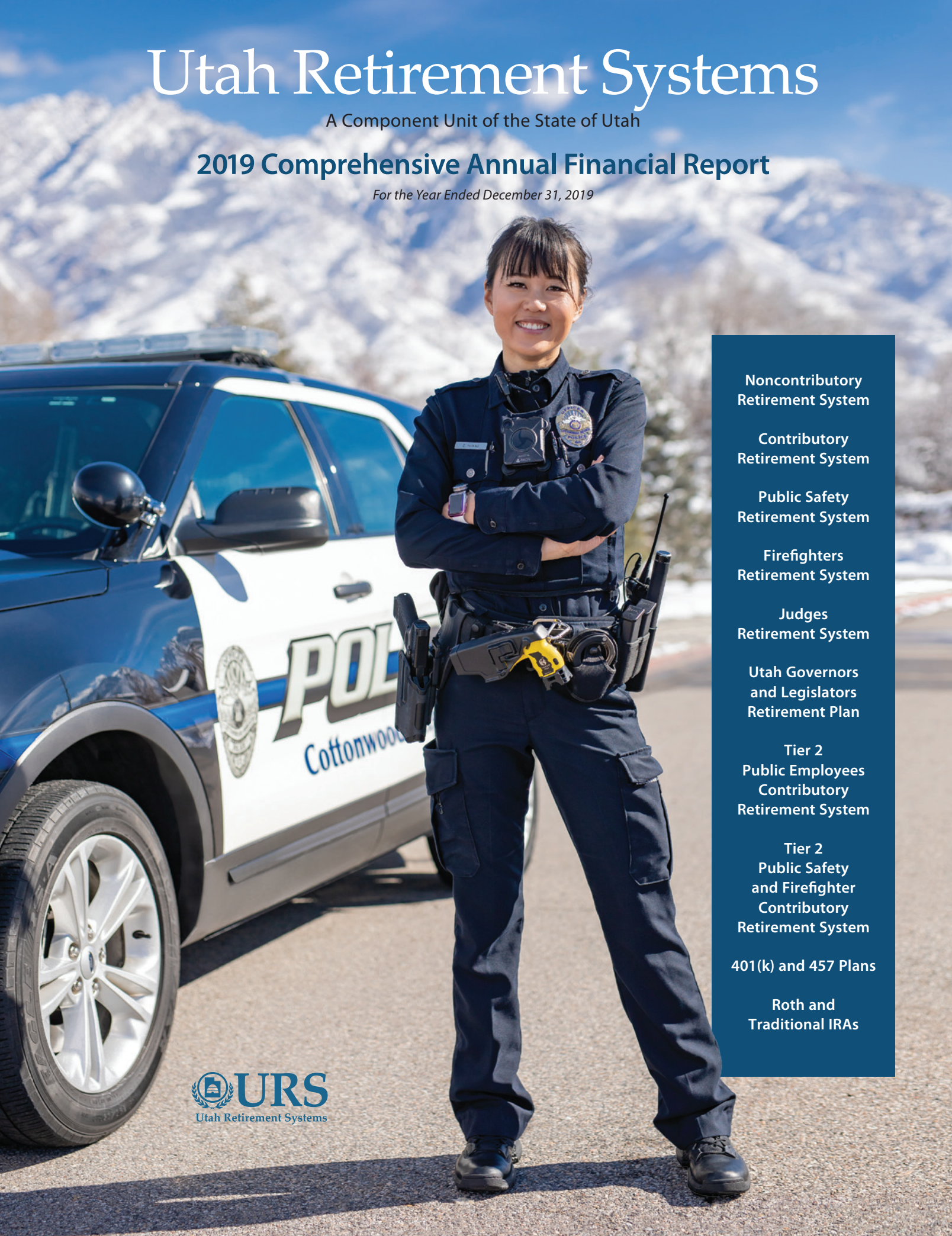
Utah Retirement Systems

A Component Unit of the State of Utah

2019 Comprehensive Annual Financial Report

For the Year Ended December 31, 2019



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

URS
Utah Retirement Systems

Front Cover: Officer Zephani Huang, Cottonwood Heights Police Department

Utah Retirement Systems

A Component Unit of the State of Utah

2019 Comprehensive Annual Financial Report

For the Year Ended December 31, 2019

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

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

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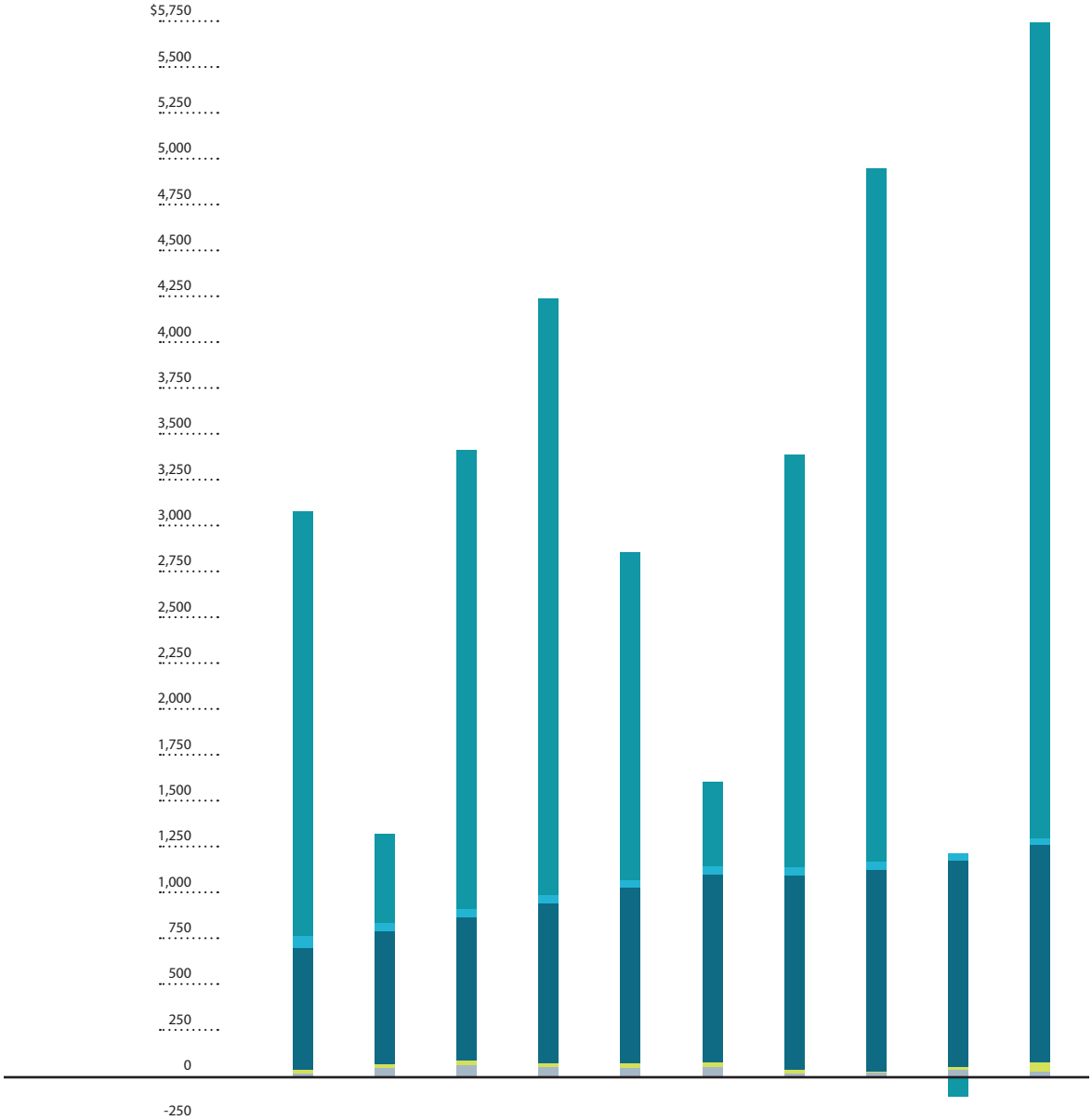
Additions by Source

(in millions)



(in millions)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Net investment income (loss)	$ 2,328	502	2,513	3,261	1,786	462	2,249	3,774	(116)	4,447
Employee contributions	60	39	40	40	39	41	39	39	36	33
Employer contributions	682	739	796	889	974	1,036	1,073	1,113	1,139	1,198
Court fees and fire insurance tax	13	15	18	13	16	19	12	3	10	43
Transfers from systems	7	37	55	42	38	42	10	11	26	20
Totals	$ 3,090	1,332	3,422	4,245	2,853	1,600	3,383	4,940	1,095	5,741

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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, 2020

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

Dear Board Members:

We are pleased to present the 2019 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 2019.

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 188 through 203. 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 2019, the Systems experienced a 14.45% 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 154 of this report.

The investment portfolio mix at fair value as of the end of 2019 was 17% debt securities, 38% equities, 11% private equity, 14% 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 $42.2 billion in both the Defined Benefit and Defined Contribution investments at fair value as of December 31, 2019, 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 LLP. The auditor's 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, 2018. 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 35 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 2019 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, 2020
Utah State Retirement Board
560 East 200 South
Salt Lake City, UT 84102-2044

Dear Members of the Retirement Systems:

Perhaps you've seen concerning headlines recently about some public pension plans across the U.S. When you hear of potential looming pension crises in other states, however, you can be confident about the condition of Utah's pension fund and rest assured that you'll receive your promised benefits.

The URS Board carefully manages and monitors the fund that pays these benefits. Consistent with the long-term nature of retirement payment obligations, we prudently invest this fund with appropriate asset diversification to maximize long-term returns.

Thanks in part to strong equity markets, the fund returned just slightly under 14.5% in 2019, more than doubling our assumed yearly rate of return of 6.95%. Our funded status, as of December 31, 2019, was 91.7% funded, making URS one of the most well-funded statewide pension plans in the country. This Comprehensive Annual Financial Report provides further details about the fund's performance in 2019, including detailed financial and statistical information. I invite you to explore the following pages to better understand the financial inner workings of URS.

We can say that 2019 was a good year for the fund, but we don't expect, nor do we need, such lofty returns year after year. Focusing on the investment performance of just a single year is like reading a single page in a hefty novel – it doesn't begin to tell the entire story. Our fund is built to maximize long-term returns throughout all types of market cycles, with an emphasis on downside protection.

We have many to thank for Utah's strong and well-funded systems. Our participating employers share our long-term perspective and are committed to responsible funding today for the sake of a healthy, sustainable pension fund tomorrow. Our elected officials also share this commitment to responsible benefit and funding requirements.

So, please take those alarming pension-related headlines in the proper context. In Utah, you can be confident in the health and resilience of the URS pension fund and continue to count on your promised benefits.

Sincerely,

Ryan Hessenthaler
President, Utah State Retirement Board

Retirement Board

As of December 31, 2019

Pictured Left to Right

President

Ryan G. Hessenthaler
Appointed August 19, 2015
Term Expires July 1, 2023
Represents Investment Community

Larry W. Evans
Appointed August 21, 2019
Term Expires July 1, 2023
Represents Public Employees

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

Roger G. Donohoe
Appointed December 17, 2014
Term Expires July 1, 2020
Represents Education Employees

Edward T. Alter
Appointed February 2, 2012
Term Expires July 1, 2019
Represents Investment Community

Vice President

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

Mr. Zane Woolstenhulme ..... Represents Utah Association of School Business Officials

Council Members:

Mr. Brandon Baca ..... Represents Utah Education Association

Mr. LeGrand Bitter ..... Represents Utah Association of Special Service Districts

Mr. Jamie Davidson ..... Represents Utah League of Cities and Towns

Ms. Marilyn Gillette ..... Represents Utah Association of Counties

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

Ms. Sheri K. Nelson ..... Represents Utah Public Employees' Association

Honorable Kara Pettit ..... Represents Utah Judicial Council

Utah Retirement Systems

Organization Chart

As of December 31, 2019

Membership Council

General Counsel

Dee S Larsen

- Legal Services
- Member Appeals and Litigation
- Investment Transactions
- Government Relations and Legislation
- Outside Counsel

Chief Investment Officer

Bruce H. Cundick

- Equity Investments
- Debt Securities
- Real Assets
- Private Equity
- Absolute Return

Director Human Resources

Jayne R. Knecht

- Human Resources
- Safety/Security

Shared Services Director

Jeff J. Allen

- IT Functions
- Internal Audit
- General Services
- Purchasing

Chief Information Officer

W. Kendall Rima

- Server Hardware and Software
- Applications Development
- Helpdesk/ Workstation Support
- Process Automation Workflow
- Networking and Telecommunications
- Web Service
- Information Security

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

Jayne R. Knecht
Director, Human Resources

Jeff J. Allen
Shared Services Director

Robert D. Dolphin
Chief Financial Officer

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 Management Director

Professional Service Providers

Actuary

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

Auditor

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

Additional professional service providers are presented on pages 156 and 162.

A schedule of investment fees and commissions are presented on pages 155 and 161.

Utah State Retirement Board

Executive Director

Daniel D. Andersen

Deputy Executive Director

Todd W Rupp

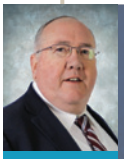
Chief Financial Officer

Robert D. Dolphin

- Financial Reporting and Accounting
- Budgets
- Tax Reporting
- Cash Management
- Payroll
- Risk Management

Director Internal Audit

Steven M. West



Director Employer Services

Matthew K. Judd

- Records Management
- Employer Contributions Reporting
- Member Account Management
- Defined Contribution Daily Trade Reconciliation
- Employer Compliance and Auditing

Director Defined Contribution Savings Plans

Craige D. Stone

- 401(k) Plan
- 457 Plan
- Traditional IRA
- Roth IRA

Director Retirement Benefits

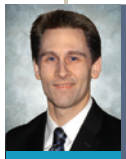
Mark M. Cain

- Retirement Benefits
- Death Benefits
- Redeposits and Purchases
- Refunds
- Branch Office

Chief Compliance Officer Investments

David J. Bjarnason

- Investment Compliance
- Proxy Voting



Director Retirement Planning

Ryan C. Ashcraft

- Member Education
- Retirement Planning
- Seminars
- Stakeholder Relations

Project Management Director

Tiffany G. Lund

- Project Management Office
- Business Requirements
- Project Scope
- Implementation

Utah Retirement Systems

Noncontributory

Retirement System Highlights

Composite Picture

Total Membership	160,304
Active	53,134
Terminated vested	48,521
Retired	58,649
2019 Active Members	53,134
Average age	48.5
Average years of service	17.2
Average annual salary	$61,056
2019 Retirees	3,237
Average age	64.2
Average years of service	21.2
Final average annual salary	$53,230
Average annual benefit	$23,414
Average annual benefit —all retirees	$23,392

Tasha Baugh, Child Nutrition Manager, Bonneville High School, Weber School District

Noncontributory

Retirement System Highlights (Concluded)

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

Service Retirement

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

Service Benefit Formula

Number of 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

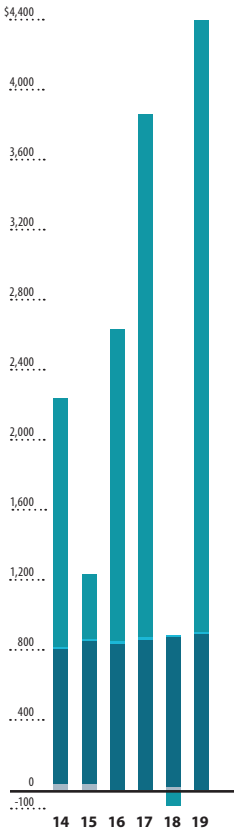
Up to 4% annually on original retirement benefit.

Contribution Rates *(as of 12-31-2019)*

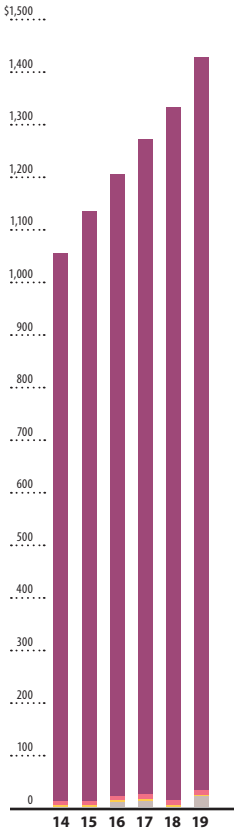
Employer rate for the State and School Division (Level A) is 22.19% of covered salary and 18.47% for the Local Government Division (Level B).

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

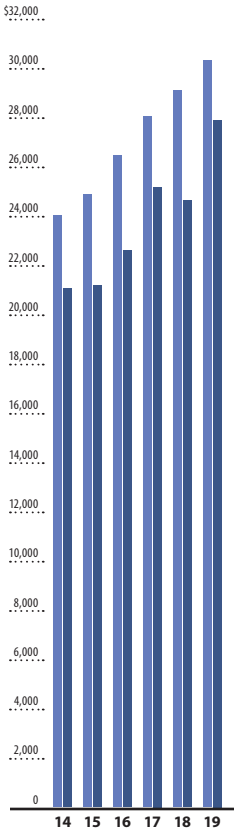
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(dollars in millions)



		2014	2015	2016	2017	2018	2019
Additions by Source	*(in millions)*						
	Investment income (loss)	$ 1,419.1	366.7	1,783.9	2,987.3	(92.2)	3,499.2
	Member contributions	13.6	17.0	16.3	17.3	14.6	11.7
	Employer contributions	772.4	813.5	831.6	854.3	858.4	888.1
	Transfers from systems	30.5	33.7	—	—	13.0	—
	Totals	$ 2,235.6	1,230.9	2,631.8	3,858.9	793.8	4,399.0
Deductions by Type	*(in millions)*						
	Benefit payments	$ 1,043.8	1,123.6	1,184.3	1,248.0	1,320.2	1,397.0
	Administrative expense	8.8	8.8	8.9	9.6	10.0	9.4
	Refunds	2.2	2.5	4.4	4.6	2.8	3.1
	Transfers to systems	—	—	8.0	10.2	—	19.6
	Totals	$ 1,054.8	1,134.9	1,205.6	1,272.4	1,333.0	1,429.1
Schedule of Employers Net Pension Liability	*(dollars in millions)*						
	Total pension liability	$ 24,043.3	24,899.5	26,501.8	28,088.6	29,122.9	30,351.8
	Statement of plan net position	21,096.5	21,192.4	22,618.7	25,205.1	24,666.1	27,635.9
	Net pension liability	$ 2,946.8	3,707.1	3,883.1	2,883.5	4,456.8	2,715.9

Utah Retirement Systems

Contributory

Retirement System Highlights

Composite Picture

Total Membership	5,352
Active	450
Terminated vested	1,112
Retired	3,790
2019 Active Members	450
Average age	57.0
Average years of service	30.8
Average annual salary	$67,202
2019 Retirees	81
Average age	63.1
Average years of service	31.7
Final average annual salary	$59,056
Average annual benefit	$41,980
Average annual benefit —all retirees	$22,332

Cameron Diehl, Executive Director, Utah League of Cities and Towns

Contributory

Retirement System Highlights (Concluded)

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

Service Retirement

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

Service Benefit Formula

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

**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

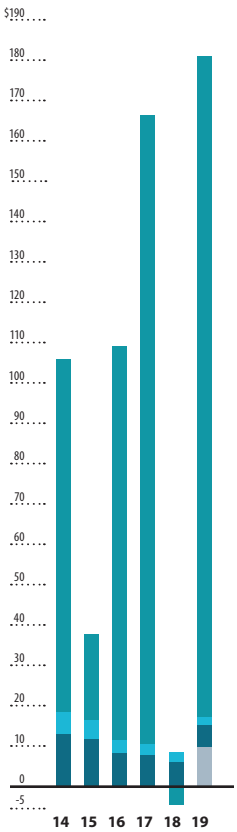
Up to 4% annually on original retirement benefit.

Contribution Rates *(as of 12-31-2019)*

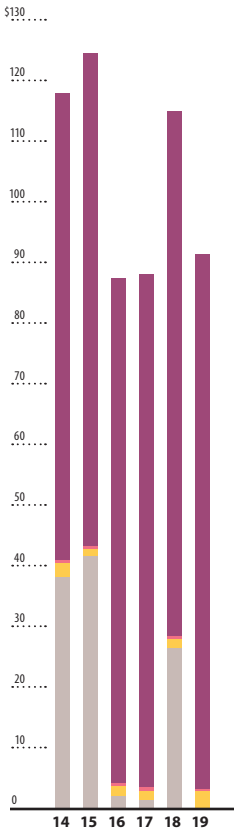
Member rate is 6.00% of covered salary. Employer rate for State and School Division (Level A) is 17.70% of covered salary and 14.46% for the Local Government Division (Level B).

For more detail see Summary of Plan Provisions on page 189.

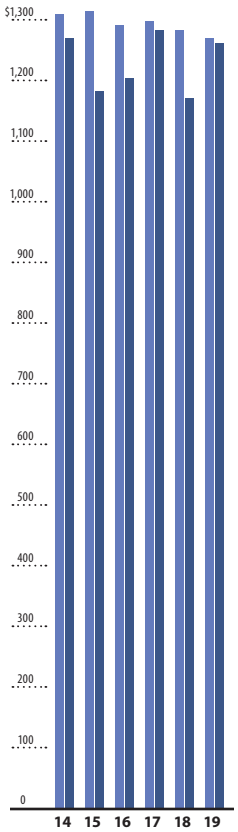
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(dollars in millions)



		2014	2015	2016	2017	2018	2019
Additions by Source	*(in millions)*						
	Investment income (loss)	$ 87.6	21.2	97.7	155.9	(4.5)	163.9
	Member contributions	5.4	4.8	3.4	2.7	2.5	2.0
	Employer contributions	13.0	11.7	8.2	7.9	6.0	5.4
	Transfers from systems	—	—	—	—	—	9.8
	Totals	$ 106.0	37.7	109.3	166.5	4.0	181.1
Deductions by Type	*(in millions)*						
	Benefit payments	$ 77.0	81.4	83.4	84.8	86.8	88.2
	Administrative expense	0.5	0.5	0.4	0.5	0.5	0.4
	Refunds	2.4	1.2	1.7	1.6	1.5	2.7
	Transfers to systems	38.0	41.5	1.9	1.2	26.3	—
	Totals	$ 117.9	124.6	87.4	88.1	115.1	91.3
Schedule of Employers Net Pension Liability	*(dollars in millions)*						
	Total pension liability	$ 1,309.8	1,316.0	1,292.5	1,298.2	1,284.0	1,270.1
	Statement of plan net position	1,270.0	1,183.1	1,204.9	1,283.5	1,172.4	1,262.3
	Net pension liability	$ 39.8	132.9	87.6	14.7	111.6	7.8

Utah Retirement Systems

Public Safety

Retirement System Highlights

Composite Picture

Total Membership	16,101
Active	4,982
Terminated vested	4,866
Retired	6,253
2019 Active Members	4,982
Average age	42.3
Average years of service	16.9
Average annual salary	$66,640
2019 Retirees	325
Average age	52.7
Average years of service	22.1
Final average annual salary	$65,816
Average annual benefit	$37,490
Average annual benefit —all retirees	$30,975

Mitch Gwilliam, Sergeant, North Salt Lake Police Department

Public Safety

Retirement System Highlights (Concluded)

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

Service Retirement

Age	Years of Service	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.

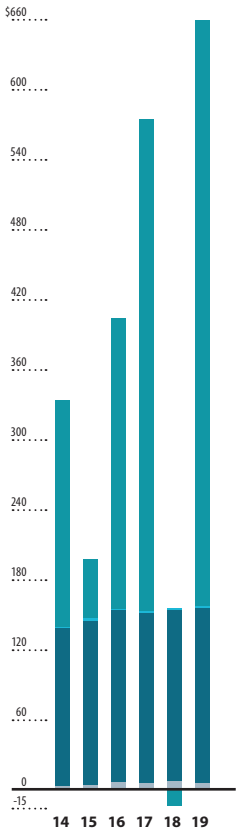
Contribution Rates *(as of 12-31-2019)*

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

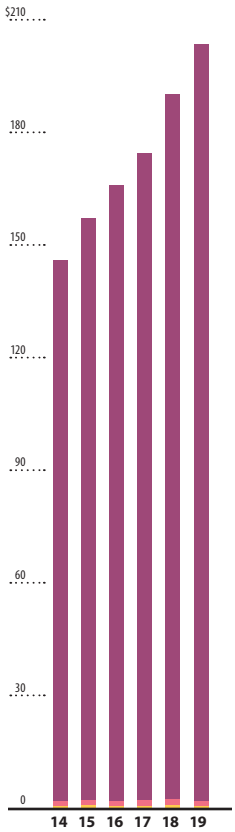
Contributory: Member rates range from 10.50% to 12.29% of covered salary. Employer rates range from 22.79% to 28.98% of covered salary.

For more detail see Summary of Plan Provisions on page 190.

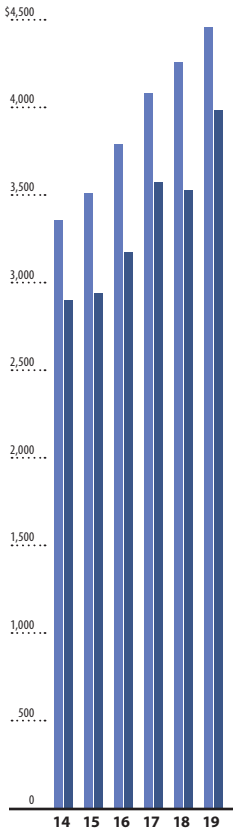
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(dollars in millions)



		2014	2015	2016	2017	2018	2019
	(in millions)						
Additions by Source	Investment income (loss)	$ 194.2	50.7	249.0	421.9	(13.1)	502.7
	Member contributions	0.8	0.9	0.8	0.8	0.9	0.9
	Employer contributions	135.6	141.0	147.1	145.8	147.1	150.5
	Transfers from systems	2.7	4.0	6.7	5.9	7.0	5.5
	Totals	$ 333.3	196.6	403.6	574.4	141.9	659.6
	(in millions)						
Deductions by Type	Benefit payments	$ 144.8	155.4	164.5	172.9	188.4	201.9
	Administrative expense	1.2	1.2	1.3	1.4	1.5	1.4
	Refunds	0.2	0.5	0.2	0.2	0.4	0.1
	Totals	$ 146.2	157.1	166.0	174.5	190.3	203.4
	(dollars in millions)						
Schedule of Employers Net Pension Liability	Total pension liability	$ 3,360.0	3,511.2	3,794.9	4,085.2	4,258.2	4,460.4
	Statement of plan net position	2,899.4	2,938.8	3,176.5	3,576.5	3,528.1	3,984.2
	Net pension liability	$ 460.6	572.4	618.4	508.7	730.1	476.2

Utah Retirement Systems

Firefighters

Retirement System Highlights

Composite Picture

Total Membership	3,431
Active	1,490
Terminated vested	442
Retired	1,499
2019 Active Members	1,490
Average age	42.8
Average years of service	16.9
Average annual salary	$75,218
2019 Retirees	58
Average age	53.2
Average years of service	24.8
Final average annual salary	$80,943
Average annual benefit	$47,774
Average annual benefit —all retirees	$38,915

Kelcee Oyler, Firefighter, Layton Fire Department

Firefighters

Retirement System Highlights (Concluded)

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

Service Retirement

Age	Years of Service	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

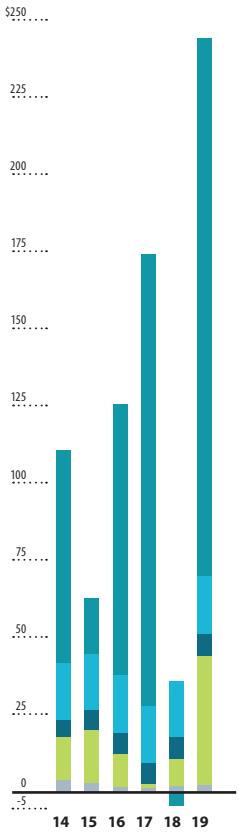
Up to 4% (depending on employer) on original retirement benefit.

Contribution Rates *(as of 12-31-2019)*

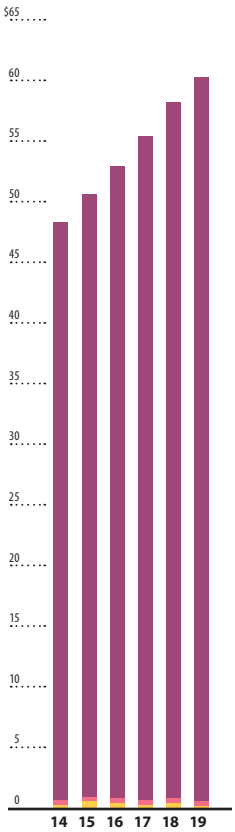
Member rate for Division A (with Social Security) is 15.05% of covered salary and for Division B (without Social Security) is 16.71% of covered salary. Employer rate for Division A is 4.61% of covered salary and 7.24% for Division B.

For more detail see Summary of Plan Provisions on page 192.

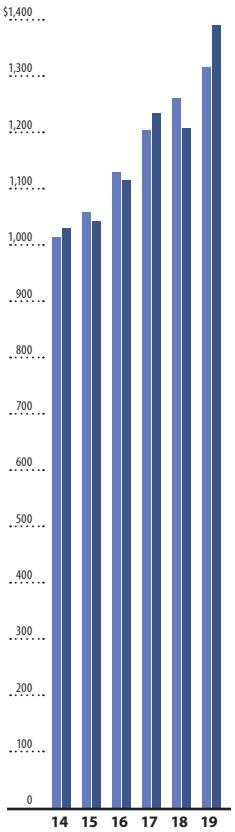
Additions by Source
(in millions)



Deductions by Type
(in millions)



Schedule of Employers Net Pension Liability
(dollars in millions)



		2014	2015	2016	2017	2018	2019
Additions by Source	*(in millions)*						
	Investment income (loss)	$ 69.1	17.9	87.7	146.7	(4.5)	174.1
	Member contributions	18.3	18.2	18.7	18.5	18.3	18.7
	Employer contributions	5.5	6.7	7.0	6.7	7.0	7.4
	Fire insurance tax	14.2	17.2	10.6	1.2	8.7	41.9
	Transfers from systems	3.7	2.6	1.6	1.3	1.9	2.0
	Totals	$ 110.8	62.6	125.6	174.4	31.4	244.1
Deductions by Type	*(in millions)*						
	Benefit payments	$ 47.7	49.7	52.1	54.8	57.4	59.8
	Administrative expense	0.4	0.4	0.4	0.4	0.4	0.4
	Refunds	0.2	0.5	0.4	0.2	0.4	0.1
	Totals	$ 48.3	50.6	52.9	55.4	58.2	60.3
Schedule of Employers Net Pension Liability	*(dollars in millions)*						
	Total pension liability	$ 1,014.3	1,058.2	1,129.7	1,205.7	1,261.3	1,316.6
	Statement of plan net position	1,031.0	1,043.0	1,115.7	1,234.4	1,207.9	1,391.6
	Net pension liability/(asset)	$ (16.7)	15.2	14.0	(28.7)	53.4	(75.0)

Utah Retirement Systems

Judges

Retirement System Highlights

Composite Picture

Total Membership	275
Active	116
Terminated vested	6
Retired	153
2019 Active Members	116
Average age	53.2
Average years of service	14.8
Average annual salary	$170,318
2019 Retirees	3
Average age	66.3
Average years of service	31.5
Final average annual salary	$163,963
Average annual benefit	$126,666
Average annual benefit —all retirees	$96,164

Judge Linda M. Jones, Third Judicial District Court

Judges

Retirement System Highlights (Concluded)

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

Service Retirement

Age	Years of Service	Allowance Reduction
Any age	25	None
55	20	Full actuarial reduction
60	10	None
65	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

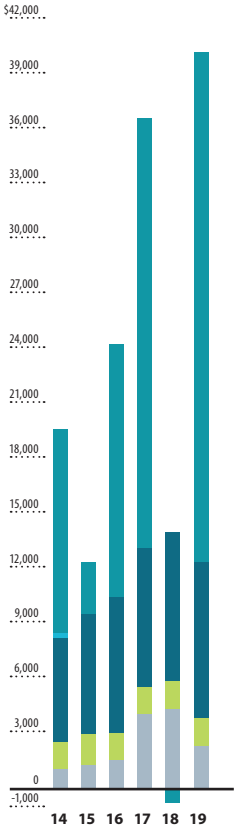
Up to 4% compounded annually.

Contribution Rates *(as of 12-31-2019)*

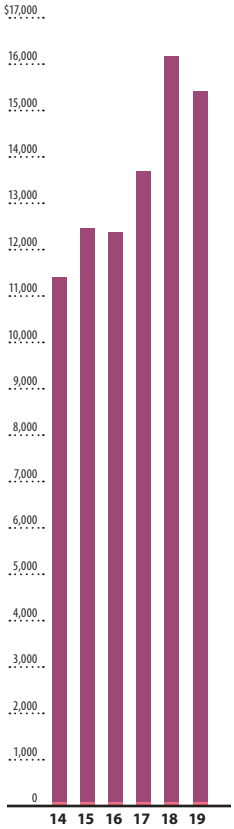
Employer rate is 43.75% of covered salary.

For more detail see Summary of Plan Provisions on page 194.

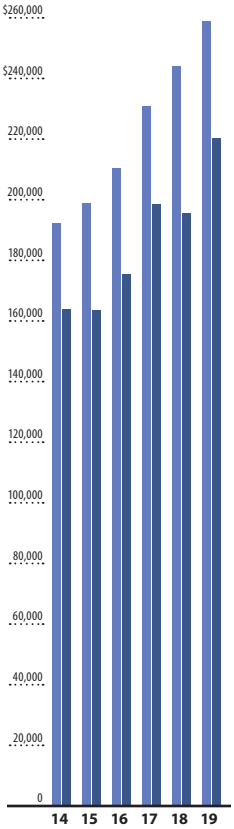
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(dollars in thousands)



		2014	2015	2016	2017	2018	2019
Additions by Source	*(in thousands)*						
	Investment income (loss)	$ 11,068	2,842	13,820	23,435	(730)	27,775
	Member contributions	317	—	—	—	—	—
	Employer contributions	5,627	6,555	7,382	7,563	8,091	8,500
	Court fees	1,486	1,653	1,470	1,477	1,518	1,536
	Transfers from systems	1,092	1,334	1,600	4,090	4,403	2,339
	Totals	$ 19,590	12,384	24,272	36,565	13,282	40,150
Deductions by Type	*(in thousands)*						
	Benefit payments	$ 11,361	12,400	12,330	13,621	16,111	15,346
	Administrative expense	71	71	71	79	84	81
	Totals	$ 11,432	12,471	12,401	13,700	16,195	15,427
Schedule of Employers Net Pension Liability	*(dollars in thousands)*						
	Total pension liability	$ 192,285	198,986	210,623	231,069	244,209	259,181
	Statement of plan net position	163,834	163,747	175,618	198,483	195,570	220,293
	Net pension liability	$ 28,451	35,239	35,005	32,586	48,639	38,888

Utah Governors and Legislators

Retirement Plan Highlights

Composite Picture

Total Membership	383
Active	47
Terminated vested	88
Retired	248
2019 Active Members	47
Average age	53.4
Average years of service	13.7
Average annual salary	N/A
2019 Retirees	10
Average age	67.5
Average years of service	9.3
Final average annual salary	N/A
Average annual benefit	$3,856
Average annual benefit —all retirees	$3,993

Representative Lee B. Perry, District 29, Box Elder and Weber Counties

Utah Governors and Legislators

Retirement Plan Highlights (Concluded)

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

Service Retirement for Governors

Age	Years of Service	Allowance Reduction
65	1 Term	None
62	10 years	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 12-31-19 is $1,420.*

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 12-31-19 is $30.80.*

Cost-of-Living Allowance

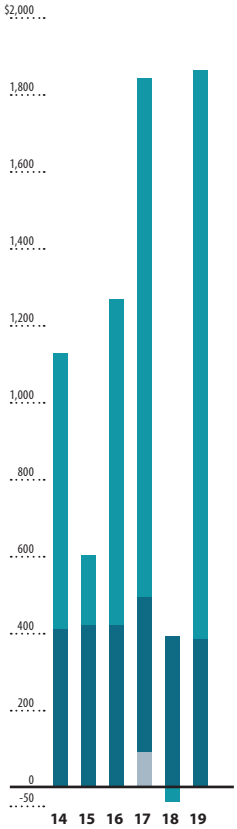
Up to 4% annually on original retirement benefit.

Contribution Rates *(as of 12-31-2019)*

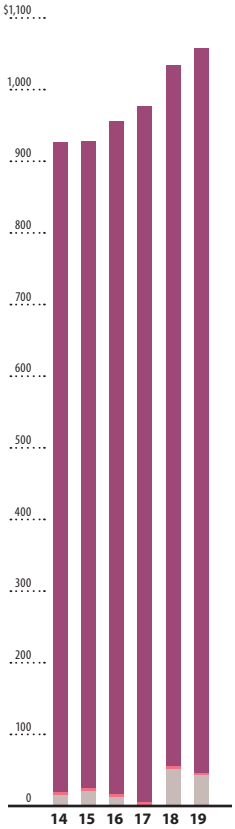
There was a 2019-20 appropriation payable by June 30, 2020, to the Utah Governors and Legislators Retirement Plan of $369,226.

For more detail see Summary of Plan Provisions on page 195.

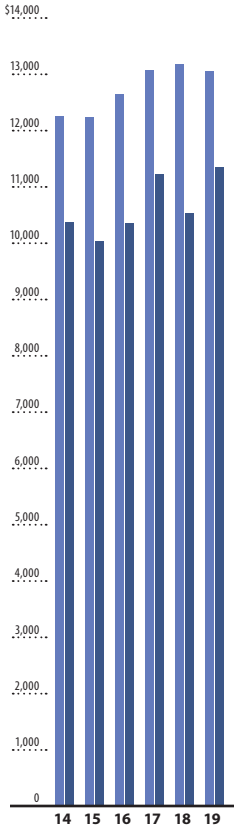
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(dollars in thousands)



			2014	2015	2016	2017	2018	2019
Additions by Source	*(in thousands)*							
	Investment income (loss)	$	717	181	849	1,353	(41)	1,481
	Employer contributions		411	421	421	404	392	384
	Transfers from systems		—	—	—	89	—	—
	Totals	$	1,128	602	1,270	1,846	351	1,865
Deductions by Type	*(in thousands)*							
	Benefit payments	$	909	904	941	973	978	1,012
	Administrative expense		5	5	4	5	5	4
	Transfers to systems		14	20	12	—	51	42
	Totals	$	928	929	957	978	1,034	1,058
Schedule of Employers Net Pension Liability	*(dollars in thousands)*							
	Total pension liability	$	12,267	12,247	12,654	13,074	13,177	13,053
	Statement of plan net position		10,366	10,039	10,352	11,220	10,537	11,344
	Net pension liability	$	1,901	2,208	2,302	1,854	2,640	1,709

Utah Retirement Systems

Tier 2 Public Employees

Contributory Retirement System Highlights

Composite Picture

Total Membership	36,804
Active	33,686
Terminated vested	3,005
Retired	113
2019 Active Members	33,686
Average age	35.4
Average years of service	3.3
Average annual salary	$44,337
2019 Retirees	47
Average age	68.7
Average years of service	5.9
Final average annual salary	$36,895
Average annual benefit	$3,105
Average annual benefit —all retirees	$2,664

Brennen Graff, Treatment Operator, Park City Municipal Corporation

Tier 2 Public Employees

Contributory Retirement System Highlights *(Concluded)*

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

Service Retirement

Age	Years of Service	Allowance Reduction
Any age	35	None
55	20	Full actuarial before age 65
60	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.

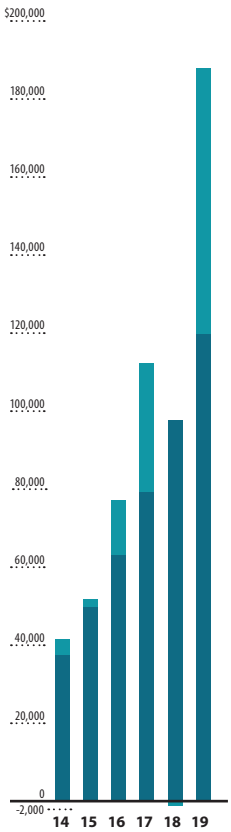
Contribution Rates *(as of 12-31-2019)*

Employer rate range from 15.66% to 18.99% of covered salary.

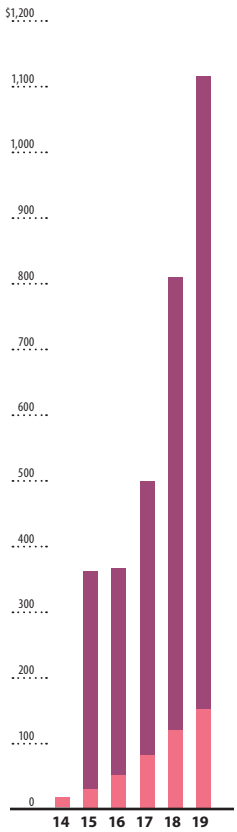
(Includes active member death benefit and Tier 1 amortization rate.)

For more detail see Summary of Plan Provisions on page 196.

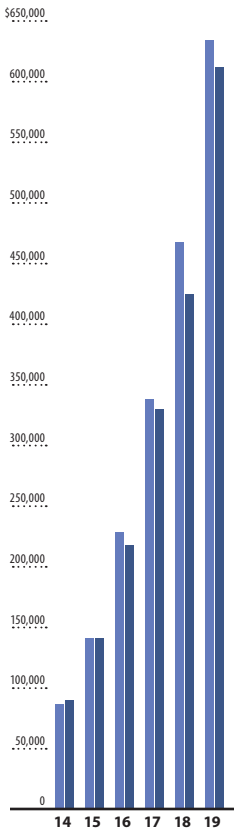
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(dollars in thousands)



			2014	2015	2016	2017	2018	2019
	(in thousands)							
Additions by Source	Investment income (loss)	$	4,320	1,963	14,059	33,249	(1,454)	68,228
	Employer contributions		37,299	49,645	63,062	79,175	97,680	119,839
	Transfers from systems		—	3	—	—	—	—
	Totals	$	41,619	51,611	77,121	112,424	96,226	188,067
	(in thousands)							
Deductions by Type	Benefit payments	$	—	333	316	417	692	965
	Administrative expense		16	30	51	82	119	152
	Transfers to systems		2	—	—	—	—	—
	Totals	$	18	363	367	499	811	1,117
	(dollars in thousands)							
Schedule of Employers Net Pension Liability	Total pension liability	$	86,261	140,321	228,450	338,035	467,461	634,074
	Statement of plan net position		89,291	140,539	217,293	329,218	424,633	611,583
	Net pension liability	$	(3,030)	(218)	11,157	8,817	42,828	22,491

Tier 2 Public Safety and Firefighter

Contributory Retirement System Highlights

Officer Zephani Huang,
Cottonwood Heights Police Department

Will Fenton, Firefighter,
Farmington City Fire Department

Composite Picture

Total Membership	3,940
Active	3,767
Terminated vested	172
Retired	1
2019 Active Members	3,767
Average age	28.9
Average years of service	3.5
Average annual salary	$46,645
2019 Retirees	1
Average age	33.0
Average years of service	0.8
Final average annual salary	$41,648
Average annual benefit	$12,494
Average annual benefit —all retirees	$12,494

Tier 2 Public Safety and Firefighter

Contributory Retirement System Highlights (Concluded)

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.

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.

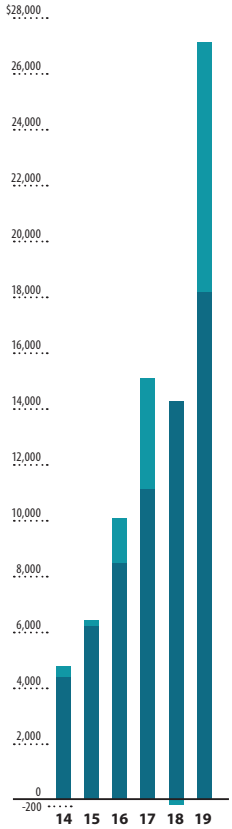
Contribution Rates *(as of 12-31-2019)*

Employer rate range from 11.38% to 38.27% of covered salary.

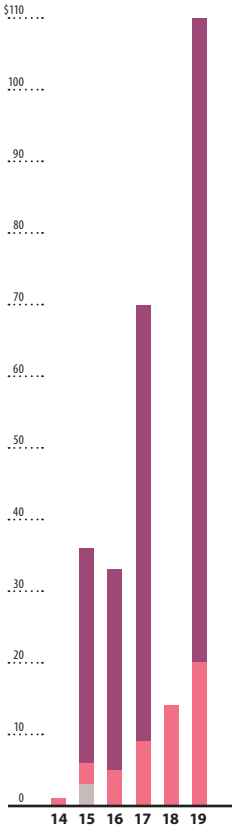
(Includes active member death benefit and Tier 1 amortization rate.)

For more detail see Summary of Plan Provisions on page 198.

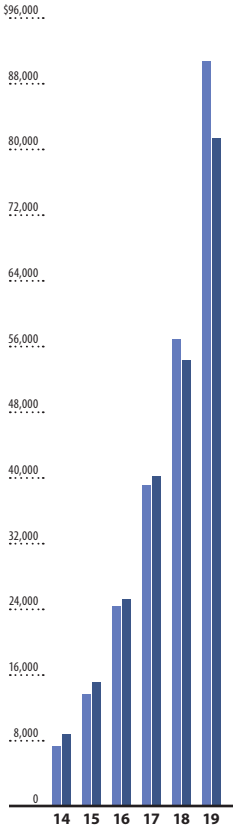
Additions by Source
(in thousands)



Deductions by Type
(in thousands)



Schedule of Employers Net Pension Liability
(dollars in thousands)



			2014	2015	2016	2017	2018	2019
	(in thousands)							
Additions by Source	Investment income (loss)	$	404	199	1,591	3,989	(180)	8,958
	Employer contributions		4,365	6,221	8,488	11,126	14,295	18,197
	Transfers from systems		2	—	—	—	—	—
	Totals	$	4,771	6,420	10,079	15,115	14,115	27,155
	(in thousands)							
Deductions by Type	Benefit payments	$	—	30	28	61	—	90
	Administrative expense		1	3	5	9	14	20
	Transfers to systems		—	3	—	—	—	—
	Totals	$	1	36	33	70	14	110
	(dollars in thousands)							
Schedule of Employers Net Pension Liability	Total pension liability	$	7,226	13,628	24,266	39,023	56,841	90,787
	Statement of plan net position		8,705	15,089	25,135	40,180	54,336	81,381
	Net pension liability	$	(1,479)	(1,461)	(869)	(1,157)	2,505	9,406

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.

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, 2019, the number of participants by savings plan was as shown in the table below.

Annualized rates of returns for the Investment Funds are shown on pages 159 and 160.

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.

Member Information

at December 31, 2019

	401(k)	457	Roth IRA	Traditional IRA
Number of active employees eligible to participate	109,601	105,924	232,625	232,625
Employee contributions (excluding employer contributions):				
Number of employees contributing	41,491	8,500	9,999	633
Percent of eligible employees contributing	37.9%	8.0%	4.3%	0.3%
Average % of salary deferred by employees	5.7%	6.2%	N/A	N/A
Total participants	184,633	18,722	14,020	2,637
Average participant account balance	$30,996	$34,476	$12,863	$62,354

Savings Plans Member Balances

at December 31, 2019

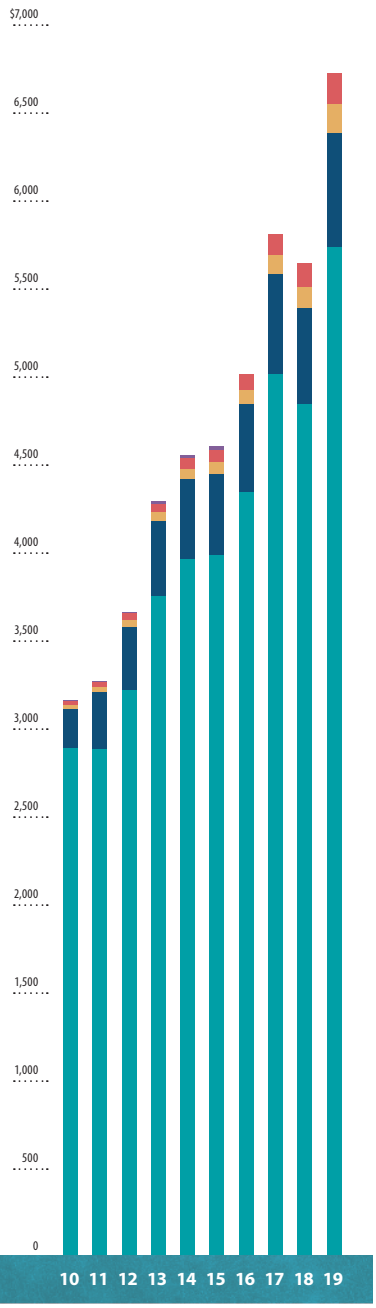
(in millions)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HRA*	$ 6	9	11	16	20	23	—	—	—	—
Roth IRA	21	24	34	48	59	70	89	119	132	180
Traditional IRA	26	30	39	50	60	69	82	102	120	164
457	317	321	360	425	451	454	494	569	544	645
401(k)	2,887	2,881	3,213	3,746	3,956	3,980	4,339	5,003	4,834	5,723
Totals	$ 3,257	3,265	3,657	4,285	4,546	4,596	5,004	5,793	5,630	6,712

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

Savings Plans Member Balances

(in millions)



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Utah Retirement Systems

Independent Auditor's Report

INDEPENDENT AUDITOR'S REPORT

To the Utah State Retirement Board
Utah State Retirement Systems
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, 2019, 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.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. 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.

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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, 2019, 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 $14.4 billion (33% of total assets) at December 31, 2019. 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 of 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 an opinion on the financial statements that collectively comprise Utah Retirement Systems' basic financial statements. The additional combining information for the total combined defined contribution plans is presented for purposes of additional analysis of the financial statements rather than to present the fiduciary net position and the changes in fiduciary net position of the individual plans and is not a required part of the 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.

Independent Auditor's Report *(Concluded)*

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.

We have previously audited Utah Retirement Systems 2018 basic financial statements, and we expressed an unmodified opinion on those audited financial statements in our report dated April 30, 2019, which included an emphasis-of-matter paragraph regarding the fair value of investments where a publicly listed price is not available. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2018 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, 2020 on our consideration of 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 Utah Retirement Systems internal control over financial reporting and compliance

Eide Bailly LLP

Salt Lake City, Utah
April 30, 2020

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CPAs & BUSINESS ADVISORS

INDEPENDENT AUDITOR'S REPORT

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

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*

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, 2019 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, 2020, which included in emphasis-of-matter paragraph regarding the fair value of investments where a publicly listed price is not available.

Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters *(Concluded)*

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 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, 2020

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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, 2019. 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 increased by $3.9 billion, or 12.6% during calendar year 2019. The increase was primarily due to the increase in the markets.
- The URS Defined Benefit Pension Systems' rate of return on investments during calendar year 2019 was 14.45% compared with the calendar year 2018 rate of return of negative 0.22%. The increase in rate of return was due primarily to the increase in market performance in 2019.
- The URS Defined Benefit Pension Systems had a Net Pension Liability of $3.2 billion and the Net Pension Liability as a percentage of covered payroll was 59.5% as of December 31, 2019.
- The Defined Contribution Plans' combined total net position increased $1.1 billion during calendar year 2019 primarily due to investment gains.
- The Defined Contribution Plans' rates of return for investment options ranged from a high of 32.27% to a low of 2.6% compared to prior year investment option returns of a high of 2.2% and a low of negative 14.5%.

Overview of the Financial Statements

The URS 2019 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, 2019. 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, 2019, 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, 2019, with combined total comparative information at December 31, 2018. 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, 2019, with combined total comparative information for the year ended December 31, 2018. These financial statements reflect the changes in the resources available to pay benefits to members, including retirees and beneficiaries, for calendar years 2019 and 2018.

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.

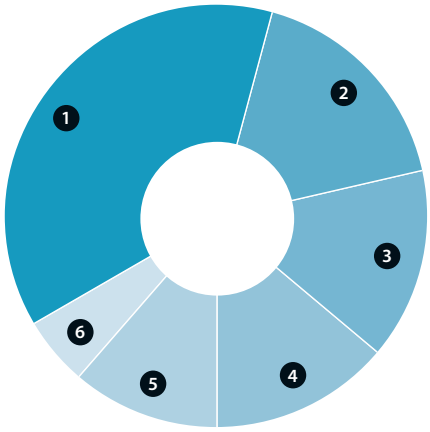
3) Required Supplementary Information

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

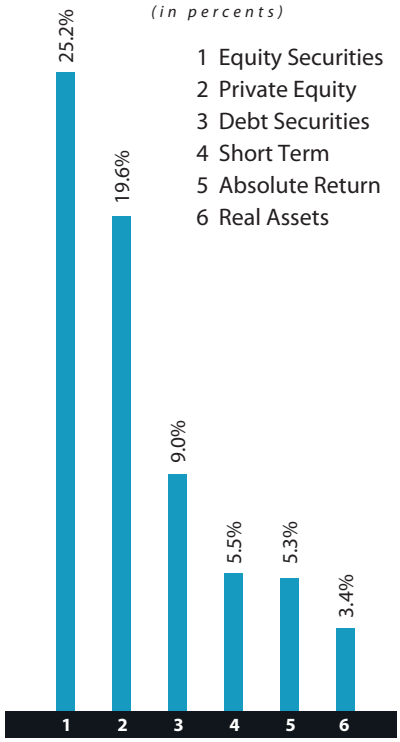
Other schedules include more detailed information pertaining to the Systems and Plans as well as schedules of administrative and investment expenses.

Defined Benefit Systems Investments at Fair Value



1–Equity Securities (37.7%)
2–Debt Securities (17.3%)
3–Absolute Return (14.6%)
4–Real Assets (13.9%)
5–Private Equity (11.3%)
6–Short Term (5.2%)

Defined Benefit Systems Investment Rates of Return by Investment Type for 2019



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, 2019, URS Defined Benefit Systems had total net position of $35.2 billion, an increase of $3.93 billion from calendar year 2018 investment totals. The combined investment portfolio experienced a return of 14.45% compared with the URS investment benchmark return of 17.37%. Investment results over time compared with URS benchmarks are presented on page 154 in the Investment Section.

Because the investment gain in all of the retirement systems was 14.45% of net position, further investment performance will not be evaluated in each respective system.

Equity Securities

As of December 31, 2019, URS Defined Benefit Systems held $13.4 billion in U.S. and international equity securities, an increase of $2.4 billion from year 2018. Equity securities had a return of 25.22% for calendar year 2019 compared with the URS benchmark return of 26.41%.

Debt Securities

As of December 31, 2019, URS Defined Benefit Systems held $6.2 billion in U.S. debt and international debt securities, an increase of $863.5 million from year 2018. Debt securities returned 8.98% in calendar year 2019 compared with the URS benchmark return of 8.57%.

Real Assets

As of December 31, 2019, URS Defined Benefit Systems held $4.9 billion in real assets investments, a decrease of $258.6 million from year 2018. Real assets investments returned 3.36% in calendar year 2019 compared with the URS benchmark return of 7.32%.

Private Equity

As of December 31, 2019, URS Defined Benefit Systems held $4.0 billion in private equity investments, an increase of $351.5 million from year 2018. Private equity investments returned 19.60% in calendar year 2019. The URS benchmark for private equity investments was 33.56%.

Short Term

As of December 31, 2019, URS Defined Benefit Systems held $1.9 billion in short-term investments, an increase of $265.0 million from year 2018. Short-term investments returned 5.52% in calendar year 2019 compared with the URS benchmark return of 2.28%.

Absolute Return

As of December 31, 2019, URS Defined Benefit Systems held $5.2 billion in absolute return investments, an increase of $585.2 million from year 2018. Absolute return investments returned 5.29% in calendar year 2019 compared with the URS benchmark return of 7.28%.

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, 2019, the Systems had $830 million on loan secured by collateral of $884 million. For calendar year 2019, net securities lending income to the Systems amounted to $5.6 million, a decrease of $1.5 million over calendar year 2018. Security lending income decreased due to lower demand for securities lent compared to 2018.

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, 2019, totaled $27.6 billion, an increase of $2.97 billion (12.0%) from $24.7 billion as of December 31, 2018.

Additions to the Noncontributory System net position include employer contributions, investment income, and transfers. For the calendar year 2019, member and employer contributions increased from $873.0 million for calendar year 2018 to $900.0 million, an increase of $26.8 million (3.1%). Contributions increased because salaries increased. The system recognized a net investment gain of $3.5 billion for calendar year 2018 compared with net investment loss of $92.2 million for calendar year 2018. The increase in investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.

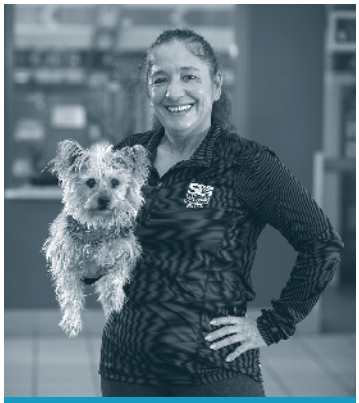
Deductions from the Noncontributory System net position include retirement benefits, administrative expenses, and transfers. For the calendar year 2019, benefits amounted to $1.4 billion, an increase of $77.1 million (5.8%) over calendar year 2018. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For the calendar year 2019, the costs of administering the system totaled $9.4 million, a decrease of $551 thousand (5.5%) from calendar year 2018.

At December 31, 2019, the Noncontributory Retirement System total pension liability was $30.35 billion. The Plan's fiduciary net position was $27.64 billion leaving a net pension liability of $2.72 billion. The Plan fiduciary net position as a percentage of the total pension liability was 91.1%.

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, 2019, totaled $1.3 billion, an increase of $89.9 million (7.7%) from $1.2 billion as of December 31, 2018.

Additions to the Contributory System net position include employer and member contributions, investment income, and transfers. For calendar year 2019, member and employer contributions decreased from $8.5 million for calendar year 2018 to $7.4 million, a decrease of $1.1 million (13%). 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 gain of $163.9 million for calendar year 2019 compared with net investment loss of $4.5 million for the calendar year 2018. The increase in investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.



Deductions from the Contributory System net position include retirement benefits, administrative expenses, and transfers. For calendar year 2019, benefits amounted to $88.2 million, an increase of $2.6 million (2.9%) from calendar year 2018. The increase in benefit payments was due to the increase in the number of retired members in the system. For calendar year 2019, the costs of administering the system totaled $408 thousand, a decrease of $46 thousand (10.1%) from calendar year 2018.

At December 31, 2019, the Contributory Retirement System total pension liability was $1.27 billion. The Plan's fiduciary net position was $1.26 billion leaving a net pension liability of $7.8 million. The Plan fiduciary net position as a percentage of the total pension liability was 99.4%.

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, 2019, amounted to $4.0 billion, an increase of $456.1 million (12.9%) from $3.5 billion as of December 31, 2018.

Additions to the Public Safety System net position include employer contributions, investment income, and transfers. For calendar year 2019, member and employer contributions increased from $148.0 million for calendar year 2018 to $151.3 million, an increase of $3.3 million (2.2%). Contributions increased because the total covered payroll increased. The system recognized a net investment gain of $502.7 million for calendar year 2019 compared with a net investment loss of $13.1 million for calendar year 2018. The increase in the investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.

Deductions from the Public Safety System net position include retirement benefits and administrative expenses. For calendar year 2019, benefits amounted to $201.9 million, an increase of $13.2 million (7.0%) over calendar year 2018. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For calendar year 2019, the costs of administering the system totaled $1.4 million, a decrease of $74 thousand (5.1%) from calendar year 2018.

At December 31, 2019, the Public Safety Retirement System total pension liability was $4.46 billion. The Plan's fiduciary net position was $3.98 billion leaving a net pension liability of $476.2 million. The Plan fiduciary net position as a percentage of the total pension liability was 89.3%.

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, 2019, totaled $1.4 billion, an increase of $183.7 million (15.2%) from $1.2 billion as of December 31, 2018.

Additions to the Firefighters System net position consist of employer contributions, including insurance premium taxes, budget appropriations from the General Fund, investment income, and transfers. For calendar year 2019, member and employer contributions increased from $34.1 million for calendar year 2018 to $68.0 million, an increase of $33.9 million (100%). Contributions in calendar year 2019 increased primarily because the Utah State Legislature appropriated $29 million from the General Fund (one-time amount of $17 million and an ongoing $12 million annual appropriation) to the Firefighters Retirement System. The total fire insurance premiums and appropriations from the General

Statements of Fiduciary Net Position — Defined Benefit Pension Plans

December 31

(dollars in thousands)

	Noncontributory System			Contributory System			Public Safety System		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Assets:									
Cash and receivables	$ 316,264	525,604	582,456	12,705	23,343	27,814	44,618	74,354	82,840
Investments at fair value	27,962,267	24,760,259	25,403,896	1,278,948	1,178,582	1,295,483	4,032,137	3,542,367	3,604,502
Invested securities lending collateral	694,246	834,951	1,058,631	31,754	39,744	53,985	100,108	119,453	150,205
Property and equipment	6,949	3,689	3,472	318	176	177	1,003	528	492
Total assets	28,979,726	26,124,503	27,048,455	1,323,725	1,241,845	1,377,459	4,177,866	3,736,702	3,838,039
Liabilities:									
Securities lending liability	694,246	834,951	1,058,631	31,754	39,744	53,985	100,108	119,453	150,205
Investment accounts and other payables	649,557	623,493	784,697	29,679	29,672	40,008	93,572	89,180	111,317
Total liabilities	1,343,803	1,458,444	1,843,328	61,433	69,416	93,993	193,680	208,633	261,522
Net position restricted for pensions	$ 27,635,923	24,666,059	25,205,127	1,262,292	1,172,429	1,283,466	3,984,186	3,528,069	3,576,517

(dollars in thousands)

	Tier 2 Public Employees System			Tier 2 Public Safety and Firefighter System			Total Defined Benefit Pension Plans			2019 Percent Change	2018 Percent Change
	2019	2018	2017	2019	2018	2017	2019	2018	2017		
Assets:											
Cash and receivables	$ 12,680	13,763	11,918	1,506	1,653	1,361	405,116	668,515	741,034	(39.4)%	(9.8)%
Investments at fair value	612,977	421,417	327,365	81,752	54,035	40,050	35,612,004	31,376,390	32,125,473	13.5	(2.3)
Invested securities lending collateral	15,219	14,211	13,642	2,030	1,822	1,669	884,172	1,058,056	1,338,730	(16.4)	(21.0)
Property and equipment	152	63	45	20	8	5	8,850	4,675	4,390	89.3	6.5
Total assets	641,028	449,454	352,970	85,308	57,518	43,085	36,910,142	33,107,636	34,209,627	11.5	(3.2)
Liabilities:											
Securities lending liability	15,219	14,211	13,642	2,030	1,822	1,669	884,172	1,058,056	1,338,730	(16.4)	(21.0)
Investment accounts and other payables	14,226	10,610	10,110	1,897	1,360	1,236	827,415	790,058	992,279	4.7	(20.4)
Total liabilities	29,445	24,821	23,752	3,927	3,182	2,905	1,711,587	1,848,114	2,331,009	(7.4)	(20.7)
Total position restricted for pensions	$ 611,583	424,633	329,218	81,381	54,336	40,180	35,198,555	31,259,522	31,878,618	12.6%	(1.9)%

Firefighters System			Judges System			Utah Governors and Legislators Retirement Plan		
2019	2018	2017	2019	2018	2017	2019	2018	2017
14,614	25,340	29,792	2,617	4,250	4,613	112	208	240
1,409,636	1,212,906	1,242,827	222,791	196,230	200,022	11,496	10,594	11,328
34,999	40,901	51,791	5,531	6,617	8,335	285	357	472
350	180	170	55	29	27	3	2	2
1,459,599	1,279,327	1,324,580	230,994	207,126	212,997	11,896	11,161	12,042
34,999	40,901	51,791	5,531	6,617	8,335	285	357	472
33,047	30,537	38,382	5,170	4,939	6,179	267	267	350
68,046	71,438	90,173	10,701	11,556	14,514	552	624	822
1,391,553	1,207,889	1,234,407	220,293	195,570	198,483	11,344	10,537	11,220

Fund for calendar year 2019 were $41.9 million compared to $8.7 million in 2018, an increase of $33.2 million (379%). The system recognized a net investment gain of $141.1 million for the calendar year 2019 compared with net investment loss of $4.5 million for calendar year 2018. The increase in investment gain for 2019 compared to 2018 was due to the higher rate of return.

Deductions from the Firefighters System net position include retirement benefits and administrative expenses. For calendar year 2019, benefits amounted to $59.8 million, an increase of $2.5 million (4.4%) over calendar year 2018. The increase in benefit payments was due to an increased number of benefit recipients and benefit increases. For calendar year 2019, the costs of administering the system totaled $405 thousand, a decrease of $22 thousand (5.2%) from calendar year 2018.

At December 31, 2019, the Firefighters Retirement System total pension liability was $1.32 billion. The Plan's fiduciary net position was $1.39 billion leaving a net pension asset of $74.9 million. The Plan fiduciary net position as a percentage of the total pension liability was 105.7%.

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, 2019, totaled $220.3 million, an increase of $2.47 million (12.6%) from $195.6 million as of December 31, 2018.

Additions to the Judges System net position consist of employer contributions, including court fees, investment income, and transfers. For calendar year 2019, employer contributions increased from $9.6 million for calendar year 2018 to $10.0 million, an increase of $427 thousand (4.4%). Contributions increased because court fees increased. The system recognized a net investment gain of $27.8 million for the calendar year 2019 compared with net investment loss of $730 thousand for calendar year 2018. The increase in investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.

Deductions from the Judges System net position held in trust for benefits include retirement benefits and administrative expenses. For calendar year 2019, benefits amounted to $15.3 million, a decrease of $765 million (4.7%) over calendar year 2018. The decrease in benefit payments was due to an decrease in the current year retirees. For calendar

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		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Additions:									
Contributions	$ 899,808	873,046	871,540	7,383	8,482	10,621	151,323	147,996	146,607
Investment income	3,499,188	(92,207)	2,987,282	163,935	(4,513)	155,949	502,657	(13,134)	421,917
Transfers from affiliated systems	—	13,035	—	9,775	—	—	5,512	6,982	5,926
Total additions	4,398,996	793,874	3,858,822	181,093	3,969	166,570	659,492	141,844	574,450
Deductions:									
Pension benefits	1,396,983	1,320,214	1,248,037	88,162	86,795	84,761	201,923	188,414	172,870
Refunds	3,127	2,766	4,635	2,660	1,471	1,613	76	428	226
Administrative expenses	9,411	9,962	9,579	408	454	457	1,376	1,450	1,382
Transfers to affiliated systems	19,611	—	10,187	—	26,286	1,177	—	—	—
Total deductions	1,429,132	1,332,942	1,272,438	91,230	115,006	88,008	203,375	190,292	174,478
Increase (decrease) in net position restricted for pensions	$ 2,969,864	(539,068)	2,586,384	89,863	(111,037)	78,562	456,117	(48,448)	399,972

(dollars in thousands)

	Tier 2 Public Employees System			Tier 2 Public Safety and Firefighter System			Total Defined Benefit Pension Plans			2019 Percent Change	2018 Percent Change
	2019	2018	2017	2019	2018	2017	2019	2018	2017		
Additions:											
Contributions	$ 119,839	97,680	79,175	18,197	14,350	11,126	1,274,973	1,185,628	1,154,911	7.5%	2.7%
Investment income	68,228	(1,454)	33,249	8,958	(180)	3,989	4,446,363	(116,768)	3,773,910	3,907.9	(103.1)
Transfers from affiliated systems	—	—	—	—	—	—	19,653	26,337	11,364	(25.4)	131.8
Total additions	188,067	96,226	112,424	27,155	14,170	15,115	5,740,989	1,095,197	4,940,185	424.2	(77.8)
Deductions:											
Retirement benefits	965	692	417	90	—	61	1,764,328	1,670,644	1,575,533	5.6	6.0
Refunds	—	—	—	—	—	—	6,118	4,797	6,985	27.5	(31.3)
Administrative expense	152	119	82	20	14	9	11,857	12,515	12,001	(5.3)	4.3
Transfers to affiliated systems	—	—	—	—	—	—	19,653	26,337	11,364	(25.4)	131.8
Total deductions	1,117	811	499	110	14	70	1,801,956	1,714,293	1,605,883	5.1	6.8
Increase in net position restricted for pensions	$ 186,950	95,415	111,925	27,045	14,156	15,045	3,939,033	(619,096)	3,334,302	736.3%	(118.6)%

Firefighters System			Judges System			Utah Governors and Legislators Retirement Plan		
2019	2018	2017	2019	2018	2017	2019	2018	2017
68,003	34,073	26,398	10,036	9,609	9,040	384	392	404
174,141	(4,509)	146,736	27,775	(730)	23,435	1,481	(41)	1,353
2,027	1,917	1,259	2,339	4,403	4,090	—	—	89
244,171	31,481	174,393	40,150	13,282	36,565	1,865	351	1,846
59,847	57,440	54,793	15,346	16,111	13,621	1,012	978	973
255	132	511	—	—	—	—	—	—
405	427	408	81	84	79	4	5	5
—	—	—	—	—	—	42	51	—
60,507	57,999	55,712	15,427	16,195	13,700	1,058	1,034	978
183,664	(26,518)	118,681	24,723	(2,913)	22,865	807	(683)	868

year 2019, the costs of administering the system totaled $81 thousand, a decrease of 3.6% over the preceding year.

At December 31, 2019, the Judges System total pension liability was $259.2 million. The Plan's fiduciary net position was $220.3 million leaving a net pension liability of $38.9 million. The Plan fiduciary net position as a percentage of the total pension liability was 85.0%.

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, 2019, totaled $11.3 million, an increase of $807 million (7.7%) from $10.5 million as of December 31, 2018.

Additions to the Governors and Legislators Retirement Plan net position include investment income and transfers. For calendar year 2019 employer contributions amounted to $384 thousand. The Plan recognized a net investment gain of $1.5 million for calendar year 2019 compared with net investment loss of $41 thousand for calendar year 2018. The increase in investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.

Deductions from the Governors and Legislators Retirement Plan net position include retirement benefits and administrative expenses. For calendar year 2019, retirement benefits amounted to $1.0 million, an increase of $34 thousand (3.5%) from calendar year 2018. The increase in benefit payments was due to an increase in the number of benefit recipients. For calendar year 2019, the costs of administering the system totaled $4 thousand, decrease of 20.0% over the preceding year.

At December 31, 2019, the Governors and Legislators Retirement Plan total pension liability was $13.1 million. The Plan's fiduciary net position was $11.3 million leaving a net pension liability of $1.7 million. The Plan fiduciary net position as a percentage of the total pension liability was 86.9%.

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, 2019, totaled $611.6 million, an increase of $187.0 million (44%) from $424.6 million as of December 31, 2018.

Additions to the Tier 2 Public Employees System net position consist of employer contributions, investment income, and transfers. For calendar year 2019, member and employer contributions increased from $97.7 million for calendar year 2018, to $119.8 million, an increase of $22.2 million (22.7%). Contributions increased because membership increased. The system recognized a net investment gain of $68.2 million for calendar year 2019 compared with an investment loss of $1.5 million for calendar year 2018. The increase in the investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.

Deductions from the Tier 2 Public Employees System net position for benefits include retirement benefits and administrative expenses. For calendar year 2019 the system paid $965 thousand in retirement benefits and $692 thousand in 2018, and increase of $273 thousand (39.5%). The costs of administering the system totaled $152 thousand, an increase of $33 thousand (27.7%) from calendar year 2018.

At December 31, 2019, the Tier 2 Public Employees Retirement System total pension liability was $634.1 million. The Plan's fiduciary net position was $611.6 million leaving a net pension liability of $22.5 million. The Plan's fiduciary net position as a percentage of the total pension liability was 96.5%.

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, 2019, totaled $81.4 million, an increase of $27.0 million (49.8%) from $54.3 million as of December 31, 2018.

Additions to the Tier 2 Public Safety and Firefighter System net position consist of employer contributions, investment income, and transfers. For calendar year 2019, member and employer contributions increased from $14.4 million for calendar year 2018, to $18.2 million in 2019, an increase of $3.8 million (26.8%). Contributions increased because membership increased. The system recognized a net investment gain of $9.0 million for calendar year 2019 compared with net investment loss of $180 thousand for calendar year 2018. The increase in the investment gain for 2019 compared to 2018 was due to the higher rate of return realized in 2019.

Deductions from the Tier 2 Public Safety and Firefighter System net position include retirement benefits and administrative expenses. For calendar year 2019 the system paid $90 in retirement benefits and $0 in 2018. The costs of administering the system totaled $20 thousand.

At December 31, 2019, the Tier 2 Public Safety and Firefighter Retirement System total pension liability was $90.8 million. The Plan's fiduciary net position was $81.4 million leaving a net pension liability of $9.4 million. The Plan's fiduciary net position as a percentage of the total pension liability was 89.6%.

Actuarial Valuations and Funding Progress

Actuarial valuation of each defined benefit system is performed annually. As of January 1, 2019, the date of the most recent actuarial valuation, the average funded ratio of the Systems using the actuarial value of assets was 87.2%. This was decreased from the Systems' January 1, 2018 valuation average funded ratio of 87.4%. The funded ratio decreased due to the investment losses realized in calendar year 2018. 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, 2019, the Systems' underfunded actuarial accrued liability was $4.7 billion. This was a net increase in the unfunded position of $300.1 million compared to January 1, 2018. As of January 1, 2019, the difference between the actuarial value of assets and fair value of assets was $1.2 billion in actuarially deferred gains. These actuarially deferred gains will be recognized by the actuary over the next four years.

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 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.

Sensitivity of the Net Pension Liability/(Asset) 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	$ 6,575,169	2,715,892	(514,091)
Contributory Retirement System	127,368	7,819	(93,953)
Public Safety Retirement System	1,100,427	476,229	(34,046)
Firefighters Retirement System	108,269	(74,933)	(225,231)
Judges Retirement System	67,418	38,888	14,594
Utah Governors and Legislative Retirement Plan	2,958	1,709	646
Tier 2 Public Employees System	193,948	22,491	(110,014)
Tier 2 Public Safety and Firefighters System	33,229	9,406	(8,278)
Total	$ 8,208,786	3,197,501	(970,373)

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, the NPL at a 3.00% discount rate is $30.3 billion as of December 31, 2019. This amount consists of a $65.5 billion Total Pension Liability less the $35.2 billion Fiduciary Net Position. Note, although the disclosure of a net pension liability using a 3.00% discount rate may be useful for comparison purposes, it is not an appropriate basis for developing contribution requirements for participating employers in the retirement system.

Analysis of the Defined Contribution Savings Plans

401(k) Defined Contribution Plan

The 401(k) Plan was established under section 401(k) of the Internal Revenue Code. This plan provides supplemental and primary retirement benefits for plan participants. The plan is funded by contributions and by investment earnings. The plan net position as of December 31, 2019, amounted to $5.7 billion, an increase of $888.8 million (18.4%) over net position as of December 31, 2018. Contributions increased because of increased participation. The plan recognized a net investment gain of $892.9 million for calendar year 2019 compared with a net investment loss of $202.4 million for the calendar year 2018.

Additions to the 401(k) Plan net position include contributions and investment income. For calendar year 2019, contributions increased from those of calendar year 2018 from $317.5 million to $324.3 million or an increase of $6.8 million (2.14%).

Deductions from the 401(k) Plan net position include participant and beneficiary refunds (including rollovers) and administrative expenses. For calendar year 2019, refunds amounted to $321.0 million, an increase of $45.0 million (16.3%) over calendar year 2018. The increase in refunds was due to an increase in withdrawals for calendar year 2019. For calendar year 2019, the costs of administering the plan amounted to $7.5 million, a decrease of $496 thousand over calendar year 2018.

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, 2019, totaled $645.5 million, an increase of $101.3 million (18.6%) over net position as of December 31, 2018.

Additions to the 457 Plan net position include contributions and investment income. For calendar year 2019, contributions increased from those of calendar year 2018 from $32.6 million to $34.9 million or an increase of $2.3 million (7.1%). Contributions increased because of increased participation. The plan recognized a net investment gain of $101.5 million for calendar year 2019 compared with a net investment loss of $24.2 million for the calendar year 2018.

Deductions from the 457 Plan net position include participant and beneficiary refunds (including rollovers) and administrative expenses. For calendar year 2019, refunds amounted to $34.3 million, an increase of $1.6 million (4.9%)

over calendar year 2018. The increase in refunds was due to an increase in withdrawals for calendar year 2019. For calendar year 2019, the costs of administering the plan amounted to $833 thousand, a decrease of $68 thousand over calendar year 2018.

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

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, 2019, totaled $180.3 million, an increase of $48.5 million (36.8%) over net position as of December 31, 2018.

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 2019, contributions increased from those of calendar year 2018 from $25.3 million to $28.7 million (13.5%). Contributions increased because of increased participation. The plan recognized a net investment gain of $27.7 million for calendar year 2019 compared with a net investment loss of $7.4 million for calendar year 2018.

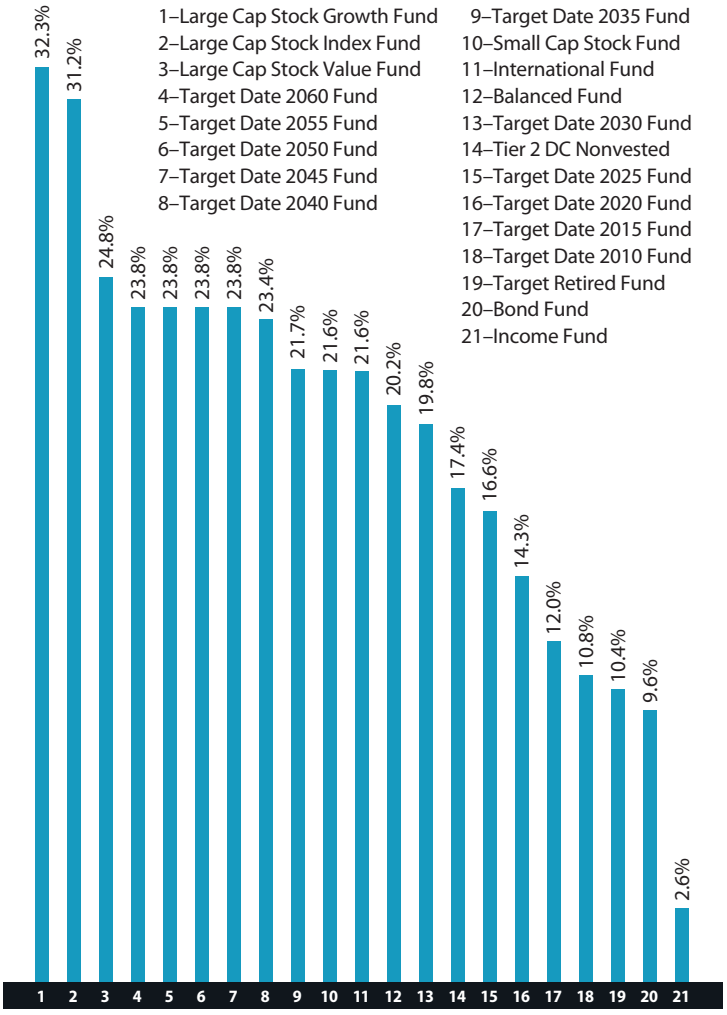
Defined Contribution Comparative Annualized Rates of Return

Year ended December 31

Investment Option Comparative Index	2019	2018
Income Fund	2.6%	2.2%
Bond Fund	9.6	0.0
Balanced Fund	20.2	(1.8)
Large Cap Value Stock Fund	24.8	(7.1)
Large Cap Stock Index Fund	31.2	(5.0)
Large Cap Stock Growth Fund	32.3	(0.9)
International Fund	21.6	(14.5)
Small Cap Stock Fund	21.6	(13.3)
Target Retired	10.4	(0.9)
Target Date 2010	10.8	(1.2)
Target Date 2015	12.0	(1.3)
Target Date 2020	14.3	(2.4)
Target Date 2025	16.6	(3.8)
Target Date 2030	19.8	(6.0)
Target Date 2035	21.7	(7.4)
Target Date 2040	23.4	(8.2)
Target Date 2045	23.8	(8.5)
Target Date 2050	23.8	(8.5)
Target Date 2055	23.8	(8.5)
Target Date 2060	23.8	(8.5)
Tier 2 Nonvested	17.4	(5.3)

Defined Contribution Savings Plans Investment Option Rates of Return for 2019

(in percents)



Statements of Fiduciary Net Position — Defined Contribution Savings Plans

December 31

(dollars in thousands)

	401(k) Plan			457 Plan		
	2019	2018	2017	2019	2018	2017
Assets:						
Cash and receivables	$ 96,150	97,302	95,126	11,658	10,604	10,349
Investments at fair value	5,637,834	4,746,307	4,917,565	634,153	533,869	559,308
Total assets	5,733,984	4,843,609	5,012,691	645,811	544,473	569,657
Liabilities:						
Investment accounts and other payables	11,144	9,526	9,783	358	316	267
Total liabilities	11,144	9,526	9,783	358	316	267
Net position restricted for pensions	$ 5,722,840	4,834,083	5,002,908	645,453	544,157	569,390

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

Year Ended December 31

(dollars in thousands)

	401(k) Plan			457 Plan		
	2019	2018	2017	2019	2018	2017
Additions:						
Contributions	$ 324,333	317,548	295,804	34,919	32,589	31,475
Investment income (loss)	892,949	(202,398)	630,516	101,538	(24,212)	72,210
Total additions	1,217,282	115,150	926,320	136,457	8,377	103,685
Deductions:						
Refunds	321,069	276,023	254,672	34,328	32,709	27,827
Administrative expenses	7,456	7,952	7,713	833	901	887
Total deductions	328,525	283,975	262,385	35,161	33,610	28,714
Increase (decrease) in net position restricted for pensions	$ 888,757	(168,825)	663,935	101,296	(25,233)	74,971

Deductions from the Roth IRA Plan net position include participant and beneficiary refunds, transfers and rollovers, and administrative expenses. For calendar year 2019, refunds amounted to $7.6 million, an increase of $2.3 million (44.8%) over calendar year 2018. For calendar year 2019, the costs of administering the plan amounted to $221 thousand, an increase of $15 thousand over calendar year 2018.

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).

Participants may also convert Traditional IRA funds into a Roth IRA. The plan net position as of December 31, 2019, totaled $164.4 million, an increase of $44.5 million (37.1%) over net position as of December 31, 2018.

Additions to the Traditional IRA Plan include contributions, rollovers, and investment earnings. For calendar year 2019, contributions increased from those of calendar year 2018 from $30.1 million to $40.7 million (35.1%). The plan recognized a net investment gain of $17.9 million for calendar year 2018 compared with a net investment loss of $2.3 million for calendar year 2018.

Roth IRA Plan			Traditional IRA Plan			Total Defined Contribution Plans			2019 Percent Change	2018 Percent Change
2019	2018	2017	2019	2018	2017	2019	2018	2017		
192	399	246	553	1,280	32	108,553	109,585	105,753	(0.9)%	3.6%
180,241	131,490	119,087	164,496	119,235	102,422	6,616,724	5,530,901	5,698,382	19.6	(2.9)
180,433	131,889	119,333	165,049	120,515	102,454	6,725,277	5,640,486	5,804,135	19.2	(2.8)
95	98	36	622	610	45	12,219	10,550	10,131	15.8	4.1
95	98	36	622	610	45	12,219	10,550	10,131	15.8	4.1
180,338	131,791	119,297	164,427	119,905	102,409	6,713,058	5,629,936	5,794,004	19.2%	(2.8)%

Roth IRA Plan			Traditional IRA Plan			Total Defined Contribution Plans			2019 Percent Change	2018 Percent Change
2019	2018	2017	2019	2018	2017	2019	2018	2017		
28,682	25,280	19,669	40,674	30,108	20,593	428,608	405,525	367,541	5.7%	10.3%
27,655	(7,353)	15,389	17,942	(2,287)	9,465	1,040,084	(236,250)	727,580	540.2	(132.5)
56,337	17,927	35,058	58,616	27,821	30,058	1,468,692	169,275	1,095,121	767.6	(84.5)
7,569	5,227	4,752	13,893	10,156	9,035	376,859	324,115	296,286	16.3	9.4
221	206	174	201	169	147	8,711	9,228	8,921	(5.6)	3.4
7,790	5,433	4,926	14,094	10,325	9,182	385,570	333,343	305,207	15.7	9.2
48,547	12,494	30,132	44,522	17,496	20,876	1,083,122	(164,068)	789,914	760.2%	(120.8)%

Deductions from the Traditional IRA Plan net position include participant and beneficiary refunds, rollovers and transfers, and administrative expenses. For calendar year 2019, refunds amounted to $13.9 million, an increase of $3.7 million (36.8%) over calendar year 2018. For calendar year 2019, the costs of administering the plan amounted to $201 thousand, an increase of $32 thousand over calendar year 2018.

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.

Subsequent Events

Subsequent to year-end, the United States and global markets experienced significant declines in value resulting from uncertainty caused by the world-wide coronavirus pandemic. URS is closely monitoring its investment portfolio and its liquidity and is actively working to minimize the impact of these declines. URS's financial statements do not include adjustments to fair value that have resulted from these declines. As of the date of issuance of these financial statements, the full impact to URS is not known.

Basic Financial Statements

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

December 31, 2019
With Comparative Totals
for December 31, 2018

(in thousands)

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Utah Governors and Legislators Retirement Plan
Assets:						
Cash	$ 526	3	20	2	1	1
Receivables:						
Member contributions	—	77	6	671	—	—
Employer contributions	44,599	224	5,493	272	337	—
Court fees and fire insurance tax	—	—	—	—	119	—
Investments	271,139	12,401	39,099	13,669	2,160	111
Total receivables	315,738	12,702	44,598	14,612	2,616	111
Investments at fair value:						
Short-term securities	1,457,149	66,648	210,118	73,459	11,610	599
Debt securities	4,849,738	221,819	699,329	244,485	38,640	1,994
Equity investments	10,549,504	482,516	1,521,231	531,822	84,054	4,338
Absolute return	4,070,137	186,162	586,911	205,184	32,429	1,673
Private equity	3,150,876	144,116	454,354	158,842	25,105	1,295
Real assets	3,884,863	177,687	560,194	195,844	30,953	1,597
Total investments	27,962,267	1,278,948	4,032,137	1,409,636	222,791	11,496
Invested securities lending collateral	694,246	31,754	100,108	34,999	5,531	285
Property and equipment at cost, net of accumulated depreciation	6,949	318	1,003	350	55	3
Total assets	28,979,726	1,323,725	4,177,866	1,459,599	230,994	11,896
Liabilities:						
Securities lending liability	694,246	31,754	100,108	34,999	5,531	285
Disbursements in excess of cash balance	26,612	1,217	3,837	1,341	212	11
Compensated absences, post-employment benefits and insurance reserve	17,998	823	2,596	907	143	7
Investment accounts payable	510,724	23,329	73,552	26,049	4,064	210
Real estate liabilities	94,223	4,310	13,587	4,750	751	39
Total liabilities	1,343,803	61,433	193,680	68,046	10,701	552
Net position restricted for pensions	$ 27,635,923	1,262,292	3,984,186	1,391,553	220,293	11,344

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

Defined Benefit Pension Plans			Defined Contribution Plans					Total Pension Trust Funds	
			Additional Combining Information						
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	2019	2018
3	2	558	10,621	750	192	553	12,116	12,674	13,940
—	—	754	—	—	—	—	—	754	777
6,733	711	58,369	—	—	—	—	—	58,369	55,270
—	—	119	—	—	—	—	—	119	847
5,944	793	345,316	85,529	10,908	—	—	96,437	441,753	707,266
12,677	1,504	404,558	85,529	10,908	—	—	96,437	500,995	764,160
31,943	4,260	1,855,786	—	—	—	—	—	1,855,786	1,590,727
106,314	14,179	6,176,498	1,836,767	195,221	45,834	86,655	2,164,477	8,340,975	7,307,575
231,262	30,843	13,435,570	3,565,110	413,629	124,648	71,801	4,175,188	17,610,758	14,311,624
89,224	11,900	5,183,620	—	—	—	—	—	5,183,620	4,598,396
69,072	9,212	4,012,872	—	—	—	—	—	4,012,872	3,661,356
85,162	11,358	4,947,658	235,957	25,303	9,759	6,040	277,059	5,224,717	5,437,613
612,977	81,752	35,612,004	5,637,834	634,153	180,241	164,496	6,616,724	42,228,728	36,907,291
15,219	2,030	884,172	—	—	—	—	—	884,172	1,058,056
152	20	8,850	—	—	—	—	—	8,850	4,675
641,028	85,308	36,910,142	5,733,984	645,811	180,433	165,049	6,725,277	43,635,419	38,748,122
15,219	2,030	884,172	—	—	—	—	—	884,172	1,058,056
583	78	33,891	650	116	44	512	1,322	35,213	34,454
395	53	22,922	—	—	—	—	—	22,922	21,149
11,182	1,491	650,601	10,494	242	51	110	10,897	661,498	625,006
2,066	275	120,001	—	—	—	—	—	120,001	119,999
29,445	3,927	1,711,587	11,144	358	95	622	12,219	1,723,806	1,858,664
611,583	81,381	35,198,555	5,722,840	645,453	180,338	164,427	6,713,058	41,911,613	36,889,458

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, 2019
With Comparative Totals for
Year Ended December 31, 2018

(in thousands)

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Utah Governors and Legislators Retirement Plan
Additions:						
Contributions:						
Member	$ 11,730	1,950	856	18,701	—	—
Employer	888,078	5,433	150,467	7,443	8,500	384
Court fees and fire insurance tax	—	—	—	41,859	1,536	—
Total contributions	899,808	7,383	151,323	68,003	10,036	384
Investment income:						
Net appreciation (depreciation) in fair value of investments	2,969,243	139,108	426,532	147,767	23,569	1,257
Interest, dividends and other investment income	579,304	27,140	83,217	28,830	4,598	245
Total income (loss) from investment activity	3,548,547	166,248	509,749	176,597	28,167	1,502
Less investment expenses	53,752	2,518	7,721	2,675	427	23
Net income (loss) from investment activity	3,494,795	163,730	502,028	173,922	27,740	1,479
Income from security lending activity	5,051	236	725	252	40	2
Less security lending expense	658	31	96	33	5	—
Net income from security lending activity	4,393	205	629	219	35	2
Net investment income (loss)	3,499,188	163,935	502,657	174,141	27,775	1,481
Transfers from affiliated systems	-	9,775	5,512	2,027	2,339	—
Total additions	4,398,996	181,093	659,492	244,171	40,150	1,865
Deductions:						
Retirement benefits	1,184,852	75,044	168,702	48,331	12,850	848
Cost-of-living benefits	212,131	13,083	33,026	11,350	2,496	164
Supplemental retirement benefits	—	35	195	166	—	—
Refunds	3,127	2,660	76	255	—	—
Administrative expenses	9,411	408	1,376	405	81	4
Transfers to affiliated systems	19,611	—	—	—	—	42
Total deductions	1,429,132	91,230	203,375	60,507	15,427	1,058
Increase (decrease) from operations	2,969,864	89,863	456,117	183,664	24,723	807
Net position restricted for pensions benefits beginning of year	24,666,059	1,172,429	3,528,069	1,207,889	195,570	10,537
Net position restricted for pensions benefits end of year	$ 27,635,923	1,262,292	3,984,186	1,391,553	220,293	11,344

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

Defined Benefit Pension Plans			Defined Contribution Plans – Additional Combining Information					Total Pension Trust Funds	
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	2019	2018
—	—	33,237	324,333	34,919	28,682	40,674	428,608	461,845	441,837
119,839	18,197	1,198,341	—	—	—	—	—	1,198,341	1,139,051
—	—	43,395	—	—	—	—	—	43,395	10,265
119,839	18,197	1,274,973	324,333	34,919	28,682	40,674	428,608	1,703,581	1,591,153
57,865	7,599	3,772,940	892,251	101,397	27,774	18,063	1,039,485	4,812,425	(981,576)
11,328	1,486	736,148	4,508	558	—	—	5,066	741,214	690,212
69,193	9,085	4,509,088	896,759	101,955	27,774	18,063	1,044,551	5,553,639	(291,364)
1,051	138	68,305	3,810	417	119	121	4,467	72,772	68,760
68,142	8,947	4,440,783	892,949	101,538	27,655	17,942	1,040,084	5,480,867	(360,124)
99	13	6,418	—	—	—	—	—	6,418	8,168
13	2	838	—	—	—	—	—	838	1,062
86	11	5,580	—	—	—	—	—	5,580	7,106
68,228	8,958	4,446,363	892,949	101,538	27,655	17,942	1,040,084	5,486,447	(353,018)
—	—	19,653	—	—	—	—	—	19,653	26,337
188,067	27,155	5,740,989	1,217,282	136,457	56,337	58,616	1,468,692	7,209,681	1,264,472
962	90	1,491,679	—	—	—	—	—	1,491,679	1,418,805
3	—	272,253	—	—	—	—	—	272,253	251,380
—	—	396	—	—	—	—	—	396	459
—	—	6,118	321,069	34,328	7,569	13,893	376,859	382,977	328,912
152	20	11,857	7,456	833	221	201	8,711	20,568	21,743
—	—	19,653	—	—	—	—	—	19,653	26,337
1,117	110	1,801,956	328,525	35,161	7,790	14,094	385,570	2,187,526	2,047,636
186,950	27,045	3,939,033	888,757	101,296	48,547	44,522	1,083,122	5,022,155	(783,164)
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
611,583	81,381	35,198,555	5,722,840	645,453	180,338	164,427	6,713,058	41,911,613	36,889,458

Utah Retirement Systems

Notes to Basic Financial Statements

December 31, 2019

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 188 through 203.

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.

Notes to the Basic Financial Statements *(Continued)*

December 31, 2019

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.

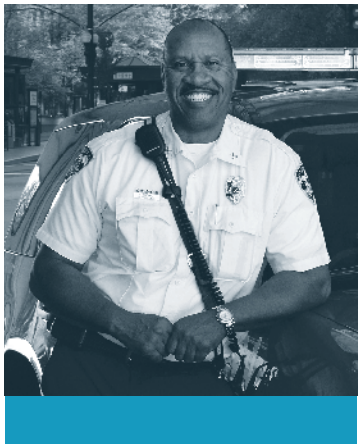
The Utah Governors and Legislators Retirement Plan provides the following benefits. Former governors at age 65 receive $1,420 per month per term. Legislators receive a benefit at age 65 with four or more years of service at the rate of $30.80 per month per year of service. Retirement at age 62 with 10 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.

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 6 years age 70		25 years any age 20 years age 55* 10 years age 62 4 years age 65	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*
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.*



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 472 employers participating in the 401(k) Plan and 295 employers participating in the 457 Plan. There are 184,633 plan participants in the 401(k) Plan, 18,722 participants in the 457 Plan, 14,020 participants in the Roth IRA, and 2,637 participants in the Traditional IRA.

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

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

D) Contributions

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

Employee (member) contributions are placed into member accounts, and in Systems where it is authorized, interest is credited to member accounts. Upon termination of employment, a member may withdraw his or her account balance including interest that has been credited. Upon withdrawal a member forfeits the service credit that corresponds to the member contributions withdrawn.

The noncontributory retirement systems have no required member contributions flowing into them. However, where members had a balance transferred in or purchased service credit in the system, these balances and on-going interest, where authorized, are credited to individual member accounts that may be withdrawn upon the termination of employment.

Defined Contribution Plans

	401(k)	457	Roth IRA	Traditional IRA
Number of participating employers	472	295	N/A	N/A
Total participants	184,633	18,722	14,020	2,637

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.

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.

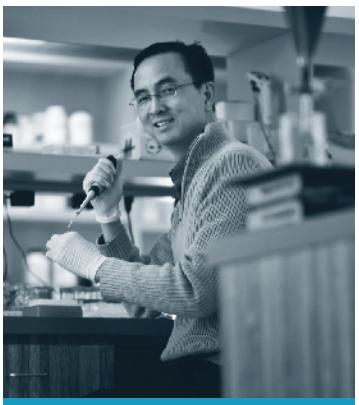
The **Tier 2 Public Safety and Firefighter Contributory Retirement System** includes eligible public safety and firefighters entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

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

As of December 31, 2019, 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	469	158	134	63	1	1	481	152
Members:								
Active	53,134	450	4,982	1,490	116	47	33,686	3,767
Terminated vested	48,521	1,112	4,866	442	6	88	3,005	172
Retirees and beneficiaries:								
Service benefits	53,532	3,221	5,462	1,267	123	181	113	0
Beneficiary benefits	5,117	569	791	232	30	67	0	1



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 88.

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and reporting issues related to fair value measurements. This Statement requires disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. Comprehensive footnote disclosure regarding this Statement is found in Note 3 beginning on page 62.

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, 2018, 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 7.4% of the investments held in trust for pension benefits are invested in debt securities of the U.S. Government and its instrumentalities. Of the 7.4%, approximately 4.1% are U.S. Government debt securities and approximately 3.3% 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, 2019:

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, 2019, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was 13.8%. 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

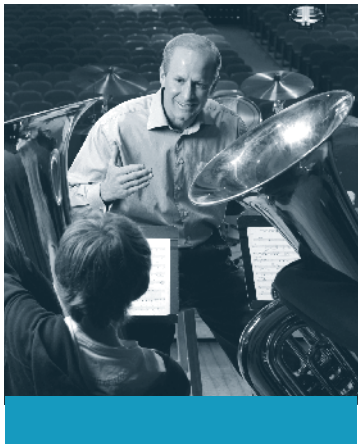
The Systems and Plans are exempt from Federal income taxes under the Internal Revenue Code.

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, 2020, the date the basic financial statements were available to be issued. Subsequent to year-end, the United States and global markets experienced significant declines in value resulting from uncertainty caused by the worldwide coronavirus pandemic. URS is closely monitoring its investment portfolio and its liquidity and is actively working to minimize the impact of these declines. URS's financial statements do not include adjustments to fair value that have resulted from these declines. As of the date of issuance of these financial statements, the full impact to URS is not known.



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

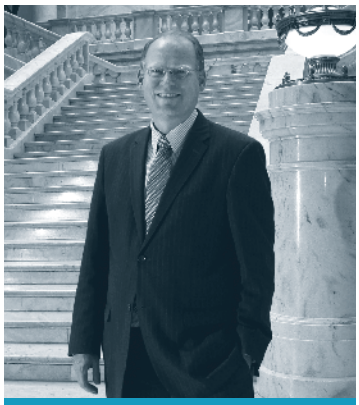
	(in thousands)
Cash	$ 12,674
Disbursements in excess of cash balances	(35,213)
Total	$ (22,539)

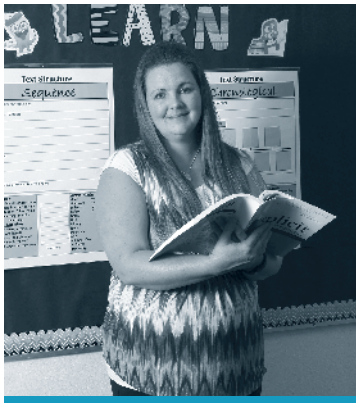
The Systems and Plans do not have a deposit policy for custodial credit risk. Deposits are presented in the basic financial statements at cost plus accrued interest that is also the market or fair value. As of December 31, 2019, the carrying amount of deposits totaled approximately $(22,539,000) and the corresponding bank balance was $63,183,634 of which $62,933,634 was exposed to custodial credit risk.

Investments

at December 31, 2019

(in thousands)	Fair Value		
	Defined Benefit	Defined Contribution	Total All Systems and Plans
Short-term securities pools	$ 1,855,786	—	1,855,786
Debt securities	5,819,450	2,164,477	7,983,927
Equity securities	12,961,767	4,175,188	17,136,955
Absolute return	5,183,620	—	5,183,620
Private equity	4,012,872	—	4,012,872
Real assets	4,947,658	277,059	5,224,717
Investments held by broker-dealers under securities lending program:			
Equities	473,803	—	473,803
Debt	357,048	—	357,048
Total investments	$ 35,612,004	6,616,724	42,228,728
Securities lending collateral pool (not categorized)	$ 884,172	—	884,172





B) Investments

The table on the bottom of page 62 shows the Systems' and Plans' investments by type.

(in thousands)	12/31/2019
Private equity	$ 4,012,872
Absolute return	5,183,620
Real assets	5,224,717
	$ 14,421,209

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.

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		
	12/31/19	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	12/31/19	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	$ 1,360,102	131,811	1,228,291	—	$ —	—	—	—
Debt securities								
Asset backed	217,519	—	178,179	39,340	49,980	—	47,039	2,941
Commercial mortgage-backed	159,592	—	157,980	1,612	2,824	—	2,787	37
Corporate bonds	1,979,090	—	1,975,193	3,897	311,991	—	311,980	11
Funds – other fixed income	—	—	—	—	87,385	—	87,385	—
Government agencies	73,579	—	73,579	—	21,858	—	21,858	—
Government bonds	1,140,949	—	1,138,396	2,553	245,618	—	245,618	—
Government mortgage backed securities	1,149,290	—	1,106,407	42,883	305,015	—	275,264	29,751
Index linked government bonds	1,341,563	—	1,341,563	—	161,658	—	161,658	—
Non-government backed C.M.O.s	117,511	—	101,665	15,846	991	—	991	—
Total debt securities	6,179,093	—	6,072,962	106,131	1,187,320	—	1,154,580	32,740
Equity investments								
Consumer goods	2,442,595	2,442,049	29	517	416,325	416,325	—	—
Energy	604,098	602,321	1,614	163	51,618	51,618	—	—
Equity other	7,856	7,540	—	316	309,474	309,474	—	—
Financials	1,847,853	1,847,675	—	178	190,475	190,475	—	—
Health care	1,410,394	1,410,293	—	101	272,516	272,516	—	—
Industrials	1,594,744	1,594,632	—	112	151,434	151,434	—	—
Information technology	1,973,373	1,973,344	—	29	570,859	570,859	—	—
Materials	610,169	609,568	—	601	34,864	34,864	—	—
Real estate investment trusts	482,490	464,463	17,937	90	115,861	115,861	—	—
Telecommunication services	889,993	889,888	—	105	218,628	218,628	—	—
Utilities	310,394	310,343	—	51	40,244	40,244	—	—
Total equity investments	12,173,959	12,152,116	19,580	2,263	2,372,298	2,372,298	—	—
Real assets								
Agriculture	206,513	—	—	206,513	—	—	—	—
Commodities	56,981	56,981	—	—	—	—	—	—
Total real assets	263,494	56,981	—	296,513	—	—	—	—
Total investments by fair value level	$ 19,976,648	12,340,908	7,320,833	304,907	$ 3,559,454	2,372,298	1,154,580	32,740

Notes to the Basic Financial Statements *(Continued)*

December 31, 2019

Investments and Derivative Instruments Measured at Fair Value (Continued)	*(in thousands)* Defined Benefit				Defined Contribution			
		Fair Value Measures Using				Fair Value Measures Using		
	12/31/19	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	12/31/19	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	$ 495,198				$ —			
Equity investments								
Co-mingled equity fund	154,953				—			
Co-mingled international equity fund	840,349				737,521			
Co-mingled U.S. small cap equity fund	264,508				441,809			
Co-mingled large cap equity fund	—				599,616			
Co-mingled Russell 1000 Growth equity fund	—				23,944			
Total equity investments measured at the NAV	1,259,810				1,802,890			
Absolute return								
Directional	1,448,575				—			
Equity long/short	122,176				—			
Event driven	1,179,782				—			
Multistrategy	723,527				—			
Relative value	1,615,005				—			
Plus	94,555							
Total absolute return measured at the NAV	5,183,620				—			
Private equity – private equity partnerships	4,012,872				—			
Real assets								
Co-mingled commodities fund	—				88,949			
Co-mingled real estate equity fund	—				188,110			
Agriculture	50,493				—			
Energy	1,185,193				—			
Minerals	312,604				—			
Real estate	2,821,821				—			
Royalty	28,978				—			
Timber	289,356				—			
Total real assets measured at the NAV	4,688,445				277,059			
Total investments measured at the NAV	15,639,945				2,079,949			
Total investments measured at fair value	$ 35,616,593				$ 5,639,403			
Synthetic guaranteed investments contracts measured at contract value	$ —				$ 977,157			
Investments derivative instruments								
Short-term securities – options	$ 486	351	135	—	$ 42	10	32	—
Debt securities								
Options	32	32	—	—	2	1	1	—
Swaptions	(14,696)	—	(14,696)	—	(434)	—	(434)	—
Swap liabilities	(5,569)	—	(5,569)	—	(112)	—	(112)	—
Swap assets	17,638	—	17,638	—	666	—	666	—
Total debt security derivatives	(2,595)	32	(2,627)	—	122	1	121	—
Equity investments – options	1,801	1,801	—	—	—	—	—	—
Real assets – swap liabilities	(4,281)	—	(4,281)	—	—	—	—	—
Total investment derivative instruments	$ (4,589)	2,184	(6,773)	—	$ 164	11	153	—
Invested securities lending collateral								
Short-term securities	$ 200,690	31,017	—	169,673	$ —	—	—	—
Debt securities	53,262	22,004	12,978	18,280	—	—	—	—
Equity investments	630,220	630,220	—	—	—	—	—	—
Total invested securities lending collateral	$ 884,172	683,241	12,978	187,953	$ —	—	—	—

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 seven funds whose investments are more directional in nature although they can shift opportunistically between having a directional bias and a non-directional bias. *Equity long/short funds* includes investments in three 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. There is one fund in redemption with a value of $54,331. *Event driven funds* includes investments in ten 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). Two funds are in the process of redemption totaling $34,439 over the next 2 to 10 years. *Multi-strategy funds* include investments in nine funds. Investments in these funds represent a mix of the other absolute return strategies. Five funds are in the process of redemption totaling $13.9 million over the next 1-5 years. *Relative value funds* include investments in ten funds. These funds seek returns by capitalizing on the mispricing of related securities or financial instruments. Two funds with a value of $13.5 million are in redemption. 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, 2019, 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, 2019, 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 seven 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	$ 495,198	$ —	Daily	None
Equity investments				
Co-mingled equity fund	154,953	—	Daily	None
Co-mingled international equity fund	840,349	—	Daily	None
Co-mingled U.S. small cap equity fund	264,508	—	Daily	None
Total equity investments	1,259,810	—		
Absolute return				
Directional	1,448,575	9,026	Monthly, Quarterly	30-60 days
Equity long/short	122,176	—	Monthly, Quarterly, Annually	30-60 days
Event driven	1,179,782	40,000	Monthly, Quarterly, Semi-annually, Annually, Bi-annually	45-120 days
Multistrategy	723,527	—	Monthly, Quarterly, Semi-annually, Annually	45-90 days
Relative value	1,615,005	—	Monthly, Quarterly, Semi-annually, Annually	30-90 days, N/A
Plus	94,555	—	Monthly, Quarterly, Semi-annually, Annually	
Total absolute return	5,183,620	49,026		
Private equity – partnerships	4,012,872	1,483,235	Not eligible	N/A
Real assets				
Agriculture	50,493	63,024	Not eligible	N/A
Energy	1,185,193	610,921	Not eligible	N/A
Minerals	312,604	174,836	Not eligible	N/A
Real Estate	2,821,821	242,885	Not eligible	N/A
Royalty	28,978	177,427	Not eligible	N/A
Timber	289,356	—	Not eligible	N/A
Total real assets	4,688,445	1,269,093		
Total investments measured at the NAV	$ 15,639,945	$ 2,801,354		

**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 large cap equity fund	$ 599,616	—	Daily	None
Co-mingled international equity fund	737,521	—	Daily	None
Co-mingled U.S. small cap equity fund	441,809	—	Daily	None
Co-mingled Russell 1000 growth equity fund	23,944	—	Daily	None
Total equity securities	1,802,890	—		
Real assets				
Co-mingled real estate equity fund	188,110	—	Quarterly	N/A
Co-mingled commodities fund	88,949	—	Daily	N/A
Total real assets	277,059	—		
Total investments measured at the NAV	$ 2,079,949	—		

Credit Risk Debt Securities at Fair Value

at December 31, 2019

(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	$ 208,937	82,539	75,638	14,178	—	10,797	6,394	3,029	7,533	8,829
AA+	78,886	6,524	5,829	30,215	—	20,225	2,307	—	13,588	198
AA	26,494	5,772	—	10,888	—	—	9,834	—	—	—
AA-	278,958	249	598	272,707	—	—	5,404	—	—	—
A+	294,173	4,936	—	283,613	—	2,034	3,550	—	—	40
A	377,029	1,026	—	372,535	—	—	1,891	—	—	1,577
A-	397,432	1,879	2,891	392,283	—	—	358	—	—	21
BBB+	270,638	—	—	234,260	—	8,535	27,733	—	—	110
BBB	216,239	311	—	191,281	—	—	23,784	—	—	863
BBB-	111,773	—	—	99,073	—	—	12,609	—	—	91
BB+	7,248	28	—	7,041	—	—	—	—	—	179
BB	4,798	—	—	4,528	—	—	—	—	—	270
BB-	2,016	173	—	1,843	—	—	—	—	—	—
B+	4,844	—	—	729	—	—	4,115	—	—	—
B	11,289	547	—	—	—	—	10,731	—	—	11
B-	15,413	—	—	8,674	—	—	5,981	—	—	758
CCC	558	—	—	—	—	—	—	—	—	558
CCC-	663	663	—	—	—	—	—	—	—	—
D	168	168	—	—	—	—	—	—	—	—
NR	2,667,762	112,705	74,636	54,656	84,055	31,978	463,425	966,969	861,409	22,935
Subtotal	4,975,318	217,520	159,592	1,978,504	84,055	73,569	578,116	969,998	882,530	36,440
U.S. Treasuries	1,021,888									
Explicit U.S. Government Agencies	179,292									
Total debt securities investments	$ 6,176,498									

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	$ 12,415	3,827	487	1,452	—	3,402	2,310	110	26	801
AA+	42,696	40,219	—	1,463	—	—	—	—	1,014	—
AA	3,550	699	—	231	—	1,615	1,005	—	—	—
AA-	9,768	—	100	1,738	—	—	7,930	—	—	—
A+	10,778	—	—	6,785	—	412	3,581	—	—	—
A	6,119	205	—	5,914	—	—	—	—	—	—
A-	36,064	288	—	35,776	—	—	—	—	—	—
BBB+	72,442	—	—	57,221	—	14,677	544	—	—	—
BBB	71,889	61	—	64,917	—	—	6,911	—	—	—
BBB-	64,278	—	—	58,573	—	—	5,705	—	—	—
BB+	37,352	16	—	37,336	—	—	—	—	—	—
BB	7,578	—	—	7,578	—	—	—	—	—	—
BB-	14,822	—	—	14,822	—	—	—	—	—	—
B+	686	—	—	—	—	—	686	—	—	—
B	2,817	—	—	79	—	—	2,738	—	—	—
B-	1,561	—	—	81	—	—	1,480	—	—	—
NR	543,688	4,665	2,237	18,025	87,386	1,752	83,041	278,917	67,475	190
Subtotal	938,503	49,980	2,824	311,991	87,386	21,858	115,931	279,027	68,515	991
U.S. Treasuries	222,829									
Explicit U.S. Government Agencies	25,988									
Synthetic Guaranteed Investment Contracts	977,157									
Total debt securities investments	$ 2,164,477									

Debt Securities Investments

at December 31, 2019

(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	$ 217,520	2.00	$ 49,980	0.275	$ 267,500
Commercial mortgage-backed	159,592	5.04	2,824	2.00	162,416
Corporate bonds	1,978,504	3.65	311,991	6.24	2,290,495
Fixed income other	79,061	—	87,385	—	166,446
Government agencies	73,579	5.66	21,858	8.18	95,437
Government bonds	1,140,949	9.55	245,618	9.43	1,386,567
Government mortgage backed securities	1,149,290	4.80	305,015	3.35	1,454,305
Index linked bonds	1,341,563	11.64	161,658	4.81	1,503,221
Non-government backed C.M.O.s	36,440	3.00	991	1.20	37,431
Total measured at fair value	6,176,498	6.56	1,187,320	5.68	7,363,818
Synthetic guaranteed investment contracts measured at contract value	—	—	977,157	—	977,157
Total	$ 6,176,498		$ 2,164,477		$ 8,340,975

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, 2019, was A+, and the fair value of below grade investments was $111,816,246 or 1.33%.

The government mortgage backed securities in both the Systems and Plans that are not rated include $301,074 Federal Home Loan Mortgage Corporation and $918,777 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, 2019, the table below represents the investments that have custodial credit risk. The $79,436,000 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 *(in thousands)*	Fair Value
Cash and cash equivalents	$ 79,436

Exposure to Custodial Credit Risk Not Determined

Investment *(in thousands)*	Fair Value
Other assets	$ 487,454

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, 2019, 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, 2019, was 4.40 to 7.34 for domestic debt securities, 5.34 to 8.90 for global debt securities, and 9.81 to 14.71 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, 2019, was 4.40 to 7.34 for domestic debt securities, 6.52 to 9.78 for international debt securities, and 4.06 to 6.08 for inflation-linked debt securities.

As of December 31, 2019, no individual debt securities investment manager's portfolio was outside of the policy guidelines. As of December 31, 2019, 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:

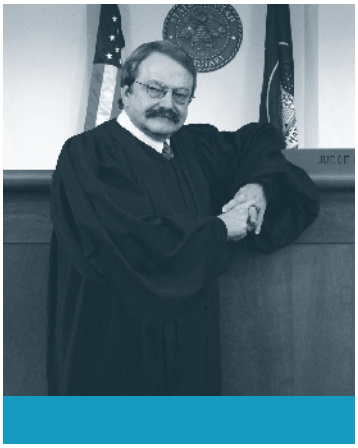
- International investment managers invest in fixed income instruments and equity instruments of corporations headquartered outside of the United States unless specifically authorized within the investment managers' contract.
- Domestic investment managers are allowed to invest in international corporations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

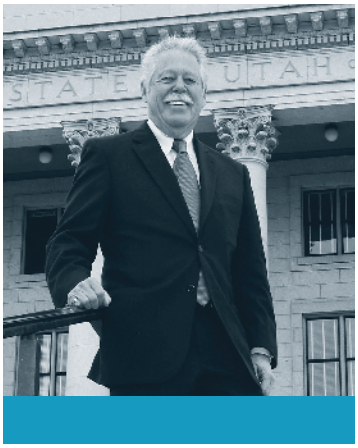
Risk of loss arises from changes in currency exchange rates. The Systems' and Plans' exposure to foreign currency risk is shown on page 71.

Foreign Currency Risk

International Investment Securities at Fair Value at December 31, 2019

	(in thousands)									
					Defined Benefit Plans		Defined Contribution Plans			Total
Currency	Short-Term	Debt	Equity	Absolute Return	Private Equity	Total	Debt	Equity	Total	All Systems and Plans
Argentine peso	$ —	—	—	—	—	—	—	457	457	457
Australian dollar	1,407	24,731	197,048	—	2,925	226,111	15,172	33,762	48,934	275,045
Brazilian real	920	—	106,974	—	—	107,894	—	15,421	15,421	123,315
British pound sterling	3,298	361,680	688,203	7,126	65,723	1,126,030	26,713	82,306	109,019	1,235,049
Canadian dollar	990	48,549	366,797	—	—	416,336	13,001	49,422	62,423	478,759
Cayman Islands dollar	—	—	—	—	—	—	—	24	24	24
Chilean peso	126	3,078	8,962	—	—	12,166	507	1,518	2,025	14,191
Chinese yuan renminbi	343	27,039	38,017	—	—	65,399	7,701	61,969	69,670	135,069
Colombian peso	187	—	4,394	—	—	4,581	—	709	709	5,290
Czech koruna	94	—	1,480	—	—	1,574	—	260	260	1,834
Danish krone	53	2,139	43,235	—	—	45,427	318	8,962	9,280	54,707
Egyptian pound	—	—	1,438	—	—	1,438	—	333	333	1,771
Euro	12,021	444,012	1,190,417	431,546	172,574	2,250,570	89,552	151,228	240,780	2,491,350
Hong Kong dollar	689	—	556,685	—	—	557,374	—	15,546	15,546	572,920
Hungarian forint	71	—	13,797	—	—	13,868	—	555	555	14,423
Indian rupee	79	3,127	92,542	—	—	95,748	584	3,769	4,353	100,101
Indonesian rupiah	14	—	19,838	—	—	19,852	—	17,551	17,551	37,403
Japanese yen	42,573	163,824	1,127,927	9,027	—	1,343,351	60,691	123,447	184,138	1,527,489
Kuwaiti dinar	80	—	7,277	—	—	7,357	—	—	—	7,357
Malaysian ringgit	55	9,620	25,564	—	—	35,239	2,335	3,822	6,157	41,396
Mexican peso	315	—	70,190	40,373	—	110,878	—	4,525	4,525	115,403
Moroccan dirham	17	—	—	—	—	17	—	—	—	17
New Israeli shekel	179	1,084	13,958	—	—	15,221	308	3,645	3,953	19,174
New Taiwan dollar	845	—	148,317	—	—	149,162	—	24,570	24,570	173,732
New Zealand dollar	2,812	11,896	9,543	—	—	24,251	1,396	1,765	3,161	27,412
Norwegian krone	414	—	19,617	—	—	20,031	553	4,186	4,739	24,770
Pakistani rupee	—	—	—	—	—	—	—	172	172	172
Peruvian nuevo sol	26	—	—	—	—	26	—	599	599	625
Philippine peso	25	—	14,679	—	—	14,704	—	1,834	1,834	16,538
Polish zloty	247	—	9,326	—	—	9,573	—	1,772	1,772	11,345
Qatar riyal	70	—	10,162	—	—	10,232	—	1,809	1,809	12,041
Russian ruble	—	18,332	20,806	—	—	39,138	6,383	7,085	13,468	52,606
Saudi riyal	252	—	18,676	—	—	18,928	—	5,090	5,090	24,018
Singapore dollar	139	—	56,199	—	—	56,338	—	6,597	6,597	62,935
South African rand	632	—	61,078	—	—	61,710	—	9,267	9,267	70,977
South Korean won	754	17,990	227,406	—	—	246,150	3,762	23,725	27,487	273,637
Swedish krona	156	8,642	100,964	—	—	109,762	3,486	15,612	19,098	128,860
Swiss franc	574	—	330,712	—	—	331,286	—	42,655	42,655	373,941
Thai baht	209	12,779	40,638	—	—	53,626	4,679	5,276	9,955	63,581
Turkish lira	119	—	12,019	—	—	12,138	—	1,118	1,118	13,256
United Arab Emirates dirham	165	—	7,774	—	—	7,939	—	1,172	1,172	9,111
Total securities subject to foreign currency risk	$70,950	1,158,522	5,662,659	488,072	241,222	7,621,425	237,141	733,535	970,676	8,592,101





I) Securities Lending

The Systems 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.

At December 31, 2019, there was no credit risk exposure to borrowers because the collateral exceeded the amount borrowed. The securities on loan at year end were $830,935,895 and the collateral received for those securities on loan was $884,172,000. Under the terms of the lending agreement, the Systems 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 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 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' loans is affected by the maturities of the securities loans made by other entities that use the agent's pool, which the Systems cannot determine. Because the securities lending collateral is in a pool maintained by the custodial bank, the Systems 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, 2019, 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, 2019, the Systems' and Plans' investments had the notional future balances as shown on page 73.

Futures

(in thousands)

		Notional Value	
		Defined Benefit Plans 2019	Defined Contribution Plans 2019
Cash & Cash Equivalents	Long	$ 3,801	—
	Short	(73,586)	—
Equity	Long	32,197	96,504
	Short	(101,104)	—
Fixed Income	Long	1,142,576	—
	Short	(694,675)	—
Total Futures		$ 309,299	96,504

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, 2019, the Systems' and Plans' investments included the currency forwards balances below.

Currency Forwards

(in thousands)

	Defined Benefit Plans			
Currency	Notional Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2019
Australian dollar	$ (30,175)	1,018	(32,080)	(31,062)
Brazilian real	1,709	1,786	—	1,786
British pound sterling	(364,101)	25,999	(399,094)	(373,095)
Canadian dollar	(35,047)	15,494	(51,247)	(35,753)
Chinese Yuan Renminbi	(26,666)	700	(27,755)	(27,055)
Chilean peso	579	3,791	(3,097)	694
Danish krone	(2,439)	—	(2,475)	(2,475)
Egyptian pound	1,943	1,976	—	1,976
Euro	(466,771)	10,352	(483,984)	(473,632)
Hong Kong dollar	1,395	9,120	(7,695)	1,425
Indian rupee	(1,392)	—	(1,401)	(1,401)
Japanese yen	(193,582)	9,320	(203,709)	(194,389)
Malaysian ringgit	(9,503)	—	(9,670)	(9,670)
Mexican peso	1,769	1,825	—	1,825
New Israeli shekel	(496)	—	(507)	(507)
New Zealand dollar	(18,603)	877	(20,312)	(19,435)
Nigerian naira	1,872	1,886	—	1,886
Norwegian krone	8,936	9,147	—	9,147
Polish zloty	1,768	1,796	—	1,796
Russian ruble	(15,603)	—	(16,149)	(16,149)
Singapore dollar	10	705	(697)	8
South Korean won	(52,600)	9,862	(63,758)	(53,896)
Swedish krona	(15,615)	1,007	(16,732)	(15,725)
Swiss franc	(5,078)	2,225	(7,378)	(5,153)
Thai baht	(15,207)	383	(15,763)	(15,380)
United States dollar	1,232,897	1,339,442	(106,550)	1,232,892
Total forwards subject to foreign currency risk	$ —	1,448,711	(1,470,053)	(21,342)

	Defined Contribution Plans			
Currency	Notional Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2019
Australian dollar	$ (10,131)	—	(10,374)	(10,374)
Brazilian real	430	449	—	449
British pound sterling	(22,759)	354	(23,479)	(23,125)
Canadian dollar	(4,680)	1,597	(6,338)	(4,741)
Chilean peso	401	937	(520)	417
Danish krone	(292)	—	(297)	(297)
Chinese Yuan Renminbi	(7,755)	—	(7,873)	(7,873)
Egyptian pound	455	463	—	463
Euro	(73,720)	540	(75,140)	(74,600)
Hong Kong dollar	(6)	1,742	(1,742)	—
Indian rupee	(153)	—	(154)	(154)
Japanese yen	(43,492)	765	(44,542)	(43,777)
Malaysian ringgit	(2,275)	—	(2,315)	(2,315)
Mexican peso	447	461	—	461
New Israeli shekel	(184)	—	(188)	(188)
New Zealand dollar	(2,437)	—	(2,529)	(2,529)
Nigerian naira	434	437	—	437
Norwegian krone	1,612	1,650	—	1,650
Polish zloty	455	462	—	462
Russian ruble	(5,263)	—	(5,447)	(5,447)
South Korean won	(3,433)	2,274	(5,768)	(3,494)
Swedish krona	(5,598)	—	(5,618)	(5,618)
Swiss franc	(434)	517	(957)	(440)
Thai baht	(4,469)	—	(4,519)	(4,519)
United States dollar	182,847	195,188	(12,339)	182,849
Total forwards subject to foreign currency risk	$ —	207,836	(210,139)	(2,303)

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, 2019, the Systems' and Plans' investments had the option balances shown to the right.

Swaps

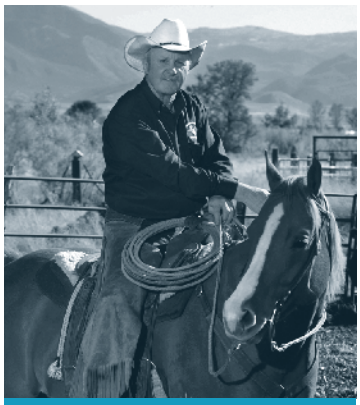
The Systems and Plans have entered into various inflation, credit default and interest rate swap agreements in an attempt to manage their exposure to inflation, credit and interest rate risk. Interest rate and inflation risk represents the exposure to fair value losses arising from inflation and the 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.

Options

(in thousands)		Fair Value	
		Defined Benefit Plans 2019	Defined Contribution Plans 2019
Cash & Cash Equivalents	Call	$ 271	(9)
	Put	215	51
Equity	Call	—	—
	Put	1,801	—
Fixed Income	Call	67	17
	Put	(56)	(15)
Swaptions	Call	(9,062)	(250)
	Put	(5,634)	(184)
Interest Rate Contracts		21	—
Total Options		$ (12,377)	(390)

Swaps

(in thousands)	Fair Value	
	Defined Benefit Plans 2019	Defined Contribution Plans 2019
Fixed Income Portfolio Swaps		
Interest Rate Swaps– Pay Fixed Receive Variable	$ (3,232)	(90)
Interest Rate Swaps– Pay Variable Receive Fixed	13,767	283
Retail Price Index– Pay Fixed Receive Variable	(2,337)	(22)
Retail Price Index– Pay Variable Receive Fixed	1,930	38
Other	1,941	345
Real Estate Swaps		
Interest Rate Swaps– Pay Fixed Receive Variable	(4,281)	—
Total Swaps	$ 7,788	554



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, 2019, the Systems' and Plans' investments had the swap fair value balances as shown in the table on page 74.

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, 2019, if all counterparties fail to perform as contracted was $1,664,334,123. Derivative credit risk at fair value is shown in the table below. This maximum exposure is reduced by $1,685,677,204 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 76. As of December 31, 2019, the counterparties' credit ratings for currency forwards, options, and swaps are subject to credit risk.

Derivative Credit Risk at Fair Value

(in thousands)

Quality Rating	Forwards	Options	Swaps	Total
AA-	$ (2,614)	—	—	(2,614)
A+	(10,835)	—	—	(10,835)
A	(930)	—	—	(930)
A-	(1,312)	(3,569)	415	(4,466)
BBB+	(7,705)	(8,556)	(457)	(16,718)
BBB	(249)	(2,816)	—	(3,065)
NA	—	2,174	(23)	2,151
Total subject to credit risk	$ (23,645)	(12,767)	(65)	(36,477)

Synthetic Guaranteed Investment Contracts Underlying Investments

(in thousands)

Underlying Investments	1-5 Yr. Government/Credit Bond				Intermediate Government/Credit Bond			
	Fair Value	Market Value	Duration	Credit Rating	Fair Value	Market Value	Duration	Credit Rating
Asset-backed securities	$ 105,434	108,147	0.91	AAA	$ 55,303	56,726	1.13	AAA
Agencies	38,218	39,202	1.24	AA+	25,827	26,492	2.11	AA+
Corporates	162,427	166,606	3.87	A-	112,414	115,307	5.07	A-
Government mortgage-backed securities	57,518	58,998	2.97	AA+	33,059	33,910	2.92	AA+
United States treasuries	52,598	53,951	5.12	AA+	61,340	62,919	7.56	AA+
Commercial mortgage-backed securities	57,423	58,900	1.38	AA+	32,639	33,479	1.57	AAA
Cash	4,109	4,215	—	—	2,261	2,318	—	—
Total	$ 477,727	490,019			$ 322,843	331,151		

Wrap Contracts

(in thousands)

Contract Issuer	Fair Value	Market Value	Rate	Duration	Quality Rating
American General	$ 88,736	$91,034	2.90%	3.16	A+
Lincoln National Life	121,744	124,557	2.75%	3.16	AA-
MetLife	176,587	180,284	3.18%	1.90	AA-
Transamerica	194,898	200,063	2.93%	3.16	AA-
Pacific Life	211,482	216,414	2.78%	3.16	AA-
RGA Reinsurance	25,034	25,624	1.93%	3.15	AA-
Royal Bank of Canada	158,676	163,478	2.47%	3.16	AA-
Subtotal wrap contracts	977,157	1,001,454			
Merrill Lynch repurchase	75,800	75,800			
Total	$ 1,052,957	1,077,254			

Synthetic Guaranteed Investment Contracts

In the Utah Retirement Systems Defined Contribution Plans, members are able to participate in Synthetic Guaranteed Investment Contracts (SGICs). The SGICs are fully benefit responsive, which means that Utah Retirement Systems is prohibited from assigning and selling the contract or its proceeds to a third party without the consent of the issuer. Prospective interest crediting rate adjustments are provided to plan participants. The SGICs provide assurance that the probability of future rate adjustments resulting in an interest crediting rate less than zero is remote. The underlying investments are high credit quality averaging A+ and therefore credit loss is remote. The terms of the SGICs require all plan participants to initiate transactions within the fund at contract value. The contract value is the fair value (cost plus accrued interest). The fair value of these contracts as of December 31, 2019, was $977,157,000 and the market value was $1,001,454,000.

K) Investment Payables

The investment accounts payable are comprised of investment advisor fees payable of $10,876,908, administrative expenses payable of $9,426,935, and investment purchases payable of $641,194,158.

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.

MetLife Separate Account				Total Underlying Investments	
Fair Value	Market Value	Duration	Credit Rating	Fair Value	Market Value
$ 40,615	41,465	1.06	AAA	$ 201,352	206,338
5,298	5,409	2.27	AA+	69,343	71,103
58,539	59,764	2.14	A-	333,380	341,677
20,202	20,624	2.96	AA+	110,779	113,532
19,425	19,831	3.03	AA+	133,363	136,701
30,797	31,442	1.36	AA+	120,859	123,821
1,711	1,749	—	—	8,081	8,282
$ 176,587	180,284			$ 977,157	1,001,454

Note 4

Property and Equipment

Property and equipment consist of the amounts shown in the following table as of December 31, 2019 and 2018. There were no significant leases as of December 31, 2019 or 2018.

Property and Equipment

(in thousands)

	2019	2018
Land	$ 1,780	1,780
Buildings and building improvements	20,675	20,270
Furniture and equipment	4,096	3,129
Computer software	10,957	6,615
Total property and equipment	37,508	31,794
Less accumulated depreciation:		
Buildings and building improvements	10,862	10,459
Furniture and equipment	2,715	2,248
Computer software	4,013	3,337
Total accumulated depreciation	17,590	16,044
Less operating reserves	11,068	11,072
Net property and equipment	$ 8,850	4,678

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, 2019, is as shown on page 78.

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, 2019, is based on the results of an actuarial valuation date of January 1, 2019, 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, 2019, are summarized in the table on page 79.

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

Notes to the Basic Financial Statements *(Continued)*

December 31, 2019

Net Pension Liability of Employers

(dollars in thousands)

System	(1) Total Pension Liability	(2) Plan Fiduciary Net Position	(3) Employers' Net Pension Liability/(Asset) (1) - (2)	(4) Plan Fiduciary Net Position as a % of the Total Pension Liability (2) / (1)	(5) Projected Covered Employee Payroll	(6) Net Pension Liability/(Asset) as a % of Projected Covered Employee Payroll (3) / (5)
Noncontributory Retirement System	$ 30,351,815	$ 27,635,923	$ 2,715,892	91.1%	$ 3,328,314	81.6%
Contributory Retirement System	1,270,111	1,262,292	7,819	99.4	34,317	22.8
Public Safety Retirement System	4,460,415	3,984,186	476,229	89.3	339,705	140.2
Firefighters Retirement System	1,316,620	1,391,553	(74,933)	105.7	113,330	(66.1)
Judges Retirement System	259,181	220,293	38,888	85.0	19,596	198.4
Utah Governors and Legislative Retirement Plan	13,053	11,344	1,709	86.9	639	267.4
Tier 2 Public Employees Retirement System	634,074	611,583	22,491	96.5	1,380,488	1.6
Tier 2 Public Safety and Firefighter Retirement System	90,787	81,381	9,406	89.6	156,778	6.0
Total	$ 38,396,056	$ 35,198,555	$ 3,197,501	91.7%	$ 5,373,167	59.5%

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	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19
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.

Notes to the Basic Financial Statements *(Continued)*

December 31, 2019

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.*

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	$ 6,575,169	2,715,892	(514,091)
Contributory Retirement System	127,368	7,819	(93,953)
Public Safety Retirement System	1,100,427	476,229	(34,046)
Firefighters Retirement System	108,269	(74,933)	(225,231)
Judges Retirement System	67,418	38,888	14,594
Utah Governors and Legislative Retirement Plan	2,958	1,709	646
Tier 2 Public Employees System	193,948	22,491	(110,014)
Tier 2 Public Safety and Firefighters System	33,229	9,406	(8,278)
Total	$8,208,786	3,197,501	(970,373)

Note 6

Employer Contribution Requirements

The schedule below summarizes contribution rates in effect as of December 31, 2019. 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.

Contribution Rates

December 31, 3019

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	—	43.75	8.16
Governors and Legislators		—	$ 369,226	—
Tier 2 Public Employees		—	15.66-18.99%	—
Tier 2 Public Safety and Firefighter		—	11.38-38.27	—

Information with regard to contributions to the Systems, for the year ended December 31, 2019, is indicated in the schedules shown to the left and below.

Member contributions in the 401(k), 457, Roth and Traditional IRAs, total $428,608,000, that in combination with the member contributions made in the Retirement Systems total $461,845,000.

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	$ 595,874	303,934	899,808	899,808	11,730	888,078
Contributory	4,379	3,004	7,383	7,383	1,950	5,433
Public Safety	97,791	53,532	151,323	151,323	856	150,467
Firefighters	67,171	832	68,003	68,003	18,701	49,302
Judges	7,641	2,395	10,036	10,036	—	10,036
Governors & Legislators	384	—	384	384	—	384
Tier 2 Public Employees	119,839	—	119,839	119,839	—	119,839
Tier 2 Public Safety and Firefighter	18,197	—	18,197	18,197	—	18,197
Total	$ 911,276	363,697	$1,274,973	1,274,973	33,237	1,241,736

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, 2019, the Systems had committed to fund certain private equity partnerships, absolute return, and real asset funds projects for an amount of $12,431,334,468. Funding of $9,629,960,529 had been provided by December 31, 2019, leaving an unfunded commitment of $2,801,353,939 as of December 31, 2019.

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, 2019, 2018, and 2017, were $3,049,184, $3,055,948 and $3,008,977, 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, 2019, 2018, and 2017, were $769,581, $679,751, and $596,455, 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, 2019, 2018, and 2017, were $1,417,961, $1,342,138, and $1,145,630, respectively; the employee contributions for the years ended December 31, 2019, 2018, and 2017, were $1,055,776, $888,860, and $902,966, 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, 2019, 2018, and 2017, were $516,714, $486,440, and $507,529, 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, 2019, 2018, and 2017, the Roth IRA employee contributions were $268,807, $211,468, and $192,786, respectively. For the years ended December 31, 2019, 2018, and 2017, the traditional IRA employee contributions were $681, $2,719, and $11,185, 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/(asset), 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, 2019, the last actuarial valuation date)

Number of retirees	42
Inactive, nonretired	—
Active members	78
Total membership	120

Net OPEB Liability/(Asset)

The net OPEB asset was measured as of December 31, 2019. The total OPEB liability, used to calculate the net OPEB liability/(asset), was determined by an actuarial valuation as of January 1, 2019, and rolled-forward using generally accepted actuarial procedures. The combined total net OPEB liability is $1.4 million. Below are the changes in the net OPEB liability/(asset) and related ratios of the net OPEB liability asset.

The actuarial valuation was performed as of January 1, 2019. Update procedures were used to roll forward the total OPEB liability to December 31, 2019. All assumptions and methods used to develop the December 31, 2019, total OPEB liability are identical to those used in the January 1, 2019, actuarial valuation.

Net OPEB Liability/(Asset)

Total OPEB Liability	$ 5,036,919
Plan Fiduciary Net Position	6,434,251
Net OPEB Liability/(Asset)	$ (1,397,332)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	127.74%
Net OPEB Liability/(Asset) as a Percentage of Covered Payroll	(18.87)%

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.

Schedule of Changes in Net OPEB Liability and Related Ratios Multiyear*

Fiscal Year Ending December 31

	2019	2018	2017
Total OPEB Liability			
Service cost	$ $36,184	35,009	36,798
Interest on the total OPEB liability	407,198	402,338	393,103
Changes of benefit terms	—	—	—
Difference between expected and actual experience	(1,043,159)	15,944	68,615
Changes of Assumptions	—	—	—
Benefit payments	(408,363)	(359,523)	(369,968)
Net change in total OPEB liability	(1,008,140)	93,768	128,548
Total OPEB liability – beginning	6,045,059	5,951,291	5,822,743
Total OPEB liability – ending (a)	$ 5,036,919	6,045,059	5,951,291
Plan Fiduciary Net Position			
Employer contributions	$ —	—	—
Employee contributions	—	—	—
OPEB plan net investment income	832,923	(23,149)	781,412
Benefit payments	(408,363)	(359,523)	(369,968)
OPEB plan administrative expense	(25,269)	(2,482)	—
Other	—	—	—
Net change in plan fiduciary net position	399,291	(385,154)	411,444
Plan fiduciary net position – beginning	6,034,960	6,420,114	6,008,670
Plan fiduciary net position – ending (b)	6,434,251	6,034,960	6,420,114
Net OPEB liability/(asset) – ending (a) - (b)	$ (1,397,332)	10,099	(468,823)
Plan fiduciary net position as a percentage of total OPEB liability	127.74%	99.83%	107.88%
Covered payroll	$ 7,404,513	7,897,200	7,897,200
Net OPEB liability as a percentage of covered payroll	(18.87)%	0.13%	(5.94)%

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

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, 2019, are summarized in the table below:

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, 2019, was over 100% and the plan is closed to new participants.

Required Contributions

For the year ended December 31, 2019, the annual cost (expense) of $0 for UREPEHP was equal to the ARC. The net Other Post-Employment Benefits (OPEB) obligation for 2019 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
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
2019	—	—	—	7,404	0.00

Notes to the Schedule of Contributions

Valuation Date:	January 1, 2019
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, 2019, 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, 2019, and a measurement date of December 31, 2019.

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%
$ (1,025,138)	$ (1,397,332)	$ (1,734,601)

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
$ (1,785,783)	$ (1,397,332)	$ (964,820)

Note 13
Compensated Absences and Insurance Reserve

The compensated absences liability for Utah Retirement Office employees at December 31, 2019, was $7,318,494. This represents the amount of unused leave to be paid to employees upon termination. At December 31, 2019, the insurance reserve was $ 5,000,000. The insurance reserve coverage is explained in Note 15, Risk Management.

Note 14
Required Supplementary Information

Required supplementary information is included immediately following the notes to the financial statements on pages 88 through 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 at One Month LIBOR + .15 and contains an annual renewal option. The rest of the liabilities are unsecured. As mentioned in Note 3, page 74, 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, 2019, there is $120 million in credit facility debt. Using interest rates as of December 31, 2019, 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	8/1/2020	$120,000
Total	$ 120,000		

Year Ending December 31,	Total Principal Payments	Total Interest Payments	Total Swap Payments
2020	$ 120,000	1,370	3,115
2021	—	—	1,009

Loan and swap interest payments are calculated using the One Month LIBOR rate at December 31, 2019.

Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 404,539	404,391	403,981	407,690
Interest	1,989,449	1,920,238	1,877,576	1,764,653
Benefit changes	—	—	—	48,400
Difference between actual and expected experience	234,989	32,680	(84,234)	6,408
Assumption changes	—	—	642,187	563,741
Benefit payments	(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)
Refunds	(3,127)	(2,766)	(4,635)	(4,366)
Net change in total pension liability	1,228,867	1,034,329	1,586,838	1,602,209
Total pension liability — beginning	29,122,948	28,088,619	26,501,781	24,899,572
Total pension liability — ending (a)	30,351,815	29,122,948	28,088,619	26,501,781
Plan fiduciary net position				
Contributions — member	11,730	14,602	17,285	16,308
Contributions — employer	888,078	858,444	854,255	831,631
Court fees and fire insurance tax	—	—	—	—
Net investment income	3,499,188	(92,207)	2,987,282	1,783,911
Benefit payments	(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)
Refunds	(3,127)	(2,766)	(4,635)	(4,366)
Administrative expense	(9,411)	(9,962)	(9,579)	(8,856)
Net transfers with affiliated systems	(19,611)	13,035	(10,187)	(8,005)
Net change in plan fiduciary net position	2,969,864	(539,068)	2,586,384	1,426,306
Plan fiduciary net position — beginning	24,666,059	25,205,127	22,618,743	21,192,437
Plan fiduciary net position — ending (b)	27,635,923	24,666,059	25,205,127	22,618,743
Net pension liability/(asset) — ending (a-b)	$ 2,715,892	4,456,889	2,883,492	3,883,038
Plan fiduciary net position as a percentage of the total pension liability	91.1%	84.7%	89.7%	85.3%
Projected covered payroll	$ 3,328,314	3,330,548	3,375,321	3,406,567
Net pension liability/(asset) as a percentage of covered payroll	81.6%	133.8%	85.4%	114.0%

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

Noncontributory Retirement System			Contributory Retirement System						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
394,798	407,992	441,320	3,536	4,044	4,801	5,673	8,672	9,580	10,997
1,775,819	1,699,693	1,646,213	86,205	87,297	90,124	91,894	95,463	93,819	93,750
—	—	23,123	—	—	—	(45,057)	—	—	721
(188,166)	(204,823)	(208,501)	(12,817)	(17,249)	(24,988)	(13,801)	(15,289)	(22,839)	(20,520)
—	(157,921)	—	—	—	22,108	22,909	—	(4,233)	—
(1,123,647)	(1,043,798)	(974,684)	(88,162)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)
(2,496)	(2,204)	(2,454)	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
856,308	698,939	925,017	(13,898)	(14,174)	5,671	(23,529)	6,241	(3,121)	8,868
24,043,264	23,344,325	22,419,308	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	1,304,053
24,899,572	24,043,264	23,344,325	1,270,111	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921
17,020	13,587	14,208	1,950	2,455	2,675	3,420	4,771	5,461	6,376
813,449	772,420	710,933	5,433	6,027	7,946	8,188	11,719	12,954	12,874
—	—	—	—	—	—	—	—	—	—
366,748	1,419,053	2,588,981	163,935	(4,513)	155,949	97,693	21,251	87,577	169,510
(1,123,647)	(1,043,798)	(974,684)	(88,162)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)
(2,496)	(2,204)	(2,454)	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
(8,797)	(8,828)	(8,329)	(408)	(454)	(457)	(446)	(478)	(494)	(480)
33,648	30,467	(42,277)	9,775	(26,286)	(1,177)	(1,895)	(41,558)	(38,004)	33,094
95,925	1,180,697	2,286,378	89,863	(111,037)	78,562	21,813	(86,900)	(11,954)	145,294
21,096,512	19,915,815	17,629,437	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	1,136,651
21,192,437	21,096,512	19,915,815	1,262,292	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945
3,707,135	2,946,752	3,428,510	7,819	111,580	14,717	87,608	132,950	39,809	30,976
85.1%	87.7%	85.3%	99.4%	91.3%	98.9%	93.2%	89.9%	97.0%	97.6%
3,458,286	3,570,912	3,705,771	34,317	39,279	45,177	53,615	82,426	90,623	98,023
107.2%	82.5%	92.5%	22.8%	284.1%	32.6%	163.4%	161.3%	43.9%	31.6%

Continued on page 90.

Utah Retirement Systems

Required Supplementary Information *(Continued)*

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 78,229	80,296	78,272	78,843
Interest	291,647	280,149	269,818	249,722
Benefit changes	—	—	—	—
Difference between actual and expected experience	34,291	1,441	(3,041)	9,358
Assumption changes	—	—	118,370	110,373
Benefit payments	(201,923)	(188,414)	(172,870)	(164,508)
Refunds	(76)	(428)	(226)	(183)
Net change in total pension liability	202,168	173,044	290,323	283,605
Total pension liability — beginning	4,258,247	4,085,203	3,794,880	3,511,275
Total pension liability — ending (a)	4,460,415	4,258,247	4,085,203	3,794,880
Plan fiduciary net position				
Contributions — member	856	895	793	830
Contributions — employer	150,467	147,101	145,814	147,099
Court fees and fire insurance tax	—	—	—	—
Net investment income	502,657	(13,134)	421,917	249,027
Benefit payments	(201,923)	(188,414)	(172,870)	(164,508)
Refunds	(76)	(428)	(226)	(183)
Administrative expense	(1,376)	(1,450)	(1,382)	(1,260)
Net transfers with affiliated systems	5,512	6,982	5,926	6,701
Net change in plan fiduciary net position	456,117	(48,448)	399,972	237,706
Plan fiduciary net position — beginning	3,528,069	3,576,517	3,176,545	2,938,839
Plan fiduciary net position — ending (b)	3,984,186	3,528,069	3,576,517	3,176,545
Net pension liability/(asset) — ending (a-b)	$ 476,229	730,178	508,686	618,335
Plan fiduciary net position as a percentage of the total pension liability	89.3%	82.9%	87.5%	83.7%
Projected covered payroll	$ 339,705	348,475	350,782	352,407
Net pension liability/(asset) as a percentage of covered payroll	140.2%	209.5%	145.0%	175.5%

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

Public Safety Retirement System			Firefighters Retirement System						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
75,352	76,681	81,736	29,281	29,378	28,775	28,652	27,182	27,266	29,577
248,980	236,803	229,965	86,589	82,819	80,386	75,334	75,212	71,490	70,259
—	—	—	—	—	—	—	—	—	—
(17,164)	(25,225)	(29,228)	(437)	937	(9,216)	(5,525)	(8,259)	(15,077)	(13,083)
—	(52,410)	—	—	—	31,357	25,572	—	(20,372)	—
(155,387)	(144,763)	(137,486)	(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
(533)	(199)	(467)	(255)	(132)	(511)	(466)	(528)	(293)	(106)
151,248	90,887	144,520	55,331	55,562	75,998	71,465	43,936	15,304	41,900
3,360,027	3,269,140	3,124,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024	957,124
3,511,275	3,360,027	3,269,140	1,316,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024
905	835	1,258	18,701	18,305	18,460	18,729	18,175	18,300	18,325
141,024	135,588	128,744	7,443	7,021	6,715	6,954	6,690	5,514	3,494
—	—	—	41,859	8,747	1,223	10,569	17,218	14,154	11,285
50,654	194,222	350,563	174,141	(4,509)	146,736	87,746	17,934	69,070	125,685
(155,387)	(144,763)	(137,486)	(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
(533)	(199)	(467)	(255)	(132)	(511)	(466)	(528)	(293)	(106)
(1,233)	(1,227)	(1,161)	(405)	(427)	(408)	(374)	(371)	(370)	(355)
4,023	2,746	4,676	2,027	1,917	1,259	1,611	2,573	3,713	1,302
39,453	187,202	346,127	183,664	(26,518)	118,681	72,667	12,020	62,378	114,883
2,899,386	2,712,184	2,366,057	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661	853,778
2,938,839	2,899,386	2,712,184	1,391,553	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661
572,436	460,641	556,956	(74,933)	53,400	(28,680)	14,003	15,205	(16,711)	30,363
83.7%	86.3%	83.0%	105.7%	95.8%	102.4%	98.8%	98.6%	101.6%	97.0%
355,171	360,750	365,998	113,330	113,587	112,953	112,322	111,133	111,305	110,741
161.2%	127.7%	152.2%	(66.1)%	47.0%	(25.4)%	12.5%	13.7%	(15.0)%	27.4%

Continued on page 92.

Utah Retirement Systems

Required Supplementary Information *(Continued)*

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 6,054	5,682	5,325	5,023
Interest	16,649	15,697	14,866	14,064
Benefit changes	—	—	—	—
Difference between actual and expected experience	7,615	7,872	809	1,995
Assumption changes	—	—	13,067	2,885
Benefit payments	(15,346)	(16,111)	(13,621)	(12,330)
Refunds	—	—	—	—
Net change in total pension liability	14,972	13,140	20,446	11,637
Total pension liability — beginning	244,209	231,069	210,623	198,986
Total pension liability — ending (a)	259,181	244,209	231,069	210,623
Plan fiduciary net position				
Contributions — member	—	—	—	—
Contributions — employer	8,500	8,091	7,563	7,382
Court fees and fire insurance tax	1,536	1,518	1,477	1,470
Net investment income	27,775	(730)	23,435	13,820
Benefit payments	(15,346)	(16,111)	(13,621)	(12,330)
Refunds	—	—	—	—
Administrative expense	(81)	(84)	(79)	(71)
Net transfers with affiliated systems	2,339	4,403	4,090	1,600
Net change in plan fiduciary net position	24,723	(2,913)	22,865	11,871
Plan fiduciary net position — beginning	195,570	198,483	175,618	163,747
Plan fiduciary net position — ending (b)	220,293	195,570	198,483	175,618
Net pension liability/(asset) — ending (a-b)	$ 38,888	48,639	32,586	35,005
Plan fiduciary net position as a percentage of the total pension liability	85.0%	80.1%	85.9%	83.4%
Projected covered payroll	$ 19,596	18,802	18,661	16,755
Net pension liability/(asset) as a percentage of covered payroll	198.4%	258.7%	174.6%	208.9%

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

Judges Retirement System			Utah Governors and Legislators Retirement Plan						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
4,794	4,895	4,537	59	65	68	89	99	106	100
14,136	13,641	12,924	883	877	879	851	890	884	860
—	—	—	—	—	—	—	—	—	—
171	2,602	(569)	(54)	139	182	167	(105)	307	(233)
—	(130)	—	—	—	264	241	—	—	—
(12,400)	(11,361)	(10,189)	(1,012)	(978)	(973)	(941)	(904)	(909)	(892)
—	—	—	—	—	—	—	—	—	—
6,701	9,647	6,703	(124)	103	420	407	(20)	388	(165)
192,285	182,638	175,935	13,177	13,074	12,654	12,247	12,267	11,879	12,044
198,986	192,285	182,638	13,053	13,177	13,074	12,654	12,247	12,267	11,879
—	317	—	—	—	—	—	—	—	—
6,555	5,627	4,990	384	392	404	421	421	411	252
1,653	1,486	1,498	—	—	—	—	—	—	—
2,842	11,068	20,130	1,481	(41)	1,353	849	181	717	1,346
(12,400)	(11,361)	(10,189)	(1,012)	(978)	(973)	(941)	(904)	(909)	(892)
—	—	—	—	—	—	—	—	—	—
(71)	(71)	(66)	(4)	(5)	(5)	(4)	(5)	(5)	(4)
1,334	1,092	3,186	(42)	(51)	89	(12)	(20)	(14)	19
(87)	8,158	19,549	807	(683)	868	313	(327)	200	721
163,834	155,676	136,127	10,537	11,220	10,352	10,039	10,366	10,166	9,445
163,747	163,834	155,676	11,344	10,537	11,220	10,352	10,039	10,366	10,166
35,239	28,451	26,962	1,709	2,640	1,854	2,302	2,208	1,901	1,713
82.3%	85.2%	85.2%	86.9%	80.0%	85.8%	81.8%	82.0%	84.5%	85.6%
15,832	16,072	15,195	639	639	722	799	943	928	390
222.6%	177.0%	177.4%	267.4%	413.1%	256.6%	288.1%	234.1%	204.8%	439.2%

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)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 124,244	104,736	84,388	69,887
Interest	36,773	27,109	19,471	12,608
Benefit changes	—	—	—	—
Difference between actual and expected experience	6,561	(1,727)	357	(1,917)
Assumption changes	—	—	5,786	7,867
Benefit payments	(965)	(692)	(417)	(316)
Refunds	—	—	—	—
Net change in total pension liability	166,613	129,426	109,585	88,129
Total pension liability — beginning	467,461	338,035	228,450	140,321
Total pension liability — ending (a)	634,074	467,461	338,035	228,450
Plan fiduciary net position				
Contributions — member	—	—	—	—
Contributions — employer	119,839	97,680	79,175	63,062
Court fees and fire insurance tax	—	—	—	—
Net investment income	68,228	(1,454)	33,249	14,059
Benefit payments	(965)	(692)	(417)	(316)
Refunds	—	—	—	—
Administrative expense	(152)	(119)	(82)	(51)
Net transfers with affiliated systems	—	—	—	—
Net change in plan fiduciary net position	186,950	95,415	111,925	76,754
Plan fiduciary net position — beginning	424,633	329,218	217,293	140,539
Plan fiduciary net position — ending (b)	611,583	424,633	329,218	217,293
Net pension liability/(asset) — ending (a-b)	$ 22,491	42,828	8,817	11,157
Plan fiduciary net position as a percentage of the total pension liability	96.5%	90.8%	97.4%	95.1%
Projected covered payroll	$ 1,380,488	1,171,543	996,965	822,196
Net pension liability/(asset) as a percentage of covered payroll	1.6%	3.7%	0.9%	1.4%

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

Tier 2 Public Employees Retirement System			Tier 2 Public Safety and Firefighter Retirement System						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
51,005	39,283	29,318	24,849	13,998	10,763	8,164	5,466	3,579	2,151
8,370	4,648	2,351	4,811	3,199	2,133	1,274	746	379	159
—	—	(119)	2,537	—	—	—	—	—	(7)
(4,982)	(4,577)	(4,459)	1,839	621	(2)	425	220	50	106
—	(1,385)	—	—	—	1,924	803	—	(127)	—
(333)	—	—	(90)	—	(61)	(28)	(30)	—	—
—	—	—	—	—	—	—	—	—	—
54,060	37,969	27,091	33,946	17,818	14,757	10,638	6,402	3,881	2,409
86,261	48,292	21,201	56,841	39,023	24,266	13,628	7,226	3,345	936
140,321	86,261	48,292	90,787	56,841	39,023	24,266	13,628	7,226	3,345
—	—	—	—	55	—	—	—	—	—
49,645	37,299	25,743	18,197	14,295	11,126	8,488	6,221	4,365	2,451
—	—	—	—	—	—	—	—	—	—
1,963	4,320	4,017	8,958	(180)	3,989	1,591	199	404	316
(333)	—	—	(90)	—	(61)	(28)	(30)	—	—
—	—	—	—	—	—	—	—	—	—
(30)	(16)	(6)	(20)	(14)	(9)	(5)	(3)	(1)	—
3	(2)	3	—	—	—	—	(3)	2	(3)
51,248	41,601	29,757	27,045	14,156	15,045	10,046	6,384	4,770	2,764
89,291	47,690	17,933	54,336	40,180	25,135	15,089	8,705	3,935	1,171
140,539	89,291	47,690	81,381	54,336	40,180	25,135	15,089	8,705	3,935
(218)	(3,030)	602	9,406	2,505	(1,157)	(869)	(1,461)	(1,479)	(590)
100.2%	103.5%	98.8%	89.6%	95.6%	103.0%	103.6%	110.7%	120.5%	117.6%
637,560	492,882	353,227	156,778	123,439	98,113	74,834	53,276	35,019	20,215
(0.0)%	(0.6)%	0.2%	6.0%	2.0%	(1.2)%	(1.2)%	(2.7)%	(4.2)%	(2.9)%

Continued on page 96.

Utah Retirement Systems

Required Supplementary Information *(Continued)*

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

Year Ended December 31

(in thousands)

	2019	2018	2017
Total pension liability			
Service cost	$ 670,791	642,590	616,373
Interest	2,513,006	2,417,385	2,355,253
Benefit changes	2,537	—	—
Difference between actual and expected experience	271,987	24,714	(120,133)
Assumption changes	—	—	835,063
Benefit payments	(1,764,328)	(1,670,644)	(1,575,533)
Refunds	(6,118)	(4,797)	(6,985)
Net change in total pension liability	1,687,875	1,409,248	2,104,038
Total pension liability — beginning	36,708,181	35,298,933	33,194,895
Total pension liability — ending (a)	38,396,056	36,708,181	35,298,933
Plan fiduciary net position			
Contributions — member	33,237	36,312	39,213
Contributions — employer	1,198,341	1,139,051	1,112,998
Court fees and fire insurance tax	43,395	10,265	2,700
Net investment income	4,446,363	(116,768)	3,773,910
Benefit payments	(1,764,328)	(1,670,644)	(1,575,533)
Refunds	(6,118)	(4,797)	(6,985)
Administrative expense	(11,857)	(12,515)	(12,001)
Net transfers with affiliated systems	—	—	—
Net change in plan fiduciary net position	3,939,033	(619,096)	3,334,302
Plan fiduciary net position — beginning	31,259,522	31,878,618	28,544,316
Plan fiduciary net position — ending (b)	35,198,555	31,259,522	31,878,618
Net pension liability/(asset) — ending (a-b)	$ 3,197,501	5,448,659	3,420,315
Plan fiduciary net position as a percentage of the total pension liability	91.7%	85.2%	90.3%
Projected covered payroll	$ 5,373,167	5,146,312	4,998,694
Net pension liability/(asset) as a percentage of covered payroll	59.5%	105.9%	68.4%

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

	Total All Retirement Systems			
	2016	2015	2014	2013
	604,021	567,368	569,382	599,736
	2,210,400	2,219,616	2,121,357	2,056,481
	3,343	—	—	23,718
	(2,890)	(233,574)	(269,582)	(276,487)
	734,391	—	(236,578)	—
	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
	(6,715)	(4,772)	(5,129)	(4,949)
	2,044,561	1,124,876	853,894	1,156,343
	31,150,334	30,025,458	29,171,564	28,015,221
	33,194,895	31,150,334	30,025,458	29,171,564
	39,287	40,871	38,500	40,167
	1,073,225	1,035,724	974,178	889,481
	12,039	18,871	15,640	12,783
	2,248,696	461,772	1,786,431	3,260,548
	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
	(6,715)	(4,772)	(5,129)	(4,949)
	(11,067)	(10,988)	(11,012)	(10,401)
	—	—	—	—
	1,857,476	117,716	1,473,052	2,945,473
	26,686,840	26,569,124	25,096,072	22,150,599
	28,544,316	26,686,840	26,569,124	25,096,072
	4,650,579	4,463,494	3,456,334	4,075,492
	86.0%	85.7%	88.5%	86.0%
	4,839,495	4,714,627	4,678,491	4,669,560
	96.1%	94.7%	73.9%	87.3%

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
	12/31/19	30,351,815	27,635,923	2,715,892	91.1	3,328,314	81.6
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
	12/31/19	1,270,111	1,262,292	7,819	99.4	34,317	22.8
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
	12/31/19	4,460,415	3,984,186	476,229	89.3	339,705	140.2
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
	12/31/19	1,316,620	1,391,553	(74,933)	105.7	113,330	(66.1)
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
	12/31/19	259,181	220,293	38,888	85.0	19,596	198.4

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
	12/31/19	13,053	11,344	1,709	86.9	639	267.4
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
	12/31/19	634,074	611,583	22,491	96.5	1,380,488	1.6
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
	12/31/19	90,787	81,381	9,406	89.6	156,778	6.0
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
	12/31/19	38,396,056	35,198,555	3,197,501	91.7	5,373,167	59.5

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	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
	2019	888,078	888,078	—	3,328,314	26.68
Contributory Retirement System	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
	2019	5,433	5,433	—	34,317	15.83
Public Safety Retirement System	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
	2019	150,467	150,467	—	339,705	44.29
Firefighters Retirement System	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
	2019	49,302	49,302	—	113,330	43.50
Judges Retirement System	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
	2019	10,036	10,036	—	19,596	51.21

**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 *(Concluded)*

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	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
	2019	384	384	—	639	60.09
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
	2019	119,839	119,839	—	1,380,488	8.68
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
	2019	18,197	18,197	—	156,778	11.61
All Retirement Systems	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
	2019	1,241,736	1,241,736	—	5,373,167	23.11

†*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

	2019	2018	2017	2016	2015	2014
Annual money weighted rate of return, net of investment expense	13.80%	(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.

Utah Retirement Systems

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, 2018 valuation is effective for the fiscal year beginning July 1, 2020.

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, 2019, 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, 2019

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	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19
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 15-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.

**The amortization period for the Higher Education divisions (Noncontributory and Contributory) are closed 17-year periods..*

***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, 2019
With Comparative Totals for December 31, 2018

(in thousands)

	Local Government	State and School	Higher Education	Total All Divisions 2019	Total All Divisions 2018
Assets:					
Cash	$ 1	524	1	526	3
Receivables:					
Employer contributions	6,655	35,427	2,517	44,599	42,975
Investments	54,671	197,792	18,676	271,139	482,626
Total receivables	61,326	233,219	21,193	315,738	525,601
Investments at fair value:					
Short-term securities	293,813	1,062,967	100,369	1,457,149	1,255,301
Debt securities	977,879	3,537,807	334,052	4,849,738	4,192,709
Equity investments	2,127,154	7,695,695	726,655	10,549,504	8,685,749
Absolute return	820,684	2,969,100	280,353	4,070,137	3,628,762
Private equity	635,328	2,298,514	217,034	3,150,876	2,889,312
Real assets	783,326	2,833,946	267,591	3,884,863	4,108,426
Total investments	5,638,184	20,398,029	1,926,054	27,962,267	24,760,259
Invested securities lending collateral	139,985	506,441	47,820	694,246	834,951
Property and equipment at cost, net of accumulated depreciation	1,401	5,069	479	6,949	3,689
Total assets	5,840,897	21,143,282	1,995,547	28,979,726	26,124,503
Liabilities:					
Securities lending liability	139,985	506,441	47,820	694,246	834,951
Disbursements in excess of cash balance	5,366	19,413	1,833	26,612	26,045
Compensated absences, post-employment benefits and insurance reserve	3,629	13,129	1,240	17,998	16,690
Investment accounts payable	102,849	372,741	35,134	510,724	486,062
Real estate liabilities	18,999	68,734	6,490	94,223	94,696
Total liabilities	270,828	980,458	92,517	1,343,803	1,458,444
Net position restricted for pensions	$ 5,570,069	20,162,824	1,903,030	27,635,923	24,666,059

Noncontributory Retirement System

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

Year Ended December 31, 2019
With Comparative Totals for Year Ended December 31, 2018

(in thousands)

	Local Government	State and School	Higher Education	Total All Divisions 2019	Total All Divisions 2018
Additions:					
Contributions:					
Member	$ 3,027	8,276	427	11,730	14,602
Employer	180,808	655,354	51,916	888,078	858,444
Total contributions	183,835	663,630	52,343	899,808	873,046
Investment income:					
Net appreciation (depreciation) in fair value of investments	596,243	2,173,309	199,691	2,969,243	(589,575)
Interest, dividends, and other investment income	116,328	424,016	38,960	579,304	541,933
Total income (loss) from investment activity	712,571	2,597,325	238,651	3,548,547	(47,642)
Less investment expenses	10,794	39,343	3,615	53,752	50,182
Net income (loss) from investment activity	701,777	2,557,982	235,036	3,494,795	(97,824)
Income from security lending activity	1,014	3,697	340	5,051	6,456
Less security lending expense	132	482	44	658	839
Net income from security lending activity	882	3,215	296	4,393	5,617
Net investment income (loss)	702,659	2,561,197	235,332	3,499,188	(92,207)
Transfers from affiliated systems	—	—	—	—	13,035
Total additions	886,494	3,224,827	287,675	4,398,996	793,874
Deductions:					
Retirement benefits	204,553	912,174	68,125	1,184,852	1,125,160
Cost-of-living benefits	31,101	170,586	10,444	212,131	195,054
Refunds	593	2,511	23	3,127	2,766
Administrative expenses	1,829	6,960	622	9,411	9,962
Transfers to affiliated systems	3,471	44,024	(27,884)	19,611	—
Other*	—	161,251	(161,251)	—	—
Total deductions	241,547	1,297,506	(109,921)	1,429,132	1,332,942
Increase (decrease) from operations	644,947	1,927,321	397,596	2,969,864	(539,068)
Net position restricted for pensions beginning of year	4,925,122	18,235,503	1,505,434	24,666,059	25,205,127
Net position restricted for pensions end of year	$ 5,570,069	20,162,824	1,903,030	27,635,923	24,666,059

**Represents adjustment to record the employers' prior year proportionate share of beginning of year Total Pension Liability and Plan Fiduciary Net Position of the state school fund to the new Higher Education division.*

Noncontributory Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 90,437	91,556	93,774	96,049
Interest	388,407	371,702	359,989	330,648
Benefit changes	—	—	—	48,400
Difference between actual and expected experience	42,865	5,305	(22,546)	18,123
Assumption changes		—	129,368	112,696
Benefit payments	(235,654)	(218,307)	(202,324)	(191,011)
Refunds	(593)	(738)	(814)	(392)
Net change in total pension liability	285,462	249,518	357,447	414,513
Total pension liability — beginning	5,661,494	5,411,976	5,054,529	4,640,016
Total pension liability — ending (a)	5,946,956	5,661,494	5,411,976	5,054,529
Plan fiduciary net position				
Contributions — member	3,027	4,491	3,928	5,023
Contributions — employer	180,808	176,481	174,037	171,967
Net investment income	702,659	(18,315)	586,793	346,001
Benefit payments	(235,654)	(218,307)	(202,324)	(191,011)
Refunds	(593)	(738)	(814)	(392)
Administrative expense	(1,829)	(1,919)	(1,828)	(1,671)
Net transfers with affiliated systems	(3,471)	9,583	1,647	8,323
Other*	—	—	—	—
Net change in plan fiduciary net position	644,947	(48,724)	561,439	338,240
Plan fiduciary net position — beginning	4,925,122	4,973,846	4,412,407	4,074,167
Plan fiduciary net position — ending (b)	5,570,069	4,925,122	4,973,846	4,412,407
Net pension liability — ending (a-b)	$ 376,887	736,372	438,130	642,122
Plan fiduciary net position as a percentage of the total pension liability	93.7%	87.0%	91.9%	87.3%
Projected covered payroll	$ 796,508	804,891	811,404	830,406
Net pension liability as a percentage of covered payroll	47.3%	91.5%	54.0%	77.3%

**Represents adjustment to record the employers' prior year proportionate share of beginning of year Total Pension Liability and Plan Fiduciary Net Position of the state school fund to the new Higher Education division.*

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

Local Government			State and School						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
91,304	93,436	100,789	286,588	312,835	310,207	311,641	303,494	314,556	340,531
328,120	310,587	297,617	1,478,470	1,548,536	1,517,587	1,434,005	1,447,699	1,389,106	1,348,596
—	—	6,063	—	—	—	—	—	—	17,060
(19,610)	(16,109)	(39,370)	32,444	27,375	(61,688)	(11,715)	(168,556)	(188,714)	(169,131)
—	(52,889)	—	—	—	512,819	451,045	—	(105,032)	—
(177,915)	(159,967)	(149,891)	(1,082,760)	(1,101,907)	(1,045,713)	(993,306)	(945,732)	(883,831)	(824,793)
(248)	(235)	(620)	(2,511)	(2,028)	(3,821)	(3,974)	(2,248)	(1,969)	(1,834)
221,651	174,823	214,588	712,231	784,811	1,229,391	1,187,696	634,657	524,116	710,429
4,418,365	4,243,542	4,028,954	21,672,295	22,676,643	21,447,252	20,259,556	19,624,899	19,100,783	18,390,354
4,640,016	4,418,365	4,243,542	22,384,526	23,461,454	22,676,643	21,447,252	20,259,556	19,624,899	19,100,783
5,481	3,859	2,637	8,276	10,111	13,357	11,285	11,539	9,728	11,571
167,015	157,930	147,105	655,354	681,963	680,218	659,664	646,434	614,490	563,828
69,895	266,210	478,461	2,561,197	(73,892)	2,400,489	1,437,910	296,853	1,152,843	2,110,520
(177,915)	(159,967)	(149,891)	(1,082,760)	(1,101,907)	(1,045,713)	(993,306)	(945,732)	(883,831)	(824,793)
(248)	(235)	(620)	(2,511)	(2,028)	(3,821)	(3,974)	(2,248)	(1,969)	(1,834)
(1,622)	(1,604)	(1,497)	(6,960)	(8,043)	(7,751)	(7,185)	(7,175)	(7,224)	(6,832)
27,420	14,058	(5,302)	(44,024)	3,452	(11,834)	(16,328)	6,228	16,409	(36,975)
—	—	—	(161,251)	—	—	—	—	—	—
90,026	280,251	470,893	1,927,321	(490,344)	2,024,945	1,088,066	5,899	900,446	1,815,485
3,984,141	3,703,890	3,232,997	18,235,503	20,231,281	18,206,336	17,118,270	17,112,371	16,211,925	14,396,440
4,074,167	3,984,141	3,703,890	20,162,824	19,740,937	20,231,281	18,206,336	17,118,270	17,112,371	16,211,925
565,849	434,224	539,652	2,221,702	3,720,517	2,445,362	3,240,916	3,141,286	2,512,528	2,888,858
87.8%	90.2%	87.3%	90.1%	84.1%	89.2%	84.9%	84.5%	87.2%	84.9%
826,998	845,364	864,838	2,290,749	2,525,657	2,563,917	2,576,161	2,631,288	2,725,548	2,840,933
68.4%	51.4%	62.4%	97.0%	147.3%	95.4%	125.8%	119.4%	92.2%	101.7%

Continued on page 108.

Noncontributory Retirement System

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

Year Ended December 31

	(in thousands) Higher Education 2019
Total pension liability	
Service cost	$ 27,514
Interest	122,572
Benefit changes	—
Difference between actual and expected experience	159,680
Assumption changes	—
Benefit payments	(78,569)
Refunds	(23)
Net change in total pension liability	231,174
Total pension liability — beginning	1,789,159
Total pension liability — ending (a)	2,020,333
Plan fiduciary net position	
Contributions — member	427
Contributions — employer	51,916
Net investment income	235,332
Benefit payments	(78,569)
Refunds	(23)
Administrative expense	(622)
Net transfers with affiliated systems	27,884
Other*	161,251
Net change in plan fiduciary net position	397,596
Plan fiduciary net position — beginning	1,505,434
Plan fiduciary net position — ending (b)	1,903,030
Net pension liability — ending (a-b)	$ 117,303
Plan fiduciary net position as a percentage of the total pension liability	94.2%
Projected covered payroll	$ 241,057
Net pension liability as a percentage of covered payroll	48.7%

**Represents adjustment to record the employers' prior year proportionate share of beginning of year Total Pension Liability and Plan Fiduciary Net Position of the state school fund to the new Higher Education division.*

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

Total All Divisions

2019	2018	2017	2016	2015	2014	2013
404,539	404,391	403,981	407,690	394,798	407,992	441,320
1,989,449	1,920,238	1,877,576	1,764,653	1,775,819	1,699,693	1,646,213
—	—	—	48,400	—	—	23,123
234,989	32,680	(84,234)	6,408	(188,166)	(204,823)	(208,501)
—	—	642,187	563,741	—	(157,921)	—
(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)
(3,127)	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)
1,228,867	1,034,329	1,586,838	1,602,209	856,308	698,939	925,017
29,122,948	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325	22,419,308
30,351,815	29,122,948	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325
11,730	14,602	17,285	16,308	17,020	13,587	14,208
888,078	858,444	854,255	831,631	813,449	772,420	710,933
3,499,188	(92,207)	2,987,282	1,783,911	366,748	1,419,053	2,588,981
(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)
(3,127)	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)
(9,411)	(9,962)	(9,579)	(8,856)	(8,797)	(8,828)	(8,329)
(19,611)	13,035	(10,187)	(8,005)	33,648	30,467	(42,277)
—	—	—	—	—	—	—
2,969,864	(539,068)	2,586,384	1,426,306	95,925	1,180,697	2,286,378
24,666,059	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815	17,629,437
27,635,923	24,666,059	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815
2,715,892	4,456,889	2,883,492	3,883,038	3,707,135	2,946,752	3,428,510
91.1%	84.7%	89.7%	85.3%	85.1%	87.7%	85.3%
3,328,314	3,330,548	3,375,321	3,406,567	3,458,286	3,570,912	3,705,771
81.6%	133.8%	85.4%	114.0%	107.2%	82.5%	92.5%

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
	12/31/19	5,946,956	5,570,069	376,887	93.7	796,508	47.3
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
	12/31/19	22,384,526	20,162,824	2,221,702	90.1	2,290,749	97.0
Noncontributory Higher Education	12/31/19	$ 2,020,333	1,903,030	117,303	94.2 %	241,057	48.7
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
	12/31/19	30,351,815	27,635,923	2,715,892	91.1	3,328,314	81.6

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
	2019	180,808	180,808	—	796,508	22.70
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
	2019	655,354	655,354	—	2,290,749	28.61
Noncontributory Higher Education	2019	$ 51,916	51,916	—	241,057	21.54%
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
	2019	888,078	888,078	—	3,328,314	26.68

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, 2019
With Comparative Totals for December 31, 2018

(in thousands)

	Local Government	State and School	Higher Education	Total All Divisions 2019	Total All Divisions 2018
Assets:					
Cash	$ 1	1	1	3	2
Receivables:					
Member Contributions	38	26	13	77	94
Employer contributions	109	76	39	224	274
Investments	4,462	6,345	1,594	12,401	22,973
Total receivables	4,609	6,447	1,646	12,702	23,341
Investments at fair value:					
Short-term securities	23,980	34,099	8,569	66,648	59,751
Debt securities	79,812	113,488	28,519	221,819	199,572
Equity investments	173,613	246,867	62,036	482,516	413,440
Absolute return	66,982	95,245	23,935	186,162	172,728
Private equity	51,854	73,733	18,529	144,116	137,531
Real assets	63,933	90,909	22,845	177,687	195,560
Total investments	460,174	654,341	164,433	1,278,948	1,178,582
Invested securities lending collateral	11,425	16,246	4,083	31,754	39,744
Property and equipment at cost, net of accumulated depreciation	114	163	41	318	176
Total assets	476,323	677,198	170,204	1,323,725	1,241,845
Liabilities:					
Securities lending liability	11,425	16,246	4,083	31,754	39,744
Disbursements in excess of cash balance	438	623	156	1,217	1,204
Compensated absences, post-employment benefits and insurance reserve	296	421	106	823	795
Investment accounts payable	8,394	11,936	2,999	23,329	23,166
Real estate liabilities	1,551	2,205	554	4,310	4,507
Total liabilities	22,104	31,431	7,898	61,433	69,416
Net position restricted for pensions	$ 454,219	645,767	162,306	1,262,292	1,172,429

Contributory Retirement System

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

Year Ended December 31, 2019
With Comparative Totals for Year Ended December 31, 2018

(in thousands)

	Local Government	State and School	Higher Education	Total All Divisions 2019	Total All Divisions 2018
Additions:					
Contributions:					
Member	$ 956	667	327	1,950	2,455
Employer	2,640	1,874	919	5,433	6,027
Total contributions	3,596	2,541	1,246	7,383	8,482
Investment income:					
Net appreciation (depreciation) in fair value of investments	49,904	71,864	17,340	139,108	(28,859)
Interest, dividends, and other investment income	9,736	14,021	3,383	27,140	26,527
Total income (loss) from investment activity	59,640	85,885	20,723	166,248	(2,332)
Less investment expenses	903	1,301	314	2,518	2,456
Net income (loss) from investment activity	58,737	84,584	20,409	163,730	(4,788)
Income from security lending activity	85	122	29	236	316
Less security lending expense	11	16	4	31	41
Net income from security lending activity	74	106	25	205	275
Net investment income (loss)	58,811	84,690	20,434	163,935	(4,513)
Transfers from affiliated systems	3,058	4,388	2,329	9,775	—
Total additions	65,465	91,619	24,009	181,093	3,969
Deductions:					
Retirement benefits	24,545	42,179	8,320	75,044	74,106
Cost-of-living benefits	3,906	8,076	1,101	13,083	12,638
Supplemental retirement benefits	7	27	1	35	51
Refunds	1,284	1,350	26	2,660	1,471
Administrative expenses	147	211	50	408	454
Transfers to affiliated systems	—	—	—	—	26,286
Other*	—	(76,588)	76,588	—	—
Total deductions	29,889	(24,745)	86,086	91,230	115,006
Increase (decrease) from operations	35,576	116,364	(62,077)	89,863	(111,037)
Net position restricted for pensions beginning of year	418,643	529,403	224,383	1,172,429	1,283,466
Net position restricted for pensions end of year	$ 454,219	645,767	162,306	1,262,292	1,172,429

**Represents adjustment to record the employers' prior year proportionate share of beginning of year Total Pension Liability and Plan Fiduciary Net Position of the state school fund to the new Higher Education division.*

Contributory Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 1,731	1,945	2,301	2,659
Interest	30,943	31,251	32,120	34,422
Benefit changes	—	—	—	(45,057)
Difference between actual and expected experience	(1,383)	(8,463)	(11,176)	(4,618)
Assumption changes	—	—	8,760	8,285
Benefit payments	(28,458)	(27,964)	(27,468)	(26,126)
Refunds	(1,284)	(430)	(703)	(655)
Net change in total pension liability	1,549	(3,661)	3,834	(31,090)
Total pension liability — beginning	459,223	462,884	459,050	490,140
Total pension liability — ending (a)	460,772	459,223	462,884	459,050
Plan fiduciary net position				
Contributions — member	956	1,068	1,289	1,759
Contributions — employer	2,640	2,762	2,969	3,730
Net investment income	58,811	(1,605)	55,066	34,351
Benefit payments	(28,458)	(27,964)	(27,468)	(26,126)
Refunds	(1,284)	(430)	(703)	(655)
Administrative expense	(147)	(161)	(162)	(157)
Net transfers with affiliated systems	3,058	(9,774)	(2,482)	(6,519)
Other*	—	—	—	—
Net change in plan fiduciary net position	35,576	(36,104)	28,509	6,383
Plan fiduciary net position — beginning	418,643	454,747	426,238	419,855
Plan fiduciary net position — ending (b)	454,219	418,643	454,747	426,238
Net pension liability — ending (a-b)	$ 6,553	40,580	8,137	32,812
Plan fiduciary net position as a percentage of the total pension liability	98.6%	91.2%	98.2%	92.9%
Projected covered payroll	$ 16,251	18,276	20,724	23,959
Net pension liability as a percentage of covered payroll	40.3%	222.0%	39.3%	137.0%

**Represents adjustment to record the employers' prior year proportionate share of beginning of year Total Pension Liability and Plan Fiduciary Net Position of the state school fund to the new Higher Education division.*

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

Local Government			State and School						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
5,360	5,679	6,352	1,277	2,099	2,500	3,014	3,312	3,901	4,645
35,298	34,255	33,840	38,509	56,046	58,004	57,472	60,165	59,564	59,910
—	—	415	—	—	—	—	—	—	306
(4,833)	(8,465)	(8,020)	85,249	(8,786)	(13,814)	(9,183)	(10,456)	(14,374)	(12,500)
—	(2,914)	—	—	—	13,348	14,624	—	(1,319)	—
(26,652)	(23,177)	(21,607)	(50,282)	(58,831)	(57,291)	(57,321)	(54,738)	(53,838)	(52,551)
(623)	(1,294)	(855)	(1,350)	(1,041)	(910)	(1,045)	(592)	(1,139)	(1,067)
8,550	4,084	10,125	73,403	(10,513)	1,837	7,561	(2,309)	(7,205)	(1,257)
481,590	477,506	467,381	824,786	835,299	833,462	825,901	828,210	835,415	836,672
490,140	481,590	477,506	898,189	824,786	835,299	833,462	825,901	828,210	835,415
2,572	3,103	3,418	667	1,387	1,386	1,661	2,199	2,358	2,958
6,384	7,410	6,963	1,874	3,265	4,977	4,458	5,335	5,544	5,911
7,597	30,871	58,533	84,690	(2,908)	100,883	63,342	13,654	56,706	110,977
(26,652)	(23,177)	(21,607)	(50,282)	(58,831)	(57,293)	(57,321)	(54,738)	(53,838)	(52,551)
(623)	(1,294)	(855)	(1,350)	(1,041)	(910)	(1,045)	(592)	(1,139)	(1,067)
(176)	(179)	(172)	(211)	(293)	(295)	(289)	(302)	(315)	(308)
(21,993)	(10,140)	5,790	4,388	(16,512)	1,305	4,624	(19,565)	(27,864)	27,304
—	—	—	76,588	—	—	—	—	—	—
(32,891)	6,594	52,070	116,364	(74,933)	50,053	15,430	(54,009)	(18,548)	93,224
452,746	446,152	394,082	753,786	828,719	778,666	763,236	817,245	835,793	742,569
419,855	452,746	446,152	870,150	753,786	828,719	778,666	763,236	817,245	835,793
70,285	28,844	31,354	28,039	71,000	6,580	54,796	62,665	10,965	(378)
85.7%	94.0%	93.4%	96.9%	91.4%	99.2%	93.4%	92.4%	98.7%	100.0%
48,590	51,420	54,445	12,599	21,003	24,453	29,656	33,836	39,203	43,578
144.6%	56.1%	57.6%	222.5%	338.0%	26.9%	184.8%	185.2%	28.0%	(0.9)%

Continued on page 116.

Contributory Retirement System

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

Year Ended December 31

	(in thousands)
	Higher Education
	2019
Total pension liability	
Service cost	528
Interest	16,753
Benefit changes	—
Difference between actual and expected experience	(96,683)
Assumption changes	—
Benefit payments	(9,422)
Refunds	(26)
Net change in total pension liability	(88,850)
Total pension liability — beginning	245,518
Total pension liability — ending (a)	156,668
Plan fiduciary net position	
Contributions — member	327
Contributions — employer	919
Net investment income	20,434
Benefit payments	(9,422)
Refunds	(26)
Administrative expense	(50)
Net transfers with affiliated systems	2,329
Other*	(76,588)
Net change in plan fiduciary net position	(62,077)
Plan fiduciary net position — beginning	224,383
Plan fiduciary net position — ending (b)	162,306
Net pension liability — ending (a-b)	(5,638)
Plan fiduciary net position as a percentage of the total pension liability	103.6%
Projected covered payroll	5,467
Net pension liability as a percentage of covered payroll	(103.1)%

**Represents adjustment to record the employers' prior year proportionate share of beginning of year Total Pension Liability and Plan Fiduciary Net Position of the state school fund to the new Higher Education division.*

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

	Total All Divisions						
	2019	2018	2017	2016	2015	2014	2013
	$ 3,536	4,044	4,801	5,673	8,672	9,580	10,997
	86,205	87,297	90,124	91,894	95,463	93,819	93,750
	—	—	—	(45,057)	—	—	721
	(12,817)	(17,249)	(24,990)	(13,801)	(15,289)	(22,839)	(20,520)
	—	—	22,108	22,909	—	(4,233)	—
	(88,162)	(86,795)	(84,759)	(83,447)	(81,390)	(77,015)	(74,158)
	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
	(13,898)	(14,174)	5,671	(23,529)	6,241	(3,121)	8,868
	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	1,304,053
	1,270,111	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921
	1,950	2,455	2,675	3,420	4,771	5,461	6,376
	5,433	6,027	7,946	8,188	11,719	12,954	12,874
	163,935	(4,513)	155,949	97,693	21,251	87,577	169,510
	(88,162)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)
	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
	(408)	(454)	(457)	(446)	(478)	(494)	(480)
	9,775	(26,286)	(1,177)	(1,895)	(41,558)	(38,004)	33,094
	—	—	—	—	—	—	—
	89,863	(111,037)	78,562	21,813	(86,900)	(11,954)	145,294
	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	1,136,651
	1,262,292	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945
	$ 7,819	111,580	14,717	87,608	132,950	39,809	30,976
	99.4%	91.3%	98.9%	93.2%	89.9%	97.0%	97.6%
	$ 34,317	39,279	45,177	53,615	82,426	90,623	98,023
	22.8%	284.1%	32.6%	163.4%	161.3%	43.9%	31.6%

Contributory Retirement System

Schedules of Net Pension Liability by Division

(dollars in thousands)

System	Date	(1) Total Pension Liability	(2) Plan 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
	12/31/19	460,772	454,219	6,553	98.6	16,251	40.3
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
	12/31/19	898,189	870,150	28,039	96.9	12,599	222.5
Contributory Higher Education	12/31/19	$ 156,668	162,306	(5,638)	103.6	5,467	(103.1)
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
	12/31/19	1,270,111	1,262,292	7,819	99.4	34,317	22.8

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
	2019	2,640	2,640	—	16,251	16.25
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
	2019	1,874	1,874	—	12,599	14.87
Contributory Higher Education	2019	$ 919	919	—	5,467	16.81%
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
	2019	5,433	5,433	—	34,317	15.83

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 Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2019
With Comparative Totals for December 31, 2018

(in thousands)

	State of Utah Public Safety	Other Division A (with Social Security)	Salt Lake City
Assets:			
Cash	$ 2	4	2
Receivables:			
Member contributions	—	5	—
Employer contributions	1,984	1,940	602
Investments	13,094	15,676	3,190
Total receivables	15,078	17,621	3,792
Investments at fair value:			
Short-term securities	70,369	84,245	17,142
Debt securities	234,207	280,387	57,052
Equity investments	509,463	609,918	124,105
Absolute return	196,557	235,315	47,881
Private equity	152,164	182,168	37,067
Real assets	187,610	224,603	45,702
Total investments	1,350,370	1,616,636	328,949
Invested securities lending collateral	33,527	40,138	8,167
Property and equipment at cost, net of accumulated depreciation	336	402	82
Total assets	1,399,313	1,674,801	340,992
Liabilities:			
Securities lending liability	33,527	40,138	8,167
Disbursements in excess of cash balance	1,285	1,539	313
Compensated absences, post-employment benefits and insurance reserve	869	1,041	212
Investment accounts payable	24,633	29,490	6,000
Real estate liabilities	4,550	5,447	1,108
Total liabilities	64,864	77,655	15,800
Net position restricted for pensions	$ 1,334,449	1,597,146	325,192

Ogden	Provo	Logan	Bountiful	Other Division B (without Social Security)	Total All Divisions 2019	Total All Divisions 2018
2	2	2	2	4	20	20
—	—	—	—	1	6	8
109	91	41	81	645	5,493	5,278
691	563	310	224	5,351	39,099	69,048
800	654	351	305	5,997	44,598	74,334
3,712	3,025	1,665	1,201	28,759	210,118	179,591
12,354	10,070	5,543	3,998	95,718	699,329	599,837
26,873	21,904	12,057	8,698	208,213	1,521,231	1,242,643
10,368	8,451	4,652	3,356	80,331	586,911	519,156
8,026	6,542	3,601	2,598	62,188	454,354	413,362
9,896	8,066	4,440	3,203	76,674	560,194	587,778
71,229	58,058	31,958	23,054	551,883	4,032,137	3,542,367
1,768	1,441	793	572	13,702	100,108	119,453
18	14	8	6	137	1,003	528
73,817	60,169	33,112	23,939	571,723	4,177,866	3,736,702
1,768	1,441	793	572	13,702	100,108	119,453
68	55	30	22	525	3,837	3,617
46	37	21	15	355	2,596	2,387
1,299	1,059	583	421	10,067	73,552	69,629
240	196	108	78	1,860	13,587	13,547
3,421	2,788	1,535	1,108	26,509	193,680	208,633
70,396	57,381	31,577	22,831	545,214	3,984,186	3,528,069

Public Safety Retirement System

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

Year Ended December 31, 2019
With Comparative Totals for Year Ended December 31, 2018

(in thousands)

	State of Utah Public Safety	Other Division A (with Social Security)	Salt Lake City
Additions:			
Contributions:			
Member	$ 4	454	—
Employer	50,140	55,243	15,609
Total contributions	50,144	55,697	15,609
Investment income:			
Net appreciation (depreciation) in fair value of investments	142,869	171,483	34,889
Interest, dividends, and other investment income	27,874	33,457	6,807
Total income (loss) from investment activity	170,743	204,940	41,696
Less investment expenses	2,586	3,104	632
Net income (loss) from investment activity	168,157	201,836	41,064
Income from security lending activity	243	292	59
Less security lending expense	32	38	8
Net income from security lending activity	211	254	51
Net investment income (loss)	168,368	202,090	41,115
Transfers from (to) affiliated systems	4,526	(10,021)	801
Total additions	223,038	247,766	57,525
Deductions:			
Retirement benefits	59,536	60,959	16,896
Cost-of-living benefits	12,595	11,498	4,304
Supplemental retirement benefits	87	70	29
Refunds	30	4	—
Administrative expenses	459	540	126
Total deductions	72,707	73,071	21,355
Increase (decrease) from operations	150,331	174,695	36,170
Net position restricted for pensions beginning of year	1,184,118	1,422,451	289,022
Net position restricted for pensions end of year	$ 1,334,449	1,597,146	325,192

0gden	Provo	Logan	Bountiful	Other Division B (without Social Security)	Total All Divisions 2019	Total All Divisions 2018
—	217	—	—	181	856	895
2,743	2,335	1,053	1,033	22,311	150,467	147,101
2,743	2,552	1,053	1,033	22,492	151,323	147,996
7,623	6,131	3,423	2,452	57,662	426,532	(83,966)
1,487	1,196	668	478	11,250	83,217	77,181
9,110	7,327	4,091	2,930	68,912	509,749	(6,785)
138	111	62	44	1,044	7,721	7,147
8,972	7,216	4,029	2,886	67,868	502,028	(13,932)
13	10	6	4	98	725	918
2	1	1	1	13	96	120
11	9	5	3	85	629	798
8,983	7,225	4,034	2,889	67,953	502,657	(13,134)
(224)	299	(156)	36	10,251	5,512	6,982
11,502	10,076	4,931	3,958	100,696	659,492	141,844
3,943	2,828	1,666	1,231	21,643	168,702	157,682
1,003	635	324	289	2,378	33,026	30,517
3	5	—	1	—	195	215
—	—	—	—	42	76	428
28	21	11	9	182	1,376	1,450
4,977	3,489	2,001	1,530	24,245	203,375	190,292
6,525	6,587	2,930	2,428	76,451	456,117	(48,448)
63,871	50,794	28,647	20,403	468,763	3,528,069	3,576,517
70,396	57,381	31,577	22,831	545,214	3,984,186	3,528,069

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 24,209	24,680	24,057	24,327
Interest	97,263	94,417	91,628	86,361
Benefit changes	—	—	—	—
Difference between actual and expected experience	9,405	(7,483)	3,619	(3,139)
Assumption changes	—	—	32,840	29,315
Benefit payments	(72,218)	(68,479)	(64,451)	(62,622)
Refunds	(30)	(113)	(66)	(8)
Net change in total pension liability	58,629	43,022	87,627	74,234
Total pension liability — beginning	1,423,493	1,380,471	1,292,844	1,218,610
Total pension liability — ending (a)	1,482,122	1,423,493	1,380,471	1,292,844
Plan fiduciary net position				
Contributions — member	4	264	221	112
Contributions — employer	50,140	50,030	49,386	50,554
Net investment income	168,368	(4,419)	142,696	84,744
Benefit payments	(72,218)	(68,479)	(64,451)	(62,622)
Refunds	(30)	(113)	(66)	(8)
Administrative expense	(459)	(487)	(470)	(432)
Net transfers with affiliated systems	4,526	738	233	3,363
Net change in plan fiduciary net position	150,331	(22,466)	127,549	75,711
Plan fiduciary net position — beginning	1,184,118	1,206,584	1,079,035	1,003,324
Plan fiduciary net position — ending (b)	1,334,449	1,184,118	1,206,584	1,079,035
Net pension liability/(asset) — ending (a-b)	$ 147,673	239,375	173,887	213,809
Plan fiduciary net position as a percentage of the total pension liability	90.0%	83.2%	87.4%	83.5%
Projected covered payroll	$ 105,488	107,407	107,557	108,759
Net pension liability/(asset) as a percentage of covered payroll	140.0%	222.9%	161.7%	196.6%

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

State of UtahOther Division A (with Social Security)

2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
23,270	24,190	26,013	30,869	31,875	30,590	31,202	29,942	30,473	32,564
87,273	83,519	81,713	115,292	110,510	107,017	98,935	98,538	93,276	90,791
—	—	—	—	—	—	—	—	—	—
(14,298)	(12,067)	(2,099)	4,368	(3,170)	(21,479)	(6,830)	(12,388)	(16,141)	(25,616)
—	(17,596)	—	—	—	50,755	48,303	—	(21,812)	—
(59,271)	(55,075)	(52,432)	(72,527)	(67,207)	(60,128)	(57,652)	(54,909)	(51,394)	(48,824)
(18)	(12)	(2)	(4)	(85)	(158)	(175)	(208)	(115)	(97)
36,956	22,959	53,193	77,998	71,923	106,597	113,783	60,975	34,287	48,818
1,181,654	1,158,695	1,105,502	1,679,710	1,607,787	1,501,190	1,387,407	1,326,432	1,292,145	1,243,327
1,218,610	1,181,654	1,158,695	1,757,708	1,679,710	1,607,787	1,501,190	1,387,407	1,326,432	1,292,145
115	152	103	454	545	366	515	701	597	714
47,449	45,810	43,393	55,243	53,057	53,112	52,359	51,677	49,156	46,421
17,349	66,949	121,520	202,090	(5,312)	171,806	102,156	20,899	80,565	146,201
(59,271)	(55,075)	(52,432)	(72,527)	(67,207)	(60,128)	(57,652)	(54,909)	(51,394)	(48,824)
(18)	(12)	(2)	(4)	(85)	(158)	(175)	(208)	(115)	(97)
(431)	(434)	(413)	(540)	(569)	(542)	(496)	(485)	(482)	(458)
2,301	1,124	757	(10,021)	(8,899)	(11,797)	(6,727)	(10,067)	(6,061)	(3,111)
7,494	58,514	112,926	174,695	(28,470)	152,659	89,980	7,608	72,266	140,846
995,830	937,316	824,390	1,422,451	1,450,921	1,298,262	1,208,282	1,200,674	1,128,408	987,562
1,003,324	995,830	937,316	1,597,146	1,422,451	1,450,921	1,298,262	1,208,282	1,200,674	1,128,408
215,286	185,824	221,379	160,562	257,259	156,866	202,928	179,125	125,758	163,737
82.3%	84.3%	80.9%	90.9%	84.7%	90.2%	86.5%	87.1%	90.5%	87.3%
108,967	113,111	115,960	134,008	138,269	137,270	139,677	141,681	143,924	146,190
197.6%	164.3%	190.9%	119.8%	186.1%	114.3%	145.3%	126.4%	87.4%	112.0%

Continued on page 126.

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 6,665	6,763	6,704	6,316
Interest	26,741	25,881	24,937	23,099
Benefit changes	—	—	—	—
Difference between actual and expected experience	344	532	2,143	2,815
Assumption changes	—	—	11,737	11,313
Benefit payments	(21,229)	(20,225)	(18,745)	(17,681)
Refunds	—	(39)	(2)	—
Net change in total pension liability	12,521	12,912	26,774	25,862
Total pension liability — beginning	392,050	379,138	352,364	326,502
Total pension liability — ending (a)	404,571	392,050	379,138	352,364
Plan fiduciary net position				
Contributions — member	—	—	—	8
Contributions — employer	15,609	15,294	14,899	15,260
Net investment income	41,115	(1,075)	34,603	20,441
Benefit payments	(21,229)	(20,225)	(18,745)	(17,681)
Refunds	—	(39)	(2)	—
Administrative expense	(126)	(135)	(129)	(118)
Net transfers with affiliated systems	801	2,259	1,642	1,369
Net change in plan fiduciary net position	36,170	(3,921)	32,268	19,279
Plan fiduciary net position — beginning	289,022	292,943	260,675	241,396
Plan fiduciary net position — ending (b)	325,192	289,022	292,943	260,675
Net pension liability/(asset) — ending (a-b)	$ 79,379	103,028	86,195	91,689
Plan fiduciary net position as a percentage of the total pension liability	80.4%	73.7%	77.3%	74.0%
Projected covered payroll	$ 28,862	29,356	30,142	28,331
Net pension liability/(asset) as a percentage of covered payroll	275.0%	351.0%	286.0%	323.6%

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

Salt Lake City			Ogden						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
5,963	5,878	6,209	1,004	1,143	1,200	1,139	1,164	1,170	1,304
23,023	22,171	21,719	5,849	5,838	5,549	5,232	5,359	5,185	5,028
—	—	—	—	—	—	—	—	—	—
2,063	(1,430)	(3,743)	378	(1,850)	2,044	(288)	(1,153)	559	(713)
—	(4,551)	—	—	—	2,724	2,544	—	(822)	—
(17,076)	(16,398)	(15,737)	(4,949)	(4,846)	(4,286)	(4,208)	(4,090)	(3,956)	(3,864)
—	—	(15)	—	—	—	—	—	—	—
13,973	5,670	8,433	2,282	285	7,231	4,419	1,280	2,136	1,755
312,529	306,859	298,426	86,135	85,850	78,619	74,200	72,920	70,784	69,029
326,502	312,529	306,859	88,417	86,135	85,850	78,619	74,200	72,920	70,784
—	4	13	—	—	—	—	56	—	—
14,100	13,519	12,426	2,743	2,970	3,072	3,147	2,729	2,791	2,525
4,178	16,113	29,378	8,983	(240)	7,843	4,696	976	3,803	6,973
(17,076)	(16,398)	(15,737)	(4,949)	(4,846)	(4,286)	(4,208)	(4,090)	(3,956)	(3,864)
—	—	(15)	—	—	—	—	—	—	—
(116)	(116)	(110)	(28)	(30)	(29)	(27)	(26)	(27)	(26)
657	620	447	(224)	106	(128)	(74)	(66)	107	535
1,743	13,742	26,402	6,525	(2,040)	6,472	3,534	(421)	2,718	6,143
239,653	225,911	199,509	63,871	65,911	59,439	55,905	56,326	53,608	47,465
241,396	239,653	225,911	70,396	63,871	65,911	59,439	55,905	56,326	53,608
85,106	72,876	80,948	18,021	22,264	19,939	19,180	18,295	16,594	17,176
73.9%	76.7%	73.6%	79.6%	74.2%	76.8%	75.6%	75.3%	77.2%	75.7%
28,275	27,821	28,016	4,337	4,940	5,372	5,082	5,517	5,518	5,831
301.0%	261.9%	288.9%	415.5%	450.7%	371.2%	377.4%	331.6%	300.7%	294.6%

Continued on page 128.

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 1,036	1,091	1,122	1,134
Interest	4,496	4,323	4,282	3,972
Benefit changes	—	—	—	—
Difference between actual and expected experience	(314)	458	(1,391)	147
Assumption changes	—	—	1,895	1,960
Benefit payments	(3,468)	(3,240)	(3,089)	(2,701)
Refunds	—	—	—	—
Net change in total pension liability	1,750	2,632	2,819	4,512
Total pension liability — beginning	65,906	63,274	60,455	55,943
Total pension liability — ending (a)	67,656	65,906	63,274	60,455
Plan fiduciary net position				
Contributions — member	217	—	—	—
Contributions — employer	2,335	2,266	2,258	2,403
Net investment income	7,225	(190)	6,141	3,660
Benefit payments	(3,468)	(3,240)	(3,089)	(2,701)
Refunds	—	—	—	—
Administrative expense	(21)	(23)	(22)	(20)
Net transfers with affiliated systems	299	97	16	(39)
Net change in plan fiduciary net position	6,587	(1,090)	5,304	3,303
Plan fiduciary net position — beginning	50,794	51,884	46,580	43,277
Plan fiduciary net position — ending (b)	57,381	50,794	51,884	46,580
Net pension liability/(asset) — ending (a-b)	$ 10,275	15,112	11,390	13,875
Plan fiduciary net position as a percentage of the total pension liability	84.8%	77.1%	82.0%	77.0%
Projected covered payroll	$ 4,468	4,699	5,023	5,065
Net pension liability/(asset) as a percentage of covered payroll	230.0%	321.6%	226.8%	273.9%

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

Provo			Logan						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
1,099	1,141	1,181	486	482	465	488	485	524	580
3,916	3,748	3,680	2,412	2,389	2,364	2,220	2,201	2,110	2,029
—	—	—	—	—	—	—	—	—	—
636	(638)	561	(181)	(736)	(766)	(264)	278	232	(701)
—	(859)	—	—	—	1,056	1,103	—	(420)	—
(2,739)	(2,503)	(2,281)	(1,990)	(1,625)	(1,547)	(1,516)	(1,442)	(1,366)	(1,320)
—	(11)	(204)	—	—	—	—	—	—	—
2,912	878	2,937	727	510	1,572	2,031	1,522	1,080	588
53,031	52,153	49,216	35,457	34,947	33,375	31,344	29,822	28,742	28,154
55,943	53,031	52,153	36,184	35,457	34,947	33,375	31,344	29,822	28,742
—	—	—	—	—	—	—	—	35	49
2,314	2,255	2,158	1,053	1,068	1,034	1,052	1,044	989	944
749	2,877	5,204	4,034	(107)	3,456	2,068	432	1,671	3,047
(2,739)	(2,503)	(2,281)	(1,990)	(1,625)	(1,547)	(1,516)	(1,442)	(1,366)	(1,320)
—	(11)	(204)	—	—	—	—	—	—	—
(20)	(19)	(19)	(11)	(12)	(12)	(11)	(11)	(11)	(10)
66	145	16	(156)	185	36	(52)	(247)	100	88
370	2,744	4,874	2,930	(491)	2,967	1,541	(224)	1,418	2,798
42,907	40,163	35,289	28,647	29,138	26,171	24,630	24,854	23,436	20,638
43,277	42,907	40,163	31,577	28,647	29,138	26,171	24,630	24,854	23,436
12,666	10,124	11,990	4,607	6,810	5,809	7,204	6,714	4,968	5,306
77.4%	80.9%	77.0%	87.3%	80.8%	83.4%	78.4%	78.6%	83.3%	81.5%
5,213	5,424	5,295	2,108	2,079	2,088	2,183	2,306	2,459	2,584
243.0%	186.7%	226.4%	218.5%	327.6%	278.2%	330.0%	291.2%	202.0%	205.3%

Continued on page 130.

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 402	394	411	409
Interest	1,903	1,859	1,845	1,711
Benefit changes	—	—	—	—
Difference between actual and expected experience	166	(92)	(453)	383
Assumption changes	—	—	880	830
Benefit payments	(1,521)	(1,570)	(1,514)	(1,435)
Refunds	—	—	—	—
Net change in total pension liability	950	591	1,169	1,898
Total pension liability — beginning	27,933	27,342	26,173	24,275
Total pension liability — ending (a)	28,883	27,933	27,342	26,173
Plan fiduciary net position				
Contributions — member	—	—	—	—
Contributions — employer	1,033	964	911	943
Net investment income	2,889	(78)	2,498	1,493
Benefit payments	(1,521)	(1,570)	(1,514)	(1,435)
Refunds	—	—	—	—
Administrative expense	(9)	(10)	(9)	(9)
Net transfers with affiliated systems	36	35	323	35
Net change in plan fiduciary net position	2,428	(659)	2,209	1,027
Plan fiduciary net position — beginning	20,403	21,062	18,853	17,826
Plan fiduciary net position — ending (b)	22,831	20,403	21,062	18,853
Net pension liability/(asset) — ending (a-b)	$ 6,052	7,530	6,280	7,320
Plan fiduciary net position as a percentage of the total pension liability	79.0%	73.0%	77.0%	72.0%
Projected covered payroll	$ 1,707	1,675	1,814	1,810
Net pension liability/(asset) as a percentage of covered payroll	354.5%	449.6%	346.2%	404.4%

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

Bountiful			Other Division B (with Social Security)						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
380	383	390	13,558	13,868	13,723	13,828	13,049	12,922	13,495
1,682	1,635	1,580	37,691	34,932	32,196	28,192	26,988	25,159	23,425
—	—	—	—	—	—	—	—	—	—
652	297	(147)	20,125	13,782	13,242	16,534	7,046	3,963	3,230
—	(229)	—	—	—	16,483	15,005	—	(6,121)	—
(1,358)	(1,419)	(1,369)	(24,021)	(21,222)	(19,110)	(16,693)	(14,502)	(12,652)	(11,659)
—	—	—	(42)	(191)	—	—	(307)	(61)	(149)
1,356	667	454	47,311	41,169	56,534	56,866	32,274	23,210	28,342
22,919	22,252	21,798	547,563	506,394	449,860	392,994	360,720	337,510	309,168
24,275	22,919	22,252	594,874	547,563	506,394	449,860	392,994	360,720	337,510
—	—	—	181	86	206	195	33	47	379
883	822	716	22,311	21,452	21,142	21,381	20,828	20,246	20,161
310	1,220	2,271	67,953	(1,713)	52,874	29,769	5,761	21,024	35,969
(1,358)	(1,419)	(1,369)	(24,021)	(21,222)	(19,110)	(16,693)	(14,502)	(12,652)	(11,659)
—	—	—	(42)	(191)	—	—	(307)	(61)	(149)
(9)	(9)	(8)	(182)	(184)	(169)	(147)	(135)	(129)	(117)
35	14	99	10,251	12,461	15,601	8,826	11,344	6,697	5,845
(139)	628	1,709	76,451	10,689	70,544	43,331	23,022	35,172	50,429
17,965	17,337	15,628	468,763	458,074	387,530	344,199	321,177	286,005	235,576
17,826	17,965	17,337	545,214	468,763	458,074	387,530	344,199	321,177	286,005
6,449	4,954	4,915	49,660	78,800	48,320	62,330	48,795	39,543	51,505
73.4%	78.4%	77.9%	91.7%	85.6%	90.5%	86.1%	87.6%	89.0%	84.7%
1,776	1,795	1,749	58,727	60,050	61,516	61,501	61,436	60,698	60,373
363.1%	276.0%	281.0%	84.6%	131.2%	78.5%	101.3%	79.4%	65.1%	85.3%

Continued on page 132.

Public Safety Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017
Total pension liability			
Service cost	$ 78,229	80,296	78,272
Interest	291,647	280,149	269,818
Benefit changes	—	—	—
Difference between actual and expected experience	34,291	1,441	(3,041)
Assumption changes	—	—	118,370
Benefit payments	(201,923)	(188,414)	(172,870)
Refunds	(76)	(428)	(226)
Net change in total pension liability	202,168	173,044	290,323
Total pension liability — beginning	4,258,247	4,085,203	3,794,880
Total pension liability — ending (a)	4,460,415	4,258,247	4,085,203
Plan fiduciary net position			
Contributions — member	856	895	793
Contributions — employer	150,467	147,101	145,814
Net investment income	502,657	(13,134)	421,917
Benefit payments	(201,923)	(188,414)	(172,870)
Refunds	(76)	(428)	(226)
Administrative expense	(1,376)	(1,450)	(1,382)
Net transfers with affiliated systems	5,512	6,982	5,926
Net change in plan fiduciary net position	456,117	(48,448)	399,972
Plan fiduciary net position — beginning	3,528,069	3,576,517	3,176,545
Plan fiduciary net position — ending (b)	3,984,186	3,528,069	3,576,517
Net pension liability — ending (a-b)	$ 476,229	730,178	508,686
Plan fiduciary net position as a percentage of the total pension liability	89.3%	82.9%	87.5%
Projected covered payroll	$ 339,705	348,475	350,782
Net pension liability as a percentage of covered payroll	140.2%	209.5%	145.0%

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

Total All Divisions			
2016	2015	2014	2013
78,843	75,352	76,681	81,736
249,722	248,980	236,803	229,965
—	—	—	—
9,358	(17,164)	(25,225)	(29,228)
110,373	—	(52,410)	—
(164,508)	(155,387)	(144,763)	(137,486)
(183)	(533)	(199)	(467)
283,605	151,248	90,887	144,520
3,511,275	3,360,027	3,269,140	3,124,620
3,794,880	3,511,275	3,360,027	3,269,140
830	905	835	1,258
147,099	141,024	135,588	128,744
249,027	50,654	194,222	350,563
(164,508)	(155,387)	(144,763)	(137,486)
(183)	(533)	(199)	(467)
(1,260)	(1,233)	(1,227)	(1,161)
6,701	4,023	2,746	4,676
237,706	39,453	187,202	346,127
2,938,839	2,899,386	2,712,184	2,366,057
3,176,545	2,938,839	2,899,386	2,712,184
618,335	572,436	460,641	556,956
83.7%	83.7%	86.3%	83.0%
352,408	355,171	360,750	365,998
175.5%	161.2%	127.7%	152.2%

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
	12/31/19	1,482,122	1,334,449	147,673	90.0	105,488	140.0
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
	12/31/19	1,757,708	1,597,146	160,562	90.9	134,008	119.8
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
	12/31/19	404,571	325,192	79,379	80.4	28,862	275.0
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
	12/31/19	88,417	70,396	18,021	79.6	4,337	415.5
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
	12/31/19	67,656	57,381	10,275	84.8	4,468	230.0

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
	12/31/19	36,184	31,577	4,607	87.3	2,108	218.5
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
	12/31/19	28,883	22,831	6,052	79.0	1,707	354.5
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
	12/31/19	594,874	545,214	49,660	91.7	58,727	84.6
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
	12/31/19	4,460,415	3,984,186	476,229	89.3	339,705	140.2

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

Public Safety Retirement System

Schedules of 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
	2019	50,140	50,140	—	105,488	47.53
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
	2019	55,243	55,243	—	134,008	41.22
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
	2019	15,609	15,609	—	28,862	54.08
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
	2019	2,743	2,743	—	4,337	63.25
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
	2019	2,335	2,335	—	4,468	52.26

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
	2019	1,053	1,053	—	2,108	49.95
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
	2019	1,033	1,033	—	1,707	60.52
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
	2019	22,311	22,311	—	58,727	37.99
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
	2019	150,467	150,467	—	339,705	44.29

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.*

Firefighters Retirement System

Schedules of Fiduciary Net Position — Pension Trust Fund by Division

December 31, 2019
With Comparative Totals for December 31, 2018

(in thousands)

	Division A (with Social Security)	Division B (without Social Security)	Total All Divisions 2019	Total All Divisions 2018
Assets:				
Cash	$ 1	1	2	2
Receivables:				
Member contributions	144	527	671	675
Employer contributions	44	228	272	274
Fire insurance tax	—	—	—	747
Investments	2,538	11,131	13,669	23,642
Total receivables	2,726	11,886	14,612	25,338
Investments at fair value:				
Short-term securities	13,638	59,821	73,459	61,493
Debt securities	45,389	199,096	244,485	205,383
Equity investments	98,735	433,087	531,822	425,480
Absolute return	38,093	167,091	205,184	177,758
Private equity	29,490	129,352	158,842	141,536
Real assets	36,359	159,485	195,844	201,256
Total investments	261,704	1,147,932	1,409,636	1,212,906
Invested securities lending collateral	6,498	28,501	34,999	40,901
Property and equipment at cost, net of accumulated depreciation	65	285	350	180
Total assets	270,994	1,188,605	1,459,599	1,279,327
Liabilities:				
Securities lending collateral liability	6,498	28,501	34,999	40,901
Disbursements in excess of cash balance	249	1,092	1,341	1,239
Compensated absences, post-employment benefits and insurance reserve	168	739	907	818
Investment accounts payable	4,869	21,180	26,049	23,841
Real estate liabilities	882	3,868	4,750	4,639
Total liabilities	12,666	55,380	68,046	71,438
Net position restricted for pensions benefits	$ 258,328	1,133,225	1,391,553	1,207,889

Firefighters Retirement System

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

Year Ended December 31, 2019
With Comparative Totals for Year Ended December 31, 2018

(in thousands)

	Division A (with Social Security)	Division B (without Social Security)	Total All Divisions 2019	Total All Divisions 2018
Additions:				
Contributions:				
Member	$ 4,817	13,884	18,701	18,305
Employer	1,475	5,968	7,443	7,021
Fire insurance tax	11,858	30,001	41,859	8,747
Total contributions	18,150	49,853	68,003	34,073
Investment income:				
Net appreciation (depreciation) in fair value of investments	26,371	121,396	147,767	(28,833)
Interest, dividends, and other investment income	5,145	23,685	28,830	26,503
Total income (loss) from investment activity	31,516	145,081	176,597	(2,330)
Less investment expenses	477	2,198	2,675	2,454
Net income (loss) from investment activity	31,039	142,883	173,922	(4,784)
Income from securities lending activity	45	207	252	316
Less security lending expense	6	27	33	41
Net income from security lending activity	39	180	219	275
Net investment income (loss)	31,078	143,063	174,141	(4,509)
Transfers from affiliated systems	550	1,477	2,027	1,917
Total additions	49,778	194,393	244,171	31,481
Deductions:				
Retirement benefits	6,871	41,460	48,331	46,547
Cost-of-living benefits	1,054	10,296	11,350	10,700
Supplemental retirement benefits	8	158	166	193
Refunds	61	194	255	132
Administrative expenses	74	331	405	427
Total deductions	8,068	52,439	60,507	57,999
Increase from operations	41,710	141,954	183,664	(26,518)
Net position restricted for pensions beginning of year	216,618	991,271	1,207,889	1,234,407
Net position restricted for pensions end of year	$ 258,328	1,133,225	1,391,553	1,207,889

Firefighters Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017	2016
Total pension liability				
Service cost	$ 8,128	7,756	7,085	7,020
Interest	15,962	14,704	13,905	12,644
Benefit changes	—	—	—	—
Difference between actual and expected experience	227	3,268	(1,851)	(271)
Assumption changes	—	—	6,170	4,636
Benefit payments	(7,933)	(7,558)	(6,670)	(6,121)
Refunds	(61)	(58)	(124)	(174)
Net change in total pension liability	16,323	18,112	18,515	17,734
Total pension liability — beginning	229,603	211,491	192,976	175,242
Total pension liability — ending (a)	245,926	229,603	211,491	192,976
Plan fiduciary net position				
Contributions — member	4,817	4,638	4,457	4,214
Contributions — employer	1,475	1,319	1,147	1,124
Fire insurance tax	11,858	2,395	262	2,581
Net investment income	31,078	(797)	25,677	15,014
Benefit payments	(7,933)	(7,558)	(6,670)	(6,121)
Refunds	(61)	(58)	(124)	(174)
Administrative expense	(74)	(76)	(70)	(62)
Net transfers with affiliated systems	550	(982)	(706)	135
Net change in plan fiduciary net position	41,710	(1,119)	23,973	16,711
Plan fiduciary net position — beginning	216,618	217,737	193,764	177,053
Plan fiduciary net position — ending (b)	258,328	216,618	217,737	193,764
Net pension liability/(asset) — ending (a-b)	$ (12,402)	12,985	(6,246)	(788)
Plan fiduciary net position as a percentage of the total pension liability	105.0%	94.3%	103.0%	100.4%
Projected covered payroll	$ 31,104	29,680	27,603	27,266
Net pension liability as a percentage of covered payroll	(39.9)%	43.8%	(22.6)%	(2.9)%

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

Other Division A (with Social Security)			Other Division B (with Social Security						
2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
6,584	6,636	7,158	21,153	21,622	21,690	21,632	20,598	20,630	22,419
12,290	11,387	10,840	70,627	68,115	66,481	62,690	62,922	60,103	59,419
—	—	—	—	—	—	—	—	—	—
(985)	(1,199)	(1,812)	(664)	(2,331)	(7,365)	(5,254)	(7,274)	(13,878)	(11,271)
—	(4,028)	—	—	—	25,187	20,936	—	(16,344)	—
(6,243)	(5,432)	(4,889)	(51,914)	(49,882)	(48,123)	(45,981)	(43,428)	(42,278)	(39,858)
(190)	(72)	—	(194)	(74)	(387)	(292)	(338)	(221)	(106)
11,456	7,292	11,297	39,008	37,450	57,483	53,731	32,480	8,012	30,603
163,786	156,494	145,197	1,031,686	994,236	936,753	883,022	850,542	842,530	811,927
175,242	163,786	156,494	1,070,694	1,031,686	994,236	936,753	883,022	850,542	842,530
4,063	3,983	3,977	13,884	13,667	14,003	14,515	14,112	14,317	14,348
1,055	888	745	5,968	5,702	5,568	5,830	5,635	4,626	2,749
4,170	3,398	2,748	30,001	6,352	961	7,988	13,048	10,756	8,537
2,982	11,118	19,648	143,063	(3,712)	121,059	72,732	14,952	57,952	106,037
(6,243)	(5,432)	(4,889)	(51,914)	(49,882)	(48,123)	(45,981)	(43,428)	(42,278)	(39,858)
(190)	(72)	—	(194)	(74)	(387)	(292)	(338)	(221)	(106)
(60)	(58)	(54)	(331)	(351)	(338)	(312)	(311)	(312)	(301)
1,784	664	796	1,477	2,899	1,965	1,476	789	3,049	506
7,561	14,489	22,971	141,954	(25,399)	94,708	55,956	4,459	47,889	91,912
169,492	155,003	132,032	991,271	1,016,670	921,962	866,006	861,547	813,658	721,746
177,053	169,492	155,003	1,133,225	991,271	1,016,670	921,962	866,006	861,547	813,658
(1,811)	(5,706)	1,491	(62,531)	40,415	(22,434)	14,791	17,016	(11,005)	28,872
101.0%	103.5%	99.0%	105.8%	96.1%	102.3%	98.4%	98.1%	101.3%	96.6%
26,672	26,873	26,521	82,226	83,907	85,350	85,056	84,461	84,432	84,220
(6.8)%	(21.2)%	5.6%	(76.0)%	48.2%	(26.3)%	17.4%	20.1%	(13.0)%	34.3%

Continued on page 142.

Firefighters Retirement System

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

Year Ended December 31

(in thousands)

	2019	2018	2017
Total pension liability			
Service cost	$ 29,281	29,378	28,775
Interest	86,589	82,819	80,386
Benefit changes	—	—	—
Difference between actual and expected experience	(437)	937	(9,216)
Assumption changes	—	—	31,357
Benefit payments	(59,847)	(57,440)	(54,793)
Refunds	(255)	(132)	(511)
Net change in total pension liability	55,331	55,562	75,998
Total pension liability — beginning	1,261,289	1,205,727	1,129,729
Total pension liability — ending (a)	1,316,620	1,261,289	1,205,727
Plan fiduciary net position			
Contributions — member	18,701	18,305	18,460
Contributions — employer	7,443	7,021	6,715
Fire insurance tax	41,859	8,747	1,223
Net investment income	174,141	(4,509)	146,736
Benefit payments	(59,847)	(57,440)	(54,793)
Refunds	(255)	(132)	(511)
Administrative expense	(405)	(427)	(408)
Net transfers with affiliated systems	2,027	1,917	1,259
Net change in plan fiduciary net position	183,664	(26,518)	118,681
Plan fiduciary net position — beginning	1,207,889	1,234,407	1,115,726
Plan fiduciary net position — ending (b)	1,391,553	1,207,889	1,234,407
Net pension liability — ending (a-b)	$ (74,933)	53,400	(28,680)
Plan fiduciary net position as a percentage of the total pension liability	105.7%	95.8%	102.4%
Projected covered payroll	$ 113,330	113,587	112,953
Net pension liability as a percentage of covered payroll	(66.1)%	47.0%	(25.4)%

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

	Total All Divisions			
	2016	2015	2014	2013
	28,652	27,182	27,266	29,577
	75,334	75,212	71,490	70,259
	—	—	—	—
	(5,525)	(8,259)	(15,077)	(13,083)
	25,572	—	(20,372)	—
	(52,102)	(49,671)	(47,710)	(44,747)
	(466)	(528)	(293)	(106)
	71,465	43,936	15,304	41,900
	1,058,264	1,014,328	999,024	957,124
	1,129,729	1,058,264	1,014,328	999,024
	18,729	18,175	18,300	18,325
	6,954	6,690	5,514	3,494
	10,569	17,218	14,154	11,285
	87,746	17,934	69,070	125,685
	(52,102)	(49,671)	(47,710)	(44,747)
	(466)	(528)	(293)	(106)
	(374)	(371)	(370)	(355)
	1,611	2,573	3,713	1,302
	72,667	12,020	62,378	114,883
	1,043,059	1,031,039	968,661	853,778
	1,115,726	1,043,059	1,031,039	968,661
	14,003	15,205	(16,711)	30,363
	98.8%	98.6%	101.6%	97.0%
	112,322	111,133	111,305	110,741
	12.5%	13.7%	(15.0)%	27.4%

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
	12/31/19	245,926	258,328	(12,402)	105.0	31,104	(39.9)
Firefighters	12/31/13	$ 842,530	813,658	28,872	96.6%	$ 84,220	34.3%
Division B	12/31/14	850,542	861,547	(11,005)	101.3	84,432	(13.0)
(without Social Security)	12/31/15	883,022	866,006	17,016	98.1	84,461	20.1
	12/31/16	936,753	921,962	14,791	98.4	85,056	17.4
	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
	12/31/19	1,070,694	1,133,225	(62,531)	105.8	82,226	(76.0)
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	12/31/15	1,058,264	1,043,059	15,205	98.6	111,133	13.7
System	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
	12/31/19	1,316,620	1,391,553	(74,933)	105.7	113,330	(66.1)

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
	2019	13,333	13,333	—	31,104	42.87
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
	2019	35,969	35,969	—	82,226	43.74
Total	2013	$ 14,779	14,779	—	110,741	13.35%
Firefighters	2014	19,668	19,668	—	111,305	17.67
Retirement	2015	23,908	23,908	—	111,133	21.51
System	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
	2019	49,302	49,302	—	113,330	43.50

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, 2019

	(in thousands) Total
Personal services	
Salaries and wages	$16,354
Employee benefits	7,051
Total personal services	23,405
Professional services:	
Audit	294
Actuarial services	254
General counsel	516
Banking services	15
Security handling expense	964
Investment advisor fees	58,338
Other consulting services	3,478
Total professional services	63,859
Communications:	
Telephone	192
Postage	393
Total communications	585
Rentals:	
Office space	1,102
Office equipment rental	47
Total rentals	1,149
Miscellaneous:	
Data processing	1,120
Professional development	424
Contractual services	170
Supplies and maintenance	202
Insurance and bonding premiums	671
Office supplies	78
Other	432
Depreciation expense	1,245
Total miscellaneous	4,342
Total administrative and investment expenses	$ 93,340
Allocation of administrative expenses:	
Noncontributory Retirement System	$ 9,411
Contributory Retirement System	408
Public Safety Retirement System	1,376
Firefighters Retirement System	405
Judges Retirement System	81
Utah Governors and Legislators Retirement Plan	4
Tier 2 Public Employees Retirement System	152
Tier 2 Public Safety and Firefighter Retirement System	20
401(k) Plan	7,456
457 Plan	833
Roth IRA Plan	221
Traditional IRA Plan	201
Total administrative expenses	20,568
Investment administrative expense	14,434
Investment advisor fees:	
Investment Fund	53,871
401(k) Plan	3,810
457 Plan	417
Roth IRA Plan	119
Traditional IRA Plan	121
Total investment expenses	72,772
Total administrative and investment expense allocations	$ 93,340

Investment Section

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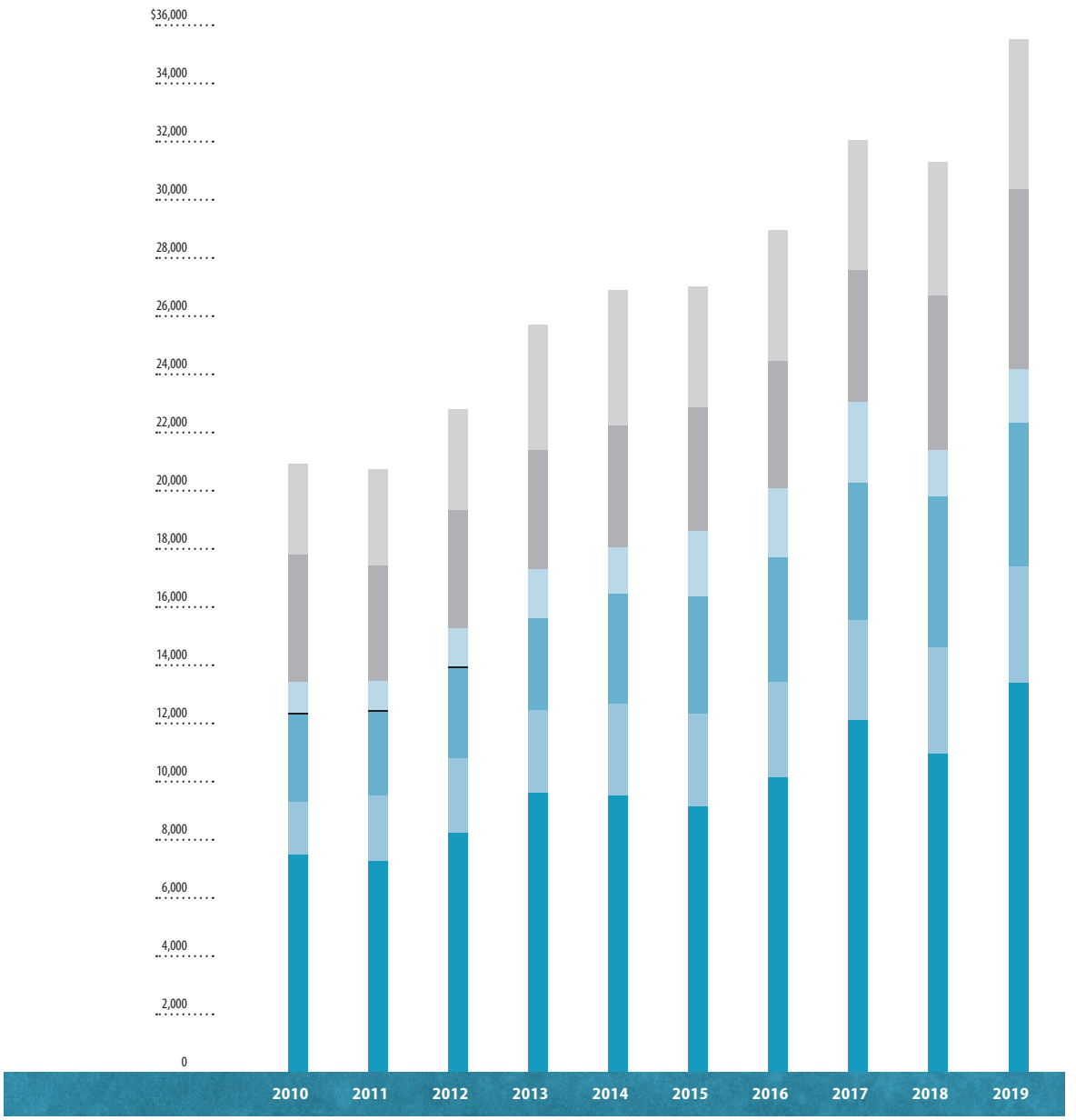
10-Year Investment Comparison

(in millions)



(in millions)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Absolute return	$ 3,138	3,287	3,474	4,298	4,643	4,141	4,509	4,459	4,598	5,184
Debt securities	4,406	4,022	4,093	4,094	4,213	4,282	4,356	4,557	5,313	6,176
Short-term securities	1,056	1,017	1,337	1,711	1,572	2,230	2,392	2,759	1,591	1,856
Mortgages	7	7	7	—	—	—	—	—	—	—
Real assets	3,024	2,886	3,094	3,147	3,780	4,025	4,269	4,745	5,206	4,948
Private equity	1,840	2,255	2,594	2,840	3,170	3,215	3,291	3,451	3,661	4,013
Equities	7,521	7,323	8,272	9,675	9,577	9,193	10,200	12,155	11,007	13,436
Totals	$ 20,992	20,797	22,871	25,765	26,955	27,086	29,017	32,126	31,376	35,613

Utah Retirement Systems

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, 2020

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

Dear Members of Utah Retirement Systems:

Probably the biggest story for the year 2019 was trade. The trade war weighed on the economy throughout the year. Companies were forced to rethink supply chains as China's increased influence, technological innovation, and U.S. protectionist inclinations became increasingly difficult to navigate. The North American Free Trade Agreement had to be reworked into the U.S.-Mexico-Canada Agreement. The year ended with more tariffs on Chinese goods imported to America and China diverting some of its exports into other markets with surprising success. By the end of the year, there was a ceasefire on trade but not a permanent agreement between the U.S. and China.

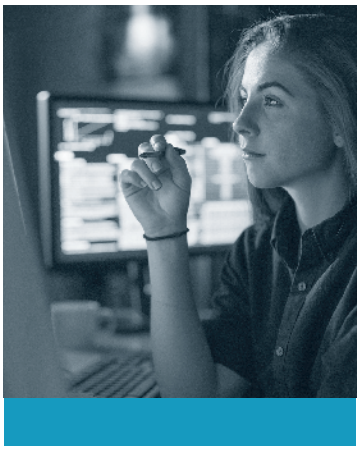
As the world economy slowed, the Federal Reserve began cutting interest rates, for a total of three rate cuts during the year. This helped the American economy from falling into a recession and gave emerging markets some relief after some difficult few years. Given the slowdown, China was also expected to implement a large-scale stimulus package. However, the package was modest and didn't contribute enough to significantly grow the world economy. Still, global growth did hold up.

Spot oil prices increased 35% for the year, marking the largest annual gain since 2016. The market exhibited late business cycle performance and all assets seemed overvalued.

Although the U.S. reached a staggering annual budget deficit of one trillion dollars, it boosted economic activity. Unemployment was low and inflation remained subdued. United States economic growth, after rising at an annualized 3.1% rate in the first quarter, faded to an annualized rate of 2.4% for the remainder of the year as measured by Gross Domestic Product.

There was geopolitical risk throughout the year as sanctions and tensions with Iran ultimately caused Iran to attack a United States military base in Iraq at the beginning of the 2020 year. Hong Kong uprisings in China also fueled unrest and caused further tensions with the United States. Europe had its own problems. It appeared that a "no deal Brexit' was going to happen, but the conservative party was re-elected and Britain was able to delay the United Kingdom's exit from the European Union until sometime after 2019. Fortunately, the majority of Europeans did not rebel against the European Union.

Defined Benefit Investments *(Continued)*



The United States had to deal with its own domestic challenges, as President Donald Trump was impeached in the House of Congress in 2019 before being acquitted in the Senate in early 2020.

Yields on interest rates in most developed markets were significantly lower relative to 2018. There was a parallel shift down in the Treasury curve. This caused the Bloomberg Barclays Aggregate in the United States to return about 8.5% in total return for the year. Negative interest rates continued in many parts of the world hoping to convince the consumer to either spend or invest in risk assets. To date, the strategy has failed to jump start economic growth in those countries. Spreads on fixed income securities continued to compress both on Investment Grade and High Yield instruments.

Growth-style stocks continued to outperform value-style stocks, lengthening the underperformance of value-style stocks to 12 years. The underperformance of small cap value stocks was also a negative for the market. This underperformance has only been more extreme twice in United States history — in 1929, right before the Great Depression, and in 1999, at the height of the technology bubble.

The equity market rebounded in 2019 from losses in the prior year. Global equities ended up, with the S&P 500 leading the charge with an increase of 31.5%. The Federal Reserve added a whopping $400 billion of liquidity in the fourth quarter of 2019 which increased the Federal Reserve's balance sheet. Thus, U.S. stocks rallied strongly into year end. International stocks also benefited. MSCI EAFE was up 21.9%, and MSCI Emerging markets were up 18.3% despite the outperformance of the U.S. dollar.

Index funds outperformed active managers as the market narrowed and a handful of stocks in the index continued their astronomical rise. Thus, 2019 reflected the same narrow market condition experienced in the late '90s during the dot com era, with telecom, media, and technology stocks leading the way. Information technology stocks were the darling of 2019 with over 50% total return as high-tech companies could continue to disrupt antiquated business models. All sectors of the S&P 500 were positive, but some sectors did better than others, e.g., financials and communication services.

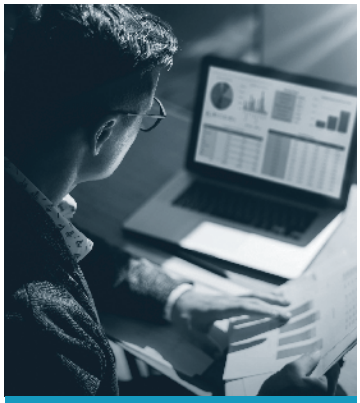
Although experiencing positive returns, hedge funds experienced outflows due to lagging performance as compared to equity markets.

Other asset classes that were positive for the year included Real Estate, Commodities, Natural Resources, and Private Equity.

URS had a very good year. We returned just slightly under 14.5%, doubling our assumed long-term average actuarial return of 6.95%. Our alternative asset classes, including Absolute Return, Real Estate, and Private Equity, contributed positive numbers for the year.

Our funded status, as of December 31, 2019, is 91.7%. That's one of the highest funded statuses among public pension plans in the country. We feel we have a solid strategy to deal with volatility through the years to produce the best possible outcome for our members.

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

2019 Investment Summary

(dollars in thousands)

	2019 Beginning Fair Value	Purchases	Sales and Redemptions	Increase (Decrease) in Fair Value	2019 Ending Fair Value Balance	Percent of Total Fair Value
Short-term securities	$ 1,590,727	37,013,702	(36,750,305)	1,662	1,855,786	5.21%
Equities	11,006,650	2,541,886	(2,319,594)	2,206,628	13,435,570	37.73
Debt securities	5,313,032	19,938,126	(19,312,862)	238,202	6,176,498	17.34
Real assets	5,206,229	694,795	(718,667)	(234,699)	4,947,658	13.89
Private equity	3,661,356	517,262	(316,099)	150,353	4,012,872	11.27
Absolute return	4,598,396	3,228,345	(2,751,652)	108,531	5,183,620	14.56
Totals	$ 31,376,390	63,934,116	(62,169,179)	2,470,677	35,612,004	100.00%

Defined Benefit Investments *(Continued)*

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.

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.

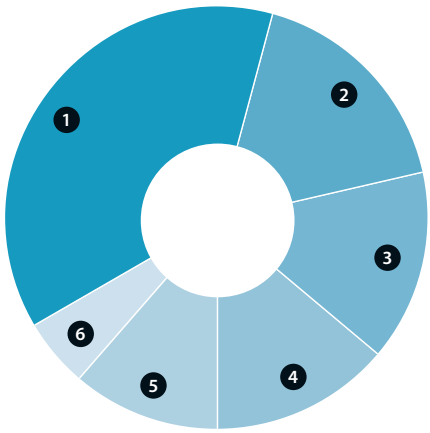
Investment return calculations are prepared using a time-weighted rate of return.

The allocation of assets as reported to the board are as follows: Equity securities 39.5%, Debt securities 20.8%, Absolute return 15.0%, Private equity 11.3% and Real assets 13.4%. 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, 2019

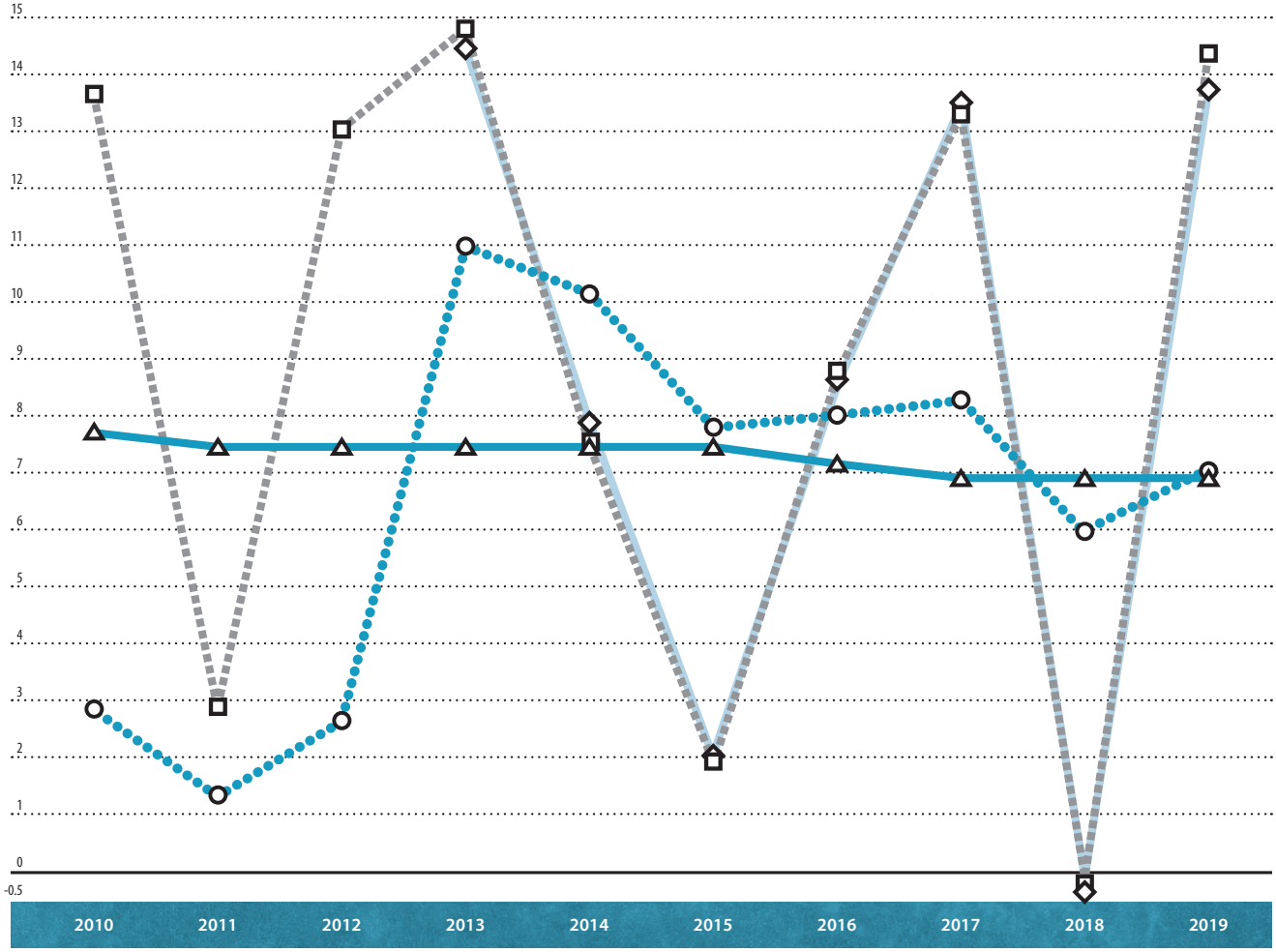
1 Equity Securities (37.7%)
2 Debt Securities (17.3%)
3 Absolute Return (14.6%)
4 Real Assets (13.9%)
5 Private Equity (11.3%)
6 Short Term (5.2%)



December 31,	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Equities securities	35.8%	35.2	36.2	37.5	35.5	33.9	35.2	37.8	35.1	37.7
Debt securities	21.0	19.4	17.9	16.0	15.7	15.8	15.0	14.2	16.9	17.3
Private equity	8.8	10.8	11.3	11.0	11.8	11.9	11.3	10.7	11.7	11.3
Real assets	14.4	13.9	13.5	12.2	14.0	14.9	14.7	14.8	16.6	13.9
Short-term securities	5.0	4.9	5.9	6.6	5.8	8.2	8.2	8.6	5.1	5.2
Absolute return	15.0	15.8	15.2	16.7	17.2	15.3	15.6	13.9	14.6	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
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)
2019	35,612	7.08	14.45	6.95	13.80

(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 2019, 14.29% net of fees.)

(3) **Actuarial Assumed Interest Rate** is the assumed rate of return on the fair value of assets, and is used in establishing retirement contribution rates and in determining current benefit reserve requirements.

(4) **Money Weighted Rate of Return** is calculated as the internal rate of return on pension plan investments, net of investment expenses.

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

Year Ended December 31, 2019

Investment Option Comparative Index	1 Year	3 Year	5 Year	10 Year
Global Equity*	**25.22%**	**10.83%**	**8.28%**	**10.06%**
Russell Global Equity Index	26.41	12.05	8.32	9.41
Global Debt Securities*	**8.98**	**4.23**	**3.58**	**4.60**
Fund Benchmark	8.57	4.04	3.41	4.07
Benchmark consisting of: 60% Bloomberg Barclays U.S. Aggregate Bond Index 15% Bloomberg Barclays Global Aggregate Bond Index Hedged 25% Bloomberg Barclays World Government Inflation-Linked Bond Index				
Real Assets**	**3.36**	**8.51**	**8.72**	**10.33**
U.S. Consumer Price Index + 5.0%	7.32	7.09	6.73	6.70
Private Equity	**19.60**	**19.10**	**15.64**	**16.07**
Private Equity Benchmark	33.56	17.17	13.82	16.01
Benchmark consisting of: Russell 3000 + 2.5%				
Absolute Return	**5.29**	**4.34**	**3.74**	**5.16**
3-Month Treasury Bills + 5.0%	7.28	6.67	6.07	5.58
Short Term	**5.52**	**2.72**	**1.78**	**0.94**
3-Month Treasury Bills	2.28	1.67	1.07	0.58
Total Fund***	**14.45**	**9.07**	**7.53**	**8.89**
Fund Benchmark	17.37	9.42	7.39	8.30
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 9% Russell 3000 Index + 2.5% 5% Bloomberg Barclays World Government Inflation-Linked Bond Index 3% Bloomberg Barclays Global Aggregate Bond Index Hedged				
CAI Public Fund—Very Large Database Median	17.49	10.18	7.74	8.82
Inflation	**2.31**	**2.09**	**1.73**	**1.70**

(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.

**Global equity and fixed income returns are reported at gross for comparability to the benchmarks which are reported as gross of fees. All other returns are reported a net of 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 gross returns for Global Equities and Debt Securities and net returns for Real Assets, Absolute Return, Short-term and Private Equity. Total fund net return is 14.28%, 8.89%, 7.35%, and 8.69% for 1, 3, 5, and 10-year periods.*

List of Largest Assets Held

December 31, 2019

Largest Equity Holdings*

(By Fair Value)

Description	Shares	Fair Value
Apple Inc.	660,894	$ 194,071,523
Microsoft Corp.	1,124,541	177,340,116
Amazon Inc.	61,506	113,653,247
Alphabet Inc.	111,150	148,759,568
Facebook	355,328	72,931,072
JP Morgan	463,669	64,635,459
Nestle SA	556,107	60,173,379
Visa Inc.	317,610	59,678,919
United Health Group	199,209	58,563,462
Johnson & Johnson	394,892	57,602,896

Largest Debt Securities Holdings

(By Fair Value)

Description	Par Value	Fair Value
FNMA Single Family Mortgage 4% January	$ 144,330,000	150,322,953
United States Treasury Note 1.5% 9/30/2024	95,585,000	95,154,023
United States Treasury Note 1.625% 10/31/2026	79,144,000	78,378,726
State of Wisconsin Treasury 1.625% 10/30/2026	57,820,000	57,166,102
United States Treasury Note .875% 01/15/2029	51,955,000	56,441,958
FNMA Single Family Mortgage 4.5% January	52,843,996	55,722,755
United States Treasury Note .625% 4/15/2023	43,906,500	46,253,021
United States Treasury Note 1.375% 8/31/2026	47,180,000	46,116,506
United States Treasury Note 3.125% 10/15/2028	41,380,000	45,696,284
United States Treasury Bond 3.125% 12/15/2025	33,525,000	38,835,696

**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, 2019

Broker Commission Fees

Broker	Total Commission Fees
Cowen	$ 905,144
Instinet	230,430
UBS	184,273
Morgan Stanley	127,605
Goldman Sachs	106,872
Citigroup	78,867
BNY Convergex	68,789
BNP Paribas	49,865
CLSA	49,261
Sanford C. Bernstein	45,481
All Others	899,603
Total	$ 2,746,190

Schedule of Investment Fees and Commissions

Investment advisor fees:*	
Absolute return	$ 5,890,366
Equity	31,430,674
Debt securities	7,807,160
Private equity	4,709,932
Real assets	3,786,869
Short term	246,129
Total investment advisor fees	53,871,130
Investment brokerage fees	2,746,190
Total fees and commissions	$ 56,617,320

**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, 2019, Utah Retirement Systems recaptured approximately $66,537 from the gross commission charges. This recaptured sum was used to cover or offset the $99,696 in investment expenses that otherwise would have been paid for with investment funds.

Defined Benefit Investments *(Concluded)*

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

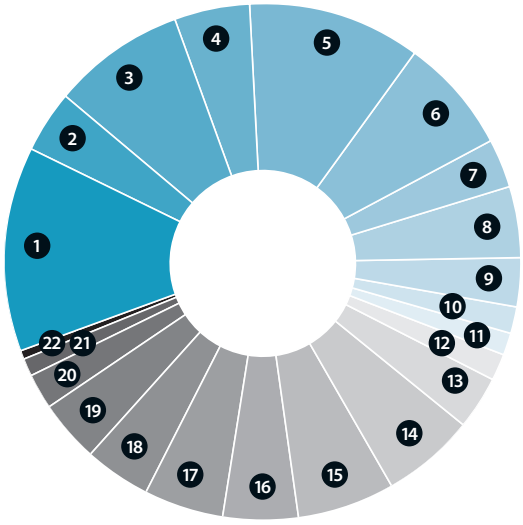
Russell Implementation
Services, Inc.
1301 Second Avenue
18th Floor
Seattle, WA 98101

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

Defined Contribution Savings Plans Investments

Savings Plans Investments by Percentage

December 31, 2019



1 Income Fund (12.92%)
2 Bond Fund (3.88%)
3 Balanced Fund (8.23%)
4 Large Cap Stock Value Fund (4.80%)
5 Large Cap Stock Index Fund (10.85%)
6 Large Cap Stock Growth Fund (7.15%)
7 International Fund (3.13%)
8 Small Cap Stock Fund (4.42%)
9 Brokerage Window (3.15%)
10 Tier 2 Nonvested Fund (1.71%)
11 Target Retired Fund (1.15%)
12 Target Date 2010 Fund (1.69%)
13 Target Date 2015 Fund (3.41%)
14 Target Date 2020 Fund (5.94%)
15 Target Date 2025 Fund (6.14%)
16 Target Date 2030 Fund (4.75%)
17 Target Date 2035 Fund (4.74%)
18 Target Date 2040 Fund (4.42%)
19 Target Date 2045 Fund (3.65%)
20 Target Date 2050 Fund (2.35%)
21 Target Date 2055 Fund (1.21%)
22 Target Date 2060 Fund (0.31%)

Utah Retirement Systems

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.

Savings Plans Investments

December 31, 2019

(in thousands)

Investment Options	Total
Income Fund	$ 854,580
Bond Fund	256,417
Balanced Fund	544,418
Large Cap Stock Value Fund	317,927
Large Cap Stock Index Fund	717,993
Large Cap Stock Growth Fund	473,360
International Fund	206,849
Small Cap Stock Fund	292,622
Brokerage Window	208,448
Tier 2 Nonvested Fund	113,402
Target Retired Fund	75,771
Target Date 2010 Fund	111,937
Target Date 2015 Fund	225,749
Target Date 2020 Fund	392,814
Target Date 2025 Fund	406,185
Target Date 2030 Fund	314,150
Target Date 2035 Fund	313,356
Target Date 2040 Fund	292,595
Target Date 2045 Fund	241,806
Target Date 2050 Fund	155,533
Target Date 2055 Fund	80,269
Target Date 2060 Fund	20,543
Totals	$ 6,616,724

The participants of the plans have a choice of 20 core investment funds and a brokerage window in which their monies may be invested. Each participant may choose one or a combination of the core funds. The table to the left shows the total assets in the various investment options. The graph to the right and the table shows the asset distribution as of December 31, 2019.

Investment and Administrative Expenses

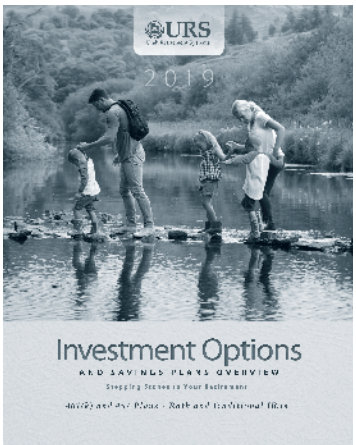
There are no front-end load, redemption, or other hidden fees associated with these plans. All costs reflected in the table on page 158 are deducted from earnings prior to posting to participant accounts and do not appear as separate items on participant statements.

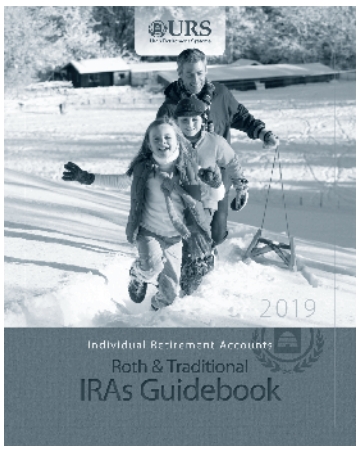
The administrative fee for the brokerage window account was a flat rate of $12 per quarter. Investment fees and broker commissions are paid by the participant according to the trading and securities selected within the brokerage window.

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.)

Defined Contribution Savings Plans Investments *(Continued)*





2019 Investment Summary and Investment and Administrative Fees

(dollars in thousands)

Fund	2019 Beginning Fair Value	Purchases	Sales and Redemptions	Increase (Decrease) in Fair Value	2019 Ending Fair Value	Percent of Total Fair Value	Invest-ment Fees	Admin-istrative Fees	Total Fees
Income Fund	$ 866,170	68,662	89,007	8,755	854,580	12.92%	0.23%	0.16%	0.39%
Bond Fund	205,752	55,442	21,532	16,755	256,417	3.88	0.10	0.16	0.26
Balanced Fund	476,768	19,212	29,776	78,214	544,418	8.23	0.24	0.16	0.40
Large Cap Stock Value Fund	277,596	11,425	20,723	49,629	317,927	4.80	0.42	0.16	0.58
Large Cap Stock Index Fund	580,003	25,296	45,574	158,268	717,993	10.85	0.03	0.16	0.19
Large Cap Stock Growth Fund	374,273	31,677	30,561	97,971	473,360	7.15	0.25	0.16	0.41
International Fund	180,003	7,996	14,243	33,093	206,849	3.13	0.06	0.16	0.22
Small Cap Stock Index Fund	260,140	15,798	20,983	37,667	292,622	4.42	0.35	0.16	0.51
Brokerage Window	172,028	25,923	16,792	27,289	208,448	3.15	N/A	N/A	N/A
Tier 2 Nonvested	94,684	23,118	17,103	12,703	113,402	1.71	0.18	0.16	0.34
Target Date Retired Fund	65,429	15,744	11,545	6,143	75,771	1.15	0.18	0.16	0.34
Target Date 2010 Fund	98,823	17,290	13,575	9,399	111,937	1.69	0.18	0.16	0.34
Target Date 2015 Fund	192,627	33,741	21,236	20,617	225,749	3.41	0.19	0.16	0.35
Target Date 2020 Fund	333,010	43,926	28,545	44,423	392,814	5.94	0.21	0.16	0.37
Target Date 2025 Fund	323,870	48,908	18,739	52,146	406,185	6.14	0.21	0.16	0.37
Target Date 2030 Fund	241,186	34,153	7,982	46,793	314,150	4.75	0.22	0.16	0.38
Target Date 2035 Fund	234,887	33,190	5,747	51,026	313,356	4.74	0.22	0.16	0.38
Target Date 2040 Fund	215,632	31,520	6,694	52,137	292,595	4.42	0.21	0.16	0.37
Target Date 2045 Fund	173,881	27,453	3,152	43,624	241,806	3.65	0.21	0.16	0.37
Target Date 2050 Fund	106,481	23,809	2,063	27,306	155,533	2.35	0.21	0.16	0.37
Target Date 2055 Fund	46,837	21,157	757	13,032	80,269	1.21	0.21	0.16	0.37
Target Date 2060 Fund	10,821	8,231	1,626	3,117	20,543	0.31	0.21	0.16	0.37
Total	$ 5,530,901	623,671	427,955	890,107	6,616,724	100.00%			

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, 2019

Investment Option Comparative Index	Annualized 1-Year	3-Year	5-Year	10-Year
Income Fund	**2.60%**	**2.16%**	**1.93%**	**1.90%**
90-day Treasury Bills Index	2.28	1.67	1.07	0.58
Bond Fund	**9.57**	**4.65**	**3.89**	**4.59**
Bloomberg Aggregate Index	8.72	4.03	3.05	3.75
Balanced Fund	**20.24**	**11.43**	**8.90**	**10.23**
Balanced Index (1)	22.16	10.74	8.25	9.71
Large Cap Stock Value Fund	**24.75**	**11.06**	**9.65**	**12.51**
*Russell 1000 Value Index	26.54	9.68	8.29	11.80
Large Cap Stock Index Fund	**31.15**	**14.80**	**11.27**	**13.16**
Large Cap Stock Blended Index (2)	31.43	15.05	11.48	13.40
Large Cap Stock Growth Fund	**32.27**	**20.41**	**13.98**	**14.51**
*Russell 1000 Growth Index	36.39	20.49	14.63	15.22
International Fund	**21.55**	**9.85**	**5.72**	**4.89**
International Blended Index (3)	21.63	9.84	5.71	4.75
Small Cap Stock Fund	**21.56**	**5.49**	**6.93**	**11.90**
*Russell 2000 Index	25.52	8.59	8.23	11.83
Target Retired Fund	**10.35**	**5.33**	**4.45**	**N/A**
Target Date Retirement Index (4)	9.91	5.02	3.91	—
Target Date 2010 Fund	**10.83**	**5.65**	**4.59**	**N/A**
Target Date 2010 Index (5)	10.38	5.37	4.27	—
Target Date 2015 Fund	**12.03**	**6.40**	**5.23**	**N/A**
Target Date 2015 Index (6)	11.55	6.10	4.96	—
Target Date 2020 Fund	**14.28**	**7.56**	**6.06**	**N/A**
Target Date 2020 Index (7)	13.57	7.19	5.73	—

Continued on page 160.

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:*** *24% 90 Day T-Bills, 20% Bloomberg Barclays US Aggregate Bond, 15% 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:*** *19% 90 Day T-Bills, 21% Bloomberg Barclays US Aggregate Bond, 18% Russell 1000 Index*, 5% MSCI ACWI ex. US IMI, 2% Russell 2000 Index*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 16% Bloomberg Barclays Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 6% NFI-ODCE (Value Weighted)*

(7) ***Target Date 2020 Index:*** *14% 90 Day T-Bills, 18% Bloomberg Barclays US Aggregate Bond, 22% Russell 1000 Index*, 9% MSCI ACWI ex. US IMI, 3% Russell 2000 Index*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% Bloomberg Commodity Index, 11% 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 Savings Plans Investments *(Continued)*

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

Year Ended December 31, 2019

Investment Option / Comparative Index	Annualized 1-Year	3-Year	5-Year	10-Year
Target Date 2025 Fund	**16.58%**	**8.59%**	**6.77%**	**N/A**
Target Date 2025 Index [8]	16.20	8.36	6.56	—
Target Date 2030 Fund	**19.76**	**9.62**	**7.42**	**N/A**
Target Date 2030 Index [9]	19.18	9.52	7.27	—
Target Date 2035 Fund	**21.74**	**10.44**	**7.88**	**N/A**
Target Date 2035 Index [10]	21.69	10.31	7.72	—
Target Date 2040 Fund	**23.35**	**10.86**	**8.13**	**N/A**
Target Date 2040 Index [11]	23.25	10.73	7.92	—
Target Date 2045 Fund	**23.78**	**11.00**	**8.20**	**N/A**
Target Date 2045 Index [12]	23.95	10.88	8.02	—
Target Date 2050 Fund	**23.78**	**11.00**	**8.20**	**N/A**
Target Date 2050 Index [13]	23.95	10.88	8.02	—
Target Date 2055 Fund	**23.78**	**11.00**	**8.20**	**N/A**
Target Date 2055 Index [14]	23.95	10.88	8.02	—
Target Date 2060 Fund	**23.78**	**11.00**	**8.20**	**N/A**
Target Date 2060 Index [15]	23.95	10.88	8.02	—
Tier 2 Nonvested Fund	**17.40**	**8.03**	**6.10**	**N/A**
Tier 2 Nonvested Index [16]	17.46	7.94	5.90	—

Past performance does not guarantee future results.

(8) ***Target Date 2025 Index:*** *9% 90 Day T-Bills, 17% Bloomberg Barclays US Aggregate Bond, 1.5% Russell 1000 Value Index*, 24% Russell 1000 Index*, 1.5% Russell 1000 Growth Index*, 14% MSCI ACWI ex. US IMI, 3% Russell 2000 Index*, 10% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 1% Russell Fundamental US Select Real Estate Index**, 3% Bloomberg Commodity Index, 6% Bloomberg Barclays Global Inflation-Linked Bond Index 1-10 Year (USD Hedged), 10% NFI-ODCE (Value Weighted)*

(9) ***Target Date 2030 Index:*** *4% 90 Day T-Bills, 12% Bloomberg Barclays US Aggregate Bond, 3.5% Russell 1000 Value Index*, 24% Russell 1000 Index*, 3.5% Russell 1000 Growth Index*, 21% MSCI ACWI ex. US IMI, 6% Russell 2000 Index*, 8% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 3% 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:*** *8% Bloomberg Barclays US Aggregate Bond, 5.5% Russell 1000 Value Index*, 23% Russell 1000 Index*, 5.5% Russell 1000 Growth Index*, 28% MSCI ACWI ex. US IMI, 8% Russell 2000 Index, 5% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index**, 4% Bloomberg Commodity Index, 9% NFI-ODCE (Value Weighted)*

(11) ***Target Date 2040 Index:*** *4% Bloomberg Barclays US Aggregate Bond, 8% Russell 1000 Value Index*, 22% Russell 1000 Index*, 8% Russell 1000 Growth Index*, 32% MSCI ACWI ex. US IMI, 9% Russell 2000 Index*, 3% Bloomberg Barclays Global Aggregate ex. US Bond Index (hedged), 4% Russell Fundamental US Select Real Estate Index**, 4% Bloomberg Commodity Index, 6% 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)*

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

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List of Largest Assets Held

December 31, 2019

Largest Equity Holdings*

(By Fair Value)

Description	Shares	Fair Value
Apple Inc.	22,094	$ 85,773,403
Microsoft Corp.	524,533	82,718,854
Alphabet Inc.	58,356	78,085,266
Amazon Inc.	38,976	72,021,412
Facebook Inc.	222,243	45,615,376
Mastercard Inc.	147,304	43,983,501
Visa Inc.	221,469	41,614,025
Salesforce Inc.	233,362	37,953,996
Netflix Inc.	84,617	27,379,523
Adobe Inc.	81,988	27,040,462

Largest Debt Securities Holdings

(By Fair Value)

Description	Par Value	Fair Value
United States Treasury Note 2.375% 5/15/2029	$ 37,250,000	38,858,597
United States Treasury Note 1.625% 8/15/2029	33,950,000	33,308,306
United States Treasury Note 1.625% 11/15/2022	23,149,000	23,214,753
SLM Student Loan 1/25/2041	19,797,000	18,834,069
SLM Student Loan 4/25/2040	18,274,000	17,611,680
FNMA Pool 4.5% 11/1/2048	14,532,845	15,381,425
United States Treasury Note 1.625% 4/15/2022	13,990,000	14,785,816
FNMA Pool 4% 10/1/2045	12,695,811	13,493,513
FNMA Pool 4.5% 5/1/2048	11,004,327	11,602,301
FHLMC GOLD 4.5% 09-01-2048	10,846,807	11,505,410

**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, 2019

Broker Commission Fees

Broker	Total Commission Fees
Frank Russell	$ 24,194
Goldman Sachs	17,644
Instinet	9,262
Bear Sterns	7,558
Morgan Stanley	6,358
Jefferies	5,397
RBC	4,791
Credit Suisse	3,994
Sanford C. Bernstein	3,790
Direct Trading Institutional	2,458
All others	22,595
Total	$ 108,041

Schedule of Investment Fees and Commissions

Investment advisor fees:*	
Debt securities	$ 1,508,813
Equity securities	2,765,134
Real assets	193,131
Total investment advisor fees	4,467,078
Investment brokerage fees	108,041
Total fees and commissions	$ 4,575,119

**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, 2019, Utah Retirement Systems recaptured $17,314 from the gross commission charges. This recaptured sum was used to cover or offset the $15,018 in investment expenses that otherwise would have been paid for with investment funds.

Defined Contribution Savings Plans Investments *(Concluded)*

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

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

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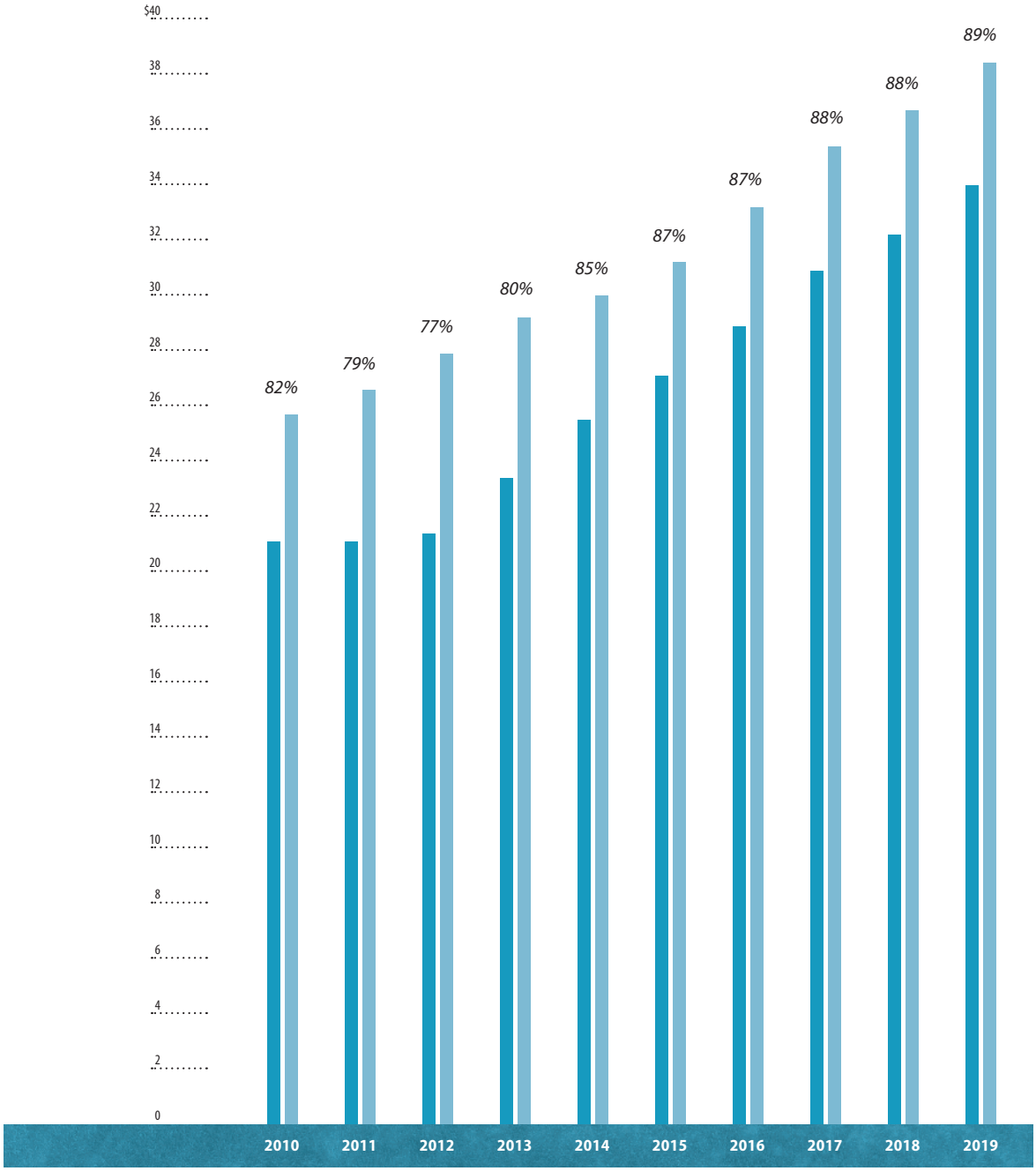
Funding Progress with Funding Ratios

(dollars in billions)



(dollars in billions)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Actuarial value of assets	$ 21.1	21.1	21.4	23.4	25.5	27.1	28.9	30.9	32.2	34.0
Accrued actuarial liability	25.7	26.6	27.9	29.2	30.0	31.2	33.2	35.3	36.7	38.4
Funding Ratios	82%	79%	77%	80%	85%	87%	87%	88%	88%	89%

Utah Retirement Systems

Actuary's Certification Letter

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August 9, 2019

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, 2019

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, 2019 actuarial valuation will be used by the Board when certifying the employer contribution rates for the 12-month period beginning July 1, 2020 and ending June 30, 2021. 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.

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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 slightly decreased from 87.4% to 87.2%. The slight change in the funded ratio is due to investment losses on an actuarial value of asset basis and liability losses primarily attributable to higher than expected salary increases. Absent unfavorable actuarial experience, we expect the funded ratio 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 84.6% compared to 90.3% in the prior year. The decrease in the funded ratio on a market value basis is attributable to the -0.4% return on the market value of assets during the prior year and liability losses primarily attributable to higher than expected salary increases.

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on January 1, 2019. SB 129 was enacted during the 2019 legislative session and will increase the employer contribution requirement to the Tier 2 Public Safety and Firefighter System (Hybrid and Defined Contribution) to 14.00% of payroll. Additionally, the benefit multiplier will increase from 1.50% to 2.00% for service earned after July 1, 2020 in the Tier 2 Public Safety and Firefighter Hybrid System. As a result, the certified contribution rates for this System have increased.

It should also be noted that the increased benefit multiplier in the Tier 2 Public Safety and Firefighter Hybrid System will result in a 2.27% of pay member contribution requirement beginning July 1, 2020.

Assumptions and methods

Except as noted below, 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.

With the passage of SB 129, the retirement pattern for the members in the Tier 2 Public Safety and Firefighter Hybrid System are expected to change. We have modified the retirement rates for these members to be the same as the assumption used to model the retirement pattern in the Tier I Public Safety and Firefighter Systems, except for a 10% load at first eligibility for unreduced retirement prior to age 65.

GRS Retirement Consulting

Actuary's Certification Letter *(Concluded)*

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

It is our opinion that the assumptions used to perform this valuation are internally consistent and are reasonable based on past and anticipated future experience of the System. 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, 2018 by the URS staff. The staff also supplied asset information as of December 31, 2018. 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, 2019.

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

Utah Retirement Systems

Summary of Actuarial Assumptions and Methods

as of January 1, 2019

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, 2019).

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 173. 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.

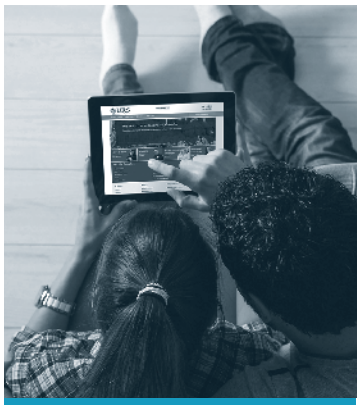
e) Tables of mortality rates for male members retired for service and beneficiaries were developed from actual experience of URS retirees. Mortality rates for female members retired for service and beneficiaries were developed from actual experience of the URS retirees.

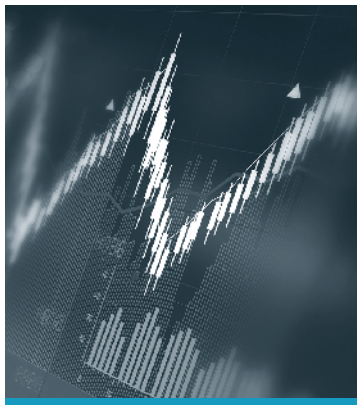
The mortality basis is adjusted based upon the member's class and gender as shown above. These base rates are adjusted for future improvement in mortality using published Scale AA projected from the year 2017. All of these rates were adopted January 1, 2017. Mortality rates for active members use the 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.

Summary of Actuarial Assumptions and Methods *(Continued)*

as of January 1, 2019





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

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, 2019

		Percent Retiring Within Next Year Among Active Members Eligible for Retirement						
		Male			Female			
		State and School Division			State and School Division			
	Retirement Age	Educators	Public Employees	Local Government Division	Educators	Public Employees	Local Government Division	Governors and Legislators Retirement Plan
Tier 1	50	20.00%	15.00%	15.00%	30.00%	17.00%	20.00%	0.00%
Noncontributory	51	20.00	15.00	15.00	30.00	16.00	20.00	0.00
and Contributory	52	20.00	15.00	15.00	30.00	16.00	20.00	0.00
Retirement Systems	53	20.00	15.00	15.00	14.00	16.00	20.00	0.00
Adopted January 1, 2017	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	45	15.00%	50	15.00%	55	15.00%	59	20.00%	63	35.00%	67	50.00%
Public Safety	46	15.00	51	15.00	56	15.00	60	20.00	64	35.00	68	50.00
Retirement System	47	15.00	52	15.00	57	15.00	61	20.00	65	35.00	69	50.00
Adopted January 1, 2017	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	45	15.00%	50	15.00%	55	15.00%	59	20.00%	63	25.00%	67	50.00%
Firefighters	46	15.00	51	15.00	56	15.00	60	20.00	64	25.00	68	50.00
Retirement System	47	15.00	52	15.00	57	15.00	61	20.00	65	50.00	69	50.00
Adopted January 1, 2017	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	45	10.00%	50	10.00%	55	10.00%	59	10.00%	63	10.00%	67	20.00%
Retirement System	46	10.00	51	10.00	56	10.00	60	10.00	64	15.00	68	20.00
Adopted January 1, 2017	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, 2019

		Percent Retiring Within Next Year Among Active Members						
		Eligible for Retirement						
		Male			Female			
		State and School Division			State and School Division			
	Retirement Age	Educators	Public Employees	Local Government Division	Educators	Public Employees	Local Government Division	Governors and Legislators Retirement Plan
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%.

Tier 2 Public Safety and Firefighter Retirement System

Public Safety
Adopted January 1, 2019

Percent Retiring Within Next Year Among Active Members Eligible for Retirement												
Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		
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								

Firefighters
Adopted January 1, 2019

Percent Retiring Within Next Year Among Active Members Eligible for Retirement											
Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age		Retirement Age	
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								

Summary of Actuarial Assumptions and Methods *(Continued)*

as of January 1, 2019

		Other Termination of Employment Percent of Active Members Separating Within Next Year						
		Male			Female			Governors and Legislators Retirement Plan
		State and School Division		Local Government Division	State and School Division		Local Government Division	
	Years of Service	Educators	Public Employees		Educators	Public Employees		
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, 2019

Total Annual Increase in Salary (Male and Female)

	Years of Service	State and School Division: Educators	State and School Division: Public Employees	Local Government Division	Public Safety Retirement System	Firefighters Retirement System	Years of Service	State and School Division: Educators	State and School Division: 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

	Age	Male: Educators	Male: Local Government and Public Employees	Female: Educators	Female: Local Government and Public Employees	Age	Male: Educators	Male: Local Government and Public Employees	Female: Educators	Female: 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

	Years of Service	Male: Educators	Male: Public Employees	Male: Local Government Division	Female: Educators	Female: Public Employees	Female: 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, 2019 *(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

December 31, 2019 *(dollars in thousands)*

1. Fair value of assets				$ 35,198,555
2. Deferral to smooth asset values based on (excess)/shortfall of expected investment income for:				
Year	Total Excess/ (Shortfall)	% Deferred	Amount Deferred	
a. 2019	$ 2,279,189	80%	$ 1,823,352	
b. 2018	(2,327,819)	60%	(1,396,692)	
c. 2017	1,792,944	40%	717,178	
d. 2016	329,864	20%	65,973	
e. 2015	(1,529,413)	0%	—	
f. Total deferred gains (losses)			$ 1,209,811	
g. Total deferred (gains) losses				(1,209,811)
3. Actuarial value of assets available for benefits*				$ 33,988,744

**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, 2019 *(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:	757,492	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

December 31, 2019 *(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	$ 27,635,923	1,262,292	3,984,186	1,391,553	220,293	11,344	611,583	81,381	35,198,555
2. Adjustments to smooth asset values based on (excess)/shortfall of expected investment income on fair value for:	(951,537)	(45,463)	(136,872)	(48,154)	(7,743)	(418)	(17,310)	(2,314)	(1,209,811)
3. Actuarial value of assets available for benefits (1-2)	$ 26,684,386	1,216,829	3,847,314	1,343,399	212,550	10,926	594,273	79,067	33,988,744

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	$ 3,689,089	(227,031)	205,165	251,897	—	—	13,080	3,932,200
Contributory	53,741	(2,275)	15,718	(4,420)	—	—	(13,080)	49,684
Public Safety	623,632	(26,710)	25,087	32,477	—	—	—	654,486
Firefighters	11,244	(4,079)	(2,325)	11,346	—	—	—	16,186
Judges	46,396	(839)	2,718	1,728	—	—	—	50,003
Utah Governors and Legislators	2,393	(179)	6	102	—	—	—	2,322
Tier 2 Public Employees	17,665	3,836	10,829	2,901	—	—	—	35,231
Tier 2 Public Safety and Firefighter	731	399	847	346	—	2,538	—	4,861

Member and Employer Contribution Rates

As of December 31

System	Year	Member	Contributory Employer: State and School	Contributory Employer: Local Government	Noncontributory Employer: State and School	Noncontributory Employer: Local Government
Noncontributory and Contributory Retirement Systems	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
	2019	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	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
	2019	15.05	4.61	16.71	7.24	11.06

		Judges: Member	Judges: Contributory Employer	Judges: Noncontributory Employer	Judges: Court Fees	Governors and Legislators Appropriation
Judges Retirement System	2010	—	—	23.72%	14.08%	$ —
	2011	—	—	25.82	14.26	153,000
	2012	—	—	32.87	14.02	214,000
Utah Governors and Legislators Retirement Plan	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
	2019	—	—	43.75	8.16	369,226

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	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
	2019	—	41.35	—	34.04	—	35.71	—	50.38
Public Safety Retirement System Contributory Division A	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	—	—
	2019	—*	—*	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	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
	2019	—	46.71	—	48.72	—	41.97	—	42.23	—	32.28	—	38.97
Public Safety Retirement System Contributory Division B	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
	2019	—	—	—	—	—*	—*	—	—	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
	2019	17.42	18.99	15.66

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
	2019	29.84	38.27	23.13	24.29
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
	2019	—	—	23.15	24.31

**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
	2019	35.58	37.68	30.75	30.99	21.04	27.32
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
	2019	—	—	—	—	21.15	27.32

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
	2019	11.38	11.38

**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	Based on Actuarial Value of Assets: (3) Unfunded AAL (UAAL) Actuarial Value of Assets (2) - (1)	Based on Actuarial Value of Assets: (4) Funded Ratios Based on Actuarial Value of Assets (1) / (2)	(5) Projected Annual Covered Payroll	(6) UAAL as a % of Covered Payroll (3) / (5)
Noncontributory Retirement System	1/01/11	$ 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
	1/01/19	25,410,465	29,342,665	3,932,200	86.6	3,260,398	120.6
	12/31/19	26,684,411	30,351,815	3,667,404	87.9	3,328,314	110.2
Contributory Retirement System	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
	1/01/19	1,222,340	1,272,024	49,684	96.1	33,750	147.2
	12/31/19	1,204,321	1,270,111	65,790	94.8	34,317	191.7
Public Safety Retirement System	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
	1/01/19	3,635,825	4,290,311	654,486	84.7	332,724	196.7
	12/31/19	3,847,314	4,460,415	613,101	86.3	339,705	180.5
Firefighters Retirement System	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
	1/01/19	1,244,696	1,260,882	16,186	98.7	110,823	14.6
	12/31/19	1,343,399	1,316,620	(26,779)	102.0	113,330	(23.6)
Judges Retirement System	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
	1/01/19	201,325	251,328	50,003	80.1	19,288	259.2
	12/31/19	212,550	259,181	46,631	82.0	19,596	238.0

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	Based on Actuarial Value of Assets: (3) Unfunded AAL (UAAL) Actuarial Value of Assets (2) - (1)	Based on Actuarial Value of Assets: (4) Funded Ratios Based on Actuarial Value of Assets (1) / (2)	(5) Projected Annual Covered Payroll	(6) UAAL as a % of Covered Payroll (3) / (5)
Governors and Legislators Retirement Plan	1/01/11	$ 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
	1/01/19	10,852	13,174	2,322	82.4	639	363.4
	12/31/19	10,926	13,074	2,148	83.6	722	297.5
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
	1/01/19	438,366	473,597	35,231	92.6	1,267,301	2.8
	12/31/19	594,273	634,074	39,801	93.7	1,380,488	2.9
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
	1/01/19	56,073	60,934	4,861	92.0	145,332	3.3
	12/31/19	79,067	90,787	11,720	87.1	156,778	7.5
All Retirement Systems	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
	1/01/19	32,219,942	36,964,915	4,744,973	87.2	5,170,255	91.8
	12/31/19	33,976,261	38,396,077	4,419,816	88.5	5,373,250	82.3

**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	1/01/11	$ 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
	1/01/19	266,074	15,190,793	13,885,798	29,342,665	25,410,465	100	100	72	87
	12/31/19	226,771	815,629	29,309,415	30,351,815	26,684,379	100	100	87	88
Contributory Retirement System	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
	1/01/19	173,556	955,061	143,407	1,272,024	1,222,340	100	100	65	96
	12/31/19	154,888	978,863	136,360	1,270,111	1,216,829	100	100	61	96
Public Safety Retirement System	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
	1/01/19	54,584	2,394,289	1,841,438	4,290,311	3,635,825	100	100	64	85
	12/31/19	48,156	2,568,120	1,844,138	4,460,415	3,847,314	100	100	67	86
Firefighters Retirement System	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
	1/01/19	187,393	700,755	372,734	1,260,882	1,244,696	100	100	96	99
	12/31/19	195,910	737,414	383,296	1,316,620	1,343,399	100	100	100	102

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	1/01/11	$ 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
	1/01/19	1,329	168,711	81,288	251,328	201,325	100	100	38	80
	12/31/19	1,268	171,491	86,422	259,181	212,550	100	100	46	82
Utah Governors and Legislators Retirement Plan	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
	1/01/19	27	8,517	4,630	13,174	10,852	100	100	50	82
	12/31/19	32	8,774	4,247	13,053	10,926	100	100	50	84
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
	1/01/19	—	2,065	471,532	473,597	438,366	100	100	93	93
	12/31/19	—	3,192	630,882	634,074	594,273	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
	1/01/19	56	—	60,878	60,934	56,073	100	100	92	92
	12/31/19	57	156	90,574	90,787	79,067	100	100	87	87

**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	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
	2019	469	53,134	3,328,313,273	61,056	5.32	2.30
Contributory Retirement System	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
	2019	158	450	34,317,406	67,202	3.67	2.30
Public Safety Retirement System	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
	2019	134	4,982	339,705,097	66,640	6.25	2.30
Firefighters Retirement System	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
	2019	63	1,490	113,329,452	75,218	4.59	2.30

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	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
	2019	1	116	19,595,556	170,318	2.43	2.30
Utah Governors and Legislators Retirement Plan	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
	2019	1	47	638,820	12,285	0.00	2.3%
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
	2019	481	33,686	1,380,488,281	44,337	5.97	2.30
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
	2019	152	3,767	156,778,405	46,645	5.94	2.30

**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	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
	2019	3,237	140,086,000	992	63,317,000	58,649	1,396,983,000	5.81	23,392
Contributory Retirement System	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
	2019	81	5,429,000	208	4,062,000	3,790	88,162,000	1.57	22,332
Public Safety Retirement System	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
	2019	325	24,410,000	39	10,901,000	6,253	201,923,000	7.17	30,975
Firefighters Retirement System	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
	2019	58	5,600,000	23	3,193,000	1,499	59,847,000	4.19	38,915

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	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
	2019	3	760,000	5	1,525,000	153	15,346,000	(4.75)	96,164
Utah Governors and Legislators Retirement Plan	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
	2019	10	77,000	12	43,000	248	1,012,000	3.48	3,993
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
	2019	47	271,000	(2)	(2,000)	113	965,000	39.45	2,664
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)	—
	2019	1	25,000	—	(65,000)	1	90,000	—	12,494

Utah Retirement Systems

Defined Benefit Systems Summary of Plan Provisions

as of January 1, 2019

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 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.

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Noncontributory Retirement System (Concluded)

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 12-31-2019)*

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.*

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Contributory Retirement System (Concluded)

Service Benefit Formula

1) Number of years of service before 7-1-75 x 1.25% x FAS.*
2) Number of years of service after 6-30-75 x 2.0% x FAS.*
3) Plan 1 allowance = total of 1 and 2.

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

Cost-of-Living Allowance

Up to 4% annually on the original retirement benefit. Eligible after one year.

Death Benefits

An active member's death benefit consists of a payment equal to 75% of the highest annual salary with a minimum of $1,000 and a refund of contributions plus interest. The spouse of a deceased member is eligible for a monthly benefit if they have been married for at least six months and 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 12-31-2019)*

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

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Public Safety Retirement System (Continued)

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.

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.

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Public Safety Retirement System (Concluded)

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 12-31-2019)*

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.

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Firefighters Retirement System (Continued)

Service Retirement

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

Service Benefit Formula

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

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

Cost-of-Living Allowance

Up to 4.0% annually on original retirement benefit. Eligible after one year.

Disability Benefits

If disability is in the line of duty, the benefit is 50% of the final average salary with no minimum age or service requirements. If disability is not in the line of duty, the benefit is a refund of contributions for members with fewer than five years of service. For members with more than five years of service, the benefit is the same as that for disability incurred in the line of duty. Benefits are suspended while receiving Workers Compensation.

Death Benefits

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

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Firefighters Retirement System (Concluded)

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 12-31-2019)*

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 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 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.

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Judges Retirement System (Concluded)

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 12-31-2019)*

Employer rate includes 43.75% 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 years	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 12-31-19 is $1,420.

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 12-31-19 is $30.80.

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Utah Governors and Legislators Retirement Plan (Concluded)

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 12-31-2019)*

There was a 2019-20 appropriation payable by June 30, 2019, to the Utah Governors and Legislators Retirement Plan of $369,226.

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

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Tier 2 Public Employees Contributory Retirement System (Concluded)

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.

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 12-31-2019)*

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.*

Defined Benefit Systems

Summary of Plan Provisions *(Continued)*

Tier 2 Public Safety and Firefighter Contributory Retirement System

Membership Eligibility

The Tier 2 Public Safety and Firefighter Contributory Retirement System, brought about by SB 63, became effective on July 1, 2011. All eligible employees beginning employment on or after July 1, 2011, who have no previous service credit with any of the Utah Retirement Systems, are members of the Tier 2 Public Safety and Firefighter Retirement System.

A person initially entering full-time employment with a participating employer on or after July 1, 2011, must make an election to participate in either the Tier 2 Public Safety and Firefighter Retirement System or the Tier 2 Defined Contribution (DC) Plan, within one year of his or her employment date. The election made is irrevocable. If no election is made, the employee automatically becomes a member of the Tier 2 Hybrid Public Safety and Firefighter Retirement System.

An employee qualifies for membership if: The employment normally requires an average of 2,080 hours of regularly scheduled employment per year in a recognized public safety department, as a law enforcement officer, correctional officer, special function officer, or full-time member of the Board of Pardons and Parole, and in the course of employment the employee's life or personal safety is at risk, and he or she has completed a certified training program, which is documented with our office, OR, if the employment normally requires an average of 2,080 hours of regularly scheduled employment per year in a regularly constituted fire department, the employee has been trained in firefighter techniques, and is assigned to a position of hazardous duty.

If the employee doesn't meet the eligibility requirements outlined in the previous explanation, based on the employer's participation, the employee will be enrolled in the Tier 2 Public Employees Contributory Retirement System as long as eligibility requirements are met.

Vesting

Retirement benefit is vested upon the member's completion of four years of qualifying service credit.

Service Retirement

Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

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

† *When fewer than 25 years of service from any combination of Utah Retirement Systems, the allowance will be reduced by approximately 7% for each year between ages 60 and 63 and approximately 9% for each year between ages 64 and 65.*

Defined Benefit Systems

Summary of Plan Provisions *(Concluded)*

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

Service Benefit Formula

Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

Service benefit formula is based upon number of years of service credit x 1.5% x highest five years' earnings converted to a monthly average.

Cost-of-Living Allowance

The Tier 2 Hybrid Public Safety and Firefighter Retirement System has a COLA up to 2.5% on the retirement allowance. There is no COLA in the Tier 2 Defined Contribution Plan.

Death Benefits

Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System

An active member's death benefit consists of a payment equal to 75% of the highest annual salary with a minimum of $1,000. The spouse of a deceased member is eligible for a monthly benefit if they have been married for at least six months and the member meets age and service qualifications or has 15 or more years of service credit. If there are any member contributions in the employee's Tier 2 Hybrid Public Employees Retirement Account and the surviving spouse does not qualify for a career benefit, the beneficiary(ies) will receive a refund of the employee's contributions plus interest.

Line-of-Duty Death — *Applies only to the Tier 2 Hybrid Public Safety and Firefighter Retirement System*

If an employee accrued less than 20 years of public safety or firefighter service credit, his or her spouse at the time of death will receive a lump-sum payment equal to six months of the final average salary and a monthly benefit equal to 30% of the employee's monthly final average salary.

If an employee accrued 20 or more years of public safety or firefighter service credit 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 the Tier 2 DC Plan*

If an employee is a non-retired member who is employed by a participating employer at the time of his or her death, his or her beneficiary(ies) will receive a payment representing 75% of the employee's highest annual salary. If the employee has less than 12 months of service, the benefit is prorated. The minimum insurance payment is $1,000.

Death Benefits for Non-Retired Members — *in the Tier 2 DC Plan*

After death, any money vested in the employee's URS Savings Plans (401(k), 457, IRAs) is payable to his or her beneficiary(ies).

Refunds

If the employee has a balance in his or her Tier 2 Defined Contribution account, he or she may be able to withdraw funds under certain circumstances. When an employee has four years of eligible employment, the employer contributions in his or her 401(k) account becomes vested and he or she is able to take a refund of the account upon termination of employment.

If the employee terminates employment prior to the vesting period and subsequently enters employment with a URS participating employer within 10 years of the previous termination date, all employer contributions will be reinstated upon completion of the vesting period. If he or she is not re-employed and eligible to participate in the DC Plan within 10 years of the previous termination date, the funds are forfeited. If the employee makes personal deferrals (i.e., payroll deductions) to the DC Plan, those deferrals are vested immediately and may be taken as a refund when terminating employment.

Contribution Rates* *(as of 12-31-2019)*

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.*

Utah Retirement Systems

Changes in Plan Provisions

2019 Legislation

The following retirement-related bills were passed by the 2019 Utah Legislature:

Public Safety and Firefighter Retirement System

S.B. 129: Public Safety and Firefighter Tier II Retirement Enhancements

Increases the retirement allowance formula multiplier from 1.5% to 2.0% for service earned after July 1, 2020. This legislation also increases the participating employers' cap on employer contributions for the Tier 2 Public Safety and Firefighter Hybrid System members from 12% to 14% of covered payroll. For members of the defined contribution plan within that Tier 2 System, it increases the nonelective contribution made by a participating employer to a member's 401(k) account to 14%. The effective date of these benefit changes was delayed until July 1, 2020, and additional legislative study of the issues during the 2019 Interim is required.

H.B. 466: Firefighter Retirement Amendments

The Legislature enacted one-time and ongoing appropriations from the state to the Firefighters' Retirement Trust intended to replace volatile and declining fire insurance premium taxes collected by the state and contributed to help fund the Tier I Firefighters' Retirement System and offset employer and member contributions. This legislation establishes a mechanism designed to ensure that the state is protected in the long-term from paying a greater proportionate share from its ongoing appropriation than was paid for the baseline period (2013, 2014, 2015) from the fire insurance premium taxes contributed to help fund the Tier I Firefighters' Retirement System.

General

H.B. 30: Utah Retirement System Amendments

The annual administrative and technical amendments to Title 49 recommended to the Legislature by URS. The changes in this bill include: Increasing the number of members serving on the Membership Council; Making the consolidation of payments discretionary; Amending how the service status of certain justice court judges is established; and Making "Tier II" and "Tier 2" as alternative, official system and plan names.

Utah Retirement Systems

Defined Contribution Savings Plans Summary of Plan Provisions

Defined Contribution Savings 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 2019 to an annual maximum of $19,000. Employer contributions and employee deferrals combined could not exceed the lesser of $56,000 or 100% of compensation.

457 — Limited to an annual maximum of $19,000 or 100% of includable compensation.

Roth and Traditional IRA — Limited to an annual maximum of $6,000 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.

Summary of Plan Provisions *(Continued)*

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 59½, 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.

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.

2019 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.

Defined Benefit Contribution Savings Plans

Summary of Plan Provisions *(Concluded)*

Target Date Funds Asset Allocation

Asset Classes	Target Date Funds											
	Retired	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
URS Income Fund	25%	24%	19%	14%	9%	4%	—	—	—	—	—	—
URS Bond Fund	20	20	21	18	17	12	8%	4%	3%	3%	3%	3%
URS Large Cap Stock Value Fund	—	—	—	—	1.5	3.5	5.5	8	10	10	10	10
URS Large Cap Stock Index Fund	14	15	18	22	24	24	23	22	20	20	20	20
URS Large Cap Stock Growth Fund	—	—	—	—	1.5	3.5	5.5	8	10	10	10	10
URS International Stock Fund	4	4	5	9	14	21	28	32	33	33	33	33
URS Small Cap Stock Fund	1	1	2	3	3	6	8	9	10	10	10	10
International Bonds	10	10	10	10	10	8	5	3	2	2	2	2
U.S. Real Estate Investment Trusts	—	—	—	—	1	3	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	16	11	6	1	—	—	—	—	—	—
Private Real Estate	3	3	6	10	10	10	9	6	4	4	4	4
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

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.

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.*

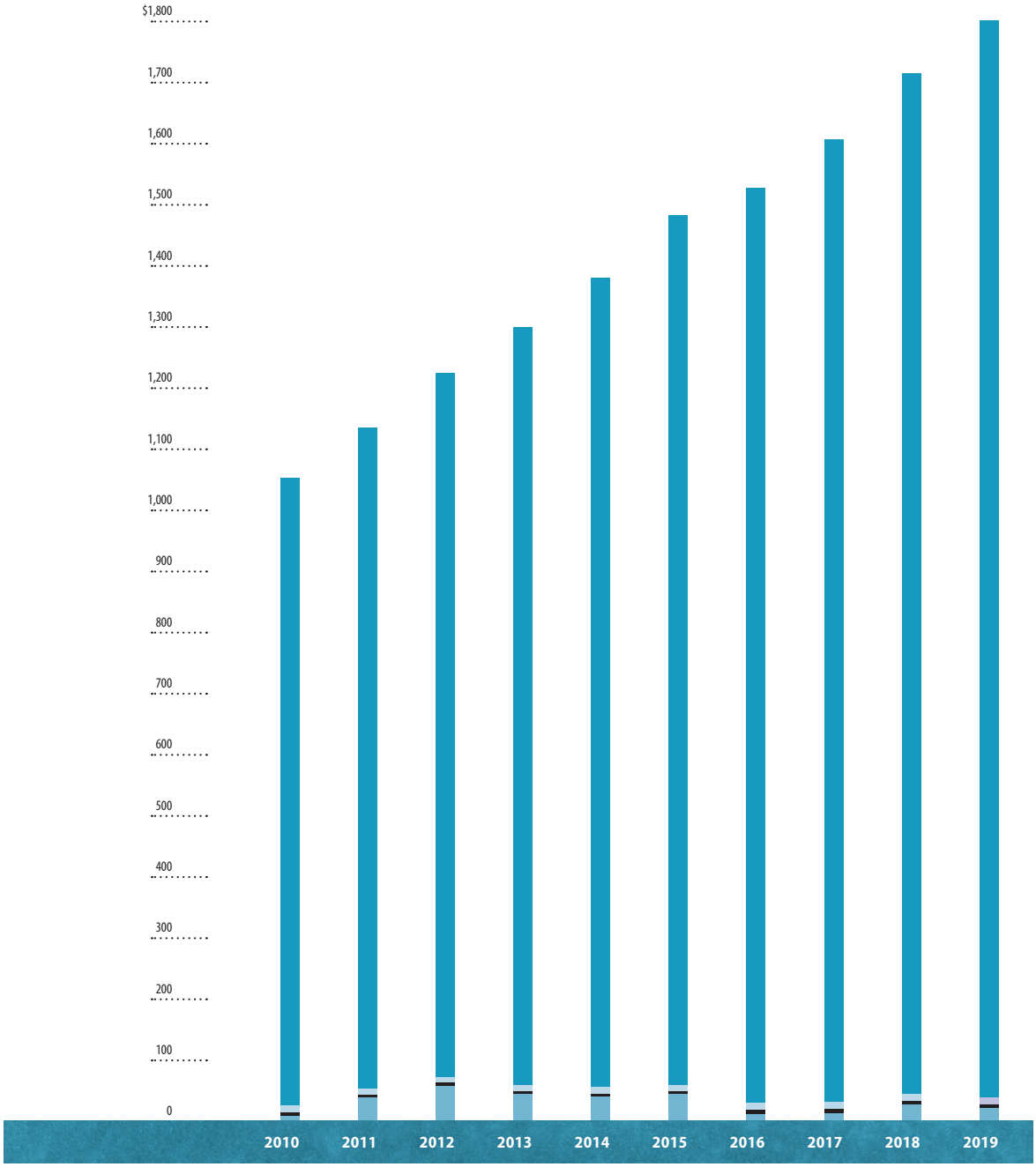
URS Target Date Funds

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 159 and 160.

Deductions by Type

(in millions)



(in millions)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Benefits	$ 1,028	1,083	1,153	1,242	1,326	1,424	1,498	1,576	1,671	1,764
Administrative expense	11	9	10	10	11	11	11	12	12	11
Refunds	6	5	5	5	5	5	7	7	5	6
Transfers to systems	7	37	56	42	38	42	10	11	26	20
Totals	$ 1,052	1,134	1,224	1,299	1,380	1,482	1,526	1,606	1,714	1,801

Statistical Section

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Schedules of Changes in Fund Balance — Defined Benefit Systems
These schedules allow readers to view changes in net assets and benefits over a 10-year period.

210
Schedules of Changes in Fund Balance — Defined Contribution Plans
These schedules allow readers to view changes in net assets and refunds over a 10-year period.

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

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Schedules of Retired Members by Type of Benefit Option
These schedules provide readers with information regarding the benefit option retired members chose.

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

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

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These schedules provide readers with information regarding retirees by age and gender.

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

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

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

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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
Noncontributory Retirement System	2010	$ 14,152,562	33,528	564,154	—	14.51%	$ 1,860,976
	2011	15,802,205	12,879	610,270	—	15.65	401,105
	2012	15,935,472	15,014	644,907	—	16.99	2,000,995
	2013	17,629,437	14,208	710,933	—	19.18	2,588,981
	2014	19,915,815	13,587	772,420	—	21.63	1,419,053
	2015	21,096,512	17,020	813,449	—	23.26	366,748
	2016	21,192,437	16,308	831,631	—	24.05	1,783,911
	2017	22,618,743	17,285	854,255	—	25.31	2,987,282
	2018	25,205,127	14,602	858,444	—	25.77	(92,207)
	2019	24,666,059	11,730	888,078	—	26.68	3,499,188
Contributory Retirement System	2010	$ 937,587	10,299	11,851	—	10.18%	$ 121,153
	2011	1,007,248	7,300	11,125	—	10.10	26,009
	2012	1,013,050	6,962	11,705	—	11.36	131,169
	2013	1,136,651	6,376	12,874	—	13.13	169,510
	2014	1,281,945	5,461	12,954	—	14.29	87,577
	2015	1,269,991	4,771	11,719	—	16.50	21,251
	2016	1,183,091	3,420	8,188	—	15.27	97,693
	2017	1,204,904	2,675	7,946	—	17.59	155,949
	2018	1,283,466	2,455	6,027	—	15.34	(4,513)
	2019	1,172,429	1,950	5,433	—	15.83	163,935
Public Safety Retirement System	2010	$ 1,824,758	1,713	103,586	—	28.53%	$ 241,203
	2011	2,058,019	1,070	110,829	—	29.61	52,655
	2012	2,103,751	1,155	117,975	—	32.19	266,753
	2013	2,366,057	1,258	128,744	—	35.18	350,563
	2014	2,712,184	835	135,588	—	37.59	194,222
	2015	2,899,386	905	141,024	—	39.51	50,654
	2016	2,938,839	830	147,099	—	41.74	249,027
	2017	3,176,545	793	145,814	—	41.57	421,917
	2018	3,576,517	895	147,101	—	42.21	(13,134)
	2019	3,528,069	856	150,467	—	44.29	502,657
Firefighters Retirement System	2010	$ 682,219	14,112	238	10,677	10.37%	$ 89,122
	2011	756,260	17,328	316	12,689	11.74	19,218
	2012	765,524	17,503	1,264	16,057	15.66	96,255
	2013	853,778	18,325	3,494	11,285	13.35	125,685
	2014	968,661	18,300	5,514	14,154	17.67	69,070
	2015	1,031,039	18,175	6,690	17,218	21.08	17,934
	2016	1,043,059	18,729	6,954	10,569	15.60	87,746
	2017	1,115,726	18,460	6,715	1,223	7.03	146,736
	2018	1,234,407	18,305	7,021	8,747	13.88	(4,509)
	2019	1,207,889	18,701	7,443	41,859	43.50	174,141
Judges Retirement System	2010	$ 111,726	—	2,771	1,944	33.12%	$ 14,597
	2011	123,037	—	3,588	1,815	36.22	3,114
	2012	123,235	—	4,232	1,666	39.62	15,485
	2013	136,127	—	4,990	1,498	42.70	20,130
	2014	155,676	317	5,627	1,486	44.26	11,068
	2015	163,834	—	6,555	1,653	49.78	2,842
	2016	163,747	—	7,382	1,470	52.83	13,820
	2017	175,618	—	7,563	1,477	48.44	23,435
	2018	198,483	—	8,091	1,518	51.11	(730)
	2019	195,570	—	8,500	1,536	51.21	27,775

Transfers from Systems	Total Additions	Benefit Payments	Refunds	Administrative & Actuarial Expense	Transfers to Systems	Total Deductions	Changes in Net Position	Ending Net Position
—	2,458,658	793,804	3,620	8,389	3,202	809,015	1,649,643	15,802,205
—	1,024,254	843,696	2,514	7,304	37,473	890,987	133,267	15,935,472
—	2,660,916	900,133	2,858	8,397	55,563	966,951	1,693,965	17,629,437
—	3,314,122	974,684	2,454	8,329	42,277	1,027,744	2,286,378	19,915,815
30,467	2,235,527	1,043,798	2,204	8,828	—	1,054,830	1,180,697	21,096,512
33,648	1,230,865	1,123,647	2,496	8,797	—	1,134,940	95,925	21,192,437
—	2,631,850	1,184,317	4,366	8,856	8,005	1,205,544	1,426,306	22,618,743
—	3,858,822	1,248,037	4,635	9,579	10,187	1,272,438	2,586,384	25,205,127
13,035	793,874	1,320,214	2,766	9,962	—	1,332,942	(539,068)	24,666,059
-	4,398,996	1,396,983	3,127	9,411	19,611	1,429,132	2,969,864	27,635,923
—	143,303	67,565	1,632	535	3,910	73,642	69,661	1,007,248
32,064	76,498	68,375	1,872	449	—	70,696	5,802	1,013,050
47,098	196,934	70,855	1,975	503	—	73,333	123,601	1,136,651
33,094	221,854	74,158	1,922	480	—	76,560	145,294	1,281,945
—	105,992	77,015	2,433	494	38,004	117,946	(11,954)	1,269,991
—	37,741	81,390	1,215	478	41,558	124,641	(86,900)	1,183,091
—	109,301	83,447	1,700	446	1,895	87,488	21,813	1,204,904
—	166,570	84,761	1,613	457	1,177	88,008	78,562	1,283,466
—	3,969	86,795	1,471	454	26,286	115,006	(111,037)	1,172,429
9,775	181,093	88,162	2,660	408	—	91,230	89,863	1,262,292
4,248	350,750	115,831	512	1,146	—	117,489	233,261	2,058,019
3,303	167,857	120,570	536	1,019	—	122,125	45,732	2,103,751
6,411	392,294	128,532	292	1,164	—	129,988	262,306	2,366,057
4,676	485,241	137,486	467	1,161	—	139,114	346,127	2,712,184
2,746	333,391	144,763	199	1,227	—	146,189	187,202	2,899,386
4,023	196,606	155,387	533	1,233	—	157,153	39,453	2,938,839
6,701	403,657	164,508	183	1,260	—	165,951	237,706	3,176,545
5,926	574,450	172,870	226	1,382	—	174,478	399,972	3,576,517
6,982	141,844	188,414	428	1,450	—	190,292	(48,448)	3,528,069
5,512	659,492	201,923	76	1,376	—	203,375	456,117	3,984,186
1,784	115,933	41,130	401	361	—	41,892	74,041	756,260
1,699	51,250	41,406	268	312	—	41,986	9,264	765,524
1,325	132,404	43,660	133	357	—	44,150	88,254	853,778
1,302	160,091	44,747	106	355	—	45,208	114,883	968,661
3,713	110,751	47,710	293	370	—	48,373	62,378	1,031,039
2,573	62,590	49,671	528	371	—	50,570	12,020	1,043,059
1,611	125,609	52,102	466	374	—	52,942	72,667	1,115,726
1,259	174,393	54,793	511	408	—	55,712	118,681	1,234,407
1,917	31,481	57,440	132	427	—	57,999	(26,518)	1,207,889
2,027	244,171	59,847	255	405	—	60,507	183,664	1,391,553
1,078	20,390	9,010	—	69	—	9,079	11,311	123,037
390	8,907	8,649	—	60	—	8,709	198	123,235
710	22,093	9,135	—	66	—	9,201	12,892	136,127
3,186	29,804	10,189	—	66	—	10,255	19,549	155,676
1,092	19,590	11,361	—	71	—	11,432	8,158	163,834
1,334	12,384	12,400	—	71	—	12,471	(87)	163,747
1,600	24,272	12,340	—	71	—	12,401	11,871	175,618
4,090	36,565	13,621	—	79	—	13,700	22,865	198,483
4,403	13,282	16,111	—	84	—	16,195	(2,913)	195,570
2,339	40,150	15,346	—	81	—	15,427	24,723	220,293

Continued on page 208.

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
Utah Governors and Legislators Retirement Plan	2010	$ 8,993	—	—	—	—	$ 1,142
	2011	9,337	—	153	—	26.94%	231
	2012	8,933	—	214	—	46.22	1,100
	2013	9,445	—	252	—	64.62	1,346
	2014	10,166	—	411	—	44.29	717
	2015	10,366	—	421	—	44.50	181
	2016	10,039	—	421	—	52.69	849
	2017	10,352	—	404	—	55.96	1,353
	2018	11,220	—	392	—	61.35	(41)
	2019	10,537	—	384	—	60.09	1,481
Tier 2 Public Employees Contributory Retirement System*	2011	$ —	—	2,790	—	7.58%	$ 9
	2012	2,799	—	14,208	—	6.97	922
	2013	17,933	—	25,743	—	7.29	4,017
	2014	47,690	—	37,299	—	7.57	4,320
	2015	89,291	—	49,645	—	7.64	1,963
	2016	140,539	—	63,062	—	7.67	14,059
	2017	217,293	—	79,175	—	7.94	33,249
	2018	329,218	—	97,680	—	8.34	(1,454)
	2019	424,633	—	119,839	—	8.68	68,228
Tier 2 Public Safety and Firefighter Contributory Retirement System*	2011	$ —	—	89	—	10.41%	$ —
	2012	89	—	1,031	—	10.07	56
	2013	1,171	—	2,451	—	12.12	316
	2014	3,935	—	4,365	—	12.46	404
	2015	8,705	—	6,221	—	10.38	199
	2016	15,089	—	8,488	—	11.34	1,591
	2017	25,135	—	11,126	—	11.34	3,989
	2018	40,180	55	14,295	—	11.58	(180)
	2019	54,336	—	18,197	—	11.61	8,958
All Retirement Systems	2010	$ 17,717,845	59,652	682,600	12,621	15.49%	$ 2,328,193
	2011	19,756,106	38,577	739,160	14,504	16.57	502,341
	2012	19,952,853	40,634	795,536	17,723	17.66	2,512,735
	2013	22,150,599	40,167	889,481	12,783	19.32	3,260,548
	2014	25,096,072	38,500	974,178	15,640	21.16	1,786,431
	2015	26,569,124	40,871	1,035,724	18,871	22.37	461,772
	2016	26,686,840	39,287	1,073,225	12,039	22.19	2,248,696
	2017	28,544,316	39,213	1,112,998	2,700	22.32	3,773,910
	2018	31,878,618	36,312	1,139,051	10,265	22.33	(116,768)
	2019	31,259,522	33,237	1,198,341	43,395	23.11	4,446,363

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

Transfers from Systems	Total Additions	Benefit Payments	Refunds	Administrative & Actuarial Expense	Transfers to Systems	Total Deductions	Changes in Net Position	Ending Net Position
2	1,144	790	5	5	—	800	344	9,337
17	401	801	—	4	—	805	(404)	8,933
19	1,333	815	1	5	—	821	512	9,445
19	1,617	892	—	4	—	896	721	10,166
—	1,128	909	—	5	14	928	200	10,366
—	602	904	—	5	20	929	(327)	10,039
—	1,270	941	—	4	12	957	313	10,352
89	1,846	973	—	5	—	978	868	11,220
—	351	978	—	5	51	1,034	(683)	10,537
—	1,865	1,012	—	4	42	1,058	807	11,344
—	2,799	—	—	—	—	—	2,799	2,799
5	15,135	—	—	1	—	1	15,134	17,933
3	29,763	—	—	6	—	6	29,757	47,690
—	41,619	—	—	16	2	18	41,601	89,291
3	51,611	333	—	30	—	363	51,248	140,539
—	77,121	316	—	51	—	367	76,754	217,293
—	112,424	417	—	82	—	499	111,925	329,218
—	96,226	692	—	119	—	811	95,415	424,633
—	188,067	965	—	152	—	1,117	186,950	611,583
—	89	—	—	—	—	—	89	89
—	1,087	—	—	—	5	5	1,082	1,171
—	2,767	—	—	—	3	3	2,764	3,935
2	4,771	—	—	1	—	1	4,770	8,705
—	6,420	30	—	3	3	36	6,384	15,089
—	10,079	28	—	5	—	33	10,046	25,135
—	15,115	61	—	9	—	70	15,045	40,180
—	14,170	—	—	14	—	14	14,156	54,336
—	27,155	90	—	20	—	110	27,045	81,381
7,112	3,090,178	1,028,130	6,170	10,505	7,112	1,051,917	2,038,261	19,756,106
37,473	1,332,055	1,083,497	5,190	9,148	37,473	1,135,308	196,747	19,952,853
55,568	3,422,196	1,153,130	5,259	10,493	55,568	1,224,450	2,197,746	22,150,599
42,280	4,245,259	1,242,156	4,949	10,401	42,280	1,299,786	2,945,473	25,096,072
38,020	2,852,769	1,325,556	5,129	11,012	38,020	1,379,717	1,473,052	26,569,124
41,581	1,598,819	1,423,762	4,772	10,988	41,581	1,481,103	117,716	26,686,840
9,912	3,383,159	1,497,988	6,715	11,067	9,912	1,525,682	1,857,477	28,544,317
11,364	4,940,185	1,575,533	6,985	12,001	11,364	1,605,883	3,334,302	31,878,618
26,337	1,095,197	1,670,644	4,797	12,515	26,337	1,714,293	(619,096)	31,259,522
19,653	5,740,989	1,764,328	6,118	11,857	19,653	1,801,956	3,939,033	35,198,555

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
401(k) Plan	2010	$ 2,607,287	222,474	254,289	476,763
	2011	2,886,677	210,592	(14,864)	195,728
	2012	2,881,007	218,888	313,374	532,262
	2013	3,212,874	230,086	532,216	762,302
	2014	3,746,281	255,044	213,230	468,274
	2015	3,956,751	271,097	10,658	281,755
	2016	3,980,405	290,632	332,672	623,304
	2017	4,338,973	295,804	630,516	926,320
	2018	5,002,908	317,548	(202,398)	115,150
	2019	4,834,083	324,333	892,949	1,217,282
457 Plan	2010	$ 283,619	26,522	27,628	54,150
	2011	316,874	26,441	(2,422)	24,019
	2012	321,356	24,501	35,065	59,566
	2013	360,381	25,696	60,421	86,117
	2014	424,568	26,711	23,342	50,053
	2015	450,974	26,968	259	27,227
	2016	454,357	27,326	39,252	66,578
	2017	494,419	31,475	72,210	103,685
	2018	569,390	32,589	(24,212)	8,377
	2019	544,157	34,919	101,538	136,457
Roth IRA Plan	2010	12,248	8,116	1,827	9,943
	2011	$ 20,571	6,619	(508)	6,111
	2012	24,400	7,685	3,256	10,941
	2013	33,750	9,113	6,870	15,983
	2014	47,763	11,664	2,816	14,480
	2015	58,842	14,073	(308)	13,765
	2016	69,714	16,585	7,200	23,785
	2017	89,165	19,669	15,389	35,058
	2018	119,297	25,280	(7,353)	17,927
	2019	131,791	28,682	27,655	56,337
Traditional IRA Plan	2010	$ 22,471	6,097	1,692	7,789
	2011	26,251	7,346	(55)	7,291
	2012	30,013	9,799	2,811	12,610
	2013	38,595	11,213	5,050	16,263
	2014	49,852	14,930	2,645	17,575
	2015	59,822	17,206	211	17,417
	2016	68,986	16,182	4,825	21,007
	2017	81,533	20,593	9,465	30,058
	2018	102,409	30,108	(2,287)	27,821
	2019	119,905	40,674	17,942	58,616
HRA Plan*	2010	$ 2,988	4,274	11	4,285
	2011	6,275	4,264	17	4,281
	2012	9,113	4,092	22	4,114
	2013	11,469	6,750	30	6,780
	2014	16,184	6,393	24	6,417
	2015	19,880	6,318	35	6,353
	2016	23,274	6,796	36	6,832
	2017	—	—	—	—
	2018	—	—	—	—
	2019	—	—	—	—
All Defined Contribution Plans	2010	$ 2,928,613	267,483	285,447	552,930
	2011	3,256,648	255,262	(17,832)	237,430
	2012	3,265,889	264,965	354,528	619,493
	2013	3,657,069	282,858	604,587	887,445
	2014	4,284,648	314,742	242,058	556,800
	2015	4,546,269	335,662	10,857	346,519
	2016	4,596,736	357,521	383,985	741,506
	2017	5,004,090	367,541	727,580	1,095,121
	2018	5,794,004	405,525	(236,250)	169,275
	2019	5,629,936	428,608	1,040,084	1,468,692

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

Refunds	Administrative Expenses	Total Deductions	Changes in Net Position	Ending Net Position
190,963	6,410	197,373	279,390	2,886,677
194,933	6,465	201,398	(5,670)	2,881,007
194,538	5,857	200,395	331,867	3,212,874
223,523	5,372	228,895	533,407	3,746,281
251,496	6,308	257,804	210,470	3,956,751
251,436	6,665	258,101	23,654	3,980,405
257,651	7,085	264,736	358,568	4,338,973
254,672	7,713	262,385	663,935	5,002,908
276,023	7,952	283,975	(168,825)	4,834,083
321,069	7,456	328,525	888,757	5,722,840
20,184	711	20,895	33,255	316,874
18,811	726	19,537	4,482	321,356
19,877	664	20,541	39,025	360,381
21,314	616	21,930	64,187	424,568
22,920	727	23,647	26,406	450,974
23,082	762	23,844	3,383	454,357
25,706	810	26,516	40,062	494,419
27,827	887	28,714	74,971	569,390
32,708	901	33,609	(25,233)	544,157
34,328	833	35,161	101,296	645,453
1,582	38	1,620	8,323	20,571
2,230	52	2,282	3,829	24,400
1,538	53	1,591	9,350	33,750
1,908	62	1,970	14,013	47,763
3,310	91	3,401	11,079	58,842
2,781	112	2,893	10,872	69,714
4,192	142	4,334	19,451	89,165
4,752	174	4,926	30,132	119,297
5,230	206	5,436	12,494	131,791
7,569	221	7,790	48,547	180,338
3,954	55	4,009	3,780	26,251
3,469	60	3,529	3,762	30,013
3,967	61	4,028	8,582	38,595
4,940	66	5,006	11,257	49,852
7,514	91	7,605	9,970	59,822
8,148	105	8,253	9,164	68,986
8,332	128	8,460	12,547	81,533
9,035	147	9,182	20,876	102,409
10,156	169	10,325	17,496	119,905
13,893	201	14,094	44,522	164,427
987	11	998	3,287	6,275
1,426	17	1,443	2,838	9,113
1,736	22	1,758	2,356	11,469
2,041	24	2,065	4,715	16,184
2,690	31	2,721	3,696	19,880
2,924	35	2,959	3,394	23,274
30,075	31	30,106	(23,274)	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
217,670	7,225	224,895	328,035	3,256,648
220,869	7,320	228,189	9,241	3,265,889
221,656	6,657	228,313	391,180	3,657,069
253,726	6,140	259,866	627,579	4,284,648
287,922	7,256	295,178	261,622	4,546,270
288,373	7,679	296,052	50,467	4,596,736
325,956	8,196	334,152	407,354	5,004,090
296,286	8,921	305,207	789,914	5,794,004
324,117	9,228	333,345	(164,068)	5,629,936
376,859	8,711	385,570	1,083,122	6,713,058

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	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
	2019	1,184,852	212,131	—	1,396,983
Contributory Retirement System	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
	2019	75,044	13,083	35	88,162
Public Safety Retirement System	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
	2019	168,702	33,026	195	201,923
Firefighters Retirement System	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
	2019	48,331	11,350	166	59,847

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	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
	2019	12,850	2,496	—	15,346
Utah Governors and Legislators Retirement Plan	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
	2019	848	164	—	1,012
Tier 2 Public Employees Contributory Retirement System*	2011	—	—	—	—
	2012	—	—	—	—
	2013	—	—	—	—
	2014	—	—	—	—
	2015	$ 333	—	—	333
	2016	316	—	—	316
	2017	417	—	—	417
	2018	691	1	—	692
	2019	962	3	—	965
Tier 2 Public Safety and Firefighter Contributory Retirement System*	2011	—	—	—	—
	2012	—	—	—	—
	2013	—	—	—	—
	2014	—	—	—	—
	2015	$ 30	—	—	30
	2016	28	—	—	28
	2017	61	—	—	61
	2018	—	—	—	—
	2019	90	—	—	90

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

Schedules of Retired Members by Type of Benefit Option

Year Ended December 31, 2019

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	10,591	621	3,791	407	3,756	921	—	—	—
	1,001-2,000	5,335	686	2,661	470	3,306	1,087	—	—	—
	2,001-3,000	3,362	727	2,391	295	3,069	847	—	—	—
	3,001-4,000	2,572	701	2,073	247	2,423	658	—	—	—
	4,001-5,000	1,052	274	1,022	146	838	246	—	—	—
	Over 5,000	492	137	777	89	433	146	—	—	—
Contributory Retirement System	$ 1-1,000	430	195	199	41	231	87	—	—	—
	1,001-2,000	291	162	227	32	230	57	—	—	—
	2,001-3,000	206	162	207	30	226	45	—	—	—
	3,001-4,000	122	85	90	18	117	26	—	—	—
	4,001-5,000	42	34	44	7	31	20	—	—	—
	Over 5,000	23	15	34	4	13	7	—	—	—
Public Safety Retirement System	$ 1-1,000	—	—	2	—	—	—	—	536	147
	1,001-2,000	—	—	2	—	—	—	—	905	301
	2,001-3,000	—	—	2	—	—	—	—	1,605	837
	3,001-4,000	—	—	—	—	—	—	—	745	387
	4,001-5,000	—	—	—	—	—	—	—	311	171
	Over 5,000	—	—	—	—	—	—	—	181	121
Firefighters Retirement System	$ 1-1,000	—	—	—	—	—	—	—	—	52
	1,001-2,000	—	—	1	—	—	—	—	—	212
	2,001-3,000	—	—	—	—	—	—	—	—	427
	3,001-4,000	—	—	—	—	—	—	—	—	398
	4,001-5,000	—	—	—	—	—	—	—	—	241
	Over 5,000	—	—	—	—	—	—	—	—	168

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, 2019

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	—	—	—	—	—	—	—	3	1
	2,001-3,000	—	—	—	—	—	—	—	4	2
	3,001-4,000	—	—	—	—	—	—	—	5	1
	4,001-5,000	—	—	—	—	—	—	—	1	3
	Over 5,000	—	—	—	—	—	—	—	67	66
Utah Governors and Legislators Retirement Plan*	$ 1-1,000	—	—	3	238		—	—	—	—
	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	57	—	29	—	23	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	—	—	—	—	—	—	—	1	—
	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	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
	2019	Average Monthly Benefit	$ 379	825	1,286	1,773	2,897	3,766
		Monthly Final Average Salary	$ 2,533	3,149	3,622	3,927	4,564	5,162
		Number of Active Retired	10,155	7,550	8,484	8,056	14,129	10,275
Contributory Retirement System	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
	2019	Average Monthly Benefit	$ 335	616	976	1,386	2,393	3,018
		Monthly Final Average Salary	$ 1,844	1,955	2,253	2,737	3,807	4,485
		Number of Active Retired	313	386	421	502	1,219	949

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	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
	2019	Average Monthly Benefit	$ 710	1,342	2,298	2,837	3,638	4,390
		Monthly Final Average Salary	$3,070	3,444	4,249	4,575	4,722	5,349
		Number of Active Retired	539	412	2,177	1,779	926	420
Firefighters Retirement System	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
	2019	Average Monthly Benefit	$ 1,255	1,877	2,566	3,110	3,874	4,665
		Monthly Final Average Salary	$ 2,558	3,789	4,524	4,450	4,905	5,817
		Number of Active Retired	80	49	359	391	413	207

Continued on page 218.

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	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
	2019	Average Monthly Benefit	$ 3,490	5,927	7,318	8,614	7,665	10,997
		Monthly Final Average Salary	$ 7,004	9,014	10,040	9,741	8,782	11,117
		Number of Active Retired	11	23	29	34	17	39
Utah Governors and Legislators Retirement Plan	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	—	—
	2019	Average Monthly Benefit	$ 235	356	567	704	909	1,261
		Monthly Final Average Salary	$ 79	64	59	99	78	—
		Number of Active Retired	163	47	21	9	3	5

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	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	—	—	—	—	—
	2019	Average Monthly Benefit	$ 222	—	—	—	—	—
		Monthly Final Average Salary	$ 2,863	—	—	—	—	—
		Number of Active Retired	113	—	—	—	—	—
Tier 2 Public Safety and Firefighter Contributory Retirement System	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	—	—	—	—	—	—
	2019	Average Monthly Benefit	$ 1,041	—	—	—	—	—
		Monthly Final Average Salary	$ 3,471	—	—	—	—	—
		Number of Active Retired	1	—	—	—	—	—

Schedules of Active Members by Age and Gender

Year Ended December 31, 2019

System	Ages	Male	Female	Total
Noncontributory Retirement System	Under 20	—	—	—
	20 to 29	250	338	588
	30 to 39	4,132	6,114	10,246
	40 to 49	6,601	10,631	17,232
	50 to 54	3,096	5,551	8,647
	55 to 59	3,030	6,109	9,139
	60 to 69	2,355	4,485	6,840
	70 and Older	204	238	442
	Total	19,668	33,466	53,134
Contributory Retirement System	Under 20	—	—	—
	20 to 29	1	2	3
	30 to 39	4	9	13
	40 to 49	11	24	35
	50 to 54	30	40	70
	55 to 59	80	81	161
	60 to 69	78	80	158
	70 and Older	5	5	10
	Total	209	241	450
Public Safety Retirement System	Under 20	—	—	—
	20 to 29	66	13	79
	30 to 39	1,716	197	1,913
	40 to 49	1,881	230	2,111
	50 to 54	399	76	475
	55 to 59	235	48	283
	60 to 69	99	20	119
	70 and Older	1	1	2
	Total	4,397	585	4,982
Firefighters Retirement System	Under 20	—	—	—
	20 to 29	24	—	24
	30 to 39	507	18	525
	40 to 49	660	14	674
	50 to 54	147	5	152
	55 to 59	81	1	82
	60 to 69	33	—	33
	70 and Older	—	—	—
	Total	1,452	38	1,490
Judges Retirement System	Under 20	—	—	—
	20 to 29	—	—	—
	30 to 39	1	—	1
	40 to 49	26	16	42
	50 to 54	16	8	24
	55 to 59	15	7	22
	60 to 69	24	1	25
	70 and Older	2	—	2
	Total	84	32	116

System	Ages	Male	Female	Total
Utah Governors and Legislators Retirement Plan	Under 20	—	—	—
	20 to 29	—	—	—
	30 to 39	—	2	2
	40 to 49	10	3	13
	50 to 54	7	1	8
	55 to 59	4	1	5
	60 to 69	13	2	15
	70 and Older	4	—	4
	Total	38	9	47
Tier 2 Public Employees Contributory Retirement System	Under 20	432	374	806
	20 to 29	4,308	7,870	12,178
	30 to 39	4,091	5,443	9,534
	40 to 49	1,986	4,645	6,631
	50 to 54	670	1,286	1,956
	55 to 59	628	863	1,491
	60 to 69	544	465	1,009
	70 and Older	66	15	81
	Total	12,725	20,961	33,686
Tier 2 Public Safety and Firefighter Contributory Retirement System	Under 20	45	18	63
	20 to 29	1,994	252	2,246
	30 to 39	1,061	133	1,194
	40 to 49	195	31	226
	50 to 54	18	4	22
	55 to 59	9	2	11
	60 to 69	5	—	5
	70 and Older	—	—	—
	Total	3,327	440	3,767
Tier 2 DC Only Public Employees Contributory Retirement System	Under 20	21	17	38
	20 to 29	707	1,714	2,421
	30 to 39	1,011	1,114	2,125
	40 to 49	434	956	1,390
	50 to 54	131	287	418
	55 to 59	136	231	367
	60 to 69	143	106	249
	70 and Older	21	7	28
	Total	2,604	4,432	7,036
Tier 2 DC Only Public Safety and Firefighter Contributory Retirement System	Under 20	2	—	2
	20 to 29	224	44	268
	30 to 39	173	12	185
	40 to 49	46	9	55
	50 to 54	8	2	10
	55 to 59	4	2	6
	60 to 69	—	—	—
	70 and Older	—	—	—
	Total	457	69	526

Schedules of Retirees by Age and Gender

Year Ended December 31, 2019

System	Ages	Male	Female	Total
Noncontributory Retirement System	Under 55	163	1,390	1,553
	55 to 59	611	876	1,487
	60 to 64	1,860	3,567	5,427
	65 to 69	4,610	9,714	14,324
	70 to 74	5,028	9,572	14,600
	75 to 79	3,587	6,392	9,979
	80 to 84	2,330	3,908	6,238
	85 to 89	1,348	2,194	3,542
	90 to 94	474	863	1,337
	95 to 100	44	116	160
	Over 100	—	2	2
	Total	20,055	38,594	58,649
Contributory Retirement System	Under 55	15	128	143
	55 to 59	88	90	178
	60 to 64	196	236	432
	65 to 69	321	410	731
	70 to 74	285	451	736
	75 to 79	190	355	545
	80 to 84	111	256	367
	85 to 89	57	190	247
	90 to 94	65	182	247
	95 to 100	24	127	151
	Over 100	2	11	13
	Total	1,354	2,436	3,790
Public Safety Retirement System	Under 55	1,018	424	1,442
	55 to 59	544	151	695
	60 to 64	657	213	870
	65 to 69	829	245	1,074
	70 to 74	810	192	1,002
	75 to 79	416	150	566
	80 to 84	228	117	345
	85 to 89	108	93	201
	90 to 94	27	20	47
	95 to 100	3	8	11
	Over 100	—	—	—
	Total	4,640	1,613	6,253
Firefighters Retirement System	Under 55	167	72	239
	55 to 59	98	35	133
	60 to 64	186	32	218
	65 to 69	259	45	304
	70 to 74	204	45	249
	75 to 79	142	30	172
	80 to 84	70	34	104
	85 to 89	25	20	45
	90 to 94	15	18	33
	95 to 100	—	2	2
	Over 100	—	—	—
	Total	1,166	333	1,499

System	Ages	Male	Female	Total
Judges Retirement System	Under 55	—	5	5
	55 to 59	1	1	2
	60 to 64	4	3	7
	65 to 69	27	11	38
	70 to 74	28	6	34
	75 to 79	17	8	25
	80 to 84	11	3	14
	85 to 89	7	7	14
	90 to 94	5	7	12
	95 to 100	1	1	2
	Over 100	—	—	—
	Total	101	52	153
Utah Governors and Legislators Retirement Plan	Under 55	—	11	11
	55 to 59	1	1	2
	60 to 64	1	3	4
	65 to 69	33	10	43
	70 to 74	36	15	51
	75 to 79	21	12	33
	80 to 84	27	12	39
	85 to 89	20	18	38
	90 to 94	7	11	18
	95 to 100	5	4	9
	Over 100	—	—	—
	Total	151	97	248
Tier 2 Public Employees Contributory Retirement System	Under 55	—	—	—
	55 to 59	—	—	—
	60 to 64	—	—	—
	65 to 69	38	40	78
	70 to 74	24	5	29
	75 to 79	2	2	4
	80 to 84	—	1	1
	85 to 89	—	1	1
	90 to 94	—	—	—
	95 to 100	—	—	—
	Over 100	—	—	—
	Total	64	49	113
Tier 2 Public Safety and Firefighter Contributory Retirement System	Under 55	—	1	1
	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	—	1	1

Schedules of Principal Participating Employers

Year Ended December 31

System/ Employer	2019 Active Members	2019 Rank	2019 Percent of Total Active Member	2018 Active Members	2018 Rank	2018 Percent of Total Active Member	2017 Active Members	2017 Rank	2017 Percent of Total Active Members	2016 Active Members	2016 Rank	2016 Percent of Total Active Members
Noncontributory Retirement System												
State of Utah	9,009	1	16.96%	9,587	1	17.03%	10,277	1	17.25%	10,898	1	17.24%
Davis School District	3,255	2	6.13	3,453	2	6.13	3,668	2	6.16	3,904	2	6.18
Granite School District	3,083	3	5.80	3,283	3	5.83	3,460	3	5.81	3,740	3	5.92
Alpine School District	3,064	4	5.77	3,155	4	5.60	3,305	4	5.55	3,458	4	5.47
Jordan School District	2,158	5	4.06	2,243	5	3.98	2,329	5	3.91	2,424	5	3.83
Weber County School District	1,809	6	3.40	1,891	6	3.36	2,006	6	3.37	2,130	6	3.37
Salt Lake County	1,741	7	3.28	1,842	7	3.27	1,962	7	3.29	2,079	7	3.29
Nebo School District	1,502	8	2.83	1,546	8	2.75	1,614	9	2.71	1,753	9	2.77
Canyons School District	1,395	9	2.63	—	—	—	1,588	10	2.67	—	—	—
Salt Lake School District	1,394	10	2.62	1,479	10	2.63	—	—	—	1,684	10	2.66
University of Utah	—	—	—	1,518	9	2.70	1,620	8	2.72	1,774	8	2.81
Other	24,724		46.53	26,302		46.72	27,749		46.58	29,370		46.46
Total Noncontributory System active members	53,134		100.00%	56,299		100.00%	59,578		100.00%	63,214		100.00%
Contributory Retirement System												
State of Utah	60	1	13.33%	76	1	14.64%	101	1	16.26%	117	1	15.85%
DDI Vantage	58	2	12.89	61	2	11.75	65	2	10.47	68	2	9.21
University of Utah	30	3	6.67	31	3	5.97	36	4	5.80	44	3	5.96
University of Utah Hospital	26	4	5.78	30	4	5.78	33	6	5.31	38	6	5.15
Salt Lake City Corp.	24	5	5.33	27	6	5.20	36	3	5.80	44	3	5.96
Granite School District	21	6	4.67	28	5	5.39	34	5	5.48	39	5	5.28
Salt Lake County	19	7	4.22	21	7	4.05	23	7	3.70	26	7	3.52
Duchesne County	13	8	2.89	15	9	2.89	16	10	2.58	17	10	2.30
Salt Lake School District	12	9	2.67	—	—	—	17	9	2.74	20	9	2.71
Orem City	12	10	2.67	14	10	2.70	—	—	—	—	—	—
Davis School District	—	—	—	16	8	3.08	18	8	2.90	23	8	3.12
South Jordan City	—	—	—	—	—	—	—	—	—	—	—	—
Uintah County	—	—	—	—	—	—	—	—	—	—	—	—
Other	175		38.89	200		38.54	242	—	38.97	302		40.92
Total Contributory System active members	450		100.00%	519		100.00%	621		100.00%	738		100.00%
Public Safety Retirement System												
State of Utah	1,547	1	31.05%	1,678	1	31.63%	1,789	1	31.36%	1,881	1	31.18%
Salt Lake City Corp.	359	2	7.21	381	2	7.18	400	2	7.01	424	2	7.03
Salt Lake County	309	3	6.20	344	3	6.48	371	3	6.50	381	3	6.32
Unified Police Department	266	4	5.34	297	4	5.60	337	4	5.91	355	4	5.89
Utah County	203	5	4.07	203	5	3.83	220	5	3.86	232	5	3.85
Weber County Corp.	143	6	2.87	160	6	3.02	185	6	3.24	194	6	3.22
Davis County	105	7	2.11	111	7	2.09	135	7	2.37	145	7	2.40
West Valley City	85	8	1.71	103	8	1.94	118	8	2.07	127	8	2.11
Washington County	81	9	1.63	84	9	1.58	87	9	1.53	96	9	1.59
St. George City	76	10	1.53	75	10	1.41	—	—	—	—	—	—
Ogden City Corp.	—	—	—	—	—	—	—	—	—	—	—	—
Sandy City	—	—	—	—	—	—	—	—	—	—	—	—
West Jordan City	—	—	—	—	—	—	80	10	1.40	89	10	1.48
Other	1,808		36.29	1,869		35.23	1,982		34.75	2,108		34.95
Total Public Safety System active members	4,982		100.00%	5,305		100.00%	5,704		100.00%	6,032		100.00%

2015			2014			2013			2012			2011			2010		
Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members
11,788	1	17.27%	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%
4,090	2	5.99	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
4,044	3	5.92	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
3,711	4	5.44	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
2,635	5	3.86	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
2,286	6	3.35	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
2,194	7	3.21	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
1,868	9	2.74	1,941	10	2.70	—	—	—	—	—	—	—	—	—	—	—	—
1,880	8	2.75	—	—	—	2,076	10	2.70	2,281	10	2.77	2,460	10	2.80	2,637	10	2.85
—	—	—	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
1,864	10	2.73	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
31,913		46.74	33,248		46.29	35,297	—	45.93	37,633		45.75	39,309		44.72	41,026		44.40
68,273		100.00%	71,827		100.00%	76,845		100.00%	82,259		100.00%	87,901		100.00%	92,392		100.00%
152	1	16.13%	186	1	12.38%	237	1	13.68%	269	1	13.89%	293	1	13.71%	325	1	13.95%
70	2	7.42	70	5	4.66	76	6	4.39	85	6	4.39	94	7	4.40	91	8	3.91
60	3	6.36	68	6	4.52	75	7	4.33	84	7	4.34	153	4	7.16	162	4	6.95
42	6	4.45	47	9	3.13	50	9	2.89	56	9	2.89	—	—	—	—	—	—
53	4	5.62	73	4	4.86	84	4	4.85	93	4	4.80	104	5	4.87	112	6	4.81
53	4	5.62	67	8	4.46	81	5	4.67	91	5	4.70	102	6	4.77	114	5	4.89
37	7	3.92	45	10	2.99	47	10	2.71	52	10	2.68	59	9	2.76	61	9	2.62
24	10	2.55	68	6	4.52	73	8	4.21	77	8	3.98	82	8	3.84	104	7	4.46
25	9	2.65	—	—	—	—	—	—	—	—	—	55	10	2.57	58	10	2.49
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	8	3.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	153	2	10.18	167	2	9.64	177	2	9.14	196	2	9.17	203	2	8.71
—	—	—	136	3	9.05	146	3	8.42	158	3	8.16	168	3	7.86	187	3	8.03
397		42.10	590		39.25	697	—	40.22%	795		41.04	831		38.89	913		39.18
943		100.00%	1,503		100.00%	1,733		100.00%	1,937		100.00%	2,137		100.00%	2,330		100.00%
2,006	1	31.35%	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%
412	2	6.44	423	3	6.34	432	3	6.15	452	3	6.18	463	3	6.08	480	3	6.30
397	3	6.20	424	2	6.35	459	2	6.54	494	2	6.76	540	2	7.09	547	2	7.17
359	4	5.61	365	4	5.47	378	4	5.39	377	4	5.16	329	4	4.32	293	4	3.84
236	5	3.69	239	5	3.58	237	5	3.38	239	5	3.27	236	6	3.10	233	6	3.06
211	6	3.30	221	6	3.31	228	6	3.25	237	6	3.24	249	5	3.27	246	5	3.23
163	7	2.55	179	7	2.68	193	7	2.75	201	7	2.75	208	7	2.73	209	7	2.74
145	8	2.27	169	8	2.53	162	8	2.31	172	8	2.35	177	8	2.32	177	8	2.32
109	9	1.70	113	9	1.69	120	9	1.71	129	9	1.76	129	9	1.69	126	9	1.65
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
97	10	1.52	110	10	1.65	116	10	1.65	122	10	1.67	127	10	1.67	119	10	1.56
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2,264		35.38	2,353		35.27	2,483	—	35.38%	2,573		35.18	2,771		36.37	2,814		36.91
6,399		100.00%	6,672		100.00%	7,019		100.00%	7,313		100.00%	7,619		100.00%	7,624		100.00%

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Schedules of Principal Participating Employers *(Continued)*

Year Ended December 31

System/ Employer	2019 Active Members	2019 Rank	2019 Percent of Total Active Member	2018 Active Members	2018 Rank	2018 Percent of Total Active Member	2017 Active Members	2017 Rank	2017 Percent of Total Active Members	2016 Active Members	2016 Rank	2016 Percent of Total Active Members
Firefighters Retirement System												
Unified Fire Authority	321	1	21.54%	334	1	21.69%	354	1	22.10%	380	1	22.85%
Salt Lake City Corp.	262	2	17.58	268	2	17.40	273	2	17.04	274	2	16.48
West Valley City	73	3	4.90	76	3	4.94	79	3	4.93	80	4	4.81
Provo City	57	4	3.83	59	5	3.83	60	6	3.75	63	6	3.79
Ogden City Corp.	55	5	3.69	67	4	4.35	72	4	4.49	82	3	4.93
West Jordan City	55	6	3.69	58	6	3.77	62	5	3.87	64	5	3.85
Park City Fire Service	47	7	3.15	50	7	3.25	56	7	3.50	63	6	3.79
South Davis Metro Fire Agency	45	8	3.02	47	8	3.05	48	9	3.00	—	—	—
Sandy City	45	9	3.02	46	9	2.99	51	8	3.18	57	8	3.43
Weber Fire District	45	10	3.02	—	—	—	—	—	—	51	9	3.07
Orem City	—	—	—	45	10	2.92	—	—	—	49	10	2.95
Murray City	—	—	—	—	—	—	47	10	2.93	—	—	—
Other	485		32.55%	490		31.82%	500		31.21	500		30.07
Total Firefighters System active members	1,490		100.00%	1,540		100.00%	1,602		100.00%	1,663		100.00%
Judges Retirement System												
State of Utah	116	1	100.00%	116	1	100.00%	114	1	100.00%	115	1	100.00%
Utah Governors and Legislators Retirement Plan												
State of Utah	47	1	100.00%	52	1	100.00%	52	1	100.00%	61	1	100.00%
Tier 2 Public Employees Contributory Retirement System												
State of Utah	6,034	1	17.91%	5,474	1	18.07%	4,951	1	18.23%	4,345	1	17.83%
Alpine School District	1,933	2	5.74	1,729	2	5.71	1,524	2	5.61	1,361	2	5.58
Davis School District	1,829	3	5.43	1,605	3	5.30	1,426	3	5.25	1,263	4	5.18
Granite School District	1,754	4	5.21	1,599	4	5.28	1,408	4	5.19	1,302	3	5.34
Jordan School District	1,663	5	4.94	1,456	5	4.81	1,205	5	4.44	1,095	6	4.49
Canyons School District	1,246	6	3.70	1,128	6	3.72	1,003	6	3.69	858	7	3.52
Salt Lake County	1,160	7	3.44	992	7	3.27	870	8	3.20	786	8	3.23
Nebo School District	932	8	2.77	852	8	2.81	836	9	3.08	692	9	2.84
Weber County School District	808	9	2.40	—	—	—	—	—	—	494	10	2.03
Washington School District	794	10	2.36	684	10	2.26	635	10	2.34	—	—	—
Provo School District	—	—	—	—	—	—	—	—	—	—	—	—
Salt Lake City District	—	—	—	—	—	—	—	—	—	—	—	—
University of Utah	—	—	—	713	9	2.35	887	7	3.27	1,181	5	4.85
Other	15,533		46.11	14,059		46.41%	12,407		45.69	10,995		45.11
Total Tier 2 Public Employees System active members	33,686		100.00%	30,291		100.00%	27,152		100.00%	24,372		100.00%

Additional information will be added when it becomes available.

2015			2014			2013			2012			2011			2010		
Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members
386	1	22.25%	395	1	22.10%	398	1	21.57%	404	1	21.44%	404	1	20.91%	356	1	18.87%
295	2	17.00	302	2	16.90	309	2	16.75	309	2	16.40	314	2	16.25	312	2	16.53
80	4	4.61	87	4	4.87	89	4	4.82	92	4	4.88	96	4	4.97	100	4	5.30
67	5	3.86	70	5	3.92	72	5	3.90	74	5	3.93	78	5	4.04	64	9	3.39
85	3	4.90	90	3	5.04	102	3	5.53	109	3	5.79	110	3	5.69	111	3	5.88
66	6	3.80	66	7	3.69	68	8	3.69	72	6	3.82	73	7	3.78	73	6	3.87
65	7	3.75	68	6	3.81	71	6	3.85	72	6	3.82	74	6	3.83	77	5	4.08
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
59	8	3.40	64	8	3.58	69	7	3.74	69	8	3.66	70	8	3.62	70	7	3.71
53	9	3.05	—	—	—	—	—	—	56	10	2.97	—	—	—	—	—	—
52	10	3.00	56	9	3.13	62	9	3.36	67	9	3.56	68	9	3.52	68	10	3.60
—	—	—	51	10	2.85	55	10	2.98	—	—	—	56	10	2.90	60	10	3.18
527		30.37	538		30.11	550		29.81	560		29.75	589		30.49	596		31.58
1,735		100.00%	1,787		100.00%	1,845		100.00%	1,884		100.00%	1,932		100.00%	1,887		100.00%
112	1	100.00%	114	1	100.00%	112	1	100.00%	111	1	100.00%	111	1	100.00%	109	1	100.00%
93	1	100.00%	105	1	100.00%	99	1	100.00%	113	1	100.00%	115	1	100.00%	125	1	100.00%
3,642	1	16.72%	2,772	1	16.09%	2,173	1	15.84%	1,523	1	14.71%	600	1	12.56%			
1,232	3	5.66	1,090	3	6.33	1,080	2	7.87	1,072	2	10.35	574	2	12.02			
980	5	4.50	778	5	4.52	591	7	4.31	463	5	4.47	235	6	4.92			
1,028	4	4.72	829	4	4.81	664	4	4.84	638	4	6.16	336	3	7.03			
962	6	4.42	755	6	4.38	661	5	4.82	417	6	4.03	238	5	4.98			
781	7	3.59	614	7	3.56	593	6	4.32	387	7	3.74	177	8	3.71			
655	8	3.01	484	9	2.81	378	9	2.76	—	—	—	—	—	—			
624	9	2.87	549	8	3.19	403	8	2.94	327	8	3.16	165	9	3.45			
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
—	—	—	360	10	2.09	—	—	—	—	—	—	—	—	—			
—	—	—	—	—	—	—	—	—	310	9	2.99	186	7	3.89			
479	10	2.20	—	—	—	363	10	2.65	302	10	2.92	165	10	3.45			
1,458	2	6.69	1,223	2	7.10	944	3	6.88	738	3	7.13	323	4	6.76			
9,937		45.63	7,771		45.11	5,868		42.78	4,179		40.34	1,778		37.22			
21,778		100.00%	17,225		100.00%	13,718		100.00%	10,356		100.00%	4,777		100.00%			

Continued on page 226.

Schedules of Principal Participating Employers *(Concluded)*

Year Ended December 31

System/ Employer	2019 Active Members	2019 Rank	2019 Percent of Total Active Member	2018 Active Members	2018 Rank	2018 Percent of Total Active Member	2017 Active Members	2017 Rank	2017 Percent of Total Active Members	2016 Active Members	2016 Rank	2016 Percent of Total Active Members
Tier 2 Public Safety and Firefighter Contributory Retirement System												
State of Utah	835	1	22.17%	821	1	24.87%	705	1	26.12%	626	1	27.95%
Salt Lake County	254	2	6.74	218	2	6.60	203	2	7.52	176	2	7.86
Salt Lake City Corp.	195	3	5.18	161	3	4.88	116	3	4.30	95	3	4.24
West Valley City	151	4	4.01	125	4	3.79	88	4	3.26	68	4	3.04
Ogden City Corp.	115	5	3.05	92	5	2.79	76	5	2.82	54	5	2.41
Weber County Corp.	83	6	2.20	64	8	1.94	56	7	2.07	41	9	1.83
Unified Police Department	73	7	1.94	—	—	—	—	—	—	—	—	—
Sandy City	72	8	1.91	61	10	1.85	58	6	2.15	46	8	2.05
Utah County	72	9	1.91	—	—	—	—	—	—	—	—	—
Unified Fire Authority	71	10	1.88	77	7	2.33	49	9	1.82	53	6	2.37
West Jordan City	—	—	—	63	9	1.91	—	—	—	—	—	—
Cache County	—	—	—	—	—	—	—	—	—	—	—	—
Davis County	—	—	—	79	6	2.39	51	8	1.89	48	7	2.14
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	—	—	—	—	—	—	—	—	—	—	—	—
Other	1,846		49.00	1,540		46.65	1,251		46.35	998		44.55
Total Tier 2 Public Safety and Firefighter System active members	3,767		100.00%	3,301		100.00%	2,699		100.00%	2,240		100.00%

System/ Employer	2019 Active Members	2019 Rank	2019 Percent of Total Active Member	2018 Active Members	2018 Rank	2018 Percent of Total Active Member
Tier 2 DC Only Public Employees System						
State of Utah	1,607	1	22.84%	1,390	1	23.25%
Jordan School District	357	2	5.07	302	2	5.05
Alpine School District	347	3	4.93	278	3	4.65
Davis School District	336	4	4.78	245	6	4.10
Granite School District	312	5	4.43	272	4	4.55
Canyons School District	288	6	4.09	248	5	4.15
Salt Lake County	275	7	3.91	231	7	3.86
Salt Lake City Corp.	186	8	2.64	164	9	2.74
Salt Lake School District	158	9	2.25	140	10	2.34
Nebo School District	148	10	2.10	—	—	—
University of Utah	—	—	—	188	8	3.14
Other	3,022		42.95	2,520		42.15
Total Tier 2 DC only Public Employees System active members	7,036		100.00%	5,978		100.00%

Additional information will be added when it becomes available.

2015			2014			2013			2012			2011		
Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members	Active Members	Rank	Percent of Total Active Members
523	1	28.67%	371	1	27.87%	274	1	30.96%	144	1	30.19%	3	9	3.03%
132	2	7.24	122	2	9.17	93	2	10.51	46	2	9.64	17	1	17.17
58	3	3.18	51	3	3.83	38	3	4.29	34	3	7.13	6	3	6.06
32	7	1.75	22	7	1.65	—	—	—	—	—	—	4	8	4.04
29	9	1.59	21	9	1.58	11	9	1.24	—	—	—	4	7	4.04
39	6	2.14	22	7	1.65	15	6	1.69	—	—	—	—	—	—
29	9	1.59	20	10	1.50	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	7	8	1.47	5	4	5.05
44	4	2.41	40	4	3.01	13	7	1.47	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31	8	1.70	26	6	1.95	22	4	2.49	8	6	1.68	—	—	—
43	5	2.36	31	5	2.33	22	4	2.49	12	4	2.52	4	5	4.04
—	—	—	—	—	—	—	—	—	8	6	1.68	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	3	10	3.03
—	—	—	—	—	—	11	9	1.24	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	6	9	1.26	—	—	—
—	—	—	—	—	—	—	—	—	9	5	1.89	—	—	—
—	—	—	—	—	—	12	8	1.36	—	—	—	8	2	8.08
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	4	6	4.04
864		47.37	605		45.45	374		42.26	197		41.28	41		41.41
1,824		100.00%	1,331		100.00%	885		100.00%	477		100.00%	99		100.00%

	2019			2018		
System/ Employer	Active Members	Rank	Percent of Total Active Member	Active Members	Rank	Percent of Total Active Member
Tier 2 DC Only Public Safety and Firefighter System						
State of Utah	143	1	27.19%	112	1	26.73%
Salt Lake City Corp.	40	2	7.60	36	2	8.59
Salt Lake County	30	3	5.70	26	3	6.21
West Valley City	21	4	3.99	17	5	4.06
Ogden City Corp.	18	5	3.42	19	4	4.53
Unified Police Department	15	6	2.85	10	9	2.39
Logan City	15	7	2.85	11	7	2.63
Davis County	13	8	2.47	—	—	—
Park City Fire Service	12	9	2.28	—	—	—
Unified Fire Authority	12	10	2.28	11	6	2.63
Cache County	—	—	—	10	8	2.39
Provo City Corp.	—	—	—	10	10	2.39
Other	207		39.35	157		37.47
Total Tier 2 DC only Public Safety and Firefigher System active members	526		100.00%	419		100.00%

Additional information will be added when it becomes available.

Schedule of Utah Retirement Office Employees

Year Ended December 31

Year	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of employees	185	172	171	176	169	162	168	163	161	161

Schedules of Participating Employers

N / Public Employees Retirement System — Noncontributory • **C** / Public Employees Retirement System — Contributory
PS / Public Safety Retirement System • **F** / Firefighters Retirement System • **T** / Tier 2 Retirement Systems
D / 457 Plan • **K** / 401(k) Plan

Employer	N	C	PS	F	T	D	K
School Districts and Education Employers							
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

Employer	N	C	PS	F	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

State and Other Employers

Employer	N	C	PS	F	T	D	K
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

Employer	N	C	PS	F	T	D	K
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

Employer	N	C	PS	F	T	D	K
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
Ballard City	N				T	D	K
Beaver City	N				T	D	K
Bicknell Town	N				T		

Schedules of Participating Employers *(Continued)*

Employer	N	C	PS	F	T	D	K
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

Employer	N	C	PS	F	T	D	K
Hinckley Town	N				T		K
Holden Town	N				T		
Holladay City	N				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	F	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
Mona City	N				T		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

Schedules of Participating Employers *(Continued)*

Employer	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
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

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 District	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

Schedules of Participating Employers *(Continued)*

Employer	N	C	PS	F	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 EMS Special Service District	N				T		K
Grand County Water Sewer/Service	N				T		K
Granger-Hunter Improvement District	N				T	D	K
Greater Salt Lake Municipal Services 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 Connect	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

Employer	N	C	PS	F	T	D	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 Green Sewer Improvement District	N				T	D	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
Powder Mountain Water and Sewer	N				T		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
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

Schedules of Participating Employers *(Continued)*

Employer	N	C	PS	F	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
Statewide Association of Public Attorneys	N				T		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 Lake Distributing Company	N						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	469
Contributory	158
Public Safety	134
Firefighters	63
Judges	1
Governor and Legislators	1
Tier 2 Public Employees	481
Tier 2 Public Safety and Firefighter	152
457 Plan	295
401(k) Plan	472

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 Cemetery MTCE District
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
Liberty Academy Charter
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 Dairy Commission
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

Utah Retirement Systems

A Highlight History 1907-2019

1907 The Legislature authorizes the organization of local teacher retirement associations.

1908 Salt Lake City institutes the first teacher retirement commission. Ogden follows in 1933 and Provo in 1934.

1919 First statewide pension plan for all full-time paid and volunteer firemen. Actuarially unsound, the system would be transferred to the Retirement Office in 1965.

1921 First police pension plans in Salt Lake, Ogden, Provo, and Logan. Actuarially unsound, these plans would be transferred to the Public Safety Retirement System in 1969.

1927 The Prison and Industrial School Guards Retirement System is enacted. Industrial school guards join the teachers retirement system in 1937. Prison guards transfer to the Public Safety Retirement System in 1970.

1934 The Utah Education Association prepares a teacher retirement plan to present to the Legislature. This plan will form much of the basis for a new retirement system.

1937 First statewide teachers retirement system. Seven member board hires Ray L. Lillywhite as the first executive secretary.

1943 Utah Supreme Court rules that a retiree's statutory retirement benefit cannot be reduced, affirming the principle of vested rights. The Court would later affirm that a vested retirement benefit may not be reduced without providing a "substantial substitute."

1947 The State Officers' and Employees' Retirement System is created with a 3% contribution rate each by employee and employer.

Teachers in local systems are required to join the State Teachers Retirement System.

1948 The Utah Supreme Court permits service credit for prior service in parochial schools.

1949 The State Officers and Employees Retirement System is renamed The Public Employees Retirement System; it will cover all public employees and judges. Retirement benefit ceiling is $100 a month.

1952 Ray Lillywhite resigns; Leonard W. McDonald is hired as second executive secretary of the Teachers Retirement System.

1953 The short-lived Teachers Retirement System is liquidated in favor of Social Security.

1954 The Teachers Retirement System is replaced by the Utah School Employees Retirement System and integrated with Social Security to preserve its solvency. Local teacher retirement associations are terminated.

1957 Minimum monthly retirement benefit is $85.

1959 The Utah State Public Employees Association is formed with the intent to produce a comprehensive plan for a statewide public employee retirement system.

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

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.

A Highlight History 1907-2019 *(Continued)*

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.

1984 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.

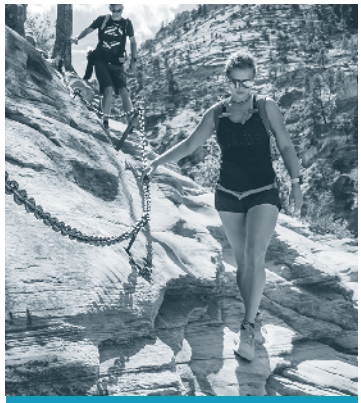
1996 URS recovers 100% of member assets originally invested in Guaranteed Investment Contracts that failed when Confederation Life Insurance Company of Canada was declared insolvent in August 1994.

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.

A Highlight History 1907-2019 *(Continued)*



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.

A Highlight History 1907-2019 *(Concluded)*

2011 URS creates the Tier 2 Retirement System for members initially entering full-time employment with a participating employer on or after July 1, 2011. These employees choose to participate in either the Tier 2 Hybrid Retirement System or the Tier 2 Defined Contribution (DC) Plan.

The URS Defined Contribution Department introduces a new and expanded set of asset classes within the Horizon Funds. The changes bring a broader, more diversified mix of securities to the Horizon Funds and offer inflation protection as well as exposure to real estate and commodities.

2012 Legislative bills brought about four noteworthy changes for the Utah Retirement Systems. First, executive director of the Department of Corrections is now allowed to exempt from the Noncontributory Retirement System. Second, Tier 2 firefighters, including volunteers, are covered under the PEHP long-term disability policy. Third, certain Tier 2 Retirement Systems at-will employees are allowed to exempt from the 4-year vesting requirements. And fourth, new legislators and governors will not receive 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.

2019 URS publicly unveiled a major, multiyear project to replace the recordkeeping and information system that runs most of its business operations. AUREUS (Advanced Utah Retirement End User System) will improve processes for members, employers, and URS employees.

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266 Contributory Retirement System Local Government Division

270 Contributory Retirement System State and School Division

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Public Safety Retirement System Provo City

280 Public Safety Retirement System Logan City
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Public Safety Retirement System Other Division B without Social Security

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Utah Retirement Systems

Independent Auditor's Report for Agent Plans

INDEPENDENT AUDITOR'S REPORT

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

Utah State Retirement Board:

REPORT ON THE SCHEDULE

We have audited the fiduciary net position as of December 31, 2019, 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.

Auditor's 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

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Independent Auditor's Report for Agent Plans *(Concluded)*

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, 2019, 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, 2019, and our report thereon, dated April 30, 2020, expressed an unmodified opinion on those financial statements.

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, 2020

Public Safety Retirement System

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

Year Ended December 31, 2019
With Comparative Totals for Year Ended December 31, 2018

(in thousands)

	Salt Lake City	Ogden	Provo
Additions:			
Contributions:			
Member	$ —	—	217
Employer	15,609	2,743	2,335
Total contributions	15,609	2,743	2,552
Investment income:			
Net appreciation (depreciation) in fair value of investments	34,889	7,623	6,131
Interest, dividends, and other investment income	6,807	1,487	1,196
Total income (loss) from investment activity	41,696	9,110	7,327
Less investment expenses	632	138	111
Net income (loss) from investment activity	41,064	8,972	7,216
Income from security lending activity	59	13	10
Less security lending expense	8	2	1
Net income from security lending activity	51	11	9
Net investment income (loss)	41,115	8,983	7,225
Transfers from (to) affiliated systems	801	(224)	299
Total additions	57,525	11,502	10,076
Deductions:			
Retirement benefits	16,896	3,943	2,828
Cost-of-living benefits	4,304	1,003	635
Supplemental retirement benefits	29	3	5
Refunds	—	—	—
Administrative expenses	126	28	21
Total deductions	21,355	4,977	3,489
Increase (decrease) from operations	36,170	6,525	6,587
Net position restricted for pensions beginning of year	289,022	63,871	50,794
Net position restricted for pensions end of year	$ 325,192	70,396	57,381

Agent Plans		Cost Sharing Plans			Total All Divisions	
Logan	Bountiful	State of Utah Public Safety	Other Division A (with Social Security)	Other Division B (without Social Security)	2019	2018
—	—	4	454	181	856	895
1,053	1,033	50,140	55,243	22,311	150,467	147,101
1,053	1,033	50,144	55,697	22,492	151,323	147,996
3,423	2,452	142,869	171,483	57,662	426,532	(83,966)
668	478	27,874	33,457	11,250	83,217	77,181
4,091	2,930	170,743	204,940	68,912	509,749	(6,785)
62	44	2,586	3,104	1,044	7,721	7,147
4,029	2,886	168,157	201,836	67,868	502,028	(13,932)
6	4	243	292	98	725	918
1	1	32	38	13	96	120
5	3	211	254	85	629	798
4,034	2,889	168,368	202,090	67,953	502,657	(13,134)
(156)	36	4,526	(10,021)	10,251	5,512	6,982
4,931	3,958	223,038	247,766	100,696	659,492	141,844
1,666	1,231	59,536	60,959	21,643	168,702	157,682
324	289	12,595	11,498	2,378	33,026	30,517
—	1	87	70	—	195	215
—	—	30	4	42	76	428
11	9	459	540	182	1,376	1,450
2,001	1,530	72,707	73,071	24,245	203,375	190,292
2,930	2,428	150,331	174,695	76,451	456,117	(48,448)
28,647	20,403	1,184,118	1,422,451	468,763	3,528,069	3,576,517
31,577	22,831	1,334,449	1,597,146	545,214	3,984,186	3,528,069

Independent Auditor's Report for Cost Sharing Plans

INDEPENDENT AUDITOR'S REPORT

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

REPORT ON THE SCHEDULES

We have audited the employer allocations and the total for all entities of the columns titled employer contributions, net pension liability, 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, 2019, 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 are free from material misstatement, whether due to fraud or error.

Auditor's 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

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Independent Auditor's Report for Cost Sharing Plans *(Concluded)*

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, 2019, 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 Defined Benefit Pension Plans, as of and for the year ended December 31, 2019, and our report thereon, dated April 30, 2020, 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, 2020

Noncontributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
4 Corners Comm Behavior Health	$ 410,243	0.2276981%	$ 858,164	2,680,346	(661,516)	78,060	—
Alpine City	141,535	0.0785563	296,068	924,725	(228,224)	26,931	—
American Fork City	799,676	0.4438457	1,672,796	5,224,725	(1,289,475)	152,161	—
Annabella Town	17,209	0.0095514	35,998	112,434	(27,749)	3,274	—
Ash Creek SS District	179,695	0.0997364	375,893	1,174,046	(289,758)	34,192	—
Ashley Valley Improv Dist	138,416	0.0768252	289,544	904,347	(223,195)	26,337	—
Ashley Valley Sewer Mgmt Board	74,357	0.0412704	155,543	485,814	(119,900)	14,148	—
Ballard City	34,381	0.0190825	71,919	224,629	(55,439)	6,542	—
Bear Lake SSD	29,375	0.0163042	61,448	191,925	(47,368)	5,589	—
Bear River Assn of Govts	201,004	0.1115637	420,469	1,313,271	(324,119)	38,247	—
Bear River Health Dept	762,684	0.4233143	1,595,416	4,983,040	(1,229,827)	145,122	—
Bear River Mental Health	590,737	0.3278782	1,235,730	3,859,615	(952,563)	112,404	—
Bear River Water District	30,342	0.0168410	63,472	198,244	(48,927)	5,773	—
Beaver City	178,939	0.0993172	374,313	1,169,111	(288,540)	34,048	—
Beaver County	319,630	0.1774047	668,615	2,088,318	(515,402)	60,818	—
Beaver Housing Authority	20,090	0.0111506	42,025	131,259	(32,395)	3,823	—
Beaver Valley Hospital	767,981	0.4262540	1,606,495	5,017,645	(1,238,367)	146,130	—
Benchland Water Company	72,020	0.0399734	150,654	470,546	(116,132)	13,704	—
Bicknell Town	5,995	0.0033275	12,541	39,170	(9,667)	1,141	—
Big Cottonwood Canyon Imp Dist	6,645	0.0036880	13,900	43,413	(10,715)	1,264	—
Big Plains Water & Sewer SSD	8,461	0.0046959	17,698	55,278	(13,643)	1,610	—
Blanding City	149,138	0.0827764	311,973	974,402	(240,485)	28,378	—
Bluffdale City	269,257	0.1494461	563,243	1,759,203	(434,176)	51,234	—
Bona Vista Water Improve	70,237	0.0389835	146,924	458,894	(113,256)	13,364	—
Bountiful Irrigation District	74,687	0.0414539	156,234	487,974	(120,433)	14,211	—
Box Elder Co Mosq Dist	46,057	0.0255631%	96,344	300,916	(74,267)	8,764	—
Box Elder County	801,247	0.4447180%	1,676,084	5,234,993	(1,292,010)	152,460	—
Brigham City	756,829	0.4200643%	1,583,167	4,944,783	(1,220,385)	144,008	—
Cache County	1,055,443	0.5858052%	2,207,823	6,895,800	(1,701,901)	200,828	—
Cache Metro Planning Org	16,157	0.0089678%	33,798	105,564	(26,054)	3,074	—
Carbon County	638,567	0.3544254	1,335,783	4,172,115	(1,029,689)	121,505	—
Carbon County Rec/Trans SSD	8,349	0.0046339	17,465	54,548	(13,463)	1,589	—
Castle Dale City	20,142	0.0111794	42,134	131,598	(32,479)	3,833	—
Castle Valley SSD	79,534	0.0441440	166,373	519,641	(128,249)	15,134	—
Cedar City	731,625	0.4060753	1,530,444	4,780,111	(1,179,744)	139,212	—
Cedar City Housing Auth	31,823	0.0176628	66,569	207,917	(51,315)	6,055	—
Cedar Mtn Fire Protection Dist	5,098	0.0028295	10,664	33,307	(8,220)	970	—
Centerfield City	11,917	0.0066141	24,928	77,858	(19,216)	2,267	—
Centerville City	309,914	0.1720121	648,291	2,024,839	(499,735)	58,970	—
Central Davis Sewer Dist	178,787	0.0992323	373,994	1,168,112	(288,293)	34,019	—
Central Iron Co Water Conserv	29,770	0.0165234	62,275	194,505	(48,004)	5,665	—
Central UT Public Health	256,891	0.1425828	537,376	1,678,412	(414,236)	48,881	—
Central Utah 911	293,890	0.1631185	614,772	1,920,148	(473,897)	55,921	—
Central Utah Counseling Center	450,380	0.2499753	942,124	2,942,582	(726,237)	85,697	—
Central Utah Water Dist	1,379,903	0.7658906	2,886,541	9,015,673	(2,225,091)	262,565	—
Central Wasatch Commission	19,693	0.0109303	41,195	128,666	(31,755)	3,747	—
Central Weber Sewer Dist	283,396	0.1572941	592,821	1,851,586	(456,976)	53,924	—
City of Aurora	14,084	0.0078169	29,461	92,017	(22,710)	2,680	—
City of Bountiful	1,446,434	0.8028175	3,025,714	9,450,358	(2,332,372)	275,224	—
City of Cedar Hills	173,310	0.0961929	362,538	1,132,334	(279,463)	32,977	—
City of Draper	1,155,515	0.6413481	2,417,157	7,549,623	(1,863,266)	219,869	—
City of Duchesne	35,599	0.0197583	74,466	232,585	(57,402)	6,774	—
City of Enterprise	72,382	0.0401745	151,412	472,914	(116,716)	13,773	—
City of Green River	60,070	0.0333406	125,656	392,469	(96,862)	11,430	—
City of Harrisville	101,766	0.0564832	212,878	664,891	(164,097)	19,364	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
90,890	10,699	179,649	12,327	433,981	—	38,281	484,589	434,324	(13,444)	—	420,880
31,357	8,449	66,737	4,253	149,724	—	14,339	168,316	149,843	909	—	150,752
177,169	25,859	355,189	24,029	845,948	—	75,702	945,679	846,615	(22,868)	—	823,747
3,813	3,476	10,563	517	18,204	—	57	18,778	18,219	1,667	—	19,886
39,811	32,902	106,905	5,399	190,093	—	—	195,492	190,243	24,798	—	215,041
30,666	422	57,425	4,159	146,425	—	23,711	174,295	146,541	(13,369)	—	133,172
16,474	3,815	34,437	2,234	78,659	—	5,311	86,204	78,721	(484)	—	78,237
7,617	3,496	17,655	1,033	36,370	—	1,097	38,500	36,399	495	—	36,894
6,508	13,758	25,855	883	31,075	—	153	32,111	31,100	6,261	—	37,361
44,533	436	83,216	6,040	212,635	—	70,527	289,202	212,803	(33,172)	—	179,631
168,973	817	314,912	22,917	806,816	—	56,156	885,889	807,452	(18,320)	—	789,132
130,878	—	243,282	17,750	624,920	—	54,805	697,475	625,413	(60,059)	—	565,354
6,722	205	12,700	912	32,098	—	4,097	37,107	32,123	(987)	—	31,136
39,644	7,635	81,327	5,377	189,294	—	8,012	202,683	189,443	(21,677)	—	167,766
70,814	5,487	137,119	9,604	338,125	—	44,585	392,314	338,391	(28,858)	—	309,533
4,451	2,722	10,996	604	21,252	—	1,316	23,172	21,269	2,082	—	23,351
170,147	38,278	354,555	23,076	812,419	—	32,436	867,931	813,060	17,859	—	830,919
15,956	6,466	36,126	2,164	76,187	—	5,112	83,463	76,247	7,407	—	83,654
1,328	102	2,571	180	6,342	—	399	6,921	6,347	72	—	6,419
1,472	671	3,407	200	7,029	—	11,082	18,311	7,035	(4,182)	—	2,853
1,874	11,946	15,430	254	8,950	—	—	9,204	8,957	6,096	—	15,053
33,042	3,993	65,413	4,481	157,768	—	1,796	164,045	157,892	(7,166)	—	150,726
59,654	50,189	161,077	8,091	284,837	—	—	292,928	285,062	127,481	—	412,543
15,561	—	28,925	2,110	74,301	—	38,695	115,106	74,359	(19,734)	—	54,625
16,547	133	30,891	2,244	79,009	—	25,169	106,422	79,071	(13,986)	—	65,085
10,204	4,691	23,659	1,384	48,722	—	—	50,106	48,760	3,038	—	51,798
177,517	24,128	354,105	24,076	847,611	—	21,817	893,504	848,279	10,379	—	858,658
167,676	11,905	323,589	22,741	800,622	—	4,054	827,417	801,253	(2,102)	—	799,151
233,834	26,517	461,179	31,714	1,116,516	—	39,476	1,187,706	1,117,396	22,242	—	1,139,638
3,580	533	7,187	485	17,092	—	250	17,827	17,106	691	—	17,797
141,475	—	262,980	19,188	675,517	—	282,133	976,838	676,050	(181,009)	—	495,041
1,850	263	3,702	251	8,832	—	588	9,671	8,839	(272)	—	8,567
4,462	1,563	9,858	605	21,307	—	77	21,989	21,324	718	—	22,042
17,621	499	33,254	2,390	84,136	—	17,588	104,114	84,203	(9,656)	—	74,547
162,092	2,696	304,000	21,984	773,959	—	26,758	822,701	774,570	(32,474)	—	742,096
7,050	2,226	15,331	956	33,664	—	196	34,816	33,691	1,467	—	35,158
1,129	8,476	10,575	153	5,393	—	—	5,546	5,397	3,838	—	9,235
2,640	—	4,907	358	12,606	—	4,861	17,825	12,616	(5,201)	—	7,415
68,662	1,740	129,372	9,312	327,847	—	50,998	388,157	328,105	(35,853)	—	292,252
39,610	3,500	77,129	5,372	189,132	—	6,037	200,541	189,281	(10,901)	—	178,380
6,596	7,066	19,327	895	31,493	—	—	32,388	31,518	4,919	—	36,437
56,914	1,266	107,061	7,719	271,756	—	27,417	306,892	271,970	(12,208)	—	259,762
65,112	16,032	137,065	8,831	310,896	—	14,334	334,061	311,141	(12,642)	—	298,499
99,782	13,524	199,003	13,533	476,441	—	96,403	586,377	476,816	(26,318)	—	450,498
305,718	151,245	719,528	41,463	1,459,750	—	5,402	1,506,615	1,460,901	52,484	—	1,513,385
4,363	31,182	39,292	592	20,833	—	—	21,425	20,849	14,625	—	35,474
62,787	11,518	128,229	8,515	299,795	—	10,994	319,304	300,031	119	—	300,150
3,120	584	6,384	423	14,899	—	34	15,356	14,910	412	—	15,322
320,458	6,561	602,243	43,462	1,530,130	—	123,290	1,696,882	1,531,337	(87,586)	—	1,443,751
38,397	—	71,374	5,208	183,339	—	33,013	221,560	183,484	(18,809)	—	164,675
256,005	110,461	586,335	34,721	1,222,378	—	15,174	1,272,273	1,223,342	47,688	—	1,271,030
7,887	—	14,661	1,070	37,658	—	24,067	62,795	37,688	(11,551)	—	26,137
16,036	11,398	41,207	2,175	76,571	—	409	79,155	76,631	4,651	—	81,282
13,308	6,926	31,664	1,805	63,546	—	3,700	69,051	63,596	4,016	—	67,612
22,546	5,938	47,848	3,058	107,654	—	15,689	126,401	107,739	2,682	—	110,421

Noncontributory Retirement System
Local Government Division

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

at December 31, 2019

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
City of Helper	$ 41,097	0.0228100%	$ 85,968	268,508	(66,268)	7,820	—
City of Holladay	189,725	0.1053034	396,875	1,239,578	(305,931)	36,100	—
City of Kanab	83,304	0.0462366	174,260	544,274	(134,328)	15,851	—
City of Milford	49,182	0.0272976	102,881	321,333	(79,306)	9,358	—
City of Moab	566,571	0.3144653	1,185,178	3,701,725	(913,595)	107,806	—
City of Monticello	65,270	0.0362270	136,535	426,446	(105,248)	12,419	—
City of Naples	62,767	0.0348378	131,299	410,093	(101,212)	11,943	—
City of North Salt Lake	467,344	0.2593909	977,610	3,053,417	(753,591)	88,925	—
City of Orem	2,119,389	1.1763291	4,433,430	13,847,146	(3,417,511)	403,273	—
City of Riverton	922,882	0.5122293	1,930,525	6,029,702	(1,488,146)	175,604	—
City of Santa Clara	271,760	0.1508356	568,480	1,775,560	(438,213)	51,710	—
City of Saratoga Springs	603,585	0.3350093	1,262,606	3,943,559	(973,280)	114,849	—
City of South Jordan	1,895,520	1.0520746	3,965,131	12,384,485	(3,056,522)	360,676	—
City of South Salt Lake	846,802	0.4700026	1,771,378	5,532,631	(1,365,467)	161,128	—
City of St George	4,017,855	2.2300392	8,404,725	26,250,884	(6,478,785)	764,509	—
City of Taylorsville	344,290	0.1910923	720,202	2,249,441	(555,168)	65,511	—
City of Uintah	24,076	0.0133632	50,364	157,305	(38,823)	4,581	—
City of Washington Terrace	155,454	0.0862821	325,186	1,015,669	(250,670)	29,580	—
City of Wendover	38,329	0.0212740	80,179	250,427	(61,806)	7,293	—
City of West Haven	119,442	0.0662942	249,854	780,381	(192,600)	22,727	—
City of West Jordan	2,286,013	1.2688111	4,781,982	14,935,797	(3,686,192)	434,978	—
City of Woodland Hills	47,807	0.0265345	100,005	312,351	(77,089)	9,097	—
Clearfield City	570,549	0.3166729	1,193,499	3,727,712	(920,009)	108,563	—
Cleveland Town	1,668	0.0009260	3,490	10,900	(2,690)	317	—
Clinton City	305,287	0.1694444	638,614	1,994,613	(492,276)	58,089	—
Coalville City	49,840	0.0276626	104,257	325,630	(80,366)	9,483	—
Cottonwood Heights City	320,338	0.1777980	670,097	2,092,947	(516,545)	60,953	—
Cottonwood Heights P&R Srv	168,512	0.0935296	352,501	1,100,983	(271,725)	32,064	—
Cottonwood Imp District	335,289	0.1860964	701,373	2,190,632	(540,653)	63,798	—
Council On Aging Golden Age SS	42,999	0.0238659	89,947	280,937	(69,336)	8,182	—
Daggett County	96,794	0.0537240	202,479	632,412	(156,081)	18,418	—
Davis Behavioral Health Inc	1,456,117	0.8081919	3,045,969	9,513,623	(2,347,986)	277,067	—
Davis Co Housing Authority	59,154	0.0328325	123,741	386,487	(95,386)	11,256	—
Davis Co Mosquito Abate	45,485	0.0252458	95,148	297,181	(73,345)	8,655	—
Davis County	4,755,957	2.6397098	9,948,720	31,073,317	(7,668,973)	904,954	—
Delta City	93,350	0.0518120	195,273	609,904	(150,526)	17,762	—
Duchesne Co Water Conserv Dist	42,198	0.0234211	88,271	275,701	(68,044)	8,029	—
Duchesne County	603,921	0.3351956	1,263,308	3,945,752	(973,821)	114,913	—
E Duchesne Cul Water Imp Dist	12,930	0.0071768	27,048	84,482	(20,850)	2,460	—
Eagle Mountain City	485,414	0.2694202	1,015,409	3,171,477	(782,729)	92,363	—
East Carbon City	36,239	0.0201140	75,807	236,772	(58,436)	6,896	—
Elk Ridge City	32,634	0.0181130	68,266	213,217	(52,622)	6,210	—
Emery County	451,351	0.2505145	944,156	2,948,929	(727,803)	85,882	—
Emery County Recreation SSD	2,777	0.0015415	5,810	18,146	(4,478)	528	—
Emery Water Conserv Dist	42,355	0.0235084	88,600	276,729	(68,297)	8,059	—
Enoch City	79,560	0.0441583	166,427	519,809	(128,290)	15,138	—
Ephraim City	217,813	0.1208930	455,630	1,423,091	(351,222)	41,445	—
Escalante City	36,546	0.0202841	76,448	238,774	(58,930)	6,954	—
Eureka City Corporation	14,805	0.0082173	30,970	96,730	(23,873)	2,817	—
Fairview City	44,266	0.0245689	92,597	289,213	(71,378)	8,423	—
Farmington City	466,056	0.2586764	974,917	3,045,007	(751,515)	88,680	—
Farr West City	76,771	0.0426103	160,593	501,587	(123,793)	14,608	—
Ferron City	19,403	0.0107694	40,588	126,772	(31,288)	3,692	—
Fillmore City	71,342	0.0395974	149,237	466,120	(115,040)	13,575	—
Five-County Assn of Govts	281,276	0.1561173	588,386	1,837,733	(453,557)	53,521	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
9,105	133	17,058	1,235	43,475	—	8,376	53,086	43,509	(5,592)	—	37,917
42,034	9,182	87,316	5,701	200,703	—	15,992	222,396	200,861	(4,083)	—	196,778
18,456	—	34,307	2,503	88,125	—	15,118	105,746	88,194	(10,929)	—	77,265
10,896	5,219	25,473	1,478	52,028	—	—	53,506	52,069	5,252	—	57,321
125,524	178,478	411,808	17,024	599,355	—	4,511	620,890	599,828	102,724	—	702,552
14,461	1,406	28,286	1,961	69,047	—	15,363	86,371	69,101	(6,747)	—	62,354
13,906	20,977	46,826	1,886	66,399	—	—	68,285	66,451	33,562	—	100,013
103,540	39,727	232,192	14,043	494,386	—	11,292	519,721	494,776	15,232	—	510,008
469,552	58,274	931,099	63,683	2,242,025	—	28,919	2,334,627	2,243,793	(694)	—	2,243,099
204,465	22,794	402,863	27,731	976,284	—	46,121	1,050,136	977,054	(33,791)	—	943,263
60,209	35,975	147,894	8,166	287,485	—	16,532	312,183	287,712	9,961	—	297,673
133,725	115,640	364,214	18,136	638,511	—	—	656,647	639,015	78,330	—	717,345
419,953	352,512	1,133,141	56,956	2,005,202	—	—	2,062,158	2,006,784	902,102	—	2,908,886
187,610	23,165	371,903	25,445	895,802	—	21,022	942,269	896,508	(16,026)	—	880,482
890,158	201,831	1,856,498	120,728	4,250,344	—	14,478	4,385,550	4,253,697	137,431	—	4,391,128
76,278	48,842	190,631	10,345	364,212	—	34,280	408,837	364,500	(10,489)	—	354,011
5,334	12,454	22,369	723	25,470	—	329	26,522	25,490	6,633	—	32,123
34,441	2,454	66,475	4,671	164,449	—	18,873	187,993	164,579	(5,044)	—	159,535
8,492	8,941	24,726	1,152	40,547	—	14,485	56,184	40,579	1,398	—	41,977
26,462	11,529	60,718	3,589	126,353	—	407	130,349	126,453	7,001	—	133,454
506,468	123,654	1,065,100	68,690	2,418,291	—	53,212	2,540,193	2,420,199	71,006	—	2,491,205
10,592	31,969	51,658	1,437	50,573	—	22	52,032	50,613	22,897	—	73,510
126,405	22,893	257,861	17,144	603,563	—	22,738	643,445	604,039	(11,175)	—	592,864
370	75	762	50	1,765	—	1,197	3,012	1,766	(1,576)	—	190
67,637	11,299	137,025	9,173	322,953	—	1,615	333,741	323,207	1,337	—	324,544
11,042	3,777	24,302	1,498	52,724	—	74	54,296	52,765	2,442	—	55,207
70,971	19,075	150,999	9,625	338,874	—	31,929	380,428	339,141	25,513	—	364,654
37,334	13,895	83,293	5,063	178,263	—	6,562	189,888	178,403	12,086	—	190,489
74,284	—	138,082	10,075	354,691	—	75,563	440,329	354,970	(46,720)	—	308,250
9,526	—	17,708	1,292	45,487	—	16,155	62,934	45,523	(14,020)	—	31,503
21,445	3,287	43,150	2,908	102,395	—	32,679	137,982	102,476	(35,841)	—	66,635
322,604	96,987	696,658	43,753	1,540,374	—	146,182	1,730,309	1,541,589	(16,963)	—	1,524,626
13,106	7,559	31,921	1,777	62,577	—	21,134	85,488	62,626	22,412	—	85,038
10,077	6,409	25,141	1,367	48,117	—	—	49,484	48,155	2,033	—	50,188
1,053,685	67,810	2,026,449	142,906	5,031,156	—	88,407	5,262,469	5,035,124	(74,924)	—	4,960,200
20,682	2,839	41,283	2,805	98,751	—	26,241	127,797	98,829	(15,608)	—	83,221
9,349	14,744	32,122	1,268	44,639	—	—	45,907	44,675	10,092	—	54,767
133,799	130,529	379,241	18,147	638,866	—	10,548	667,561	639,370	307,672	—	947,042
2,865	1,681	7,006	389	13,679	—	88	14,156	13,689	766	—	14,455
107,544	45,231	245,138	14,586	513,502	—	13,197	541,285	513,907	(51,606)	—	462,301
8,029	20	14,945	1,089	38,336	—	22,885	62,310	38,367	(16,958)	—	21,409
7,230	24,474	37,914	981	34,522	—	2,583	38,086	34,550	1,574	—	36,124
99,997	4,785	190,664	13,562	477,468	—	96,691	587,721	477,845	(80,792)	—	397,053
615	—	1,143	83	2,938	—	892	3,913	2,940	(1,097)	—	1,843
9,384	3,093	20,536	1,273	44,806	—	10,743	56,822	44,841	(1,597)	—	43,244
17,627	1,924	34,689	2,391	84,164	—	1,372	87,927	84,230	(667)	—	83,563
48,256	54,439	144,140	6,545	230,416	—	—	236,961	230,598	34,045	—	264,643
8,097	4,080	19,131	1,098	38,660	—	298	40,056	38,691	234	—	38,925
3,280	1,435	7,532	445	15,662	—	7,733	23,840	15,674	(2,611)	—	13,063
9,807	2,362	20,592	1,330	46,827	—	19,837	67,994	46,864	(12,901)	—	33,963
103,255	60,075	252,010	14,004	493,024	—	25,245	532,273	493,413	25,703	—	519,116
17,009	14,933	46,550	2,307	81,213	—	271	83,791	81,277	10,733	—	92,010
4,299	3,356	11,347	583	20,526	—	9,220	30,329	20,542	(7,799)	—	12,743
15,806	4,745	34,126	2,144	75,471	—	2,449	80,064	75,530	4,570	—	80,100
62,317	6,563	122,401	8,452	297,552	—	5,236	311,240	297,787	(10,069)	—	287,718

Noncontributory Retirement System
Local Government Division

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

at December 31, 2019

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
Fountain Green City	$ 16,808	0.0093291%	$ 35,160	109,817	(27,103)	3,198	—
Fox Hollow Golf Course	29,124	0.0161647	60,923	190,283	(46,962)	5,542	—
Francis City	32,246	0.0178975	67,453	210,680	(51,996)	6,136	—
Fruit Heights City	65,917	0.0365862	137,889	430,674	(106,291)	12,543	—
Garfield County	324,241	0.1799643	678,262	2,118,448	(522,838)	61,696	—
Genola Town	19,491	0.0108181	40,772	127,345	(31,429)	3,709	—
Grand Co Cemetery Mtce Dist	650	0.0003610	1,361	4,250	(1,049)	124	—
Grand County	739,983	0.4107144	1,547,929	4,834,720	(1,193,221)	140,802	—
Grand County EMS SSD	48,509	0.0269243	101,474	316,939	(78,221)	9,230	—
Grand Water/Sewer Service	49,577	0.0275168	103,707	323,914	(79,943)	9,433	—
Granger-Hunter Imp Dist	682,591	0.3788600	1,427,874	4,459,747	(1,100,677)	129,882	—
Grantsville City	169,032	0.0938180	353,588	1,104,378	(272,563)	32,163	—
Greater Salt Lake Municipal Sd	105,541	0.0585787	220,775	689,559	(170,185)	20,082	—
Gunnison City	46,449	0.0257809	97,165	303,480	(74,900)	8,838	—
Gunnison Valley Hospital	979,340	0.5435654	2,048,627	6,398,575	(1,579,184)	186,347	—
Gunnison Valley Police Dept	12,427	0.0068972	25,995	81,190	(20,038)	2,365	—
Heber City	412,985	0.2292198	863,899	2,698,259	(665,937)	78,582	—
Heber Light & Power	510,578	0.2833875	1,068,050	3,335,893	(823,307)	97,152	—
Heber Valley SSD	38,960	0.0216238	81,497	254,544	(62,822)	7,413	—
Herriman City	989,226	0.5490521	2,069,305	6,463,161	(1,595,125)	188,228	—
Highland City	223,013	0.1237794	466,508	1,457,068	(359,608)	42,434	—
Hinckley Town	12,628	0.0070090	26,416	82,506	(20,363)	2,403	—
Hooper City	51,552	0.0286128	107,838	336,815	(83,127)	9,809	—
Hooper Water Improv Dist	92,364	0.0512649	193,211	603,464	(148,937)	17,575	—
Housing Auth of Carbon Co	44,994	0.0249732	94,121	293,972	(72,553)	8,561	—
Housing Authority of SLC	548,690	0.3045409	1,147,775	3,584,900	(884,762)	104,404	—
Housing Authority Ogden City	122,410	0.0679413	256,062	799,770	(197,385)	23,292	—
Housing Connect	544,302	0.3021050	1,138,594	3,556,226	(877,686)	103,569	—
Huntington City	32,398	0.0179819	67,771	211,674	(52,242)	6,165	—
Hurricane City	633,933	0.3518531	1,326,088	4,141,835	(1,022,215)	120,623	—
Hurricane Valley Fire SSD	18,000	0.0099903	37,652	117,601	(29,024)	3,425	—
Hyde Park City	88,142	0.0489214	184,378	575,878	(142,128)	16,771	—
Hyrum City	258,000	0.1431982	539,695	1,685,656	(416,024)	49,092	—
Impact Mitigation SSD	20,707	0.0114932	43,316	135,292	(33,390)	3,940	—
Iron County	761,227	0.4225057	1,592,368	4,973,522	(1,227,478)	144,845	—
Ivins City	234,292	0.1300399	490,103	1,530,763	(377,796)	44,581	—
Jordan River Commission	22,936	0.0127303	47,979	149,855	(36,984)	4,364	—
Jordan Valley Water Conserv	1,451,362	0.8055526	3,036,022	9,482,554	(2,340,318)	276,162	—
Jordanelle SSD	272,441	0.1512138	569,905	1,780,012	(439,311)	51,840	—
Juab County	304,126	0.1688000	636,185	1,987,027	(490,403)	57,869	—
Juab Special Service Fire Dist	8,004	0.0044425	16,743	52,295	(12,906)	1,523	—
Kamas City	43,526	0.0241582	91,049	284,378	(70,185)	8,282	—
Kane County	487,101	0.2703566	1,018,939	3,182,500	(785,449)	92,685	—
Kane County Water Conserv Dist	74,749	0.0414879	156,362	488,374	(120,532)	14,223	—
Kaysville City	701,746	0.3894917	1,467,943	4,584,898	(1,131,564)	133,527	—
Kearns Improvement Dist	280,085	0.1554562	585,894	1,829,951	(451,637)	53,294	—
Laverkin City	111,159	0.0616969	232,528	726,264	(179,244)	21,151	—
Layton City	1,249,729	0.6936397	2,614,237	8,165,173	(2,015,185)	237,796	—
Lehi City	1,750,436	0.9715484	3,661,638	11,436,572	(2,822,575)	333,069	—
Lewiston City	34,212	0.0189888	71,566	223,526	(55,167)	6,510	—
Lindon City	356,049	0.1976188	744,799	2,326,268	(574,129)	67,748	—
Logan City	2,302,400	1.2779063	4,816,261	15,042,861	(3,712,616)	438,096	—
Lone Peak PS District	43,497	0.0241423	90,989	284,191	(70,139)	8,277	—
Maeser Water Improve Dist	61,783	0.0342916	129,241	403,663	(99,625)	11,756	—
Magna Mosquito Abatement	20,727	0.0115042	43,358	135,422	(33,422)	3,944	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
3,724	—	6,922	505	17,781	—	3,060	21,346	17,795	(2,915)	—	14,880
6,452	4,593	16,587	875	30,809	—	503	32,187	30,833	2,071	—	32,904
7,144	14,351	27,631	969	34,112	—	—	35,081	34,139	7,785	—	41,924
14,604	2,126	29,273	1,981	69,731	—	15,327	87,039	69,786	(2,853)	—	66,933
71,836	—	133,532	9,743	343,003	—	62,039	414,785	343,274	(39,797)	—	303,477
4,318	3,085	11,112	586	20,619	—	—	21,205	20,635	2,413	—	23,048
144	4,392	4,660	20	688	—	33,605	34,313	689	(8,935)	—	(8,246)
163,944	41,649	346,395	22,235	782,801	—	67,924	872,960	783,419	(4,205)	—	779,214
10,747	93,274	113,251	1,458	51,316	—	—	52,774	51,357	38,149	—	89,506
10,984	14,643	35,060	1,490	52,446	—	1,116	55,052	52,487	5,592	—	58,079
151,228	512	281,622	20,510	722,088	—	47,425	790,023	722,658	(68,260)	—	654,398
37,449	587	70,199	5,079	178,812	—	48,869	232,760	178,953	(24,405)	—	154,548
23,383	202,935	246,400	3,171	111,648	—	—	114,819	111,736	83,000	—	194,736
10,291	2,271	21,400	1,396	49,137	—	2,978	53,511	49,176	(3,136)	—	46,040
216,973	29,029	432,349	29,427	1,036,009	—	12,242	1,077,678	1,036,826	53,888	—	1,090,714
2,753	9,175	14,293	373	13,146	—	—	13,519	13,156	8,360	—	21,516
91,497	74,437	244,516	12,409	436,882	—	82,230	531,521	437,226	34,919	—	472,145
113,119	18,479	228,750	15,342	540,123	—	73,504	628,969	540,549	(36,487)	—	504,062
8,632	7,102	23,147	1,171	41,214	—	3,669	46,054	41,246	(946)	—	40,300
219,163	209,150	616,541	29,724	1,046,466	—	—	1,076,190	1,047,291	155,667	—	1,202,958
49,409	972	92,815	6,701	235,917	—	28,776	271,394	236,103	(16,656)	—	219,447
2,798	2,498	7,699	379	13,359	—	1,249	14,987	13,369	(368)	—	13,001
11,421	3,854	25,084	1,549	54,535	—	13,002	69,086	54,578	(7,500)	—	47,078
20,463	12,939	50,977	2,775	97,708	—	—	100,483	97,785	9,086	—	106,871
9,968	4,130	22,659	1,352	47,598	—	10,261	59,211	47,635	(10,209)	—	37,426
121,563	20,437	246,404	16,487	580,440	—	52,127	649,054	580,898	(51,067)	—	529,831
27,120	4,528	54,940	3,678	129,493	—	22,545	155,716	129,595	(11,595)	—	118,000
120,590	21,852	246,011	16,355	575,797	—	26,613	618,765	576,251	(14,342)	—	561,909
7,178	1,503	14,846	973	34,273	—	7,593	42,839	34,300	(4,522)	—	29,778
140,448	25,145	286,216	19,048	670,615	—	16,067	705,730	671,144	18,101	—	689,245
3,988	5,711	13,124	541	19,041	—	—	19,582	19,056	8,700	—	27,756
19,528	9,948	46,247	2,648	93,242	—	4,340	100,230	93,315	2,681	—	95,996
57,160	24,811	131,063	7,752	272,929	—	14,763	295,444	273,144	(844)	—	272,300
4,588	2,559	11,087	622	21,905	—	15,751	38,278	21,923	(8,874)	—	13,049
168,650	2,481	315,976	22,873	805,275	—	83,188	911,336	805,910	(77,874)	—	728,036
51,908	—	96,489	7,040	247,850	—	52,899	307,789	248,045	(34,977)	—	213,068
5,082	12,861	22,307	689	24,263	—	1,022	25,974	24,282	4,708	—	28,990
321,550	933	598,645	43,610	1,535,343	—	232,720	1,811,673	1,536,554	(110,644)	—	1,425,910
60,360	15,543	127,743	8,186	288,206	—	7,032	303,424	288,433	8,093	—	296,526
67,379	30,465	155,713	9,138	321,724	—	51,052	381,914	321,978	(201)	—	321,777
1,773	12,191	15,487	241	8,467	—	—	8,708	8,474	5,882	—	14,356
9,643	4,098	22,023	1,308	46,044	—	3,404	50,756	46,081	(784)	—	45,297
107,917	65,790	266,392	14,636	515,286	—	11,795	541,717	515,693	11,873	—	527,566
16,561	5,650	36,434	2,246	79,074	—	9,333	90,653	79,136	(2,169)	—	76,967
155,472	76,034	365,033	21,086	742,352	—	19,560	782,998	742,937	31,121	—	774,058
62,053	6,682	122,029	8,416	296,292	—	108,371	413,079	296,526	(44,349)	—	252,177
24,627	82,567	128,345	3,340	117,591	—	—	120,931	117,684	74,982	—	192,666
276,878	20,991	535,665	37,552	1,322,043	—	79,399	1,438,994	1,323,086	(78,323)	—	1,244,763
387,810	213,705	934,584	52,597	1,851,723	—	—	1,904,320	1,853,184	154,668	—	2,007,852
7,580	4,361	18,451	1,028	36,192	—	6,730	43,950	36,220	(5,234)	—	30,986
78,883	23,840	170,471	10,699	376,652	—	23,267	410,618	376,949	12,456	—	389,405
510,098	6,809	955,003	69,182	2,435,626	—	159,094	2,663,902	2,437,547	(90,317)	—	2,347,230
9,637	12,142	30,056	1,307	46,014	—	—	47,321	46,050	7,548	—	53,598
13,688	1,156	26,600	1,856	65,358	—	680	67,894	65,410	(2,653)	—	62,757
4,592	7,563	16,099	623	21,926	—	—	22,549	21,944	3,922	—	25,866

Noncontributory Retirement System
Local Government Division

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

at December 31, 2019

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
Manti City	$ 86,994	0.0482846%	$ 181,978	568,382	(140,278)	16,553	—
Mapleton City	246,607	0.1368748	515,863	1,611,220	(397,653)	46,924	—
Marriott-Slaterville City	45,733	0.0253833	95,666	298,799	(73,744)	8,702	—
Mayfield Town	8,372	0.0046467	17,513	54,699	(13,500)	1,593	—
Mendon City	9,428	0.0052328	19,722	61,598	(15,203)	1,794	—
Metro Water Dist SLC/Sandy	748,213	0.4152822	1,565,144	4,888,490	(1,206,492)	142,368	—
Midvale City	621,101	0.3447311	1,299,246	4,057,999	(1,001,524)	118,182	—
Midvalley Improvement District	110,060	0.0610869	230,229	719,084	(177,472)	20,942	—
Midway City	124,004	0.0688263	259,397	810,188	(199,956)	23,595	—
Military Installation Devel	39,703	0.0220362	83,052	259,399	(64,020)	7,555	—
Millard Co Care & Rehab Inc	231,379	0.1284226	484,008	1,511,725	(373,098)	44,026	—
Millard County	676,114	0.3752651	1,414,325	4,417,429	(1,090,233)	128,650	—
Millcreek City	303,444	0.1684213	634,758	1,982,570	(489,303)	57,739	—
Millville City	20,584	0.0114247	43,058	134,486	(33,191)	3,917	—
Minersville Town	32,537	0.0180591	68,062	212,583	(52,466)	6,191	—
Moab Valley Fire Protection	11,343	0.0062959	23,728	74,112	(18,291)	2,158	—
Mona City	1,024	0.0005681	2,141	6,687	(1,650)	195	—
Monroe City	87,833	0.0487500	183,732	573,860	(141,630)	16,713	—
Morgan City Corporation	137,198	0.0761496	286,998	896,394	(221,232)	26,106	—
Morgan County	243,543	0.1351742	509,454	1,591,202	(392,713)	46,341	—
Moroni City	17,655	0.0097990	36,931	115,349	(28,468)	3,359	—
Mount Pleasant City	105,834	0.0587413	221,388	691,473	(170,657)	20,138	—
Mountain Green Sewer Imp Dist	7,079	0.0039293	14,809	46,254	(11,416)	1,347	—
Mountain Regional Water SSD	280,124	0.1554776	585,975	1,830,203	(451,699)	53,301	—
Mountainland Assn of Govt	460,083	0.2553610	962,422	3,005,979	(741,883)	87,544	—
Mt Olympus Improvement Dist	308,097	0.1710038	644,491	2,012,969	(496,806)	58,624	—
Murray City	2,588,656	1.4367874	5,415,063	16,913,128	(4,174,203)	492,564	—
Myton City	14,804	0.0082165	30,967	96,720	(23,871)	2,817	—
N UT Environmental Rsrc Agcy	92,328	0.0512452	193,136	603,232	(148,879)	17,568	—
Nebo Credit Union	147,812	0.0820405	309,200	965,739	(238,347)	28,125	—
Nephi City	279,660	0.1552201	585,004	1,827,172	(450,951)	53,213	—
Nibley City Corporation	113,143	0.0627981	236,678	739,227	(182,443)	21,529	—
North Davis Co Sewer Dist	491,662	0.2728884	1,028,481	3,212,303	(792,805)	93,552	—
North Davis Fire District	11,868	0.0065870	24,826	77,539	(19,137)	2,258	—
North Emery Water Users SSD	5,718	0.0031737	11,961	37,359	(9,220)	1,088	—
North Fork SSD	26,818	0.0148848	56,099	175,216	(43,244)	5,103	—
North Logan City	108,038	0.0599647	225,999	705,874	(174,211)	20,557	—
North Ogden City	357,097	0.1982006	746,992	2,333,116	(575,819)	67,948	—
North Park Police Agency	15,369	0.0085301	32,149	100,412	(24,782)	2,924	—
North Pointe Solid Waste	173,804	0.0964670	363,571	1,135,560	(280,259)	33,071	—
North View Fire District	2,259	0.0012540	4,726	14,761	(3,643)	430	—
Northeastern Counseling Ctr	358,111	0.1987632	749,112	2,339,739	(577,454)	68,141	—
Ogden City Corp	2,501,897	1.3886335	5,233,577	16,346,285	(4,034,305)	476,056	—
Oquirrh Rec And Parks District	132,534	0.0735609	277,241	865,921	(213,712)	25,218	—
Orangeville City	17,812	0.0098864	37,261	116,378	(28,722)	3,389	—
Orderville Town	17,186	0.0095388	35,950	112,286	(27,712)	3,270	—
Panguitch City Corporation	43,896	0.0243635	91,823	286,795	(70,782)	8,352	—
Park City	2,153,878	1.1954718	4,505,576	14,072,484	(3,473,125)	409,835	—
Park City Fire Service	81,002	0.0449586	169,443	529,230	(130,615)	15,413	—
Parowan City	174,542	0.0968762	365,114	1,140,377	(281,448)	33,211	—
Payson City	775,456	0.4304032	1,622,133	5,066,487	(1,250,422)	147,552	—
Perry City	77,219	0.0428588	161,529	504,512	(124,515)	14,693	—
Piute County	82,247	0.0456495	172,047	537,363	(132,622)	15,650	—
Plain City	60,344	0.0334927	126,230	394,259	(97,304)	11,482	—
Pleasant Grove City	564,637	0.3133917	1,181,132	3,689,087	(910,476)	107,438	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
19,274	460	36,287	2,614	92,028	—	15,560	110,202	92,101	(7,831)	—	84,270
54,636	8,868	110,428	7,410	260,877	—	17,117	285,404	261,082	(12,388)	—	248,694
10,132	25,393	44,227	1,374	48,379	—	—	49,753	48,417	11,538	—	59,955
1,855	3,545	6,993	252	8,856	—	4,569	13,677	8,863	675	—	9,538
2,089	754	4,637	283	9,973	—	2,726	12,982	9,981	(71)	—	9,910
165,767	24,407	332,542	22,482	791,507	—	18,972	832,961	792,132	(11,396)	—	780,736
137,605	11,694	267,481	18,663	657,040	—	79,556	755,259	657,559	(37,221)	—	620,338
24,384	14,959	60,285	3,307	116,429	—	23,521	143,257	116,520	7,275	—	123,795
27,473	13,939	65,007	3,726	131,180	—	11,032	145,938	131,283	3,137	—	134,420
8,796	28,680	45,031	1,193	42,000	—	28,807	72,000	42,033	(3,060)	—	38,973
51,262	21,746	117,034	6,952	244,767	—	1,861	253,580	244,960	10,404	—	255,364
149,793	—	278,443	20,316	715,237	—	90,559	826,112	715,801	(79,628)	—	636,173
67,228	419,084	544,051	9,118	321,003	—	—	330,121	321,256	218,278	—	539,534
4,560	428	8,905	619	21,775	—	19,580	41,974	21,792	(8,216)	—	13,576
7,209	8,708	22,108	978	34,420	—	210	35,608	34,447	4,834	—	39,281
2,513	17,700	22,371	341	12,000	—	—	12,341	12,009	8,390	—	20,399
227	1,968	2,390	31	1,083	—	—	1,114	1,084	805	—	1,889
19,459	7,937	44,109	2,639	92,915	—	5,250	100,804	92,988	3,933	—	96,921
30,396	5,492	61,994	4,123	145,137	—	30,955	180,215	145,252	(10,059)	—	135,193
53,957	10,838	111,136	7,318	257,635	—	47,081	312,034	257,839	(27,951)	—	229,888
3,911	1,668	8,938	530	18,676	—	720	19,926	18,691	(758)	—	17,933
23,448	3,665	47,251	3,180	111,958	—	15,478	130,616	112,046	3,549	—	115,595
1,568	13,613	16,528	213	7,489	—	—	7,702	7,495	5,567	—	13,062
62,062	695	116,058	8,417	296,333	—	59,904	364,654	296,566	(20,749)	—	275,817
101,932	100,317	289,793	13,825	486,705	—	—	500,530	487,089	51,260	—	538,349
68,259	6,473	133,356	9,258	325,925	—	7,640	342,823	326,182	(10,414)	—	315,768
573,518	117,730	1,183,812	77,784	2,738,446	—	49,847	2,866,077	2,740,606	10,863	—	2,751,469
3,280	3,439	9,536	445	15,660	—	9,245	25,350	15,673	(933)	—	14,740
20,455	90,037	128,060	2,774	97,671	—	—	100,445	97,748	64,140	—	161,888
32,748	16,065	76,938	4,441	156,365	—	—	160,806	156,488	8,855	—	165,343
61,959	2,669	117,841	8,403	295,842	—	14,012	318,257	296,075	(13,092)	—	282,983
25,067	10,920	57,516	3,400	119,690	—	3,263	126,353	119,784	10,976	—	130,760
108,928	4,002	206,482	14,773	520,112	—	14,044	548,929	520,522	(13,736)	—	506,786
2,629	1,189	6,076	357	12,554	—	25	12,936	12,564	730	—	13,294
1,267	1,760	4,115	172	6,049	—	3,982	10,203	6,054	(2,567)	—	3,487
5,942	14,037	25,082	806	28,370	—	1,990	31,166	28,392	82	—	28,474
23,936	—	44,493	3,246	114,290	—	97,070	214,606	114,380	(67,639)	—	46,741
79,115	98,341	245,404	10,730	377,761	—	1,141	389,632	378,058	42,503	—	420,561
3,405	6,323	12,652	462	16,258	—	1,619	18,339	16,271	9,010	—	25,281
38,506	6,909	78,486	5,222	183,861	—	31,584	220,667	184,006	(7,015)	—	176,991
501	399	1,330	68	2,390	—	13,336	15,794	2,392	(5,149)	—	(2,757)
79,340	1,285	148,766	10,760	378,833	—	41,131	430,724	379,132	(36,166)	—	342,966
554,297	15,039	1,045,392	75,177	2,646,667	—	34,884	2,756,728	2,648,754	33,376	—	2,682,130
29,363	12,876	67,457	3,982	140,203	—	76,011	220,196	140,314	(21,906)	—	118,408
3,946	564	7,899	535	18,843	—	5,243	24,621	18,858	(1,442)	—	17,416
3,808	3,542	10,620	516	18,180	—	—	18,696	18,195	1,972	—	20,167
9,725	5,690	23,767	1,319	46,436	—	—	47,755	46,472	2,084	—	48,556
477,193	144,304	1,031,332	64,719	2,278,510	—	88,394	2,431,623	2,280,307	64,924	—	2,345,231
17,946	14,738	48,097	2,434	85,689	—	2,574	90,697	85,756	8,664	—	94,420
38,670	—	71,881	5,245	184,641	—	22,939	212,825	184,787	(17,654)	—	167,133
171,803	3,928	323,283	23,301	820,327	—	26,130	869,758	820,974	(12,906)	—	808,068
17,108	12,895	44,696	2,320	81,687	—	2,833	86,840	81,751	5,118	—	86,869
18,222	2,679	36,551	2,471	87,006	—	16,236	105,713	87,074	(14,127)	—	72,947
13,369	10,619	35,470	1,813	63,835	—	5,886	71,534	63,886	7,519	—	71,405
125,096	7,612	240,146	16,966	597,309	—	30,093	644,368	597,780	347	—	598,127

Noncontributory Retirement System
Local Government Division

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

at December 31, 2019

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
Pleasant View City	$ 137,581	0.0763621%	$ 287,799	898,896	(221,850)	26,179	—
Powder Mountain Water & Sewer	30,265	0.0167980	63,309	197,737	(48,802)	5,759	—
Price City	416,409	0.2311204	871,062	2,720,631	(671,459)	79,233	—
Price River Water Improve	226,295	0.1256012	473,374	1,478,513	(364,901)	43,059	—
Providence City	100,610	0.0558421	210,462	657,345	(162,234)	19,144	—
Provo City Corp	3,783,376	2.0998955	7,914,230	24,718,898	(6,100,687)	719,893	—
Provo Housing Authority	126,986	0.0704815	265,636	829,672	(204,765)	24,163	—
Provo Reser Water Users	3,768	0.0020913	7,882	24,618	(6,076)	717	—
Provo River Water Users	153,149	0.0850026	320,364	1,000,607	(246,952)	29,141	—
Recreation & Habilitation Srvs	9,152	0.0050794	19,144	59,792	(14,757)	1,741	—
Redmond Town	17,559	0.0097460	36,731	114,725	(28,314)	3,341	—
Rich County	107,923	0.0599006	225,757	705,119	(174,025)	20,535	—
Richfield City	192,181	0.1066665	402,012	1,255,624	(309,891)	36,568	—
Richmond City	48,212	0.0267592	100,852	314,996	(77,742)	9,174	—
Riverdale City	321,639	0.1785198	672,818	2,101,444	(518,642)	61,201	—
Roosevelt City	227,142	0.1260710	475,145	1,484,043	(366,266)	43,220	—
Roosevelt City Housing	7,377	0.0040947	15,432	48,201	(11,896)	1,404	—
Roy City	623,554	0.3460926	1,304,378	4,074,025	(1,005,480)	118,649	—
Roy Water Conserv Dist	82,368	0.0457168	172,301	538,155	(132,818)	15,673	—
S Utah Valley Electric Svc Dst	175,456	0.0973835	367,026	1,146,349	(282,922)	33,385	—
S Utah Valley Solid Waste	162,805	0.0903622	340,563	1,063,698	(262,523)	30,978	—
Salem City	298,496	0.1656748	624,407	1,950,239	(481,324)	56,797	—
Salina City	57,843	0.0321046	120,998	377,919	(93,271)	11,006	—
Salt Lake City Corp	18,037,417	10.0113480	37,731,456	117,848,480	(29,085,303)	3,432,122	—
Salt Lake City Public Library	889,790	0.4938623	1,861,302	5,813,495	(1,434,785)	169,307	—
Salt Lake Co Serv Area 3	26,370	0.0146359	55,161	172,286	(42,521)	5,018	—
Salt Lake County	23,898,833	13.2646232	49,992,622	156,144,369	(38,536,832)	4,547,418	—
San Juan County	692,984	0.3846283	1,449,614	4,527,648	(1,117,435)	131,860	—
San Juan Mental Health	124,033	0.0688425	259,458	810,379	(200,004)	23,601	—
Sandy City	2,645,418	1.4682922	5,533,800	17,283,987	(4,265,732)	503,365	—
Sandy Suburban Imp Dist	212,559	0.1179770	444,640	1,388,765	(342,751)	40,445	—
Sanpete County	349,364	0.1939081	730,814	2,282,587	(563,348)	66,476	—
Santaquin City	228,829	0.1270077	478,675	1,495,070	(368,987)	43,541	—
Sevier County	439,949	0.2441857	920,304	2,874,429	(709,416)	83,713	—
Six-County Assoc of Govt	160,661	0.0891723	336,079	1,049,691	(259,066)	30,570	—
SLC Mosquito Abatement	86,581	0.0480554	181,114	565,684	(139,612)	16,475	—
Smithfield City Corp	235,031	0.1304498	491,648	1,535,588	(378,987)	44,721	—
Snyder Basin Special Rec Dist	172,808	0.0959142	361,488	1,129,053	(278,653)	32,882	—
Snyderville Basin W R D	556,476	0.3088622	1,164,061	3,635,768	(897,317)	105,885	—
So Davis Metro Fire Agency	21,408	0.0118821	44,782	139,870	(34,520)	4,073	—
So Davis Recreation Center	105,244	0.0584137	220,154	687,616	(169,705)	20,026	—
So SL Valley Mosq Abate	42,917	0.0238206	89,777	280,404	(69,204)	8,166	—
So Utah Valley Animal Svcs SSD	17,039	0.0094573	35,643	111,327	(27,476)	3,242	—
So Utah Valley Power Systems	18,920	0.0105010	39,577	123,612	(30,508)	3,600	—
Solid Waste SSD #1	38,576	0.0214109	80,695	252,038	(62,204)	7,340	—
South Davis Sewer Dist	350,760	0.1946828	733,734	2,291,707	(565,599)	66,742	—
South Davis Water Dist	55,916	0.0310352	116,968	365,331	(90,165)	10,640	—
South Ogden City	351,293	0.1949790	734,850	2,295,193	(566,460)	66,843	—
South Ogden Conserv Dist	220,580	0.1224293	461,420	1,441,175	(355,686)	41,972	—
South Valley Sewer District	572,381	0.3176902	1,197,333	3,739,687	(922,964)	108,912	—
South Valley Water Reclamation	501,688	0.2784528	1,049,452	3,277,804	(808,970)	95,460	—
South Weber City	76,920	0.0426931	160,905	502,561	(124,033)	14,636	—
Southeastern Utah Aog	134,294	0.0745374	280,922	877,416	(216,549)	25,553	—
Southeastern Utah Health	169,161	0.0938900	353,859	1,105,225	(272,772)	32,188	—
Spanish Fork City	1,623,428	0.9010549	3,395,958	10,606,758	(2,617,775)	308,903	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
30,481	264	56,924	4,134	145,542	—	3,304	152,980	145,657	3,742	—	149,399
6,705	58,194	70,658	909	32,016	—	—	32,925	32,041	23,801	—	55,842
92,256	—	171,489	12,512	440,504	—	113,814	566,830	440,851	(77,192)	—	363,659
50,136	—	93,195	6,800	239,390	—	71,912	318,102	239,578	(43,443)	—	196,135
22,290	14,819	56,253	3,023	106,432	—	2,796	112,251	106,516	2,169	—	108,685
838,209	45,061	1,603,163	113,682	4,002,297	—	183,468	4,299,447	4,005,454	(153,833)	—	3,851,621
28,134	18,447	70,744	3,816	134,334	—	7,468	145,618	134,440	(2,391)	—	132,049
835	7,245	8,797	113	3,986	—	—	4,099	3,989	2,963	—	6,952
33,930	—	63,071	4,602	162,011	—	23,358	189,971	162,139	(14,502)	—	147,637
2,028	—	3,769	275	9,681	—	1,451	11,407	9,689	(1,162)	—	8,527
3,890	510	7,741	528	18,575	—	927	20,030	18,590	168	—	18,758
23,910	43,545	87,990	3,243	114,168	—	5,749	123,160	114,258	63,191	—	177,449
42,578	3,456	82,602	5,775	203,301	—	28,040	237,116	203,461	(14,736)	—	188,725
10,681	10,864	30,719	1,449	51,002	—	6,833	59,284	51,042	(255)	—	50,787
71,259	2,941	135,401	9,665	340,250	—	36,266	386,181	340,518	(15,393)	—	325,125
50,323	2,639	96,182	6,825	240,285	—	37,868	284,978	240,475	(16,434)	—	224,041
1,634	203	3,241	222	7,804	—	272	8,298	7,810	(281)	—	7,529
138,149	16,491	273,289	18,736	659,635	—	31,206	709,577	660,156	(13,333)	—	646,823
18,249	2,087	36,009	2,475	87,134	—	580	90,189	87,203	1,421	—	88,624
38,872	29,587	101,844	5,272	185,608	—	306	191,186	185,755	21,552	—	207,307
36,070	21,862	88,910	4,892	172,226	—	45,295	222,413	172,362	(41,113)	—	131,249
66,132	12,560	135,489	8,969	315,768	—	15,313	340,050	316,017	13,631	—	329,648
12,815	7,277	31,098	1,738	61,190	—	9,903	72,831	61,238	(7,498)	—	53,740
3,996,200	9,652	7,437,974	541,986	19,081,134	—	959,920	20,583,040	19,096,183	(639,782)	—	18,456,401
197,134	47,135	413,576	26,736	941,277	—	15,696	983,709	942,020	17,980	—	960,000
5,842	1,435	12,295	792	27,895	—	14,250	42,937	27,917	(5,083)	—	22,834
5,294,793	57,043	9,899,254	718,106	25,281,716	—	1,300,538	27,300,360	25,301,662	(1,136,081)	—	24,165,581
153,531	544	285,935	20,823	733,083	—	116,088	869,994	733,661	(55,475)	—	678,186
27,480	2,740	53,821	3,727	131,210	—	33,627	168,564	131,314	(7,713)	—	123,601
586,094	12,148	1,101,607	79,489	2,798,492	—	122,650	3,000,631	2,800,699	(94,927)	—	2,705,772
47,093	5,569	93,107	6,387	224,858	—	7,775	239,020	225,036	(7,974)	—	217,062
77,402	14,992	158,870	10,498	369,579	—	35,417	415,494	369,871	(18,138)	—	351,733
50,697	11,385	105,623	6,876	242,070	—	252	249,198	242,261	10,938	—	253,199
97,471	31,459	212,643	13,220	465,406	—	46,349	524,975	465,773	(66,872)	—	398,901
35,595	5,049	71,214	4,828	169,958	—	31,616	206,402	170,092	(26,241)	—	143,851
19,182	7,142	42,799	2,602	91,591	—	7,412	101,605	91,663	(368)	—	91,295
52,071	26,040	122,832	7,062	248,631	—	10,503	266,196	248,827	(2,903)	—	245,924
38,286	53,466	124,634	5,193	182,808	—	—	188,001	182,952	98,640	—	281,592
123,288	32,044	261,217	16,721	588,676	—	2,992	608,389	589,140	27,966	—	617,106
4,743	7,367	16,183	643	22,647	—	7,549	30,839	22,665	1,852	—	24,517
23,317	32,264	75,607	3,162	111,334	—	2,590	117,086	111,421	9,685	—	121,106
9,508	6,287	23,961	1,290	45,401	—	42	46,733	45,437	3,674	—	49,111
3,775	2,531	9,548	512	18,025	—	310	18,847	18,039	3,236	—	21,275
4,192	2,026	9,818	568	20,014	—	167	20,749	20,030	868	—	20,898
8,547	24,318	40,205	1,159	40,808	—	7,790	49,757	40,840	1,692	—	42,532
77,711	38,364	182,817	10,540	371,056	—	4,844	386,440	371,348	21,435	—	392,783
12,388	—	23,028	1,680	59,152	—	22,830	83,662	59,198	(9,088)	—	50,110
77,829	18,059	162,731	10,556	371,620	—	8,379	390,555	371,913	9,578	—	381,491
48,870	6,072	96,914	6,628	233,344	—	14,244	254,216	233,528	(30,763)	—	202,765
126,811	52,982	288,705	17,199	605,502	—	—	622,701	605,979	36,460	—	642,439
111,149	18,975	225,584	15,075	530,717	—	35,377	581,169	531,136	(942)	—	530,194
17,042	864	32,542	2,311	81,371	—	16,609	100,291	81,435	(11,686)	—	69,749
29,753	7,223	62,529	4,035	142,065	—	4,141	150,241	142,177	(12,864)	—	129,313
37,478	24,392	94,058	5,083	178,950	—	23,038	207,071	179,091	(36,505)	—	142,586
359,671	226,009	894,583	48,781	1,717,366	—	—	1,766,147	1,718,721	150,287	—	1,869,008

Noncontributory Retirement System
Local Government Division

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

at December 31, 2019

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
Spring City	$ 29,905	0.0165985%	$ 62,558	195,389	(48,223)	5,690	—
Springville City	1,335,828	0.7414277	2,794,344	8,727,709	(2,154,021)	254,179	—
St George Housing Auth	28,295	0.0157044	59,188	184,864	(45,625)	5,384	—
Stansbury Park Improv Dist	66,617	0.0369747	139,353	435,247	(107,420)	12,676	—
Stansbury Service Agency	27,004	0.0149882	56,489	176,433	(43,544)	5,138	—
Statewide Assoc Public Attys	10,774	0.0059800	22,538	70,394	(17,373)	2,050	—
Summit County	2,167,609	1.2030927	4,534,298	14,162,193	(3,495,265)	412,448	—
Sunset City	83,995	0.0466201	175,705	548,788	(135,442)	15,982	—
Sw Behavioral Health Center	1,132,515	0.6285825	2,369,045	7,399,352	(1,826,179)	215,493	—
Sw Mosquito Abatement/Control	25,970	0.0144143	54,326	169,678	(41,877)	4,942	—
Sw Ut Public Health Dept	367,138	0.2037735	767,996	2,398,718	(592,010)	69,858	—
Syracuse City Corp	358,069	0.1987400	749,025	2,339,466	(577,386)	68,133	—
Taylor West Weber Wtr Imp Dist	24,832	0.0137824	51,944	162,239	(40,041)	4,725	—
Taylorsville-Bennion Imp	347,833	0.1930583	727,611	2,272,584	(560,879)	66,185	—
Timberlakes Water SSD	45,340	0.0251649	94,843	296,228	(73,110)	8,627	—
Timpanogos SSD	347,697	0.1929830	727,328	2,271,697	(560,661)	66,159	—
Tooele City	709,039	0.3935393	1,483,198	4,632,544	(1,143,324)	134,914	—
Tooele County	1,490,465	0.8272559	3,117,819	9,738,034	(2,403,372)	283,603	—
Tooele County Housing	44,486	0.0246909	93,057	290,649	(71,733)	8,465	—
Tooele Valley Mosquito Abtmnt	4,627	0.0025681	9,679	30,230	(7,461)	880	—
Toquerville City	19,979	0.0110887	41,792	130,531	(32,215)	3,801	—
Torrey Town	3,244	0.0018006	6,786	21,196	(5,231)	617	—
Town of Alta	76,776	0.0426131	160,603	501,620	(123,801)	14,609	—
Town of Apple Valley	3,900	0.0021645	8,158	25,479	(6,288)	742	—
Town of Brian Head	95,302	0.0528954	199,356	622,658	(153,673)	18,134	—
Town of Daniel	11,693	0.0064901	24,460	76,398	(18,855)	2,225	—
Town of Garden City	40,629	0.0225506	84,990	265,454	(65,515)	7,731	—
Town of Goshen	7,407	0.0041112	15,495	48,395	(11,944)	1,409	—
Town of Levan	25,656	0.0142397	53,668	167,622	(41,370)	4,882	—
Town of Manila	5,468	0.0030347	11,437	35,723	(8,817)	1,040	—
Town of Mantua	19,210	0.0106621	40,184	125,509	(30,976)	3,655	—
Town of Randolph	9,501	0.0052735	19,875	62,077	(15,321)	1,808	—
Town of Springdale	146,562	0.0813464	306,584	957,568	(236,330)	27,887	—
Trans-Jordan Cities	281,724	0.1563660	589,323	1,840,661	(454,280)	53,606	—
Tremonton City	232,131	0.1288403	485,582	1,516,642	(374,311)	44,169	—
Tridell-Lapoint Water	7,366	0.0040883	15,408	48,125	(11,877)	1,402	—
Uintah Animal Control/Shelter	48,042	0.0266649	100,497	313,886	(77,468)	9,141	—
Uintah Basin Assn of Govt	187,553	0.1040978	392,331	1,225,386	(302,428)	35,687	—
Uintah Basin Asst Council	8,119	0.0045062	16,983	53,045	(13,092)	1,545	—
Uintah Co Care Center SSD	375,528	0.2084302	785,546	2,453,534	(605,538)	71,455	—
Uintah County	1,406,677	0.7807513	2,942,549	9,190,606	(2,268,265)	267,660	—
Uintah Fire Suppression SSD	6,231	0.0034582	13,034	40,708	(10,047)	1,186	—
Uintah Highlands Improv Dist	14,774	0.0082003	30,906	96,530	(23,824)	2,811	—
Uintah Mosquito Abate District	32,301	0.0179281	67,569	211,040	(52,085)	6,146	—
Uintah Recreation District	168,606	0.0935819	352,698	1,101,598	(271,877)	32,082	—
Uintah Transportation SSD	21,262	0.0118012	44,477	138,918	(34,285)	4,046	—
Uintah Water Conserv Dist	86,021	0.0477446	179,943	562,025	(138,709)	16,368	—
Unified Fire Authority	518,248	0.2876441	1,084,093	3,386,000	(835,673)	98,611	—
Unified Police Department	780,777	0.4333565	1,633,264	5,101,252	(1,259,002)	148,565	—
Upper Country Water Dist	21,275	0.0118085	44,505	139,004	(34,306)	4,048	—
UT Municipal Power Agency	421,142	0.2337472	880,962	2,751,553	(679,090)	80,134	—
UT Public Employees Assn	28,944	0.0160650	60,547	189,109	(46,673)	5,507	—
Utah Association of Counties	90,246	0.0500895	188,781	589,628	(145,522)	17,172	—
Utah Co Housing Authority	114,426	0.0635100	239,361	747,607	(184,511)	21,773	—
Utah Counties Indemnity Pool	77,980	0.0432814	163,122	509,487	(125,743)	14,838	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
6,626	8,139	20,455	899	31,636	—	4,142	36,677	31,661	16,228	—	47,889
295,953	8,273	558,405	40,139	1,413,125	—	134,153	1,587,417	1,414,239	(105,706)	—	1,308,533
6,269	1,385	13,038	850	29,932	—	183	30,965	29,955	721	—	30,676
14,759	95,902	123,337	2,002	70,472	—	—	72,474	70,528	48,238	—	118,766
5,983	40,322	51,443	811	28,567	—	—	29,378	28,589	19,740	—	48,329
2,387	20,717	25,154	324	11,398	—	—	11,722	11,407	8,473	—	19,880
480,235	280,872	1,173,555	65,132	2,293,035	—	48,226	2,406,393	2,294,844	97,808	—	2,392,652
18,609	2,625	37,216	2,524	88,856	—	9,581	100,961	88,926	(4,065)	—	84,861
250,909	36,495	502,897	34,030	1,198,047	—	14,286	1,246,363	1,198,992	18,673	—	1,217,665
5,754	4,171	14,867	780	27,473	—	—	28,253	27,495	4,047	—	31,542
81,340	—	151,198	11,032	388,382	—	31,194	430,608	388,689	(39,281)	—	349,408
79,330	32,909	180,372	10,759	378,789	—	18,696	408,244	379,087	(1,180)	—	377,907
5,501	3,124	13,350	746	26,269	—	8,378	35,393	26,289	391	—	26,680
77,063	7,917	151,165	10,452	367,960	—	69,302	447,714	368,250	(23,621)	—	344,629
10,045	12,215	30,887	1,362	47,963	—	395	49,720	48,001	6,519	—	54,520
77,032	—	143,191	10,448	367,816	—	50,156	428,420	368,106	(20,293)	—	347,813
157,088	60,963	352,965	21,305	750,066	—	21,388	792,759	750,658	(5,478)	—	745,180
330,213	26,406	640,222	44,785	1,576,709	—	41,236	1,662,730	1,577,952	8,278	—	1,586,230
9,856	868	19,189	1,337	47,060	—	6,826	55,223	47,097	(1,783)	—	45,314
1,025	1,229	3,134	139	4,895	—	54	5,088	4,899	(1,101)	—	3,798
4,426	15,414	23,641	600	21,135	—	—	21,735	21,151	13,497	—	34,648
719	775	2,111	97	3,432	—	156	3,685	3,435	310	—	3,745
17,010	1,045	32,664	2,307	81,218	—	16,772	100,297	81,283	(5,121)	—	76,162
864	1,390	2,996	117	4,125	—	11,587	15,829	4,129	(470)	—	3,659
21,114	17,917	57,165	2,864	100,816	—	728	104,408	100,896	43,432	—	144,328
2,591	9,988	14,804	351	12,370	—	—	12,721	12,380	7,404	—	19,784
9,001	4,962	21,694	1,221	42,980	—	608	44,809	43,014	274	—	43,288
1,641	4,171	7,221	223	7,836	—	456	8,515	7,842	781	—	8,623
5,684	443	11,009	771	27,140	—	69	27,980	27,162	1,037	—	28,199
1,211	4,204	6,455	164	5,784	—	645	6,593	5,789	3,512	—	9,301
4,256	8,288	16,199	577	20,321	—	27	20,925	20,337	2,878	—	23,215
2,105	774	4,687	285	10,051	—	1,130	11,466	10,059	(281)	—	9,778
32,471	43,551	103,909	4,404	155,042	—	452	159,898	155,164	21,155	—	176,319
62,416	10,547	126,569	8,465	298,026	—	26,277	332,768	298,261	10,693	—	308,954
51,429	3,771	99,369	6,975	245,563	—	5,419	257,957	245,757	(2,927)	—	242,830
1,632	42	3,076	221	7,792	—	980	8,993	7,798	(402)	—	7,396
10,644	3,362	23,147	1,444	50,822	—	6,388	58,654	50,862	(8,681)	—	42,181
41,552	24,551	101,790	5,636	198,405	—	9,828	213,869	198,562	(7,117)	—	191,445
1,799	3,151	6,495	244	8,589	—	4,101	12,934	8,595	(2,378)	—	6,217
83,198	—	154,653	11,284	397,258	—	98,732	507,274	397,571	(70,650)	—	326,921
311,650	253,988	833,298	42,268	1,488,073	—	191,926	1,722,267	1,489,247	651,791	—	2,141,038
1,380	857	3,423	187	6,591	—	706	7,484	6,596	(985)	—	5,611
3,273	2,862	8,946	444	15,629	—	—	16,073	15,642	2,731	—	18,373
7,156	224	13,526	971	34,170	—	1,710	36,851	34,197	(1,074)	—	33,123
37,355	—	69,437	5,066	178,362	—	50,483	233,911	178,503	(34,952)	—	143,551
4,711	5,390	14,147	639	22,493	—	18,154	41,286	22,510	(877)	—	21,633
19,058	2,151	37,577	2,585	90,999	—	21,323	114,907	91,071	(6,991)	—	84,080
114,818	49,578	263,007	15,572	548,235	—	34,261	598,068	548,668	33,036	—	581,704
172,982	19,260	340,807	23,461	825,956	—	632,269	1,481,686	826,607	(264,141)	—	562,466
4,714	1,260	10,022	639	22,506	—	376	23,521	22,524	177	—	22,701
93,304	233,507	406,945	12,654	445,511	—	6,267	464,432	445,862	100,136	—	545,998
6,413	370	12,290	870	30,619	—	15,201	46,690	30,643	(11,725)	—	18,918
19,994	—	37,166	2,712	95,468	—	48,518	146,698	95,543	(29,099)	—	66,444
25,351	—	47,124	3,438	121,047	—	99,644	224,129	121,142	(50,184)	—	70,958
17,277	11,644	43,759	2,343	82,492	—	1,994	86,829	82,557	2,173	—	84,730

Noncontributory Retirement System
Local Government Division

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

at December 31, 2019

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
Utah County	$ 6,098,410	3.3848142%	$ 12,756,920	39,844,306	(9,833,676)	1,160,393	—
Utah Lake Commission	2,699	0.0014983	5,647	17,637	(4,353)	514	—
Utah Lake Distributing Co	3,842	0.0021323	8,036	25,100	(6,195)	731	—
Utah Local Governments Trust	248,778	0.1380797	520,404	1,625,404	(401,154)	47,337	—
Utah Zoological Society	765,921	0.4251106	1,602,186	5,004,185	(1,235,046)	145,738	—
UTOPIA	516,062	0.2864309	1,079,520	3,371,718	(832,149)	98,195	—
Valley Emergency Comm Ctr	1,089,669	0.6048016	2,279,418	7,119,416	(1,757,090)	207,340	—
Vernal City	355,183	0.1971378	742,986	2,320,606	(572,731)	67,583	—
Vineyard Town	163,488	0.0907414	341,992	1,068,161	(263,625)	31,108	—
Wasatch County	1,413,372	0.7844668	2,956,552	9,234,343	(2,279,059)	268,933	—
Wasatch County Fire District	3,401	0.0018879	7,115	22,223	(5,485)	647	—
Wasatch Front Regional Council	369,239	0.2049394	772,390	2,412,442	(595,397)	70,258	—
Wasatch Front Waste/Recycling	512,132	0.2842495	1,071,299	3,346,040	(825,811)	97,447	—
Wasatch Integrated Waste Mgmt	277,110	0.1538051	579,671	1,810,515	(446,840)	52,728	—
Wasatch Mental Health SSD	2,525,664	1.4018248	5,283,294	16,501,566	(4,072,628)	480,578	—
Washington City	904,322	0.5019278	1,891,700	5,908,438	(1,458,217)	172,072	—
Washington Co Solid Waste	111,186	0.0617118	232,584	726,440	(179,287)	21,156	—
Washington Co Wat Con Dist	371,241	0.2060508	776,578	2,425,525	(598,626)	70,639	—
Washington County	1,866,422	1.0359246	3,904,264	12,194,376	(3,009,603)	355,139	—
Waste Management Serv Dist #5	23,175	0.0128628	48,478	151,414	(37,369)	4,410	—
Wayne County	112,768	0.0625901	235,894	736,779	(181,839)	21,457	—
Weber Area Dispatch 911	468,450	0.2600048	979,924	3,060,644	(755,375)	89,136	—
Weber Basin Water Conserv	952,740	0.5288017	1,992,984	6,224,784	(1,536,292)	181,285	—
Weber Co Mosquito Abate	78,483	0.0435604	164,173	512,771	(126,553)	14,934	—
Weber County Corp	3,707,299	2.0576703	7,755,089	24,221,845	(5,978,013)	705,417	—
Weber Fire District	17,716	0.0098331	37,060	115,750	(28,567)	3,371	—
Weber Human Services	1,786,602	0.9916218	3,737,292	11,672,866	(2,880,893)	339,951	—
Wellington City	14,221	0.0078928	29,747	92,910	(22,930)	2,706	—
Wellsville City Corp	52,544	0.0291637	109,914	343,300	(84,727)	9,998	—
West Bountiful City	107,752	0.0598057	225,400	704,002	(173,750)	20,503	—
West Kane County SSD #1	36,687	0.0203623	76,743	239,695	(59,157)	6,981	—
West Point City	127,723	0.0708905	267,177	834,487	(205,953)	24,303	—
West Valley City	3,030,705	1.6821391	6,339,761	19,801,283	(4,887,007)	576,676	—
White City Water Imp Dist	74,340	0.0412610	155,507	485,703	(119,873)	14,145	—
Willard City Corp	45,045	0.0250012	94,226	294,301	(72,634)	8,571	—
Woods Cross City	199,767	0.1108774	417,882	1,305,192	(322,125)	38,011	—
Grand Total	$ 180,169,711	100.0000000%	$ 376,886,867	1,177,148,972	(290,523,348)	34,282,319	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Canyonlands Health Care	$ —	0.0000000%	$ —	—	—	—	—
N Tooele Co Fire Protection SD	—	0.0000000	—	—	—	—	—
Six County Infrastructure Coal	—	0.0000000	—	—	—	—	—
Summit Mosquito Abatement Dist	—	0.0000000	—	—	—	—	—
Sunnyside City	—	0.0000000	—	—	—	—	—
Valley Mental Health	—	0.0000000	—	—	—	—	—
Grand Total	$ 180,169,711	100.0000000%	$ 376,886,867	1,177,148,972	(290,523,348)	34,282,319	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
1,351,106	816,086	3,327,585	183,244	6,451,288	—	205,518	6,840,050	6,456,377	202,555	—	6,658,932
598	836	1,948	81	2,856	—	489	3,426	2,858	(4,882)	—	(2,024)
851	7,387	8,969	115	4,064	—	—	4,179	4,067	3,021	—	7,088
55,117	7,130	109,584	7,475	263,173	—	11,871	282,519	263,381	(11,272)	—	252,109
169,690	4,116	319,544	23,014	810,240	—	95,900	929,154	810,879	(37,483)	—	773,396
114,334	147,864	360,393	15,507	545,923	—	—	561,430	546,354	74,718	—	621,072
241,417	631,111	1,079,868	32,742	1,152,722	—	26,771	1,212,235	1,153,631	200,481	—	1,354,112
78,691	—	146,274	10,672	375,735	—	76,489	462,896	376,031	(56,335)	—	319,696
36,221	87,581	154,910	4,912	172,949	—	—	177,861	173,085	81,408	—	254,493
313,133	41,109	623,175	42,469	1,495,155	—	11,710	1,549,334	1,496,334	35,524	—	1,531,858
754	1,478	2,879	102	3,598	—	18,591	22,291	3,601	(6,874)	—	(3,273)
81,805	58,351	210,414	11,095	390,604	—	—	401,699	390,912	35,558	—	426,470
113,463	2,616	213,526	15,388	541,765	—	48,663	605,816	542,193	(33,687)	—	508,506
61,394	—	114,122	8,327	293,145	—	334,047	635,519	293,376	(257,922)	—	35,454
559,562	121,747	1,161,887	75,891	2,671,809	—	68,010	2,815,710	2,673,916	51,164	—	2,725,080
200,353	92,846	465,271	27,173	956,650	—	3,183	987,006	957,404	49,666	—	1,007,070
24,633	9,146	54,935	3,341	117,620	—	2,904	123,865	117,712	119	—	117,831
82,249	129,367	282,255	11,155	392,723	—	16,952	420,830	393,032	202,548	—	595,580
413,507	76,152	844,798	56,082	1,974,421	—	131,936	2,162,439	1,975,978	(81,187)	—	1,894,791
5,134	1,310	10,854	696	24,516	—	9,647	34,859	24,535	(2,859)	—	21,676
24,984	12,439	58,880	3,388	119,294	—	8,823	131,505	119,388	(10,529)	—	108,859
103,785	—	192,921	14,076	495,556	—	105,353	614,985	495,947	(51,655)	—	444,292
211,080	19,868	412,233	28,628	1,007,870	—	53,563	1,090,061	1,008,665	19,451	—	1,028,116
17,388	325	32,647	2,358	83,024	—	31,873	117,255	83,089	(21,739)	—	61,350
821,354	100,549	1,627,320	111,396	3,921,818	—	220,170	4,253,384	3,924,911	(125,063)	—	3,799,848
3,925	13,345	20,641	532	18,741	—	8,164	27,437	18,756	10,612	—	29,368
395,823	15,365	751,139	53,684	1,889,982	—	144,571	2,088,237	1,891,473	(36,992)	—	1,854,481
3,151	4,662	10,519	427	15,043	—	12,318	27,788	15,055	(3,738)	—	11,317
11,641	3,591	25,230	1,579	55,585	—	23,298	80,462	55,628	(6,280)	—	49,348
23,872	16,487	60,862	3,238	113,987	—	20,160	137,385	114,077	48,016	—	162,093
8,128	4,615	19,724	1,102	38,810	—	123	40,035	38,840	2,468	—	41,308
28,297	5,724	58,324	3,838	135,114	—	15,661	154,613	135,220	(9,469)	—	125,751
671,454	46,147	1,294,277	91,066	3,206,074	—	78,561	3,375,701	3,208,603	(49,475)	—	3,159,128
16,470	3,180	33,795	2,234	78,641	—	18,237	99,112	78,703	(5,260)	—	73,443
9,980	2,890	21,441	1,353	47,651	—	668	49,672	47,689	1,092	—	48,781
44,259	54,661	136,931	6,003	211,327	—	323	217,653	211,494	32,274	—	243,768
39,916,699	10,482,754	84,681,772	5,413,714	190,595,053	—	11,997,481	208,006,248	190,745,376	(216,913)	—	190,528,463
—	—	—	—	—	—	—	—	—	(11,734)	—	(11,734)
—	418	418	—	—	—	774	774	—	(15)	—	(15)
—	1,127	1,127	—	—	—	23,195	23,195	—	(9,871)	—	(9,871)
—	—	—	—	—	—	1,584	1,584	—	(5,746)	—	(5,746)
—	—	—	—	—	—	—	—	—	(570)	—	(570)
—	—	—	—	—	—	304,296	304,296	—	(1,613,808)	—	(1,613,808)
39,916,699	10,484,299	84,683,317	5,413,714	190,595,053	—	12,327,330	208,336,097	190,745,376	(1,858,657)	—	188,886,719

Noncontributory Retirement System
State and School Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Active Re Entry Inc	$ 70,695	0.0108603%	$ 241,283	544,308	(12,727)	3,751	—
Alpine School District	53,982,408	8.2928414	184,242,211	415,629,019	(9,718,451)	2,864,291	—
Alpine Uniserv	24,742	0.0038009	84,445	190,497	(4,454)	1,313	—
American Leadership Academy	907,008	0.1393357	3,095,624	6,983,368	(163,289)	48,126	—
AMES Charter School	384,210	0.0590228	1,311,311	2,958,164	(69,169)	20,386	—
Beaver School District	1,379,993	0.2119962	4,709,923	10,625,040	(248,440)	73,222	—
Box Elder School District	9,883,459	1.5183087	33,732,292	76,096,132	(1,779,319)	524,413	—
Bridgerland Technical College	1,039,621	0.1597078	3,548,231	8,004,397	(187,163)	55,162	—
Cache County School District	13,716,279	2.1071111	46,813,726	105,606,327	(2,469,341)	727,782	—
Canyons School District	27,014,854	4.1500539	92,201,824	207,996,602	(4,863,483)	1,433,400	—
Carbon School District	2,904,282	0.4461592	9,912,327	22,361,058	(522,858)	154,100	—
Color Country Uniserv	19,651	0.0030188	67,069	151,299	(3,538)	1,043	—
Daggett School District	315,590	0.0484813	1,077,110	2,429,835	(56,816)	16,745	—
Davis School District	52,570,333	8.0759167	179,422,790	404,756,967	(9,464,235)	2,789,367	—
Davis Technical College	888,025	0.1364194	3,030,832	6,837,206	(159,871)	47,118	—
Davis Uniserv	13,609	0.0020907	46,449	104,784	(2,450)	722	—
Duchesne School District	3,832,704	0.5887845	13,081,036	29,509,298	(690,002)	203,362	—
East Hollywood High School	229,105	0.0351954	781,937	1,763,959	(41,246)	12,156	—
Educators Mutual Insurance	1,400,001	0.2150698	4,778,210	10,779,086	(252,042)	74,284	—
Emery School District	2,389,515	0.3670801	8,155,425	18,397,692	(430,184)	126,787	—
Fast Forward Charter HS	201,032	0.0308827	686,122	1,547,810	(36,192)	10,667	—
Garfield School District	976,241	0.1499713	3,331,915	7,516,413	(175,753)	51,799	—
Grand School District	1,730,696	0.2658716	5,906,874	13,325,222	(311,577)	91,830	—
Granite School District	57,355,880	8.8110781	195,755,885	441,602,531	(10,325,777)	3,043,286	—
Granite Uniserv	60,405	0.0092795	206,163	465,079	(10,875)	3,205	—
Heber Valley Historic Railroad	61,881	0.0095062	211,199	476,441	(11,140)	3,283	—
High Desert Uniserv	9,448	0.0014515	32,248	72,748	(1,701)	501	—
High School Activities Assn	123,665	0.0189976	422,070	952,141	(22,263)	6,562	—
Intech Collegiate High School	113,592	0.0174501	387,689	874,582	(20,450)	6,027	—
Iron School District	7,407,611	1.1379660	25,282,212	57,033,732	(1,333,592)	393,046	—
ITINERIS High School	261,439	0.0401625	892,291	2,012,905	(47,067)	13,872	—
Jordan School District	40,592,629	6.2358877	138,542,832	312,536,532	(7,307,889)	2,153,833	—
Jordan Uniserv	39,863	0.0061238	136,053	306,919	(7,177)	2,115	—
Juab School District	1,955,437	0.3003965	6,673,915	15,055,576	(352,037)	103,755	—
Kane School District	1,293,576	0.1987207	4,414,981	9,959,685	(232,882)	68,637	—
Logan School District	4,398,946	0.6757713	15,013,623	33,868,990	(791,942)	233,407	—
Millard School District	3,182,884	0.4889584	10,863,198	24,506,112	(573,014)	168,883	—
Monticello Academy	268,170	0.0411966	915,266	2,064,733	(48,279)	14,229	—
Morgan School District	1,913,377	0.2939353	6,530,366	14,731,747	(344,465)	101,523	—
Murray School District	5,574,907	0.8564238	19,027,183	42,923,115	(1,003,650)	295,803	—
Nebo School District	24,702,597	3.7948422	84,310,079	190,193,742	(4,447,208)	1,310,713	—
Noah Webster Academy Inc	213,880	0.0328565	729,973	1,646,735	(38,505)	11,348	—
North Sanpete School District	2,111,247	0.3243322	7,205,694	16,255,209	(380,088)	112,022	—
North Summit School District	1,237,953	0.1901758	4,225,139	9,531,423	(222,869)	65,685	—
NUAMES Charter School	672,532	0.1033152	2,295,356	5,178,056	(121,076)	35,684	—
Ogden School District	9,378,829	1.4407868	32,009,987	72,210,811	(1,688,470)	497,638	—
Ogden Weber/NEA/UEA Uniserv	19,413	0.0029822	66,256	149,465	(3,495)	1,030	—
Ogden-Weber Tech College	687,494	0.1056136	2,346,419	5,293,249	(123,769)	36,478	—
Park City School District	6,833,156	1.0497175	23,321,593	52,610,804	(1,230,173)	362,565	—
Piute School District	395,370	0.0607372	1,349,399	3,044,088	(71,178)	20,978	—
Provo School District	11,125,811	1.7091602	37,972,444	85,661,421	(2,002,979)	590,332	—
Rich School District	710,598	0.1091629	2,425,274	5,471,137	(127,929)	37,704	—
Salt Lake Arts Academy	306,067	0.0470183	1,044,606	2,356,511	(55,101)	16,240	—
Salt Lake School District	25,324,606	3.8903959	86,432,998	194,982,799	(4,559,188)	1,343,716	—
San Juan School District	3,647,820	0.5603824	12,450,026	28,085,812	(656,717)	193,552	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
13,986	8,965	26,702	1,480	74,700	—	23,450	99,630	94,467	(4,607)	—	89,860
10,679,817	5,726,175	19,270,283	1,130,275	57,040,376	—	—	58,170,651	72,134,251	3,935,723	—	76,069,974
4,895	10,432	16,640	518	26,144	—	2,165	28,827	33,062	(5,618)	—	27,444
179,441	43,354	270,921	18,991	958,388	—	132,128	1,109,507	1,211,994	(49,595)	—	1,162,399
76,012	32,345	128,743	8,045	405,975	—	45,592	459,612	513,402	16,916	—	530,318
273,016	77,377	423,615	28,894	1,458,166	—	29,497	1,516,557	1,844,023	(874)	—	1,843,149
1,955,332	1,943,130	4,422,875	206,938	10,443,332	—	—	10,650,270	13,206,820	1,034,948	—	14,241,768
205,677	—	260,839	21,767	1,098,513	—	266,518	1,386,798	1,389,198	(115,013)	—	1,274,185
2,713,613	1,856,639	5,298,034	287,189	14,493,272	—	—	14,780,461	18,328,444	1,416,762	—	19,745,206
5,344,587	522,939	7,300,926	565,633	28,545,178	—	1,072,066	30,182,877	36,098,728	(313,208)	—	35,785,520
574,580	117,495	846,175	60,809	3,068,802	—	106,377	3,235,988	3,880,860	(100,069)	—	3,780,791
3,888	10,997	15,928	411	20,764	—	—	21,175	26,259	15,461	—	41,720
62,436	18,462	97,643	6,608	333,467	—	91,585	431,660	421,709	(23,158)	—	398,551
10,400,454	1,129,368	14,319,189	1,100,709	55,548,310	—	4,438,137	61,087,156	70,247,358	(321,342)	—	69,926,016
175,686	55,759	278,563	18,593	938,329	—	46,028	1,002,950	1,186,627	66,228	—	1,252,855
2,692	147	3,561	285	14,380	—	1,432	16,097	18,186	(11,493)	—	6,693
758,258	146,043	1,107,663	80,249	4,049,817	—	54,787	4,184,853	5,121,469	11,504	—	5,132,973
45,326	58,412	115,894	4,797	242,083	—	1,647	248,527	306,143	46,435	—	352,578
276,975	9,518	360,777	29,313	1,479,307	—	301,189	1,809,809	1,870,758	(178,715)	—	1,692,043
472,739	—	599,526	50,031	2,524,875	—	507,642	3,082,548	3,193,001	(397,354)	—	2,795,647
39,772	24,666	75,105	4,209	212,419	—	14,727	231,355	268,629	26,026	—	294,655
193,138	1,789	246,726	20,440	1,031,543	—	201,425	1,253,408	1,304,507	(74,920)	—	1,229,587
342,399	254,751	688,980	36,237	1,828,736	—	4,353	1,869,326	2,312,651	111,006	—	2,423,657
11,347,221	3,947,369	18,337,876	1,200,908	60,604,946	—	265,088	62,070,942	76,642,068	832,027	—	77,474,095
11,950	4,386	19,541	1,265	63,827	—	2,956	68,048	80,717	14,645	—	95,362
12,242	15,161	30,686	1,296	65,386	—	—	66,682	82,688	12,727	—	95,415
1,869	5,087	7,457	198	9,984	—	284	10,466	12,626	5,998	—	18,624
24,466	2,668	33,696	2,589	130,671	—	15,447	148,707	165,248	(9,383)	—	155,865
22,473	15,649	44,149	2,378	120,026	—	29,071	151,475	151,788	12,228	—	164,016
1,465,513	1,195,513	3,054,072	155,099	7,827,234	—	11,950	7,994,283	9,898,456	497,051	—	10,395,507
51,723	42,329	107,924	5,474	276,248	—	14,795	296,517	349,349	16,446	—	365,795
8,030,799	9,173,150	19,357,782	849,922	42,892,100	—	71,726	43,813,748	54,242,094	4,185,628	—	58,427,722
7,886	—	10,001	835	42,121	—	13,426	56,382	53,267	(10,307)	—	42,960
386,861	216,989	707,605	40,943	2,066,207	—	—	2,107,150	2,612,962	184,882	—	2,797,844
255,920	17,505	342,062	27,085	1,366,854	—	62,628	1,456,567	1,728,547	(17,686)	—	1,710,861
870,282	115,343	1,219,032	92,104	4,648,135	—	142,374	4,882,613	5,878,113	(104,275)	—	5,773,838
629,698	—	798,581	66,643	3,363,186	—	349,360	3,779,189	4,253,144	(155,720)	—	4,097,424
53,054	3,344	70,627	5,615	283,361	—	120,341	409,317	358,344	(72,734)	—	285,610
378,540	485,170	965,233	40,062	2,021,765	—	1,176	2,063,003	2,556,760	217,169	—	2,773,929
1,102,933	844,790	2,243,526	116,727	5,890,711	—	29,394	6,036,832	7,449,496	369,791	—	7,819,287
4,887,133	1,792,157	7,990,003	517,219	26,101,937	—	324,667	26,943,823	33,008,963	1,161,218	—	34,170,181
42,314	45,994	99,656	4,478	225,996	—	4,273	234,747	285,798	13,707	—	299,505
417,687	16,972	546,681	44,205	2,230,843	—	14,560	2,289,608	2,821,163	11,279	—	2,832,442
244,915	221,685	532,285	25,920	1,308,080	—	43,643	1,377,643	1,654,221	123,170	—	1,777,391
133,053	496,278	665,015	14,081	710,630	—	—	724,711	898,674	323,623	—	1,222,297
1,855,497	—	2,353,135	196,372	9,910,116	—	1,979,247	12,085,735	12,532,505	(1,324,578)	—	11,207,927
3,841	6,151	11,022	406	20,512	—	23,093	44,011	25,940	(593)	—	25,347
136,013	—	172,491	14,395	726,439	—	265,830	1,006,664	918,667	(235,239)	—	683,428
1,351,864	793,653	2,508,082	143,072	7,220,237	—	321,074	7,684,383	9,130,837	350,558	—	9,481,395
78,220	—	99,198	8,278	417,767	—	69,369	495,414	528,315	(58,497)	—	469,818
2,201,117	390,452	3,181,901	232,950	11,756,060	—	763,574	12,752,584	14,866,918	(279,222)	—	14,587,696
140,584	40,788	219,076	14,878	750,852	—	42,636	808,366	949,540	29,956	—	979,496
60,552	88,052	164,844	6,408	323,404	—	—	329,812	408,983	61,536	—	470,519
5,010,191	—	6,353,907	530,243	26,759,181	—	2,540,395	29,829,819	33,840,125	(1,762,862)	—	32,077,263
721,680	24,630	939,862	76,377	3,854,460	—	454,535	4,385,372	4,874,417	(224,422)	—	4,649,995

Noncontributory Retirement System
State and School Division

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

at December 31, 2019

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
Sevier School District	$ 3,962,049	0.6086546%	$ 13,522,490	30,505,167	(713,287)	210,225	—
Soldier Hollow Charter School	169,408	0.0260247	578,191	1,304,332	(30,499)	8,989	—
South Sanpete School District	3,001,449	0.4610862	10,243,961	23,109,185	(540,351)	159,256	—
South Summit School District	1,611,434	0.2475504	5,499,832	12,406,982	(290,106)	85,502	—
Southern Utah University	2,713,267	0.4168153	9,260,393	20,890,371	(488,469)	143,965	—
Southwest Educ Development Ctr	84,185	0.0129326	287,324	648,169	(15,156)	4,467	—
Southwest Technical College	345,340	0.0530515	1,178,646	2,658,889	(62,171)	18,324	—
State of Utah	159,533,913	24.5077887	544,489,996	1,228,306,163	(28,720,882)	8,464,825	—
Success Academy	243,791	0.0374515	832,061	1,877,032	(43,890)	12,935	—
Summit Academy High School	253,300	0.0389122	864,513	1,950,241	(45,602)	13,440	—
Summit Academy Inc	1,121,755	0.1723254	3,828,557	8,636,779	(201,950)	59,520	—
Tintic School District	364,783	0.0560384	1,245,006	2,808,589	(65,672)	19,355	—
Tooele School District	11,501,889	1.7669338	39,256,001	88,556,977	(2,070,685)	610,287	—
Tooele Technical College	283,234	0.0435108	966,680	2,180,718	(50,991)	15,028	—
Tuacahn High School	236,339	0.0363067	806,627	1,819,656	(42,548)	12,540	—
Uintah Basin Technical College	673,994	0.1035398	2,300,346	5,189,312	(121,339)	35,762	—
Uintah School District	5,343,411	0.8208611	18,237,086	41,140,747	(961,974)	283,520	—
UT School Board Risk Mgmt	186,501	0.0286505	636,529	1,435,935	(33,576)	9,896	—
Utah Co Academy of Sciences	325,184	0.0499551	1,109,853	2,503,700	(58,543)	17,254	—
Utah Communications Authority	492,766	0.0756992	1,681,811	3,793,969	(88,713)	26,146	—
Utah Dairy Commission	7,067	0.0010857	24,121	54,414	(1,272)	375	—
Utah Education Association	314,121	0.0482557	1,072,098	2,418,528	(56,551)	16,667	—
Utah Housing Corporation	1,129,930	0.1735812	3,856,457	8,699,718	(203,421)	59,954	—
Utah Retirement Systems	5,880,715	0.9034024	20,070,908	45,277,636	(1,058,705)	312,029	—
Utah Safety Council	80,381	0.0123482	274,340	618,880	(14,471)	4,265	—
Utah School Boards Association	168,217	0.0258416	574,123	1,295,155	(30,284)	8,926	—
Utah School Employees Assn	70,819	0.0108793	241,706	545,260	(12,750)	3,758	—
Utah State Fair Corp	103,898	0.0159609	354,604	799,945	(18,705)	5,513	—
Wasatch School District	6,447,489	0.9904709	22,005,310	49,641,423	(1,160,741)	342,102	—
Wasatch Uniserv	29,417	0.0045190	100,399	226,488	(5,296)	1,561	—
Washington School District	22,814,742	3.5048277	77,866,822	175,658,502	(4,107,337)	1,210,544	—
Wayne School District	534,666	0.0821360	1,824,817	4,116,575	(96,256)	28,369	—
Weber County School District	26,649,311	4.0938987	90,954,223	205,182,159	(4,797,674)	1,414,005	—
Woodland Peaks Uniserv	36,278	0.0055730	123,815	279,313	(6,531)	1,925	—
Workers' Compensation Fund	6,381,714	0.9803664	21,780,818	49,134,996	(1,148,900)	338,612	—
Grand Total	$ 650,951,891	100.0000000%	$ 2,221,701,847	5,011,901,218	(117,190,843)	34,539,319	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Liberty Academy Charter School	$ —	0.0000000%	$ —	—	—	—	—
Space Dynamics Lab / USU	—	0.0000000	—	—	—	—	—
Uintah Fire Suppression SSD	—	0.0000000	—	—	—	—	—
Grand Total	$ 650,951,891	100.0000000%	$ 2,221,701,847	5,011,901,218	(117,190,843)	34,539,319	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
783,847	90,222	1,084,294	82,957	4,186,489	—	468,985	4,738,431	5,294,306	(178,831)	—	5,115,475
33,516	56,030	98,535	3,547	179,005	—	7,737	190,289	226,373	(8,530)	—	217,843
593,803	75,181	828,240	62,844	3,171,474	—	6,929	3,241,247	4,010,701	(12,676)	—	3,998,025
318,804	280,486	684,792	33,740	1,702,718	—	—	1,736,458	2,153,286	159,860	—	2,313,146
536,790	148,119	828,874	56,810	2,866,967	—	2,615	2,926,392	3,625,616	135,465	—	3,761,081
16,655	3,770	24,892	1,763	88,954	—	18,521	109,238	112,493	4,520	—	117,013
68,322	10,887	97,533	7,231	364,902	—	27,659	399,792	461,462	42,597	—	504,059
31,562,005	721,740	40,748,570	3,340,299	168,571,115	—	20,778,234	192,689,648	213,177,955	(11,824,148)	—	201,353,807
48,231	118,518	179,684	5,104	257,601	—	—	262,705	325,767	76,473	—	402,240
50,113	81,863	145,416	5,304	267,648	—	—	272,952	338,473	48,060	—	386,533
221,927	433,068	714,515	23,487	1,185,300	—	—	1,208,787	1,498,951	457,791	—	1,956,742
72,168	1,700	93,223	7,638	385,447	—	36,936	430,021	487,443	(2,057)	—	485,386
2,275,520	2,750,615	5,636,422	240,825	12,153,442	—	69,465	12,463,732	15,369,454	944,714	—	16,314,168
56,035	109,172	180,235	5,930	299,279	—	—	305,209	378,473	72,671	—	451,144
46,757	31,079	90,376	4,948	249,727	—	60,831	315,506	315,809	(22,641)	—	293,168
133,342	81,405	250,509	14,112	712,174	—	11,010	737,296	900,628	(12,459)	—	888,169
1,057,134	—	1,340,654	111,880	5,646,102	—	258,457	6,016,439	7,140,158	(400,038)	—	6,740,120
36,897	26,645	73,438	3,905	197,066	—	41,280	242,251	249,213	27,274	—	276,487
64,334	204,442	286,030	6,809	343,605	—	—	350,414	434,528	105,238	—	539,766
97,488	158,107	281,741	10,317	520,679	—	117,077	648,073	658,460	163,218	—	821,678
1,398	807	2,580	148	7,468	—	208,383	215,999	9,444	(110,389)	—	(100,945)
62,145	16,190	95,002	6,577	331,916	—	28,814	367,307	419,746	(26,597)	—	393,149
223,544	72,269	355,767	23,658	1,193,938	—	97,559	1,315,155	1,509,875	51,845	—	1,561,720
1,163,434	280,773	1,756,236	123,129	6,213,843	—	451,094	6,788,066	7,858,134	284,387	—	8,142,521
15,902	2,114	22,281	1,683	84,934	—	19,312	105,929	107,409	2,619	—	110,028
33,280	52,537	94,743	3,522	177,745	—	26,626	207,893	224,780	52,655	—	277,435
14,011	3,998	21,767	1,483	74,831	—	30,563	106,877	94,632	(29,198)	—	65,434
20,555	1,699	27,767	2,175	109,783	—	21,352	133,310	138,834	(3,484)	—	135,350
1,275,564	1,230,844	2,848,510	134,997	6,812,723	—	5,300	6,953,020	8,615,488	789,988	—	9,405,476
5,820	22,357	29,738	616	31,083	—	41	31,740	39,308	16,637	—	55,945
4,513,642	640,838	6,365,024	477,692	24,107,140	—	—	24,584,832	30,486,308	710,710	—	31,197,018
105,778	74,214	208,361	11,195	564,953	—	31,166	607,314	714,450	(36,070)	—	678,380
5,272,269	381,735	7,068,009	557,979	28,158,928	—	251,603	28,968,510	35,610,269	(22,646)	—	35,587,623
7,177	10,745	19,847	760	38,333	—	—	39,093	48,476	5,592	—	54,068
1,262,551	213,301	1,814,464	133,619	6,743,222	—	1,231,307	8,108,148	8,527,595	(169,544)	—	8,358,051
128,783,568	40,437,502	203,760,389	13,629,529	687,826,686	—	39,626,511	741,082,726	869,837,576	546,169	—	870,383,745
—	5,277	5,277	—	—	—	143,257	143,257	—	(118,731)	—	(118,731)
—	96,506	96,506	—	—	—	1,912,349	1,912,349	—	(637,866)	—	(637,866)
—	752	752	—	—	—	1,273	1,273	—	(44)	—	(44)
128,783,568	40,540,036	203,862,923	13,629,529	687,826,686	—	41,683,391	743,139,606	869,837,576	(210,471)	—	869,627,105

Noncontributory Retirement System
Higher Education

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Dixie State University	$ 1,231,955	2.3766801%	$ 2,787,917	9,176,811	(2,528,239)	2,303,533	—
Dixie Technical College	184,425	0.3557913	417,354	1,373,778	(378,480)	344,841	—
Mountainland Technical College	367,539	0.7090543	831,742	2,737,793	(754,270)	687,232	—
Salt Lake Community College	4,043,814	7.8013012	9,151,161	30,122,300	(8,298,785)	7,561,202	—
Snow College	1,005,624	1.9400430	2,275,729	7,490,873	(2,063,758)	1,880,335	—
Space Dynamics Lab / USU	783,060	1.5106754	1,772,068	5,833,003	(1,607,010)	1,464,182	—
University of Utah	18,940,673	36.5402272	42,862,786	141,088,728	(38,870,372)	35,415,635	—
University of Utah Hospital	8,205,583	15.8301604	18,569,254	61,123,243	(16,839,639)	15,342,959	—
Utah State University	8,662,201	16.7110650	19,602,582	64,524,583	(17,776,718)	16,196,752	—
Utah Valley University	4,932,101	9.5149793	11,161,357	36,739,135	(10,121,743)	9,222,139	—
Weber State University	3,478,149	6.7100228	7,871,059	25,908,667	(7,137,916)	6,503,510	—
Grand Total	$ 51,835,125	100.0000000%	$ 117,303,009	386,118,914	(106,376,930)	96,922,320	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
252,683	292,867	2,849,083	26,742	1,662,016	—	76,831	1,765,589	(1,839,830)	50,986	—	(1,788,844)
37,827	213,709	596,377	4,003	248,805	—	—	252,808	(275,424)	159,990	—	(115,434)
75,385	26,000	788,617	7,978	495,843	—	3,768	507,589	(548,892)	48,841	—	(500,051)
829,414	580,849	8,971,465	87,779	5,455,461	—	389,987	5,933,227	(6,039,126)	263,687	—	(5,775,439)
206,260	219,505	2,306,100	21,829	1,356,675	—	40,645	1,419,149	(1,501,822)	124,787	—	(1,377,035)
160,611	1,907,459	3,532,252	16,998	1,056,418	—	—	1,073,416	(1,169,441)	1,265,732	—	96,291
3,884,864	—	39,300,499	411,148	25,552,634	—	7,251,061	33,214,843	(28,286,442)	(7,102,987)	—	(35,389,429)
1,683,022	—	17,025,981	178,119	11,070,054	—	1,110,687	12,358,860	(12,254,410)	(1,254,825)	—	(13,509,235)
1,776,678	—	17,973,430	188,031	11,686,072	—	1,049,542	12,923,645	(12,936,334)	(946,815)	—	(13,883,149)
1,011,608	—	10,233,747	107,062	6,653,839	—	508,047	7,268,948	(7,365,715)	(485,832)	—	(7,851,547)
713,392	—	7,216,902	75,500	4,692,329	—	414,843	5,182,672	(5,194,348)	(375,890)	—	(5,570,238)
10,631,744	3,240,388	110,794,452	1,125,189	69,930,146	—	10,845,412	81,900,747	(77,411,784)	(8,252,326)	—	(85,664,110)

Contributory Retirement System
Local Government Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Box Elder County	$ 9,191	0.3547166%	$ 23,247	181,483	(110,186)	—	—
Carbon County	6,955	0.2683996	17,590	137,321	(83,373)	—	—
Castle Valley SSD	3,930	0.1516831	9,941	77,605	(47,118)	—	—
Centerville City	28,784	1.1108619	72,802	568,347	(345,069)	—	—
City of Naples	6,817	0.2630849	17,242	134,601	(81,723)	—	—
City of Orem	135,170	5.2166185	341,879	2,668,965	(1,620,447)	—	—
City of St George	16,876	0.6513131	42,685	333,230	(202,318)	—	—
City of West Jordan	9,461	0.3651152	23,928	186,803	(113,416)	—	—
Clinton City	15,004	0.5790447	37,949	296,255	(179,870)	—	—
Corinne City	19,546	0.7543360	49,437	385,939	(234,321)	—	—
Davis & Weber County Canal Co	90,785	3.5036760	229,618	1,792,577	(1,088,353)	—	—
Davis Co Housing Authority	30,636	1.1823260	77,485	604,910	(367,268)	—	—
DDI Vantage	601,937	23.2306514	1,522,456	11,885,437	(7,216,177)	—	—
Duchesne County	105,220	4.0607779	266,129	2,077,605	(1,261,406)	—	—
Emery Co Care & Rehab Ctr	88,704	3.4233772	224,356	1,751,494	(1,063,409)	—	—
Emery Town	5,720	0.2207698	14,468	112,952	(68,578)	—	—
Five-County Assn of Govts	12,030	0.4642803	30,427	237,539	(144,220)	—	—
Garfield County	9,489	0.3661973	23,999	187,357	(113,752)	—	—
Garland City	24,882	0.9602795	62,933	491,305	(298,293)	—	—
Grand County	14,063	0.5427517	35,570	277,687	(168,596)	—	—
Honeyville City	9,922	0.3829298	25,096	195,917	(118,950)	—	—
Iron County	7,534	0.2907716	19,056	148,767	(90,323)	—	—
Jordan Valley Water Conserv	23,231	0.8965715	58,758	458,711	(278,503)	—	—
Juab County	7,743	0.2988434	19,585	152,896	(92,830)	—	—
Kaysville City	2,725	0.1051652	6,892	53,805	(32,668)	—	—
Kearns Improvement District	35,634	1.3752389	90,128	703,610	(427,193)	—	—
Layton City	29,539	1.1399962	74,711	583,253	(354,119)	—	—
Logan City	14,051	0.5422631	35,538	277,437	(168,444)	—	—
Mountainland Assn of Govt	18,863	0.7279869	47,710	372,458	(226,136)	—	—
Murray City	60,551	2.3368421	153,148	1,195,592	(725,897)	—	—
North Davis Co Sewer District	13,052	0.5037074	33,011	257,711	(156,467)	—	—
Oakley City	22,206	0.8570166	56,166	438,473	(266,216)	—	—
Ogden City Corp	67,338	2.5987669	170,314	1,329,600	(807,259)	—	—
Park City	113,889	4.3953469	288,055	2,248,780	(1,365,334)	—	—
Provo City Corp	44,168	1.7045925	111,713	872,116	(529,500)	—	—
Provo Housing Authority	20,789	0.8023088	52,580	410,483	(249,223)	—	—
Roy City	6,697	0.2584499	16,938	132,230	(80,283)	—	—
Salt Lake City Corp	283,224	10.9305249	716,348	5,592,356	(3,395,367)	—	—
Salt Lake County	194,447	7.5043416	491,808	3,839,427	(2,331,086)	—	—
Sandy City	74,584	2.8784461	188,643	1,472,692	(894,136)	—	—
South Davis Sewer District	48,770	1.8822009	123,353	962,986	(584,671)	—	—
Tooele County	3,328	0.1284210	8,416	65,704	(39,892)	—	—
Town of Manila	8,636	0.3333021	21,843	170,526	(103,534)	—	—
Town of Paragonah	7,123	0.2748975	18,016	140,645	(85,392)	—	—
Utah County	74,020	2.8566819	187,217	1,461,557	(887,376)	—	—
Utah League Cities/Towns	77,022	2.9725343	194,809	1,520,830	(923,363)	—	—
Vernal City	24,067	0.9288199	60,872	475,210	(288,521)	—	—
Weber County Corp	14,510	0.5600029	36,701	286,513	(173,955)	—	—
Weber River Water Users	9,437	0.3641870	23,868	186,328	(113,128)	—	—
West Valley City	19,899	0.7679814	50,331	392,920	(238,559)	—	—
Western Uintah Basin Mad	9,197	0.3549243	23,260	181,589	(110,251)	—	—
Woods Cross City	9,734	0.3756758	24,620	192,206	(116,697)	—	—
Grand Total	$ 2,591,133	100.0000000%	$ 6,553,645	51,162,740	(31,063,166)	—	—

Deferred Outflows of Resources					Deferred Inflows of Resources			Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	58,031	—	—	58,031	(5,998)	(73,471)	—	(79,469)
—	—	—	—	43,910	—	—	43,910	(4,538)	2,634	—	(1,904)
—	—	—	—	24,815	—	—	24,815	(2,565)	(73,315)	—	(75,880)
—	—	—	—	181,734	—	—	181,734	(18,783)	26,453	—	7,670
—	—	—	—	43,040	—	—	43,040	(4,448)	7,367	—	2,919
—	—	—	—	853,426	—	—	853,426	(88,203)	35,798	—	(52,405)
—	—	—	—	106,553	—	—	106,553	(11,012)	16,503	—	5,491
—	—	—	—	59,732	—	—	59,732	(6,173)	6,878	—	705
—	—	—	—	94,730	—	—	94,730	(9,791)	11,933	—	2,142
—	—	—	—	123,408	—	—	123,408	(12,754)	15,613	—	2,859
—	—	—	—	573,193	—	—	573,193	(59,241)	(56,953)	—	(116,194)
—	—	—	—	193,426	—	—	193,426	(19,991)	10,565	—	(9,426)
—	—	—	—	3,800,478	—	—	3,800,478	(392,784)	424,483	—	31,699
—	—	—	—	664,334	—	—	664,334	(68,660)	(2,161)	—	(70,821)
—	—	—	—	560,056	—	—	560,056	(57,883)	50,380	—	(7,503)
—	—	—	—	36,117	—	—	36,117	(3,733)	7,248	—	3,515
—	—	—	—	75,955	—	—	75,955	(7,850)	8,990	—	1,140
—	—	—	—	59,909	—	—	59,909	(6,192)	6,155	—	(37)
—	—	—	—	157,099	—	—	157,099	(16,237)	21,372	—	5,135
—	—	—	—	88,793	—	—	88,793	(9,177)	(22,995)	—	(32,172)
—	—	—	—	62,646	—	—	62,646	(6,475)	(31,743)	—	(38,218)
—	—	—	—	47,570	—	—	47,570	(4,916)	5,611	—	695
—	—	—	—	146,677	—	—	146,677	(15,159)	(107,252)	—	(122,411)
—	—	—	—	48,890	—	—	48,890	(5,053)	4,525	—	(528)
—	—	—	—	17,205	—	—	17,205	(1,778)	(99,046)	—	(100,824)
—	—	—	—	224,986	—	—	224,986	(23,253)	35,092	—	11,839
—	—	—	—	186,501	—	—	186,501	(19,275)	23,406	—	4,131
—	—	—	—	88,713	—	—	88,713	(9,169)	13,679	—	4,510
—	—	—	—	119,097	—	—	119,097	(12,309)	17,864	—	5,555
—	—	—	—	382,302	—	—	382,302	(39,512)	63,899	—	24,387
—	—	—	—	82,405	—	—	82,405	(8,517)	10,068	—	1,551
—	—	—	—	140,206	—	—	140,206	(14,491)	(635)	—	(15,126)
—	—	—	—	425,152	—	—	425,152	(43,940)	(37,752)	—	(81,692)
—	—	—	—	719,068	—	—	719,068	(74,317)	(7,228)	—	(81,545)
—	—	—	—	278,867	—	—	278,867	(28,821)	31,430	—	2,609
—	—	—	—	131,256	—	—	131,256	(13,566)	13,679	—	113
—	—	—	—	42,282	—	—	42,282	(4,370)	(58,178)	—	(62,548)
—	—	—	—	1,788,208	—	—	1,788,208	(184,815)	(310,273)	—	(495,088)
—	—	—	—	1,227,692	—	—	1,227,692	(126,884)	(45,184)	—	(172,068)
—	—	—	—	470,907	—	—	470,907	(48,669)	(16,553)	—	(65,222)
—	—	—	—	307,924	—	—	307,924	(31,824)	46,333	—	14,509
—	—	—	—	21,009	—	—	21,009	(2,171)	(44,517)	—	(46,688)
—	—	—	—	54,527	—	—	54,527	(5,636)	10,083	—	4,447
—	—	—	—	44,973	—	—	44,973	(4,648)	5,606	—	958
—	—	—	—	467,346	—	—	467,346	(48,301)	70,428	—	22,127
—	—	—	—	486,300	—	—	486,300	(50,260)	113,513	—	63,253
—	—	—	—	151,953	—	—	151,953	(15,705)	18,935	—	3,230
—	—	—	—	91,615	—	—	91,615	(9,469)	11,945	—	2,476
—	—	—	—	59,580	—	—	59,580	(6,158)	8,851	—	2,693
—	—	—	—	125,640	—	—	125,640	(12,985)	4,908	—	(8,077)
—	—	—	—	58,065	—	—	58,065	(6,001)	3,949	—	(2,052)
—	—	—	—	61,460	—	—	61,460	(6,352)	(29,538)	—	(35,890)
—	—	—	—	16,359,761	—	—	16,359,761	(1,690,812)	149,382	—	(1,541,430)

Continued on page 268.

Contributory Retirement System
Local Government Division

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

at December 31, 2019

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
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Bluffdale City	$ —	0.0000000%	$ —	—	—	—	—
Bountiful City	—	0.0000000	—	—	—	—	—
Brian Head Town	—	0.0000000	—	—	—	—	—
Brigham City	—	0.0000000	—	—	—	—	—
Cache County	—	0.0000000	—	—	—	—	—
Emery County	—	0.0000000	—	—	—	—	—
Gunnison Valley Hospital	—	0.0000000	—	—	—	—	—
Housing Authority of SLC	—	0.0000000	—	—	—	—	—
LaVerkin City	—	0.0000000	—	—	—	—	—
Midway City	—	0.0000000	—	—	—	—	—
Millard County	—	0.0000000	—	—	—	—	—
Mount Pleasant City	—	0.0000000	—	—	—	—	—
North Logan City	—	0.0000000	—	—	—	—	—
Pleasant View City	—	0.0000000	—	—	—	—	—
Rich County	—	0.0000000	—	—	—	—	—
Riverdale City	—	0.0000000	—	—	—	—	—
San Juan County	—	0.0000000	—	—	—	—	—
Sevier County	—	0.0000000	—	—	—	—	—
South Jordan City	—	0.0000000	—	—	—	—	—
South Valley Sewer District	—	0.0000000	—	—	—	—	—
Southeastern Utah Asscoc. of Governments	—	0.0000000	—	—	—	—	—
Southeastern Utah Health	—	0.0000000	—	—	—	—	—
Spring City	—	0.0000000	—	—	—	—	—
Springville City	—	0.0000000	—	—	—	—	—
Sunset City	—	0.0000000	—	—	—	—	—
Timpanogos Special Service District	—	0.0000000	—	—	—	—	—
Tooele City	—	0.0000000	—	—	—	—	—
Uintah County	—	0.0000000	—	—	—	—	—
Utah Co Housing Authority	—	0.0000000	—	—	—	—	—
Valley Mental Health	—	0.0000000	—	—	—	—	—
Washington County Water District	—	0.0000000	—	—	—	—	—
Weber Fire District	—	0.0000000	—	—	—	—	—
West Bountiful City	—	0.0000000	—	—	—	—	—
Grand Total	$ 2,591,133	100.0000000%	$ 6,553,645	51,162,740	(31,063,166)	—	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	(57,911)	—	(57,911)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	(31,557)	—	(31,557)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	(38,833)	—	(38,833)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	(69,475)	—	(69,475)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	16,359,761	—	—	16,359,761	(1,690,812)	(48,394)	—	(1,739,206)

Contributory Retirement System
State and School Division

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Alpine School District	$ 109,839	5.5623448%	$ 384,014	3,740,307	(2,493,365)	—	—
Box Elder School District	18,837	0.9539238	65,857	641,450	(427,604)	—	—
Cache County School District	36,096	1.8279356	126,197	1,229,165	(819,387)	—	—
Davis School District	171,169	8.6681669	598,435	5,828,766	(3,885,575)	—	—
Duchesne School District	16,123	0.8165023	56,370	549,043	(366,004)	—	—
Educators Mutual Insurance	25,041	1.2680819	87,546	852,701	(568,428)	—	—
Emery School District	13,869	0.7023372	48,488	472,275	(314,828)	—	—
Granite School District	281,720	14.2665813	984,939	9,593,327	(6,395,108)	—	—
Iron School District	11,848	0.5999917	41,422	403,455	(268,951)	—	—
Jordan School District	60,667	3.0722213	212,101	2,065,864	(1,377,148)	—	—
Logan School District	18,478	0.9357411	64,602	629,224	(419,453)	—	—
Millard School District	27,807	1.4081889	97,219	946,913	(631,232)	—	—
Murray School District	11,017	0.5578888	38,516	375,143	(250,078)	—	—
Provo School District	25,219	1.2771143	88,170	858,774	(572,477)	—	—
Salt Lake School District	156,073	7.9037119	545,658	5,314,720	(3,542,902)	—	—
San Juan School District	2,936	0.1486851	10,265	99,981	(66,649)	—	—
Southern Utah University	5,830	0.2952290	20,382	198,522	(132,339)	—	—
State of Utah	740,758	37.5127379	2,589,812	25,224,821	(16,815,382)	—	—
Uintah School District	20,729	1.0497351	72,472	705,877	(470,552)	—	—
Utah Housing Corporation	101,209	5.1253316	353,844	3,446,445	(2,297,471)	—	—
Washington School District	25,006	1.2663135	87,424	851,512	(567,635)	—	—
Workers' Compensation Fund	94,414	4.7812360	330,088	3,215,063	(2,143,227)	—	—
Grand Total	$ 1,974,684	100.0000000%	$ 6,903,821	67,243,348	(44,825,795)	—	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Carbon School District	$ —	0.0000000%	$ —	—	—	—	—
Juab School District	—	0.0000000	—	—	—	—	—
Kane School District	—	0.0000000	—	—	—	—	—
Nebo School District	—	0.0000000	—	—	—	—	—
North Sanpete School District	—	0.0000000	—	—	—	—	—
Ogden-Weber Applied Technology Center	—	0.0000000	—	—	—	—	—
Park City School District	—	0.0000000	—	—	—	—	—
Sevier School District	—	0.0000000	—	—	—	—	—
Tooele School District	—	0.0000000	—	—	—	—	—
Weber County School District	—	0.0000000	—	—	—	—	—
Grand Total	$ 1,974,684	100.0000000%	$ 6,903,821	67,243,348	(44,825,795)	—	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	1,529,954	—	—	1,529,954	159,024	242,921	—	401,945
—	—	—	—	262,382	—	—	262,382	27,272	88,303	—	115,575
—	—	—	—	502,784	—	—	502,784	52,259	(115,744)	—	(63,485)
—	—	—	—	2,384,228	—	—	2,384,228	247,817	148,133	—	395,950
—	—	—	—	224,584	—	—	224,584	23,343	(155,705)	—	(132,362)
—	—	—	—	348,793	—	—	348,793	36,254	85,941	—	122,195
—	—	—	—	193,182	—	—	193,182	20,079	57,382	—	77,461
—	—	—	—	3,924,104	—	—	3,924,104	407,872	177,505	—	585,377
—	—	—	—	165,031	—	—	165,031	17,153	51,241	—	68,394
—	—	—	—	845,032	—	—	845,032	87,833	58,814	—	146,647
—	—	—	—	257,381	—	—	257,381	26,752	(55,820)	—	(29,068)
—	—	—	—	387,330	—	—	387,330	40,259	29,248	—	69,507
—	—	—	—	153,450	—	—	153,450	15,950	45,797	—	61,747
—	—	—	—	351,278	—	—	351,278	36,512	(8,407)	—	28,105
—	—	—	—	2,173,961	—	—	2,173,961	225,962	(19,628)	—	206,334
—	—	—	—	40,897	—	—	40,897	4,251	(954)	—	3,297
—	—	—	—	81,204	—	—	81,204	8,440	21,445	—	29,885
—	—	—	—	10,318,091	—	—	10,318,091	1,072,465	(1,154,083)	—	(81,618)
—	—	—	—	288,736	—	—	288,736	30,011	19,793	—	49,804
—	—	—	—	1,409,751	—	—	1,409,751	146,530	332,721	—	479,251
—	—	—	—	348,307	—	—	348,307	36,203	86,636	—	122,839
—	—	—	—	1,315,106	—	—	1,315,106	136,692	316,022	—	452,714
—	—	—	—	27,505,566	—	—	27,505,566	2,858,933	251,561	—	3,110,494
—	—	—	—	—	—	—	—	—	(15,352)	—	(15,352)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	(88,921)	—	(88,921)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	(46,966)	—	(46,966)
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	27,505,566	—	—	27,505,566	2,858,933	100,322	—	2,959,255

Contributory Retirement System
Higher Education

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Dixie State University	$ 8,681	0.9437905%	$ (53,214)	84,580	(170,483)	—	—
Salt Lake Community College	49,302	5.3601065	(302,220)	480,359	(968,232)	—	—
Snow College	6,413	0.6972509	(39,313)	62,486	(125,949)	—	—
University of Utah	322,869	35.1020653	(1,979,167)	3,145,757	(6,340,724)	—	—
University of Utah Hospital	357,844	38.9045639	(2,193,565)	3,486,526	(7,027,596)	—	—
Utah State University	59,949	6.5176415	(367,485)	584,094	(1,177,326)	—	—
Utah Valley University	82,394	8.9578702	(505,073)	802,781	(1,618,121)	—	—
Weber State University	32,347	3.5167112	(198,283)	315,159	(635,247)	—	—
Grand Total	$ 919,799	100.0000000%	$ (5,638,320)	8,961,742	(18,063,678)	—	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	18,480	—	—	18,480	(159,769)	17,574	—	(142,195)
—	—	—	—	104,952	—	—	104,952	(907,381)	101,754	—	(805,627)
—	—	—	—	13,652	—	—	13,652	(118,034)	(17,274)	—	(135,308)
—	—	—	—	687,306	—	—	687,306	(5,942,225)	261,953	—	(5,680,272)
—	—	—	—	761,759	—	—	761,759	(6,585,928)	66,466	—	(6,519,462)
—	—	—	—	127,617	—	—	127,617	(1,103,334)	(79,013)	—	(1,182,347)
—	—	—	—	175,397	—	—	175,397	(1,516,426)	151,794	—	(1,364,632)
—	—	—	—	68,858	—	—	68,858	(595,324)	(502,204)	—	(1,097,528)
—	—	—	—	1,958,021	—	—	1,958,021	(16,928,421)	1,050	—	(16,927,371)

Public Safety Retirement System
Other Division A with Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
American Fork City	$ 526,420	0.9604843%	$ 1,542,171	3,994,820	(451,080)	26,821	—
Beaver County	868,094	1.5838883	2,543,119	6,587,665	(743,854)	44,228	—
Big Water Municipal Corp	6,110	0.0111481	17,900	46,367	(5,236)	311	—
Blanding City	67,646	0.1234238	198,171	513,341	(57,965)	3,446	—
Box Elder County	1,076,440	1.9640275	3,153,477	8,168,730	(922,382)	54,843	—
Brigham City	443,434	0.8090714	1,299,059	3,365,068	(379,971)	22,593	—
Cache County	1,622,639	2.9606001	4,753,592	12,313,648	(1,390,410)	82,672	—
Carbon County	617,509	1.1266816	1,809,020	4,686,064	(529,133)	31,461	—
Cedar City	489,159	0.8924997	1,433,013	3,712,061	(419,152)	24,922	—
Centerville City	369,851	0.6748155	1,083,496	2,806,674	(316,919)	18,844	—
City of Draper	695,120	1.2682877	2,036,385	5,275,028	(595,636)	35,416	—
City of Harrisville	109,542	0.1998652	320,907	831,274	(93,864)	5,581	—
City of Helper	53,473	0.0975649	156,652	405,789	(45,820)	2,724	—
City of Kanab	89,584	0.1634505	262,439	679,819	(76,763)	4,564	—
City of Moab	206,384	0.3765594	604,610	1,566,176	(176,847)	10,515	—
City of Monticello	33,403	0.0609463	97,856	253,486	(28,623)	1,702	—
City of Naples	69,237	0.1263277	202,834	525,419	(59,328)	3,528	—
City of North Salt Lake	415,262	0.7576692	1,216,527	3,151,277	(355,830)	21,157	—
City of South Jordan	957,933	1.7478043	2,806,306	7,269,420	(820,835)	48,806	—
City of South Salt Lake	1,067,585	1.9478711	3,127,536	8,101,533	(914,794)	54,392	—
City of St George	2,071,853	3.7802173	6,069,584	15,722,577	(1,775,334)	105,559	—
Clearfield City	424,399	0.7743415	1,243,296	3,220,620	(363,660)	21,623	—
Clinton City	239,842	0.4376058	702,628	1,820,078	(205,516)	12,220	—
Daggett County	37,198	0.0678693	108,972	282,280	(31,874)	1,895	—
Davis County	2,986,230	5.4485531	8,748,293	22,661,474	(2,558,848)	152,145	—
Duchesne County	471,985	0.8611651	1,382,702	3,581,734	(404,436)	24,047	—
East Carbon City	28,049	0.0511767	82,170	212,853	(24,035)	1,429	—
Emery County	468,294	0.8544305	1,371,889	3,553,724	(401,273)	23,859	—
Enoch City	63,515	0.1158864	186,069	481,992	(54,425)	3,236	—
Ephraim City	130,133	0.2374358	381,231	987,537	(111,509)	6,630	—
Fairview City	21,852	0.0398708	64,017	165,830	(18,725)	1,113	—
Farmington City	286,903	0.5234708	840,494	2,177,206	(245,842)	14,617	—
Fountain Green City	12,758	0.0232773	37,374	96,814	(10,932)	650	—
Garfield County	454,504	0.8292699	1,331,490	3,449,077	(389,457)	23,157	—
Garland City	31,093	0.0567303	91,087	235,951	(26,643)	1,584	—
Grand County	348,550	0.6359493	1,021,091	2,645,023	(298,666)	17,758	—
Grantsville City	188,180	0.3433458	551,282	1,428,035	(161,248)	9,588	—
Heber City	295,262	0.5387236	864,984	2,240,645	(253,005)	15,043	—
Hurricane City	419,112	0.7646940	1,227,806	3,180,495	(359,129)	21,353	—
Iron County	964,511	1.7598080	2,825,579	7,319,346	(826,473)	49,141	—
Ivins City	145,774	0.2659734	427,052	1,106,229	(124,911)	7,427	—
Juab County	265,654	0.4847006	778,244	2,015,954	(227,634)	13,535	—
Kamas City	45,155	0.0823875	132,283	342,664	(38,692)	2,301	—
Kane County	582,674	1.0631231	1,706,969	4,421,713	(499,283)	29,687	—
Kaysville City	463,440	0.8455728	1,357,667	3,516,883	(397,113)	23,612	—
Laverkin City	84,489	0.1541550	247,514	641,157	(72,397)	4,305	—
Layton City	1,224,479	2.2341340	3,587,165	9,292,149	(1,049,234)	62,386	—
Lehi City	817,361	1.4913241	2,394,496	6,202,675	(700,383)	41,644	—
Lindon City	272,861	0.4978509	799,358	2,070,648	(233,810)	13,902	—
Mapleton City	130,877	0.2387923	383,409	993,178	(112,146)	6,668	—
Millard County	671,293	1.2248134	1,966,582	5,094,211	(575,219)	34,202	—
Morgan County	142,591	0.2601665	417,728	1,082,077	(122,184)	7,265	—
Moroni City	14,923	0.0272281	43,718	113,246	(12,787)	760	—
Mount Pleasant City	82,702	0.1508945	242,279	627,596	(70,866)	4,214	—
Murray City	1,539,450	2.8088166	4,509,886	11,682,354	(1,319,127)	78,433	—
Nephi City	135,118	0.2465311	395,835	1,025,365	(115,780)	6,884	—
North Ogden City	282,091	0.5146921	826,399	2,140,693	(241,719)	14,372	—
North Park Police Agency	134,410	0.2452392	393,760	1,019,992	(115,174)	6,848	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
52,620	19,615	99,056	32,930	526,601	—	68,052	627,583	674,767	(29,173)	—	645,594
86,773	73,241	204,242	54,303	868,393	—	—	922,696	1,112,726	67,733	—	1,180,459
611	2,343	3,265	382	6,112	—	23	6,517	7,832	1,983	—	9,815
6,762	18,491	28,699	4,232	67,669	—	51,574	123,475	86,709	(4,628)	—	82,081
107,599	76,946	239,388	67,336	1,076,810	—	40,424	1,184,570	1,379,785	(32,885)	—	1,346,900
44,325	9,686	76,604	27,739	443,587	—	101,272	572,598	568,395	(24,281)	—	544,114
162,195	—	244,867	101,502	1,623,198	—	54,422	1,779,122	2,079,905	(59,541)	—	2,020,364
61,725	896	94,082	38,628	617,722	—	136,386	792,736	791,526	(107,588)	—	683,938
48,895	9,046	82,863	30,599	489,328	—	132,697	652,624	627,006	(61,155)	—	565,851
36,970	41,404	97,218	23,136	369,979	—	—	393,115	474,077	42,288	—	516,365
69,483	121,893	226,792	43,483	695,360	—	7,892	746,735	891,008	86,433	—	977,441
10,950	28,824	45,355	6,852	109,579	—	1,920	118,351	140,411	22,576	—	162,987
5,345	—	8,069	3,345	53,492	—	27,298	84,135	68,542	(23,085)	—	45,457
8,955	8,619	22,138	5,604	89,614	—	3,071	98,289	114,829	3,739	—	118,568
20,630	42,301	73,446	12,910	206,455	—	49,547	268,912	264,544	23,273	—	287,817
3,339	4,583	9,624	2,090	33,415	—	2,705	38,210	42,816	9,701	—	52,517
6,921	10,723	21,172	4,331	69,261	—	6,672	80,264	88,749	(16,603)	—	72,146
41,509	52,019	114,685	25,976	415,405	—	—	441,381	532,284	55,092	—	587,376
95,753	149,221	293,780	59,922	958,262	—	6,071	1,024,255	1,227,882	97,578	—	1,325,460
106,713	230,062	391,167	66,782	1,067,952	—	18,917	1,153,651	1,368,434	75,175	—	1,443,609
207,098	289,997	602,654	129,603	2,072,566	—	16,817	2,218,986	2,655,709	219,480	—	2,875,189
42,422	21,239	85,284	26,548	424,545	—	2,926	454,019	543,997	2,965	—	546,962
23,974	44,768	80,962	15,003	239,925	—	—	254,928	307,430	34,355	—	341,785
3,718	—	5,613	2,327	37,210	—	61,336	100,873	47,680	(105,440)	—	(57,760)
298,497	—	450,642	186,801	2,987,259	—	543,756	3,717,816	3,827,762	(664,066)	—	3,163,696
47,179	2,325	73,551	29,525	472,148	—	27,828	529,501	604,993	(33,014)	—	571,979
2,804	15	4,248	1,755	28,058	—	246	30,059	35,953	(3,717)	—	32,236
46,810	8,005	78,674	29,294	468,456	—	132,449	630,199	600,262	(101,463)	—	498,799
6,349	28,434	38,019	3,973	63,537	—	2,553	70,063	81,413	3,213	—	84,626
13,008	70,422	90,060	8,140	130,178	—	1,561	139,879	166,805	62,085	—	228,890
2,184	24,385	27,682	1,367	21,860	—	2,639	25,866	28,010	21,439	—	49,449
28,678	41,528	84,823	17,947	287,001	—	7,031	311,979	367,753	21,477	—	389,230
1,275	—	1,925	798	12,762	—	553	14,113	16,353	(624)	—	15,729
45,431	62,295	130,883	28,431	454,661	—	2,016	485,108	582,585	37,587	—	620,172
3,108	1,206	5,898	1,945	31,103	—	3,020	36,068	39,855	(12,291)	—	27,564
34,840	92,960	145,558	21,803	348,670	—	—	370,473	446,772	66,013	—	512,785
18,810	44,077	72,475	11,771	188,245	—	—	200,016	241,210	32,098	—	273,308
29,514	20,821	65,378	18,470	295,364	—	135,153	448,987	378,469	(22,282)	—	356,187
41,893	137,304	200,550	26,217	419,256	—	1,348	446,821	537,219	101,458	—	638,677
96,410	94,275	239,826	60,334	964,844	—	47,755	1,072,933	1,236,315	5,174	—	1,241,489
14,571	—	21,998	9,119	145,824	—	86,577	241,520	186,854	(62,090)	—	124,764
26,554	32,353	72,442	16,618	265,745	—	18,757	301,120	340,516	15,255	—	355,771
4,514	11,430	18,245	2,825	45,170	—	270	48,265	57,880	9,968	—	67,848
58,243	168,813	256,743	36,449	582,875	—	—	619,324	746,874	109,699	—	856,573
46,324	19,470	89,406	28,990	463,599	—	111,790	604,379	594,039	(53,572)	—	540,467
8,445	47,179	59,929	5,285	84,518	—	—	89,803	108,298	27,374	—	135,672
122,396	—	184,782	76,596	1,224,901	—	187,335	1,488,832	1,569,542	(140,871)	—	1,428,671
81,702	129,162	252,508	51,129	817,643	—	8,961	877,733	1,047,697	91,555	—	1,139,252
27,275	18,637	59,814	17,069	272,955	—	132,783	422,807	349,754	(41,104)	—	308,650
13,082	15,887	35,637	8,187	130,922	—	—	139,109	167,758	12,541	—	180,299
67,101	—	101,303	41,992	671,524	—	149,889	863,405	860,466	(123,615)	—	736,851
14,253	26,900	48,418	8,920	142,641	—	7,552	159,113	182,774	(822)	—	181,952
1,492	23,547	25,799	933	14,928	—	—	15,861	19,129	16,685	—	35,814
8,267	6,550	19,031	5,173	82,730	—	—	87,903	106,008	8,082	—	114,090
153,880	403,686	635,999	96,299	1,539,980	—	34,869	1,671,148	1,973,273	221,957	—	2,195,230
13,506	7,944	28,334	8,452	135,165	—	11,835	155,452	173,195	682	—	173,877
28,197	22,809	65,378	17,646	282,188	—	—	299,834	361,586	31,584	—	393,170
13,435	90,309	110,592	8,408	134,456	—	—	142,864	172,287	110,103	—	282,390

Public Safety Retirement System
Other Division A with Social Security

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

at December 31, 2019

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
Park City	$ 755,177	1.3778642%	$ 2,212,323	5,730,775	(647,097)	38,475	—
Parowan City	61,807	0.1127704	181,066	469,032	(52,961)	3,149	—
Payson City	329,530	0.6012467	965,372	2,500,689	(282,368)	16,789	—
Perry City	93,782	0.1711111	274,739	711,681	(80,360)	4,778	—
Piute County	49,191	0.0897523	144,108	373,295	(42,151)	2,506	—
Pleasant Grove City	349,264	0.6372536	1,023,186	2,650,448	(299,279)	17,795	—
Pleasant View City	147,668	0.2694282	432,599	1,120,598	(126,534)	7,524	—
Price City	268,636	0.4901419	786,981	2,038,585	(230,189)	13,687	—
Rich County	88,853	0.1621175	260,299	674,275	(76,137)	4,527	—
Richfield City	186,090	0.3395316	545,158	1,412,171	(159,457)	9,481	—
Riverdale City	411,981	0.7516830	1,206,916	3,126,380	(353,019)	20,990	—
Roosevelt City	168,294	0.3070627	493,025	1,277,127	(144,208)	8,574	—
Roy City	648,460	1.1831536	1,899,692	4,920,940	(555,654)	33,038	—
Salem City	162,650	0.2967654	476,492	1,234,299	(139,372)	8,287	—
Salina City	42,008	0.0766455	123,063	318,782	(35,996)	2,140	—
Salt Lake County	8,249,504	15.0517061	24,167,288	62,602,644	(7,068,855)	420,303	—
San Juan County	356,980	0.6513316	1,045,790	2,709,001	(305,890)	18,188	—
Sanpete County	443,684	0.8095278	1,299,792	3,366,966	(380,185)	22,605	—
Santaquin City	210,797	0.3846112	617,539	1,599,664	(180,628)	10,740	—
Sevier County	665,693	1.2145955	1,950,176	5,051,713	(570,420)	33,916	—
Smithfield City Corp	108,978	0.1988368	319,256	826,997	(93,381)	5,552	—
South Ogden City	410,045	0.7481508	1,201,244	3,111,688	(351,360)	20,891	—
Spanish Fork City	680,047	1.2407853	1,992,227	5,160,641	(582,720)	34,648	—
Springville City	354,162	0.6461895	1,037,533	2,687,614	(303,475)	18,044	—
Stockton Town	15,900	0.0290112	46,581	120,663	(13,625)	810	—
Summit County	1,853,277	3.3814132	5,429,257	14,063,882	(1,588,040)	94,423	—
Sunset City	95,428	0.1741143	279,561	724,171	(81,771)	4,862	—
Syracuse City Corp	380,922	0.6950154	1,115,929	2,890,689	(326,406)	19,408	—
Tooele City	495,769	0.9045605	1,452,378	3,762,223	(424,816)	25,259	—
Tooele County	895,580	1.6340377	2,623,640	6,796,245	(767,406)	45,629	—
Town of Brian Head	101,219	0.1846803	296,526	768,117	(86,733)	5,157	—
Town of Springdale	188,082	0.3431669	550,995	1,427,290	(161,164)	9,583	—
Tremonton City	176,309	0.3216855	516,504	1,337,946	(151,076)	8,983	—
Uintah County	829,017	1.5125909	2,428,643	6,291,127	(710,370)	42,238	—
Unified Fire Authority	59,572	0.1086923	174,518	452,070	(51,046)	3,035	—
Vernal City	328,868	0.6000384	963,432	2,495,663	(281,801)	16,755	—
Wasatch County	934,539	1.7051213	2,737,773	7,091,894	(800,790)	47,614	—
Washington City	272,093	0.4964500	797,109	2,064,821	(233,152)	13,863	—
Washington County	2,128,052	3.8827563	6,234,222	16,149,055	(1,823,490)	108,422	—
Wayne County	65,675	0.1198288	192,399	498,389	(56,276)	3,346	—
Weber County Corp	3,785,018	6.9059878	11,088,376	28,723,197	(3,243,315)	192,843	—
Wellington City	20,288	0.0370163	59,434	153,957	(17,384)	1,034	—
West Bountiful City	134,948	0.2462211	395,337	1,024,076	(115,635)	6,875	—
Willard City Corp	39,542	0.0721464	115,840	300,069	(33,883)	2,015	—
Grand Total	$ 54,807,767	100.0000000%	$ 160,561,770	415,917,283	(46,963,806)	2,792,399	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Centerfield City	$ —	0.0000000%	$ —	—	—	—	—
Escalante Town	—	0.0000000	—	—	—	—	—
Gunnison City	—	0.0000000	—	—	—	—	—
North Logan City	—	0.0000000	—	—	—	—	—
Taylorsville City	—	0.0000000	—	—	—	—	—
Grand Total	$ 54,807,767	100.0000000%	$ 160,561,770	415,917,283	(46,963,806)	2,792,399	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
75,486	12,732	126,693	47,239	755,437	—	20,613	823,289	967,988	76,722	—	1,044,710
6,178	2,150	11,477	3,866	61,828	—	14,818	80,512	79,224	(1,503)	—	77,721
32,939	84,870	134,598	20,613	329,643	—	11,588	361,844	422,393	21,427	—	443,820
9,374	14,470	28,622	5,866	93,814	—	15,990	115,670	120,210	23,304	—	143,514
4,917	5,836	13,259	3,077	49,208	—	1,651	53,936	63,054	2,722	—	65,776
34,912	—	52,707	21,848	349,385	—	49,130	420,363	447,689	(56,151)	—	391,538
14,761	40,142	62,427	9,237	147,718	—	764	157,719	189,281	30,579	—	219,860
26,852	27,194	67,733	16,804	268,728	—	56,763	342,295	344,339	(19,131)	—	325,208
8,882	15,886	29,295	5,558	88,884	—	17,477	111,919	113,892	(7,214)	—	106,678
18,601	1,006	29,088	11,641	186,154	—	12,823	210,618	238,531	(4,536)	—	233,995
41,181	27,910	90,081	25,771	412,123	—	—	437,894	528,078	18,860	—	546,938
16,822	10,109	35,505	10,527	168,352	—	28,911	207,790	215,720	(4,682)	—	211,038
64,819	9,982	107,839	40,564	648,683	—	71,011	760,258	831,199	(5,536)	—	825,663
16,258	7,789	32,334	10,174	162,707	—	20,664	193,545	208,486	4,488	—	212,974
4,199	13,336	19,675	2,628	42,022	—	828	45,478	53,846	3,675	—	57,521
824,600	275,003	1,519,906	516,036	8,252,349	—	630,722	9,399,107	10,574,248	(34,686)	—	10,539,562
35,683	40,539	94,410	22,331	357,103	—	3,290	382,724	457,579	7,729	—	465,308
44,350	1,082	68,037	27,754	443,837	—	13,573	485,164	568,716	39	—	568,755
21,071	23,120	54,931	13,186	210,869	—	2,675	226,730	270,200	16,234	—	286,434
66,541	17,157	117,614	41,642	665,922	—	13,051	720,615	853,288	(41,357)	—	811,931
10,893	30,050	46,495	6,817	109,016	—	—	115,833	139,688	22,953	—	162,641
40,987	2,628	64,506	25,650	410,186	—	74,360	510,196	525,597	(35,498)	—	490,099
67,976	45,918	148,542	42,540	680,281	—	—	722,821	871,687	44,305	—	915,992
35,401	—	53,445	22,154	354,284	—	44,728	421,166	453,966	(63,311)	—	390,655
1,589	3,528	5,927	995	15,906	—	1,116	18,017	20,381	7,662	—	28,043
185,250	102,461	382,134	115,930	1,853,915	—	—	1,969,845	2,375,538	243,099	—	2,618,637
9,539	9,221	23,622	5,969	95,461	—	—	101,430	122,320	7,395	—	129,715
38,076	54,959	112,443	23,828	381,054	—	13,569	418,451	488,268	80,859	—	569,127
49,556	45,755	120,570	31,012	495,940	—	14,195	541,147	635,479	9,891	—	645,370
89,520	41,627	176,776	56,022	895,888	—	—	951,910	1,147,958	26,991	—	1,174,949
10,118	6,229	21,504	6,332	101,254	—	—	107,586	129,743	9,411	—	139,154
18,800	68,833	97,216	11,765	188,147	—	—	199,912	241,084	108,310	—	349,394
17,623	103,389	129,995	11,029	176,369	—	—	187,398	225,993	72,284	—	298,277
82,867	67,933	193,038	51,858	829,303	—	47,215	928,376	1,062,638	(66,356)	—	996,282
5,955	9,177	18,167	3,726	59,592	—	—	63,318	76,359	7,859	—	84,218
32,873	—	49,628	20,572	328,981	—	107,491	457,044	421,544	(86,429)	—	335,115
93,414	274,014	415,042	58,459	934,861	—	1,963	995,283	1,197,896	174,198	—	1,372,094
27,198	119,963	161,024	17,021	272,187	—	—	289,208	348,770	75,315	—	424,085
212,715	237,646	558,783	133,118	2,128,785	—	55,922	2,317,825	2,727,746	(15,558)	—	2,712,188
6,565	15,114	25,025	4,108	65,698	—	2,125	71,931	84,183	13,894	—	98,077
378,342	191,670	762,855	236,768	3,786,322	—	1,296,892	5,319,982	4,851,651	(633,532)	—	4,218,119
2,028	10,833	13,895	1,269	20,295	—	5,683	27,247	26,005	(3,820)	—	22,185
13,489	16,993	37,357	8,442	134,995	—	—	143,437	172,977	13,946	—	186,923
3,953	1,962	7,930	2,473	39,555	—	2,587	44,615	50,685	4,078	—	54,763
5,478,465	4,998,862	13,269,726	3,428,443	54,826,647	—	5,102,739	63,357,829	70,252,819	73,423	—	70,326,242
—	—	—	—	—	—	8,887	8,887	—	(16,413)	—	(16,413)
—	—	—	—	—	—	—	—	—	(1,762)	—	(1,762)
—	—	—	—	—	—	26,002	26,002	—	(48,013)	—	(48,013)
—	—	—	—	—	—	10,414	10,414	—	(61,504)	—	(61,504)
—	—	—	—	—	—	—	—	—	(359)	—	(359)
5,478,465	4,998,862	13,269,726	3,428,443	54,826,647	—	5,148,042	63,403,132	70,252,819	(54,628)	—	70,198,191

Public Safety Retirement System
State of Utah

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Dixie State University	$ 114,027	0.2241908%	$ 331,068	774,571	(33,878)	13,980	—
Snow College	23,946	0.0470806	69,525	162,662	(7,114)	2,936	—
Southern Utah University	82,233	0.1616796	238,757	558,597	(24,431)	10,082	—
State of Utah	49,411,684	97.1494098	143,463,102	335,647,606	(14,680,283)	6,057,955	—
University of Utah	1,066,931	2.0977160	3,097,753	7,247,531	(316,987)	130,807	—
Utah State University	162,718	0.3199232	472,439	1,105,323	(48,344)	19,949	—
Grand Total	$ 50,861,538	100.0000000%	$ 147,672,644	345,496,290	(15,111,037)	6,235,709	—

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, 2019

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
Salt Lake City Corp	$ 15,608,919	100.0000000%	$ 79,378,833	133,302,624	35,015,204	801,121	—

Public Safety Retirement System
Ogden City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Ogden City Corp	$ 2,743,419	100.0000000%	$ 18,021,465	29,756,239	8,409,784	160,844	—

Public Safety Retirement System
Provo City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Provo City Corp	$ 2,334,596	100.0000000%	$ 10,274,637	19,473,135	2,750,627	205,267	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
5,830	89,303	109,113	5,558	102,056	—	8,399	116,013	106,631	27,851	—	134,482
1,224	3,733	7,893	1,167	21,432	—	7,666	30,265	22,393	1,709	—	24,102
4,205	2,018	16,305	4,008	73,600	—	29,903	107,511	76,899	(20,031)	—	56,868
2,526,461	277,404	8,861,820	2,408,307	44,224,367	—	48,952	46,681,626	46,206,727	311,138	—	46,517,865
54,553	492,424	677,784	52,002	954,923	—	—	1,006,925	997,727	427,157	—	1,424,884
8,320	624	28,893	7,931	145,635	—	19,299	172,865	152,164	(13,173)	—	138,991
2,600,593	865,505	9,701,807	2,478,973	45,522,013	—	114,219	48,115,205	47,562,541	734,652	—	48,297,193

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
1,953,396	—	2,754,517	—	11,138,165	—	—	11,138,165	18,223,938	—	—	18,223,938

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	160,844	112,041	2,434,795	—	—	2,546,836	2,786,514	—	—	2,786,514

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
561,227	—	766,494	544,827	1,952,210	—	—	2,497,037	2,091,596	—	—	2,091,596

Public Safety Retirement System
Logan City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
Logan City	$ 1,052,970	100.0000000%	$ 4,607,392	9,622,239	524,979	—	—

Public Safety Retirement System
Bountiful City

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
City of Bountiful	$ 1,032,716	100.0000000%	$ 6,051,891	9,726,591	3,012,559	109,547	—

Public Safety Retirement System
Other Division B without Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
City of Orem	$ 1,583,608	7.1030859%	$ 3,527,392	9,740,651	(1,540,250)	2,326,106	—
City of Riverton	370,968	1.6639331%	826,309	2,281,796	(360,811)	544,902	—
City of Saratoga Springs	412,501	1.8502266%	918,822	2,537,265	(401,207)	605,909	—
City of Wendover	16,677	0.0748038%	37,148	102,580	(16,221)	24,497	—
City of West Jordan	1,937,031	8.6883255%	4,314,621	11,914,533	(1,883,997)	2,845,237	—
Cottonwood Heights City	434,932	1.9508345%	968,784	2,675,231	(423,023)	638,856	—
Gunnison Valley Police Dept	80,983	0.3632414%	180,386	498,123	(78,766)	118,954	—
Herriman City	837,093	3.7546814%	1,864,574	5,148,895	(814,174)	1,229,576	—
Lone Peak PS District	363,365	1.6298304%	809,374	2,235,030	(353,416)	533,734	—
Sandy City	1,653,980	7.4187303%	3,684,141	10,173,503	(1,608,695)	2,429,473	—
Town of Mantua	7,743	0.0347303%	17,247	47,627	(7,531)	11,373	—
Unified Police Department	6,782,623	30.4226552%	15,107,887	41,719,399	(6,596,919)	9,962,757	—
Utah County	4,834,720	21.6855658%	10,769,049	29,737,996	(4,702,349)	7,101,550	—
West Valley City	2,750,997	12.3392730%	6,127,681	16,921,175	(2,675,677)	4,040,843	—
Woods Cross City	227,424	1.0200828%	506,573	1,398,867	(221,197)	334,055	—
Grand Total	$ 22,294,646	100.0000000%	$ 49,659,988	137,132,671	(21,684,233)	32,747,822	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	290,121	1,091,785	—	—	1,381,906	875,128	—	—	875,128

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
170,153	—	279,700	112,865	783,762	—	—	896,627	1,317,242	—	—	1,317,242

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
714,081	11,408	3,051,595	—	1,299,668	16,051	95,478	1,411,197	1,931,496	(42,872)	—	1,888,624
167,277	253,070	965,249	—	304,454	3,760	—	308,214	452,462	87,780	—	540,242
186,005	42,515	834,429	—	338,540	4,181	3,264	345,985	503,120	15,520	—	518,640
7,520	11,085	43,102	—	13,687	169	—	13,856	20,341	3,878	—	24,219
873,447	69,854	3,788,538	—	1,589,723	19,634	103,228	1,712,585	2,362,560	33,763	—	2,396,323
196,120	21,793	856,769	—	356,949	4,408	82,462	443,819	530,478	(8,660)	—	521,818
36,517	38,098	193,569	—	66,463	821	—	67,284	98,774	18,116	—	116,890
377,462	495,133	2,102,171	—	687,003	8,485	—	695,488	1,020,986	180,304	—	1,201,290
163,849	14,715	712,298	—	298,214	3,683	25,075	326,972	443,189	(5,447)	—	437,742
745,813	1,447	3,176,733	—	1,357,422	16,765	73,136	1,447,323	2,017,327	(44,860)	—	1,972,467
3,491	7,982	22,846	—	6,355	78	8,356	14,789	9,444	1,697	—	11,141
3,058,423	143,910	13,165,090	—	5,566,501	68,748	693,542	6,328,791	8,272,634	(201,086)	—	8,071,548
2,180,074	281,140	9,562,764	—	3,967,858	49,004	50,280	4,067,142	5,896,814	104,541	—	6,001,355
1,240,481	—	5,281,324	—	2,257,745	27,884	348,766	2,634,395	3,355,338	(178,441)	—	3,176,897
102,550	22,137	458,742	—	186,647	2,305	6,415	195,367	277,384	4,785	—	282,169
10,053,110	1,414,289	44,215,221	—	18,297,229	225,976	1,490,002	20,013,207	27,192,347	(30,980)	—	27,161,367

Firefighters Retirement System
Other Division A with Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
American Fork City	$ 38,120	2.5826386%	$ (320,299)	655,016	(1,111,481)	62,233	—
Brigham City	24,675	1.6717270	(207,327)	423,988	(719,455)	40,283	—
Cache County	10,304	0.6980722	(86,575)	177,047	(300,427)	16,821	—
Cedar City	24,288	1.6455495	(204,081)	417,349	(708,189)	39,652	—
Cedar Mtn Fire Protection Dist	465	0.0315244	(3,910)	7,995	(13,567)	760	—
City of Draper	94,923	6.4311250	(797,588)	1,631,080	(2,767,741)	154,968	—
City of Kanab	3,004	0.2035297	(25,242)	51,620	(87,592)	4,904	—
City of Santa Clara	5,574	0.3776672	(46,838)	95,785	(162,535)	9,100	—
City of South Jordan	112,158	7.5987614	(942,398)	1,927,219	(3,270,253)	183,104	—
City of South Salt Lake	108,585	7.3567202	(912,380)	1,865,832	(3,166,086)	177,272	—
City of St George	80,530	5.4559756	(676,650)	1,383,760	(2,348,069)	131,470	—
City of Washington Terrace	790	0.0534939	(6,634)	13,567	(23,022)	1,289	—
Clinton City	15,302	1.0367178	(128,574)	262,935	(446,169)	24,981	—
Farmington City	17,421	1.1802855	(146,379)	299,347	(507,955)	28,441	—
Hurricane Valley Fire SSD	25,494	1.7272487	(214,213)	438,070	(743,350)	41,621	—
Kaysville City	11,078	0.7505180	(93,079)	190,348	(322,998)	18,085	—
Layton City	127,046	8.6074670	(1,067,497)	2,183,050	(3,704,366)	207,410	—
Lehi City	77,353	5.2407494	(649,957)	1,329,174	(2,255,443)	126,284	—
Moab Valley Fire Protection	4,413	0.2989592	(37,077)	75,823	(128,662)	7,204	—
Murray City	163,425	11.0721341	(1,373,166)	2,808,147	(4,765,078)	266,801	—
N Tooele Co Fire Protection Sd	3,674	0.2489233	(30,871)	63,133	(107,128)	5,998	—
North Davis Fire District	41,167	2.7890911	(345,903)	707,377	(1,200,331)	67,207	—
North Fork SSD	3,422	0.2318658	(28,756)	58,806	(99,787)	5,587	—
North Logan City	8,330	0.5643873	(69,995)	143,142	(242,893)	13,600	—
North View Fire District	29,221	1.9797635	(245,530)	502,113	(852,024)	47,705	—
Payson City	4,372	0.2961964	(36,734)	75,122	(127,473)	7,137	—
Pleasant Grove City	21,407	1.4503565	(179,873)	367,844	(624,185)	34,949	—
Price City	3,611	0.2446767	(30,345)	62,056	(105,301)	5,896	—
Riverdale City	18,562	1.2576079	(155,968)	318,958	(541,232)	30,304	—
Roy City	48,109	3.2594012	(404,231)	826,659	(1,402,737)	78,540	—
Smithfield City Corp	8,057	0.5458338	(67,694)	138,436	(234,909)	13,153	—
So Davis Metro Fire Agency	151,339	10.2533444	(1,271,619)	2,600,482	(4,412,696)	247,070	—
South Ogden City	32,271	2.1863623	(271,152)	554,511	(940,937)	52,684	—
Springville City	6,682	0.4527187	(56,146)	114,820	(194,835)	10,909	—
State of Utah	56,680	3.8401131	(476,251)	973,940	(1,652,656)	92,533	—
Syracuse City Corp	30,109	2.0399112	(252,990)	517,368	(877,910)	49,155	—
Uintah Fire Suppression SSD	5,906	0.4001015	(49,621)	101,475	(172,190)	9,641	—
Wasatch County Fire District	50,627	3.4299899	(425,387)	869,924	(1,476,153)	82,651	—
Washington City	7,505	0.5084910	(63,063)	128,965	(218,838)	12,253	—
Grand Total	$ 1,476,001	100.0000000%	$ (12,401,993)	25,362,283	(43,036,653)	2,409,655	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Hurricane City	—	0.0000000%	—	—	—	—	—
Ivins City	—	0.0000000	—	—	—	—	—
Leeds Area Special Service District	—	0.0000000	—	—	—	—	—
Morgan County	—	0.0000000	—	—	—	—	—
Grand Total	$ 1,476,001	100.0000000%	$ (12,401,993)	25,362,283	(43,036,653)	2,409,655	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
136,577	2,128	200,938	44,791	209,766	25,910	24,222	304,689	94,945	(5,866)	(306,247)	(217,168)
88,406	1,027	129,716	28,993	135,780	16,771	26,126	207,670	61,457	(7,708)	(198,232)	(144,483)
36,916	981	54,718	12,107	56,699	7,003	638	76,447	25,663	99	(82,777)	(57,015)
87,021	4,936	131,609	28,539	133,654	16,508	5,981	184,682	60,495	(453)	(195,128)	(135,086)
1,667	109	2,536	547	2,560	316	—	3,423	1,159	22	(3,738)	(2,557)
340,096	831	495,895	111,535	522,346	64,518	154,115	852,514	236,426	(42,176)	(762,596)	(568,346)
10,763	394	16,061	3,530	16,531	2,042	7	22,110	7,482	137	(24,134)	(16,515)
19,972	370	29,442	6,550	30,675	3,789	5,659	46,673	13,884	(1,865)	(44,783)	(32,764)
401,844	25,612	610,560	131,785	617,184	76,232	130	825,331	279,352	6,778	(901,053)	(614,923)
389,044	58,427	624,743	127,588	597,525	73,804	795	799,712	270,453	16,249	(872,352)	(585,650)
288,527	13,281	433,278	94,623	443,143	54,735	5,408	597,909	200,577	1,726	(646,964)	(444,661)
2,829	220	4,338	928	4,345	537	447	6,257	1,967	(40)	(6,343)	(4,416)
54,825	11,451	91,257	17,980	84,204	10,401	1,118	113,703	38,113	2,782	(122,933)	(82,038)
62,417	—	90,858	20,470	95,865	11,841	9,639	137,815	43,391	(2,621)	(139,957)	(99,187)
91,342	524	133,487	29,956	140,290	17,328	15,361	202,935	63,498	(4,719)	(204,815)	(146,036)
39,690	296	58,071	13,016	60,958	7,529	15,094	96,597	27,591	(4,611)	(88,996)	(66,016)
455,187	46,330	708,927	149,279	699,112	86,352	1,498	936,241	316,434	12,954	(1,020,665)	(691,277)
277,146	8,250	411,680	90,890	425,662	52,576	5,697	574,825	192,664	292	(621,443)	(428,487)
15,810	1,281	24,295	5,185	24,282	2,999	1,644	34,110	10,991	(122)	(35,450)	(24,581)
585,527	19,778	872,106	192,024	899,296	111,078	14,122	1,216,520	407,042	983	(1,312,921)	(904,896)
13,164	1,726	20,888	4,317	20,218	2,497	226	27,258	9,151	521	(29,517)	(19,845)
147,495	11,294	225,996	48,371	226,534	27,981	1,079	303,965	102,535	3,412	(330,728)	(224,781)
12,262	1,697	19,546	4,021	18,833	2,326	5,569	30,749	8,524	(1,239)	(27,494)	(20,209)
29,846	913	44,359	9,788	45,840	5,662	3,132	64,422	20,748	(664)	(66,924)	(46,840)
104,695	497	152,897	34,335	160,800	19,861	9,801	224,797	72,782	(2,546)	(234,758)	(164,522)
15,664	623	23,424	5,137	24,058	2,972	61	32,228	10,889	157	(35,123)	(24,077)
76,699	17,722	129,370	25,154	117,800	14,550	329	157,833	53,319	5,293	(171,982)	(113,370)
12,939	429	19,264	4,243	19,873	2,455	5	26,576	8,995	116	(29,014)	(19,903)
66,506	11,312	108,122	21,811	102,145	12,617	1,172	137,745	46,233	2,947	(149,126)	(99,946)
172,366	27,459	278,365	56,528	264,734	32,699	—	353,961	119,825	7,628	(386,496)	(259,043)
28,865	7,164	49,182	9,466	44,334	5,476	366	59,642	20,066	2,277	(64,724)	(42,381)
542,226	29,326	818,622	177,824	832,793	102,864	1,072	1,114,553	376,941	8,077	(1,215,831)	(830,813)
115,621	2,780	171,085	37,918	177,580	21,934	85	237,517	80,377	709	(259,257)	(178,171)
23,941	1,369	36,219	7,852	36,771	4,542	1,199	50,364	16,643	26	(53,683)	(37,014)
203,076	13,294	308,903	66,599	311,900	38,525	16,585	433,609	141,173	(2,253)	(455,357)	(316,437)
107,876	932	157,963	35,378	165,685	20,465	4,959	226,487	74,993	(953)	(241,891)	(167,851)
21,158	1,188	31,987	6,939	32,497	4,014	293	43,743	14,709	288	(47,444)	(32,447)
181,388	1,048	265,087	59,486	278,589	34,410	18,095	390,580	126,096	(4,641)	(406,725)	(285,270)
26,890	9,832	48,975	8,819	41,300	5,101	46	55,266	18,694	2,882	(60,296)	(38,720)
5,288,283	336,833	8,034,771	1,734,302	8,122,161	1,003,220	351,775	11,211,458	3,676,277	(6,123)	(11,857,897)	(8,187,743)
—	5,232	5,232	—	—	—	—	—	—	2,101	—	2,101
—	6,728	6,728	—	—	—	—	—	—	2,148	—	2,148
—	3,740	3,740	—	—	—	—	—	—	1,291	—	1,291
—	721	721	—	—	—	7,051	7,051	—	(1,823)	—	(1,823)
5,288,283	353,255	8,051,193	1,734,302	8,122,161	1,003,220	358,827	11,218,510	3,676,277	(2,407)	(11,857,897)	(8,184,027)

Firefighters Retirement System
Other Division B without Social Security

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
City of Orem	$ 231,065	3.8802995%	$ (2,426,403)	3,217,019	(7,069,682)	—	—
City of Saratoga Springs	32,685	0.5488766	(343,220)	455,054	(1,000,022)	—	—
City of West Jordan	337,438	5.6666294	(3,543,419)	4,698,001	(10,324,272)	—	—
Logan City	147,219	2.4722602	(1,545,937)	2,049,663	(4,504,316)	—	—
Lone Peak PS District	38,986	0.6546887	(409,386)	542,779	(1,192,805)	—	—
Ogden City Corp	302,046	5.0722911	(3,171,772)	4,205,257	(9,241,422)	—	—
Park City Fire Service	282,698	4.7473706	(2,968,594)	3,935,877	(8,649,436)	—	—
Provo City Corp	295,225	4.9577383	(3,100,140)	4,110,285	(9,032,713)	—	—
Salt Lake City Corp	1,586,754	26.6465004	(16,662,414)	22,091,668	(48,548,388)	—	—
Sandy City	274,842	4.6154473	(2,886,101)	3,826,504	(8,409,079)	—	—
Unified Fire Authority	1,807,391	30.3516842	(18,979,316)	25,163,505	(55,299,017)	—	—
Weber Fire District	196,323	3.2968642	(2,061,573)	2,733,313	(6,006,697)	—	—
West Valley City	422,159	7.0893495	(4,433,065)	5,877,528	(12,916,386)	—	—
Grand Total	$ 5,954,830	100.0000000%	$ (62,531,340)	82,906,453	(182,194,235)	—	—

Columns may not add to total due to rounding.

Judges Retirement System

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
State of Utah	$ 8,499,663	100.0000000%	$ 38,888,177	67,418,277	14,593,866	9,974,080	—

Utah Governors and Legislators Retirement Plan

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
State Of Utah	$ 384,103	100.0000000%	$ 1,709,381	2,957,700	645,641	—	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
722,219	3,118	725,337	395,267	1,537,367	71,300	7,004	2,010,938	151,275	(4,035)	(1,164,112)	(1,016,872)
102,159	3,766	105,925	55,911	217,464	10,086	87	283,548	21,398	2,174	(164,666)	(141,094)
1,054,699	18,027	1,072,726	577,231	2,245,108	104,124	—	2,926,463	220,916	12,366	(1,700,021)	(1,466,739)
460,149	1,422	461,571	251,837	979,505	45,428	7,464	1,284,234	96,382	(3,044)	(741,692)	(648,354)
121,854	4,352	126,206	66,690	259,386	12,030	265	338,371	25,523	1,692	(196,410)	(169,195)
944,078	6,890	950,968	516,689	2,009,632	93,203	23,000	2,642,524	197,746	(7,233)	(1,521,716)	(1,331,203)
883,603	1,294	884,897	483,591	1,880,899	87,233	9,160	2,460,883	185,079	(3,968)	(1,424,238)	(1,243,127)
922,757	—	922,757	505,020	1,964,247	91,098	4,988	2,565,353	193,280	(2,102)	(1,487,350)	(1,296,172)
4,959,571	800	4,960,371	2,714,345	10,557,293	489,628	5,202	13,766,468	1,038,827	(1,371)	(7,994,101)	(6,956,645)
859,049	3,907	862,956	470,152	1,828,631	84,809	4,110	2,387,702	179,935	618	(1,384,660)	(1,204,107)
5,649,196	13,333	5,662,529	3,091,774	12,025,281	557,709	6,956	15,681,720	1,183,275	3,758	(9,105,678)	(7,918,645)
613,628	5,462	619,090	335,835	1,306,211	60,580	—	1,702,626	128,530	2,482	(989,078)	(858,066)
1,319,503	7,633	1,327,136	722,156	2,808,787	130,266	11,903	3,673,112	276,382	(5,924)	(2,126,845)	(1,856,387)
18,612,465	70,005	18,682,470	10,186,498	39,619,811	1,837,494	80,139	51,723,942	3,898,548	(4,588)	(30,000,567)	(26,106,607)

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
3,237,183	—	13,211,263	—	7,502,678	—	—	7,502,678	14,572,096	—	(1,535,901)	13,036,195

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	418,192	—	—	418,192	192,483	—	—	192,483

Tier 2 Public Employees Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
4 Corners Comm Behavior Health	$ 136,196	0.1089757%	$ 24,509	211,356	(119,888)	6,856	—
Active Re Entry Inc	3,160	0.0025287	569	4,904	(2,782)	159	—
Alpine City	24,810	0.0198515	4,465	38,502	(21,839)	1,249	—
Alpine School District	7,129,418	5.7045396	1,282,994	11,063,819	(6,275,788)	358,915	—
American Fork City	93,347	0.0746911	16,799	144,862	(82,171)	4,699	—
American Leadership Academy	176,017	0.1408381	31,676	273,152	(154,942)	8,861	—
AMES Charter School	16,632	0.0133080	2,993	25,811	(14,641)	837	—
Ash Creek SS District	10,645	0.0085174	1,916	16,519	(9,370)	536	—
Ashley Valley Improv District	23,343	0.0186778	4,201	36,225	(20,548)	1,175	—
Ballard City	2,102	0.0016822	378	3,263	(1,851)	106	—
Bear Lake SSD	683	0.0005465	123	1,060	(601)	34	—
Bear River Assn of Govts	42,610	0.0340941	7,668	66,125	(37,508)	2,145	—
Bear River Health Dept	155,521	0.1244383	27,987	241,345	(136,899)	7,829	—
Bear River Mental Health	152,270	0.1218377	27,402	236,301	(134,038)	7,666	—
Bear River Water District	20,379	0.0163062	3,667	31,625	(17,939)	1,026	—
Beaver City	31,648	0.0253226	5,695	49,113	(27,858)	1,593	—
Beaver County	84,755	0.0678163	15,252	131,528	(74,607)	4,267	—
Beaver School District	125,281	0.1002422	22,545	194,417	(110,280)	6,307	—
Beaver Valley Hospital	108,765	0.0870269	19,573	168,787	(95,742)	5,476	—
Benchland Water Company	9,984	0.0079885	1,797	15,494	(8,788)	503	—
Big Cottonwood Canyon Imp District	4,641	0.0037136	835	7,202	(4,085)	234	—
Big Plains Water & Sewer SSD	200	0.0001599	36	310	(176)	10	—
Blanding City	23,829	0.0190669	4,288	36,980	(20,976)	1,200	—
Bluffdale City	102,314	0.0818659	18,412	158,777	(90,064)	5,151	—
Bona Vista Water Improve	9,938	0.0079516	1,788	15,422	(8,748)	500	—
Bountiful Irrigation District	10,259	0.0082088	1,846	15,921	(9,031)	516	—
Box Elder Co Mosq District	5,197	0.0041583	935	8,065	(4,575)	262	—
Box Elder County	106,036	0.0848433	19,082	164,552	(93,339)	5,338	—
Box Elder School District	1,095,966	0.8769273	197,228	1,700,780	(964,742)	55,174	—
Bridgerland Technical College	44,471	0.0355827	8,003	69,012	(39,146)	2,239	—
Brigham City	140,230	0.1122035	25,235	217,616	(123,439)	7,060	—
Cache County	188,214	0.1505977	33,871	292,081	(165,678)	9,475	—
Cache County School District	1,665,332	1.3325004	299,689	2,584,353	(1,465,936)	83,838	—
Canyons School District	4,653,590	3.7235276	837,449	7,221,693	(4,096,399)	234,275	—
Carbon County	152,548	0.1220598	27,452	236,732	(134,283)	7,680	—
Carbon School District	389,617	0.3117485	70,115	604,629	(342,967)	19,614	—
Castle Dale City	3,097	0.0024778	557	4,806	(2,726)	156	—
Castle Valley SSD	13,981	0.0111869	2,516	21,697	(12,307)	704	—
Cedar City	141,458	0.1131864	25,456	219,522	(124,521)	7,121	—
Cedar City Housing Auth	6,273	0.0050193	1,129	9,735	(5,522)	316	—
Cedar Mtn Fire Protection District	4,671	0.0037375	841	7,249	(4,112)	235	—
Centerville City	38,550	0.0308457	6,937	59,825	(33,935)	1,941	—
Central Davis Sewer District	10,436	0.0083499	1,878	16,194	(9,186)	525	—
Central Iron Co Water Conserv	17,012	0.0136124	3,062	26,401	(14,976)	856	—
Central UT Public Health	61,444	0.0491638	11,057	95,352	(54,087)	3,093	—
Central Utah 911	60,737	0.0485980	10,930	94,255	(53,465)	3,058	—
Central Utah Counseling Center	90,944	0.0727680	16,366	141,132	(80,055)	4,578	—
Central Utah Water District	218,780	0.1750546	39,371	339,514	(192,584)	11,014	—
Central Wasatch Commission	10,403	0.0083236	1,872	16,143	(9,157)	524	—
Central Weber Sewer District	73,845	0.0590862	13,289	114,596	(65,003)	3,718	—
City of Bountiful	263,364	0.2107284	47,394	408,703	(231,831)	13,259	—
City of Cedar Hills	23,540	0.0188351	4,236	36,530	(20,721)	1,185	—
City of Draper	255,127	0.2041374	45,912	395,920	(224,580)	12,844	—
City of Duchesne	10,197	0.0081591	1,835	15,824	(8,976)	513	—
City of Enterprise	5,639	0.0045123	1,015	8,751	(4,964)	284	—
City of Green River	15,542	0.0124357	2,797	24,119	(13,681)	782	—
City of Harrisville	17,450	0.0139628	3,140	27,081	(15,361)	879	—
City of Helper	9,492	0.0075952	1,708	14,731	(8,356)	478	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
10,465	19,308	36,629	8,412	18,840	704	—	27,956	135,807	2,057	—	137,864
243	661	1,063	195	437	16	122	770	3,151	51	—	3,202
1,906	3,320	6,475	1,532	3,432	128	—	5,092	24,739	363	—	25,102
547,834	940,738	1,847,487	440,319	986,230	36,870	—	1,463,419	7,109,067	102,558	—	7,211,625
7,173	11,099	22,971	5,765	12,913	483	—	19,161	93,081	1,288	—	94,369
13,525	20,786	43,172	10,871	24,349	910	—	36,130	175,514	2,408	—	177,922
1,278	3,021	5,136	1,027	2,301	86	152	3,566	16,585	284	—	16,869
818	1,667	3,021	657	1,473	55	—	2,185	10,614	166	—	10,780
1,794	3,477	6,446	1,442	3,229	121	—	4,792	23,277	356	—	23,633
162	216	484	130	291	11	—	432	2,096	26	—	2,122
52	163	249	42	94	4	—	140	681	15	—	696
3,274	6,018	11,437	2,632	5,894	220	—	8,746	42,488	643	—	43,131
11,950	19,317	39,096	9,605	21,514	804	—	31,923	155,077	2,194	—	157,271
11,701	20,909	40,276	9,404	21,064	787	—	31,255	151,836	2,259	—	154,095
1,566	3,401	5,993	1,259	2,819	105	—	4,183	20,321	343	—	20,664
2,432	3,650	7,675	1,955	4,378	164	—	6,497	31,557	427	—	31,984
6,513	11,769	22,549	5,235	11,724	438	—	17,397	84,513	1,268	—	85,781
9,627	16,847	32,781	7,737	17,330	648	—	25,715	124,923	1,819	—	126,742
8,358	14,102	27,936	6,717	15,046	562	—	22,325	108,454	1,542	—	109,996
767	1,587	2,857	617	1,381	52	—	2,050	9,955	160	—	10,115
357	1,111	1,702	287	642	24	—	953	4,628	100	—	4,728
15	315	340	12	28	1	427	468	199	(7)	—	192
1,831	3,379	6,410	1,472	3,296	123	—	4,891	23,761	358	—	24,119
7,862	13,492	26,505	6,319	14,153	529	—	21,001	102,022	1,477	—	103,499
764	1,775	3,039	614	1,375	51	—	2,040	9,909	178	—	10,087
788	1,611	2,915	634	1,419	53	—	2,106	10,230	165	—	10,395
399	598	1,259	321	719	27	—	1,067	5,182	68	—	5,250
8,148	13,138	26,624	6,549	14,668	548	—	21,765	105,733	1,485	—	107,218
84,216	156,841	296,231	67,688	151,608	5,668	—	224,964	1,092,837	16,527	—	1,109,364
3,417	5,157	10,813	2,747	6,152	230	175	9,304	44,344	620	—	44,964
10,775	20,121	37,956	8,661	19,398	725	—	28,784	139,829	2,119	—	141,948
14,463	25,895	49,833	11,624	26,036	973	—	38,633	187,677	2,759	—	190,436
127,966	236,937	448,741	102,852	230,370	8,612	—	341,834	1,660,578	25,017	—	1,685,595
357,588	606,128	1,197,991	287,410	643,743	24,066	—	955,219	4,640,305	66,106	—	4,706,411
11,722	19,129	38,531	9,421	21,102	789	—	31,312	152,112	2,171	—	154,283
29,939	52,269	101,822	24,063	53,897	2,015	—	79,975	388,505	5,668	—	394,173
238	380	774	191	428	16	54	689	3,088	39	—	3,127
1,074	2,603	4,381	863	1,934	72	—	2,869	13,941	250	—	14,191
10,870	19,672	37,663	8,737	19,568	732	—	29,037	141,054	2,117	—	143,171
482	655	1,453	387	868	32	—	1,287	6,255	79	—	6,334
359	929	1,523	288	646	24	—	958	4,658	86	—	4,744
2,962	5,880	10,783	2,381	5,333	199	—	7,913	38,440	598	—	39,038
802	1,095	2,422	645	1,444	54	443	2,586	10,406	99	—	10,505
1,307	2,310	4,473	1,051	2,353	88	—	3,492	16,964	247	—	17,211
4,721	8,657	16,471	3,795	8,500	318	—	12,613	61,269	909	—	62,178
4,667	7,115	14,840	3,751	8,402	314	—	12,467	60,563	813	—	61,376
6,988	14,009	25,575	5,617	12,581	470	—	18,668	90,684	1,417	—	92,101
16,811	31,167	58,992	13,512	30,264	1,131	—	44,907	218,155	3,344	—	221,499
799	2,015	3,338	642	1,439	54	—	2,135	10,373	189	—	10,562
5,674	8,258	17,650	4,561	10,215	382	—	15,158	73,634	971	—	74,605
20,237	33,896	67,392	16,266	36,432	1,362	—	54,060	262,612	3,765	—	266,377
1,809	3,440	6,434	1,454	3,256	122	—	4,832	23,473	369	—	23,842
19,604	37,992	70,440	15,757	35,292	1,319	—	52,368	254,399	3,947	—	258,346
784	1,553	2,850	630	1,411	53	—	2,094	10,168	161	—	10,329
433	1,138	1,855	348	780	29	66	1,223	5,623	96	—	5,719
1,194	2,194	4,170	960	2,150	80	—	3,190	15,498	231	—	15,729
1,341	2,944	5,164	1,078	2,414	90	—	3,582	17,401	293	—	17,694
729	1,056	2,263	586	1,313	49	—	1,948	9,465	124	—	9,589

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
City of Holladay	$ 21,799	0.0174425%	$ 3,923	33,829	(19,189)	1,097	—
City of Kanab	47,272	0.0378240	8,507	73,359	(41,612)	2,380	—
City of Milford	12,632	0.0101070	2,273	19,602	(11,119)	636	—
City of Moab	126,268	0.1010323	22,723	195,950	(111,150)	6,357	—
City of Monticello	14,052	0.0112439	2,529	21,807	(12,370)	707	—
City of Naples	11,999	0.0096011	2,159	18,621	(10,563)	604	—
City of North Salt Lake	62,061	0.0496579	11,168	96,310	(54,631)	3,124	—
City of Orem	306,893	0.2455577	55,228	476,253	(270,148)	15,450	—
City of Riverton	174,838	0.1398949	31,463	271,323	(153,904)	8,802	—
City of Santa Clara	43,810	0.0350541	7,884	67,987	(38,564)	2,206	—
City of Saratoga Springs	163,427	0.1307647	29,410	253,615	(143,859)	8,227	—
City of South Jordan	319,940	0.2559968	57,576	496,500	(281,632)	16,107	—
City of South Salt Lake	198,822	0.1590859	35,780	308,543	(175,017)	10,009	—
City of St George	832,349	0.6659966	149,788	1,291,685	(732,689)	41,903	—
City of Taylorsville	56,408	0.0451341	10,151	87,537	(49,654)	2,840	—
City of Uintah	607	0.0004856	109	942	(534)	31	—
City of Washington Terrace	18,054	0.0144460	3,249	28,018	(15,893)	909	—
City of Wendover	11,871	0.0094985	2,136	18,422	(10,450)	598	—
City of West Haven	26,903	0.0215263	4,841	41,750	(23,682)	1,354	—
City of West Jordan	427,706	0.3422252	76,969	663,738	(376,495)	21,532	—
City of Woodland Hills	6,826	0.0054616	1,228	10,593	(6,009)	344	—
Clearfield City	125,925	0.1007580	22,661	195,418	(110,848)	6,339	—
Cleveland Town	2,273	0.0018188	409	3,528	(2,001)	114	—
Clinton City	35,665	0.0285368	6,418	55,346	(31,394)	1,795	—
Coalville City	9,937	0.0079514	1,788	15,422	(8,748)	500	—
Color Country Uniserv	1,785	0.0014281	321	2,770	(1,571)	90	—
Cottonwood Heights City	93,006	0.0744177	16,737	144,331	(81,870)	4,682	—
Cottonwood Heights P&R Srv	29,167	0.0233380	5,249	45,263	(25,675)	1,468	—
Cottonwood Imp District	25,767	0.0206170	4,637	39,986	(22,682)	1,297	—
Council On Aging Golden Age SS	9,133	0.0073077	1,644	14,173	(8,039)	460	—
Daggett County	19,470	0.0155785	3,504	30,214	(17,139)	980	—
Daggett School District	34,585	0.0276727	6,224	53,671	(30,444)	1,741	—
Davis & Weber County Canal Co	6,796	0.0054380	1,223	10,547	(5,983)	342	—
Davis Behavioral Health Inc	387,533	0.3100811	69,740	601,395	(341,132)	19,510	—
Davis Co Housing Authority	10,875	0.0087011	1,957	16,876	(9,572)	547	—
Davis Co Mosquito Abate	3,602	0.0028822	648	5,590	(3,171)	181	—
Davis County	690,159	0.5522246	124,199	1,071,026	(607,524)	34,745	—
Davis School District	6,242,405	4.9948043	1,123,369	9,687,304	(5,494,980)	314,261	—
Davis Technical College	98,309	0.0786608	17,691	152,561	(86,538)	4,949	—
DDI Vantage	175,339	0.1402962	31,554	272,101	(154,345)	8,827	—
Delta City	20,415	0.0163345	3,674	31,680	(17,970)	1,028	—
Dixie State University	84,801	0.0678528	15,261	131,599	(74,648)	4,269	—
Dixie Technical College	5,311	0.0042495	956	8,242	(4,675)	267	—
Duchesne Co Water Conserv District	3,865	0.0030922	695	5,997	(3,402)	195	—
Duchesne County	136,314	0.1090708	24,531	211,540	(119,993)	6,862	—
Duchesne School District	668,839	0.5351658	120,363	1,037,941	(588,757)	33,671	—
Eagle Mountain City	136,971	0.1095960	24,649	212,559	(120,571)	6,896	—
East Carbon City	7,981	0.0063860	1,436	12,385	(7,025)	402	—
East Hollywood High School	54,671	0.0437443	9,838	84,841	(48,125)	2,752	—
Educators Mutual Insurance	30,193	0.0241586	5,433	46,855	(26,578)	1,520	—
Elk Ridge City	18,357	0.0146880	3,303	28,487	(16,159)	924	—
Emery Co Care & Rehab Ctr	28,690	0.0229557	5,163	44,522	(25,254)	1,444	—
Emery County	67,451	0.0539702	12,138	104,674	(59,375)	3,396	—
Emery County Recreation SSD	3,777	0.0030223	680	5,862	(3,325)	190	—
Emery School District	214,594	0.1717053	38,618	333,018	(188,900)	10,803	—
Emery Water Conserv District	11,984	0.0095892	2,157	18,598	(10,549)	603	—
Enoch City	22,672	0.0181404	4,080	35,183	(19,957)	1,141	—
Ephraim City	38,419	0.0307410	6,914	59,621	(33,819)	1,934	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
1,675	2,561	5,333	1,346	3,016	113	220	4,695	21,737	274	—	22,011
3,632	7,385	13,397	2,920	6,539	244	—	9,703	47,137	753	—	47,890
971	1,511	3,118	780	1,747	65	—	2,592	12,595	170	—	12,765
9,703	16,500	32,560	7,798	17,467	653	—	25,918	125,908	1,795	—	127,703
1,080	1,447	3,234	868	1,944	73	232	3,117	14,012	167	—	14,179
922	1,723	3,249	741	1,660	62	—	2,463	11,965	194	—	12,159
4,769	7,920	15,813	3,833	8,585	321	—	12,739	61,884	867	—	62,751
23,582	35,619	74,651	18,954	42,453	1,587	—	62,994	306,017	4,156	—	310,173
13,435	23,595	45,832	10,798	24,186	904	—	35,888	174,339	2,555	—	176,894
3,366	6,267	11,839	2,706	6,060	227	—	8,993	43,685	663	—	44,348
12,558	22,462	43,247	10,093	22,607	845	—	33,545	162,961	2,433	—	165,394
24,585	42,528	83,220	19,760	44,258	1,655	—	65,673	319,026	4,656	—	323,682
15,278	24,580	49,867	12,279	27,504	1,028	—	40,811	198,255	2,747	—	201,002
63,959	108,225	214,087	51,407	115,141	4,305	—	170,853	829,973	11,901	—	841,874
4,334	6,877	14,051	3,484	7,803	292	—	11,579	56,247	771	—	57,018
47	378	456	37	84	3	415	539	605	1	—	606
1,387	2,633	4,929	1,115	2,497	93	—	3,705	18,003	277	—	18,280
912	2,421	3,931	733	1,642	61	2,117	4,553	11,837	86	—	11,923
2,067	3,918	7,339	1,662	3,722	139	—	5,523	26,826	412	—	27,238
32,866	55,843	110,241	26,416	59,166	2,212	—	87,794	426,485	6,155	—	432,640
525	976	1,845	422	944	35	—	1,401	6,806	101	—	6,907
9,676	15,777	31,792	7,777	17,420	651	—	25,848	125,566	1,770	—	127,336
175	311	600	140	314	12	137	603	2,267	26	—	2,293
2,741	4,655	9,191	2,203	4,934	184	—	7,321	35,563	507	—	36,070
764	1,037	2,301	614	1,375	51	46	2,086	9,909	127	—	10,036
137	197	424	110	247	9	—	366	1,780	25	—	1,805
7,147	13,278	25,107	5,744	12,866	481	—	19,091	92,740	1,405	—	94,145
2,241	4,045	7,754	1,801	4,035	151	—	5,987	29,084	430	—	29,514
1,980	3,109	6,386	1,591	3,564	133	—	5,288	25,693	349	—	26,042
702	1,425	2,587	564	1,263	47	—	1,874	9,107	145	—	9,252
1,496	2,636	5,112	1,202	2,693	101	—	3,996	19,414	285	—	19,699
2,658	3,856	8,255	2,136	4,784	179	—	7,099	34,486	452	—	34,938
522	1,740	2,604	420	940	35	1,195	2,590	6,777	73	—	6,850
29,779	51,047	100,336	23,934	53,608	2,004	—	79,546	386,427	5,553	—	391,980
836	1,118	2,501	672	1,504	56	35	2,267	10,843	136	—	10,979
277	665	1,123	222	498	19	85	824	3,592	55	—	3,647
53,033	96,221	183,999	42,625	95,471	3,569	—	141,665	688,189	10,268	—	698,457
479,675	832,167	1,626,103	385,537	863,528	32,283	—	1,281,348	6,224,586	90,277	—	6,314,863
7,554	14,053	26,556	6,072	13,599	508	—	20,179	98,028	1,480	—	99,508
13,473	20,031	42,331	10,829	24,255	907	—	35,991	174,839	2,322	—	177,161
1,569	2,576	5,173	1,261	2,824	106	—	4,191	20,356	291	—	20,647
6,516	11,095	21,880	5,237	11,731	439	—	17,407	84,559	1,229	—	85,788
408	1,034	1,709	328	735	27	—	1,090	5,296	97	—	5,393
297	758	1,250	239	535	20	—	794	3,854	71	—	3,925
10,475	16,640	33,977	8,419	18,857	705	2,476	30,457	135,925	1,703	—	137,628
51,395	88,137	173,203	41,308	92,522	3,459	—	137,289	666,930	9,656	—	676,586
10,525	19,255	36,676	8,459	18,948	708	—	28,115	136,580	2,058	—	138,638
613	850	1,865	493	1,104	41	—	1,638	7,958	100	—	8,058
4,201	6,881	13,834	3,377	7,563	283	—	11,223	54,515	770	—	55,285
2,320	2,448	6,288	1,865	4,177	156	4	6,202	30,107	321	—	30,428
1,411	1,968	4,303	1,134	2,539	95	50	3,818	18,304	244	—	18,548
2,205	3,695	7,344	1,772	3,969	148	65	5,954	28,608	400	—	29,008
5,183	9,712	18,291	4,166	9,331	349	—	13,846	67,258	1,038	—	68,296
290	342	822	233	523	20	46	822	3,766	42	—	3,808
16,490	28,899	56,192	13,254	29,685	1,110	—	44,049	213,981	3,128	—	217,109
921	1,376	2,900	740	1,658	62	331	2,791	11,950	136	—	12,086
1,742	2,887	5,770	1,400	3,136	117	—	4,653	22,607	318	—	22,925
2,952	5,513	10,399	2,373	5,315	199	—	7,887	38,310	582	—	38,892

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
Eureka City Corporation	$ 1,079	0.0008636%	$ 194	1,675	(950)	54	—
Fairview City	4,357	0.0034864	784	6,762	(3,836)	219	—
Farmington City	75,509	0.0604181	13,588	117,179	(66,468)	3,801	—
Farr West City	9,604	0.0076843	1,728	14,904	(8,454)	483	—
Fast Forward Charter HS	40,616	0.0324983	7,309	63,030	(35,753)	2,045	—
Ferron City	6,410	0.0051290	1,154	9,948	(5,643)	323	—
Fillmore City	11,694	0.0093571	2,104	18,148	(10,294)	589	—
Five-County Assn of Govts	72,815	0.0582625	13,104	112,999	(64,097)	3,666	—
Fox Hollow Golf Course	4,273	0.0034189	769	6,631	(3,761)	215	—
Francis City	2,440	0.0019525	439	3,787	(2,148)	123	—
Fruit Heights City	14,444	0.0115573	2,599	22,415	(12,715)	727	—
Garfield County	45,682	0.0365517	8,221	70,891	(40,212)	2,300	—
Garfield School District	101,874	0.0815132	18,333	158,093	(89,676)	5,129	—
Garland City	11,025	0.0088217	1,984	17,109	(9,705)	555	—
Grand Co Cemetery Mtce District	200	0.0001601	36	311	(176)	10	—
Grand County	179,396	0.1435417	32,284	278,396	(157,916)	9,031	—
Grand County EMS SSD	34,458	0.0275712	6,201	53,474	(30,332)	1,735	—
Grand School District	319,885	0.2559534	57,566	496,416	(281,584)	16,104	—
Grand Water/Sewer Service	20,103	0.0160853	3,618	31,197	(17,696)	1,012	—
Granger-Hunter Imp District	135,293	0.1082533	24,347	209,955	(119,094)	6,811	—
Granite School District	6,685,819	5.3495978	1,203,165	10,375,417	(5,885,302)	336,583	—
Grantsville City	55,591	0.0444805	10,004	86,269	(48,935)	2,799	—
Greater Salt Lake Municipal Sd	17,513	0.0140132	3,152	27,178	(15,416)	882	—
Gunnison City	5,430	0.0043451	977	8,427	(4,780)	273	—
Gunnison Valley Hospital	126,261	0.1010269	22,722	195,939	(111,144)	6,356	—
Heber City	97,978	0.0783959	17,632	152,047	(86,246)	4,932	—
Heber Light & Power	83,545	0.0668477	15,035	129,650	(73,542)	4,206	—
Heber Valley Historic Railroad	19,200	0.0153624	3,455	29,795	(16,901)	967	—
Herriman City	204,184	0.1633763	36,745	316,864	(179,737)	10,279	—
High Desert Uniserv	1,785	0.0014281	321	2,770	(1,571)	90	—
High School Activities Assn	6,640	0.0053130	1,195	10,304	(5,845)	334	—
Highland City	30,645	0.0245204	5,515	47,557	(26,976)	1,543	—
Hinckley Town	5,836	0.0046699	1,050	9,057	(5,138)	294	—
Hooper City	27,424	0.0219427	4,935	42,557	(24,140)	1,381	—
Hooper Water Improv District	7,464	0.0059720	1,343	11,583	(6,570)	376	—
Housing Auth of Carbon Co	9,741	0.0077939	1,753	15,116	(8,574)	490	—
Housing Authority of SLC	139,467	0.1115936	25,098	216,433	(122,768)	7,021	—
Housing Authority Ogden City	25,368	0.0202976	4,565	39,367	(22,330)	1,277	—
Housing Connect	215,314	0.1722815	38,747	334,136	(189,534)	10,840	—
Hurricane City	104,975	0.0839947	18,891	162,906	(92,406)	5,285	—
Hurricane Valley Fire SSD	3,439	0.0027518	619	5,337	(3,027)	173	—
Hyde Park City	4,020	0.0032166	723	6,239	(3,539)	202	—
Hyrum City	20,481	0.0163876	3,686	31,783	(18,029)	1,031	—
Intech Collegiate High School	33,785	0.0270324	6,080	52,429	(29,739)	1,701	—
Iron County	189,468	0.1516012	34,096	294,027	(166,782)	9,538	—
Iron School District	764,923	0.6120459	137,654	1,187,048	(673,336)	38,508	—
ITINERIS High School	40,718	0.0325802	7,328	63,189	(35,843)	2,050	—
Ivins City	56,919	0.0455433	10,243	88,330	(50,104)	2,865	—
Jordan School District	6,264,823	5.0127418	1,127,403	9,722,093	(5,514,714)	315,389	—
Jordan Uniserv	3,785	0.0030288	681	5,874	(3,332)	191	—
Jordan Valley Water Conserv	175,786	0.1406535	31,634	272,794	(154,738)	8,850	—
Jordanelle SSD	52,842	0.0422814	9,509	82,004	(46,515)	2,660	—
Juab County	44,676	0.0357473	8,040	69,331	(39,327)	2,249	—
Juab School District	213,667	0.1709635	38,451	331,580	(188,084)	10,757	—
Kamas City	7,731	0.0061856	1,391	11,997	(6,805)	389	—
Kane County	166,703	0.1333858	29,999	258,699	(146,743)	8,392	—
Kane County Water Conserv District	17,459	0.0139694	3,142	27,093	(15,368)	879	—
Kane School District	175,427	0.1403662	31,569	272,237	(154,422)	8,831	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
83	258	395	67	149	6	—	222	1,076	23	—	1,099
335	668	1,222	269	603	23	—	895	4,345	73	—	4,418
5,802	7,801	17,404	4,664	10,445	391	—	15,500	75,294	961	—	76,255
738	1,938	3,159	593	1,329	50	—	1,972	9,576	180	—	9,756
3,121	4,749	9,915	2,508	5,618	210	170	8,506	40,500	527	—	41,027
493	914	1,730	396	887	33	100	1,416	6,392	94	—	6,486
899	1,489	2,977	722	1,618	60	208	2,608	11,661	151	—	11,812
5,595	9,241	18,502	4,497	10,073	377	—	14,947	72,607	1,020	—	73,627
328	690	1,233	264	591	22	—	877	4,261	67	—	4,328
188	534	845	151	338	13	279	781	2,433	29	—	2,462
1,110	2,203	4,040	892	1,998	75	—	2,965	14,403	225	—	14,628
3,510	6,560	12,370	2,821	6,319	236	—	9,376	45,551	689	—	46,240
7,828	15,518	28,475	6,292	14,092	527	—	20,911	101,583	1,583	—	103,166
847	1,792	3,194	681	1,525	57	—	2,263	10,994	181	—	11,175
15	671	696	12	28	1	1,431	1,472	200	(40)	—	160
13,785	25,814	48,630	11,080	24,816	928	—	36,824	178,883	2,744	—	181,627
2,648	8,249	12,632	2,128	4,767	178	—	7,073	34,360	741	—	35,101
24,580	39,771	80,455	19,756	44,251	1,654	—	65,661	318,972	4,465	—	323,437
1,545	2,829	5,386	1,242	2,781	104	—	4,127	20,046	299	—	20,345
10,396	18,423	35,630	8,356	18,715	700	—	27,771	134,907	1,983	—	136,890
513,747	885,357	1,735,687	412,922	924,866	34,576	—	1,372,364	6,666,734	96,595	—	6,763,329
4,272	8,488	15,559	3,433	7,690	287	—	11,410	55,432	873	—	56,305
1,346	4,193	6,421	1,082	2,423	91	—	3,596	17,463	376	—	17,839
417	687	1,377	335	751	28	—	1,114	5,415	75	—	5,490
9,702	16,145	32,203	7,798	17,466	653	—	25,917	125,901	1,761	—	127,662
7,529	11,838	24,299	6,051	13,553	507	2,534	22,645	97,698	1,173	—	98,871
6,420	12,404	23,030	5,160	11,557	432	—	17,149	83,306	1,299	—	84,605
1,475	2,164	4,606	1,186	2,656	99	—	3,941	19,145	261	—	19,406
15,690	30,102	56,071	12,611	28,245	1,056	—	41,912	203,602	3,151	—	206,753
137	195	422	110	247	9	6	372	1,780	24	—	1,804
510	972	1,816	410	919	34	11	1,374	6,621	99	—	6,720
2,355	5,045	8,943	1,893	4,239	158	295	6,585	30,558	467	—	31,025
448	1,046	1,788	360	807	30	428	1,625	5,820	72	—	5,892
2,107	3,971	7,459	1,694	3,794	142	—	5,630	27,345	417	—	27,762
574	1,102	2,052	461	1,032	39	—	1,532	7,442	116	—	7,558
748	1,678	2,916	602	1,347	50	—	1,999	9,713	163	—	9,876
10,717	18,905	36,643	8,614	19,293	721	4,379	33,007	139,069	1,720	—	140,789
1,949	3,953	7,179	1,567	3,509	131	—	5,207	25,295	411	—	25,706
16,545	28,491	55,876	13,298	29,785	1,114	—	44,197	214,699	3,125	—	217,824
8,066	14,892	28,243	6,483	14,521	543	—	21,547	104,675	1,581	—	106,256
264	645	1,082	212	476	18	42	748	3,429	61	—	3,490
309	736	1,247	248	556	21	254	1,079	4,009	62	—	4,071
1,574	2,839	5,444	1,265	2,833	106	—	4,204	20,422	297	—	20,719
2,596	4,420	8,717	2,087	4,674	175	—	6,936	33,688	494	—	34,182
14,559	25,414	49,511	11,702	26,210	980	—	38,892	188,927	2,722	—	191,649
58,778	107,926	205,212	47,242	105,814	3,956	—	157,012	762,739	11,420	—	774,159
3,129	6,829	12,008	2,515	5,633	211	—	8,359	40,602	686	—	41,288
4,374	7,605	14,844	3,515	7,874	294	—	11,683	56,757	836	—	57,593
481,398	891,012	1,687,799	386,921	866,629	32,399	—	1,285,949	6,246,940	94,157	—	6,341,097
291	612	1,094	234	524	20	—	778	3,775	60	—	3,835
13,508	24,523	46,881	10,857	24,317	909	—	36,083	175,284	2,630	—	177,914
4,060	7,967	14,687	3,264	7,310	273	—	10,847	52,692	838	—	53,530
3,433	6,658	12,340	2,759	6,180	231	—	9,170	44,549	675	—	45,224
16,418	28,844	56,019	13,196	29,557	1,105	—	43,858	213,057	3,127	—	216,184
594	1,432	2,415	477	1,069	40	—	1,586	7,709	136	—	7,845
12,810	20,314	41,516	10,296	23,060	862	—	34,218	166,227	2,299	—	168,526
1,342	2,084	4,305	1,078	2,415	90	—	3,583	17,409	238	—	17,647
13,480	22,649	44,960	10,835	24,267	907	—	36,009	174,926	2,515	—	177,441

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
Kaysville City	$ 91,865	0.0735046%	$ 16,532	142,560	(80,865)	4,625	—
Kearns Improvement District	23,723	0.0189821	4,269	36,815	(20,883)	1,194	—
Laverkin City	13,878	0.0111040	2,497	21,536	(12,216)	699	—
Layton City	271,188	0.2169885	48,802	420,844	(238,718)	13,652	—
Lehi City	345,799	0.2766880	62,229	536,630	(304,395)	17,409	—
Lewiston City	15,759	0.0126098	2,836	24,456	(13,873)	793	—
Lindon City	50,905	0.0407308	9,161	78,996	(44,810)	2,563	—
Logan City	379,803	0.3038963	68,349	589,400	(334,328)	19,120	—
Logan School District	631,487	0.5052782	113,641	979,975	(555,876)	31,791	—
Manti City	23,818	0.0190581	4,286	36,963	(20,967)	1,199	—
Mapleton City	38,670	0.0309416	6,959	60,010	(34,040)	1,947	—
Marriott-Slaterville City	5,234	0.0041883	942	8,123	(4,608)	264	—
Mayfield Town	40	0.0000316	7	61	(35)	2	—
Metro Water District SLC/Sandy	61,360	0.0490969	11,042	95,222	(54,013)	3,089	—
Midvale City	151,475	0.1212015	27,259	235,067	(133,339)	7,626	—
Midvalley Improvement District	10,803	0.0086443	1,944	16,765	(9,510)	544	—
Midway City	26,309	0.0210507	4,734	40,827	(23,159)	1,324	—
Military Installation Devel	5,805	0.0046450	1,045	9,009	(5,110)	292	—
Millard Co Care & Rehab Inc	76,304	0.0610539	13,731	118,413	(67,168)	3,841	—
Millard County	98,920	0.0791498	17,801	153,509	(87,076)	4,980	—
Millard School District	316,171	0.2529816	56,897	490,652	(278,315)	15,917	—
Millcreek City	74,485	0.0595987	13,404	115,590	(65,567)	3,750	—
Millville City	2,662	0.0021301	479	4,131	(2,343)	134	—
Minersville Town	1,242	0.0009941	224	1,928	(1,094)	63	—
Mona City	1,401	0.0011213	252	2,175	(1,234)	71	—
Monroe City	5,896	0.0047179	1,061	9,150	(5,190)	297	—
Monticello Academy	98,334	0.0786813	17,696	152,601	(86,560)	4,950	—
Morgan City Corporation	19,531	0.0156274	3,515	30,309	(17,192)	983	—
Morgan County	29,235	0.0233918	5,261	45,368	(25,734)	1,472	—
Morgan School District	301,100	0.2409222	54,185	467,263	(265,048)	15,158	—
Moroni City	4,552	0.0036423	819	7,064	(4,007)	229	—
Mount Pleasant City	26,555	0.0212474	4,779	41,209	(23,375)	1,337	—
Mountain Green Sewer Imp District	1,144	0.0009154	206	1,775	(1,007)	58	—
Mountain Regional Water SSD	34,319	0.0274599	6,176	53,258	(30,210)	1,728	—
Mountainland Assn of Govt	65,748	0.0526075	11,832	102,031	(57,876)	3,310	—
Mt Olympus Improvement District	36,379	0.0291080	6,547	56,454	(32,023)	1,831	—
Murray City	338,751	0.2710481	60,961	525,691	(298,191)	17,054	—
Murray School District	663,841	0.5311667	119,463	1,030,185	(584,357)	33,420	—
Myton City	2,644	0.0021156	476	4,103	(2,327)	133	—
N UT Environmental Rsrc Agcy	9,525	0.0076210	1,714	14,781	(8,384)	479	—
Nebo Credit Union	30,101	0.0240850	5,417	46,712	(26,497)	1,515	—
Nebo School District	3,246,121	2.5973543	584,164	5,037,507	(2,857,451)	163,419	—
Nephi City	61,542	0.0492421	11,075	95,504	(54,173)	3,098	—
Nibley City Corporation	31,943	0.0255586	5,748	49,570	(28,118)	1,608	—
Noah Webster Academy Inc	61,546	0.0492456	11,076	95,511	(54,177)	3,098	—
North Davis Co Sewer District	38,342	0.0306787	6,900	59,501	(33,751)	1,930	—
North Emery Water Users SSD	7,772	0.0062189	1,399	12,061	(6,842)	391	—
North Logan City	57,962	0.0463781	10,431	89,949	(51,022)	2,918	—
North Ogden City	88,053	0.0704546	15,846	136,645	(77,510)	4,433	—
North Park Police Agency	3,364	0.0026913	605	5,220	(2,961)	169	—
North Pointe Solid Waste	40,980	0.0327898	7,375	63,595	(36,073)	2,063	—
North Sanpete School District	201,015	0.1608404	36,174	311,946	(176,947)	10,120	—
North Summit School District	91,759	0.0734201	16,513	142,397	(80,772)	4,619	—
North View Fire District	2,799	0.0022393	504	4,343	(2,464)	141	—
Northeastern Counseling Ctr	100,892	0.0807275	18,156	156,569	(88,811)	5,079	—
NUAMES Charter School	94,107	0.0752989	16,935	146,040	(82,839)	4,738	—
Oakley City	11,231	0.0089861	2,021	17,428	(9,886)	565	—
Ogden City Corp	559,798	0.4479173	100,740	868,725	(492,771)	28,182	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Allocable Plan Gross Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Proportionate Share of Nonemployer Contributions	Total Employer Net Pension Expense Excluding That Attributable to Employer-Paid Member Contributions
7,059	12,608	24,292	5,674	12,708	475	—	18,857	91,602	1,366	—	92,968
1,823	2,885	5,902	1,465	3,282	123	808	5,678	23,656	269	—	23,925
1,066	1,999	3,764	857	1,920	72	—	2,849	13,838	207	—	14,045
20,838	36,118	70,608	16,749	37,514	1,402	—	55,665	270,414	3,934	—	274,348
26,572	48,904	92,885	21,357	47,835	1,788	—	70,980	344,812	5,152	—	349,964
1,211	2,252	4,256	973	2,180	82	—	3,235	15,714	236	—	15,950
3,912	8,837	15,312	3,144	7,042	263	—	10,449	50,759	875	—	51,634
29,185	50,554	98,859	23,457	52,539	1,964	—	77,960	378,719	5,517	—	384,236
48,524	88,220	168,535	39,001	87,355	3,266	—	129,622	629,684	9,485	—	639,169
1,830	3,509	6,538	1,471	3,295	123	—	4,889	23,750	353	—	24,103
2,971	6,224	11,142	2,388	5,349	200	—	7,937	38,560	632	—	39,192
402	895	1,561	323	724	27	—	1,074	5,220	88	—	5,308
3	10	15	2	5	—	—	7	39	1	—	40
4,715	9,216	17,020	3,790	8,488	317	—	12,595	61,185	959	—	62,144
11,640	18,580	37,846	9,355	20,954	783	—	31,092	151,043	2,073	—	153,116
830	1,715	3,089	667	1,494	56	—	2,217	10,773	174	—	10,947
2,022	2,957	6,303	1,625	3,639	136	108	5,508	26,234	350	—	26,584
446	1,390	2,128	359	803	30	—	1,192	5,789	125	—	5,914
5,863	9,277	18,981	4,713	10,555	395	—	15,663	76,086	1,030	—	77,116
7,601	14,141	26,722	6,109	13,684	512	—	20,305	98,637	1,499	—	100,136
24,295	40,989	81,201	19,527	43,737	1,635	—	64,899	315,269	4,509	—	319,778
5,724	14,755	24,229	4,600	10,304	385	—	15,289	74,273	1,377	—	75,650
205	646	985	164	368	14	253	799	2,655	42	—	2,697
95	223	381	77	172	6	59	314	1,239	18	—	1,257
108	336	515	87	194	7	—	288	1,397	30	—	1,427
453	1,056	1,806	364	816	30	—	1,210	5,880	102	—	5,982
7,556	11,985	24,491	6,073	13,603	509	—	20,185	98,054	1,344	—	99,398
1,501	3,242	5,726	1,206	2,702	101	—	4,009	19,475	324	—	19,799
2,246	2,961	6,679	1,806	4,044	151	—	6,001	29,151	363	—	29,514
23,137	43,034	81,329	18,596	41,652	1,557	—	61,805	300,240	4,557	—	304,797
350	479	1,058	281	630	24	—	935	4,539	57	—	4,596
2,040	4,176	7,553	1,640	3,673	137	—	5,450	26,479	436	—	26,915
88	273	419	71	158	6	—	235	1,141	25	—	1,166
2,637	4,296	8,661	2,120	4,747	177	—	7,044	34,221	479	—	34,700
5,052	10,331	18,693	4,061	9,095	340	—	13,496	65,560	1,067	—	66,627
2,795	4,780	9,406	2,247	5,032	188	—	7,467	36,275	522	—	36,797
26,030	45,649	88,733	20,922	46,860	1,752	—	69,534	337,783	4,939	—	342,722
51,010	90,944	175,374	40,999	91,831	3,433	—	136,263	661,946	9,746	—	671,692
203	301	637	163	366	14	1	544	2,636	34	—	2,670
732	1,858	3,069	588	1,318	49	—	1,955	9,497	176	—	9,673
2,313	5,040	8,868	1,859	4,164	156	—	6,179	30,015	506	—	30,521
249,436	415,248	828,103	200,483	449,044	16,788	—	666,315	3,236,854	45,873	—	3,282,727
4,729	8,548	16,375	3,801	8,513	318	—	12,632	61,366	917	—	62,283
2,455	4,110	8,173	1,973	4,419	165	—	6,557	31,851	453	—	32,304
4,729	6,643	14,470	3,801	8,514	318	744	13,377	61,370	721	—	62,091
2,946	5,439	10,315	2,368	5,304	198	—	7,870	38,232	589	—	38,821
597	960	1,948	480	1,075	40	105	1,700	7,750	98	—	7,848
4,454	9,116	16,488	3,580	8,018	300	—	11,898	57,797	927	—	58,724
6,766	12,033	23,232	5,438	12,181	455	—	18,074	87,801	1,297	—	89,098
258	729	1,156	208	465	17	—	690	3,354	67	—	3,421
3,149	5,649	10,861	2,531	5,669	212	—	8,412	40,863	607	—	41,470
15,446	26,642	52,208	12,415	27,807	1,040	—	41,262	200,441	2,921	—	203,362
7,051	13,507	25,177	5,667	12,693	475	—	18,835	91,497	1,400	—	92,897
215	670	1,026	173	387	14	—	574	2,791	60	—	2,851
7,753	14,455	27,287	6,231	13,957	522	—	20,710	100,604	1,529	—	102,133
7,231	14,906	26,875	5,812	13,018	487	—	19,317	93,838	1,526	—	95,364
863	1,706	3,134	694	1,554	58	—	2,306	11,199	173	—	11,372
43,016	73,414	144,612	34,574	77,438	2,895	—	114,907	558,200	8,054	—	566,254

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
Ogden School District	$ 1,631,221	1.3052070%	$ 293,551	2,531,418	(1,435,909)	82,120	—
Ogden-Weber Tech College	26,491	0.0211963	4,767	41,110	(23,319)	1,334	—
Oquirrh Rec And Parks District	12,321	0.0098584	2,217	19,120	(10,846)	620	—
Orangeville City	3,772	0.0030185	679	5,854	(3,321)	190	—
Orderville Town	1,955	0.0015644	352	3,034	(1,721)	98	—
Panguitch City Corporation	12,217	0.0097754	2,199	18,959	(10,754)	615	—
Park City	868,739	0.6951133	156,336	1,348,156	(764,721)	43,735	—
Park City Fire Service	14,330	0.0114662	2,579	22,238	(12,614)	721	—
Park City School District	1,075,989	0.8609425	193,632	1,669,777	(947,157)	54,168	—
Parowan City	11,461	0.0091703	2,062	17,786	(10,089)	577	—
Payson City	106,805	0.0854594	19,220	165,746	(94,017)	5,377	—
Perry City	13,874	0.0111009	2,497	21,530	(12,213)	698	—
Piute County	9,014	0.0072127	1,622	13,989	(7,935)	454	—
Piute School District	37,880	0.0303096	6,817	58,785	(33,345)	1,907	—
Plain City	6,060	0.0048491	1,091	9,405	(5,335)	305	—
Pleasant Grove City	116,253	0.0930192	20,921	180,409	(102,334)	5,853	—
Pleasant View City	18,264	0.0146139	3,287	28,343	(16,077)	919	—
Powder Mountain Water & Sewer	8,746	0.0069981	1,574	13,573	(7,699)	440	—
Price City	45,999	0.0368054	8,278	71,383	(40,491)	2,316	—
Price River Water Improve	31,010	0.0248122	5,580	48,123	(27,297)	1,561	—
Providence City	21,808	0.0174494	3,925	33,843	(19,197)	1,098	—
Provo City Corp	815,172	0.6522524	146,696	1,265,028	(717,568)	41,038	—
Provo Housing Authority	23,254	0.0186063	4,185	36,086	(20,470)	1,171	—
Provo River Water Users	14,664	0.0117329	2,639	22,756	(12,908)	738	—
Provo School District	1,747,562	1.3982956	314,487	2,711,961	(1,538,320)	87,977	—
Rich County	20,686	0.0165515	3,723	32,101	(18,209)	1,041	—
Rich School District	51,660	0.0413354	9,297	80,169	(45,475)	2,601	—
Richfield City	10,719	0.0085766	1,929	16,634	(9,435)	540	—
Richmond City	15,470	0.0123782	2,784	24,007	(13,618)	779	—
Riverdale City	37,157	0.0297308	6,687	57,662	(32,708)	1,871	—
Roosevelt City	42,240	0.0337979	7,601	65,550	(37,182)	2,126	—
Roy City	83,777	0.0670334	15,076	130,010	(73,746)	4,218	—
S Utah Valley Electric Svc Dst	28,671	0.0229407	5,160	44,493	(25,238)	1,443	—
S Utah Valley Solid Waste	25,631	0.0205088	4,613	39,776	(22,563)	1,290	—
Salem City	44,278	0.0354284	7,968	68,713	(38,976)	2,229	—
Salina City	5,422	0.0043381	976	8,414	(4,773)	273	—
Salt Lake Arts Academy	42,837	0.0342755	7,709	66,477	(37,708)	2,157	—
Salt Lake City Corp	3,552,860	2.8427887	639,365	5,513,521	(3,127,463)	178,861	—
Salt Lake City Public Library	202,226	0.1618096	36,392	313,826	(178,013)	10,181	—
Salt Lake Co Serv Area 3	2,491	0.0019935	448	3,866	(2,193)	125	—
Salt Lake Community College	409,844	0.3279328	73,755	636,018	(360,772)	20,633	—
Salt Lake County	4,218,037	3.3750240	759,068	6,545,779	(3,712,996)	212,348	—
Salt Lake School District	2,722,399	2.1783025	489,917	4,224,766	(2,396,436)	137,053	—
San Juan County	94,100	0.0752935	16,934	146,030	(82,833)	4,737	—
San Juan Mental Health	29,766	0.0238169	5,357	46,192	(26,202)	1,498	—
San Juan School District	472,417	0.3780005	85,015	733,123	(415,853)	23,783	—
Sandy City	485,505	0.3884722	87,370	753,433	(427,373)	24,442	—
Sandy Suburban Imp District	4,615	0.0036929	831	7,162	(4,063)	232	—
Sanpete County	71,923	0.0575489	12,943	111,615	(63,312)	3,621	—
Santaquin City	33,169	0.0265400	5,969	51,474	(29,198)	1,670	—
Sevier County	71,959	0.0575775	12,950	111,670	(63,343)	3,623	—
Sevier School District	340,320	0.2723038	61,243	528,127	(299,572)	17,133	—
Six-County Assoc of Govt	23,973	0.0191820	4,314	37,203	(21,103)	1,207	—
SLC Mosquito Abatement	24,976	0.0199846	4,495	38,760	(21,986)	1,257	—
Smithfield City Corp	27,481	0.0219889	4,945	42,647	(24,191)	1,383	—
Snow College	39,695	0.0317615	7,143	61,601	(34,942)	1,998	—
Snyder Basin Special Rec District	68,055	0.0544537	12,247	105,612	(59,907)	3,426	—
Snyderville Basin W R D	39,014	0.0312166	7,021	60,544	(34,343)	1,964	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
125,345	202,540	410,005	100,746	225,651	8,436	—	334,833	1,626,565	22,784	—	1,649,349
2,036	3,593	6,963	1,636	3,665	137	—	5,438	26,415	384	—	26,799
947	2,058	3,625	761	1,704	64	137	2,666	12,286	191	—	12,477
290	798	1,278	233	522	20	—	775	3,762	74	—	3,836
150	282	530	121	270	10	—	401	1,950	29	—	1,979
939	1,467	3,021	755	1,690	63	—	2,508	12,182	173	—	12,355
66,755	120,180	230,670	53,654	120,175	4,493	—	178,322	866,259	12,984	—	879,243
1,101	1,860	3,682	885	1,982	74	484	3,425	14,289	179	—	14,468
82,680	151,602	288,450	66,454	148,844	5,565	—	220,863	1,072,917	16,033	—	1,088,950
881	2,467	3,925	708	1,585	59	852	3,204	11,428	183	—	11,611
8,207	12,606	26,190	6,596	14,775	552	—	21,923	106,501	1,472	—	107,973
1,066	2,307	4,071	857	1,919	72	287	3,135	13,834	218	—	14,052
693	1,266	2,413	557	1,247	47	—	1,851	8,989	137	—	9,126
2,911	4,102	8,920	2,340	5,240	196	7	7,783	37,772	500	—	38,272
466	899	1,670	374	838	31	404	1,647	6,043	62	—	6,105
8,933	18,225	33,011	7,180	16,082	601	—	23,863	115,922	1,887	—	117,809
1,403	2,346	4,668	1,128	2,527	94	76	3,825	18,212	255	—	18,467
672	2,094	3,206	540	1,210	45	—	1,795	8,721	188	—	8,909
3,535	5,550	11,401	2,841	6,363	238	—	9,442	45,867	639	—	46,506
2,383	4,216	8,160	1,915	4,290	160	—	6,365	30,921	443	—	31,364
1,676	2,972	5,746	1,347	3,017	113	—	4,477	21,746	315	—	22,061
62,639	103,125	206,802	50,346	112,765	4,216	—	167,327	812,845	11,442	—	824,287
1,787	2,788	5,746	1,436	3,217	120	649	5,422	23,187	267	—	23,454
1,127	1,680	3,545	906	2,028	76	35	3,045	14,622	184	—	14,806
134,285	214,183	436,445	107,931	241,745	9,038	—	358,714	1,742,573	24,124	—	1,766,697
1,590	1,893	4,524	1,278	2,862	107	—	4,247	20,627	243	—	20,870
3,970	6,139	12,710	3,191	7,146	267	—	10,604	51,513	685	—	52,198
824	1,407	2,771	662	1,483	55	23	2,223	10,688	144	—	10,832
1,189	1,936	3,904	955	2,140	80	28	3,203	15,426	215	—	15,641
2,855	5,511	10,237	2,295	5,140	192	—	7,627	37,051	563	—	37,614
3,246	5,192	10,564	2,609	5,843	218	—	8,670	42,119	556	—	42,675
6,438	9,287	19,943	5,174	11,589	433	—	17,196	83,538	1,098	—	84,636
2,203	3,919	7,565	1,771	3,966	148	—	5,885	28,589	424	—	29,013
1,970	4,799	8,059	1,583	3,546	133	148	5,410	25,558	445	—	26,003
3,402	6,942	12,573	2,735	6,125	229	—	9,089	44,151	705	—	44,856
417	779	1,469	335	750	28	232	1,345	5,406	68	—	5,474
3,292	4,758	10,207	2,646	5,926	222	—	8,794	42,715	558	—	43,273
273,007	477,609	929,477	219,428	491,476	18,374	—	729,278	3,542,718	51,794	—	3,594,512
15,539	28,860	54,580	12,490	27,974	1,046	—	41,510	201,649	3,022	—	204,671
191	596	912	154	345	13	—	512	2,484	54	—	2,538
31,493	40,118	92,244	25,312	56,695	2,120	2,919	87,046	408,674	4,926	—	413,600
324,120	541,501	1,077,969	260,510	583,492	21,814	—	865,816	4,205,996	59,774	—	4,265,770
209,193	346,733	692,979	168,138	376,596	14,079	—	558,813	2,714,627	38,461	—	2,753,088
7,231	12,234	24,202	5,812	13,017	487	1,191	20,507	93,832	1,279	—	95,111
2,287	4,552	8,337	1,838	4,118	154	26	6,136	29,681	458	—	30,139
36,301	59,838	119,922	29,177	65,351	2,443	—	96,971	471,069	6,666	—	477,735
37,307	67,338	129,087	29,985	67,161	2,511	—	99,657	484,119	7,250	—	491,369
355	472	1,059	285	638	24	—	947	4,602	58	—	4,660
5,527	8,963	18,111	4,442	9,949	372	—	14,763	71,718	994	—	72,712
2,549	4,442	8,661	2,049	4,588	172	—	6,809	33,074	481	—	33,555
5,529	9,166	18,318	4,444	9,954	372	—	14,770	71,754	1,018	—	72,772
26,151	47,735	91,019	21,018	47,077	1,760	—	69,855	339,348	5,095	—	344,443
1,842	4,573	7,622	1,481	3,316	124	—	4,921	23,905	438	—	24,343
1,919	3,102	6,278	1,543	3,455	129	—	5,127	24,905	355	—	25,260
2,112	3,529	7,024	1,697	3,802	142	732	6,373	27,403	355	—	27,758
3,050	4,625	9,673	2,452	5,491	205	1,020	9,168	39,582	517	—	40,099
5,229	8,249	16,904	4,203	9,414	352	1,836	15,805	67,861	772	—	68,633
2,998	5,274	10,236	2,410	5,397	202	—	8,009	38,903	573	—	39,476

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
So Davis Metro Fire Agency	$ 3,737	0.0029903%	$ 673	5,800	(3,290)	188	—
So Davis Recreation Center	26,065	0.0208556	4,691	40,449	(22,944)	1,312	—
So SL Valley Mosq Abate	9,290	0.0074333	1,672	14,417	(8,178)	468	—
So Utah Valley Animal Svcs SSD	5,515	0.0044131	993	8,559	(4,855)	278	—
Soldier Hollow Charter School	49,419	0.0395418	8,893	76,690	(43,501)	2,488	—
Solid Waste SSD #1	27,722	0.0221819	4,989	43,021	(24,403)	1,396	—
South Davis Sewer District	62,836	0.0502777	11,308	97,512	(55,312)	3,163	—
South Davis Water District	4,672	0.0037385	841	7,251	(4,113)	235	—
South Ogden City	34,794	0.0278401	6,261	53,995	(30,628)	1,752	—
South Ogden Conserv District	51,600	0.0412873	9,286	80,076	(45,422)	2,598	—
South Sanpete School District	285,868	0.2287347	51,444	443,626	(251,640)	14,391	—
South Summit School District	149,963	0.1199917	26,987	232,721	(132,008)	7,550	—
South Valley Sewer District	93,516	0.0748263	16,829	145,124	(82,319)	4,708	—
South Valley Water Reclamation	62,734	0.0501963	11,290	97,355	(55,223)	3,158	—
South Weber City	28,643	0.0229183	5,154	44,449	(25,213)	1,442	—
Southeastern Utah Aog	37,554	0.0300485	6,758	58,278	(33,058)	1,891	—
Southeastern Utah Health	58,631	0.0469130	10,551	90,987	(51,611)	2,952	—
Southern Utah University	422,123	0.3377578	75,964	655,073	(371,581)	21,251	—
Southwest Educ Development Ctr	19,995	0.0159986	3,598	31,029	(17,601)	1,007	—
Southwest Technical College	102,691	0.0821669	18,480	159,361	(90,395)	5,170	—
Space Dynamics Lab / USU	34,039	0.0272357	6,126	52,823	(29,963)	1,714	—
Spanish Fork City	291,590	0.2333133	52,474	452,506	(256,677)	14,679	—
Spring City	1,578	0.0012626	284	2,449	(1,389)	79	—
Springville City	226,651	0.1813525	40,788	351,729	(199,513)	11,410	—
St George Housing Auth	2,282	0.0018263	411	3,542	(2,009)	115	—
Stansbury Park Improv District	3,766	0.0030135	678	5,845	(3,315)	190	—
Stansbury Service Agency	34,431	0.0275500	6,196	53,433	(30,309)	1,733	—
State of Utah	22,699,204	18.1625617	4,084,895	35,225,852	(19,981,337)	1,142,748	—
Success Academy	38,522	0.0308227	6,932	59,780	(33,909)	1,939	—
Summit Academy High School	107,467	0.0859889	19,340	166,773	(94,600)	5,410	—
Summit Academy Inc	395,825	0.3167155	71,232	614,262	(348,431)	19,927	—
Summit County	292,119	0.2337365	52,569	453,326	(257,143)	14,706	—
Sunset City	14,018	0.0112163	2,523	21,754	(12,339)	706	—
Sw Behavioral Health Center	224,285	0.1794596	40,362	348,058	(197,431)	11,291	—
Sw Mosquito Abatement/Control	9,732	0.0077867	1,751	15,102	(8,566)	490	—
Sw Ut Public Health Dept	89,644	0.0717278	16,132	139,114	(78,911)	4,513	—
Syracuse City Corp	88,175	0.0705522	15,868	136,834	(77,617)	4,439	—
Taylor West Weber Wtr Imp District	11,735	0.0093897	2,112	18,211	(10,330)	591	—
Taylorsville-Bennion Imp	45,800	0.0366463	8,242	71,075	(40,316)	2,306	—
Timberlakes Water SSD	12,868	0.0102962	2,316	19,969	(11,327)	648	—
Timpanogos SSD	70,934	0.0567570	12,765	110,079	(62,441)	3,571	—
Tintic School District	23,867	0.0190972	4,295	37,039	(21,010)	1,202	—
Tooele City	137,042	0.1096528	24,662	212,669	(120,633)	6,899	—
Tooele County	333,777	0.2670689	60,066	517,974	(293,813)	16,803	—
Tooele County Housing	14,642	0.0117160	2,635	22,723	(12,889)	737	—
Tooele School District	1,394,452	1.1157584	250,942	2,163,987	(1,227,490)	70,201	—
Tooele Technical College	29,007	0.0232097	5,220	45,015	(25,534)	1,460	—
Toquerville City	17,868	0.0142967	3,215	27,728	(15,728)	900	—
Torrey Town	3,213	0.0025711	578	4,987	(2,829)	162	—
Town of Alta	9,140	0.0073132	1,645	14,184	(8,046)	460	—
Town of Apple Valley	5,309	0.0042481	955	8,239	(4,674)	267	—
Town of Brian Head	8,416	0.0067343	1,515	13,061	(7,409)	424	—
Town of Garden City	13,008	0.0104084	2,341	20,187	(11,451)	655	—
Town of Goshen	9,801	0.0078425	1,764	15,210	(8,628)	493	—
Town of Manila	4,890	0.0039125	880	7,588	(4,304)	246	—
Town of Mantua	2,950	0.0023607	531	4,579	(2,597)	149	—
Town of Paragonah	2,805	0.0022443	505	4,353	(2,469)	141	—
Town of Springdale	35,920	0.0287414	6,464	55,743	(31,620)	1,808	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
287	697	1,172	231	517	19	—	767	3,727	66	—	3,793
2,003	4,125	7,440	1,610	3,606	135	—	5,351	25,991	417	—	26,408
714	1,551	2,733	574	1,285	48	811	2,718	9,263	105	—	9,368
424	709	1,411	341	763	29	—	1,133	5,500	77	—	5,577
3,797	7,722	14,007	3,052	6,836	256	—	10,144	49,277	798	—	50,075
2,130	4,351	7,877	1,712	3,835	143	—	5,690	27,643	451	—	28,094
4,828	11,808	19,799	3,881	8,692	325	—	12,898	62,657	1,123	—	63,780
359	1,054	1,648	289	646	24	—	959	4,659	96	—	4,755
2,674	4,988	9,414	2,149	4,813	180	258	7,400	34,695	514	—	35,209
3,965	7,061	13,624	3,187	7,138	267	—	10,592	51,453	753	—	52,206
21,966	40,356	76,713	17,655	39,545	1,478	—	58,678	285,052	4,341	—	289,393
11,523	20,338	39,411	9,262	20,745	776	—	30,783	149,535	2,205	—	151,740
7,186	10,806	22,700	5,776	12,936	484	295	19,491	93,249	1,233	—	94,482
4,821	7,126	15,105	3,875	8,678	324	492	13,369	62,555	793	—	63,348
2,201	3,905	7,548	1,769	3,962	148	—	5,879	28,561	415	—	28,976
2,886	6,642	11,419	2,319	5,195	194	10	7,718	37,447	649	—	38,096
4,505	9,574	17,031	3,621	8,111	303	—	12,035	58,464	957	—	59,421
32,436	58,820	112,507	26,071	58,393	2,183	—	86,647	420,918	6,244	—	427,162
1,536	2,101	4,644	1,235	2,766	103	—	4,104	19,938	261	—	20,199
7,891	15,906	28,967	6,342	14,205	531	—	21,078	102,397	1,614	—	104,011
2,616	4,014	8,344	2,102	4,709	176	—	6,987	33,941	486	—	34,427
22,406	39,486	76,571	18,009	40,336	1,508	—	59,853	290,758	4,255	—	295,013
121	309	509	97	218	8	361	684	1,573	4	—	1,577
17,416	28,779	57,605	13,998	31,353	1,172	—	46,523	226,004	3,178	—	229,182
175	259	549	141	316	12	—	469	2,276	30	—	2,306
289	902	1,381	233	521	19	—	773	3,755	81	—	3,836
2,646	6,594	10,973	2,127	4,763	178	—	7,068	34,333	619	—	34,952
1,744,236	2,917,167	5,804,151	1,401,916	3,140,037	117,400	—	4,659,353	22,634,403	321,634	—	22,956,037
2,960	5,405	10,304	2,379	5,329	199	—	7,907	38,412	583	—	38,995
8,258	14,092	27,760	6,637	14,866	556	—	22,059	107,160	1,543	—	108,703
30,416	50,077	100,420	24,446	54,755	2,047	—	81,248	394,695	5,594	—	400,289
22,447	35,754	72,907	18,042	40,410	1,511	—	59,963	291,285	4,005	—	295,290
1,077	2,073	3,856	866	1,939	72	—	2,877	13,978	216	—	14,194
17,234	25,406	53,931	13,852	31,026	1,160	—	46,038	223,645	3,035	—	226,680
748	1,339	2,577	601	1,346	50	504	2,501	9,704	109	—	9,813
6,888	12,897	24,298	5,536	12,401	464	—	18,401	89,388	1,368	—	90,756
6,775	11,807	23,021	5,446	12,197	456	—	18,099	87,923	1,273	—	89,196
902	2,003	3,496	725	1,623	61	—	2,409	11,702	199	—	11,901
3,519	6,224	12,049	2,829	6,336	237	—	9,402	45,669	664	—	46,333
989	1,825	3,462	795	1,780	67	—	2,642	12,831	199	—	13,030
5,451	8,794	17,816	4,381	9,812	367	—	14,560	70,731	993	—	71,724
1,834	3,841	6,877	1,474	3,302	123	—	4,899	23,799	379	—	24,178
10,530	17,930	35,359	8,464	18,957	709	—	28,130	136,651	1,950	—	138,601
25,648	43,469	85,920	20,614	46,172	1,726	—	68,512	332,825	4,796	—	337,621
1,125	1,662	3,524	904	2,026	76	328	3,334	14,601	185	—	14,786
107,152	188,964	366,317	86,123	192,898	7,212	—	286,233	1,390,472	20,321	—	1,410,793
2,229	3,355	7,044	1,791	4,013	150	—	5,954	28,924	373	—	29,297
1,373	2,653	4,926	1,104	2,472	92	—	3,668	17,817	273	—	18,090
247	300	709	198	445	17	—	660	3,204	35	—	3,239
702	1,531	2,693	564	1,264	47	—	1,875	9,114	151	—	9,265
408	1,330	2,005	328	734	27	465	1,554	5,294	93	—	5,387
647	1,174	2,245	520	1,164	44	—	1,728	8,392	124	—	8,516
1,000	1,302	2,957	803	1,799	67	—	2,669	12,971	161	—	13,132
753	1,383	2,629	605	1,356	51	29	2,041	9,773	140	—	9,913
376	705	1,327	302	676	25	196	1,199	4,876	61	—	4,937
227	706	1,082	182	408	15	68	673	2,942	53	—	2,995
216	434	791	173	388	15	—	576	2,797	44	—	2,841
2,760	5,404	9,972	2,218	4,969	186	—	7,373	35,818	560	—	36,378

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
Trans-Jordan Cities	$ 57,856	0.0462928%	$ 10,412	89,784	(50,929)	2,913	—
Tremonton City	29,079	0.0232671	5,233	45,126	(25,597)	1,464	—
Tridell-Lapoint Water	10,018	0.0080158	1,803	15,546	(8,818)	504	—
Tuacahn High School	60,510	0.0484167	10,889	93,903	(53,265)	3,046	—
Uintah Animal Control/Shelter	4,890	0.0039126	880	7,588	(4,304)	246	—
Uintah Basin Assn of Govt	73,355	0.0586943	13,201	113,836	(64,572)	3,693	—
Uintah Basin Asst Council	3,347	0.0026782	602	5,194	(2,946)	169	—
Uintah Basin Technical College	166,264	0.1330346	29,920	258,017	(146,357)	8,370	—
Uintah Co Care Center SSD	87,419	0.0699478	15,732	135,662	(76,952)	4,401	—
Uintah County	311,804	0.2494871	56,112	483,874	(274,471)	15,697	—
Uintah Highlands Improv District	4,980	0.0039849	896	7,729	(4,384)	251	—
Uintah Recreation District	25,251	0.0202042	4,544	39,186	(22,227)	1,271	—
Uintah School District	810,848	0.6487925	145,918	1,258,318	(713,762)	40,820	—
Uintah Transportation SSD	20,664	0.0165338	3,719	32,067	(18,189)	1,040	—
Uintah Water Conserv District	5,632	0.0045067	1,014	8,741	(4,958)	284	—
Unified Fire Authority	73,302	0.0586519	13,191	113,754	(64,525)	3,690	—
Unified Police Department	117,708	0.0941832	21,183	182,666	(103,615)	5,926	—
University of Utah	2,268,418	1.8150545	408,219	3,520,255	(1,996,813)	114,199	—
University of Utah Hospital	7,420	0.0059367	1,335	11,514	(6,531)	374	—
UT Municipal Power Agency	63,084	0.0504764	11,353	97,898	(55,531)	3,176	—
UT Public Employees Assn	5,825	0.0046609	1,048	9,040	(5,128)	293	—
UT School Board Risk Mgmt	26,465	0.0211760	4,763	41,070	(23,297)	1,332	—
Utah Association of Counties	25,642	0.0205171	4,614	39,792	(22,572)	1,291	—
Utah Co Academy of Sciences	50,515	0.0404193	9,091	78,392	(44,467)	2,543	—
Utah Co Housing Authority	33,517	0.0268185	6,032	52,014	(29,504)	1,687	—
Utah Communications Authority	29,318	0.0234586	5,276	45,497	(25,808)	1,476	—
Utah Counties Indemnity Pool	3,882	0.0031062	699	6,024	(3,417)	195	—
Utah County	1,025,963	0.8209150	184,630	1,592,145	(903,121)	51,650	—
Utah Education Association	28,583	0.0228706	5,144	44,357	(25,161)	1,439	—
Utah Housing Corporation	210,561	0.1684787	37,892	326,760	(185,350)	10,600	—
Utah League Cities/Towns	5,212	0.0041703	938	8,088	(4,588)	262	—
Utah Local Governments Trust	42,655	0.0341298	7,676	66,194	(37,548)	2,147	—
Utah Retirement Systems	680,374	0.5443950	122,439	1,055,841	(598,910)	34,252	—
Utah Safety Council	26,531	0.0212285	4,774	41,172	(23,354)	1,336	—
Utah School Boards Association	26,013	0.0208139	4,681	40,368	(22,898)	1,310	—
Utah School Employees Assn	5,132	0.0041059	923	7,963	(4,517)	258	—
Utah State Fair Corp	21,322	0.0170608	3,837	33,089	(18,769)	1,073	—
Utah State University	657,951	0.5264532	118,403	1,021,043	(579,172)	33,123	—
Utah Valley University	468,999	0.3752653	84,400	727,818	(412,844)	23,611	—
Utah Zoological Society	236,851	0.1895142	42,623	367,558	(208,492)	11,924	—
UTOPIA	153,486	0.1228107	27,621	238,188	(135,109)	7,727	—
Valley Emergency Comm Ctr	313,808	0.2510906	56,472	486,984	(276,235)	15,798	—
Vernal City	50,748	0.0406055	9,132	78,753	(44,672)	2,555	—
Vineyard Town	72,566	0.0580627	13,059	112,611	(63,877)	3,653	—
Wasatch County	304,803	0.2438855	54,852	473,010	(268,308)	15,345	—
Wasatch County Fire District	4,628	0.0037028	833	7,181	(4,074)	233	—
Wasatch Front Regional Council	46,369	0.0371020	8,345	71,958	(40,817)	2,334	—
Wasatch Front Waste/Recycling	159,801	0.1278630	28,757	247,987	(140,667)	8,045	—
Wasatch Integrated Waste Mgmt	57,328	0.0458702	10,317	88,964	(50,464)	2,886	—
Wasatch Mental Health SSD	414,039	0.3312896	74,510	642,528	(364,465)	20,844	—
Wasatch School District	951,429	0.7612771	171,217	1,476,479	(837,511)	47,898	—
Washington City	144,721	0.1157975	26,044	224,586	(127,393)	7,286	—
Washington Co Solid Waste	20,034	0.0160304	3,605	31,091	(17,636)	1,009	—
Washington Co Wat Con District	70,729	0.0565935	12,728	109,762	(62,261)	3,561	—
Washington County	294,411	0.2355702	52,982	456,883	(259,160)	14,821	—
Washington School District	2,835,081	2.2684646	510,195	4,399,633	(2,495,627)	142,726	—
Waste Management Serv District #5	1,872	0.0014979	337	2,905	(1,648)	94	—
Wayne County	25,925	0.0207439	4,665	40,232	(22,821)	1,305	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
4,446	7,513	14,872	3,573	8,003	299	—	11,875	57,691	821	—	58,512
2,234	4,008	7,706	1,796	4,023	150	—	5,969	28,996	436	—	29,432
770	870	2,144	619	1,386	52	—	2,057	9,989	114	—	10,103
4,650	7,541	15,237	3,737	8,371	313	—	12,421	60,337	831	—	61,168
376	819	1,441	302	676	25	407	1,410	4,876	53	—	4,929
5,637	9,350	18,680	4,530	10,147	379	—	15,056	73,146	1,029	—	74,175
257	520	946	207	463	17	370	1,057	3,338	32	—	3,370
12,776	21,217	42,363	10,269	23,000	860	—	34,129	165,789	2,368	—	168,157
6,717	10,002	21,120	5,399	12,093	452	—	17,944	87,170	1,172	—	88,342
23,959	35,857	75,513	19,257	43,133	1,613	—	64,003	310,914	4,211	—	315,125
383	658	1,292	308	689	26	—	1,023	4,966	71	—	5,037
1,940	2,553	5,764	1,560	3,493	131	27	5,211	25,179	339	—	25,518
62,307	93,183	196,310	50,079	112,167	4,193	—	166,439	808,533	10,918	—	819,451
1,588	2,642	5,270	1,276	2,858	107	404	4,645	20,605	271	—	20,876
433	1,671	2,388	348	779	29	381	1,537	5,616	125	—	5,741
5,633	10,158	19,481	4,527	10,140	379	—	15,046	73,093	1,087	—	74,180
9,045	19,283	34,254	7,270	16,283	609	14,912	39,074	117,372	982	—	118,354
174,308	258,445	546,952	140,100	313,796	11,731	127,332	592,959	2,261,943	23,428	—	2,285,371
570	1,333	2,277	458	1,026	38	—	1,522	7,398	129	—	7,527
4,847	9,282	17,305	3,896	8,727	326	—	12,949	62,904	940	—	63,844
448	1,103	1,844	360	806	30	439	1,635	5,808	76	—	5,884
2,034	4,113	7,479	1,635	3,661	137	—	5,433	26,390	422	—	26,812
1,970	5,108	8,369	1,584	3,547	133	61	5,325	25,569	467	—	26,036
3,882	7,695	14,120	3,120	6,988	261	—	10,369	50,371	800	—	51,171
2,576	4,177	8,440	2,070	4,637	173	2,062	8,942	33,422	350	—	33,772
2,253	4,544	8,273	1,811	4,056	152	720	6,739	29,234	414	—	29,648
298	468	961	240	537	20	20	817	3,871	52	—	3,923
78,836	145,265	275,751	63,364	141,924	5,306	—	210,594	1,023,034	15,489	—	1,038,523
2,196	3,782	7,417	1,765	3,954	148	—	5,867	28,502	444	—	28,946
16,180	26,698	53,478	13,004	29,127	1,089	—	43,220	209,960	2,947	—	212,907
400	714	1,376	322	721	27	129	1,199	5,197	69	—	5,266
3,278	6,254	11,679	2,634	5,901	221	—	8,756	42,533	682	—	43,215
52,281	88,039	174,572	42,021	94,118	3,519	—	139,658	678,432	9,740	—	688,172
2,039	3,553	6,928	1,639	3,670	137	138	5,584	26,455	361	—	26,816
1,999	3,319	6,628	1,607	3,598	135	—	5,340	25,939	354	—	26,293
394	830	1,482	317	710	27	334	1,388	5,117	62	—	5,179
1,638	4,314	7,025	1,317	2,950	110	1,357	5,734	21,261	309	—	21,570
50,558	61,722	145,403	40,636	91,016	3,403	7,071	142,126	656,072	7,652	—	663,724
36,039	46,233	105,883	28,966	64,878	2,425	6,034	102,303	467,660	5,737	—	473,397
18,200	29,913	60,037	14,628	32,764	1,225	—	48,617	236,175	3,349	—	239,524
11,794	19,116	38,637	9,479	21,232	794	—	31,505	153,048	2,179	—	155,227
24,113	45,434	85,345	19,381	43,410	1,623	—	64,414	312,912	4,833	—	317,745
3,900	6,530	12,985	3,134	7,020	262	—	10,416	50,603	704	—	51,307
5,576	10,621	19,850	4,482	10,038	375	—	14,895	72,358	1,107	—	73,465
23,421	40,834	79,600	18,825	42,164	1,576	—	62,565	303,933	4,496	—	308,429
356	868	1,457	286	640	24	—	950	4,614	82	—	4,696
3,563	5,024	10,921	2,864	6,414	240	445	9,963	46,237	567	—	46,804
12,279	18,484	38,808	9,869	22,106	826	—	32,801	159,344	2,146	—	161,490
4,405	8,676	15,967	3,541	7,930	296	2,439	14,206	57,164	759	—	57,923
31,815	54,434	107,093	25,571	57,275	2,141	—	84,987	412,857	5,977	—	418,834
73,109	131,354	252,361	58,761	131,614	4,920	—	195,295	948,713	14,056	—	962,769
11,121	20,264	38,671	8,938	20,020	748	—	29,706	144,308	2,150	—	146,458
1,539	2,932	5,480	1,237	2,771	104	—	4,112	19,977	308	—	20,285
5,435	10,629	19,625	4,368	9,784	366	—	14,518	70,528	1,091	—	71,619
22,623	36,465	73,909	18,183	40,727	1,523	—	60,433	293,570	4,068	—	297,638
217,851	377,394	737,971	175,097	392,184	14,662	—	581,943	2,826,988	41,021	—	2,868,009
144	448	686	116	259	10	—	385	1,867	40	—	1,907
1,992	3,722	7,019	1,601	3,586	134	—	5,321	25,851	397	—	26,248

Tier 2 Public Employees Contributory Retirement System

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

at December 31, 2019

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
Wayne School District	$ 49,795	0.0398428%	$ 8,961	77,274	(43,833)	2,507	—
Weber Area Dispatch 911	114,053	0.0912584	20,525	176,993	(100,397)	5,742	—
Weber Basin Water Conserv	94,555	0.0756576	17,016	146,736	(83,234)	4,760	—
Weber Co Mosquito Abate	7,017	0.0056145	1,263	10,889	(6,177)	353	—
Weber County Corp	961,656	0.7694605	173,057	1,492,350	(846,514)	48,413	—
Weber County School District	2,589,860	2.0722528	466,065	4,019,085	(2,279,767)	130,381	—
Weber Human Services	465,858	0.3727520	83,835	722,944	(410,079)	23,453	—
Weber State University	288,787	0.2310701	51,969	448,155	(254,209)	14,538	—
Wellington City	7,206	0.0057657	1,297	11,182	(6,343)	363	—
Wellsville City Corp	7,829	0.0062640	1,409	12,149	(6,891)	394	—
West Bountiful City	28,047	0.0224413	5,047	43,524	(24,689)	1,412	—
West Kane County SSD #1	15,568	0.0124564	2,802	24,159	(13,704)	784	—
West Point City	38,744	0.0310004	6,972	60,125	(34,105)	1,950	—
West Valley City	491,032	0.3928949	88,365	762,010	(432,239)	24,720	—
White City Water Imp District	12,041	0.0096344	2,167	18,686	(10,599)	606	—
Willard City Corp	3,697	0.0029582	665	5,737	(3,254)	186	—
Woods Cross City	10,158	0.0081280	1,828	15,764	(8,942)	511	—
Workers' Compensation Fund	743,288	0.5947349	133,760	1,153,474	(654,291)	37,419	—
Grand Total	$ 124,977,980	100.0000000%	$ 22,490,751	193,947,617	(110,013,921)	6,291,750	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Alpine Uniserv	$ —	0.0000000%	$ —	—	—	—	—
Aurora City	—	0.0000000	—	—	—	—	—
Canyonlands Health Care	—	0.0000000	—	—	—	—	—
Centerfield City	—	0.0000000	—	—	—	—	—
Huntington City	—	0.0000000	—	—	—	—	—
Jordan River Commission	—	0.0000000	—	—	—	—	—
Liberty Academy Charter School	—	0.0000000	—	—	—	—	—
Lone Peak PS District	—	0.0000000	—	—	—	—	—
Maeser Water District	—	0.0000000	—	—	—	—	—
Mendon City	—	0.0000000	—	—	—	—	—
Moab Mosquito Abatement District	—	0.0000000	—	—	—	—	—
North Davis Fire District	—	0.0000000	—	—	—	—	—
North Fork SS District	—	0.0000000	—	—	—	—	—
Ogden Weber/NEA/UEA Uniserv	—	0.0000000	—	—	—	—	—
Recreation and Habilitation Services	—	0.0000000	—	—	—	—	—
Uintah Fire Suppression SSD	—	0.0000000	—	—	—	—	—
Utah Dairy Commission	—	0.0000000	—	—	—	—	—
Utah Lake Commission	—	0.0000000	—	—	—	—	—
Valley Mental Health	—	0.0000000	—	—	—	—	—
Weber Fire District	—	0.0000000	—	—	—	—	—
Grand Total	$ 124,977,980	100.0000000%	$ 22,490,751	193,947,617	(110,013,921)	6,291,750	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
3,826	6,321	12,654	3,075	6,888	258	—	10,221	49,653	712	—	50,365
8,764	13,959	28,465	7,044	15,777	590	—	23,411	113,727	1,579	—	115,306
7,266	12,021	24,047	5,840	13,080	489	—	19,409	94,285	1,346	—	95,631
539	1,295	2,187	433	971	36	—	1,440	6,997	122	—	7,119
73,895	123,992	246,300	59,393	133,028	4,973	—	197,394	958,911	13,840	—	972,751
199,008	360,014	689,403	159,952	358,262	13,394	—	531,608	2,582,467	38,534	—	2,621,001
35,797	63,785	123,035	28,772	64,443	2,409	—	95,624	464,528	6,921	—	471,449
22,191	27,377	64,106	17,836	39,949	1,493	—	59,278	287,962	3,508	—	291,470
554	746	1,663	445	997	37	—	1,479	7,185	95	—	7,280
602	1,013	2,009	484	1,083	40	—	1,607	7,806	110	—	7,916
2,155	3,158	6,725	1,732	3,880	145	—	5,757	27,967	378	—	28,345
1,196	2,413	4,393	961	2,154	81	—	3,196	15,523	242	—	15,765
2,977	4,734	9,661	2,393	5,360	200	—	7,953	38,633	531	—	39,164
37,732	63,479	125,931	30,327	67,926	2,539	—	100,792	489,630	6,997	—	496,627
925	2,119	3,650	744	1,666	62	—	2,472	12,007	209	—	12,216
284	513	983	228	511	19	157	915	3,687	43	—	3,730
781	1,038	2,330	627	1,405	53	81	2,166	10,129	124	—	10,253
57,115	88,313	182,847	45,906	102,821	3,844	12,580	165,151	741,166	9,108	—	750,274
9,603,478	16,463,914	32,359,142	7,718,754	17,288,518	646,334	213,912	25,867,518	124,621,214	1,786,959	—	126,408,173
—	135	135	—	—	—	124	124	—	4	—	4
—	—	—	—	—	—	73	73	—	(11)	—	(11)
—	—	—	—	—	—	410	410	—	(61)	—	(61)
—	156	156	—	—	—	266	266	—	(7)	—	(7)
—	5	5	—	—	—	36	36	—	(4)	—	(4)
—	134	134	—	—	—	171	171	—	—	—	—
—	5,298	5,298	—	—	—	8,580	8,580	—	(133)	—	(133)
—	82	82	—	—	—	100	100	—	(1)	—	(1)
—	—	—	—	—	—	64	64	—	(9)	—	(9)
—	212	212	—	—	—	473	473	—	(18)	—	(18)
—	254	254	—	—	—	382	382	—	(9)	—	(9)
—	64	64	—	—	—	95	95	—	(2)	—	(2)
—	474	474	—	—	—	840	840	—	(23)	—	(23)
—	218	218	—	—	—	370	370	—	(9)	—	(9)
—	96	96	—	—	—	99	99	—	3	—	3
—	65	65	—	—	—	97	97	—	(2)	—	(2)
—	465	465	—	—	—	920	920	—	(25)	—	(25)
—	338	338	—	—	—	459	459	—	(4)	—	(4)
—	5,355	5,355	—	—	—	11,643	11,643	—	(663)	—	(663)
—	1,411	1,411	—	—	—	1,767	1,767	—	(16)	—	(16)
9,603,478	16,478,674	32,373,902	7,718,754	17,288,518	646,334	240,881	25,894,487	124,621,214	1,785,969	—	126,407,183

Tier 2 Public Safety and Firefighter Contributory Retirement System

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
American Fork City	$ 215,101	1.1486931%	$ 108,051	381,703	(95,091)	32,304	—
Beaver County	108,329	0.5785074	54,417	192,234	(47,890)	16,269	—
Big Water Municipal Corp	5,907	0.0315460	2,967	10,483	(2,611)	887	—
Blanding City	10,051	0.0536723	5,049	17,835	(4,443)	1,509	—
Bluffdale City	9,978	0.0532827	5,012	17,705	(4,411)	1,498	—
Box Elder County	123,138	0.6575889	61,856	218,512	(54,436)	18,493	—
Brigham City	60,304	0.3220362	30,292	107,010	(26,659)	9,056	—
Cache County	247,230	1.3202731	124,191	438,718	(109,294)	37,129	—
Carbon County	71,017	0.3792502	35,674	126,022	(31,395)	10,665	—
Cedar City	94,877	0.5066702	47,660	168,363	(41,943)	14,249	—
Cedar Mtn Fire Protection Dist	10,579	0.0564934	5,314	18,772	(4,677)	1,589	—
Centerville City	12,369	0.0660525	6,213	21,949	(5,468)	1,858	—
City of Bountiful	52,911	0.2825558	26,578	93,891	(23,390)	7,946	—
City of Draper	171,801	0.9174606	86,300	304,866	(75,949)	25,801	—
City of Harrisville	15,675	0.0837062	7,874	27,815	(6,929)	2,354	—
City of Helper	12,310	0.0657374	6,184	21,844	(5,442)	1,849	—
City of Kanab	7,409	0.0395648	3,722	13,147	(3,275)	1,113	—
City of Moab	54,709	0.2921612	27,482	97,083	(24,186)	8,216	—
City of Monticello	9,832	0.0525076	4,939	17,448	(4,347)	1,477	—
City of Naples	15,185	0.0810944	7,628	26,947	(6,713)	2,281	—
City of North Salt Lake	34,642	0.1849945	17,401	61,472	(15,314)	5,202	—
City of Orem	308,620	1.6481079	155,028	547,655	(136,433)	46,348	—
City of Riverton	31,932	0.1705244	16,040	56,664	(14,116)	4,796	—
City of Santa Clara	24,734	0.1320884	12,425	43,892	(10,935)	3,715	—
City of Saratoga Springs	124,554	0.6651502	62,567	221,025	(55,062)	18,706	—
City of South Jordan	294,427	1.5723158	147,899	522,470	(130,159)	44,217	—
City of South Salt Lake	224,315	1.1978986	112,680	398,054	(99,164)	33,688	—
City of St George	272,611	1.4558146	136,940	483,758	(120,515)	40,941	—
City of Wendover	10,655	0.0569008	5,352	18,908	(4,710)	1,600	—
City of West Jordan	400,319	2.1378063	201,091	710,379	(176,971)	60,120	—
Clearfield City	64,147	0.3425610	32,223	113,831	(28,358)	9,634	—
Clinton City	67,385	0.3598517	33,849	119,576	(29,789)	10,120	—
Cottonwood Heights City	88,626	0.4732837	44,519	157,269	(39,179)	13,310	—
Daggett County	3,359	0.0179364	1,687	5,960	(1,485)	504	—
Davis County	402,493	2.1494187	202,184	714,238	(177,933)	60,446	—
Dixie State University	11,800	0.0630124	5,927	20,939	(5,216)	1,772	—
Duchesne County	87,252	0.4659490	43,829	154,832	(38,572)	13,104	—
East Carbon City	8,766	0.0468140	4,404	15,556	(3,875)	1,317	—
Emery County	58,484	0.3123205	29,378	103,782	(25,854)	8,783	—
Enoch City	17,499	0.0934495	8,790	31,053	(7,736)	2,628	—
Ephraim City	2,390	0.0127607	1,200	4,240	(1,056)	359	—
Farmington City	68,297	0.3647224	34,307	121,195	(30,192)	10,257	—
Garfield County	38,181	0.2038960	19,179	67,753	(16,879)	5,734	—
Garland City	5,080	0.0271278	2,552	9,014	(2,246)	763	—
Grand County	87,161	0.4654629	43,783	154,670	(38,532)	13,090	—
Grantsville City	45,154	0.2411333	22,682	80,127	(19,961)	6,781	—
Gunnison Valley Police Dept	4,817	0.0257249	2,420	8,548	(2,130)	723	—
Heber City	47,779	0.2551496	24,000	84,785	(21,122)	7,175	—
Herriman City	34,707	0.1853455	17,434	61,589	(15,343)	5,212	—
Hurricane City	41,123	0.2196100	20,657	72,975	(18,180)	6,176	—
Hurricane Valley Fire SSD	100,784	0.5382150	50,627	178,845	(44,554)	15,136	—
Iron County	145,017	0.7744257	72,846	257,337	(64,108)	21,779	—
Ivins City	37,378	0.1996096	18,776	66,329	(16,524)	5,613	—
Juab County	67,355	0.3596931	33,834	119,524	(29,776)	10,115	—
Kane County	48,734	0.2602540	24,481	86,481	(21,544)	7,319	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
25,663	28,903	86,870	35	26,559	975	—	27,569	317,715	1,884	—	319,599
12,924	12,719	41,912	18	13,376	491	—	13,885	160,008	823	—	160,831
705	1,010	2,602	1	729	27	112	869	8,725	58	—	8,783
1,199	982	3,690	2	1,241	46	652	1,941	14,845	20	—	14,865
1,190	1,045	3,733	2	1,232	45	1,300	2,579	14,737	(21)	—	14,716
14,691	8,933	42,117	20	15,204	558	949	16,731	181,881	519	—	182,400
7,195	2,381	18,632	10	7,446	273	1,226	8,955	89,071	63	—	89,134
29,496	32,102	98,727	40	30,526	1,121	—	31,687	365,172	2,167	—	367,339
8,473	6,114	25,252	12	8,769	322	672	9,775	104,896	337	—	105,233
11,320	3,646	29,215	16	11,715	430	2,222	14,383	140,139	72	—	140,211
1,262	1,264	4,115	2	1,306	48	939	2,295	15,625	27	—	15,652
1,476	506	3,840	2	1,527	56	872	2,457	18,269	(26)	—	18,243
6,313	2,671	16,930	9	6,533	240	1,289	8,071	78,152	80	—	78,232
20,497	6,385	52,683	28	21,212	779	6,528	28,547	253,758	(7)	—	253,751
1,870	2,332	6,556	3	1,935	71	497	2,506	23,152	125	—	23,277
1,469	1,495	4,813	2	1,520	56	1,136	2,714	18,182	17	—	18,199
884	—	1,997	1	915	34	699	1,649	10,943	(44)	—	10,899
6,527	2,787	17,530	9	6,755	248	882	7,894	80,808	117	—	80,925
1,173	1,698	4,348	2	1,214	45	118	1,379	14,523	102	—	14,625
1,812	1,742	5,835	2	1,875	69	59	2,005	22,430	113	—	22,543
4,133	4,210	13,545	6	4,277	157	1,247	5,687	51,167	191	—	51,358
36,820	18,476	101,644	50	38,106	1,399	1,845	41,400	455,847	1,051	—	456,898
3,810	—	8,606	5	3,943	145	3,488	7,581	47,165	(218)	—	46,947
2,951	1,110	7,776	4	3,054	112	2,719	5,889	36,534	(101)	—	36,433
14,860	7,457	41,023	20	15,379	565	1,019	16,983	183,972	425	—	184,397
35,127	22,098	101,442	48	36,353	1,335	5,331	43,067	434,883	1,036	—	435,919
26,762	10,102	70,552	37	27,696	1,017	7,948	36,698	331,324	100	—	331,424
32,524	23,233	96,698	45	33,660	1,236	—	34,941	402,661	1,529	—	404,190
1,271	—	2,871	2	1,316	48	1,131	2,497	15,738	(71)	—	15,667
47,761	24,150	132,031	65	49,428	1,815	—	51,308	591,291	1,644	—	592,935
7,653	7,454	24,741	10	7,920	291	2,373	10,594	94,748	313	—	95,061
8,039	8,529	26,688	11	8,320	306	—	8,637	99,531	572	—	100,103
10,574	6,877	30,761	14	10,943	402	1,435	12,794	130,905	364	—	131,269
401	6,027	6,932	1	415	15	2,003	2,434	4,961	253	—	5,214
48,020	46,017	154,483	66	49,696	1,825	—	51,587	594,503	3,032	—	597,535
1,408	803	3,983	2	1,457	53	122	1,634	17,428	48	—	17,476
10,410	22,081	45,595	14	10,773	396	—	11,183	128,876	1,457	—	130,333
1,046	1,249	3,612	1	1,082	40	938	2,061	12,948	14	—	12,962
6,978	2,465	18,226	10	7,221	265	2,008	9,504	86,384	31	—	86,415
2,088	1,530	6,246	3	2,161	79	1,709	3,952	25,847	(15)	—	25,832
285	1,536	2,180	—	295	11	332	638	3,529	86	—	3,615
8,148	5,487	23,892	11	8,433	310	151	8,905	100,878	348	—	101,226
4,555	6,455	16,744	6	4,714	173	—	4,893	56,395	425	—	56,820
606	581	1,950	1	627	23	525	1,176	7,503	—	—	7,503
10,399	9,700	33,189	14	10,762	395	1,511	12,682	128,741	519	—	129,260
5,387	3,363	15,531	7	5,575	205	—	5,787	66,695	223	—	66,918
575	394	1,692	1	595	22	550	1,168	7,115	(12)	—	7,103
5,700	8,296	21,171	8	5,899	217	—	6,124	70,571	546	—	71,117
4,141	—	9,353	6	4,285	157	3,539	7,987	51,264	(221)	—	51,043
4,906	1,662	12,744	7	5,078	186	463	5,734	60,741	85	—	60,826
12,024	2,893	30,053	16	12,444	457	6,940	19,857	148,864	(285)	—	148,579
17,301	15,985	55,065	24	17,905	657	—	18,586	214,197	1,047	—	215,244
4,459	1,346	11,418	6	4,615	169	239	5,029	55,210	77	—	55,287
8,036	11,172	29,323	11	8,316	305	—	8,632	99,487	737	—	100,224
5,814	4,325	17,458	8	6,017	221	225	6,471	71,983	263	—	72,246

Tier 2 Public Safety and Firefighter Contributory Retirement System

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

at December 31, 2019

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
Kaysville City	$ 86,801	0.4635401%	$ 43,603	154,031	(38,373)	13,036	—
Layton City	254,100	1.3569577	127,641	450,908	(112,331)	38,161	—
Lehi City	300,322	1.6037989	150,860	532,932	(132,765)	45,102	—
Lindon City	17,942	0.0958160	9,013	31,839	(7,932)	2,695	—
Logan City	200,055	1.0683461	100,493	355,004	(88,440)	30,044	—
Lone Peak PS District	83,064	0.4435813	41,725	147,399	(36,720)	12,474	—
Mapleton City	26,801	0.1431261	13,463	47,560	(11,848)	4,025	—
Millard County	106,471	0.5685816	53,483	188,936	(47,068)	15,990	—
Moab Valley Fire Protection	9,496	0.0507122	4,770	16,851	(4,198)	1,426	—
Morgan County	20,931	0.1117770	10,514	37,143	(9,253)	3,143	—
Murray City	277,643	1.4826876	139,468	492,687	(122,739)	41,696	—
N Tooele Co Fire Protection Sd	10,414	0.0556115	5,231	18,479	(4,604)	1,564	—
Nephi City	20,237	0.1080693	10,165	35,911	(8,946)	3,039	—
North Davis Fire District	47,965	0.2561436	24,094	85,115	(21,204)	7,203	—
North Logan City	7,238	0.0386502	3,636	12,843	(3,200)	1,087	—
North Ogden City	48,278	0.2578145	24,251	85,670	(21,342)	7,250	—
North Park Police Agency	14,130	0.0754566	7,098	25,074	(6,246)	2,122	—
North View Fire District	52,505	0.2803922	26,375	93,172	(23,211)	7,885	—
Ogden City Corp	521,008	2.7823164	261,717	924,545	(230,325)	78,245	—
Park City	23,680	0.1264583	11,895	42,021	(10,468)	3,556	—
Park City Fire Service	134,920	0.7205082	67,774	239,420	(59,645)	20,262	—
Parowan City	9,551	0.0510069	4,798	16,949	(4,222)	1,434	—
Payson City	45,229	0.2415341	22,720	80,260	(19,995)	6,792	—
Perry City	13,747	0.0734125	6,905	24,394	(6,077)	2,065	—
Pleasant Grove City	90,059	0.4809409	45,239	159,813	(39,813)	13,525	—
Pleasant View City	10,943	0.0584374	5,497	19,418	(4,838)	1,643	—
Price City	20,023	0.1069267	10,058	35,531	(8,852)	3,007	—
Provo City Corp	286,768	1.5314144	144,052	508,879	(126,773)	43,067	—
Rich County	8,571	0.0457738	4,306	15,210	(3,789)	1,287	—
Richfield City	19,077	0.1018780	9,583	33,853	(8,434)	2,865	—
Riverdale City	50,897	0.2718030	25,567	90,318	(22,500)	7,644	—
Roosevelt City	19,256	0.1028335	9,673	34,171	(8,513)	2,892	—
Roy City	152,276	0.8131922	76,492	270,218	(67,317)	22,869	—
Salem City	7,196	0.0384288	3,615	12,770	(3,181)	1,081	—
Salt Lake City Corp	1,038,899	5.5479875	521,868	1,843,559	(459,272)	156,022	—
Salt Lake County	1,164,805	6.2203578	585,114	2,066,984	(514,932)	174,930	—
San Juan County	57,403	0.3065475	28,835	101,864	(25,377)	8,621	—
Sandy City	391,113	2.0886436	196,467	694,042	(172,901)	58,737	—
Sanpete County	51,079	0.2727767	25,659	90,642	(22,581)	7,671	—
Santaquin City	15,926	0.0850476	8,000	28,261	(7,040)	2,392	—
Sevier County	62,865	0.3357173	31,579	111,557	(27,791)	9,441	—
Smithfield City Corp	45,736	0.2442440	22,975	81,161	(20,219)	6,869	—
So Davis Metro Fire Agency	202,830	1.0831665	101,887	359,929	(89,666)	30,461	—
South Ogden City	57,535	0.3072518	28,901	102,098	(25,435)	8,641	—
Southern Utah University	12,466	0.0665695	6,262	22,121	(5,511)	1,872	—
Spanish Fork City	69,546	0.3713927	34,935	123,411	(30,745)	10,444	—
Springville City	87,304	0.4662243	43,855	154,923	(38,595)	13,111	—
State of Utah	4,127,405	22.0414076	2,073,316	7,324,221	(1,824,628)	619,854	—
Summit County	132,508	0.7076262	66,562	235,139	(58,578)	19,900	—
Sunset City	5,860	0.0312960	2,944	10,399	(2,591)	880	—
Syracuse City Corp	55,672	0.2973015	27,965	98,791	(24,611)	8,361	—
Tooele City	130,193	0.6952662	65,400	231,032	(57,555)	19,552	—
Tooele County	96,076	0.5130684	48,261	170,489	(42,473)	14,429	—
Town of Brian Head	4,809	0.0256797	2,416	8,533	(2,126)	722	—
Tremonton City	10,363	0.0553402	5,206	18,389	(4,581)	1,556	—

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
10,356	4,138	27,530	14	10,717	394	2,760	13,885	128,210	85	—	128,295
30,316	12,542	81,019	42	31,374	1,152	2,105	34,673	375,318	689	—	376,007
35,830	9,793	90,725	49	37,081	1,362	1,807	40,299	443,591	494	—	444,085
2,141	—	4,836	3	2,215	81	1,898	4,197	26,502	(118)	—	26,384
23,868	16,569	70,481	33	24,701	907	—	25,641	295,492	1,105	—	296,597
9,910	13,184	35,568	14	10,256	377	794	11,441	122,689	801	—	123,490
3,198	2,768	9,991	4	3,309	122	—	3,435	39,587	185	—	39,772
12,703	10,422	39,115	17	13,146	483	—	13,646	157,263	670	—	157,933
1,133	900	3,459	2	1,173	43	328	1,546	14,026	38	—	14,064
2,497	3,266	8,906	3	2,584	95	1,203	3,885	30,916	126	—	31,042
33,125	32,333	107,154	45	34,281	1,259	—	35,585	410,093	2,120	—	412,213
1,242	3,192	5,998	2	1,286	47	343	1,678	15,381	194	—	15,575
2,414	2,497	7,950	3	2,499	92	149	2,743	29,891	151	—	30,042
5,723	4,575	17,501	8	5,922	217	644	6,791	70,846	244	—	71,090
863	1,449	3,399	1	894	33	716	1,644	10,690	55	—	10,745
5,760	5,043	18,053	8	5,961	219	—	6,188	71,308	341	—	71,649
1,686	1,743	5,551	2	1,745	64	1,854	3,665	20,870	(15)	—	20,855
6,264	7,729	21,878	9	6,483	238	—	6,730	77,553	501	—	78,054
62,160	43,196	183,601	85	64,330	2,362	—	66,777	769,555	2,845	—	772,400
2,825	12,399	18,780	4	2,924	107	—	3,035	34,977	820	—	35,797
16,097	21,902	58,261	22	16,659	612	—	17,293	199,284	1,448	—	200,732
1,140	1,756	4,330	2	1,179	43	325	1,549	14,108	95	—	14,203
5,396	4,439	16,627	7	5,584	205	553	6,349	66,805	240	—	67,045
1,640	1,173	4,878	2	1,697	62	857	2,618	20,305	23	—	20,328
10,745	5,595	29,865	15	11,120	408	3,412	14,955	133,022	107	—	133,129
1,306	1,029	3,978	2	1,351	50	573	1,976	16,163	28	—	16,191
2,389	2,923	8,319	3	2,472	91	993	3,559	29,575	117	—	29,692
34,213	23,255	100,535	47	35,408	1,300	—	36,755	423,571	1,486	—	425,057
1,023	1,824	4,134	1	1,058	39	224	1,322	12,660	107	—	12,767
2,276	1,699	6,840	3	2,356	86	584	3,029	28,178	67	—	28,245
6,072	1,555	15,271	8	6,284	231	1,947	8,470	75,177	(30)	—	75,147
2,297	2,830	8,019	3	2,378	87	333	2,801	28,442	167	—	28,609
18,168	20,467	61,504	25	18,802	690	—	19,517	224,919	1,339	—	226,258
859	2,605	4,545	1	889	33	1,068	1,991	10,629	104	—	10,733
123,948	70,005	349,975	170	128,274	4,710	—	133,154	1,534,506	4,547	—	1,539,053
138,969	167,093	480,992	191	143,820	5,281	—	149,292	1,720,475	11,141	—	1,731,616
6,849	5,806	21,276	9	7,088	260	—	7,357	84,787	374	—	85,161
46,662	31,856	137,255	64	48,291	1,773	2,301	52,429	577,693	1,882	—	579,575
6,094	3,368	17,133	8	6,307	232	492	7,039	75,447	188	—	75,635
1,900	548	4,840	3	1,966	72	1,432	3,473	23,523	(59)	—	23,464
7,500	7,198	24,139	10	7,762	285	—	8,057	92,855	481	—	93,336
5,457	1,615	13,941	7	5,647	207	2,407	8,268	67,555	(67)	—	67,488
24,199	18,426	73,086	33	25,044	920	5,703	31,700	299,591	866	—	300,457
6,864	5,554	21,059	9	7,104	261	—	7,374	84,982	356	—	85,338
1,487	260	3,619	2	1,539	57	1,147	2,745	18,412	(58)	—	18,354
8,297	3,910	22,651	11	8,587	315	1,619	10,532	102,723	142	—	102,865
10,416	12,928	36,455	14	10,780	396	—	11,190	128,952	863	—	129,815
492,427	508,159	1,620,440	679	509,614	18,711	—	529,004	6,096,391	33,018	—	6,129,409
15,809	7,451	43,160	22	16,361	601	4,348	21,332	195,721	180	—	195,901
699	3,299	4,878	1	724	27	52	804	8,656	210	—	8,866
6,642	9,693	24,696	9	6,874	252	—	7,135	82,230	640	—	82,870
15,533	10,517	45,602	21	16,075	590	573	17,259	192,302	646	—	192,948
11,462	8,550	34,441	16	11,863	436	2,740	15,055	141,908	347	—	142,255
574	549	1,845	1	594	22	533	1,150	7,103	(2)	—	7,101
1,236	1,850	4,642	2	1,280	47	564	1,893	15,306	86	—	15,392

Tier 2 Public Safety and Firefighter Contributory Retirement System

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

at December 31, 2019

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
Uintah County	$ 178,966	0.9557272%	$ 89,900	317,582	(79,117)	26,877	—
Unified Fire Authority	400,327	2.1378496	201,095	710,393	(176,975)	60,121	—
Unified Police Department	407,895	2.1782627	204,897	723,822	(180,320)	61,258	—
University of Utah	75,310	0.4021727	37,830	133,639	(33,293)	11,310	—
Utah County	374,516	2.0000137	188,130	664,591	(165,565)	56,245	—
Utah State University	13,010	0.0694755	6,535	23,086	(5,751)	1,954	—
Vernal City	24,907	0.1330092	12,511	44,198	(11,011)	3,741	—
Wasatch County	84,491	0.4512041	42,442	149,932	(37,351)	12,689	—
Wasatch County Fire District	50,916	0.2719025	25,576	90,351	(22,509)	7,647	—
Washington City	117,714	0.6286231	59,131	208,887	(52,038)	17,678	—
Washington County	230,240	1.2295435	115,656	408,569	(101,784)	34,578	—
Wayne County	1,927	0.0102888	968	3,419	(852)	289	—
Weber County Corp	348,199	1.8594724	174,910	617,890	(153,930)	52,293	—
Weber Fire District	186,343	0.9951180	93,605	330,671	(82,378)	27,985	—
West Bountiful City	29,181	0.1558352	14,659	51,783	(12,900)	4,382	—
West Valley City	737,641	3.9391934	370,538	1,308,968	(326,093)	110,779	—
Woods Cross City	26,831	0.1432853	13,478	47,613	(11,861)	4,030	—
Grand Total	$ 18,725,687	100.0000000%	$ 9,406,436	33,229,335	(8,278,170)	2,812,224	—
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Garden City Fire District	$ —	0.0000000%	$ —	—	—	—	—
Laverkin City	—	0.0000000	—	—	—	—	—
Salina City	—	0.0000000	—	—	—	—	—
Springdale Town	—	0.0000000	—	—	—	—	—
Stockton Town	—	0.0000000	—	—	—	—	—
Wellington City	—	0.0000000	—	—	—	—	—
Grand Total	$ 18,725,687	100.0000000%	$ 9,406,436	33,229,335	(8,278,170)	2,812,224	—

Columns may not add to total due to rounding.

Deferred Outflows of Resources			Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
21,352	25,689	73,918	29	22,097	811	—	22,937	264,343	1,708	—	266,051
47,762	43,771	151,654	65	49,429	1,815	—	51,309	591,303	2,872	—	594,175
48,665	19,710	129,633	67	50,363	1,849	2,851	55,130	602,481	1,113	—	603,594
8,985	5,435	25,730	12	9,299	341	—	9,652	111,236	358	—	111,594
44,682	9,862	110,789	61	46,242	1,698	2,234	50,235	553,180	491	—	553,671
1,552	—	3,506	2	1,606	59	909	2,576	19,216	(59)	—	19,157
2,972	960	7,673	4	3,075	113	1,273	4,465	36,789	(28)	—	36,761
10,080	3,752	26,521	14	10,432	383	897	11,726	124,798	194	—	124,992
6,075	3,297	17,019	8	6,287	231	2,593	9,119	75,205	25	—	75,230
14,044	7,384	39,106	19	14,534	534	110	15,197	173,870	504	—	174,374
27,469	20,296	82,343	38	28,428	1,044	2,319	31,829	340,077	1,137	—	341,214
230	1,105	1,624	—	238	9	430	677	2,846	40	—	2,886
41,542	29,217	123,052	57	42,993	1,579	4,345	48,974	514,307	1,580	—	515,887
22,232	15,689	65,906	30	23,008	845	2,903	26,786	275,238	819	—	276,057
3,482	4,426	12,290	5	3,603	132	937	4,677	43,102	215	—	43,317
88,006	33,919	232,704	121	91,077	3,344	2,874	97,416	1,089,533	1,981	—	1,091,514
3,201	4,267	11,498	4	3,313	122	2,392	5,831	39,631	104	—	39,735
2,234,101	1,793,982	6,840,307	3,063	2,312,085	84,898	146,394	2,546,440	27,658,786	107,386	—	27,766,172
—	998	998	—	—	—	—	—	—	74	—	74
—	843	843	—	—	—	437	437	—	24	—	24
—	1,000	1,000	—	—	—	491	491	—	29	—	29
—	602	602	—	—	—	—	—	—	42	—	42
—	1,074	1,074	—	—	—	551	551	—	33	—	33
—	1,107	1,107	—	—	—	517	517	—	34	—	34
2,234,101	1,799,606	6,845,931	3,063	2,312,085	84,898	148,391	2,548,437	27,658,786	107,622	—	27,766,408

Utah Retirement Systems

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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%)	Net Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions
Noncontributory Retirement System	882,956,727	2,715,891,723	6,575,169,104	(514,091,121)	165,743,958	—	179,332,011
Contributory Retirement System	5,485,616	7,819,146	127,367,830	(93,952,639)	—	—	—
Public Safety Retirement System	150,736,571	476,228,620	1,100,427,072	(34,045,923)	43,052,709	—	20,816,944
Firefighters Retirement System	7,430,831	(74,933,333)	108,268,736	(225,230,888)	2,409,655	—	23,900,748
Judges Retirement System	8,499,663	38,888,177	67,418,277	14,593,866	9,974,080	—	3,237,183
Utah Governors and Legislators Retirement Plan	384,103	1,709,381	2,957,700	645,641	—	—	—
Tier 2 Public Employees Contributory Retirement System	124,977,980	22,490,751	193,947,617	(110,013,921)	6,291,750	—	9,603,478
Tier 2 Public Safety & Firefighters Contributory Retirement System	18,725,687	9,406,436	33,229,335	(8,278,170)	2,812,224	—	2,234,101
Grand Total	1,199,197,178	3,197,500,901	8,208,785,671	(970,373,155)	230,284,376	—	239,124,465

Columns may not add to total due to rounding.

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
54,264,724	399,340,693	20,168,432	948,351,885	—	64,856,133	1,033,376,450	983,171,168	(10,321,454)	—	972,849,714
—	—	—	45,823,348	—	—	45,823,348	(15,760,300)	52,978	—	(15,707,322)
7,278,656	71,148,309	6,967,270	136,046,606	225,976	6,752,263	149,992,115	170,302,125	649,043	—	170,951,168
423,259	26,733,662	11,920,800	47,741,972	2,840,714	438,965	62,942,451	7,574,825	(6,995)	(41,858,464)	(34,290,634)
—	13,211,263	—	7,502,678	—	—	7,502,678	14,572,096	—	(1,535,901)	13,036,195
—	—	—	418,192	—	—	418,192	192,483	—	—	192,483
16,478,674	32,373,902	7,718,754	17,288,518	646,334	240,881	25,894,487	124,621,214	1,785,969	—	126,407,183
1,799,606	6,845,931	3,063	2,312,085	84,898	148,391	2,548,437	27,658,786	107,622	—	27,766,408
80,244,919	549,653,760	46,778,319	1,205,485,284	3,797,922	72,436,634	1,328,498,159	1,312,332,397	(7,732,838)	(43,394,365)	1,261,205,194

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

December 31, 2019

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 188 through 203.

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. 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 on page 311.

The Utah Governors and Legislators Retirement Plan provides the following benefits. Former governors at age 65 receive $1,420 per month per term. Legislators receive a benefit at age 65 with four or more years of service at the rate of $30.80 per month per year of service. Retirement at age 62 with 10 or more years of service will receive an actuarial

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

December 31, 2019

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 6 years age 70	25 years any age 20 years age 55* 10 years age 62 4 years age 65	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*
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.*

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) 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 0employment, 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.

Contribution Rates

December 31, 3019

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	—	43.75	8.16
Governors and Legislators		—	$ 369,226	—
Tier 2 Public Employees		—	15.66-18.99%	—
Tier 2 Public Safety and Firefighter		—	11.38-38.27	—

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.

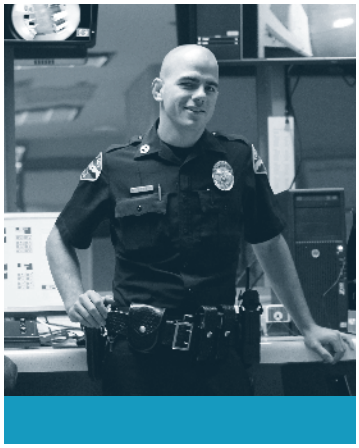
The **Tier 2 Public Employees Contributory Retirement System** includes eligible public employees entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

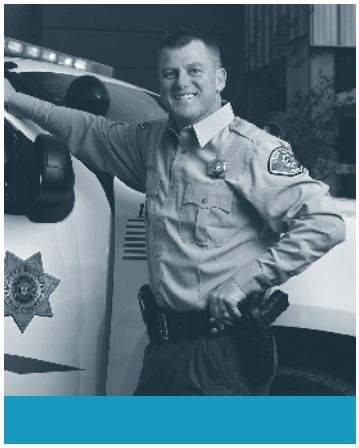
The **Tier 2 Public Safety and Firefighter Contributory Retirement System** includes eligible public safety and firefighters entering into the Utah Retirement Systems on or after July 1, 2011, when Tier 2 came into effect.

As of December 31, 2019, 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	469	158	134	63	1	1	481	152
Members:								
Active	53,134	450	4,982	1,490	116	47	33,686	3,767
Terminated vested	48,521	1,112	4,866	442	6	88	3,005	172
Retirees and beneficiaries:								
Service benefits	53,532	3,221	5,462	1,267	123	181	113	—
Beneficiary benefits	5,117	569	791	232	30	67	—	1





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, 2019, to December 31, 2019. The components of the current-year pension liability/(asset) of the employers as of December 31, 2019, were as shown in the schedule on page 314.

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, 2019

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, 2019, is based on the results of an actuarial valuation date of January 1, 2019, 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 315.

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, 2019, are summarized in the top table on page 316.

Net Pension Liability by Division

Year Ended December 31, 2019

(in thousands)

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 Plan Liability	(5) Projected Covered Employee Payroll	(6) Net Pension Liability/ (Asset) as a Percentage of Covered Employee Payroll
Noncontributory Retirement System						
Local Government	$ 5,946,957,224	5,570,070,357	376,886,867	93.7%	$ 796,507,855	47.3%
State and School	22,384,524,870	20,162,823,023	2,221,701,847	90.1	2,290,748,500	97.0
Higher Education	2,020,331,857	1,903,028,848	117,303,009	94.2	241,056,918	48.7
Total	30,351,813,951	27,635,922,228	2,715,891,723	91.1	3,328,313,273	81.6
Contributory Retirement System						
Local Government	460,773,061	454,219,416	6,553,645	98.6	16,251,161	40.3
State and School	652,669,427	645,765,606	6,903,821	98.9	12,598,888	54.8
Higher Education	156,666,447	162,304,767	(5,638,320)	103.6	5,467,357	(103.1)
Total	1,270,108,935	1,262,289,789	7,819,146	99.4	34,317,406	22.8
Public Safety Retirement System						
State of Utah	1,482,118,979	1,334,446,335	147,672,644	90.0	105,487,659	140.0
Other Division A (with Social Security)	1,757,706,281	1,597,144,511	160,561,770	90.9	134,007,665	119.8
Salt Lake City	404,569,021	325,190,188	79,378,833	80.4	28,862,618	275.0
Ogden	88,417,078	70,395,613	18,021,465	79.6	4,337,091	415.5
Provo	67,655,797	57,381,160	10,274,637	84.8	4,467,562	230.0
Logan	36,185,189	31,577,797	4,607,392	87.3	2,108,225	218.5
Bountiful	28,885,322	22,833,431	6,051,891	79.0	1,707,332	354.5
Other Division B (without Social Security)	594,873,878	545,213,890	49,659,988	91.7	58,726,945	84.6
Total	4,460,411,545	3,984,182,925	476,228,620	89.3	339,705,097	140.2
Firefighters Retirement System						
Division A (with Social Security)	245,925,430	258,327,423	(12,401,993)	105.0	31,103,854	(39.9)
Division B (without Social Security)	1,070,692,529	1,133,223,869	(62,531,340)	105.8	82,225,598	(76.0)
Total	1,316,617,959	1,391,551,292	(74,933,333)	105.7	113,329,452	(66.1)
Judges Retirement System	259,181,106	220,292,929	38,888,177	85.0	19,595,556	198.5
Governors and Legislators Retirement Plan	13,053,644	11,344,263	1,709,381	86.9	638,820	267.6
Tier 2 Public Employees Retirement System	634,073,976	611,583,225	22,490,751	96.5	1,380,488,281	1.6
Tier 2 Public Safety and Firefighter Retirement System	90,788,278	81,381,842	9,406,436	89.6	156,778,405	6.0
Grand Total	$ 38,396,049,394	35,198,548,493	3,197,500,901	91.7%	$ 5,373,166,290	59.5%

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

December 31, 2019

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	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19	1/1/19
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 15-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.

**The amortization period for the Higher Education divisions (Noncontributory and Contributory) are closed 17-year periods.*

***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.*

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

December 31, 2019

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	—	—	—
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.*

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 below 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.

Changes in Discount Rate

Year ended December 31, 2019

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	$ 1,177,148,972	376,886,867	(290,523,348)
State and School	5,011,901,218	2,221,701,847	(117,190,843)
Higher Education	386,118,914	117,303,009	(106,376,930)
Total	6,575,169,104	2,715,891,723	(514,091,121)
Contributory Retirement System			
Local Government	51,162,740	6,553,645	(31,063,166)
State and School	67,243,348	6,903,821	(44,825,795)
Higher Education	8,961,742	(5,638,320)	(18,063,678)
Total	127,367,830	7,819,146	(93,952,639)
Public Safety Retirement System			
State of Utah	345,496,290	147,672,644	(15,111,037)
Other Division A (with Social Security)	415,917,283	160,561,770	(46,963,806)
Salt Lake City	133,302,624	79,378,833	35,015,204
Ogden	29,756,239	18,021,465	8,409,784
Provo	19,473,135	10,274,637	2,750,627
Logan	9,622,239	4,607,392	524,979
Bountiful	9,726,591	6,051,891	3,012,559
Other Division B (without Social Security)	137,132,671	49,659,988	(21,684,233)
Total	1,100,427,072	476,228,620	(34,045,923)
Firefighters Retirement System			
Division A (with Social Security)	25,362,283	(12,401,993)	(43,036,653)
Division B (without Social Security)	82,906,453	(62,531,340)	(182,194,235)
Total	108,268,736	(74,933,333)	(225,230,888)
Judges Retirement System	67,418,277	38,888,177	14,593,866
Governors and Legislators Retirement Plan	2,957,700	1,709,381	645,641
Tier 2 Public Employees Retirement System	193,947,617	22,490,751	(110,013,921)
Tier 2 Public Safety and Firefighter Retirement System	33,229,335	9,406,436	(8,278,170)
Grand Total	$ 8,208,785,671	3,197,500,901	(970,373,155)

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, 2019, are shown in the left table below.

Differences Between Expected and Actual Experience

December 31, 2019

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	$ 34,282,319	5,413,714
State and School	34,539,319	13,629,529
Higher Education	96,922,320	1,125,189
Total	165,743,958	20,168,432
Contributory Retirement System		
Local Government	—	—
State and School	—	—
Higher Education	—	—
Total	—	—
Public Safety Retirement System		
State of Utah	6,235,709	2,478,973
Other Division A (with Social Security)	2,792,399	3,428,443
Salt Lake City	801,121	—
Ogden	160,844	112,041
Provo	205,267	544,827
Logan	—	290,121
Bountiful	109,547	112,865
Other Division B (without Social Security)	32,747,822	—
Total	43,052,709	6,967,270
Firefighters Retirement System		
Other Division A (with Social Security)	2,409,655	1,734,302
Other Division B (without Social Security)	—	10,186,498
Total	2,409,655	11,920,800
Judges Retirement System	9,974,080	—
Governors and Legislators Retirement Plan	—	—
Tier 2 Public Employees Retirement System	6,291,750	7,718,754
Tier 2 Public Safety and Firefighter Retirement System	2,812,224	3,063
Grand Total	$ 230,284,376	46,778,319

Changes in Assumptions

December 31, 2019

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	$ 39,916,699	—
State and School	128,783,568	—
Higher Education	10,631,744	—
Total	179,332,011	—
Contributory Retirement System		
Local Government	—	—
State and School	—	—
Higher Education	—	—
Total	—	—
Public Safety Retirement System		
State of Utah	2,600,593	—
Other Division A (with Social Security)	5,478,465	—
Salt Lake City	1,953,396	—
Ogden	—	—
Provo	561,227	—
Logan	—	—
Bountiful	170,153	—
Other Division B (without Social Security)	10,053,110	225,976
Total	20,816,944	225,976
Firefighters Retirement System		
Other Division A (with Social Security)	5,288,283	1,003,220
Other Division B (without Social Security)	18,612,465	1,837,494
Total	23,900,748	2,840,714
Judges Retirement System	3,237,183	—
Governors and Legislators Retirement Plan	—	—
Tier 2 Public Employees Retirement System	9,603,478	646,334
Tier 2 Public Safety and Firefighter Retirement System	2,234,101	84,898
Grand Total	$ 239,124,465	3,797,922

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 net deferred

Net Difference Between Projected and Actual Investment Earnings on Plan Investments

December 31, 2019

System	Deferred Outflows	Deferred Inflows
Noncontributory Retirement System		
Local Government	$ —	190,595,053
State and School	—	687,826,686
Higher Education	—	69,930,146
Total	—	948,351,885
Contributory Retirement System		
Local Government	—	16,359,761
State and School	—	27,505,566
Higher Education	—	1,958,021
Total	—	45,823,348
Public Safety Retirement System		
State of Utah	—	45,522,013
Other Division A (with Social Security)	—	54,826,647
Salt Lake City	—	11,138,165
Ogden	—	2,434,795
Provo	—	1,952,210
Logan	—	1,091,785
Bountiful	—	783,762
Other Division B (without Social Security)	—	18,297,229
Total	—	136,046,606
Firefighters Retirement System		
Other Division A (with Social Security)	—	8,122,161
Other Division B (without Social Security)	—	39,619,811
Total	—	47,741,972
Judges Retirement System	—	7,502,678
Governors and Legislators Retirement Plan	—	418,192
Tier 2 Public Employees Retirement System	—	17,288,518
Tier 2 Public Safety and Firefighter Retirement System	—	2,312,085
Grand Total	$ —	1,205,485,284

Proportionate Share of Gross Pension Expense

December 31, 2019

System	
Noncontributory Retirement System	
Local Government	$ 190,745,376
State and School	869,837,576
Higher Education	(77,411,784)
Total	983,171,168
Contributory Retirement System	
Local Government	(1,690,812)
State and School	2,858,933
Higher Education	(16,928,421)
Total	(15,760,300)
Public Safety Retirement System	
State of Utah	47,562,541
Other Division A (with Social Security)	70,252,819
Salt Lake City	18,223,938
Ogden	2,786,514
Provo	2,091,596
Logan	875,128
Bountiful	1,317,242
Other Division B (without Social Security)	27,192,347
Total	170,302,125
Firefighters Retirement System	
Other Division A (with Social Security)	3,676,277
Other Division B (without Social Security)	3,898,548
Total	7,574,825
Judges Retirement System	14,572,096
Governors and Legislators Retirement Plan	192,483
Tier 2 Public Employees Retirement System	124,621,214
Tier 2 Public Safety and Firefighter Retirement System	27,658,786
Grand Total	$ 1,312,332,397

outflow and inflows of the difference between expected and actual experience for the year ended December 31, 2019, is a deferred inflow of $1,205,485,284 as illustrated in the bottom-left table on page 318.

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, 2019, is as shown in the bottom-right table on page 318.

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, 2018), 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 above illustrates the average remaining service lives for the cost sharing retirement plans.

Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and proportionate Share of Contributions

Year ended December 31, 2019

Cost Sharing Retirement System	Average Remaining Service Lives
Noncontributory Retirement System	
Local Government	3.45
State and School	3.51
Higher Education	2.51
Contributory Retirement System	
Local Government	0.59
State and School	0.22
Higher Education	0.49
Public Safety Retirement System	
State of Utah	2.72
Other Division A (with Social Security)	2.77
Other Division B (without Social Security)	3.88
Firefighters Retirement System	
Other Division A (with Social Security)	6.02
Other Division B (without Social Security)	4.70
Tier 2 Public Employees Retirement System	12.14
Tier 2 Public Safety and Firefighter Retirement System	17.03

G) Proportionate Share of Nonemployer Contributions

The Firefighters Retirement System collects fire insurance premium tax and receives budget appropriations. 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 $41,858,464 in calendar year 2019 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 $1,535,901 in court fees in calendar year 2019 and was used to offset gross pension plan expense.

H) Total Employer Net Pension Plan Expense

This amount is equal to the gross pension expense less net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate of contributions and any proportionate share of nonemployer contributions.

Aggregation of Funds with a Net Pension Asset

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

Schedule of Employer Allocations and Pension Amounts

at December 31, 2019

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
4 Corners Comm Behavior Health	N/A	$ —	—	—	—	—	—
Active Re Entry Inc	N/A	—	—	—	—	—	—
Alpine City	N/A	—	—	—	—	—	—
Alpine School District	N/A	—	—	—	—	—	—
Alpine Uniserv	N/A	—	—	—	—	—	—
American Fork City	N/A	(320,299)	655,016	(1,111,481)	62,233	—	136,577
American Leadership Academy	N/A	—	—	—	—	—	—
AMES Charter School	N/A	—	—	—	—	—	—
Annabella Town	N/A	—	—	—	—	—	—
Ash Creek SS District	N/A	—	—	—	—	—	—
Ashley Valley Improv District	N/A	—	—	—	—	—	—
Ashley Valley Sewer Mgmt Board	N/A	—	—	—	—	—	—
Ballard City	N/A	—	—	—	—	—	—
Bear Lake SSD	N/A	—	—	—	—	—	—
Bear River Assn of Govts	N/A	—	—	—	—	—	—
Bear River Health Dept	N/A	—	—	—	—	—	—
Bear River Mental Health	N/A	—	—	—	—	—	—
Bear River Water District	N/A	—	—	—	—	—	—
Beaver City	N/A	—	—	—	—	—	—
Beaver County	N/A	—	—	—	—	—	—
Beaver Housing Authority	N/A	—	—	—	—	—	—
Beaver School District	N/A	—	—	—	—	—	—
Beaver Valley Hospital	N/A	—	—	—	—	—	—
Benchland Water Company	N/A	—	—	—	—	—	—
Bicknell Town	N/A	—	—	—	—	—	—
Big Cottonwood Canyon Imp District	N/A	—	—	—	—	—	—
Big Plains Water & Sewer SSD	N/A	—	—	—	—	—	—
Big Water Municipal Corp	N/A	—	—	—	—	—	—
Blanding City	N/A	—	—	—	—	—	—
Bluffdale City	N/A	—	—	—	—	—	—
Bona Vista Water Improve	N/A	—	—	—	—	—	—
Bountiful Irrigation District	N/A	—	—	—	—	—	—
Box Elder Co Mosq District	N/A	—	—	—	—	—	—
Box Elder County	N/A	—	—	—	—	—	—
Box Elder School District	N/A	—	—	—	—	—	—
Bridgerland Technical College	N/A	—	—	—	—	—	—
Brigham City	N/A	(207,327)	423,988	(719,455)	40,283	—	88,406
Cache County	N/A	(86,575)	177,047	(300,427)	16,821	—	36,916
Cache County School District	N/A	—	—	—	—	—	—
Cache Metro Planning Org	N/A	—	—	—	—	—	—
Canyons School District	N/A	—	—	—	—	—	—
Carbon County	N/A	—	—	—	—	—	—
Carbon County Rec/Trans SSD	N/A	—	—	—	—	—	—
Carbon School District	N/A	—	—	—	—	—	—
Castle Dale City	N/A	—	—	—	—	—	—
Castle Valley SSD	N/A	—	—	—	—	—	—
Cedar City	N/A	(204,081)	417,349	(708,189)	39,652	—	87,021
Cedar City Housing Auth	N/A	—	—	—	—	—	—
Cedar Mtn Fire Protection District	N/A	(3,910)	7,995	(13,567)	760	—	1,667
Centerfield City	N/A	—	—	—	—	—	—
Centerville City	N/A	—	—	—	—	—	—
Central Davis Sewer District	N/A	—	—	—	—	—	—
Central Iron Co Water Conserv	N/A	—	—	—	—	—	—
Central UT Public Health	N/A	—	—	—	—	—	—
Central Utah 911	N/A	—	—	—	—	—	—
Central Utah Counseling Center	N/A	—	—	—	—	—	—
Central Utah Water District	N/A	—	—	—	—	—	—
Central Wasatch Commission	N/A	—	—	—	—	—	—
Central Weber Sewer District	N/A	—	—	—	—	—	—
City of Aurora	N/A	—	—	—	—	—	—
City of Bountiful	N/A	—	—	—	—	—	—
City of Cedar Hills	N/A	—	—	—	—	—	—
City of Draper	N/A	(797,588)	1,631,080	(2,767,741)	154,968	—	340,096

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
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2,128	200,938	44,791	209,766	25,910	24,222	304,689	94,945	(5,866)	(306,247)	(217,168)
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1,027	129,716	28,993	135,780	16,771	26,126	207,670	61,457	(7,708)	(198,232)	(144,483)
981	54,718	12,107	56,699	7,003	638	76,447	25,663	99	(82,777)	(57,015)
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4,936	131,609	28,539	133,654	16,508	5,981	184,682	60,495	(453)	(195,128)	(135,086)
—	—	—	—	—	—	—	—	—	—	—
109	2,536	547	2,560	316	—	3,423	1,159	22	(3,738)	(2,557)
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831	495,895	111,535	522,346	64,518	154,115	852,514	236,426	(42,176)	(762,596)	(568,346)

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
City of Duchesne	N/A	$ —	—	—	—	—	—
City of Enterprise	N/A	—	—	—	—	—	—
City of Green River	N/A	—	—	—	—	—	—
City of Harrisville	N/A	—	—	—	—	—	—
City of Helper	N/A	—	—	—	—	—	—
City of Holladay	N/A	—	—	—	—	—	—
City of Kanab	N/A	(25,242)	51,620	(87,592)	4,904	—	10,763
City of Milford	N/A	—	—	—	—	—	—
City of Moab	N/A	—	—	—	—	—	—
City of Monticello	N/A	—	—	—	—	—	—
City of Naples	N/A	—	—	—	—	—	—
City of North Salt Lake	N/A	—	—	—	—	—	—
City of Orem	N/A	(2,426,403)	3,217,019	(7,069,682)	—	—	722,219
City of Riverton	N/A	—	—	—	—	—	—
City of Santa Clara	N/A	(46,838)	95,785	(162,535)	9,100	—	19,972
City of Saratoga Springs	N/A	(343,220)	455,054	(1,000,022)	—	—	102,159
City of South Jordan	N/A	(942,398)	1,927,219	(3,270,253)	183,104	—	401,844
City of South Salt Lake	N/A	(912,380)	1,865,832	(3,166,086)	177,272	—	389,044
City of St George	N/A	(676,650)	1,383,760	(2,348,069)	131,470	—	288,527
City of Taylorsville	N/A	—	—	—	—	—	—
City of Uintah	N/A	—	—	—	—	—	—
City of Washington Terrace	N/A	(6,634)	13,567	(23,022)	1,289	—	2,829
City of Wendover	N/A	—	—	—	—	—	—
City of West Haven	N/A	—	—	—	—	—	—
City of West Jordan	N/A	(3,543,419)	4,698,001	(10,324,272)	—	—	1,054,699
City of Woodland Hills	N/A	—	—	—	—	—	—
Clearfield City	N/A	—	—	—	—	—	—
Cleveland Town	N/A	—	—	—	—	—	—
Clinton City	N/A	(128,574)	262,935	(446,169)	24,981	—	54,825
Coalville City	N/A	—	—	—	—	—	—
Color Country Uniserv	N/A	—	—	—	—	—	—
Corinne City	N/A	—	—	—	—	—	—
Cottonwood Heights City	N/A	—	—	—	—	—	—
Cottonwood Heights P&R Srv	N/A	—	—	—	—	—	—
Cottonwood Imp District	N/A	—	—	—	—	—	—
Council On Aging Golden Age SS	N/A	—	—	—	—	—	—
Daggett County	N/A	—	—	—	—	—	—
Daggett School District	N/A	—	—	—	—	—	—
Davis & Weber County Canal Co	N/A	—	—	—	—	—	—
Davis Behavioral Health Inc	N/A	—	—	—	—	—	—
Davis Co Housing Authority	N/A	—	—	—	—	—	—
Davis Co Mosquito Abate	N/A	—	—	—	—	—	—
Davis County	N/A	—	—	—	—	—	—
Davis School District	N/A	—	—	—	—	—	—
Davis Technical College	N/A	—	—	—	—	—	—
Davis Uniserv	N/A	—	—	—	—	—	—
DDI Vantage	N/A	—	—	—	—	—	—
Delta City	N/A	—	—	—	—	—	—
Dixie State University	N/A	(53,214)	84,580	(170,483)	—	—	—
Dixie Technical College	N/A	—	—	—	—	—	—
Duchesne Co Water Conserv District	N/A	—	—	—	—	—	—
Duchesne County	N/A	—	—	—	—	—	—
Duchesne School District	N/A	—	—	—	—	—	—
E Duchesne Cul Water Imp District	N/A	—	—	—	—	—	—
Eagle Mountain City	N/A	—	—	—	—	—	—
East Carbon City	N/A	—	—	—	—	—	—
East Hollywood High School	N/A	—	—	—	—	—	—
Educators Mutual Insurance	N/A	—	—	—	—	—	—
Elk Ridge City	N/A	—	—	—	—	—	—
Emery Co Care & Rehab Ctr	N/A	—	—	—	—	—	—
Emery County	N/A	—	—	—	—	—	—
Emery County Recreation SSD	N/A	—	—	—	—	—	—
Emery School District	N/A	—	—	—	—	—	—

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
394	16,061	3,530	16,531	2,042	7	22,110	7,482	137	(24,134)	(16,515)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
3,118	725,337	395,267	1,537,367	71,300	7,004	2,010,938	151,275	(4,035)	(1,164,112)	(1,016,872)
—	—	—	—	—	—	—	—	—	—	—
370	29,442	6,550	30,675	3,789	5,659	46,673	13,884	(1,865)	(44,783)	(32,764)
3,766	105,925	55,911	217,464	10,086	87	283,548	21,398	2,174	(164,666)	(141,094)
25,612	610,560	131,785	617,184	76,232	130	825,331	279,352	6,778	(901,053)	(614,923)
58,427	624,743	127,588	597,525	73,804	795	799,712	270,453	16,249	(872,352)	(585,650)
13,281	433,278	94,623	443,143	54,735	5,408	597,909	200,577	1,726	(646,964)	(444,661)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
220	4,338	928	4,345	537	447	6,257	1,967	(40)	(6,343)	(4,416)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
18,027	1,072,726	577,231	2,245,108	104,124	—	2,926,463	220,916	12,366	(1,700,021)	(1,466,739)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
11,451	91,257	17,980	84,204	10,401	1,118	113,703	38,113	2,782	(122,933)	(82,038)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	18,480	—	—	18,480	(159,769)	17,574	—	(142,195)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
Emery Town	N/A	$ —	—	—	—	—	—
Emery Water Conserv District	N/A	—	—	—	—	—	—
Enoch City	N/A	—	—	—	—	—	—
Ephraim City	N/A	—	—	—	—	—	—
Escalante City	N/A	—	—	—	—	—	—
Eureka City Corporation	N/A	—	—	—	—	—	—
Fairview City	N/A	—	—	—	—	—	—
Farmington City	N/A	(146,379)	299,347	(507,955)	28,441	—	62,417
Farr West City	N/A	—	—	—	—	—	—
Fast Forward Charter HS	N/A	—	—	—	—	—	—
Ferron City	N/A	—	—	—	—	—	—
Fillmore City	N/A	—	—	—	—	—	—
Five-County Assn of Govts	N/A	—	—	—	—	—	—
Fountain Green City	N/A	—	—	—	—	—	—
Fox Hollow Golf Course	N/A	—	—	—	—	—	—
Francis City	N/A	—	—	—	—	—	—
Fruit Heights City	N/A	—	—	—	—	—	—
Garfield County	N/A	—	—	—	—	—	—
Garfield School District	N/A	—	—	—	—	—	—
Garland City	N/A	—	—	—	—	—	—
Genola Town	N/A	—	—	—	—	—	—
Grand Co Cemetery Mtce District	N/A	—	—	—	—	—	—
Grand County	N/A	—	—	—	—	—	—
Grand County EMS SSD	N/A	—	—	—	—	—	—
Grand School District	N/A	—	—	—	—	—	—
Grand Water/Sewer Service	N/A	—	—	—	—	—	—
Granger-Hunter Imp District	N/A	—	—	—	—	—	—
Granite School District	N/A	—	—	—	—	—	—
Granite Uniserv	N/A	—	—	—	—	—	—
Grantsville City	N/A	—	—	—	—	—	—
Greater Salt Lake Municipal Sd	N/A	—	—	—	—	—	—
Gunnison City	N/A	—	—	—	—	—	—
Gunnison Valley Hospital	N/A	—	—	—	—	—	—
Gunnison Valley Police Dept	N/A	—	—	—	—	—	—
Heber City	N/A	—	—	—	—	—	—
Heber Light & Power	N/A	—	—	—	—	—	—
Heber Valley Historic Railroad	N/A	—	—	—	—	—	—
Heber Valley SSD	N/A	—	—	—	—	—	—
Herriman City	N/A	—	—	—	—	—	—
High Desert Uniserv	N/A	—	—	—	—	—	—
High School Activities Assn	N/A	—	—	—	—	—	—
Highland City	N/A	—	—	—	—	—	—
Hinckley Town	N/A	—	—	—	—	—	—
Honeyville City	N/A	—	—	—	—	—	—
Hooper City	N/A	—	—	—	—	—	—
Hooper Water Improv District	N/A	—	—	—	—	—	—
Housing Auth of Carbon Co	N/A	—	—	—	—	—	—
Housing Authority of SLC	N/A	—	—	—	—	—	—
Housing Authority Ogden City	N/A	—	—	—	—	—	—
Housing Connect	N/A	—	—	—	—	—	—
Huntington City	N/A	—	—	—	—	—	—
Hurricane City	N/A	—	—	—	—	—	—
Hurricane Valley Fire SSD	N/A	(214,213)	438,070	(743,350)	41,621	—	91,342
Hyde Park City	N/A	—	—	—	—	—	—
Hyrum City	N/A	—	—	—	—	—	—
Impact Mitigation SSD	N/A	—	—	—	—	—	—
Intech Collegiate High School	N/A	—	—	—	—	—	—
Iron County	N/A	—	—	—	—	—	—
Iron School District	N/A	—	—	—	—	—	—
ITINERIS High School	N/A	—	—	—	—	—	—
Ivins City	N/A	—	—	—	—	—	—
Jordan River Commission	N/A	—	—	—	—	—	—
Jordan School District	N/A	—	—	—	—	—	—

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	90,858	20,470	95,865	11,841	9,639	137,815	43,391	(2,621)	(139,957)	(99,187)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
5,232	5,232	—	—	—	—	—	—	2,101	—	2,101
524	133,487	29,956	140,290	17,328	15,361	202,935	63,498	(4,719)	(204,815)	(146,036)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
6,728	6,728	—	—	—	—	—	—	2,148	—	2,148
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
Jordan Uniserv	N/A	$ —	—	—	—	—	—
Jordan Valley Water Conserv	N/A	—	—	—	—	—	—
Jordanelle SSD	N/A	—	—	—	—	—	—
Juab County	N/A	—	—	—	—	—	—
Juab School District	N/A	—	—	—	—	—	—
Juab Special Service Fire District	N/A	—	—	—	—	—	—
Kamas City	N/A	—	—	—	—	—	—
Kane County	N/A	—	—	—	—	—	—
Kane County Water Conserv District	N/A	—	—	—	—	—	—
Kane School District	N/A	—	—	—	—	—	—
Kaysville City	N/A	(93,079)	190,348	(322,998)	18,085	—	39,690
Kearns Improvement District	N/A	—	—	—	—	—	—
Laverkin City	N/A	—	—	—	—	—	—
Layton City	N/A	(1,067,497)	2,183,050	(3,704,366)	207,410	—	455,187
Lehi City	N/A	(649,957)	1,329,174	(2,255,443)	126,284	—	277,146
Lewiston City	N/A	—	—	—	—	—	—
Lindon City	N/A	—	—	—	—	—	—
Logan City	N/A	(1,545,937)	2,049,663	(4,504,316)	—	—	460,149
Logan School District	N/A	—	—	—	—	—	—
Lone Peak PS District	N/A	(409,386)	542,779	(1,192,805)	—	—	121,854
Maeser Water Improve District	N/A	—	—	—	—	—	—
Magna Mosquito Abatement	N/A	—	—	—	—	—	—
Manti City	N/A	—	—	—	—	—	—
Mapleton City	N/A	—	—	—	—	—	—
Marriott-Slaterville City	N/A	—	—	—	—	—	—
Mayfield Town	N/A	—	—	—	—	—	—
Mendon City	N/A	—	—	—	—	—	—
Metro Water District SLC/Sandy	N/A	—	—	—	—	—	—
Midvale City	N/A	—	—	—	—	—	—
Midvalley Improvement District	N/A	—	—	—	—	—	—
Midway City	N/A	—	—	—	—	—	—
Military Installation Devel	N/A	—	—	—	—	—	—
Millard Co Care & Rehab Inc	N/A	—	—	—	—	—	—
Millard County	N/A	—	—	—	—	—	—
Millard School District	N/A	—	—	—	—	—	—
Millcreek City	N/A	—	—	—	—	—	—
Millville City	N/A	—	—	—	—	—	—
Minersville Town	N/A	—	—	—	—	—	—
Moab Valley Fire Protection	N/A	(37,077)	75,823	(128,662)	7,204	—	15,810
Mona City	N/A	—	—	—	—	—	—
Monroe City	N/A	—	—	—	—	—	—
Monticello Academy	N/A	—	—	—	—	—	—
Morgan City Corporation	N/A	—	—	—	—	—	—
Morgan County	N/A	—	—	—	—	—	—
Morgan School District	N/A	—	—	—	—	—	—
Moroni City	N/A	—	—	—	—	—	—
Mount Pleasant City	N/A	—	—	—	—	—	—
Mountain Green Sewer Imp District	N/A	—	—	—	—	—	—
Mountain Regional Water SSD	N/A	—	—	—	—	—	—
Mountainland Assn of Govt	N/A	—	—	—	—	—	—
Mountainland Technical College	N/A	—	—	—	—	—	—
Mt Olympus Improvement District	N/A	—	—	—	—	—	—
Murray City	N/A	(1,373,166)	2,808,147	(4,765,078)	266,801	—	585,527
Murray School District	N/A	—	—	—	—	—	—
Myton City	N/A	—	—	—	—	—	—
N Tooele Co Fire Protection Sd	N/A	(30,871)	63,133	(107,128)	5,998	—	13,164
N UT Environmental Rsrc Agcy	N/A	—	—	—	—	—	—
Nebo Credit Union	N/A	—	—	—	—	—	—
Nebo School District	N/A	—	—	—	—	—	—
Nephi City	N/A	—	—	—	—	—	—
Nibley City Corporation	N/A	—	—	—	—	—	—
Noah Webster Academy Inc	N/A	—	—	—	—	—	—
North Davis Co Sewer District	N/A	—	—	—	—	—	—

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
296	58,071	13,016	60,958	7,529	15,094	96,597	27,591	(4,611)	(88,996)	(66,016)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
46,330	708,927	149,279	699,112	86,352	1,498	936,241	316,434	12,954	(1,020,665)	(691,277)
8,250	411,680	90,890	425,662	52,576	5,697	574,825	192,664	292	(621,443)	(428,487)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,422	461,571	251,837	979,505	45,428	7,464	1,284,234	96,382	(3,044)	(741,692)	(648,354)
—	—	—	—	—	—	—	—	—	—	—
4,352	126,206	66,690	259,386	12,030	265	338,371	25,523	1,692	(196,410)	(169,195)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,281	24,295	5,185	24,282	2,999	1,644	34,110	10,991	(122)	(35,450)	(24,581)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
721	721	—	—	—	7,051	7,051	—	(1,823)	—	(1,823)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
19,778	872,106	192,024	899,296	111,078	14,122	1,216,520	407,042	983	(1,312,921)	(904,896)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,726	20,888	4,317	20,218	2,497	226	27,258	9,151	521	(29,517)	(19,845)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
North Davis Fire District	N/A	$ (345,903)	707,377	(1,200,331)	67,207	—	147,495
North Emery Water Users SSD	N/A	—	—	—	—	—	—
North Fork SSD	N/A	(28,756)	58,806	(99,787)	5,587	—	12,262
North Logan City	N/A	(69,995)	143,142	(242,893)	13,600	—	29,846
North Ogden City	N/A	—	—	—	—	—	—
North Park Police Agency	N/A	—	—	—	—	—	—
North Pointe Solid Waste	N/A	—	—	—	—	—	—
North Sanpete School District	N/A	—	—	—	—	—	—
North Summit School District	N/A	—	—	—	—	—	—
North View Fire District	N/A	(245,530)	502,113	(852,024)	47,705	—	104,695
Northeastern Counseling Ctr	N/A	—	—	—	—	—	—
NUAMES Charter School	N/A	—	—	—	—	—	—
Oakley City	N/A	—	—	—	—	—	—
Ogden City Corp	N/A	(3,171,772)	4,205,257	(9,241,422)	—	—	944,078
Ogden School District	N/A	—	—	—	—	—	—
Ogden Weber/NEA/UEA Uniserv	N/A	—	—	—	—	—	—
Ogden-Weber Tech College	N/A	—	—	—	—	—	—
Oquirrh Rec And Parks District	N/A	—	—	—	—	—	—
Orangeville City	N/A	—	—	—	—	—	—
Orderville Town	N/A	—	—	—	—	—	—
Panguitch City Corporation	N/A	—	—	—	—	—	—
Park City	N/A	—	—	—	—	—	—
Park City Fire Service	N/A	(2,968,594)	3,935,877	(8,649,436)	—	—	883,603
Park City School District	N/A	—	—	—	—	—	—
Parowan City	N/A	—	—	—	—	—	—
Payson City	N/A	(36,734)	75,122	(127,473)	7,137	—	15,664
Perry City	N/A	—	—	—	—	—	—
Piute County	N/A	—	—	—	—	—	—
Piute School District	N/A	—	—	—	—	—	—
Plain City	N/A	—	—	—	—	—	—
Pleasant Grove City	N/A	(179,873)	367,844	(624,185)	34,949	—	76,699
Pleasant View City	N/A	—	—	—	—	—	—
Powder Mountain Water & Sewer	N/A	—	—	—	—	—	—
Price City	N/A	(30,345)	62,056	(105,301)	5,896	—	12,939
Price River Water Improve	N/A	—	—	—	—	—	—
Providence City	N/A	—	—	—	—	—	—
Provo City Corp	N/A	(3,100,140)	4,110,285	(9,032,713)	—	—	922,757
Provo Housing Authority	N/A	—	—	—	—	—	—
Provo Reser Water Users	N/A	—	—	—	—	—	—
Provo River Water Users	N/A	—	—	—	—	—	—
Provo School District	N/A	—	—	—	—	—	—
Recreation & Habilitation Srvs	N/A	—	—	—	—	—	—
Redmond Town	N/A	—	—	—	—	—	—
Rich County	N/A	—	—	—	—	—	—
Rich School District	N/A	—	—	—	—	—	—
Richfield City	N/A	—	—	—	—	—	—
Richmond City	N/A	—	—	—	—	—	—
Riverdale City	N/A	(155,968)	318,958	(541,232)	30,304	—	66,506
Roosevelt City	N/A	—	—	—	—	—	—
Roosevelt City Housing	N/A	—	—	—	—	—	—
Roy City	N/A	(404,231)	826,659	(1,402,737)	78,540	—	172,366
Roy Water Conserv District	N/A	—	—	—	—	—	—
S Utah Valley Electric Svc Dst	N/A	—	—	—	—	—	—
S Utah Valley Solid Waste	N/A	—	—	—	—	—	—
Salem City	N/A	—	—	—	—	—	—
Salina City	N/A	—	—	—	—	—	—
Salt Lake Arts Academy	N/A	—	—	—	—	—	—
Salt Lake City Corp	N/A	(16,662,414)	22,091,668	(48,548,388)	—	—	4,959,571
Salt Lake City Public Library	N/A	—	—	—	—	—	—
Salt Lake Co Serv Area 3	N/A	—	—	—	—	—	—
Salt Lake Community College	N/A	(302,220)	480,359	(968,232)	—	—	—
Salt Lake County	N/A	—	—	—	—	—	—
Salt Lake School District	N/A	—	—	—	—	—	—

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
11,294	225,996	48,371	226,534	27,981	1,079	303,965	102,535	3,412	(330,728)	(224,781)
—	—	—	—	—	—	—	—	—	—	—
1,697	19,546	4,021	18,833	2,326	5,569	30,749	8,524	(1,239)	(27,494)	(20,209)
913	44,359	9,788	45,840	5,662	3,132	64,422	20,748	(664)	(66,924)	(46,840)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
497	152,897	34,335	160,800	19,861	9,801	224,797	72,782	(2,546)	(234,758)	(164,522)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
6,890	950,968	516,689	2,009,632	93,203	23,000	2,642,524	197,746	(7,233)	(1,521,716)	(1,331,203)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,294	884,897	483,591	1,880,899	87,233	9,160	2,460,883	185,079	(3,968)	(1,424,238)	(1,243,127)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
623	23,424	5,137	24,058	2,972	61	32,228	10,889	157	(35,123)	(24,077)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
17,722	129,370	25,154	117,800	14,550	329	157,833	53,319	5,293	(171,982)	(113,370)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
429	19,264	4,243	19,873	2,455	5	26,576	8,995	116	(29,014)	(19,903)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	922,757	505,020	1,964,247	91,098	4,988	2,565,353	193,280	(2,102)	(1,487,350)	(1,296,172)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
11,312	108,122	21,811	102,145	12,617	1,172	137,745	46,233	2,947	(149,126)	(99,946)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
27,459	278,365	56,528	264,734	32,699	—	353,961	119,825	7,628	(386,496)	(259,043)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
800	4,960,371	2,714,345	10,557,293	489,628	5,202	13,766,468	1,038,827	(1,371)	(7,994,101)	(6,956,645)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	104,952	—	—	104,952	(907,381)	101,754	—	(805,627)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
San Juan County	N/A	$ —	—	—	—	—	—
San Juan Mental Health	N/A	—	—	—	—	—	—
San Juan School District	N/A	—	—	—	—	—	—
Sandy City	N/A	(2,886,101)	3,826,504	(8,409,079)	—	—	859,049
Sandy Suburban Imp District	N/A	—	—	—	—	—	—
Sanpete County	N/A	—	—	—	—	—	—
Santaquin City	N/A	—	—	—	—	—	—
Sevier County	N/A	—	—	—	—	—	—
Sevier School District	N/A	—	—	—	—	—	—
Six-County Assoc of Govt	N/A	—	—	—	—	—	—
SLC Mosquito Abatement	N/A	—	—	—	—	—	—
Smithfield City Corp	N/A	(67,694)	138,436	(234,909)	13,153	—	28,865
Snow College	N/A	(39,313)	62,486	(125,949)	—	—	—
Snyder Basin Special Rec District	N/A	—	—	—	—	—	—
Snyderville Basin W R D	N/A	—	—	—	—	—	—
So Davis Metro Fire Agency	N/A	(1,271,619)	2,600,482	(4,412,696)	247,070	—	542,226
So Davis Recreation Center	N/A	—	—	—	—	—	—
So SL Valley Mosq Abate	N/A	—	—	—	—	—	—
So Utah Valley Animal Svcs SSD	N/A	—	—	—	—	—	—
So Utah Valley Power Systems	N/A	—	—	—	—	—	—
Soldier Hollow Charter School	N/A	—	—	—	—	—	—
Solid Waste SSD #1	N/A	—	—	—	—	—	—
South Davis Sewer District	N/A	—	—	—	—	—	—
South Davis Water District	N/A	—	—	—	—	—	—
South Ogden City	N/A	(271,152)	554,511	(940,937)	52,684	—	115,621
South Ogden Conserv District	N/A	—	—	—	—	—	—
South Sanpete School District	N/A	—	—	—	—	—	—
South Summit School District	N/A	—	—	—	—	—	—
South Valley Sewer District	N/A	—	—	—	—	—	—
South Valley Water Reclamation	N/A	—	—	—	—	—	—
South Weber City	N/A	—	—	—	—	—	—
Southeastern Utah Aog	N/A	—	—	—	—	—	—
Southeastern Utah Health	N/A	—	—	—	—	—	—
Southern Utah University	N/A	—	—	—	—	—	—
Southwest Educ Development Ctr	N/A	—	—	—	—	—	—
Southwest Technical College	N/A	—	—	—	—	—	—
Space Dynamics Lab / USU	N/A	—	—	—	—	—	—
Spanish Fork City	N/A	—	—	—	—	—	—
Spring City	N/A	—	—	—	—	—	—
Springville City	N/A	(56,146)	114,820	(194,835)	10,909	—	23,941
St George Housing Auth	N/A	—	—	—	—	—	—
Stansbury Park Improv District	N/A	—	—	—	—	—	—
Stansbury Service Agency	N/A	—	—	—	—	—	—
State of Utah	N/A	(476,251)	973,940	(1,652,656)	92,533	—	203,076
Statewide Assoc Public Attys	N/A	—	—	—	—	—	—
Stockton Town	N/A	—	—	—	—	—	—
Success Academy	N/A	—	—	—	—	—	—
Summit Academy High School	N/A	—	—	—	—	—	—
Summit Academy Inc	N/A	—	—	—	—	—	—
Summit County	N/A	—	—	—	—	—	—
Sunset City	N/A	—	—	—	—	—	—
Sw Behavioral Health Center	N/A	—	—	—	—	—	—
Sw Mosquito Abatement/Control	N/A	—	—	—	—	—	—
Sw Ut Public Health Dept	N/A	—	—	—	—	—	—
Syracuse City Corp	N/A	(252,990)	517,368	(877,910)	49,155	—	107,876
Taylor West Weber Wtr Imp District	N/A	—	—	—	—	—	—
Taylorsville-Bennion Imp	N/A	—	—	—	—	—	—
Timberlakes Water SSD	N/A	—	—	—	—	—	—
Timpanogos SSD	N/A	—	—	—	—	—	—
Tintic School District	N/A	—	—	—	—	—	—
Tooele City	N/A	—	—	—	—	—	—
Tooele County	N/A	—	—	—	—	—	—
Tooele County Housing	N/A	—	—	—	—	—	—

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
3,907	862,956	470,152	1,828,631	84,809	4,110	2,387,702	179,935	618	(1,384,660)	(1,204,107)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
7,164	49,182	9,466	44,334	5,476	366	59,642	20,066	2,277	(64,724)	(42,381)
—	—	—	13,652	—	—	13,652	(118,034)	(17,274)	—	(135,308)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
29,326	818,622	177,824	832,793	102,864	1,072	1,114,553	376,941	8,077	(1,215,831)	(830,813)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
2,780	171,085	37,918	177,580	21,934	85	237,517	80,377	709	(259,257)	(178,171)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,369	36,219	7,852	36,771	4,542	1,199	50,364	16,643	26	(53,683)	(37,014)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
13,294	308,903	66,599	311,900	38,525	16,585	433,609	141,173	(2,253)	(455,357)	(316,437)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
932	157,963	35,378	165,685	20,465	4,959	226,487	74,993	(953)	(241,891)	(167,851)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
Tooele School District	N/A	$ —	—	—	—	—	—
Tooele Technical College	N/A	—	—	—	—	—	—
Tooele Valley Mosquito Abtmnt	N/A	—	—	—	—	—	—
Toquerville City	N/A	—	—	—	—	—	—
Torrey Town	N/A	—	—	—	—	—	—
Town of Alta	N/A	—	—	—	—	—	—
Town of Apple Valley	N/A	—	—	—	—	—	—
Town of Brian Head	N/A	—	—	—	—	—	—
Town of Daniel	N/A	—	—	—	—	—	—
Town of Garden City	N/A	—	—	—	—	—	—
Town of Goshen	N/A	—	—	—	—	—	—
Town of Levan	N/A	—	—	—	—	—	—
Town of Manila	N/A	—	—	—	—	—	—
Town of Mantua	N/A	—	—	—	—	—	—
Town of Paragonah	N/A	—	—	—	—	—	—
Town of Randolph	N/A	—	—	—	—	—	—
Town of Springdale	N/A	—	—	—	—	—	—
Trans-Jordan Cities	N/A	—	—	—	—	—	—
Tremonton City	N/A	—	—	—	—	—	—
Tridell-Lapoint Water	N/A	—	—	—	—	—	—
Tuacahn High School	N/A	—	—	—	—	—	—
Uintah Animal Control/Shelter	N/A	—	—	—	—	—	—
Uintah Basin Assn of Govt	N/A	—	—	—	—	—	—
Uintah Basin Asst Council	N/A	—	—	—	—	—	—
Uintah Basin Technical College	N/A	—	—	—	—	—	—
Uintah Co Care Center SSD	N/A	—	—	—	—	—	—
Uintah County	N/A	—	—	—	—	—	—
Uintah Fire Suppression SSD	N/A	(49,621)	101,475	(172,190)	9,641	—	21,158
Uintah Highlands Improv District	N/A	—	—	—	—	—	—
Uintah Mosquito Abate District	N/A	—	—	—	—	—	—
Uintah Recreation District	N/A	—	—	—	—	—	—
Uintah School District	N/A	—	—	—	—	—	—
Uintah Transportation SSD	N/A	—	—	—	—	—	—
Uintah Water Conserv District	N/A	—	—	—	—	—	—
Unified Fire Authority	N/A	(18,979,316)	25,163,505	(55,299,017)	—	—	5,649,196
Unified Police Department	N/A	—	—	—	—	—	—
University of Utah	N/A	(1,979,167)	3,145,757	(6,340,724)	—	—	—
University of Utah Hospital	N/A	(2,193,565)	3,486,526	(7,027,596)	—	—	—
Upper Country Water District	N/A	—	—	—	—	—	—
UT Municipal Power Agency	N/A	—	—	—	—	—	—
UT Public Employees Assn	N/A	—	—	—	—	—	—
UT School Board Risk Mgmt	N/A	—	—	—	—	—	—
Utah Association of Counties	N/A	—	—	—	—	—	—
Utah Co Academy of Sciences	N/A	—	—	—	—	—	—
Utah Co Housing Authority	N/A	—	—	—	—	—	—
Utah Communications Authority	N/A	—	—	—	—	—	—
Utah Counties Indemnity Pool	N/A	—	—	—	—	—	—
Utah County	N/A	—	—	—	—	—	—
Utah Dairy Commission	N/A	—	—	—	—	—	—
Utah Education Association	N/A	—	—	—	—	—	—
Utah Housing Corporation	N/A	—	—	—	—	—	—
Utah Lake Commission	N/A	—	—	—	—	—	—
Utah Lake Districtributing Co	N/A	—	—	—	—	—	—
Utah League Cities/Towns	N/A	—	—	—	—	—	—
Utah Local Governments Trust	N/A	—	—	—	—	—	—
Utah Retirement Systems	N/A	—	—	—	—	—	—
Utah Safety Council	N/A	—	—	—	—	—	—
Utah School Boards Association	N/A	—	—	—	—	—	—
Utah School Employees Assn	N/A	—	—	—	—	—	—
Utah State Fair Corp	N/A	—	—	—	—	—	—
Utah State University	N/A	(367,485)	584,094	(1,177,326)	—	—	—
Utah Valley University	N/A	(505,073)	802,781	(1,618,121)	—	—	—
Utah Zoological Society	N/A	—	—	—	—	—	—

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,188	31,987	6,939	32,497	4,014	293	43,743	14,709	288	(47,444)	(32,447)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
13,333	5,662,529	3,091,774	12,025,281	557,709	6,956	15,681,720	1,183,275	3,758	(9,105,678)	(7,918,645)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	687,306	—	—	687,306	(5,942,225)	261,953	—	(5,680,272)
—	—	—	761,759	—	—	761,759	(6,585,928)	66,466	—	(6,519,462)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	127,617	—	—	127,617	(1,103,334)	(79,013)	—	(1,182,347)
—	—	—	175,397	—	—	175,397	(1,516,426)	151,794	—	(1,364,632)
—	—	—	—	—	—	—	—	—	—	—

Aggregation of Funds with a Net Pension Asset

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

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

at December 31, 2019

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
UTOPIA	N/A	$ —	—	—	—	—	—
Valley Emergency Comm Ctr	N/A	—	—	—	—	—	—
Vernal City	N/A	—	—	—	—	—	—
Vineyard Town	N/A	—	—	—	—	—	—
Wasatch County	N/A	—	—	—	—	—	—
Wasatch County Fire District	N/A	(425,387)	869,924	(1,476,153)	82,651	—	181,388
Wasatch Front Regional Council	N/A	—	—	—	—	—	—
Wasatch Front Waste/Recycling	N/A	—	—	—	—	—	—
Wasatch Integrated Waste Mgmt	N/A	—	—	—	—	—	—
Wasatch Mental Health SSD	N/A	—	—	—	—	—	—
Wasatch School District	N/A	—	—	—	—	—	—
Wasatch Uniserv	N/A	—	—	—	—	—	—
Washington City	N/A	(63,063)	128,965	(218,838)	12,253	—	26,890
Washington Co Solid Waste	N/A	—	—	—	—	—	—
Washington Co Wat Con District	N/A	—	—	—	—	—	—
Washington County	N/A	—	—	—	—	—	—
Washington School District	N/A	—	—	—	—	—	—
Waste Management Serv District #5	N/A	—	—	—	—	—	—
Wayne County	N/A	—	—	—	—	—	—
Wayne School District	N/A	—	—	—	—	—	—
Weber Area Dispatch 911	N/A	—	—	—	—	—	—
Weber Basin Water Conserv	N/A	—	—	—	—	—	—
Weber Co Mosquito Abate	N/A	—	—	—	—	—	—
Weber County Corp	N/A	—	—	—	—	—	—
Weber County School District	N/A	—	—	—	—	—	—
Weber Fire District	N/A	(2,061,573)	2,733,313	(6,006,697)	—	—	613,628
Weber Human Services	N/A	—	—	—	—	—	—
Weber River Water Users	N/A	—	—	—	—	—	—
Weber State University	N/A	(198,283)	315,159	(635,247)	—	—	—
Wellington City	N/A	—	—	—	—	—	—
Wellsville City Corp	N/A	—	—	—	—	—	—
West Bountiful City	N/A	—	—	—	—	—	—
West Kane County SSD #1	N/A	—	—	—	—	—	—
West Point City	N/A	—	—	—	—	—	—
West Valley City	N/A	(4,433,065)	5,877,528	(12,916,386)	—	—	1,319,503
Western Uintah Basin Mad	N/A	—	—	—	—	—	—
White City Water Imp District	N/A	—	—	—	—	—	—
Willard City Corp	N/A	—	—	—	—	—	—
Woodland Peaks Uniserv	N/A	—	—	—	—	—	—
Woods Cross City	N/A	—	—	—	—	—	—
Workers' Compensation Fund	N/A	—	—	—	—	—	—
Grand Total	N/A	$ (80,571,653)	117,230,478	(243,294,566)	2,409,655	—	23,900,748
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Canyonlands Health Care	N/A	$ —	—	—	—	—	—
Garden City Fire District	N/A	—	—	—	—	—	—
Leeds Area Special Service District	N/A	—	—	—	—	—	—
Liberty Academy Charter School	N/A	—	—	—	—	—	—
Moab Mosquito Abatement District	N/A	—	—	—	—	—	—
Six County Infrastructure Coal	N/A	—	—	—	—	—	—
Summit Mosquito Abatement District	N/A	—	—	—	—	—	—
Sunnyside City	N/A	—	—	—	—	—	—
Valley Mental Health	N/A	—	—	—	—	—	—
Grand Total	N/A	$ (80,571,653)	117,230,478	(243,294,566)	2,409,655	—	23,900,748

Columns may not add to total due to rounding.

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1,048	265,087	59,486	278,589	34,410	18,095	390,580	126,096	(4,641)	(406,725)	(285,270)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
9,832	48,975	8,819	41,300	5,101	46	55,266	18,694	2,882	(60,296)	(38,720)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
5,462	619,090	335,835	1,306,211	60,580	—	1,702,626	128,530	2,482	(989,078)	(858,066)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	68,858	—	—	68,858	(595,324)	(502,204)	—	(1,097,528)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
7,633	1,327,136	722,156	2,808,787	130,266	11,903	3,673,112	276,382	(5,924)	(2,126,845)	(1,856,387)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
419,519	26,729,922	11,920,800	49,699,993	2,840,714	438,965	64,900,472	(9,353,596)	(7,236)	(41,858,464)	(51,219,296)
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
3,740	3,740	—	—	—	—	—	—	1,291	—	1,291
—	—	—	—	—	—	—	—	—	—	—
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423,259	26,733,662	11,920,800	49,699,993	2,840,714	438,965	64,900,472	(9,353,596)	(5,945)	(41,858,464)	(51,218,005)

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, 2019

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
4 Corners Comm Behavior Health	N/A	$ 882,673	2,891,702	(781,404)	84,916	—	101,355
Active Re Entry Inc	N/A	241,852	549,212	(15,509)	3,910	—	14,229
Alpine City	N/A	300,533	963,227	(250,063)	28,180	—	33,263
Alpine School District	N/A	185,909,219	430,433,145	(18,487,604)	3,223,206	—	11,227,651
Alpine Uniserv	N/A	84,445	190,497	(4,454)	1,313	—	4,895
American Fork City	N/A	3,339,817	9,746,110	(1,917,817)	215,985	—	262,625
American Leadership Academy	N/A	3,127,300	7,256,520	(318,231)	56,987	—	192,966
AMES Charter School	N/A	1,314,304	2,983,975	(83,810)	21,223	—	77,290
Annabella Town	N/A	35,998	112,434	(27,749)	3,274	—	3,813
Ash Creek SS District	N/A	377,809	1,190,565	(299,128)	34,728	—	40,629
Ashley Valley Improv District	N/A	293,745	940,572	(243,743)	27,512	—	32,460
Ashley Valley Sewer Mgmt Board	N/A	155,543	485,814	(119,900)	14,148	—	16,474
Ballard City	N/A	72,297	227,892	(57,290)	6,648	—	7,779
Bear Lake SSD	N/A	61,571	192,985	(47,969)	5,623	—	6,560
Bear River Assn of Govts	N/A	428,137	1,379,396	(361,627)	40,392	—	47,807
Bear River Health Dept	N/A	1,623,403	5,224,385	(1,366,726)	152,951	—	180,923
Bear River Mental Health	N/A	1,263,132	4,095,916	(1,086,601)	120,070	—	142,579
Bear River Water District	N/A	67,139	229,869	(66,866)	6,799	—	8,288
Beaver City	N/A	380,008	1,218,224	(316,398)	35,641	—	42,076
Beaver County	N/A	3,281,403	8,999,745	(1,381,753)	125,582	—	177,024
Beaver Housing Authority	N/A	42,025	131,259	(32,395)	3,823	—	4,451
Beaver School District	N/A	4,732,468	10,819,457	(358,720)	79,529	—	282,643
Beaver Valley Hospital	N/A	1,626,068	5,186,432	(1,334,109)	151,606	—	178,505
Benchland Water Company	N/A	152,451	486,040	(124,920)	14,207	—	16,723
Bicknell Town	N/A	12,541	39,170	(9,667)	1,141	—	1,328
Big Cottonwood Canyon Imp District	N/A	14,735	50,615	(14,800)	1,498	—	1,829
Big Plains Water & Sewer SSD	N/A	17,734	55,588	(13,819)	1,620	—	1,889
Big Water Municipal Corp	N/A	20,867	56,850	(7,847)	1,198	—	1,316
Blanding City	N/A	519,481	1,542,558	(323,869)	34,533	—	42,834
Bluffdale City	N/A	586,667	1,935,685	(528,651)	57,883	—	68,706
Bona Vista Water Improve	N/A	148,712	474,316	(122,004)	13,864	—	16,325
Bountiful Irrigation District	N/A	158,080	503,895	(129,464)	14,727	—	17,335
Box Elder Co Mosq District	N/A	97,279	308,981	(78,842)	9,026	—	10,603
Box Elder County	N/A	4,933,746	13,968,270	(2,472,353)	231,134	—	307,955
Box Elder School District	N/A	33,995,377	78,438,362	(3,171,665)	579,587	—	2,039,548
Bridgerland Technical College	N/A	3,556,234	8,073,409	(226,309)	57,401	—	209,094
Brigham City	N/A	2,937,753	8,634,477	(1,750,454)	182,717	—	229,971
Cache County	N/A	7,119,477	19,940,247	(3,367,283)	330,104	—	439,988
Cache County School District	N/A	47,239,612	109,419,845	(4,754,664)	811,620	—	2,841,579
Cache Metro Planning Org	N/A	33,798	105,564	(26,054)	3,074	—	3,580
Canyons School District	N/A	93,039,273	215,218,295	(8,959,882)	1,667,675	—	5,702,175
Carbon County	N/A	3,225,519	9,358,254	(1,807,873)	171,311	—	223,395
Carbon County Rec/Trans SSD	N/A	17,465	54,548	(13,463)	1,589	—	1,850
Carbon School District	N/A	9,982,442	22,965,687	(865,825)	173,714	—	604,519
Castle Dale City	N/A	42,691	136,404	(35,205)	3,989	—	4,700
Castle Valley SSD	N/A	178,830	618,943	(187,674)	15,838	—	18,695
Cedar City	N/A	3,036,573	8,880,057	(1,765,360)	185,504	—	233,177
Cedar City Housing Auth	N/A	67,698	217,652	(56,837)	6,371	—	7,532
Cedar Mtn Fire Protection District	N/A	16,819	59,328	(17,009)	2,794	—	2,750
Centerfield City	N/A	24,928	77,858	(19,216)	2,267	—	2,640
Centerville City	N/A	1,817,739	5,481,634	(1,201,126)	81,613	—	110,070
Central Davis Sewer District	N/A	375,872	1,184,306	(297,479)	34,544	—	40,412
Central Iron Co Water Conserv	N/A	65,337	220,906	(62,980)	6,521	—	7,903
Central UT Public Health	N/A	548,433	1,773,764	(468,323)	51,974	—	61,635
Central Utah 911	N/A	625,702	2,014,403	(527,362)	58,979	—	69,779
Central Utah Counseling Center	N/A	958,490	3,083,714	(806,292)	90,275	—	106,770
Central Utah Water District	N/A	2,925,912	9,355,187	(2,417,675)	273,579	—	322,529
Central Wasatch Commission	N/A	43,067	144,809	(40,912)	4,271	—	5,162
Central Weber Sewer District	N/A	606,110	1,966,182	(521,979)	57,642	—	68,461
City of Aurora	N/A	29,461	92,017	(22,710)	2,680	—	3,120
City of Bountiful	N/A	9,151,577	19,679,543	424,966	405,976	—	517,161
City of Cedar Hills	N/A	366,774	1,168,864	(300,184)	34,162	—	40,206
City of Draper	N/A	4,585,754	13,525,437	(2,759,431)	293,930	—	365,589

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
30,007	216,278	20,739	452,821	704	38,281	512,545	570,131	(11,387)	—	558,744
9,626	27,765	1,675	75,137	16	23,572	100,400	97,618	(4,556)	—	93,062
11,769	73,212	5,785	153,156	128	14,339	173,408	174,582	1,272	—	175,854
6,666,913	21,117,770	1,570,594	59,556,560	36,870	—	61,164,024	79,402,342	4,281,202	—	83,683,544
10,567	16,775	518	26,144	—	2,289	28,951	33,062	(5,613)	—	27,449
85,475	564,085	62,759	1,412,021	1,458	143,755	1,619,993	1,932,178	(48,869)	—	1,883,309
64,140	314,093	29,862	982,737	910	132,128	1,145,637	1,387,508	(47,187)	—	1,340,321
35,366	133,879	9,072	408,276	86	45,744	463,178	529,987	17,200	—	547,187
3,476	10,563	517	18,204	—	57	18,778	18,219	1,667	—	19,886
34,569	109,926	6,056	191,566	55	—	197,677	200,857	24,964	—	225,821
3,899	63,871	5,601	149,654	121	23,711	179,087	169,818	(13,014)	—	156,804
3,815	34,437	2,234	78,659	—	5,311	86,204	78,721	(484)	—	78,237
3,712	18,139	1,163	36,661	11	1,097	38,932	38,495	521	—	39,016
13,921	26,104	925	31,169	4	153	32,251	31,781	6,275	—	38,056
6,454	94,653	8,672	218,529	220	70,527	297,948	255,291	(32,529)	—	222,762
20,134	354,008	32,522	828,330	804	56,156	917,812	962,529	(16,127)	—	946,402
20,909	283,558	27,154	645,984	787	54,805	728,730	777,249	(57,800)	—	719,449
3,606	18,693	2,171	34,917	105	4,097	41,290	52,444	(643)	—	51,801
11,285	89,002	7,332	193,672	164	8,012	209,180	221,000	(21,250)	—	199,750
103,216	405,822	69,160	1,231,618	929	44,585	1,346,292	1,695,638	40,966	—	1,736,604
2,722	10,996	604	21,252	—	1,316	23,172	21,269	2,082	—	23,351
94,224	456,396	36,631	1,475,496	648	29,497	1,542,272	1,968,946	945	—	1,969,891
52,381	382,492	29,793	827,465	562	32,436	890,256	921,514	19,401	—	940,915
8,053	38,983	2,781	77,568	52	5,112	85,513	86,202	7,567	—	93,769
102	2,571	180	6,342	—	399	6,921	6,347	72	—	6,419
1,782	5,109	487	7,671	24	11,082	19,264	11,663	(4,082)	—	7,581
12,261	15,770	266	8,978	1	427	9,672	9,156	6,089	—	15,245
3,353	5,867	383	6,841	27	135	7,386	16,557	2,041	—	18,598
26,845	104,212	10,187	229,974	169	54,022	294,352	283,207	(11,416)	—	271,791
64,726	191,315	14,412	300,222	574	1,300	316,508	401,821	128,937	—	530,758
1,775	31,964	2,724	75,676	51	38,695	117,146	84,268	(19,556)	—	64,712
1,744	33,806	2,878	80,428	53	25,169	108,528	89,301	(13,821)	—	75,480
5,288	24,917	1,705	49,441	27	—	51,173	53,942	3,106	—	57,048
123,144	662,233	97,981	2,012,324	1,106	63,191	2,174,602	2,509,680	(93,973)	—	2,415,707
2,099,971	4,719,106	274,626	10,857,322	5,668	—	11,137,616	14,326,929	1,139,778	—	15,466,707
5,157	271,652	24,514	1,104,665	230	266,693	1,396,102	1,433,542	(114,393)	—	1,319,149
44,093	456,781	59,151	1,271,053	998	106,552	1,437,754	1,598,548	(82,112)	—	1,516,436
84,513	854,605	144,880	2,796,276	2,094	93,897	3,037,147	3,750,150	(32,373)	—	3,717,777
2,093,577	5,746,776	390,041	15,226,426	8,612	—	15,625,079	20,041,281	1,326,035	—	21,367,316
533	7,187	485	17,092	—	250	17,827	17,106	691	—	17,797
1,129,067	8,498,917	853,043	29,188,921	24,066	1,072,066	31,138,096	40,739,033	(247,102)	—	40,491,931
26,140	420,846	67,249	1,367,020	1,111	419,191	1,854,571	1,720,046	(283,456)	—	1,436,590
263	3,702	251	8,832	—	588	9,671	8,839	(272)	—	8,567
169,765	947,998	84,872	3,122,699	2,015	106,377	3,315,963	4,269,365	(109,753)	—	4,159,612
1,943	10,632	796	21,735	16	131	22,678	24,412	756	—	25,168
3,102	37,635	3,253	110,885	72	17,588	131,798	95,579	(82,722)	—	12,857
35,061	453,742	61,336	1,294,570	1,162	161,677	1,518,745	1,682,769	(91,439)	—	1,591,330
2,880	16,783	1,343	34,532	32	196	36,103	39,946	1,546	—	41,492
10,669	16,213	443	7,345	72	939	8,799	25,680	3,952	—	29,632
156	5,063	358	12,606	—	14,014	26,978	12,616	(21,622)	—	(9,006)
49,530	241,213	34,831	886,420	255	51,870	973,376	840,108	33,460	—	873,568
4,595	79,551	6,017	190,576	54	6,480	203,127	199,687	(10,801)	—	188,886
9,375	23,799	1,946	33,846	88	—	35,880	48,482	5,167	—	53,649
9,923	123,532	11,514	280,256	318	27,417	319,505	333,239	(11,299)	—	321,940
23,147	151,905	12,582	319,298	314	14,334	346,528	371,704	(11,829)	—	359,875
27,533	224,578	19,150	489,022	470	96,403	605,045	567,500	(24,901)	—	542,599
182,412	778,520	54,975	1,490,014	1,131	5,402	1,551,522	1,679,056	55,828	—	1,734,884
33,197	42,630	1,234	22,272	54	—	23,560	31,222	14,814	—	46,036
19,775	145,878	13,076	310,010	382	10,994	334,462	373,665	1,091	—	374,756
584	6,384	423	14,899	—	107	15,429	14,910	401	—	15,311
43,128	966,265	172,602	2,356,857	1,602	124,579	2,655,640	3,189,343	(83,741)	—	3,105,602
3,440	77,808	6,662	186,595	122	33,013	226,392	206,957	(18,440)	—	188,517
276,730	936,249	93,989	1,974,242	2,098	29,595	2,099,924	2,622,507	138,061	—	2,760,568

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, 2019

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
City of Duchesne	N/A	$ 76,301	248,409	(66,378)	7,287	—	8,671
City of Enterprise	N/A	152,427	481,665	(121,680)	14,057	—	16,469
City of Green River	N/A	128,453	416,588	(110,543)	12,212	—	14,502
City of Harrisville	N/A	544,799	1,551,061	(280,251)	28,178	—	36,707
City of Helper	N/A	250,512	710,872	(125,886)	12,871	—	16,648
City of Holladay	N/A	400,798	1,273,407	(325,120)	37,197	—	43,709
City of Kanab	N/A	448,928	1,310,599	(255,978)	23,908	—	31,927
City of Milford	N/A	105,154	340,935	(90,425)	9,994	—	11,867
City of Moab	N/A	1,839,993	5,560,934	(1,225,778)	132,894	—	162,384
City of Monticello	N/A	241,859	719,187	(150,588)	16,305	—	20,053
City of Naples	N/A	361,162	1,115,681	(259,539)	18,356	—	23,561
City of North Salt Lake	N/A	2,222,706	6,362,476	(1,179,366)	118,408	—	153,951
City of Orem	N/A	8,512,957	27,280,670	(6,984,789)	2,791,177	—	1,244,035
City of Riverton	N/A	2,804,337	8,639,485	(2,016,977)	734,104	—	388,987
City of Santa Clara	N/A	588,789	1,887,439	(487,712)	57,631	—	66,526
City of Saratoga Springs	N/A	2,273,405	6,955,464	(1,573,408)	747,691	—	347,148
City of South Jordan	N/A	6,976,912	20,672,875	(4,289,148)	469,806	—	575,418
City of South Salt Lake	N/A	5,047,374	14,340,761	(2,554,442)	259,217	—	336,363
City of St George	N/A	14,803,722	44,082,134	(9,309,641)	952,912	—	1,193,739
City of Taylorsville	N/A	730,353	2,336,978	(604,822)	68,351	—	80,612
City of Uintah	N/A	50,473	158,247	(39,357)	4,612	—	5,381
City of Washington Terrace	N/A	328,435	1,043,687	(266,563)	30,489	—	35,828
City of Wendover	N/A	124,815	390,337	(93,187)	33,988	—	18,195
City of West Haven	N/A	254,695	822,131	(216,282)	24,081	—	28,529
City of West Jordan	N/A	9,398,591	28,411,250	(6,237,071)	3,361,867	—	1,460,542
City of Woodland Hills	N/A	101,233	322,944	(83,098)	9,441	—	11,117
Clearfield City	N/A	2,491,679	7,257,581	(1,422,875)	146,159	—	186,156
Cleveland Town	N/A	3,899	14,428	(4,691)	431	—	545
Clinton City	N/A	1,419,458	4,285,868	(938,845)	82,224	—	102,391
Coalville City	N/A	106,045	341,052	(89,114)	9,983	—	11,806
Color Country Uniserv	N/A	67,390	154,069	(5,109)	1,133	—	4,025
Corinne City	N/A	49,437	385,939	(234,321)	—	—	—
Cottonwood Heights City	N/A	1,700,137	5,069,778	(1,060,617)	717,801	—	284,812
Cottonwood Heights P&R Srv	N/A	357,750	1,146,246	(297,400)	33,532	—	39,575
Cottonwood Imp District	N/A	706,010	2,230,618	(563,335)	65,095	—	76,264
Council On Aging Golden Age SS	N/A	91,591	295,110	(77,375)	8,642	—	10,228
Daggett County	N/A	316,642	950,866	(206,579)	21,797	—	27,060
Daggett School District	N/A	1,083,334	2,483,506	(87,260)	18,486	—	65,094
Davis & Weber County Canal Co	N/A	230,841	1,803,124	(1,094,336)	342	—	522
Davis Behavioral Health Inc	N/A	3,115,709	10,115,018	(2,689,118)	296,577	—	352,383
Davis Co Housing Authority	N/A	203,183	1,008,273	(472,226)	11,803	—	13,942
Davis Co Mosquito Abate	N/A	95,796	302,771	(76,516)	8,836	—	10,354
Davis County	N/A	19,023,396	55,520,055	(11,013,278)	1,152,290	—	1,453,235
Davis School District	N/A	181,144,594	420,273,037	(18,844,790)	3,103,628	—	10,880,129
Davis Technical College	N/A	3,048,523	6,989,767	(246,409)	52,067	—	183,240
Davis Uniserv	N/A	46,449	104,784	(2,450)	722	—	2,692
DDI Vantage	N/A	1,554,010	12,157,538	(7,370,522)	8,827	—	13,473
Delta City	N/A	198,947	641,584	(168,496)	18,790	—	22,251
Dixie State University	N/A	3,140,173	10,103,920	(2,641,981)	2,323,554	—	266,437
Dixie Technical College	N/A	418,310	1,382,020	(383,155)	345,108	—	38,235
Duchesne Co Water Conserv District	N/A	88,966	281,698	(71,446)	8,224	—	9,646
Duchesne County	N/A	2,980,499	9,971,463	(2,798,228)	158,926	—	201,863
Duchesne School District	N/A	13,257,769	31,096,282	(1,644,763)	237,033	—	809,653
E Duchesne Cul Water Imp District	N/A	27,048	84,482	(20,850)	2,460	—	2,865
Eagle Mountain City	N/A	1,040,058	3,384,036	(903,300)	99,259	—	118,069
East Carbon City	N/A	163,817	477,566	(93,371)	10,044	—	12,492
East Hollywood High School	N/A	791,775	1,848,800	(89,371)	14,908	—	49,527
Educators Mutual Insurance	N/A	4,871,189	11,678,642	(847,048)	75,804	—	279,295
Elk Ridge City	N/A	71,569	241,704	(68,781)	7,134	—	8,641
Emery Co Care & Rehab Ctr	N/A	229,519	1,796,016	(1,088,663)	1,444	—	2,205
Emery County	N/A	2,357,561	6,711,109	(1,214,305)	121,920	—	158,968
Emery County Recreation SSD	N/A	6,490	24,008	(7,803)	718	—	905
Emery School District	N/A	8,242,531	19,202,985	(933,912)	137,590	—	489,229

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
1,553	17,511	1,700	39,069	53	24,067	64,889	47,856	(11,391)	—	36,465
12,536	43,062	2,523	77,351	29	474	80,377	82,254	4,747	—	87,001
9,121	35,835	2,765	65,696	80	3,700	72,241	79,094	4,247	—	83,341
40,037	104,922	10,991	221,582	161	18,107	250,841	288,703	25,677	—	314,380
2,685	32,204	5,168	99,800	105	36,810	141,883	139,698	(28,536)	—	111,162
11,743	92,649	7,047	203,719	113	16,212	227,091	222,598	(3,809)	—	218,789
16,004	71,839	11,028	185,193	278	18,889	215,388	261,103	(6,480)	—	254,623
6,731	28,592	2,258	53,775	65	—	56,098	64,664	5,422	—	70,086
240,066	535,344	37,741	830,032	901	54,940	923,614	1,071,088	127,908	—	1,198,996
9,134	45,492	4,921	105,620	118	18,419	129,078	140,452	3,222	—	143,674
35,166	77,083	6,960	182,235	131	6,731	196,057	185,147	24,633	—	209,780
103,876	376,235	43,858	922,653	478	12,539	979,528	1,140,111	71,382	—	1,211,493
123,777	4,158,989	82,687	4,475,678	19,037	126,242	4,703,644	4,848,950	(2,561)	—	4,846,389
299,459	1,422,550	38,534	1,308,867	4,809	49,610	1,401,820	1,651,020	56,327	—	1,707,347
43,352	167,509	10,876	296,599	339	19,252	327,066	367,931	10,523	—	378,454
188,073	1,282,912	28,249	1,015,037	5,591	4,283	1,053,160	1,489,068	96,708	—	1,585,776
566,358	1,611,582	136,686	3,044,075	2,990	11,402	3,195,153	3,988,575	1,005,372	—	4,993,947
287,908	883,488	104,543	2,018,954	2,045	47,887	2,173,429	2,794,521	61,996	—	2,856,517
623,286	2,769,937	301,783	6,578,264	5,541	31,295	6,916,883	8,131,028	386,844	—	8,517,872
55,719	204,682	13,829	372,015	292	34,280	420,416	420,747	(10,076)	—	410,671
12,833	22,826	760	25,554	3	744	27,061	26,095	6,634	—	32,729
5,087	71,404	5,786	166,946	93	18,873	191,698	182,582	(4,766)	—	177,816
22,447	74,630	1,887	57,192	278	17,733	77,090	88,495	5,291	—	93,786
15,447	68,057	5,251	130,075	139	407	135,872	153,279	7,413	—	160,692
273,501	5,095,910	95,171	4,176,340	23,661	156,440	4,451,612	5,794,362	119,446	—	5,913,808
32,945	53,503	1,859	51,517	35	22	53,433	57,419	22,998	—	80,417
67,363	399,678	51,479	1,053,448	942	28,038	1,133,907	1,368,350	(6,126)	—	1,362,224
386	1,362	190	2,079	12	1,334	3,615	4,033	(1,550)	—	2,483
69,250	253,865	26,390	670,862	490	1,615	699,357	755,940	48,704	—	804,644
4,813	26,602	2,112	54,099	51	120	56,382	62,674	2,570	—	65,244
11,194	16,352	521	21,011	9	—	21,541	28,039	15,486	—	43,525
—	—	—	123,408	—	—	123,408	(12,754)	15,613	—	2,859
61,023	1,063,636	15,383	719,632	5,291	115,827	856,133	1,093,264	18,623	—	1,111,887
17,940	91,047	6,864	182,298	151	6,562	195,875	207,487	12,516	—	220,003
3,109	144,468	11,666	358,255	133	75,563	445,617	380,663	(46,370)	—	334,293
1,425	20,295	1,856	46,750	47	16,155	64,808	54,630	(13,874)	—	40,756
11,950	60,807	6,438	142,713	116	96,018	245,285	174,531	(140,743)	—	33,788
22,318	105,898	8,744	338,251	179	91,585	438,759	456,195	(22,706)	—	433,489
1,740	2,604	420	574,133	35	1,195	575,783	(52,464)	(56,880)	—	(109,344)
148,034	796,994	67,687	1,593,982	2,004	146,182	1,809,855	1,928,016	(11,410)	—	1,916,606
8,677	34,422	2,449	257,507	56	21,169	281,181	53,478	33,112	—	86,590
7,074	26,264	1,589	48,615	19	85	50,308	51,747	2,088	—	53,835
210,048	2,815,573	372,398	8,163,582	5,394	632,163	9,173,537	10,145,578	(725,689)	—	9,419,889
1,961,535	15,945,292	1,486,246	58,796,066	32,283	4,438,137	64,752,732	76,719,761	(82,932)	—	76,636,829
69,812	305,119	24,665	951,928	508	46,028	1,023,129	1,284,655	67,708	—	1,352,363
147	3,561	285	14,380	—	1,432	16,097	18,186	(11,493)	—	6,693
20,031	42,331	10,829	3,824,733	907	—	3,836,469	(217,945)	426,805	—	208,860
5,415	46,456	4,066	101,575	106	26,241	131,988	119,185	(15,318)	—	103,867
394,067	2,984,058	37,539	1,777,260	492	85,353	1,900,644	(1,631,212)	80,115	—	(1,551,097)
214,742	598,085	4,331	249,540	27	—	253,898	(270,128)	160,087	—	(110,041)
15,502	33,372	1,507	45,174	20	—	46,701	48,529	10,163	—	58,692
171,576	532,365	56,105	1,804,978	1,101	40,852	1,903,036	1,440,504	275,658	—	1,716,162
234,180	1,280,866	121,557	4,366,923	3,459	54,787	4,546,726	5,811,742	(134,545)	—	5,677,197
1,681	7,006	389	13,679	—	88	14,156	13,689	766	—	14,455
64,486	281,814	23,045	532,450	708	13,197	569,400	650,487	(49,548)	—	600,939
2,133	24,669	3,338	68,580	81	24,070	96,069	95,226	(20,561)	—	74,665
65,293	129,728	8,174	249,646	283	1,647	259,750	360,658	47,205	—	407,863
11,966	367,065	31,178	1,832,277	156	301,193	2,164,804	1,937,119	(92,453)	—	1,844,666
26,442	42,217	2,115	37,061	95	2,633	41,904	52,854	1,818	—	54,672
3,695	7,344	1,772	564,025	148	65	566,010	(29,275)	50,780	—	21,505
24,965	305,853	47,032	962,476	614	231,149	1,241,271	1,231,749	(212,742)	—	1,019,007
342	1,965	316	3,461	20	938	4,735	6,706	(1,055)	—	5,651
28,899	655,718	63,285	2,747,742	1,110	507,642	3,319,779	3,427,061	(336,844)	—	3,090,217

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, 2019

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
Emery Town	N/A	$ 14,468	112,952	(68,578)	—	—	—
Emery Water Conserv District	N/A	90,757	295,327	(78,846)	8,662	—	10,305
Enoch City	N/A	365,366	1,068,037	(210,408)	22,143	—	27,806
Ephraim City	N/A	844,975	2,474,489	(497,606)	50,368	—	64,501
Escalante City	N/A	76,448	238,774	(58,930)	6,954	—	8,097
Eureka City Corporation	N/A	31,164	98,405	(24,823)	2,871	—	3,363
Fairview City	N/A	157,398	461,805	(93,939)	9,755	—	12,326
Farmington City	N/A	1,863,306	5,460,587	(1,094,017)	117,355	—	145,883
Farr West City	N/A	162,321	516,491	(132,247)	15,091	—	17,747
Fast Forward Charter HS	N/A	693,431	1,610,840	(71,945)	12,712	—	42,893
Ferron City	N/A	41,742	136,720	(36,931)	4,015	—	4,792
Fillmore City	N/A	151,341	484,268	(125,334)	14,164	—	16,705
Five-County Assn of Govts	N/A	631,917	2,188,271	(661,874)	57,187	—	67,912
Fountain Green City	N/A	72,534	206,631	(38,035)	3,848	—	4,999
Fox Hollow Golf Course	N/A	61,692	196,914	(50,723)	5,757	—	6,780
Francis City	N/A	67,892	214,467	(54,144)	6,259	—	7,332
Fruit Heights City	N/A	140,488	453,089	(119,006)	13,270	—	15,714
Garfield County	N/A	2,061,151	5,893,526	(1,083,138)	92,887	—	125,332
Garfield School District	N/A	3,350,248	7,674,506	(265,429)	56,928	—	200,966
Garland City	N/A	158,556	753,379	(336,887)	2,902	—	4,561
Genola Town	N/A	40,772	127,345	(31,429)	3,709	—	4,318
Grand Co Cemetery Mtce District	N/A	1,397	4,561	(1,225)	134	—	159
Grand County	N/A	2,680,657	8,190,496	(1,856,931)	180,681	—	222,968
Grand County EMS SSD	N/A	107,675	370,413	(108,553)	10,965	—	13,395
Grand School District	N/A	5,964,440	13,821,638	(593,161)	107,934	—	366,979
Grand Water/Sewer Service	N/A	107,325	355,111	(97,639)	10,445	—	12,529
Granger-Hunter Imp District	N/A	1,452,221	4,669,702	(1,219,771)	136,693	—	161,624
Granite School District	N/A	197,943,989	461,571,275	(22,606,187)	3,379,869	—	11,860,968
Granite Uniserv	N/A	206,163	465,079	(10,875)	3,205	—	11,950
Grantsville City	N/A	937,556	2,698,809	(502,707)	51,331	—	65,918
Greater Salt Lake Municipal Sd	N/A	223,927	716,737	(185,601)	20,964	—	24,729
Gunnison City	N/A	98,142	311,907	(79,680)	9,111	—	10,708
Gunnison Valley Hospital	N/A	2,071,349	6,594,514	(1,690,328)	192,703	—	226,675
Gunnison Valley Police Dept	N/A	208,801	587,861	(100,934)	122,042	—	39,845
Heber City	N/A	1,770,515	5,175,736	(1,026,310)	105,732	—	134,240
Heber Light & Power	N/A	1,083,085	3,465,543	(896,849)	101,358	—	119,539
Heber Valley Historic Railroad	N/A	214,654	506,236	(28,041)	4,250	—	13,717
Heber Valley SSD	N/A	81,497	254,544	(62,822)	7,413	—	8,632
Herriman City	N/A	3,988,058	11,990,509	(2,604,379)	1,433,295	—	616,456
High Desert Uniserv	N/A	32,569	75,518	(3,272)	591	—	2,006
High School Activities Assn	N/A	423,265	962,445	(28,108)	6,896	—	24,976
Highland City	N/A	472,023	1,504,625	(386,584)	43,977	—	51,764
Hinckley Town	N/A	27,466	91,563	(25,501)	2,697	—	3,246
Honeyville City	N/A	25,096	195,917	(118,950)	—	—	—
Hooper City	N/A	112,773	379,372	(107,267)	11,190	—	13,528
Hooper Water Improv District	N/A	194,554	615,047	(155,507)	17,951	—	21,037
Housing Auth of Carbon Co	N/A	95,874	309,088	(81,127)	9,051	—	10,716
Housing Authority of SLC	N/A	1,172,873	3,801,333	(1,007,530)	111,425	—	132,280
Housing Authority Ogden City	N/A	260,627	839,137	(219,715)	24,569	—	29,069
Housing Connect	N/A	1,177,341	3,890,362	(1,067,220)	114,409	—	137,135
Huntington City	N/A	67,771	211,674	(52,242)	6,165	—	7,178
Hurricane City	N/A	2,593,442	7,558,211	(1,491,930)	153,437	—	195,313
Hurricane Valley Fire SSD	N/A	88,898	301,783	(76,605)	18,734	—	16,276
Hyde Park City	N/A	185,101	582,117	(145,667)	16,973	—	19,837
Hyrum City	N/A	543,381	1,717,439	(434,053)	50,123	—	58,734
Impact Mitigation SSD	N/A	43,316	135,292	(33,390)	3,940	—	4,588
Intech Collegiate High School	N/A	393,769	927,011	(50,189)	7,728	—	25,069
Iron County	N/A	4,543,945	12,992,999	(2,375,164)	225,303	—	296,920
Iron School District	N/A	25,461,288	58,624,235	(2,275,879)	431,554	—	1,524,291
ITINERIS High School	N/A	899,619	2,076,094	(82,910)	15,922	—	54,852
Ivins City	N/A	946,174	2,791,651	(569,335)	60,486	—	75,312
Jordan River Commission	N/A	47,979	149,855	(36,984)	4,364	—	5,082
Jordan School District	N/A	139,882,336	324,324,489	(14,199,751)	2,469,222	—	8,512,197

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
—	—	—	36,117	—	—	36,117	(3,733)	7,248	—	3,515
4,469	23,436	2,013	46,464	62	11,074	59,613	56,791	(1,461)	—	55,330
34,776	84,725	7,767	152,998	196	5,633	166,594	214,097	2,849	—	216,946
131,909	246,778	17,058	366,204	210	1,894	385,366	439,242	96,798	—	536,040
4,080	19,131	1,098	38,660	—	298	40,056	38,691	(1,529)	—	37,162
1,693	7,927	512	15,811	6	7,733	24,062	16,750	(2,587)	—	14,163
27,415	49,496	2,966	69,290	23	22,476	94,755	79,219	8,611	—	87,830
114,891	378,129	36,626	798,903	701	32,427	868,657	1,037,338	48,489	—	1,085,827
16,871	49,709	2,900	82,542	50	271	85,763	90,853	10,913	—	101,766
29,415	85,020	6,717	218,037	210	14,897	239,861	309,129	26,553	—	335,682
4,269	13,076	979	21,413	33	9,320	31,745	26,934	(7,705)	—	19,229
6,234	37,103	2,866	77,089	60	2,657	82,672	87,191	4,720	—	91,911
15,805	140,904	12,949	383,580	377	5,236	402,142	362,544	(59)	—	362,485
—	8,847	1,303	30,543	—	3,613	35,459	34,148	(3,539)	—	30,609
5,283	17,820	1,139	31,400	22	503	33,064	35,094	2,138	—	37,232
14,885	28,476	1,120	34,450	13	279	35,862	36,572	7,814	—	44,386
4,329	33,313	2,873	71,729	75	15,327	90,004	84,189	(2,629)	—	81,560
75,310	293,529	41,001	868,606	409	64,056	974,072	1,021,613	5,059	—	1,026,672
17,307	275,201	26,732	1,045,635	527	201,425	1,274,319	1,406,090	(73,337)	—	1,332,753
3,579	11,042	2,627	190,354	80	3,546	196,607	42,115	9,262	—	51,377
3,085	11,112	586	20,619	—	—	21,205	20,635	2,413	—	23,048
5,063	5,356	32	716	1	35,036	35,785	889	(8,975)	—	(8,086)
170,124	573,773	55,132	1,255,842	1,323	69,434	1,381,731	1,528,638	42,077	—	1,570,715
101,524	125,884	3,586	56,083	178	—	59,847	85,717	38,889	—	124,606
294,522	769,435	55,993	1,872,987	1,654	4,353	1,934,987	2,631,623	115,471	—	2,747,094
17,472	40,446	2,732	55,227	104	1,116	59,179	72,533	5,891	—	78,424
18,935	317,252	28,866	740,803	700	47,425	817,794	857,565	(66,277)	—	791,288
4,832,726	20,073,563	1,613,830	65,453,916	34,576	265,088	67,367,410	83,716,674	1,106,127	—	84,822,801
4,386	19,541	1,265	63,827	—	2,956	68,048	80,717	14,645	—	95,362
56,514	173,763	20,290	380,322	492	48,869	449,973	542,290	8,789	—	551,079
207,128	252,821	4,253	114,071	91	—	118,415	129,199	83,376	—	212,575
2,958	22,777	1,731	49,888	28	28,980	80,627	54,591	(51,074)	—	3,517
45,174	464,552	37,225	1,053,475	653	12,242	1,103,595	1,162,727	55,649	—	1,218,376
47,667	209,554	374	80,204	843	550	81,971	119,045	26,464	—	145,509
115,391	355,363	36,938	751,698	724	219,918	1,009,278	983,964	14,355	—	998,319
30,883	251,780	20,502	551,680	432	73,504	646,118	623,855	(35,188)	—	588,667
17,325	35,292	2,482	68,042	99	—	70,623	101,833	12,988	—	114,821
7,102	23,147	1,171	41,214	—	3,669	46,054	41,246	(946)	—	40,300
734,385	2,784,136	42,341	1,765,999	9,698	3,539	1,821,577	2,323,143	338,901	—	2,662,044
5,282	7,879	308	10,231	9	290	10,838	14,406	6,022	—	20,428
3,641	35,513	2,999	131,590	34	15,458	150,081	171,869	(9,284)	—	162,585
6,017	101,758	8,594	240,156	158	29,071	277,979	266,661	(16,189)	—	250,472
3,544	9,487	739	14,166	30	1,677	16,612	19,189	(296)	—	18,893
—	—	—	62,646	—	—	62,646	(6,475)	(31,743)	—	(38,218)
7,825	32,543	3,243	58,329	142	13,002	74,716	81,923	(7,083)	—	74,840
14,041	53,029	3,236	98,740	39	—	102,015	105,227	9,202	—	114,429
5,808	25,575	1,954	48,945	50	10,261	61,210	57,348	(10,046)	—	47,302
39,342	283,047	25,101	599,733	721	56,506	682,061	719,967	(88,180)	—	631,787
8,481	62,119	5,245	133,002	131	22,545	160,923	154,890	(11,184)	—	143,706
50,343	301,887	29,653	605,582	1,114	26,613	662,962	790,950	(11,217)	—	779,733
1,508	14,851	973	34,273	—	7,629	42,875	34,300	(4,526)	—	29,774
179,004	527,754	51,755	1,109,470	729	17,878	1,179,832	1,373,779	121,224	—	1,495,003
9,249	44,259	769	31,961	475	6,982	40,187	171,349	8,476	—	179,825
10,684	47,494	2,896	93,798	21	4,594	101,309	97,324	2,743	—	100,067
27,650	136,507	9,017	275,762	106	14,763	299,648	293,566	(547)	—	293,019
2,559	11,087	622	21,905	—	15,751	38,278	21,923	(8,874)	—	13,049
20,069	52,866	4,465	124,700	175	29,071	158,411	185,476	12,721	—	198,197
138,154	660,377	94,933	1,861,804	1,637	130,943	2,089,317	2,440,433	(63,320)	—	2,377,113
1,303,439	3,259,284	202,341	8,098,079	3,956	11,950	8,316,326	10,678,348	559,712	—	11,238,060
49,158	119,932	7,989	281,881	211	14,795	304,876	389,951	17,131	—	407,082
8,951	144,749	19,680	406,163	463	139,715	566,021	546,866	(96,154)	—	450,712
12,995	22,441	689	24,263	—	1,193	26,145	24,282	4,708	—	28,990
10,064,162	21,045,581	1,236,843	44,603,761	32,399	71,726	45,944,729	60,576,867	4,338,599	—	64,915,466

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, 2019

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
Jordan Uniserv	N/A	$ 136,734	312,793	(10,509)	2,306	—	8,177
Jordan Valley Water Conserv	N/A	3,126,414	10,214,059	(2,773,559)	285,012	—	335,058
Jordanelle SSD	N/A	579,414	1,862,016	(485,826)	54,500	—	64,420
Juab County	N/A	1,475,888	4,344,732	(879,970)	83,768	—	105,402
Juab School District	N/A	6,712,366	15,387,156	(540,121)	114,512	—	403,279
Juab Special Service Fire District	N/A	16,743	52,295	(12,906)	1,523	—	1,773
Kamas City	N/A	224,723	639,039	(115,682)	10,972	—	14,751
Kane County	N/A	2,780,388	7,949,393	(1,453,019)	138,083	—	184,784
Kane County Water Conserv District	N/A	159,504	515,467	(135,900)	15,102	—	17,903
Kane School District	N/A	4,446,550	10,231,922	(387,304)	77,468	—	269,400
Kaysville City	N/A	2,892,637	8,452,177	(1,680,583)	174,800	—	219,211
Kearns Improvement District	N/A	680,291	2,570,376	(899,713)	54,488	—	63,876
Laverkin City	N/A	482,539	1,388,957	(263,857)	26,155	—	34,138
Layton City	N/A	6,452,556	18,912,327	(3,769,587)	351,995	—	450,428
Lehi City	N/A	6,269,223	18,708,809	(3,960,118)	437,224	—	531,914
Lewiston City	N/A	74,402	247,982	(69,040)	7,303	—	8,791
Lindon City	N/A	1,562,331	4,507,751	(860,681)	86,908	—	112,211
Logan City	N/A	9,628,033	25,886,941	(3,778,849)	487,260	—	563,151
Logan School District	N/A	15,191,866	35,478,189	(1,767,271)	265,198	—	918,806
Lone Peak PS District	N/A	942,088	2,666,620	(460,275)	554,485	—	183,396
Maeser Water Improve District	N/A	129,241	403,663	(99,625)	11,756	—	13,688
Magna Mosquito Abatement	N/A	43,358	135,422	(33,422)	3,944	—	4,592
Manti City	N/A	186,264	605,345	(161,245)	17,752	—	21,104
Mapleton City	N/A	919,694	2,711,968	(555,687)	59,564	—	73,887
Marriott-Slaterville City	N/A	96,608	306,922	(78,352)	8,966	—	10,534
Mayfield Town	N/A	17,520	54,760	(13,535)	1,595	—	1,858
Mendon City	N/A	19,722	61,598	(15,203)	1,794	—	2,089
Metro Water District SLC/Sandy	N/A	1,576,186	4,983,712	(1,260,505)	145,457	—	170,482
Midvale City	N/A	1,326,505	4,293,066	(1,134,863)	125,808	—	149,245
Midvalley Improvement District	N/A	232,173	735,849	(186,982)	21,486	—	25,214
Midway City	N/A	264,131	851,015	(223,115)	24,919	—	29,495
Military Installation Devel	N/A	84,097	268,408	(69,130)	7,847	—	9,242
Millard Co Care & Rehab Inc	N/A	497,739	1,630,138	(440,266)	47,867	—	57,125
Millard County	N/A	3,452,191	9,854,085	(1,799,596)	183,822	—	237,198
Millard School District	N/A	11,017,314	25,943,677	(1,482,561)	184,800	—	653,993
Millcreek City	N/A	648,162	2,098,160	(554,870)	61,489	—	72,952
Millville City	N/A	43,537	138,617	(35,534)	4,051	—	4,765
Minersville Town	N/A	68,286	214,511	(53,560)	6,254	—	7,304
Moab Valley Fire Protection	N/A	28,498	90,963	(22,489)	3,584	—	3,646
Mona City	N/A	2,393	8,862	(2,884)	266	—	335
Monroe City	N/A	184,793	583,010	(146,820)	17,010	—	19,912
Monticello Academy	N/A	932,962	2,217,334	(134,839)	19,179	—	60,610
Morgan City Corporation	N/A	290,513	926,703	(238,424)	27,089	—	31,897
Morgan County	N/A	942,957	2,755,790	(549,884)	58,221	—	72,953
Morgan School District	N/A	6,584,551	15,199,010	(609,513)	116,681	—	401,677
Moroni City	N/A	81,468	235,659	(45,262)	4,348	—	5,753
Mount Pleasant City	N/A	468,446	1,360,278	(264,898)	25,689	—	33,755
Mountain Green Sewer Imp District	N/A	15,015	48,029	(12,423)	1,405	—	1,656
Mountain Regional Water SSD	N/A	592,151	1,883,461	(481,909)	55,029	—	64,699
Mountainland Assn of Govt	N/A	1,021,964	3,480,468	(1,025,895)	90,854	—	106,984
Mountainland Technical College	N/A	831,742	2,737,793	(754,270)	687,232	—	75,385
Mt Olympus Improvement District	N/A	651,038	2,069,423	(528,829)	60,455	—	71,054
Murray City	N/A	10,278,526	30,809,452	(6,640,157)	629,747	—	786,553
Murray School District	N/A	19,185,162	44,328,443	(1,838,085)	329,223	—	1,153,943
Myton City	N/A	31,443	100,823	(26,198)	2,950	—	3,483
N Tooele Co Fire Protection Sd	N/A	5,231	18,479	(4,604)	1,564	—	1,242
N UT Environmental Rsrc Agcy	N/A	194,850	618,013	(157,263)	18,047	—	21,187
Nebo Credit Union	N/A	314,617	1,012,451	(264,844)	29,640	—	35,061
Nebo School District	N/A	84,894,243	195,231,249	(7,304,659)	1,474,132	—	5,136,569
Nephi City	N/A	1,002,079	2,983,952	(629,850)	66,234	—	82,608
Nibley City Corporation	N/A	242,426	788,797	(210,561)	23,137	—	27,522
Noah Webster Academy Inc	N/A	741,049	1,742,246	(92,682)	14,446	—	47,043
North Davis Co Sewer District	N/A	1,068,392	3,529,515	(983,023)	95,482	—	111,874

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
612	11,095	1,069	42,645	20	13,426	57,160	57,042	(10,248)	—	46,794
25,456	645,526	54,467	1,706,337	909	232,720	1,994,433	1,696,679	(215,265)	—	1,481,414
23,510	142,430	11,450	295,516	273	7,032	314,271	341,125	8,930	—	350,055
80,647	269,817	28,526	650,855	536	69,809	749,726	801,477	20,991	—	822,468
245,834	763,625	54,139	2,095,764	1,105	—	2,151,008	2,826,019	188,009	—	3,014,028
12,191	15,487	241	8,467	—	—	8,708	8,474	5,882	—	14,356
16,959	42,682	4,610	92,283	40	3,673	100,606	111,670	9,321	—	120,991
259,242	582,109	61,389	1,127,238	1,083	12,020	1,201,730	1,500,777	124,135	—	1,624,912
7,734	40,739	3,324	81,489	90	9,333	94,236	96,545	(1,931)	—	94,614
40,154	387,022	37,920	1,391,121	907	62,628	1,492,576	1,903,473	(15,172)	—	1,888,301
112,250	506,261	55,764	1,246,581	869	134,110	1,437,324	1,555,010	(120,046)	—	1,434,964
9,567	127,931	9,881	524,560	123	109,178	643,742	296,929	(8,988)	—	287,941
132,589	192,882	9,482	204,029	72	437	214,020	239,820	102,587	—	342,407
69,651	872,074	130,939	2,802,333	2,554	268,839	3,204,665	3,519,085	(191,166)	—	3,327,919
401,564	1,370,702	125,132	2,754,282	3,150	10,768	2,893,332	3,689,284	251,868	—	3,941,152
6,613	22,707	2,001	38,372	82	6,730	47,185	51,934	(4,998)	—	46,936
51,314	250,433	30,915	658,864	344	157,947	848,070	803,964	(27,891)	—	776,073
73,931	1,124,342	382,793	3,693,364	2,871	159,094	4,238,122	3,977,717	(70,017)	—	3,907,700
203,563	1,387,567	131,105	4,992,871	3,266	142,374	5,269,616	6,534,549	(150,610)	—	6,383,939
40,123	778,004	1,321	354,484	4,060	25,968	385,833	611,928	2,902	—	614,830
1,156	26,600	1,856	65,358	—	744	67,958	65,410	(2,662)	—	62,748
7,563	16,099	623	21,926	—	—	22,549	21,944	3,922	—	25,866
3,969	42,825	4,085	95,323	123	15,560	115,091	115,851	(7,478)	—	108,373
33,746	167,197	17,989	400,457	322	17,117	435,885	506,987	970	—	507,957
26,288	45,788	1,697	49,103	27	—	50,827	53,637	11,626	—	65,263
3,555	7,008	254	8,861	—	4,569	13,684	8,902	676	—	9,578
966	4,849	283	9,973	—	3,200	13,456	9,981	(89)	—	9,892
33,622	349,561	26,272	799,995	317	18,972	845,556	853,317	(10,437)	—	842,880
30,274	305,327	28,018	677,994	783	79,556	786,351	808,602	(35,148)	—	773,454
16,674	63,374	3,974	117,923	56	23,521	145,474	127,293	7,449	—	134,742
16,896	71,310	5,351	134,819	136	11,141	151,447	157,517	3,487	—	161,004
30,070	47,159	1,552	42,803	30	28,807	73,192	47,822	(2,935)	—	44,887
31,023	136,015	11,665	255,322	395	1,861	269,243	321,046	11,434	—	332,480
24,563	445,583	68,434	1,413,591	995	240,447	1,723,467	1,832,167	(201,073)	—	1,631,094
40,989	879,782	86,170	3,794,253	1,635	349,360	4,231,418	4,608,672	(121,963)	—	4,486,709
433,839	568,280	13,718	331,307	385	—	345,410	395,529	219,655	—	615,184
1,074	9,890	783	22,143	14	19,833	42,773	24,447	(8,174)	—	16,273
8,931	22,489	1,055	34,592	6	269	35,922	35,686	4,852	—	40,538
18,600	25,830	343	13,173	43	328	13,887	26,035	8,429	—	34,464
2,304	2,905	118	1,277	7	—	1,402	2,481	835	—	3,316
8,993	45,915	3,003	93,731	30	5,250	102,014	98,868	4,036	—	102,904
15,329	95,118	11,688	296,964	509	120,341	429,502	456,398	(71,391)	—	385,007
8,734	67,720	5,329	147,839	101	30,955	184,224	164,727	(9,734)	—	154,993
43,965	175,139	18,047	406,904	246	55,836	481,033	500,680	(28,284)	—	472,396
528,203	1,046,561	58,658	2,063,417	1,557	1,176	2,124,808	2,857,000	221,726	—	3,078,726
25,694	35,795	1,744	34,234	24	720	36,722	42,359	15,984	—	58,343
14,390	73,834	9,993	198,361	137	15,478	223,969	244,533	12,067	—	256,600
13,886	16,947	284	7,647	6	—	7,937	8,636	5,592	—	14,228
4,991	124,719	10,537	301,080	177	59,904	371,698	330,787	(20,270)	—	310,517
110,648	308,486	17,886	614,897	340	—	633,123	540,340	70,191	—	610,531
26,000	788,617	7,978	495,843	—	3,768	507,589	(548,892)	48,841	—	(500,051)
11,253	142,762	11,505	330,957	188	7,640	350,290	362,457	(9,892)	—	352,565
599,399	2,015,699	195,050	4,741,869	3,011	84,716	5,024,646	5,422,243	303,778	—	5,726,021
935,734	2,418,900	157,726	6,135,992	3,433	29,394	6,326,545	8,127,392	425,334	—	8,552,726
3,740	10,173	608	16,026	14	9,246	25,894	18,309	(899)	—	17,410
3,610	6,416	2	1,286	47	1,117	2,452	15,381	180	—	15,561
91,894	131,128	3,362	98,989	49	—	102,400	107,245	64,316	—	171,561
21,105	85,806	6,300	160,529	156	—	166,985	186,503	9,361	—	195,864
2,207,406	8,818,107	717,702	26,550,981	16,788	324,667	27,610,138	36,245,817	1,118,170	—	37,363,987
21,658	170,500	20,659	442,019	410	25,997	489,085	560,527	(11,341)	—	549,186
15,030	65,689	5,373	124,109	165	3,263	132,910	151,635	11,429	—	163,064
52,638	114,127	8,279	234,510	318	5,017	248,124	347,168	14,428	—	361,596
9,441	216,797	17,141	607,821	198	14,044	639,204	550,237	(3,079)	—	547,158

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, 2019

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
North Davis Fire District	N/A	$ 48,920	162,654	(40,341)	9,461	—	8,352
North Emery Water Users SSD	N/A	13,360	49,420	(16,062)	1,479	—	1,864
North Fork SSD	N/A	56,099	175,216	(43,244)	5,103	—	5,942
North Logan City	N/A	240,066	808,666	(228,433)	24,562	—	29,253
North Ogden City	N/A	1,613,488	4,696,124	(916,390)	94,003	—	119,838
North Park Police Agency	N/A	433,612	1,150,698	(149,163)	12,063	—	18,784
North Pointe Solid Waste	N/A	370,946	1,199,155	(316,332)	35,134	—	41,655
North Sanpete School District	N/A	7,241,868	16,567,155	(557,035)	122,142	—	433,133
North Summit School District	N/A	4,241,652	9,673,820	(303,641)	70,304	—	251,966
North View Fire District	N/A	31,605	112,276	(29,318)	8,456	—	6,980
Northeastern Counseling Ctr	N/A	767,268	2,496,308	(666,265)	73,220	—	87,093
NUAMES Charter School	N/A	2,312,291	5,324,096	(203,915)	40,422	—	140,284
Oakley City	N/A	58,187	455,901	(276,102)	565	—	863
Ogden City Corp	N/A	23,787,813	49,225,394	2,845,124	743,327	—	659,473
Ogden School District	N/A	32,303,538	74,742,229	(3,124,379)	579,758	—	1,980,842
Ogden Weber/NEA/UEA Uniserv	N/A	66,256	149,465	(3,495)	1,030	—	3,841
Ogden-Weber Tech College	N/A	2,351,186	5,334,359	(147,088)	37,812	—	138,049
Oquirrh Rec And Parks District	N/A	279,458	885,041	(224,558)	25,838	—	30,310
Orangeville City	N/A	37,940	122,232	(32,043)	3,579	—	4,236
Orderville Town	N/A	36,302	115,320	(29,433)	3,368	—	3,958
Panguitch City Corporation	N/A	94,022	305,754	(81,536)	8,967	—	10,664
Park City	N/A	7,174,185	23,442,216	(6,260,745)	495,601	—	622,259
Park City Fire Service	N/A	239,796	790,888	(202,874)	36,396	—	35,144
Park City School District	N/A	23,515,225	54,280,581	(2,177,330)	416,733	—	1,434,544
Parowan City	N/A	553,040	1,644,144	(348,720)	38,371	—	46,869
Payson City	N/A	2,629,445	7,813,182	(1,646,802)	176,510	—	218,345
Perry City	N/A	445,670	1,262,117	(223,165)	22,234	—	29,188
Piute County	N/A	317,777	924,647	(182,708)	18,610	—	23,832
Piute School District	N/A	1,356,216	3,102,873	(104,523)	22,885	—	81,131
Plain City	N/A	127,321	403,664	(102,639)	11,787	—	13,835
Pleasant Grove City	N/A	2,270,478	6,679,757	(1,351,902)	144,611	—	179,686
Pleasant View City	N/A	729,182	2,067,255	(369,299)	36,265	—	47,951
Powder Mountain Water & Sewer	N/A	64,883	211,310	(56,501)	6,199	—	7,377
Price City	N/A	1,676,379	4,866,130	(950,991)	98,243	—	125,032
Price River Water Improve	N/A	478,954	1,526,636	(392,198)	44,620	—	52,519
Providence City	N/A	214,387	691,188	(181,431)	20,242	—	23,966
Provo City Corp	N/A	18,591,328	46,838,056	(4,723,901)	1,009,265	—	1,496,288
Provo Housing Authority	N/A	322,401	1,276,241	(474,458)	25,334	—	29,921
Provo Reser Water Users	N/A	7,882	24,618	(6,076)	717	—	835
Provo River Water Users	N/A	323,003	1,023,363	(259,860)	29,879	—	35,057
Provo School District	N/A	38,375,101	89,232,156	(4,113,776)	678,309	—	2,335,402
Recreation & Habilitation Srvs	N/A	19,144	59,792	(14,757)	1,741	—	2,028
Redmond Town	N/A	36,731	114,725	(28,314)	3,341	—	3,890
Rich County	N/A	494,085	1,426,705	(272,160)	27,390	—	35,405
Rich School District	N/A	2,434,571	5,551,306	(173,404)	40,305	—	144,554
Richfield City	N/A	958,682	2,718,282	(487,217)	49,454	—	64,279
Richmond City	N/A	103,636	339,003	(91,360)	9,953	—	11,870
Riverdale City	N/A	1,911,988	5,375,804	(926,869)	91,706	—	121,367
Roosevelt City	N/A	985,444	2,860,891	(556,169)	56,812	—	72,688
Roosevelt City Housing	N/A	15,432	48,201	(11,896)	1,404	—	1,634
Roy City	N/A	3,312,576	9,527,423	(1,782,480)	178,774	—	227,574
Roy Water Conserv District	N/A	172,301	538,155	(132,818)	15,673	—	18,249
S Utah Valley Electric Svc Dst	N/A	372,186	1,190,842	(308,160)	34,828	—	41,075
S Utah Valley Solid Waste	N/A	345,176	1,103,474	(285,086)	32,268	—	38,040
Salem City	N/A	1,112,482	3,266,021	(662,853)	68,394	—	86,651
Salina City	N/A	245,037	705,115	(134,040)	13,419	—	17,431
Salt Lake Arts Academy	N/A	1,052,315	2,422,988	(92,809)	18,397	—	63,844
Salt Lake City Corp	N/A	118,987,870	264,100,540	(1,052,201)	4,568,126	—	6,346,551
Salt Lake City Public Library	N/A	1,897,694	6,127,321	(1,612,798)	179,488	—	212,673
Salt Lake Co Serv Area 3	N/A	55,609	176,152	(44,714)	5,143	—	6,033
Salt Lake Community College	N/A	9,224,916	30,758,318	(8,659,557)	7,581,835	—	860,907
Salt Lake County	N/A	75,995,900	231,199,203	(52,164,701)	5,354,999	—	6,582,482
Salt Lake School District	N/A	87,468,573	204,522,285	(10,498,526)	1,480,769	—	5,219,384

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
5,827	23,640	365	18,476	217	764	19,822	83,410	972	—	84,382
2,720	6,063	652	7,124	40	4,086	11,902	13,804	(2,469)	—	11,335
14,511	25,556	806	28,370	—	2,830	32,006	28,392	60	—	28,452
10,565	64,380	6,827	123,202	333	108,201	238,563	182,867	(128,162)	—	54,705
138,227	352,068	33,822	678,091	674	1,141	713,728	898,753	75,724	—	974,477
99,104	129,951	9,080	152,924	81	3,473	165,558	212,782	119,165	—	331,947
12,558	89,347	7,753	189,530	212	31,584	229,079	224,869	(6,408)	—	218,461
43,614	598,889	56,620	2,258,650	1,040	14,560	2,330,870	3,021,604	14,200	—	3,035,804
235,192	557,462	31,587	1,320,773	475	43,643	1,396,478	1,745,718	124,570	—	1,870,288
8,798	24,234	250	9,260	252	13,336	23,098	82,736	(4,588)	—	78,148
15,740	176,053	16,991	392,790	522	41,131	451,434	479,736	(34,637)	—	445,099
511,185	691,891	19,893	723,648	487	—	744,028	992,512	325,149	—	1,317,661
1,706	3,134	694	141,760	58	—	142,512	(3,292)	(462)	—	(3,754)
131,649	1,534,449	221,877	5,648,382	5,257	34,884	5,910,400	6,719,083	6,522	—	6,725,605
202,540	2,763,140	297,118	10,135,767	8,436	1,979,247	12,420,568	14,159,070	(1,301,794)	—	12,857,276
6,369	11,240	406	20,512	—	23,463	44,381	25,940	(601)	—	25,339
3,593	179,454	16,031	730,104	137	265,830	1,012,102	945,082	(234,855)	—	710,227
14,934	71,082	4,743	141,907	64	76,148	222,862	152,600	(21,716)	—	130,884
1,362	9,177	768	19,365	20	5,243	25,396	22,620	(1,368)	—	21,252
3,824	11,150	637	18,450	10	—	19,097	20,145	2,001	—	22,146
7,157	26,788	2,074	48,126	63	—	50,263	58,654	2,257	—	60,911
289,614	1,407,474	165,616	3,876,114	4,600	109,007	4,155,337	4,075,214	148,221	—	4,223,435
38,501	110,041	3,341	104,330	686	3,058	111,415	299,329	10,290	—	309,619
945,254	2,796,531	209,526	7,369,081	5,565	321,074	7,905,246	10,203,754	366,591	—	10,570,345
6,372	91,612	9,821	249,233	102	38,934	298,090	289,547	(18,879)	—	270,668
105,843	500,698	50,517	1,170,329	757	38,270	1,259,873	1,416,673	10,234	—	1,426,907
30,845	82,267	9,045	179,117	134	19,968	208,264	236,100	28,663	—	264,763
9,781	52,223	6,105	137,461	47	17,887	161,500	159,117	(11,267)	—	147,850
4,102	108,118	10,618	423,007	196	69,376	503,197	566,087	(57,997)	—	508,090
11,518	37,140	2,187	64,673	31	6,290	73,181	69,929	7,581	—	77,510
31,432	355,729	46,009	973,896	1,009	82,635	1,103,549	1,294,413	(53,810)	—	1,240,603
43,780	127,996	14,501	297,138	144	4,718	316,501	369,313	34,604	—	403,917
60,288	73,864	1,449	33,226	45	—	34,720	40,762	23,989	—	64,751
35,667	258,942	32,160	718,067	329	171,570	922,126	860,632	(95,567)	—	765,065
4,216	101,355	8,715	243,680	160	71,912	324,467	270,499	(43,000)	—	227,499
17,792	62,000	4,370	109,449	113	2,796	116,728	128,262	2,484	—	130,746
171,441	2,676,994	708,902	6,381,547	5,516	183,468	7,279,433	7,304,645	(109,475)	—	7,195,170
21,235	76,490	5,252	268,807	120	8,117	282,296	144,061	11,554	—	155,615
7,245	8,797	113	3,986	—	—	4,099	3,989	2,963	—	6,952
1,680	66,616	5,508	164,039	76	23,392	193,015	176,761	(14,319)	—	162,442
604,635	3,618,346	340,881	12,349,083	9,038	763,574	13,462,576	16,646,003	(263,505)	—	16,382,498
96	3,865	275	9,681	—	1,550	11,506	9,689	(1,159)	—	8,530
510	7,741	528	18,575	—	927	20,030	18,590	168	—	18,758
63,148	125,943	10,080	206,972	146	23,451	240,649	261,437	56,326	—	317,763
46,927	231,786	18,069	757,998	267	42,636	818,970	1,001,053	30,641	—	1,031,694
7,568	121,301	18,081	393,294	141	41,470	452,986	480,858	(19,060)	—	461,798
12,799	34,622	2,404	53,142	80	6,861	62,487	66,468	(40)	—	66,428
37,918	250,991	37,739	763,797	423	38,212	840,171	980,824	4,001	—	984,825
20,771	150,271	19,964	416,858	305	67,112	504,239	526,756	(20,394)	—	506,362
203	3,241	222	7,804	—	272	8,298	7,810	(281)	—	7,529
56,227	462,575	64,499	1,380,991	1,123	102,217	1,548,830	1,795,442	(74,610)	—	1,720,832
2,087	36,009	2,475	87,134	—	580	90,189	87,203	1,421	—	88,624
33,506	109,409	7,043	189,574	148	306	197,071	214,344	21,976	—	236,320
26,661	96,969	6,475	175,772	133	45,443	227,823	197,920	(40,668)	—	157,252
29,896	184,941	21,879	485,489	262	37,045	544,675	579,283	18,928	—	598,211
22,392	53,242	4,701	103,962	28	11,454	120,145	120,490	(3,725)	—	116,765
92,810	175,051	9,054	329,330	222	—	338,606	451,698	62,094	—	513,792
557,266	11,471,943	761,584	32,627,257	23,084	959,920	34,371,845	42,212,530	(893,714)	—	41,318,816
75,994	468,155	39,226	969,251	1,046	15,696	1,025,219	1,143,669	21,001	—	1,164,670
2,031	13,207	946	28,240	13	14,250	43,449	30,401	(5,029)	—	25,372
620,967	9,063,709	113,091	5,512,156	2,120	392,906	6,020,273	(5,630,452)	268,612	—	(5,361,840)
1,040,640	12,978,121	1,494,843	35,489,069	27,095	1,931,260	38,942,267	41,675,497	(1,145,036)	—	40,530,461
346,733	7,046,886	698,381	29,309,738	14,079	2,540,395	32,562,593	36,780,714	(1,744,029)	—	35,036,685

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, 2019

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
San Juan County	N/A	$ 2,541,173	7,484,543	(1,531,535)	163,406	—	203,294
San Juan Mental Health	N/A	264,815	856,571	(226,206)	25,099	—	29,767
San Juan School District	N/A	12,545,306	28,918,916	(1,139,219)	217,335	—	757,981
Sandy City	N/A	9,690,421	30,377,657	(7,368,837)	3,016,017	—	1,415,876
Sandy Suburban Imp District	N/A	445,471	1,395,927	(346,814)	40,677	—	47,448
Sanpete County	N/A	2,069,208	5,851,810	(1,029,426)	100,373	—	133,373
Santaquin City	N/A	1,110,183	3,174,469	(585,853)	58,343	—	76,217
Sevier County	N/A	2,915,009	8,149,369	(1,370,970)	130,693	—	177,041
Sevier School District	N/A	13,583,733	31,033,294	(1,012,859)	227,358	—	809,998
Six-County Assoc of Govt	N/A	340,393	1,086,894	(280,169)	31,777	—	37,437
SLC Mosquito Abatement	N/A	185,609	604,444	(161,598)	17,732	—	21,101
Smithfield City Corp	N/A	838,824	2,486,393	(516,778)	58,525	—	70,533
Snow College	N/A	2,352,397	7,715,136	(2,105,814)	1,885,269	—	210,534
Snyder Basin Special Rec District	N/A	373,735	1,234,665	(338,560)	36,308	—	43,515
Snyderville Basin W R D	N/A	1,171,082	3,696,312	(931,660)	107,849	—	126,286
So Davis Metro Fire Agency	N/A	147,342	505,599	(127,476)	34,722	—	29,229
So Davis Recreation Center	N/A	224,845	728,065	(192,649)	21,338	—	25,320
So SL Valley Mosq Abate	N/A	91,449	294,821	(77,382)	8,634	—	10,222
So Utah Valley Animal Svcs SSD	N/A	36,636	119,886	(32,331)	3,520	—	4,199
So Utah Valley Power Systems	N/A	39,577	123,612	(30,508)	3,600	—	4,192
Soldier Hollow Charter School	N/A	587,084	1,381,022	(74,000)	11,477	—	37,313
Solid Waste SSD #1	N/A	85,684	295,059	(86,607)	8,736	—	10,677
South Davis Sewer District	N/A	868,395	3,352,205	(1,205,582)	69,905	—	82,539
South Davis Water District	N/A	117,809	372,582	(94,278)	10,875	—	12,747
South Ogden City	N/A	1,971,256	5,562,974	(973,883)	98,127	—	128,354
South Ogden Conserv District	N/A	470,706	1,521,251	(401,108)	44,570	—	52,835
South Sanpete School District	N/A	10,295,405	23,552,811	(791,991)	173,647	—	615,769
South Summit School District	N/A	5,526,819	12,639,703	(422,114)	93,052	—	330,327
South Valley Sewer District	N/A	1,214,162	3,884,811	(1,005,283)	113,620	—	133,997
South Valley Water Reclamation	N/A	1,060,742	3,375,159	(864,193)	98,618	—	115,970
South Weber City	N/A	166,059	547,010	(149,246)	16,078	—	19,243
Southeastern Utah Aog	N/A	287,680	935,694	(249,607)	27,444	—	32,639
Southeastern Utah Health	N/A	364,410	1,196,212	(324,383)	35,140	—	41,983
Southern Utah University	N/A	9,601,758	22,324,684	(1,022,331)	177,170	—	574,918
Southwest Educ Development Ctr	N/A	290,922	679,198	(32,757)	5,474	—	18,191
Southwest Technical College	N/A	1,197,126	2,818,250	(152,566)	23,494	—	76,213
Space Dynamics Lab / USU	N/A	1,778,194	5,885,826	(1,636,973)	1,465,896	—	163,227
Spanish Fork City	N/A	5,475,594	16,343,316	(3,487,917)	368,674	—	458,350
Spring City	N/A	62,842	197,838	(49,612)	5,769	—	6,747
Springville City	N/A	3,916,520	11,921,975	(2,695,604)	296,744	—	359,186
St George Housing Auth	N/A	59,599	188,406	(47,634)	5,499	—	6,444
Stansbury Park Improv District	N/A	140,031	441,092	(110,735)	12,866	—	15,048
Stansbury Service Agency	N/A	62,685	229,866	(73,853)	6,871	—	8,629
State of Utah	N/A	737,298,679	1,702,104,640	(66,783,005)	26,259,462	—	39,562,312
Statewide Assoc Public Attys	N/A	22,538	70,394	(17,373)	2,050	—	2,387
Stockton Town	N/A	46,581	120,663	(13,625)	810	—	1,589
Success Academy	N/A	838,993	1,936,812	(77,799)	14,874	—	51,191
Summit Academy High School	N/A	883,853	2,117,014	(140,202)	18,850	—	58,371
Summit Academy Inc	N/A	3,899,789	9,251,041	(550,381)	79,447	—	252,343
Summit County	N/A	10,082,686	28,914,540	(5,399,026)	541,477	—	703,741
Sunset City	N/A	460,733	1,305,112	(232,143)	22,430	—	29,924
Sw Behavioral Health Center	N/A	2,409,407	7,747,410	(2,023,610)	226,784	—	268,143
Sw Mosquito Abatement/Control	N/A	56,077	184,780	(50,443)	5,432	—	6,502
Sw Ut Public Health Dept	N/A	784,128	2,537,832	(670,921)	74,371	—	88,228
Syracuse City Corp	N/A	1,908,787	5,465,780	(1,006,020)	100,341	—	130,823
Taylor West Weber Wtr Imp District	N/A	54,056	180,450	(50,371)	5,316	—	6,403
Taylorsville-Bennion Imp	N/A	735,853	2,343,659	(601,195)	68,491	—	80,582
Timberlakes Water SSD	N/A	97,159	316,197	(84,437)	9,275	—	11,034
Timpanogos SSD	N/A	740,093	2,381,776	(623,102)	69,730	—	82,483
Tintic School District	N/A	1,249,301	2,845,628	(86,682)	20,557	—	74,002
Tooele City	N/A	3,025,638	8,838,468	(1,746,328)	186,624	—	232,707
Tooele County	N/A	5,858,202	17,288,446	(3,546,956)	360,464	—	456,843
Tooele County Housing	N/A	95,692	313,372	(84,622)	9,202	—	10,981

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
59,123	425,823	48,975	1,110,291	747	120,570	1,280,583	1,369,859	(46,093)	—	1,323,766
7,291	62,157	5,565	135,328	154	33,654	174,701	160,995	(7,255)	—	153,740
84,468	1,059,784	105,554	3,960,708	2,443	454,535	4,523,240	5,349,737	(218,710)	—	5,131,027
112,789	4,544,682	109,538	4,742,273	21,049	198,087	5,070,947	5,831,169	(147,207)	—	5,683,962
6,041	94,166	6,672	225,496	24	7,775	239,967	229,638	(7,916)	—	221,722
28,405	262,151	42,702	829,672	604	49,482	922,460	1,085,752	(16,917)	—	1,068,835
39,495	174,055	22,114	459,493	244	4,360	486,211	569,058	27,595	—	596,653
64,980	372,714	59,316	1,149,044	657	59,399	1,268,416	1,483,670	(106,729)	—	1,376,941
137,958	1,175,314	103,975	4,233,566	1,760	468,985	4,808,286	5,633,654	(220,702)	—	5,412,952
9,622	78,836	6,309	173,274	124	31,616	211,323	193,997	(25,803)	—	168,194
10,244	49,077	4,145	95,046	129	7,412	106,732	116,568	(13)	—	116,555
61,233	190,291	15,583	367,096	349	13,642	396,670	483,473	20,339	—	503,812
227,863	2,323,666	25,448	1,383,598	205	49,331	1,458,582	(1,439,847)	127,014	—	(1,312,833)
61,715	141,538	9,396	192,222	352	1,836	203,806	250,813	99,411	—	350,224
37,318	271,453	19,131	594,073	202	2,992	616,398	628,043	28,539	—	656,582
26,489	90,440	907	48,208	939	13,252	63,306	325,983	2,784	—	328,767
36,388	83,046	4,772	114,940	135	2,590	122,437	137,412	10,103	—	147,515
7,838	26,694	1,864	46,686	48	853	49,451	54,700	3,780	—	58,480
3,239	10,958	853	18,788	29	310	19,980	23,539	3,312	—	26,851
2,026	9,818	568	20,014	—	167	20,749	20,030	868	—	20,898
63,752	112,542	6,599	185,841	256	7,737	200,433	275,650	(7,732)	—	267,918
28,669	48,082	2,871	44,643	143	7,790	55,447	68,483	2,144	—	70,627
50,172	202,616	14,421	687,672	325	4,844	707,262	402,181	68,891	—	471,072
1,054	24,676	1,969	59,798	24	22,830	84,621	63,857	(8,993)	—	54,864
31,229	257,710	38,364	793,723	441	82,997	915,525	1,017,187	(25,051)	—	992,136
13,133	110,538	9,815	240,482	267	14,244	264,808	284,981	(30,010)	—	254,971
115,537	904,953	80,499	3,211,019	1,478	6,929	3,299,925	4,295,753	(8,335)	—	4,287,418
300,824	724,203	43,002	1,723,463	776	—	1,767,241	2,302,821	162,065	—	2,464,886
63,788	311,405	22,975	618,438	484	295	642,192	699,228	37,694	—	736,922
26,101	240,689	18,950	539,395	324	35,869	594,538	593,691	(149)	—	593,542
4,769	40,090	4,080	85,333	148	16,609	106,170	109,996	(11,271)	—	98,725
13,865	73,948	6,354	147,260	194	4,151	157,959	179,624	(12,215)	—	167,409
33,966	111,089	8,704	187,061	303	23,038	219,106	237,555	(35,548)	—	202,007
209,217	961,305	86,891	3,081,703	2,240	33,664	3,204,498	4,150,285	143,065	—	4,293,350
5,871	29,536	2,998	91,720	103	18,521	113,342	132,431	4,781	—	137,212
26,793	126,500	13,573	379,107	531	27,659	420,870	563,859	44,211	—	608,070
2,007,978	3,637,101	19,100	1,061,127	176	1,912,349	2,992,752	(1,135,500)	628,352	—	(507,148)
315,323	1,142,347	109,341	2,446,570	1,823	1,619	2,559,353	2,983,889	198,989	—	3,182,878
8,448	20,964	996	31,854	8	4,503	37,361	33,234	16,232	—	49,466
49,979	705,909	76,305	1,809,542	1,568	178,882	2,066,297	2,223,161	(164,976)	—	2,058,185
1,644	13,587	991	30,248	12	183	31,434	32,231	751	—	32,982
96,804	124,718	2,235	70,993	19	—	73,247	74,283	48,319	—	122,602
46,916	62,416	2,938	33,330	178	—	36,446	62,922	20,359	—	83,281
4,424,471	70,246,245	7,151,201	234,684,094	136,111	20,827,186	262,798,592	303,952,520	(12,312,440)	(1,535,901)	290,104,179
20,717	25,154	324	11,398	—	—	11,722	11,407	8,473	—	19,880
4,602	7,001	995	15,906	—	1,668	18,569	20,381	7,695	—	28,076
123,923	189,988	7,483	262,930	199	—	270,612	364,179	77,056	—	441,235
95,955	173,176	11,941	282,514	556	—	295,011	445,633	49,603	—	495,236
483,146	814,936	47,933	1,240,055	2,047	—	1,290,035	1,893,646	463,385	—	2,357,031
426,538	1,671,756	199,126	4,203,721	2,112	52,574	4,457,533	5,157,388	345,091	—	5,502,479
17,218	69,572	9,360	186,980	99	9,633	206,072	233,880	3,756	—	237,636
61,900	556,827	47,882	1,229,073	1,160	14,286	1,292,401	1,422,637	21,708	—	1,444,345
5,511	17,445	1,381	28,819	50	504	30,754	37,199	4,156	—	41,355
12,897	175,496	16,568	400,783	464	31,194	449,009	478,077	(37,913)	—	440,164
109,368	340,532	40,042	778,914	708	32,265	851,929	1,037,508	81,592	—	1,119,100
5,127	16,846	1,471	27,892	61	8,378	37,802	37,991	591	—	38,582
14,141	163,214	13,281	374,296	237	69,302	457,116	413,919	(22,957)	—	390,962
14,040	34,349	2,157	49,743	67	395	52,362	60,832	6,718	—	67,550
8,794	161,007	14,829	377,628	367	50,156	442,980	438,837	(19,299)	—	419,538
5,541	100,100	9,112	388,749	123	36,936	434,920	511,242	(1,678)	—	509,564
135,165	554,496	60,802	1,281,038	1,299	36,156	1,379,295	1,715,090	7,009	—	1,722,099
120,052	937,359	121,437	2,551,641	2,162	43,975	2,719,215	3,198,472	(4,104)	—	3,194,368
2,530	22,713	2,241	49,086	76	7,154	58,557	61,698	(1,598)	—	60,100

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, 2019

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
Tooele School District	N/A	$ 39,506,943	90,720,964	(3,298,175)	680,488	—	2,382,672
Tooele Technical College	N/A	971,900	2,225,733	(76,525)	16,488	—	58,264
Tooele Valley Mosquito Abtmnt	N/A	9,679	30,230	(7,461)	880	—	1,025
Toquerville City	N/A	45,007	158,259	(47,943)	4,701	—	5,799
Torrey Town	N/A	7,364	26,183	(8,060)	779	—	966
Town of Alta	N/A	162,248	515,804	(131,847)	15,069	—	17,712
Town of Apple Valley	N/A	9,113	33,718	(10,962)	1,009	—	1,272
Town of Brian Head	N/A	499,813	1,412,369	(249,941)	24,437	—	32,453
Town of Daniel	N/A	24,460	76,398	(18,855)	2,225	—	2,591
Town of Garden City	N/A	87,331	285,641	(76,966)	8,386	—	10,001
Town of Goshen	N/A	17,259	63,605	(20,572)	1,902	—	2,394
Town of Levan	N/A	53,668	167,622	(41,370)	4,882	—	5,684
Town of Manila	N/A	34,160	213,837	(116,655)	1,286	—	1,587
Town of Mantua	N/A	57,962	177,715	(41,104)	15,177	—	7,974
Town of Paragonah	N/A	18,521	144,998	(87,861)	141	—	216
Town of Randolph	N/A	19,875	62,077	(15,321)	1,808	—	2,105
Town of Springdale	N/A	864,043	2,440,601	(429,114)	39,278	—	54,031
Trans-Jordan Cities	N/A	599,735	1,930,445	(505,209)	56,519	—	66,862
Tremonton City	N/A	1,012,525	2,918,103	(555,565)	56,172	—	72,522
Tridell-Lapoint Water	N/A	17,211	63,671	(20,695)	1,906	—	2,402
Tuacahn High School	N/A	817,516	1,913,559	(95,813)	15,586	—	51,407
Uintah Animal Control/Shelter	N/A	101,377	321,474	(81,772)	9,387	—	11,020
Uintah Basin Assn of Govt	N/A	405,532	1,339,222	(367,000)	39,380	—	47,189
Uintah Basin Asst Council	N/A	17,585	58,239	(16,038)	1,714	—	2,056
Uintah Basin Technical College	N/A	2,330,266	5,447,329	(267,696)	44,132	—	146,118
Uintah Co Care Center SSD	N/A	801,278	2,589,196	(682,490)	75,856	—	89,915
Uintah County	N/A	5,517,204	16,283,189	(3,332,223)	352,472	—	439,828
Uintah Fire Suppression SSD	N/A	13,034	40,708	(10,047)	1,186	—	1,380
Uintah Highlands Improv District	N/A	31,802	104,259	(28,208)	3,062	—	3,656
Uintah Mosquito Abate District	N/A	67,569	211,040	(52,085)	6,146	—	7,156
Uintah Recreation District	N/A	357,242	1,140,784	(294,104)	33,353	—	39,295
Uintah School District	N/A	18,455,476	43,104,942	(2,146,288)	324,340	—	1,119,441
Uintah Transportation SSD	N/A	48,196	170,985	(52,474)	5,086	—	6,299
Uintah Water Conserv District	N/A	180,957	570,766	(143,667)	16,652	—	19,491
Unified Fire Authority	N/A	1,472,897	4,662,217	(1,128,219)	165,457	—	174,168
Unified Police Department	N/A	16,967,231	47,727,139	(8,139,856)	10,178,506	—	3,289,115
University of Utah	N/A	46,406,588	151,990,153	(41,217,465)	35,671,951	—	4,122,710
University of Utah Hospital	N/A	18,570,589	61,134,757	(16,846,170)	15,343,333	—	1,683,592
Upper Country Water District	N/A	44,505	139,004	(34,306)	4,048	—	4,714
UT Municipal Power Agency	N/A	892,315	2,849,451	(734,621)	83,310	—	98,151
UT Public Employees Assn	N/A	61,595	198,149	(51,801)	5,800	—	6,861
UT School Board Risk Mgmt	N/A	641,292	1,477,005	(56,873)	11,228	—	38,931
Utah Association of Counties	N/A	193,395	629,420	(168,094)	18,463	—	21,964
Utah Co Academy of Sciences	N/A	1,118,944	2,582,092	(103,010)	19,797	—	68,216
Utah Co Housing Authority	N/A	245,393	799,621	(214,015)	23,460	—	27,927
Utah Communications Authority	N/A	1,687,087	3,839,466	(114,521)	27,622	—	99,741
Utah Counties Indemnity Pool	N/A	163,821	515,511	(129,160)	15,033	—	17,575
Utah County	N/A	24,085,946	73,300,595	(16,492,087)	8,369,838	—	3,654,698
Utah Dairy Commission	N/A	24,121	54,414	(1,272)	375	—	1,398
Utah Education Association	N/A	1,077,242	2,462,885	(81,712)	18,106	—	64,341
Utah Housing Corporation	N/A	4,248,193	12,472,923	(2,686,242)	70,554	—	239,724
Utah Lake Commission	N/A	5,647	17,637	(4,353)	514	—	598
Utah Lake Districtributing Co	N/A	8,036	25,100	(6,195)	731	—	851
Utah League Cities/Towns	N/A	195,747	1,528,918	(927,951)	262	—	400
Utah Local Governments Trust	N/A	528,080	1,691,598	(438,702)	49,484	—	58,395
Utah Retirement Systems	N/A	20,193,347	46,333,477	(1,657,615)	346,281	—	1,215,715
Utah Safety Council	N/A	279,114	660,052	(37,825)	5,601	—	17,941
Utah School Boards Association	N/A	578,804	1,335,523	(53,182)	10,236	—	35,279
Utah School Employees Assn	N/A	242,629	553,223	(17,267)	4,016	—	14,405
Utah State Fair Corp	N/A	358,441	833,034	(37,474)	6,586	—	22,193
Utah State University	N/A	20,199,959	66,674,035	(18,409,985)	16,251,778	—	1,837,108
Utah Valley University	N/A	11,245,757	37,466,953	(10,534,587)	9,245,750	—	1,047,647
Utah Zoological Society	N/A	1,644,809	5,371,743	(1,443,538)	157,662	—	187,890

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
2,939,579	6,002,739	326,948	12,346,340	7,212	69,465	12,749,965	16,759,926	965,035	—	17,724,961
112,527	187,279	7,721	303,292	150	—	311,163	407,397	73,043	—	480,440
1,229	3,134	139	4,895	—	54	5,088	4,899	(1,101)	—	3,798
18,067	28,567	1,704	23,607	92	—	25,403	38,968	13,770	—	52,738
1,075	2,820	295	3,877	17	156	4,345	6,639	345	—	6,984
2,576	35,357	2,871	82,482	47	16,772	102,172	90,397	(4,970)	—	85,427
2,719	5,000	445	4,859	27	12,053	17,384	9,423	(378)	—	9,045
25,870	82,760	9,717	203,828	66	1,261	214,872	246,134	52,965	—	299,099
9,988	14,804	351	12,370	—	—	12,721	12,380	7,404	—	19,784
6,263	24,650	2,024	44,779	67	608	47,478	55,985	435	—	56,420
5,554	9,850	828	9,192	51	485	10,556	17,615	921	—	18,536
443	11,009	771	27,140	—	69	27,980	27,162	1,037	—	28,199
4,909	7,782	466	60,987	25	841	62,319	5,029	13,655	—	18,684
16,976	40,127	759	27,084	93	8,452	36,388	32,723	4,629	—	37,352
434	791	173	45,361	15	—	45,549	(1,851)	5,650	—	3,799
774	4,687	285	10,051	—	1,130	11,466	10,059	(281)	—	9,778
118,389	211,698	18,387	348,158	186	452	367,183	432,066	130,067	—	562,133
18,060	141,441	12,038	306,029	299	26,277	344,643	355,952	11,514	—	367,466
113,018	241,712	19,802	427,235	197	5,984	453,218	516,052	69,879	—	585,931
912	5,220	840	9,178	52	980	11,050	17,787	(288)	—	17,499
38,620	105,613	8,685	258,098	313	60,831	327,927	376,146	(21,810)	—	354,336
4,181	24,588	1,746	51,498	25	6,795	60,064	55,738	(8,628)	—	47,110
33,901	120,470	10,166	208,552	379	9,828	228,925	271,708	(6,088)	—	265,620
3,671	7,441	451	9,052	17	4,472	13,992	11,933	(2,346)	—	9,587
102,622	292,872	24,381	735,174	860	11,010	771,425	1,066,417	(10,091)	—	1,056,326
10,002	175,773	16,683	409,351	452	98,732	525,218	484,741	(69,478)	—	415,263
383,467	1,175,767	113,412	2,382,606	2,424	239,141	2,737,583	3,127,142	591,353	—	3,718,495
1,674	4,240	187	6,591	—	2,077	8,855	6,596	(1,031)	—	5,565
3,521	10,239	752	16,318	26	—	17,096	20,608	2,802	—	23,410
224	13,526	971	34,170	—	1,710	36,851	34,197	(1,074)	—	33,123
2,553	75,201	6,626	181,855	131	50,510	239,122	203,682	(34,613)	—	169,069
93,183	1,536,964	161,959	6,047,005	4,193	258,457	6,471,614	7,978,702	(369,327)	—	7,609,375
8,031	19,416	1,915	25,351	107	18,558	45,931	43,115	(606)	—	42,509
3,822	39,965	2,933	91,778	29	21,704	116,444	96,687	(6,866)	—	89,821
112,683	452,308	23,890	667,396	2,194	34,261	727,741	1,289,423	44,855	—	1,334,278
202,163	13,669,784	30,798	6,459,103	71,206	1,343,574	7,904,681	9,819,094	(463,133)	—	9,355,961
756,304	40,550,965	603,262	26,830,652	12,072	7,378,393	34,824,379	(24,915,536)	(6,652,043)	—	(31,567,579)
1,333	17,028,258	178,577	11,071,080	38	1,110,687	12,360,382	(12,247,012)	(1,254,696)	—	(13,501,708)
1,260	10,022	639	22,506	—	376	23,521	22,524	177	—	22,701
242,789	424,250	16,550	454,238	326	6,267	477,381	508,766	101,076	—	609,842
1,473	14,134	1,230	31,425	30	15,640	48,325	36,451	(11,649)	—	24,802
30,759	80,918	5,540	200,727	137	41,280	247,684	275,603	27,696	—	303,299
5,108	45,535	4,296	99,015	133	48,579	152,023	121,112	(28,632)	—	92,480
212,137	300,150	9,929	350,593	261	—	360,783	484,899	106,037	—	590,936
4,177	55,564	5,508	125,684	173	101,706	233,071	154,564	(119,310)	—	35,254
162,651	290,014	12,128	524,735	152	117,797	654,812	687,694	163,632	—	851,326
12,112	44,720	2,583	83,029	20	2,013	87,645	86,428	2,224	—	88,652
1,252,354	13,276,890	246,669	11,074,658	56,008	258,032	11,635,367	13,881,104	393,505	—	14,274,609
1,272	3,045	148	7,468	—	209,303	216,919	9,444	(110,415)	—	(100,971)
19,971	102,418	8,342	335,870	148	28,814	373,174	448,248	(26,153)	—	422,095
98,967	409,245	36,662	2,632,816	1,089	97,559	2,768,126	1,866,365	387,514	—	2,253,879
1,174	2,286	81	2,856	—	948	3,885	2,858	(4,886)	—	(2,028)
7,387	8,969	115	4,064	—	—	4,179	4,067	3,021	—	7,088
714	1,376	322	487,021	27	129	487,499	(45,063)	113,582	—	68,519
13,385	121,264	10,109	269,074	221	11,871	291,275	305,914	(10,590)	—	295,324
368,812	1,930,808	165,150	6,307,961	3,519	451,094	6,927,724	8,536,566	294,127	—	8,830,693
5,668	29,210	3,322	88,604	137	19,450	111,513	133,864	2,980	—	136,844
55,856	101,371	5,129	181,343	135	26,626	213,233	250,719	53,009	—	303,728
4,828	23,249	1,800	75,541	27	30,897	108,265	99,749	(29,136)	—	70,613
6,013	34,792	3,492	112,733	110	22,709	139,044	160,095	(3,175)	—	156,920
62,346	18,151,232	236,600	11,924,329	3,462	1,076,820	13,241,211	(12,108,882)	(952,395)	—	(13,061,277)
46,233	10,339,630	136,028	6,718,717	2,425	514,081	7,371,251	(6,898,055)	(480,095)	—	(7,378,150)
34,030	379,582	37,642	843,004	1,225	95,900	977,771	1,047,054	(34,134)	—	1,012,920

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, 2019

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
UTOPIA	N/A	$ 1,107,141	3,609,906	(967,258)	105,922	—	126,128
Valley Emergency Comm Ctr	N/A	2,335,890	7,606,400	(2,033,325)	223,138	—	265,530
Vernal City	N/A	1,788,933	5,414,430	(1,198,736)	90,634	—	118,436
Vineyard Town	N/A	355,051	1,180,772	(327,502)	34,761	—	41,797
Wasatch County	N/A	5,791,619	16,949,179	(3,385,508)	344,581	—	440,048
Wasatch County Fire District	N/A	33,524	119,755	(32,068)	8,527	—	7,185
Wasatch Front Regional Council	N/A	780,735	2,484,400	(636,214)	72,592	—	85,368
Wasatch Front Waste/Recycling	N/A	1,100,056	3,594,027	(966,478)	105,492	—	125,742
Wasatch Integrated Waste Mgmt	N/A	589,988	1,899,479	(497,304)	55,614	—	65,799
Wasatch Mental Health SSD	N/A	5,357,804	17,144,094	(4,437,093)	501,422	—	591,377
Wasatch School District	N/A	22,176,527	51,117,902	(1,998,252)	390,000	—	1,348,673
Wasatch Uniserv	N/A	100,399	226,488	(5,296)	1,561	—	5,820
Washington City	N/A	2,773,984	8,406,732	(1,870,800)	210,899	—	252,716
Washington Co Solid Waste	N/A	236,189	757,531	(196,923)	22,165	—	26,172
Washington Co Wat Con District	N/A	789,306	2,535,287	(660,887)	74,200	—	87,684
Washington County	N/A	10,307,124	29,208,883	(5,194,037)	512,960	—	676,314
Washington School District	N/A	78,464,441	180,909,647	(7,170,599)	1,353,270	—	4,731,493
Waste Management Serv District #5	N/A	48,815	154,319	(39,017)	4,504	—	5,278
Wayne County	N/A	433,926	1,278,819	(261,788)	26,397	—	33,771
Wayne School District	N/A	1,833,778	4,193,849	(140,089)	30,876	—	109,604
Weber Area Dispatch 911	N/A	1,000,449	3,237,637	(855,772)	94,878	—	112,549
Weber Basin Water Conserv	N/A	2,010,000	6,371,520	(1,619,526)	186,045	—	218,346
Weber Co Mosquito Abate	N/A	165,436	523,660	(132,730)	15,287	—	17,927
Weber County Corp	N/A	19,228,133	55,341,795	(10,395,727)	998,966	—	1,315,133
Weber County School District	N/A	91,420,288	209,201,244	(7,077,441)	1,544,386	—	5,471,277
Weber Fire District	N/A	130,665	446,421	(110,945)	31,356	—	26,157
Weber Human Services	N/A	3,821,127	12,395,810	(3,290,972)	363,404	—	431,620
Weber River Water Users	N/A	23,868	186,328	(113,128)	—	—	—
Weber State University	N/A	7,923,028	26,356,822	(7,392,125)	6,518,048	—	735,583
Wellington City	N/A	90,478	258,049	(46,657)	4,103	—	5,733
Wellsville City Corp	N/A	111,323	355,449	(91,618)	10,392	—	12,243
West Bountiful City	N/A	640,443	1,823,385	(326,974)	33,172	—	42,998
West Kane County SSD #1	N/A	79,545	263,854	(72,861)	7,765	—	9,324
West Point City	N/A	274,149	894,612	(240,058)	26,253	—	31,274
West Valley City	N/A	12,976,676	39,186,356	(8,559,575)	4,753,018	—	2,037,673
Western Uintah Basin Mad	N/A	23,260	181,589	(110,251)	—	—	—
White City Water Imp District	N/A	157,674	504,389	(130,472)	14,751	—	17,395
Willard City Corp	N/A	210,731	600,107	(109,771)	10,772	—	14,217
Woodland Peaks Uniserv	N/A	123,815	279,313	(6,531)	1,925	—	7,177
Woods Cross City	N/A	964,381	2,959,642	(680,822)	376,607	—	150,791
Workers' Compensation Fund	N/A	22,244,666	53,503,533	(3,946,418)	376,031	—	1,319,666
Grand Total	N/A	$ 3,278,072,554	8,091,555,193	(727,078,589)	227,874,721	—	215,223,717 4
Units without a proportionate share for 2019 but had a proportionate share in a prior year							
Canyonlands Health Care	N/A	$ —	—	—	—	—	—
Garden City Fire District	N/A	—	—	—	—	—	—
Leeds Area Special Service District	N/A	—	—	—	—	—	—
Liberty Academy Charter School	N/A	—	—	—	—	—	—
Moab Mosquito Abatement District	N/A	—	—	—	—	—	—
Six County Infrastructure Coal	N/A	—	—	—	—	—	—
Summit Mosquito Abatement District	N/A	—	—	—	—	—	—
Sunnyside City	N/A	—	—	—	—	—	—
Valley Mental Health	N/A	—	—	—	—	—	—
Grand Total	N/A	$ 3,278,072,554	8,091,555,193	(727,078,589)	227,874,721	—	215,223,717

Columns may not add to total due to rounding.

Deferred Outflows of Resources		Deferred Inflows of Resources					Pension Expense Excluding That Attributable to Employer-Paid Member Contributions			
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	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
166,980	399,030	24,986	567,155	794	—	592,935	699,402	76,898	—	776,300
676,545	1,165,213	52,123	1,196,132	1,623	26,771	1,276,649	1,466,543	205,313	—	1,671,856
7,490	216,560	34,382	866,764	375	185,253	1,086,774	869,262	(123,152)	—	746,110
98,203	174,761	9,394	182,987	375	—	192,756	245,443	82,515	—	327,958
359,709	1,144,338	119,767	2,482,612	1,959	14,570	2,618,908	3,122,961	214,412	—	3,337,373
5,643	21,355	396	10,525	255	21,184	32,360	83,420	(6,767)	—	76,653
63,374	221,334	13,959	397,018	240	445	411,662	437,149	36,125	—	473,274
21,099	252,333	25,257	563,871	826	48,663	638,617	701,537	(31,541)	—	669,996
8,676	130,089	11,868	301,075	296	336,487	649,726	350,540	(257,163)	—	93,377
176,181	1,268,980	101,462	2,729,084	2,141	68,010	2,900,697	3,086,773	57,141	—	3,143,914
1,362,198	3,100,871	193,758	6,944,337	4,920	5,300	7,148,315	9,564,201	804,044	—	10,368,245
22,357	29,738	616	31,083	—	41	31,740	39,308	16,637	—	55,945
240,457	704,072	53,151	1,263,391	1,282	3,293	1,321,117	1,624,352	127,635	—	1,751,987
12,078	60,415	4,578	120,391	104	2,904	127,977	137,689	427	—	138,116
139,996	301,880	15,523	402,507	366	16,952	435,348	463,560	203,639	—	667,199
370,559	1,559,833	207,421	4,172,361	2,567	190,176	4,572,525	5,337,371	(91,541)	—	5,245,830
1,018,232	7,102,995	652,789	24,847,631	14,662	—	25,515,082	33,349,499	838,368	—	34,187,867
1,758	11,540	812	24,775	10	9,647	35,244	26,402	(2,819)	—	23,583
32,379	92,547	9,097	188,816	143	11,378	209,434	232,268	3,801	—	236,069
80,535	221,015	14,270	571,841	258	31,166	617,535	764,103	(35,358)	—	728,745
13,959	221,386	21,120	511,333	590	105,353	638,396	609,674	(50,076)	—	559,598
31,888	436,279	34,468	1,020,950	489	53,563	1,109,470	1,102,950	20,798	—	1,123,748
1,620	34,834	2,791	83,995	36	31,873	118,695	90,086	(21,616)	—	68,470
445,428	2,759,527	407,614	7,975,776	6,552	1,521,407	9,911,349	10,240,311	(731,231)	—	9,509,080
741,749	7,757,412	717,931	28,517,190	13,394	251,603	29,500,118	38,192,736	15,888	—	38,208,624
30,444	87,957	562	41,749	845	12,835	55,991	293,994	11,416	—	305,410
79,150	874,174	82,456	1,954,425	2,409	144,571	2,183,861	2,356,001	(30,072)	—	2,325,929
—	—	—	59,580	—	—	59,580	(6,158)	8,851	—	2,693
27,377	7,281,008	93,336	4,732,278	1,493	414,843	5,241,950	(4,906,386)	(372,382)	—	(5,278,768)
17,347	27,183	2,141	36,335	37	18,518	57,031	48,245	(7,429)	—	40,816
4,604	27,239	2,063	56,668	40	23,298	82,069	63,434	(6,170)	—	57,264
41,063	117,233	13,417	256,465	277	21,097	291,256	358,123	62,554	—	420,677
7,028	24,117	2,063	40,964	81	123	43,231	54,363	2,710	—	57,073
10,458	67,985	6,231	140,474	200	15,661	162,566	173,853	(8,938)	—	164,915
143,545	6,934,236	121,514	5,748,462	33,767	430,201	6,333,944	8,130,119	(214,030)	—	7,916,089
—	—	—	58,065	—	—	58,065	(6,001)	3,949	—	(2,052)
5,300	37,446	2,978	80,307	62	18,237	101,584	90,710	(5,051)	—	85,659
5,365	30,354	4,054	87,717	19	3,412	95,202	102,061	5,213	—	107,274
10,745	19,847	760	38,333	—	—	39,093	48,476	5,592	—	54,068
82,103	609,501	6,634	464,152	2,480	9,210	482,476	532,286	7,749	—	540,035
301,614	1,997,311	179,525	8,161,149	3,844	1,243,887	9,588,405	9,405,453	155,586	—	9,561,039
79,803,350	522,901,788	34,857,519	1,155,785,291	957,208	71,504,322	1,263,104,340	1,321,685,993	(5,965,640)	(1,535,901)	1,314,184,452
—	—	—	—	—	410	410	—	(11,795)	—	(11,795)
998	998	—	—	—	—	—	—	74	—	74
—	—	—	—	—	—	—	—	—	—	—
10,576	10,576	—	—	—	151,837	151,837	—	(118,864)	—	(118,864)
254	254	—	—	—	382	382	—	(9)	—	(9)
1,127	1,127	—	—	—	23,195	23,195	—	(9,871)	—	(9,871)
—	—	—	—	—	1,584	1,584	—	(5,746)	—	(5,746)
—	—	—	—	—	—	—	—	(570)	—	(570)
5,355	5,355	—	—	—	315,939	315,939	—	(1,614,472)	—	(1,614,472)
79,821,659	522,920,097	34,857,519	1,155,785,291	957,208	71,997,669	1,263,597,687	1,321,685,993	(7,726,892)	(1,535,901)	1,312,423,200

Systems and Plans Statistical Highlights

Year Ended December 31, 2019

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	160,304	5,352	16,101	3,431	275	383	36,804	3,940	8,650	235,240
Active	53,134	450	4,982	1,490	116	47	33,686	3,767	7,562	105,234
Terminated vested	48,521	1,112	4,866	442	6	88	3,005	172	1,088	59,300
Retired	58,649	3,790	6,253	1,499	153	248	113	1	—	70,706
Total 2019 Active Members	53,134	450	4,982	1,490	116	47	33,686	3,767	7,562	105,234
Average age	48.5	57.0	42.3	42.8	53.2	55.4	35.4	28.9	36.1	42.4
Average years of service	17.2	30.8	16.9	16.9	14.8	13.7	3.3	3.5	4.1	11.3
Average annual salary	$ 61,056	67,202	66,640	75,218	170,318	N/A	44,337	46,645	50,888	55,048
2019 Retirees										
Number	3,237	81	325	58	3	10	47	1	N/A	3,762
Average age	64.2	63.1	52.7	53.2	66.3	67.5	68.7	33.0	N/A	63.1
Average years of service	21.2	31.7	22.1	24.8	31.5	9.3	5.9	0.8	N/A	21.3
Final average annual salary	$ 53,230	59,056	65,816	80,943	163,963	N/A	36,895	41,648	N/A	54,618
Average annual benefit	$ 23,414	41,980	37,490	47,774	126,666	3,856	3,105	12,494	N/A	25,186
Average annual benefit —all retirees	$ 23,392	22,332	30,975	38,915	96,164	3,993	2,664	12,494	N/A	24,385
Financial Information										
Changes in Fiduciary Net Position Restricted for Pensions	*(in thousands)*									
Contributions	$ 899,808	7,383	151,323	68,003	10,036	384	119,839	18,197	N/A	1,274,973
Investment income (loss)	3,499,188	163,935	502,657	174,141	27,775	1,481	68,228	8,958	N/A	4,446,363
Pension benefits	1,396,983	88,162	201,923	59,847	15,346	1,012	965	90	N/A	1,764,328
Net assets at fair value	$ 27,635,923	1,262,292	3,984,186	1,391,553	220,293	11,344	611,583	81,381	N/A	35,198,555
Actuarial Information (GASB 67)										
Employers' Net Pension Liability/(Asset)	*(dollars in thousands)*									
Total pension liability	$ 30,351,815	1,270,111	4,460,415	1,316,620	259,181	13,053	634,074	90,787	N/A	38,396,056
Plan fiduciary net position (fair value)	$ 27,635,923	1,262,292	3,984,186	1,391,553	220,293	11,344	611,583	81,381	N/A	35,198,555
Employers net pension liability/(asset)	$ 2,715,892	7,819	476,229	(74,933)	38,888	1,709	22,491	9,406	N/A	3,197,501
Percentage of the total pension liability	91.1%	99.4%	89.3%	105.7%	85.0%	86.9%	96.5%	89.6%	N/A	91.7%
Actuarial Information (Funding)										
Funding Progress	*(dollars in thousands)*									
Actuarial value of assets	$26,684,417	1,204,321	3,847,314	1,343,399	212,550	10,926	594,273	79,067	N/A	33,976,267
Actuarial accrued liability	$ 30,351,815	1,270,111	4,460,415	1,316,620	259,181	13,053	634,074	90,787	N/A	38,396,056
Unfunded actuarial accrued liability/(asset)	$ 3,667,398	65,790	613,101	(26,779)	46,631	2,127	39,801	11,720	N/A	4,419,789
Funded ratios	87.9%	94.8%	86.3%	102.0%	82.0%	83.7%	93.7%	87.1%	N/A	88.5%

Defined Contribution Plans

	401(k)	457	Roth IRA	Traditional IRA
Membership Information				
Number of Active Employees Eligible to Participate	109,601	105,924	232,625	232,625
Employee contributions (excluding employer contributions):				
Number of employees contributing	41,491	8,500	9,999	633
Percent of eligible employees contributing	37.9%	8.0%	4.3%	0.3%
Average percent of salary deferred by employees	5.7%	6.2%	N/A	N/A
Total participants	184,633	18,722	14,020	2,637
Average participant account balance	$ 30,996	34,476	12,863	62,354

Financial Information

Changes in Fiduciary Net Position

(in thousands)					Total
Contributions	$ 324,333	34,919	28,682	40,674	428,608
Net investment income (loss)	892,949	101,538	27,655	17,942	1,040,084
Refunds	321,069	34,328	7,569	13,893	376,859
Plan net position	$ 5,722,840	645,453	180,338	164,427	6,713,058

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