

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Employers' Net Pension Liability

Year Ended December 31

	(in thousands)				
	2017	2016	2015	2014	2013
Noncontributory System					
Total pension liability					
Service cost	\$ 403,981	407,690	394,798	407,992	441,320
Interest	1,877,576	1,764,653	1,775,819	1,699,693	1,646,213
Benefit changes	—	48,400	—	—	23,123
Difference between actual and expected experience	(84,234)	6,408	(188,166)	(204,823)	(208,501)
Assumption changes	642,187	563,741	—	(157,921)	—
Benefit payments	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)
Refunds	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)
Net change in total pension liability	1,586,838	1,602,209	856,308	698,939	925,017
Total pension liability — beginning	26,501,781	24,899,572	24,043,264	23,344,325	22,419,308
Total pension liability — ending (a)	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325
Plan fiduciary net position					
Contributions — member	17,285	16,308	17,020	13,587	14,208
Contributions — employer	854,255	831,631	813,449	772,420	710,933
Court fees and fire insurance tax	—	—	—	—	—
Net investment income	2,987,282	1,783,911	366,748	1,419,053	2,588,981
Benefit payments	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)	(974,684)
Refunds	(4,635)	(4,366)	(2,496)	(2,204)	(2,454)
Administrative expense	(9,579)	(8,856)	(8,797)	(8,828)	(8,329)
Net transfers with affiliated systems	(10,187)	(8,005)	33,648	30,467	(42,277)
Net change in plan fiduciary net position	2,586,384	1,426,306	95,925	1,180,697	2,286,378
Plan fiduciary net position — beginning	22,618,743	21,192,437	21,096,512	19,915,815	17,629,437
Plan fiduciary net position — ending (b)	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815
Net pension liability/(asset) — ending (a-b)	\$ 2,883,492	3,883,038	3,707,135	2,946,752	3,428,510
Plan fiduciary net position as a percentage of the total pension liability					
	89.7%	85.3%	85.1%	87.7%	85.3%
Projected covered employee payroll	\$ 3,375,321	3,406,567	3,458,286	3,570,912	3,705,771
Net pension liability/(asset) as a percentage of covered employee payroll	85.4%	114.0%	107.2%	82.5%	92.5%

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

Contributory System					Public Safety System				
2017	2016	2015	2014	2013	2017	2016	2015	2014	2013
4,801	5,673	8,672	9,580	10,997	78,272	78,843	75,352	76,681	81,736
90,124	91,894	95,463	93,819	93,750	269,818	249,722	248,980	236,803	229,965
—	(45,057)	—	—	721	—	—	—	—	—
(24,988)	(13,801)	(15,289)	(22,839)	(20,520)	(3,041)	9,358	(17,164)	(25,225)	(29,228)
22,108	22,909	—	(4,233)	—	118,370	110,373	—	(52,410)	—
(84,761)	(83,447)	(81,390)	(77,015)	(74,158)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
(1,613)	(1,700)	(1,215)	(2,433)	(1,922)	(226)	(183)	(533)	(199)	(467)
5,671	(23,529)	6,241	(3,121)	8,868	290,323	283,605	151,248	90,887	144,520
1,292,512	1,316,041	1,309,800	1,312,921	1,304,053	3,794,880	3,511,275	3,360,027	3,269,140	3,124,620
1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140
2,675	3,420	4,771	5,461	6,376	793	830	905	835	1,258
7,946	8,188	11,719	12,954	12,874	145,814	147,099	141,024	135,588	128,744
—	—	—	—	—	—	—	—	—	—
155,949	97,693	21,251	87,577	169,510	421,917	249,027	50,654	194,222	350,563
(84,761)	(83,447)	(81,390)	(77,015)	(74,158)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
(1,613)	(1,700)	(1,215)	(2,433)	(1,922)	(226)	(183)	(533)	(199)	(467)
(457)	(446)	(478)	(494)	(480)	(1,382)	(1,260)	(1,233)	(1,227)	(1,161)
(1,177)	(1,895)	(41,558)	(38,004)	33,094	5,926	6,701	4,023	2,746	4,676
78,562	21,813	(86,900)	(11,954)	145,294	399,972	237,706	39,453	187,202	346,127
1,204,904	1,183,091	1,269,991	1,281,945	1,136,651	3,176,545	2,938,839	2,899,386	2,712,184	2,366,057
1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184
14,717	87,608	132,950	39,809	30,976	508,686	618,335	572,436	460,641	556,956
98.9%	93.2%	89.9%	97.0%	97.6%	87.5%	83.7%	83.7%	86.3%	83.0%
45,177	53,615	82,426	90,623	98,023	350,782	352,407	355,171	360,750	365,998
32.6%	163.4%	161.3%	43.9%	31.6%	145.0%	175.5%	161.2%	127.7%	152.2%

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Utah Retirement SystemsREQUIRED SUPPLEMENTARY INFORMATION *(Continued)***Schedules of Changes in the Employers' Net Pension Liability** *(Continued)*

Year Ended December 31

<i>(in thousands)</i>					
					Firefighter
	2017	2016	2015	2014	2013
Total pension liability					
Service cost	\$ 28,775	28,652	27,182	27,266	29,577
Interest	80,386	75,334	75,212	71,490	70,259
Benefit changes	—	—	—	—	—
Difference between actual and expected experience	(9,216)	(5,525)	(8,259)	(15,077)	(13,083)
Assumption changes	31,357	25,572	—	(20,372)	—
Benefit payments	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
Refunds	(511)	(466)	(528)	(293)	(106)
Net change in total pension liability	75,998	71,465	43,936	15,304	41,900
Total pension liability — beginning	1,129,729	1,058,264	1,014,328	999,024	957,124
Total pension liability — ending (a)	1,205,727	1,129,729	1,058,264	1,014,328	999,024
Plan fiduciary net position					
Contributions — member	18,460	18,729	18,175	18,300	18,325
Contributions — employer	6,715	6,954	6,690	5,514	3,494
Court fees and fire insurance tax	1,223	10,569	17,218	14,154	11,285
Net investment income	146,736	87,746	17,934	69,070	125,685
Benefit payments	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
Refunds	(511)	(466)	(528)	(293)	(106)
Administrative expense	(408)	(374)	(371)	(370)	(355)
Net transfers with affiliated systems	1,259	1,611	2,573	3,713	1,302
Net change in plan fiduciary net position	118,681	72,667	12,020	62,378	114,883
Plan fiduciary net position — beginning	1,115,726	1,043,059	1,031,039	968,661	853,778
Plan fiduciary net position — ending (b)	1,234,407	1,115,726	1,043,059	1,031,039	968,661
Net pension liability/(asset) — ending (a-b)	\$ (28,680)	14,003	15,205	(16,711)	30,363
Plan fiduciary net position as a percentage of the total pension liability	102.4%	98.8%	98.6%	101.6%	97.0%
Projected covered employee payroll	\$ 112,953	112,322	111,133	111,305	110,741
Net pension liability/(asset) as a percentage of covered employee payroll	(25.4)%	12.5%	13.7%	(15.0)%	27.4%

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

Judges System					Utah Governors and Legislators Plan				
2017	2016	2015	2014	2013	2017	2016	2015	2014	2013
5,325	5,023	4,794	4,895	4,537	68	89	99	106	100
14,866	14,064	14,136	13,641	12,924	879	851	890	884	860
—	—	—	—	—	—	—	—	—	—
809	1,995	171	2,602	(569)	182	167	(105)	307	(233)
13,067	2,885	—	(130)	—	264	241	—	—	—
(13,621)	(12,330)	(12,400)	(11,361)	(10,189)	(973)	(941)	(904)	(909)	(892)
—	—	—	—	—	—	—	—	—	—
20,446	11,637	6,701	9,647	6,703	420	407	(20)	388	(165)
210,623	198,986	192,285	182,638	175,935	12,654	12,247	12,267	11,879	12,044
231,069	210,623	198,986	192,285	182,638	13,074	12,654	12,247	12,267	11,879
—	—	—	317	—	—	—	—	—	—
7,563	7,382	6,555	5,627	4,990	404	421	421	411	252
1,477	1,470	1,653	1,486	1,498	—	—	—	—	—
23,435	13,820	2,842	11,068	20,130	1,353	849	181	717	1,346
(13,621)	(12,330)	(12,400)	(11,361)	(10,189)	(973)	(941)	(904)	(909)	(892)
—	—	—	—	—	—	—	—	—	—
(79)	(71)	(71)	(71)	(66)	(5)	(4)	(5)	(5)	(4)
4,090	1,600	1,334	1,092	3,186	89	(12)	(20)	(14)	19
22,865	11,871	(87)	8,158	19,549	868	313	(327)	200	721
175,618	163,747	163,834	155,676	136,127	10,352	10,039	10,366	10,166	9,445
198,483	175,618	163,747	163,834	155,676	11,220	10,352	10,039	10,366	10,166
32,586	35,005	35,239	28,451	26,962	1,854	2,302	2,208	1,901	1,713
85.9%	83.4%	82.3%	85.2%	85.2%	85.8%	81.8%	82.0%	84.5%	85.6%
18,661	16,755	15,832	16,072	15,195	722	799	943	928	390
174.6%	208.9%	222.6%	177.0%	177.4%	256.6%	288.1%	234.1%	204.8%	439.2%

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Utah Retirement Systems

REQUIRED SUPPLEMENTARY INFORMATION (Continued)

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

Year Ended December 31

(in thousands)					
	Tier 2 Public Employees System				
	2017	2016	2015	2014	2013
Total pension liability					
Service cost	\$ 84,388	69,887	51,005	39,283	29,318
Interest	19,471	12,608	8,370	4,648	2,351
Benefit changes	—	—	—	—	(119)
Difference between actual and expected experience	357	(1,917)	(4,982)	(4,577)	(4,459)
Assumption changes	5,786	7,867	—	(1,385)	—
Benefit payments	(417)	(316)	(333)	—	—
Refunds	—	—	—	—	—
Net change in total pension liability	109,585	88,129	54,060	37,969	27,091
Total pension liability — beginning	228,450	140,321	86,261	48,292	21,201
Total pension liability — ending (a)	338,035	228,450	140,321	86,261	48,292
Plan fiduciary net position					
Contributions — member	—	—	—	—	—
Contributions — employer	79,175	63,062	49,645	37,299	25,743
Court fees and fire insurance tax	—	—	—	—	—
Net investment income	33,249	14,059	1,963	4,320	4,017
Benefit payments	(417)	(316)	(333)	—	—
Refunds	—	—	—	—	—
Administrative expense	(82)	(51)	(30)	(16)	(6)
Net transfers with affiliated systems	—	—	3	(2)	3
Net change in plan fiduciary net position	111,925	76,754	51,248	41,601	29,757
Plan fiduciary net position — beginning	217,293	140,539	89,291	47,690	17,933
Plan fiduciary net position — ending (b)	329,218	217,293	140,539	89,291	47,690
Net pension liability/(asset) — ending (a-b)	\$ 8,817	11,157	(218)	(3,030)	602
Plan fiduciary net position as a percentage of the total pension liability	97.4%	95.1%	100.2%	103.5%	98.8%
Projected covered employee payroll	\$ 996,965	822,196	637,560	492,882	353,227
Net pension liability/(asset) as a percentage of covered employee payroll	0.9%	1.4%	(0.0)%	(0.6)%	0.2%

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

Tier 2 Public Safety and Firefighter System					Total All Retirement Systems				
2017	2016	2015	2014	2013	2017	2016	2015	2014	2013
10,763	8,164	5,466	3,579	2,151	616,373	604,021	567,368	569,382	599,736
2,133	1,274	746	379	159	2,355,253	2,210,400	2,219,616	2,121,357	2,056,481
—	—	—	—	(7)	—	3,343	—	—	23,718
(2)	425	220	50	106	(120,133)	(2,890)	(233,574)	(269,582)	(276,487)
1,924	803	—	(127)	—	835,063	734,391	—	(236,578)	—
(61)	(28)	(30)	—	—	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
—	—	—	—	—	(6,985)	(6,715)	(4,772)	(5,129)	(4,949)
14,757	10,638	6,402	3,881	2,409	2,104,038	2,044,561	1,124,876	853,894	1,156,343
24,266	13,628	7,226	3,345	936	33,194,895	31,150,334	30,025,458	29,171,564	28,015,221
39,023	24,266	13,628	7,226	3,345	35,298,933	33,194,895	31,150,334	30,025,458	29,171,564
—	—	—	—	—	39,213	39,287	40,871	38,500	40,167
11,126	8,488	6,221	4,365	2,451	1,112,998	1,073,225	1,035,724	974,178	889,481
—	—	—	—	—	2,700	12,039	18,871	15,640	12,783
3,989	1,591	199	404	316	3,773,910	2,248,696	461,772	1,786,431	3,260,548
(61)	(28)	(30)	—	—	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
—	—	—	—	—	(6,985)	(6,715)	(4,772)	(5,129)	(4,949)
(9)	(5)	(3)	(1)	—	(12,001)	(11,067)	(10,988)	(11,012)	(10,401)
—	—	(3)	2	(3)	—	—	—	—	—
15,045	10,046	6,384	4,770	2,764	3,334,302	1,857,476	117,716	1,473,052	2,945,473
25,135	15,089	8,705	3,935	1,171	28,544,316	26,686,840	26,569,124	25,096,072	22,150,599
40,180	25,135	15,089	8,705	3,935	31,878,618	28,544,316	26,686,840	26,569,124	25,096,072
(1,157)	(869)	(1,461)	(1,479)	(590)	3,420,315	4,650,579	4,463,494	3,456,334	4,075,492
103.0%	103.6%	110.7%	120.5%	117.6%	90.3%	86.0%	85.7%	88.5%	86.0%
98,113	74,834	53,276	35,019	20,215	4,998,694	4,839,495	4,714,627	4,678,491	4,669,560
(1.2)%	(1.2)%	(2.7)%	(4.2)%	(2.9)%	68.4%	96.1%	94.7%	73.9%	87.3%