	86,285	25,555	49,658	163,904	4,034	46,766	50	88	50,938	58,449	21,274	—	79,723
Clearfield City	N/A	4,373,547	8,927,301	632,888	35,023	1,860,791	561,547	67,001	2,524,362	146,178	1,010,077	1,139	42,128	1,199,522	1,429,448	(57,142)	—	1,372,306
Cleveland Town	N/A	9,946	22,649	(421)	121	4,649	1,467	504	6,741	403	2,443	21	1,539	4,406	5,389	(1,509)	—	3,880
Clinton City	N/A	2,659,441	5,679,441	178,653	49,114	1,299,082	370,562	58,786	1,777,544	99,611	708,136	16,157	8,894	832,798	882,195	35,581	(24,718)	893,058
Coalville City	N/A	205,524	429,278	19,952	2,619	94,254	28,013	6,257	131,143	4,608	51,003	74	291	55,976	66,274	2,212	—	68,486
Color Country Uniserv	N/A	101,351	183,697	32,593	541	37,385	10,412	25,702	74,040	1,554	20,413	12	1,199	23,178	24,418	13,686	—	38,104
Corinne City	N/A	282,312	599,302	15,472	—	212,755	—	—	212,755	—	119,974	—	—	119,974	61,285	14,630	—	75,915
Cottonwood Heights City	N/A	3,258,198	6,763,856	382,926	717,381	1,377,167	587,591	120,191	2,802,330	30,430	734,123	30,264	66,965	861,782	1,113,452	47,801	—	1,161,253
Cottonwood Heights P&R Srv	N/A	671,494	1,394,665	71,014	8,581	307,580	91,055	16,048	423,264	14,298	166,740	170	10,813	192,021	207,364	11,335	—	218,699
Cottonwood Imp District	N/A	1,455,288	3,001,371	169,571	18,660	665,607	196,074	7,227	887,568	28,951	361,648	173	75,433	466,205	424,753	(28,844)	—	395,909
Council On Aging Golden Age SS	N/A	196,809	407,664	21,626	2,518	90,097	26,622	601	119,838	4,086	48,885	40	17,503	70,514	59,498	(10,479)	—	49,019
Daggett County	N/A	577,058	1,180,918	79,207	5,087	250,542	74,758	8,839	339,226	17,361	136,031	132	232,800	386,324	182,713	(168,591)	—	14,122
Daggett School District	N/A	1,781,451	3,231,888	570,611	9,513	657,368	183,207	50,717	900,805	27,594	358,834	242	65,562	452,232	432,407	(7,747)	—	424,660
Davis & Weber County Canal Co	N/A	1,505,791	3,199,713	80,213	12	1,134,443	421	1,243	1,136,119	347	639,577	30	1,320	641,274	330,805	49,357	—	380,162
Davis Co Mosquito Abate	N/A	182,781	376,901	21,345	2,344	83,595	24,623	8,215	118,777	3,630	45,423	21	2,015	51,089	53,273	84	—	53,357
Davis Applied Tech College	N/A	4,798,125	8,692,704	1,545,852	25,613	1,769,560	492,636	150,008	2,437,817	73,276	966,363	555	—	1,040,194	1,151,991	95,887	—	1,247,878
Davis Behavioral Health Inc	N/A	6,351,207	13,282,645	604,082	80,890	2,913,464	866,684	228,446	4,089,484	144,026	1,575,863	2,443	71,562	1,793,894	2,067,673	47,494	—	2,115,167
Davis Co Housing Authority	N/A	733,373	1,545,777	52,966	3,448	472,892	36,715	43,216	556,271	5,881	263,916	81	17,037	286,915	185,544	74,679	—	260,223
Davis County	N/A	34,297,393	69,742,477	5,140,078	277,888	14,624,299	4,390,272	257,771	19,550,230	1,102,182	7,949,893	6,116	990,959	10,049,150	10,815,429	(625,530)	—	10,189,899
Davis School District	N/A	291,702,601	530,274,702	92,449,066	1,535,639	109,327,204	29,570,057	3,507,167	143,940,067	4,447,200	59,783,356	38,424	267,600	64,536,580	70,848,883	1,460,407	—	72,309,290
Davis Uniserv	N/A	71,665	128,814	23,852	382	26,347	7,289	212	34,230	1,006	14,424	—	13,037	28,467	16,132	(15,864)	—	268
Ddi Vantage	N/A	8,843,633	18,897,137	394,489	460	6,651,240	16,441	18,676	6,686,817	13,557	3,745,012	1,179	—	3,759,748	2,072,982	409,515	—	2,482,497
Delta City	N/A	439,203	914,110	45,039	5,607	201,267	59,670	7,957	274,501	9,535	109,034	128	10,976	129,673	137,845	(7,904)	—	129,941
Dixie Applied Tech College	N/A	763,064	1,374,240	251,974	4,067	280,750	77,793	191,120	553,730	10,939	153,605	22	—	164,566	174,572	87,778	—	262,350
Dixie State University	N/A	6,856,259	12,442,090	2,189,730	36,457	2,588,202	673,557	160,729	3,458,945	101,824	1,418,501	513	248,427	1,769,265	1,631,574	(90,831)	—	1,540,743
Duchesne Co Mosquito Dist	N/A	137,891	292,720	7,557	—	103,917	—	—	103,917	—	58,600	—	—	58,600	29,934	5,400	—	35,334
Duchesne Co Water Conserv Dist	N/A	156,253	321,893	18,474	2,005	71,449	21,030	14,991	109,475	3,073	38,835	15	965	42,888	45,184	6,274	—	51,458
Duchesne County	N/A	6,328,530	13,082,393	749,404	37,146	3,225,807	602,503	448,344	4,313,800	162,898	1,775,828	1,566	84,677	2,024,969	1,939,809	320,306	—	2,260,115
Duchesne School District	N/A	20,818,888	38,112,026	6,383,433	107,875	7,959,370	2,086,098	114,311	10,267,654	326,721	4,355,003	4,066	127,073	4,812,863	5,245,552	4,985	—	5,250,537
E Duchesne Cul Water Imp Dist	N/A	50,026	102,527	6,307	643	22,850	6,702	880	31,075	933	12,440	—	348	13,721	13,849	316	—	14,165
Eagle Mountain City	N/A	1,970,703	4,121,372	187,494	25,100	904,010	268,917	44,963	1,242,990	44,682	488,973	757	86,965	621,377	641,489	(82,549)	—	558,940
East Carbon City	N/A	284,156	584,498	37,902	2,567	121,099	37,076	3,589	164,331	9,682	65,580	108	46,393	121,763	98,095	(29,704)	—	68,391
East Hollywood High School	N/A	1,229,476	2,251,610	378,013	6,581	455,412	127,864	113,678	703,535	20,886	247,856	339	2,687	271,768	320,670	45,027	—	365,697
Educators Mutual Insurance	N/A	8,313,074	15,120,218	2,611,165	41,609	3,267,445	795,895	37,685	4,142,634	111,889	1,799,794	219	197,157	2,109,059	1,925,300	(116,298)	—	1,809,002
Elk Ridge City	N/A	106,896	232,692	3,418	1,334	49,463	15,132	15,877	81,806	3,302	26,402	125	12,657	42,486	45,422	(7,435)	—	37,987
Emery Co Care & Rehab Ctr	N/A	1,321,843	2,825,149	58,506	71	994,081	2,541	3,118	999,811	2,095	559,694	182	72	562,043	310,621	113,963	—	424,584
Emery County	N/A	4,324,691	8,736,807	703,801	27,990	1,819,587	536,754	48,897	2,433,228	150,995	990,951	623	285,519	1,428,088	1,358,880	(217,583)	—	1,141,297

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Emery County Recreation SSD	N/A	$ 13,292	30,269	(561)	162	6,213	1,961	575	8,911	539	3,265	28	1,948	5,780	7,200	(859)	—	6,341
Emery School District	N/A	13,629,091	24,736,946	4,345,247	71,311	5,133,414	1,370,024	22,490	6,597,239	201,457	2,810,986	1,301	388,759	3,402,503	3,249,964	(269,393)	—	2,980,571
Emery Town	N/A	78,634	166,927	4,309	—	59,260	—	—	59,260	—	33,417	—	—	33,417	17,070	(1,828)	—	15,242
Emery Water Conserv Dist	N/A	196,670	413,710	16,931	2,498	90,331	26,981	8,292	128,102	4,691	48,766	98	3,818	57,373	66,820	2,352	—	69,172
Enoch City	N/A	582,000	1,196,451	77,697	4,939	248,790	75,552	16,078	345,359	19,729	134,758	217	22,190	176,894	198,578	(7,476)	—	191,102
Ephraim City	N/A	1,374,491	2,793,536	206,202	10,738	587,664	175,423	135,022	908,847	43,741	319,530	229	7,130	370,630	428,578	73,354	—	501,932
Escalante City	N/A	142,417	291,879	17,956	1,832	65,052	19,078	1,637	87,599	2,656	35,416	—	3,867	41,939	39,425	(9,201)	—	30,224
Eureka City Corporation	N/A	66,871	137,050	8,431	860	30,545	8,958	2,949	43,312	1,247	16,629	—	7,583	25,459	18,512	(1,435)	—	17,077
Fairview City	N/A	284,641	576,084	44,334	2,267	121,963	36,222	49,709	210,161	8,653	66,420	22	35,725	110,820	85,205	10,374	—	95,579
Farmington City	N/A	3,332,599	7,108,781	234,826	63,833	1,547,603	500,535	110,774	2,222,745	133,600	839,284	20,818	78,402	1,072,104	1,133,667	22,076	(31,709)	1,124,034
Farr West City	N/A	298,556	615,103	35,258	3,831	136,521	40,187	16,208	196,747	5,879	74,202	30	1,064	81,175	86,398	8,574	—	94,972
Fast Forward Charter HS	N/A	1,104,147	2,021,792	339,701	5,910	408,964	114,811	61,844	591,529	18,731	222,588	302	—	241,621	287,670	32,678	—	320,348
Ferron City	N/A	74,855	158,849	5,419	947	34,445	10,351	1,017	46,760	1,918	18,543	50	18,392	38,903	27,045	(9,701)	—	17,344
Fillmore City	N/A	291,850	607,350	29,985	3,726	133,738	39,647	10,112	187,223	6,328	72,454	85	4,541	83,408	91,511	3,671	—	95,182
Five-County Assn of Govts	N/A	1,338,640	2,804,124	120,981	14,828	665,536	158,777	12,119	851,260	26,304	363,049	439	19,618	409,410	415,751	(5,662)	—	410,089
Fountain Green City	N/A	130,475	261,986	22,181	898	55,003	16,325	74	72,300	4,189	30,007	—	5,732	39,928	38,189	(3,187)	—	35,002
Fox Hollow Golf Course	N/A	119,309	247,831	12,595	1,525	54,651	16,180	7,140	79,496	2,544	29,626	30	1,088	33,288	36,880	1,930	—	38,810
Francis City	N/A	111,610	231,611	11,952	1,427	51,114	15,122	8,469	76,132	2,357	27,716	26	—	30,099	34,233	3,801	—	38,034
Fruit Heights City	N/A	304,095	630,714	32,809	3,889	139,251	41,184	6,765	191,089	6,390	75,522	69	991	82,972	92,885	3,953	—	96,838
Garfield County	N/A	3,561,856	7,187,614	586,878	20,237	1,520,194	426,055	34,976	2,001,462	125,104	829,704	462	71,458	1,026,728	1,109,716	(7,433)	—	1,102,283
Garfield School District	N/A	5,414,198	9,798,802	1,751,844	28,894	1,995,948	555,213	45,453	2,625,508	81,811	1,090,345	545	133,338	1,306,039	1,289,334	776	—	1,290,110
Garland City	N/A	507,242	1,063,096	44,587	387	327,484	18,333	3,739	349,943	7,594	183,313	84	16,533	207,524	135,442	(23,261)	—	112,181
Genola Town	N/A	74,712	153,120	9,419	961	34,126	10,009	2,282	47,378	1,393	18,579	—	—	19,972	20,683	1,814	—	22,497
Grand Co Cemetery Mtce Dist	N/A	76,505	161,710	6,013	970	35,174	10,542	9,961	56,647	1,899	18,959	45	—	20,903	26,895	5,310	—	32,205
Grand County	N/A	4,908,424	10,118,032	612,520	45,802	2,218,983	611,413	152,778	3,028,976	139,600	1,207,122	1,413	59,466	1,407,601	1,583,283	22,118	—	1,605,401
Grand School District	N/A	9,005,413	16,446,342	2,803,059	48,171	3,331,959	933,465	250,660	4,564,255	148,987	1,814,999	2,110	26,227	1,992,323	2,300,529	67,801	—	2,368,330
Grand Water/Sewer Service	N/A	206,885	436,908	16,545	2,622	95,101	28,484	25,431	151,638	5,099	51,275	119	5,575	62,068	72,282	4,664	—	76,946
Granger-Hunter Imp Dist	N/A	2,832,324	5,897,163	288,782	36,152	1,298,034	384,933	15,402	1,734,521	61,708	703,106	849	115,894	881,557	891,565	(68,702)	—	822,863
Granite School District	N/A	310,533,912	565,242,738	97,755,839	1,621,501	117,413,265	31,225,176	6,655,997	156,915,939	4,698,712	64,264,782	40,845	2,116,143	71,120,482	75,541,244	298,294	—	75,839,538
Granite Uniserv	N/A	323,945	582,279	107,817	1,726	119,095	32,950	20,207	173,978	4,545	65,199	—	—	69,744	72,921	19,476	—	92,397
Grantsville City	N/A	1,657,260	3,384,277	241,770	12,556	697,968	212,143	66,446	989,113	58,814	378,593	514	14,577	452,498	557,265	3,824	—	561,089
Gunnison City	N/A	187,989	389,255	20,760	2,406	86,053	25,421	1,534	115,414	3,888	46,696	37	81,157	131,778	56,669	(52,519)	—	4,150
Gunnison Valley Hospital	N/A	4,033,526	8,354,794	443,320	51,614	1,846,507	545,599	103,739	2,547,459	83,709	1,001,875	810	25,155	1,111,549	1,219,226	66,099	—	1,285,325
Gunnison Valley Police Dept	N/A	276,627	567,409	38,811	83,137	112,538	54,068	57,738	307,481	932	59,777	3,493	586	64,788	90,717	22,269	—	112,986
Heber City	N/A	3,572,114	7,296,139	515,484	27,340	1,514,664	457,619	238,097	2,237,720	122,877	821,802	1,041	—	945,720	1,183,351	141,939	—	1,325,290
Heber Light & Power	N/A	2,197,499	4,550,565	242,408	28,123	1,005,936	297,176	45,242	1,376,477	45,491	545,846	430	70,091	661,858	662,853	(29,279)	—	633,574
Heber Valley Historic Railroad	N/A	312,243	576,372	92,603	1,675	116,030	32,779	14,329	164,813	5,700	62,991	123	—	68,814	86,225	12,680	—	98,905
Heber Valley SSD	N/A	143,948	295,015	18,148	1,851	65,750	19,283	—	86,884	2,685	35,797	—	7,520	46,002	39,849	(3,891)	—	35,958
Herriman City	N/A	4,834,563	10,022,659	543,184	396,989	2,154,405	725,301	392,633	3,669,328	84,087	1,162,200	15,804	1,336	1,263,427	1,530,313	174,458	—	1,704,771
High Desert Uniserv	N/A	51,071	93,424	15,781	273	18,909	5,304	12,616	37,102	858	10,295	13	1,199	12,365	13,209	4,950	—	18,159
High School Activities Assn	N/A	671,751	1,213,452	219,080	3,583	247,453	68,731	7,094	326,861	9,949	135,259	49	15,406	160,663	157,541	(3,956)	—	153,585
Highland City	N/A	933,634	1,931,420	104,425	11,954	427,293	126,142	6,413	571,802	19,141	231,935	165	38,361	289,602	279,362	(15,460)	—	263,902
Hinckley Town	N/A	53,993	116,723	2,322	677	24,945	7,594	5,077	38,293	1,590	13,345	56	3,474	18,465	22,004	(107)	—	21,897
Honeyville City	N/A	202,400	429,662	11,092	—	152,532	—	—	152,532	—	86,014	—	—	86,014	43,937	7,459	—	51,396
Hooper City	N/A	214,934	457,841	14,281	2,712	98,985	29,827	6,627	138,151	5,675	53,218	159	23,244	82,296	79,670	(9,587)	—	70,083
Hooper Water Improv Dist	N/A	371,014	764,917	43,422	4,758	169,679	49,972	17,316	241,725	7,356	92,202	42	52	99,652	107,988	7,529	—	115,517
Housing Auth of Carbon Co	N/A	188,498	392,045	19,532	2,408	86,367	25,593	7,741	122,109	4,066	46,799	53	21,632	72,550	58,844	(10,436)	—	48,408
Housing Auth of SL County	N/A	2,266,893	4,795,451	175,283	28,708	1,042,435	312,594	40,159	1,423,896	56,650	561,735	1,373	55,543	675,301	801,461	(17,171)	—	784,290
Housing Authority of SLC	N/A	2,450,023	5,151,044	211,963	30,391	1,142,132	327,948	57,394	1,557,865	56,684	617,791	1,153	60,472	736,100	820,826	(70,137)	—	750,689
Housing Authority Ogden City	N/A	499,870	1,040,857	50,906	6,380	229,091	67,941	5,816	309,228	10,899	124,088	151	37,723	172,861	157,446	(12,866)	—	144,580
Huntington City	N/A	131,728	269,972	16,608	1,694	60,169	17,646	2,598	82,107	2,457	32,758	—	13,586	48,801	36,466	(5,155)	—	31,311
Hurricane City	N/A	4,438,981	9,031,218	659,456	36,098	1,898,246	568,635	190,571	2,693,550	141,013	1,031,855	793	23,233	1,196,894	1,395,146	98,421	—	1,493,567
Hurricane Valley Fire SSD	N/A	288,972	1,010,700	(293,313)	50,318	280,675	131,275	13,074	475,342	38,721	149,554	24,441	27,641	240,357	210,501	4,635	(38,074)	177,062
Hyde Park City	N/A	369,339	759,291	44,833	4,743	168,812	49,617	16,749	239,921	7,114	91,816	22	2,643	101,595	104,971	3,831	—	108,802
Hyrum City	N/A	1,022,829	2,108,982	119,543	13,117	467,789	137,779	17,352	636,037	20,300	254,186	117	30,590	305,193	297,961	(8,067)	—	289,894
Impact Mitigation SSD	N/A	79,473	162,877	10,020	1,022	36,301	10,646	370	48,339	1,482	19,763	—	25,788	47,033	22,001	(9,984)	—	12,017
Intech Collegiate High School	N/A	654,393	1,203,140	197,672	3,506	242,780	68,374	44,663	359,323	11,528	131,968	219	9,710	153,425	175,643	28,227	—	203,870
Iron County	N/A	7,942,816	16,119,649	1,245,573	51,159	3,335,274	987,335	221,453	4,595,221	289,884	1,813,582	1,920	210,546	2,315,932	2,610,257	(97,404)	—	2,512,853
Iron School District	N/A	37,571,618	68,130,911	12,047,722	199,364	13,948,578	3,834,570	394,002	18,376,514	570,323	7,622,906	4,317	71,999	8,269,545	9,027,980	123,330	—	9,151,310
Itineris High School	N/A	1,310,890	2,379,593	418,845	7,001	483,842	134,907	14,576	640,326	20,427	264,063	190	24,392	309,072	319,655	3,943	—	323,598
Ivins City	N/A	1,835,160	3,751,094	260,881	15,306	783,364	236,591	35,081	1,070,342	60,451	425,122	494	131,339	617,406	601,313	(41,268)	—	560,045
Jordan River Commission	N/A	69,626	142,696	8,778	895	31,803	9,327	2,873	44,898	1,299	17,315	—	2,289	20,903	19,275	219	—	19,494

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Jordan School District	N/A	$ 205,306,729	373,734,238	64,746,731	1,089,250	76,426,575	21,023,066	5,408,096	103,946,987	3,232,907	41,724,586	34,744	432,157	45,424,394	50,789,120	1,682,897	—	52,472,017
Jordan Uniserv	N/A	211,796	383,997	68,021	1,130	78,134	21,766	798	101,828	3,260	42,660	27	23,739	69,686	51,153	(10,052)	—	41,101
Jordan Valley Water Conserv	N/A	6,958,792	14,410,303	758,655	82,445	3,338,932	868,725	19,316	4,309,418	130,621	1,821,223	1,011	42,058	1,994,913	2,023,279	(25,589)	—	1,997,690
Jordanelle SSD	N/A	1,134,583	2,355,666	120,590	14,502	519,661	153,802	35,124	723,089	24,081	281,742	279	8,887	314,989	349,422	9,194	—	358,616
Juab County	N/A	2,680,242	5,478,007	380,295	22,246	1,176,445	331,121	96,989	1,626,801	84,663	640,570	619	43,591	769,443	863,374	17,584	—	880,958
Juab School District	N/A	10,340,078	18,746,539	3,321,209	55,206	3,814,554	1,062,555	396,007	5,328,322	159,095	2,082,667	1,307	—	2,243,069	2,496,847	200,275	—	2,697,122
Juab Special Service Fire District	N/A	17,363	35,585	2,189	223	7,931	2,326	7,912	18,392	324	4,318	—	—	4,642	4,807	2,933	—	7,740
Kamas City	N/A	374,220	752,637	63,548	2,187	155,717	46,495	17,249	221,648	13,231	84,837	35	7,394	105,497	114,997	13,859	—	128,856
Kane County	N/A	4,377,471	8,907,469	668,481	27,364	1,824,178	552,267	103,642	2,507,451	163,829	989,901	1,331	35,229	1,190,290	1,469,665	32,858	—	1,502,523
Kane County Water Conserv Dist	N/A	301,211	630,103	28,528	3,836	138,181	41,112	5,316	188,445	6,846	74,734	117	16,134	97,831	98,251	(3,682)	—	94,569
Kane School District	N/A	6,992,437	12,701,406	2,227,895	37,351	2,581,550	720,176	51,744	3,390,821	109,692	1,408,629	1,080	11,790	1,531,191	1,713,913	(5,064)	—	1,708,849
Kaysville City	N/A	5,438,561	11,209,304	694,461	58,866	2,429,487	704,632	112,263	3,305,248	185,810	1,323,436	10,959	104,336	1,624,541	1,725,198	43,466	(15,963)	1,752,701
Kearns Improvement Dist	N/A	1,878,845	3,909,226	184,961	17,607	1,009,057	185,352	15,944	1,227,960	27,699	555,936	198	12,888	596,721	515,040	(8,159)	—	506,881
Laverkin City	N/A	770,297	1,557,822	122,143	5,545	326,758	97,332	179,578	609,213	25,005	177,886	85	6,735	209,711	235,462	35,969	—	271,431
Layton City	N/A	12,834,315	28,132,741	317,467	328,741	6,357,604	2,051,905	105,470	8,843,720	613,810	3,455,449	139,327	265,219	4,473,805	4,459,435	(179,224)	(216,830)	4,063,381
Lehi City	N/A	11,523,545	24,892,449	546,871	255,162	5,489,401	1,794,126	453,299	7,991,988	452,525	2,973,311	83,185	43,071	3,552,092	3,996,597	214,722	(126,544)	4,084,775
Lewiston City	N/A	135,595	288,080	9,568	1,714	62,411	18,772	2,506	85,403	3,508	33,584	94	14,538	51,724	49,383	(6,348)	—	43,035
Lindon City	N/A	3,064,379	6,165,226	515,569	19,561	1,283,506	382,586	102,576	1,788,229	104,092	699,479	209	1,724	805,504	928,144	61,058	—	989,202
Logan City	N/A	17,827,221	37,334,343	1,769,392	134,794	8,414,510	2,527,638	86,913	11,163,855	1,357,416	4,581,084	114,714	139,108	6,192,322	4,629,317	(40,017)	(166,486)	4,422,814
Logan School District	N/A	23,727,015	43,229,044	7,437,802	123,779	8,984,754	2,385,349	134,506	11,628,388	361,489	4,917,180	3,386	358,203	5,640,258	5,807,580	(20,219)	—	5,787,361
Lone Peak PS District	N/A	1,771,992	4,180,481	(196,770)	509,243	988,193	455,722	53,647	2,006,805	82,942	529,362	43,449	15,030	670,783	634,512	8,261	(32,637)	610,136
Maeser Water Improve Dist	N/A	249,908	512,176	31,508	3,214	114,150	33,478	171	151,013	4,661	62,147	—	3,933	70,741	69,182	(4,183)	—	64,999
Magna Mosquito Abatement	N/A	83,955	172,062	10,585	1,080	38,348	11,247	12,203	62,878	1,566	20,878	—	1,148	23,592	23,241	3,075	—	26,316
Manti City	N/A	362,925	759,042	34,492	4,623	166,485	49,527	5,565	226,200	8,234	90,049	140	25,823	124,246	118,193	(6,328)	—	111,865
Mapleton City	N/A	1,604,500	3,274,121	229,737	14,233	690,545	207,392	29,901	942,071	49,433	375,160	320	36,040	460,953	507,965	(14,620)	—	493,345
Marriott-Slaterville City	N/A	139,162	288,020	15,467	1,781	63,696	18,810	5,026	89,313	2,866	34,569	26	44	37,505	41,796	2,131	—	43,927
Mayfield Town	N/A	43,776	89,717	5,519	563	19,995	5,864	6,223	32,645	816	10,886	—	197	11,899	12,118	2,512	—	14,630
Mendon City	N/A	45,076	93,955	4,520	575	20,662	6,133	2,034	29,404	992	11,188	14	—	12,194	14,309	1,082	—	15,391
Metro Water Dist SLC/Sandy	N/A	3,019,607	6,222,592	355,555	38,735	1,380,847	406,540	8,078	1,834,200	59,588	750,457	312	43,110	853,467	875,492	(19,084)	—	856,408
Midvale City	N/A	2,750,895	5,751,040	263,171	35,042	1,261,811	375,263	37,774	1,709,890	62,184	682,580	1,039	19,846	765,649	893,170	(4,331)	—	888,839
Midvalley Improvement District	N/A	501,756	1,033,387	59,521	6,438	229,422	67,518	32,583	335,961	9,844	124,709	46	—	134,599	144,785	18,069	—	162,854
Midway City	N/A	487,635	1,020,689	45,737	6,208	223,731	66,594	8,372	304,905	11,142	120,980	196	18,531	150,849	159,765	797	—	160,562
Military Installation Devel	N/A	104,901	214,990	13,226	1,349	47,915	14,053	4,649	67,966	1,957	26,086	—	45,772	73,815	29,040	(13,691)	—	15,349
Millard Co Care & Rehab Inc	N/A	968,245	2,038,056	82,405	12,293	444,773	132,908	43,197	633,171	23,216	240,067	493	7,317	271,093	330,462	12,486	—	342,948
Millard County	N/A	6,159,021	12,465,706	985,529	42,938	2,576,057	777,491	17,696	3,414,182	215,898	1,401,069	1,069	288,906	1,906,942	1,965,636	(148,381)	—	1,817,255
Millard School District	N/A	18,029,130	32,853,809	5,636,436	92,716	6,921,590	1,783,470	73,262	8,871,038	265,517	3,796,100	2,035	187,360	4,251,012	4,355,476	45,432	—	4,400,908
Millcreek City	N/A	855,153	1,781,947	86,128	10,911	391,977	116,307	379,224	898,419	18,770	212,267	269	—	231,306	270,860	142,082	—	412,942
Millville City	N/A	114,950	237,048	13,411	1,474	52,574	15,486	2,360	71,894	2,284	28,566	13	9,475	40,338	33,523	(2,264)	—	31,259
Minersville Town	N/A	120,534	247,645	14,742	1,548	55,084	16,184	5,926	78,742	2,307	29,966	6	890	33,169	34,083	2,824	—	36,907
Moab Valley Fire Protection	N/A	78,480	258,136	(67,318)	12,342	73,881	33,173	12,773	132,169	10,413	39,834	6,463	1,642	58,352	41,519	3,790	(10,226)	35,083
Monroe City	N/A	348,813	717,252	42,222	4,480	159,437	46,869	8,116	218,902	6,734	86,710	22	8,341	101,807	99,323	2,334	—	101,657
Monticello Academy	N/A	1,505,758	2,788,198	440,049	8,083	560,253	158,661	31,531	758,528	28,250	303,848	664	168,852	501,614	424,989	(65,360)	—	359,629
Morgan City Corporation	N/A	581,972	1,204,295	64,825	7,450	266,367	78,652	14,566	367,035	11,966	144,570	106	37,172	193,814	174,559	(6,377)	—	168,182
Morgan County	N/A	1,629,158	3,366,275	199,924	19,592	718,789	220,857	13,361	972,599	54,534	390,507	3,422	115,884	564,347	520,245	(59,415)	(4,960)	455,870
Morgan School District	N/A	9,621,696	17,511,215	3,040,253	51,422	3,555,023	993,258	346,988	4,946,691	153,894	1,938,621	1,762	29,268	2,123,545	2,394,083	80,279	—	2,474,362
Moroni City	N/A	112,574	230,351	15,621	915	48,491	14,502	20,252	84,160	3,591	26,315	30	2,831	32,767	36,356	7,806	—	44,162
Mount Pleasant City	N/A	853,766	1,727,831	134,762	6,016	361,535	107,819	26,870	502,240	28,191	196,748	113	497	225,549	263,703	17,675	—	281,378
Mountain Regional Water SSD	N/A	1,256,115	2,598,287	140,681	16,084	574,870	169,698	10,835	771,487	25,728	312,050	220	20,431	358,429	375,561	1,788	—	377,349
Mountainland Assn of Govt	N/A	1,983,610	4,120,508	204,735	21,955	987,347	231,903	37,475	1,278,680	35,403	540,104	326	—	575,833	574,371	33,957	—	608,328
Mountainland ATC	N/A	2,004,362	3,602,762	667,100	10,678	736,881	203,870	74,133	1,025,562	28,123	403,411	—	7,970	439,504	451,185	54,398	—	505,583
Mt Olympus Improvement Dist	N/A	1,274,051	2,636,229	142,069	16,311	583,119	172,171	18,184	789,785	26,176	316,494	231	23,309	366,210	381,901	(7,937)	—	373,964
Murray City	N/A	19,513,519	42,366,327	737,771	463,324	9,697,742	3,004,123	444,685	13,609,874	799,234	5,277,145	174,640	251,411	6,502,430	6,456,198	80,194	(272,152)	6,264,240
Murray School District	N/A	29,307,932	53,234,996	9,329,569	155,382	10,902,040	2,992,770	1,074,332	15,124,524	451,205	5,956,099	4,004	195,128	6,606,436	7,126,689	272,457	—	7,399,146
Myton City	N/A	63,356	131,956	6,430	809	29,038	8,613	9,012	47,472	1,385	15,728	19	14,185	31,317	19,991	(1,096)	—	18,895
N Tooele Co Fire Protection SD	N/A	27,045	108,809	(38,560)	6,229	30,715	15,252	5,321	57,517	4,506	16,243	2,975	1,888	25,612	26,002	601	(4,607)	21,996
N Ut Environmental Rsrc Agcy	N/A	302,758	623,686	35,810	3,884	138,439	40,748	104,502	287,573	5,953	75,246	29	—	81,228	87,528	49,605	—	137,133
Nebo Credit Union	N/A	595,394	1,233,881	64,980	7,617	272,594	80,574	21,214	381,999	12,416	147,880	125	4,028	164,449	180,692	3,677	—	184,369
Nebo School District	N/A	129,017,265	234,492,252	40,996,929	688,538	47,695,046	13,281,163	1,682,233	63,346,980	2,030,737	26,024,662	20,735	524,584	28,600,718	31,734,811	843,873	—	32,578,684
Nephi City	N/A	1,839,569	3,768,920	251,115	16,480	795,014	238,888	37,292	1,087,674	56,987	431,404	482	27,268	516,141	594,970	(2,921)	—	592,049
Nibley City Corporation	N/A	480,225	1,006,649	43,955	6,110	220,400	65,671	26,819	319,000	11,114	119,122	206	—	130,442	159,048	15,016	—	174,064
Noah Webster Academy Inc	N/A	1,073,686	1,988,002	313,876	5,765	399,480	113,125	15,368	533,738	20,132	216,659	473	11,662	248,926	302,901	(376)	—	302,525
North Davis Co Sewer Dist	N/A	2,224,073	4,597,355	248,206	26,098	1,073,185	274,125	13,195	1,386,603	40,390	586,069	233	22,537	649,229	633,861	800	—	634,661

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
North Davis Fire District	N/A	$ 409,868	1,474,622	(451,413)	78,705	431,874	201,592	19,792	731,963	64,817	232,225	41,379	2,242	340,663	253,015	4,103	(65,341)	191,777
North Emery Water Users SSD	N/A	28,641	65,232	(1,218)	348	13,388	4,226	3,872	21,834	1,162	7,035	60	6,291	14,548	15,528	(2,077)	—	13,451
North Fork SSD	N/A	109,418	261,398	(15,752)	5,790	64,923	23,446	8,264	102,423	5,611	35,242	2,564	16,582	59,999	36,559	(5,844)	(4,074)	26,641
North Logan City	N/A	591,506	1,358,968	(40,046)	20,751	316,181	107,690	12,092	456,714	24,668	170,406	7,857	200,294	403,225	225,229	(189,249)	(11,955)	24,025
North Ogden City	N/A	2,638,420	5,378,710	390,206	19,521	1,113,777	336,656	96,611	1,566,565	92,024	604,540	723	7,046	704,333	870,691	47,288	—	917,979
North Park Police Agency	N/A	556,830	1,107,769	108,704	1,643	218,594	66,752	111,096	398,085	24,567	119,180	70	1,979	145,796	181,179	94,900	—	276,079
North Pointe Solid Waste	N/A	789,186	1,642,276	81,118	10,076	361,637	107,204	19,131	498,048	17,109	195,922	228	2,604	215,863	247,395	4,663	—	252,058
North Sanpete School Dist	N/A	11,214,573	20,311,805	3,617,204	59,859	4,135,512	1,151,058	60,142	5,406,571	170,789	2,258,610	1,253	11,653	2,442,305	2,686,739	(6,013)	—	2,680,726
North Summit School District	N/A	6,633,737	11,986,884	2,160,723	35,387	2,443,973	678,987	383,503	3,541,850	98,574	1,335,759	512	13,359	1,448,204	1,559,649	133,592	—	1,693,241
North View Fire District	N/A	297,254	1,076,625	(332,407)	57,366	311,793	146,534	6,932	522,625	46,106	167,170	29,519	12,571	255,366	197,876	(1,902)	(46,442)	149,532
Northeastern Counseling Ctr	N/A	1,517,393	3,172,576	144,941	19,328	696,029	207,014	12,866	935,237	34,330	376,507	576	62,985	474,398	493,025	(34,106)	—	458,919
NUAMES Charter School	N/A	2,916,448	5,298,986	928,169	15,579	1,076,844	300,470	344,016	1,736,909	45,874	587,533	462	—	633,869	716,333	205,039	—	921,372
Oakley City	N/A	352,301	755,778	13,541	29	264,639	1,051	1,640	267,359	867	148,869	75	—	149,811	86,274	31,599	—	117,873
Ogden City Corp	N/A	36,216,674	69,023,282	9,197,553	544,134	14,117,860	3,528,359	175,180	18,365,533	2,107,107	7,725,542	251,548	49,313	10,133,510	9,599,762	50,691	(366,560)	9,283,893
Ogden School District	N/A	50,895,885	92,726,191	16,009,350	272,081	18,812,948	5,260,588	202,454	24,548,071	822,525	10,255,664	10,109	2,677,629	13,765,927	12,766,310	(1,075,628)	—	11,690,682
Ogden Weber/NEA/UEA Uniserv	N/A	145,904	262,256	48,560	777	53,640	14,840	14,999	84,256	2,047	29,366	—	411	31,824	32,843	8,627	—	41,470
Ogden-Weber Tech College	N/A	3,881,791	6,997,825	1,276,647	20,695	1,428,771	396,209	3,007	1,848,682	56,250	781,473	166	316,591	1,154,480	895,352	(306,310)	—	589,042
Oquirrh Rec And Parks District	N/A	661,020	1,362,590	77,534	8,478	302,300	89,019	28,119	427,916	13,084	164,277	72	34,674	212,107	192,125	213	—	192,338
Orangeville City	N/A	84,278	173,587	9,988	1,081	38,536	11,342	1,437	52,396	1,655	20,946	8	—	22,609	24,335	779	—	25,114
Orderville Town	N/A	65,775	136,163	7,288	842	30,107	8,892	2,396	42,237	1,358	16,339	12	—	17,709	19,790	1,030	—	20,820
Panguitch City Corporation	N/A	179,361	376,136	16,300	2,282	82,326	24,537	9,919	119,064	4,166	44,489	78	3,664	52,397	59,587	(883)	—	58,704
Park City	N/A	14,568,026	30,261,854	1,607,446	118,710	6,946,588	1,681,231	511,079	9,257,608	395,639	3,789,117	5,370	113,432	4,303,558	4,730,488	289,855	—	5,020,343
Park City Fire Service	N/A	2,319,613	9,743,607	(3,781,023)	13,827	3,544,560	1,369,500	31,027	4,958,914	768,464	1,941,483	209,787	14,589	2,934,323	965,501	2,944	(311,876)	656,569
Park City School District	N/A	36,930,421	67,178,963	11,694,197	197,345	13,642,319	3,810,119	1,515,885	19,165,668	587,774	7,440,580	6,491	163,141	8,197,986	9,153,921	440,481	—	9,594,402
Parowan City	N/A	1,051,052	2,138,222	153,251	9,998	457,077	136,142	14,336	617,553	29,334	248,735	98	34,544	312,711	315,444	(4,825)	—	310,619
Payson City	N/A	4,664,162	9,614,643	582,115	52,528	2,060,241	623,862	46,172	2,782,803	140,593	1,118,716	5,429	73,155	1,337,893	1,476,238	4,121	(7,104)	1,473,255
Perry City	N/A	766,067	1,545,519	128,026	4,468	315,706	95,480	52,107	467,761	28,775	171,741	140	6,564	207,220	247,321	43,894	—	291,215
Piute County	N/A	572,019	1,157,889	89,049	4,517	244,888	72,759	8,604	330,768	17,523	133,348	47	27,487	178,405	171,863	(16,543)	—	155,320
Piute School District	N/A	2,129,670	3,862,065	683,314	11,371	785,736	218,913	5,270	1,021,290	32,853	428,962	277	105,984	568,076	515,287	(50,919)	—	464,368
Plain City	N/A	259,595	538,194	28,173	3,320	118,862	35,144	24,346	181,672	5,434	64,473	57	4,368	74,332	79,033	11,910	—	90,943
Pleasant Grove City	N/A	4,234,718	8,998,347	325,892	78,120	1,954,378	629,246	64,070	2,725,814	166,068	1,060,172	24,363	121,773	1,372,376	1,429,521	(43,720)	(37,064)	1,348,737
Pleasant View City	N/A	1,205,604	2,434,335	196,980	7,736	504,012	151,119	39,654	702,521	42,252	274,307	172	8,411	325,142	377,989	32,294	—	410,283
Price City	N/A	3,270,424	6,684,100	461,925	31,944	1,414,998	429,139	63,361	1,939,442	109,173	769,780	4,126	111,986	995,065	1,017,596	(54,429)	(5,882)	957,285
Price River Water Improve	N/A	1,024,363	2,120,075	113,862	13,113	468,862	138,458	3,348	623,781	21,093	254,461	190	55,548	331,292	307,629	(27,621)	—	280,008
Providence City	N/A	415,067	865,455	41,399	5,294	190,280	56,485	23,628	275,687	9,162	103,021	136	9,087	121,406	132,105	1,137	—	133,242
Provo City Corp	N/A	33,469,703	67,617,377	5,294,789	670,801	14,671,474	5,012,976	103,420	20,458,671	1,814,559	7,989,686	221,320	359,933	10,385,498	9,074,867	(284,787)	(320,516)	8,469,564
Provo Housing Authority	N/A	793,080	1,665,909	64,849	6,228	453,530	66,518	3,008	529,284	10,856	250,683	167	18,117	279,823	222,480	6,382	—	228,862
Provo River Water Users	N/A	664,416	1,371,589	76,455	8,515	303,946	89,597	1,455	403,513	13,343	165,094	91	15,342	193,870	195,439	(7,662)	—	187,777
Provo School District	N/A	59,730,904	108,938,622	18,672,476	315,782	22,341,348	6,102,262	802,709	29,562,101	949,357	12,197,864	11,229	1,408,169	14,566,619	14,933,135	(447,600)	—	14,485,535
Recreation & Habilitation Srvs	N/A	38,501	78,907	4,854	495	17,586	5,158	452	23,691	718	9,574	—	2,305	12,597	10,658	(723)	—	9,935
Redmond Town	N/A	73,554	150,746	9,273	946	33,597	9,853	1,162	45,558	1,372	18,291	—	163	19,826	20,362	646	—	21,008
Rich County	N/A	846,035	1,724,838	124,176	6,640	359,325	108,354	115,101	589,420	28,392	195,107	209	36,736	260,444	275,119	(9,200)	—	265,919
Rich School District	N/A	3,844,987	6,953,837	1,247,809	20,515	1,417,052	393,960	93,432	1,924,959	57,667	774,280	347	—	832,294	910,425	50,696	—	961,121
Richfield City	N/A	1,699,769	3,424,069	283,498	11,421	710,953	213,096	14,833	950,303	58,125	387,293	152	41,602	487,172	522,127	(12,135)	—	509,992
Richmond City	N/A	199,362	420,992	15,967	2,527	91,642	27,447	18,214	139,830	4,910	49,411	114	14,786	69,221	69,617	255	—	69,872
Riverdale City	N/A	3,462,958	7,331,394	297,122	64,008	1,584,506	516,639	46,288	2,211,441	154,604	861,754	24,479	37,821	1,078,658	1,139,191	(6,935)	(38,243)	1,094,013
Roosevelt City	N/A	1,832,791	3,720,970	281,095	13,446	775,828	232,762	43,194	1,065,230	61,506	421,763	344	38,808	522,421	581,442	1,464	—	582,906
Roosevelt City Housing	N/A	29,682	60,833	3,742	382	13,558	3,976	—	17,916	554	7,381	—	636	8,571	8,217	(396)	—	7,821
Roy City	N/A	6,431,307	13,808,156	392,712	132,990	3,058,798	965,735	146,457	4,303,980	282,831	1,663,064	50,602	47,460	2,043,957	2,193,333	23,327	(78,196)	2,138,464
Roy Water Conserv Dist	N/A	336,108	688,839	42,375	4,323	153,523	45,025	5,142	208,013	6,269	83,583	—	2,279	92,131	93,045	2,163	—	95,208
S Utah Valley Electric Svc Dst	N/A	701,668	1,455,779	75,354	8,972	321,327	95,054	39,072	464,425	14,792	174,253	163	1,205	190,413	214,873	20,010	—	234,883
S Utah Valley Solid Waste	N/A	638,171	1,319,591	71,823	8,173	292,041	86,187	12,938	399,339	13,025	158,544	107	96,707	268,383	190,255	(48,163)	—	142,092
Salem City	N/A	2,061,959	4,184,885	313,046	16,518	882,957	263,224	66,958	1,229,657	64,119	480,379	269	9,554	554,321	632,945	45,125	—	678,070
Salina City	N/A	393,047	796,366	61,144	2,932	167,060	49,866	2,401	222,259	12,716	90,902	53	25,985	129,656	121,364	(17,501)	—	103,863
Salt Lake Arts Academy	N/A	1,546,444	2,812,598	490,054	8,264	571,225	159,514	92,862	831,865	24,570	311,566	268	—	336,404	382,802	44,891	—	427,693
Salt Lake City Corp	N/A	194,258,687	372,393,759	47,103,218	2,809,627	76,463,853	24,494,612	482,214	104,250,306	5,739,640	41,674,989	1,153,358	1,200,989	49,768,976	51,398,680	(843,385)	(1,683,189)	48,872,106
Salt Lake City Public Library	N/A	3,673,440	7,658,229	367,311	46,858	1,683,968	499,831	89,094	2,319,751	80,973	911,778	1,190	34,476	1,028,417	1,167,711	13,992	—	1,181,703
Salt Lake Co Serv Area 3	N/A	136,638	280,033	17,227	1,757	62,412	18,304	2,559	85,032	2,548	33,979	—	1,207	37,734	37,825	515	—	38,340
Salt Lake Community College	N/A	22,294,500	40,727,681	6,886,820	113,816	8,631,210	2,192,235	599,824	11,537,085	330,592	4,735,700	2,942	827,992	5,897,226	5,449,337	193,417	—	5,642,754
Salt Lake County	N/A	144,338,052	296,306,337	18,907,010	1,368,847	64,081,522	18,470,404	1,372,978	85,293,751	4,066,451	34,832,460	32,853	1,179,141	40,110,905	45,441,835	(728,063)	—	44,713,772
Salt Lake School District	N/A	141,993,301	258,530,200	44,609,544	736,824	54,020,355	14,180,181	289,155	69,226,515	2,120,950	29,593,653	17,206	1,652,076	33,383,885	34,393,809	(979,190)	—	33,414,619
San Juan County	N/A	4,603,724	9,412,509	642,805	41,631	1,989,209	597,023	62,827	2,690,690	140,268	1,080,213	1,014	139,104	1,360,599	1,465,154	(47,659)	—	1,417,495

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
San Juan Mental Health	N/A	$ 534,685	1,113,056	54,671	6,825	245,032	72,655	17,895	342,407	11,629	132,735	158	40,618	185,140	168,066	(998)	—	167,068
San Juan School District	N/A	20,253,594	36,798,345	6,443,189	107,774	7,507,634	2,077,346	100,091	9,792,845	315,450	4,098,889	3,015	122,807	4,540,161	4,953,569	(38,687)	—	4,914,882
Sandy City	N/A	19,999,220	46,176,196	(1,588,410)	2,288,238	11,503,351	3,988,074	146,090	17,925,753	956,942	6,238,799	291,951	339,762	7,827,454	6,558,232	(126,810)	(294,916)	6,136,506
Sandy Suburban Imp Dist	N/A	876,193	1,799,258	107,855	11,259	400,382	117,587	9,961	539,189	16,681	217,843	32	15,163	249,719	246,669	(6,221)	—	240,448
Sanpete County	N/A	3,509,897	7,094,815	574,176	21,348	1,452,763	439,240	25,109	1,938,460	130,290	789,946	705	84,353	1,005,294	1,138,194	(27,621)	—	1,110,573
Santaquin City	N/A	1,904,560	3,850,821	306,346	12,980	799,199	239,851	50,949	1,102,979	65,588	434,871	281	12,088	512,828	597,856	42,677	—	640,533
Sevier County	N/A	4,947,044	9,957,561	845,934	27,331	2,031,769	613,553	94,062	2,766,715	187,124	1,105,918	773	200,095	1,493,910	1,581,806	(130,075)	—	1,451,731
Sevier School District	N/A	21,923,912	39,668,413	7,098,343	116,602	8,108,667	2,239,019	186,000	10,650,288	327,580	4,432,376	1,953	70,592	4,832,501	5,191,700	(19,439)	—	5,172,261
Six-County Assoc of Govt	N/A	714,155	1,472,748	83,301	9,158	326,628	96,213	9,767	441,766	14,196	177,473	84	25,178	216,931	208,301	(20,184)	—	188,117
Slc Mosquito Abatement	N/A	373,166	783,731	33,047	4,743	171,335	51,120	16,418	243,616	8,780	92,545	174	7,216	108,715	125,335	3,111	—	128,446
Smithfield City Corp	N/A	1,449,390	3,074,122	113,877	26,291	669,179	213,466	41,171	950,107	51,494	362,766	6,893	31,384	452,537	488,264	(16,187)	(10,331)	461,746
Snow College	N/A	5,343,501	9,696,416	1,703,313	27,628	2,036,357	525,250	64,827	2,654,062	76,913	1,117,438	321	101,359	1,296,031	1,256,758	26,994	—	1,283,752
Snyder Basin Special Rec Dist	N/A	724,759	1,536,678	53,453	9,168	333,445	100,150	155,857	598,620	18,448	179,549	471	2,036	200,504	260,310	98,018	—	358,328
Snyderville Basin W R D	N/A	2,286,492	4,710,311	270,361	29,335	1,045,527	307,747	69,188	1,451,797	44,974	568,278	223	6,765	620,240	661,157	32,291	—	693,448
So Davis Metro Fire Agency	N/A	1,508,004	5,568,032	(1,773,178)	305,438	1,639,626	773,233	61,198	2,779,495	249,855	880,884	160,573	6,059	1,297,371	975,312	13,640	(253,383)	735,569
So Davis Recreation Center	N/A	379,898	793,617	36,788	4,841	174,228	51,788	10,995	241,852	8,530	94,272	138	7,043	109,983	122,648	(1,286)	—	121,362
So Sl Valley Mosq Abate	N/A	177,263	373,386	14,891	2,250	81,440	24,349	9,773	117,812	4,276	43,947	93	165	48,481	60,808	3,387	—	64,195
So Utah Valley Animal Svcs SSD	N/A	69,613	147,000	5,575	883	31,999	9,584	5,432	47,898	1,715	17,254	40	637	19,646	24,309	2,940	—	27,249
So Utah Valley Power Systems	N/A	73,438	150,509	9,259	945	33,544	9,838	511	44,838	1,370	18,263	—	297	19,930	20,330	148	—	20,478
Soldier Hollow Charter School	N/A	824,638	1,510,696	253,176	4,414	305,495	85,794	24,987	420,690	14,051	166,247	231	41,408	221,937	215,596	(35,198)	—	180,398
Solid Waste SSD #1	N/A	113,415	246,419	3,967	1,417	52,458	16,027	2,997	72,899	3,459	28,017	128	16,598	48,202	47,654	(7,611)	—	40,043
South Davis Sewer Dist	N/A	2,071,915	4,322,949	192,760	17,652	1,153,431	186,200	25,818	1,383,101	28,186	637,144	237	9,954	675,521	562,096	43,707	—	605,803
South Davis Water Dist	N/A	274,412	563,040	34,122	3,527	125,372	36,799	722	166,420	5,180	68,231	6	2,069	75,486	76,714	122	—	76,836
South Ogden City	N/A	3,736,113	8,000,807	247,762	79,714	1,744,851	578,226	65,358	2,468,149	173,206	948,433	31,890	74,833	1,228,362	1,250,797	(7,344)	(49,875)	1,193,578
South Ogden Conserv Dist	N/A	905,824	1,892,366	87,659	11,543	415,430	123,487	6,125	556,585	20,346	224,780	330	47,491	292,947	292,530	(35,778)	—	256,752
South Sanpete School Dist	N/A	15,764,178	28,527,472	5,103,040	84,125	5,811,226	1,616,371	25,860	7,537,582	237,934	3,174,661	1,562	49,523	3,463,680	3,750,827	(64,253)	—	3,686,574
South Summit School District	N/A	8,165,178	14,787,817	2,634,335	43,582	3,010,934	838,007	188,666	4,081,189	124,268	1,644,454	905	12,750	1,782,377	1,955,196	69,160	—	2,024,356
South Valley Sewer District	N/A	2,332,092	4,854,947	238,286	29,769	1,068,749	316,907	73,115	1,488,540	50,743	578,935	692	—	630,370	733,302	32,073	—	765,375
South Valley Water Reclamation	N/A	2,134,525	4,426,192	231,002	27,299	977,391	289,019	44,938	1,338,647	44,767	530,123	473	14,230	589,593	650,875	14,988	—	665,863
South Weber City	N/A	321,997	679,215	26,336	4,084	147,979	44,286	8,415	204,764	7,860	79,816	177	33,892	121,745	111,579	(8,423)	—	103,156
Southeastern Utah AOG	N/A	552,062	1,149,721	56,084	7,046	253,019	75,046	13,064	348,175	12,054	137,042	168	22,980	172,244	174,101	(20,229)	—	153,872
Southeastern Utah Health	N/A	654,764	1,373,350	59,317	8,328	300,545	89,588	5,538	403,999	15,233	162,407	289	69,519	247,448	217,820	(52,081)	—	165,739
Southern Utah University	N/A	14,868,397	27,069,735	4,690,447	79,355	5,527,932	1,508,472	259,305	7,375,064	237,141	3,017,923	2,496	36,627	3,294,187	3,690,642	128,575	—	3,819,217
Southwest Applied Tech	N/A	1,881,389	3,443,616	579,857	10,070	696,733	195,535	75,378	977,716	31,796	379,259	503	16,227	427,785	488,719	65,061	—	553,780
Southwest Educ Development Ctr	N/A	465,816	854,717	141,992	2,494	172,678	48,555	20,259	243,986	8,056	93,922	142	17,745	119,865	123,222	13,012	—	136,234
Space Dynamics Lab / USU	N/A	3,621,562	6,536,051	1,185,562	19,313	1,333,589	370,144	222,917	1,945,963	53,121	729,155	215	—	782,491	843,073	141,621	—	984,694
Spanish Fork City	N/A	9,559,162	19,558,510	1,317,541	86,218	4,145,509	1,240,273	255,004	5,727,004	287,365	2,250,947	2,136	1,727	2,542,175	3,031,146	158,291	—	3,189,437
Spring City	N/A	122,091	252,674	13,579	1,563	55,882	16,501	26,336	100,282	2,513	30,328	23	6,582	39,446	36,653	16,028	—	52,681
Springville City	N/A	7,484,601	15,519,816	852,334	91,593	3,347,694	1,014,639	52,138	4,506,064	215,031	1,815,720	9,339	205,732	2,245,822	2,401,796	(150,123)	(11,794)	2,239,879
Stansbury Park Improvement District	N/A	175,336	360,613	21,168	2,252	80,147	23,564	79,885	185,848	3,392	43,585	12	—	46,989	50,014	29,530	—	79,544
Stansbury Service Agency	N/A	71,320	162,529	(3,100)	869	33,341	10,530	32,282	77,022	2,902	17,517	150	—	20,569	38,772	10,954	—	49,726
St George Housing Auth	N/A	115,219	237,864	13,251	1,477	52,709	15,538	2,085	71,809	2,315	28,629	16	670	31,630	33,903	588	—	34,491
State of Utah	N/A	1,170,480,856	2,120,490,162	379,466,867	13,117,886	430,053,239	113,517,129	7,653,798	564,342,052	19,012,100	235,014,944	219,100	24,780,204	279,026,348	295,194,888	(9,371,307)	(1,609,573)	284,214,008
Stockton Town	N/A	76,765	150,473	16,930	—	29,251	8,824	13,060	51,135	3,653	16,004	—	684	20,341	23,871	7,714	—	31,585
Success Academy	N/A	1,140,705	2,076,257	360,285	6,096	421,485	117,770	82,969	628,320	18,263	229,837	211	—	248,311	284,048	45,307	—	329,355
Summit Academy High School	N/A	1,261,652	2,350,889	357,709	6,785	470,630	133,931	59,449	670,795	24,952	254,733	676	—	280,361	371,582	28,803	—	400,385
Summit Academy Inc	N/A	5,845,935	10,825,256	1,708,137	31,386	2,175,152	616,012	779,901	3,602,451	109,711	1,179,661	2,582	—	1,291,954	1,650,393	469,655	—	2,120,048
Summit County	N/A	17,100,264	34,545,711	2,771,136	113,965	7,174,935	2,148,942	450,088	9,887,930	588,012	3,905,108	2,310	103,735	4,599,165	5,332,713	343,334	—	5,676,047
Sunset City	N/A	800,710	1,621,476	127,848	5,437	334,055	100,981	23,102	463,575	28,599	181,623	157	11,381	221,760	258,257	(4,817)	—	253,440
SW Behavioral Health Center	N/A	4,727,357	9,857,143	471,399	60,297	2,167,185	643,338	93,992	2,964,812	104,373	1,173,345	1,548	15,623	1,294,889	1,504,768	22,369	—	1,527,137
Sw Mosquito Abatement/Control	N/A	109,210	233,243	6,807	1,377	50,324	15,192	8,645	75,538	2,942	27,033	86	—	30,061	41,188	4,157	—	45,345
SW Ut Public Health Dept	N/A	1,535,894	3,198,993	155,773	19,601	703,941	208,806	7,671	940,019	33,570	381,261	470	63,084	478,385	484,772	(42,172)	—	442,600
Syracuse City Corp	N/A	3,514,476	7,583,745	187,586	77,664	1,654,770	551,126	171,521	2,455,081	165,750	897,987	31,407	42,879	1,138,023	1,217,997	83,579	(48,636)	1,252,940
Taylor West Weber Wtr Imp Dist	N/A	121,419	253,300	12,015	1,548	55,669	16,531	7,542	81,290	2,693	30,135	41	—	32,869	38,794	4,049	—	42,843
Taylorsville-Bennion Imp	N/A	1,525,912	3,160,452	167,880	19,526	698,537	206,391	23,356	947,810	31,646	379,019	304	43,352	454,321	460,977	(5,156)	—	455,821
Timber Lakes Water SSD	N/A	174,547	365,138	16,529	2,223	80,074	23,824	10,752	116,873	3,968	43,307	68	811	48,154	56,938	3,949	—	60,887
Timpanogos SSD	N/A	1,476,058	3,075,461	148,895	18,834	676,568	200,737	17,280	913,419	32,367	366,393	462	59,297	458,519	467,159	(7,497)	—	459,662
Tintic School District	N/A	1,968,248	3,552,877	643,837	10,497	724,834	201,210	20,260	956,801	28,927	396,289	122	26,421	451,759	458,890	14,328	—	473,218
Tooele Applied Tech College	N/A	1,382,226	2,510,355	440,689	7,383	510,275	142,334	94,955	754,947	21,650	278,446	210	—	300,306	338,387	57,869	—	396,256
Tooele City	N/A	5,082,890	10,401,120	714,986	44,084	2,169,067	657,821	44,903	2,915,875	167,589	1,176,749	1,445	87,584	1,433,367	1,681,257	(88,485)	—	1,592,772
Tooele County	N/A	10,526,814	21,518,313	1,483,023	86,291	4,551,485	1,340,756	141,485	6,120,017	335,156	2,472,691	2,598	47,678	2,858,123	3,388,967	37,844	—	3,426,811
Tooele County Housing	N/A	202,583	427,932	16,122	2,568	93,129	27,899	3,813	127,409	5,003	50,208	117	59	55,387	70,903	1,186	—	72,089

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Continued)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
Tooele School District	N/A	$ 57,739,697	104,816,496	18,445,168	308,377	21,311,729	5,942,455	1,773,697	29,336,258	900,133	11,631,053	8,391	482,534	13,022,111	14,084,341	169,438	—	14,253,779
Tooele Valley Mosquito Abtmnt	N/A	16,998	34,836	2,143	219	7,764	2,277	671	10,931	317	4,227	—	1,850	6,394	4,705	(2,495)	—	2,210
Toquerville City	N/A	84,952	186,879	1,272	1,055	39,401	12,142	29,289	81,887	2,812	20,956	117	—	23,885	38,371	13,130	—	51,501
Torrey Town	N/A	13,514	30,064	(46)	166	6,283	1,951	1,182	9,582	479	3,329	22	602	4,432	6,494	(64)	—	6,430
Town of Alta	N/A	345,167	711,175	40,732	4,429	157,837	46,464	4,933	213,663	6,800	85,785	35	5,430	98,050	99,936	871	—	100,807
Town of Apple Valley	N/A	25,268	53,134	2,190	321	11,605	3,466	7,534	22,926	600	6,265	12	12,439	19,316	8,562	2,562	—	11,124
Town of Brian Head	N/A	840,071	1,689,143	143,266	5,097	348,991	104,547	60,875	519,510	29,718	190,151	75	2,066	222,010	258,728	61,030	—	319,758
Town of Daniel	N/A	39,702	81,368	5,006	511	18,135	5,319	12,064	36,029	740	9,873	—	—	10,613	10,991	6,222	—	17,213
Town of Garden City	N/A	167,167	352,922	13,450	2,119	76,839	23,010	7,958	109,926	4,109	41,434	95	4,497	50,135	58,277	(2,546)	—	55,731
Town of Goshen	N/A	30,237	68,858	(1,279)	369	14,133	4,461	5,514	24,477	1,226	7,428	63	2,159	10,876	16,383	9	—	16,392
Town of Levan	N/A	103,874	212,886	13,096	1,336	47,446	13,915	966	63,663	1,937	25,831	—	116	27,884	28,756	1,371	—	30,127
Town of Manila	N/A	140,259	300,154	6,252	249	99,869	2,947	6,194	109,259	752	55,982	36	1,240	58,010	36,189	3,983	—	40,172
Town of Mantua	N/A	133,258	271,932	19,025	26,474	56,380	22,970	14,243	120,067	1,169	30,271	1,083	1,062	33,585	39,980	3,877	—	43,857
Town of Paragonah	N/A	104,039	222,804	4,281	7	78,193	259	409	78,868	214	44,004	19	—	44,237	24,999	12,690	—	37,689
Town of Randolph	N/A	37,252	76,347	4,697	479	17,016	4,990	211	22,696	695	9,264	—	1,863	11,822	10,313	(596)	—	9,717
Town of Springdale	N/A	1,408,405	2,833,853	241,046	6,938	579,086	173,715	191,523	951,262	53,602	315,210	225	1,778	370,815	447,801	134,419	—	582,220
Trans-Jordan Cities	N/A	1,193,643	2,487,092	120,361	15,230	547,123	162,333	48,601	773,287	26,180	296,290	374	31,853	354,697	377,849	17,473	—	395,322
Tremonton City	N/A	1,623,250	3,297,305	245,306	13,245	693,292	207,659	64,148	978,344	51,269	377,052	246	12,505	441,072	505,273	26,878	—	532,151
Tridell-Lapoint Water	N/A	34,723	79,059	(1,458)	423	16,229	5,122	1,214	22,988	1,406	8,529	72	1,182	11,189	18,795	(64)	—	18,731
Tuacahn High School	N/A	1,211,170	2,229,765	363,645	6,493	449,586	126,748	17,936	600,763	21,593	244,278	429	105,636	371,936	328,202	(25,263)	—	302,939
Uintah Animal Control/Shelter	N/A	198,059	411,161	21,092	2,532	90,713	26,845	5,711	125,801	4,198	49,183	48	16,988	70,417	60,932	(9,086)	—	51,846
Uintah Basin Applied Tech Ctr	N/A	3,516,900	6,447,622	1,076,122	18,832	1,303,264	366,220	69,181	1,757,497	60,347	709,054	1,026	62,920	833,347	924,565	(64,964)	—	859,601
Uintah Basin Assn of Govt	N/A	738,245	1,561,562	57,189	9,350	339,477	101,792	7,157	457,776	18,435	182,939	446	26,986	228,806	260,841	(17,079)	—	243,762
Uintah Basin Asst Council	N/A	34,326	73,930	1,681	431	15,846	4,812	5,379	26,468	984	8,489	33	8,653	18,159	13,669	(2,522)	—	11,147
Uintah Co Care Center SSD	N/A	1,653,898	3,449,137	164,517	21,094	758,230	225,109	13,599	1,018,032	36,568	410,496	547	114,929	562,540	527,090	(48,688)	—	478,402
Uintah County	N/A	9,530,111	19,538,724	1,301,151	84,280	4,096,126	1,237,346	1,050,934	6,468,686	306,064	2,221,556	2,811	495,135	3,025,566	3,142,537	673,887	—	3,816,424
Uintah Fire Suppression SSD	N/A	79,509	250,192	(59,331)	11,330	71,327	31,296	3,819	117,772	9,915	38,578	6,043	2,530	57,066	37,032	(459)	(9,598)	26,975
Uintah Highlands Improv Dist	N/A	61,470	129,866	4,877	779	28,259	8,466	5,751	43,255	1,520	15,234	36	—	16,790	21,538	2,688	—	24,226
Uintah Mosquito Abate District	N/A	133,243	273,076	16,799	1,714	60,861	17,849	882	81,306	2,485	33,135	—	2,515	38,135	36,886	(1,223)	—	35,663
Uintah Recreation District	N/A	753,046	1,563,526	80,022	9,625	344,911	102,083	2,895	459,514	15,985	186,997	185	49,249	252,416	231,944	(25,675)	—	206,269
Uintah School District	N/A	29,077,667	53,062,776	9,059,372	152,758	10,947,853	2,950,951	81,019	14,132,581	457,651	5,982,404	5,279	565,315	7,010,649	7,254,470	(410,807)	—	6,843,663
Uintah Transportation SSD	N/A	105,330	233,661	131	1,302	48,943	15,171	24,144	89,560	3,674	25,956	163	28,564	58,357	49,849	(2,468)	—	47,381
Uintah Water Conserv Dist	N/A	388,694	796,613	49,005	4,999	177,543	52,070	6,588	241,200	7,250	96,660	—	7,867	111,777	107,602	1,755	—	109,357
Unified Fire Authority	N/A	14,696,775	60,231,109	(22,754,493)	48,906	21,881,644	8,389,961	177,891	30,498,402	4,732,505	12,000,780	1,284,148	15,607	18,033,040	5,571,326	65,700	(1,913,932)	3,723,094
Unified Police Department	N/A	31,154,439	63,846,829	4,436,745	9,747,773	12,585,377	6,153,658	303,040	28,789,848	98,047	6,677,170	411,011	384,350	7,570,578	10,251,976	(48,683)	—	10,203,293
University of Utah	N/A	120,783,358	221,531,747	36,618,764	613,945	47,387,394	11,600,885	527,752	60,129,976	1,829,137	26,024,408	18,705	10,784,557	38,656,807	30,113,637	(5,404,108)	—	24,709,529
University of Utah Hospital	N/A	54,001,597	99,492,059	15,794,834	244,399	23,209,409	4,666,629	663	28,121,100	644,056	12,897,905	32	1,640,437	15,182,430	12,571,953	(646,557)	—	11,925,396
Upper Country Water Dist	N/A	84,376	172,926	10,638	1,085	38,540	11,303	291	51,219	1,574	20,983	—	867	23,424	23,358	(242)	—	23,116
Ut Municipal Power Agency	N/A	1,425,382	2,970,554	143,279	18,185	653,372	193,886	142,314	1,007,757	31,321	353,805	453	16,628	402,207	451,914	39,387	—	491,301
Ut Public Employees Assn	N/A	127,662	264,820	13,745	1,632	58,461	17,291	1,504	78,888	2,687	31,705	29	22,559	56,980	39,039	(11,692)	—	27,347
UT School Board Risk Mgmt	N/A	1,068,860	1,938,876	342,540	5,707	394,397	109,907	81,300	591,311	16,536	215,296	144	8,202	240,178	259,192	35,871	—	295,063
Utah Assn of Counties	N/A	429,573	890,400	46,763	5,495	196,683	58,143	15,415	275,736	8,974	106,693	92	53,696	169,455	130,556	(9,781)	—	120,775
Utah Co Academy of Sciences	N/A	1,460,365	2,654,530	463,908	7,802	539,306	150,533	115,904	813,545	23,071	294,209	241	—	317,521	359,900	53,899	—	413,799
Utah Co Housing Authority	N/A	771,820	1,622,942	65,149	8,495	384,829	91,531	4,712	489,567	15,687	209,731	308	27,608	253,334	246,480	(42,029)	—	204,451
Utah Communications Authority	N/A	2,831,259	5,118,123	920,577	15,104	1,043,257	289,935	372,936	1,721,232	42,259	570,119	236	—	612,614	667,925	262,833	—	930,758
Utah Counties Indemnity Pool	N/A	305,856	629,570	36,542	3,926	139,832	41,136	9,127	194,021	5,966	76,023	25	6,106	88,120	87,847	(87)	—	87,760
Utah County	N/A	41,017,089	84,734,842	4,962,527	6,169,608	18,084,933	6,591,535	588,755	31,434,831	505,418	9,733,021	253,922	502,826	10,995,187	12,961,701	(44,852)	—	12,916,849
Utah Dairy Council	N/A	189,318	341,515	62,094	1,010	69,701	19,339	5,392	95,442	2,763	38,115	10	211,267	252,155	43,905	(80,480)	—	(36,575)
Utah Education Association	N/A	1,634,781	2,960,014	527,962	8,726	602,772	167,732	3,029	782,259	24,818	329,236	175	61,853	416,082	390,708	(34,432)	—	356,276
Utah Housing Corporation	N/A	8,279,586	15,659,985	2,081,388	33,219	3,910,998	642,780	184,512	4,771,509	101,246	2,184,261	1,313	—	2,286,820	2,138,643	284,510	—	2,423,153
Utah Lake Commission	N/A	10,982	22,506	1,385	141	5,016	1,471	1,941	8,569	205	2,731	—	6,625	9,561	3,040	(7,534)	—	(4,494)
Utah League Cities/Towns	N/A	1,036,931	2,204,795	54,229	13	781,060	474	651	782,198	391	440,283	34	143	440,851	229,514	148,286	—	377,800
Utah Local Governments Trust	N/A	1,015,989	2,106,792	109,940	12,994	465,218	137,568	9,639	625,419	21,309	252,328	226	29,769	303,632	309,823	(19,371)	—	290,452
Utah Retirement Systems	N/A	31,833,729	57,728,705	10,214,276	169,972	11,744,930	3,272,222	866,445	16,053,569	491,043	6,411,989	4,139	233,328	7,140,499	7,701,967	394,589	—	8,096,556
Utah Safety Council	N/A	440,673	807,932	134,815	2,359	163,304	45,890	20,381	231,934	7,565	88,846	129	26,206	122,746	115,884	10,832	—	126,716
Utah School Boards Association	N/A	946,515	1,722,684	299,040	5,059	349,723	97,714	122,941	575,437	15,144	190,709	174	4,065	210,092	235,568	59,540	—	295,108
Utah School Employees Assn	N/A	425,901	771,404	137,363	2,274	157,058	43,715	7,381	210,428	6,488	85,776	48	25,197	117,509	102,049	(28,353)	—	73,696
Utah State Fair Corp	N/A	570,221	1,034,247	182,828	3,045	210,396	58,626	12,144	284,211	8,812	114,857	76	21,237	144,982	138,153	(449)	—	137,704
Utah State University	N/A	50,224,593	91,324,979	15,873,594	261,016	19,110,456	4,972,988	148,362	24,492,822	742,036	10,475,899	4,853	1,894,963	13,117,751	12,037,160	(708,401)	—	11,328,759
Utah Valley Dispatch SSD	N/A	1,238,119	2,582,365	122,924	15,790	567,631	168,537	32,268	784,226	27,405	307,295	412	26,071	361,183	394,953	(13,240)	—	381,713
Utah Valley University	N/A	28,962,862	52,986,053	8,871,876	145,738	11,371,601	2,805,311	202,711	14,525,361	420,445	6,249,767	3,493	1,062,775	7,736,480	7,056,575	(268,876)	—	6,787,699
Utah Zoological Society	N/A	3,286,371	6,894,025	297,021	41,793	1,508,528	449,712	40,585	2,040,618	76,548	815,135	1,457	93,959	987,099	1,094,376	(19,164)	—	1,075,212

Utah Retirement Systems

Aggregation of Funds with a Net Pension Liability

(Employer's Collective Net Pension Liability for All Participating Retirement Systems)

Schedule of Employer Allocations and Pension Amounts *(Concluded)*

at December 31, 2018

					Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Participating Employer	Employer Allocation Percentage	Net Pension Liability/(Asset) (6.95% Discount)	Net Pension Liability/(Asset) 1.00% Decrease (5.95%)	Net Pension Liability/(Asset) 1.00% Increase (7.95%)	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 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
UTOPIA	N/A	$ 2,007,704	4,216,689	177,757	25,518	921,822	275,036	151,965	1,374,341	47,246	497,914	936	14,835	560,931	674,395	37,961	—	712,356
Valley Emergency Comm Ctr	N/A	3,271,948	6,890,250	276,147	41,531	1,503,146	449,318	80,977	2,074,972	78,756	811,205	1,694	90,313	981,968	1,120,370	(42,775)	—	1,077,595
Vernal City	N/A	3,595,791	7,284,551	559,281	20,404	1,617,756	405,877	7,643	2,051,680	113,692	886,016	374	152,620	1,152,702	1,083,073	(92,540)	—	990,533
Vineyard Town	N/A	637,261	1,351,697	46,602	8,060	293,215	88,091	141,310	530,676	16,272	157,865	419	—	174,556	229,509	75,980	—	305,489
Wasatch County	N/A	9,742,820	19,880,403	1,401,589	79,833	4,175,449	1,252,344	170,537	5,678,163	312,081	2,267,640	2,213	19,429	2,601,363	3,117,712	93,776	—	3,211,488
Wasatch County Fire District	N/A	464,960	1,702,510	(535,646)	92,598	501,561	235,487	5,831	835,477	76,532	269,663	48,962	38,184	433,341	292,774	(7,361)	(77,323)	208,090
Wasatch Front Regional Council	N/A	1,438,001	2,985,515	152,926	18,380	658,626	194,926	40,623	912,555	30,509	357,088	352	—	387,949	442,729	21,404	—	464,133
Wasatch Front Waste/Recycling	N/A	2,176,152	4,574,871	189,422	27,645	999,369	298,374	21,984	1,347,372	51,632	539,631	1,055	67,178	659,496	736,089	(30,084)	—	706,005
Wasatch Integrated Waste Mgmt	N/A	1,246,015	2,587,492	132,087	15,924	570,721	168,935	5,809	761,389	26,491	309,406	311	529,851	866,059	384,285	(243,034)	—	141,251
Wasatch Mental Health SSD	N/A	10,354,768	21,500,472	1,099,463	132,344	4,742,751	1,403,764	213,637	6,492,496	219,917	2,571,292	2,560	129,268	2,923,037	3,190,734	45,574	—	3,236,308
Wasatch School District	N/A	33,395,764	60,739,630	10,582,078	178,450	12,335,815	3,444,805	1,478,802	17,437,872	530,685	6,728,340	5,792	31,935	7,296,752	8,267,724	685,690	—	8,953,414
Wasatch Uniserv	N/A	152,511	274,133	50,759	812	56,069	15,512	37,326	109,719	2,140	30,695	—	245	33,080	34,331	16,134	—	50,465
Washington City	N/A	4,819,594	10,043,978	508,246	65,446	2,174,543	664,813	198,491	3,103,293	138,679	1,178,912	8,161	25,290	1,351,042	1,563,931	56,582	(10,886)	1,609,627
Washington Co Solid Waste	N/A	445,972	925,689	47,590	5,701	204,251	60,440	6,495	276,887	9,440	110,748	107	7,473	127,768	137,049	(2,055)	—	134,994
Washington Co Wat Con Dist	N/A	1,391,654	2,892,613	145,544	17,778	637,555	188,841	252,622	1,096,796	29,845	345,535	372	26,935	402,687	432,321	182,936	—	615,257
Washington County	N/A	17,090,899	34,567,864	2,762,258	111,653	7,120,419	2,148,134	62,998	9,443,204	613,065	3,872,495	3,118	456,736	4,945,414	5,478,782	(233,167)	—	5,245,615
Washington School District	N/A	121,715,390	221,105,720	38,745,948	647,376	45,133,574	12,475,571	1,647,885	59,904,406	1,890,586	24,644,211	17,706	—	26,552,503	29,717,528	836,167	—	30,553,695
Waste Management Serv Dist #5	N/A	115,061	235,813	14,507	1,480	52,556	15,414	2,410	71,860	2,146	28,613	—	22	30,781	31,852	1,140	—	32,992
Wayne County	N/A	723,974	1,476,958	104,282	5,909	310,477	93,015	14,437	423,838	23,096	168,634	160	29,014	220,904	230,871	(9,116)	—	221,755
Wayne School District	N/A	2,735,213	4,952,187	883,594	14,599	1,008,495	280,618	40,933	1,344,645	41,496	550,853	291	102,806	695,446	653,369	(55,158)	—	598,211
Weber Area Dispatch 911	N/A	2,089,473	4,365,504	201,938	26,625	958,293	284,871	22,737	1,292,526	46,967	518,498	764	77,189	643,418	675,201	(18,213)	—	656,988
Weber Basin Water Conserv	N/A	3,956,893	8,179,423	447,192	50,683	1,810,647	534,240	79,745	2,475,315	80,520	983,061	642	60,938	1,125,161	1,176,714	33,984	—	1,210,698
Weber Co Mosquito Abate	N/A	352,510	726,281	41,615	4,523	161,193	47,451	2,119	215,286	6,942	87,610	35	34,517	129,104	102,036	(17,364)	—	84,672
Weber County Corp	N/A	34,827,320	70,594,744	5,503,862	217,942	14,592,214	4,350,705	1,072,705	20,233,566	1,258,699	7,933,788	7,665	1,893,650	11,093,802	11,285,735	(429,856)	—	10,855,879
Weber County School District	N/A	141,665,348	256,490,980	45,762,987	756,090	52,233,242	14,534,193	980,627	68,504,152	2,149,347	28,530,434	15,073	337,490	31,032,344	33,841,647	77,199	—	33,918,846
Weber Fire District	N/A	1,370,108	6,092,937	(2,504,317)	13,961	2,234,598	876,375	37,910	3,162,844	491,213	1,221,770	135,441	18,014	1,866,438	661,843	11,329	(200,628)	472,544
Weber Human Services	N/A	7,611,548	15,886,499	747,583	97,038	3,490,120	1,036,764	103,636	4,727,558	169,535	1,889,005	2,635	112,182	2,173,357	2,440,805	(1,371)	—	2,439,434
Weber River Water Users	N/A	134,343	285,188	7,363	—	101,243	—	—	101,243	—	57,092	—	—	57,092	29,163	4,029	—	33,192
Weber State University	N/A	20,865,946	38,207,897	6,352,630	103,402	8,308,727	1,987,871	73,570	10,473,570	294,258	4,574,900	2,092	666,495	5,537,745	5,043,590	(264,314)	—	4,779,276
Wellington City	N/A	159,924	328,825	21,430	1,268	68,037	20,670	9,631	99,606	5,624	36,837	65	18,383	60,909	55,271	(11,714)	—	43,557
Wellsville City Corp	N/A	258,523	535,823	28,168	3,307	118,365	34,989	8,718	165,379	5,398	64,209	55	6,455	76,117	78,533	1,906	—	80,439
West Bountiful City	N/A	1,123,739	2,295,062	165,045	8,556	470,376	143,921	107,454	730,307	40,963	255,061	372	3,887	300,283	383,802	90,426	—	474,228
West Kane County SSD #1	N/A	148,724	315,366	10,944	1,881	68,426	20,553	5,237	96,097	3,789	36,844	97	484	41,214	53,457	1,435	—	54,892
West Point City	N/A	523,345	1,100,281	45,504	6,648	240,342	71,760	4,238	322,988	12,424	129,775	254	27,471	169,924	177,101	(11,464)	—	165,637
West Valley City	N/A	26,353,503	61,450,834	(2,519,652)	4,060,060	14,972,700	5,802,352	165,144	25,000,256	1,326,387	8,086,013	459,995	456,384	10,328,779	8,887,608	(350,561)	(434,429)	8,102,618
White City Water Imp Dist	N/A	343,962	709,304	40,138	4,411	157,315	46,338	6,499	214,563	6,835	85,478	40	781	93,134	100,298	2,312	—	102,610
Willard City Corp	N/A	369,629	744,426	61,581	2,355	154,937	46,192	14,421	217,905	12,600	84,408	32	7,829	104,869	112,690	5,534	—	118,224
Woodland Peaks Uniserv	N/A	177,856	319,689	59,195	947	65,387	18,090	6,454	90,878	2,496	35,796	—	1	38,293	40,036	3,201	—	43,237
Woods Cross City	N/A	1,740,641	3,600,705	205,607	285,313	808,888	265,329	89,704	1,449,234	15,517	437,689	11,758	14,867	479,831	535,949	40,997	—	576,946
Workers Compensation Fund	N/A	37,945,530	69,493,135	11,580,028	192,461	14,801,830	3,712,503	661,952	19,368,746	567,848	8,123,618	5,816	220,071	8,917,353	9,392,422	369,297	—	9,761,719
Grand Total	N/A	$ 5,448,658,651	10,264,965,606	1,444,729,138	73,065,621	2,155,931,106	603,777,984	80,166,464	2,912,941,175	112,999,991	1,176,841,880	7,832,438	78,714,364	1,376,388,673	1,428,295,787	(5,288,794)	(10,266,130)	1,412,740,863
Units without a proportionate share for 2018 but had a proportionate share in a prior year																		
Canyonlands Health Care	N/A	$ —	—	—	—	—	—	—	—	—	—	—	12,205	12,205	—	(19,172)	—	(19,172)
Garden City Fire District	N/A	—	—	—	—	—	—	1,072	1,072	—	—	—	—	—	—	74	—	74
Leeds Area Special Service District	N/A	—	—	—	—	—	—	5,032	5,032	—	—	—	—	—	—	1,291	—	1,291
Liberty Academy Charter School	N/A	—	—	—	—	—	—	17,166	17,166	—	—	—	277,291	277,291	—	(120,668)	—	(120,668)
Valley Mental Health	N/A	—	—	—	—	—	—	6,149	6,149	—	—	—	1,931,205	1,931,205	—	(2,068,019)	—	(2,068,019)
Six County Infrastructure Coal	N/A	—	—	—	—	—	—	14,305	14,305	—	—	—	46,244	46,244	—	(3,663)	—	(3,663)
Summit Mosquito Abatement Dist	N/A	—	—	—	—	—	—	—	—	—	—	—	7,331	7,331	—	(6,438)	—	(6,438)
Sunnyside City	N/A	—	—	—	—	—	—	—	—	—	—	—	570	570	—	(928)	—	(928)
Grand Total	N/A	$ 5,448,658,651	10,264,965,606	1,444,729,138	73,065,621	2,155,931,106	603,777,984	80,210,188	2,912,984,899	112,999,991	1,176,841,880	7,832,438	80,989,209	1,378,663,518	1,428,295,787	(7,506,316)	(10,266,130)	1,410,523,341

Columns may not add to total due to rounding.

Systems and Plans Statistical Highlights

Year Ended December 31, 2018

Defined Benefit Systems

	Noncontributory	Contributory	Public Safety	Firefighters	Judges	Governors and Legislators	Tier 2 Public Employees	Tier 2 Public Safety and Firefighter	Tier 2 Defined Contribution Only	Averages and Totals All Systems
Membership Information										
Total Membership	159,459	5,622	16,193	3,444	279	387	32,326	3,431	7,066	228,207
Active	56,299	519	5,305	1,540	116	52	30,291	3,301	6,397	103,820
Terminated vested	46,756	1,186	4,921	440	8	85	1,971	130	669	56,166
Retired	56,404	3,917	5,967	1,464	155	250	64	—	—	68,221
Total 2018 Active Members	56,299	519	5,305	1,540	116	52	30,291	3,301	6,397	103,820
Average age	49.1	57.1	42.8	43.2	53.8	57.0	36.0	29.5	36.7	43.5
Average years of service	16.6	30.2	16.4	16.4	14.5	13.6	2.9	3.0	3.7	11.5
Average annual salary	$ 57,971	64,824	62,721	71,914	166,280	N/A	41,840	44,030	48,230	52,803
2018 Retirees										
Number	3,445	110	372	61	10	7	38	—	N/A	4,043
Average age	64.4	62.4	52.2	53.6	66.3	68.6	67.6	—	N/A	63.1
Average years of service	20.8	31.8	22.4	23.2	34.0	10.8	5.4	—	N/A	21.2
Final average annual salary	$ 50,763	55,750	65,895	77,913	159,652	N/A	33,954	—	N/A	52,723
Average annual benefit	$ 21,618	32,915	35,358	43,976	128,017	4,048	2,875	—	N/A	23,581
Average annual benefit —all retirees	$ 22,921	21,028	30,193	37,777	92,753	3,860	2,505	—	N/A	23,822
Financial Information										
Changes in Fiduciary Net Position Restricted for Pensions *(in thousands)*										
Contributions	$ 873,046	8,482	147,996	34,073	9,609	392	97,680	14,350	N/A	1,185,628
Investment income (loss)	(92,207)	(4,513)	(13,134)	(4,509)	(730)	(41)	(1,454)	(180)	N/A	(116,768)
Pension benefits	1,320,214	86,795	188,414	57,440	16,111	978	692	—	N/A	1,670,644
Net assets at fair value	$ 24,666,059	1,172,429	3,528,069	1,207,889	195,570	10,537	424,633	54,336	N/A	31,259,522
Actuarial Information (GASB 67)										
Employers' Net Pension Liability/(Asset) *(dollars in thousands)*										
Total pension liability	$ 29,122,948	1,284,009	4,258,247	1,261,289	244,209	13,177	467,461	56,841	N/A	36,708,181
Plan fiduciary net position (fair value)	$ 24,666,059	1,172,429	3,528,069	1,207,889	195,570	10,537	424,633	54,336	N/A	31,259,522
Employers net pension liability/(asset)	$ 4,456,889	111,580	730,178	53,400	48,639	2,640	42,828	2,505	N/A	5,448,659
Percentage of the total pension liability	84.7%	91.3%	82.9%	95.8%	80.1%	80.0%	90.8%	95.6%	N/A	85.2%
Actuarial Information (Funding)										
Funding Progress *(dollars in thousands)*										
Actuarial value of assets	$ 25,423,551	1,209,260	3,635,825	1,244,696	201,325	10,852	438,366	56,073	N/A	32,219,948
Actuarial accrued liability	$ 29,122,948	1,284,009	4,258,247	1,261,289	244,209	13,177	467,461	56,841	N/A	36,708,181
Unfunded actuarial accrued liability	$ 3,699,397	74,749	622,422	16,593	42,884	2,325	29,095	768	N/A	4,488,233
Funded ratios	87.3%	94.2%	85.4%	98.7%	82.4%	82.4%	93.8%	98.7%	N/A	87.8%

Systems and Plans Statistical Highlights *(Continued)*

Year Ended December 31, 2018

Defined Contribution Plans

	401(k)	457	Roth IRA	Traditional IRA	
Membership Information					
Number of Active Employees Eligible to Participate	107,226	103,336	228,207	228,207	
Employee contributions (excluding employer contributions):					
Number of employees contributing	40,083	8,475	8,775	614	
Percent of eligible employees contributing	37.4%	8.2%	3.8%	0.3%	
Average percent of salary deferred by employees	5.6%	6.2%	N/A	N/A	
Total participants	178,010	18,336	12,232	2,383	
Average participant account balance	$ 27,156	29,677	10,774	50,317	
Financial Information					
Changes in Fiduciary Net Position *(in thousands)*					Total
Contributions	$ 317,548	32,589	25,280	30,108	405,525
Net investment income (loss)	(202,398)	(24,212)	(7,353)	(2,287)	(236,250)
Refunds	276,023	32,709	5,227	10,156	324,115
Plan net position	$ 4,834,083	544,157	131,791	119,905	5,629,936

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