

# Required Supplementary Information

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

Year Ended December 31

(in thousands)

<b>Noncontributory Retirement System</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 422,530	410,799	402,446
Interest	2,256,737	2,167,432	2,071,626
Benefit changes	—	—	—
Differences between expected and actual experience	351,279	404,505	252,553
Assumption changes	—	386,554	176,384
Benefit payments	(1,662,640)	(1,565,046)	(1,488,627)
Refunds	(3,334)	(1,313)	(2,338)
Net change in total pension liability	1,364,572	1,802,931	1,412,044
Total pension liability — beginning	33,566,790	31,763,859	30,351,815
Total pension liability — ending (a)	34,931,362	33,566,790	31,763,859
<b>Plan fiduciary net position</b>			
Contributions — member	15,415	16,178	16,385
Contributions — employer	969,922	942,910	912,525
Net investment income	(1,833,570)	5,201,752	3,430,989
Benefit payments	(1,662,640)	(1,565,046)	(1,488,627)
Refunds	(3,334)	(1,313)	(2,338)
Administrative expense	(10,357)	(10,004)	(9,805)
Net transfers with affiliated systems	58,592	5,986	(16,980)
Net change in plan fiduciary net position	(2,465,972)	4,590,463	2,842,149
Plan fiduciary net position — beginning	35,068,535	30,478,072	27,635,923
Plan fiduciary net position — ending (b)	32,602,563	35,068,535	30,478,072
Net pension liability/(asset) — ending (a-b)	\$ 2,328,799	(1,501,745)	1,285,787
Plan fiduciary net position as a percentage of the total pension liability	93.3%	104.5%	96.0%
Projected covered payroll	\$ 3,360,198	3,361,940	3,306,382
Net pension liability/(asset) as a percentage of covered payroll	69.3%	(44.7)%	38.9%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Noncontributory Retirement System						
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%

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**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	(in thousands)		
<b>Contributory Retirement System</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 2,433	2,786	3,175
Interest	82,901	85,305	85,198
Benefit changes	—	—	—
Differences between expected and actual experience	(7,940)	(21,487)	(5,463)
Assumption changes	—	10,667	11,312
Benefit payments	(94,365)	(91,712)	(89,890)
Refunds	(848)	(1,625)	(1,753)
Net change in total pension liability	(17,819)	(16,066)	2,579
Total pension liability — beginning	1,256,624	1,272,690	1,270,111
Total pension liability — ending (a)	1,238,805	1,256,624	1,272,690
<b>Plan fiduciary net position</b>			
Contributions — member	1,240	1,445	1,728
Contributions — employer	3,675	4,204	4,759
Net investment income	(70,701)	220,023	154,367
Benefit payments	(94,365)	(91,712)	(89,890)
Refunds	(848)	(1,625)	(1,753)
Administrative expense	(382)	(388)	(406)
Net transfers with affiliated systems	(69,481)	(20,349)	4,542
Net change in plan fiduciary net position	(230,862)	111,598	73,347
Plan fiduciary net position — beginning	1,447,237	1,335,639	1,262,292
Plan fiduciary net position — ending (b)	1,216,375	1,447,237	1,335,639
Net pension liability/(asset) — ending (a-b)	\$ 22,430	(190,613)	(62,949)
Plan fiduciary net position as a percentage of the total pension liability	98.2%	115.2%	104.9%
Projected covered payroll	\$ 26,521	26,782	30,748
Net pension liability/(asset) as a percentage of covered payroll	84.6%	(711.7)%	(204.7)%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Contributory Retirement System						
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%

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**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	<i>(in thousands)</i>		
<b>Public Safety Retirement System</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 73,905	74,554	77,899
Interest	331,631	320,715	305,221
Benefit changes	—	—	—
Differences between expected and actual experience	26,698	8,677	72,199
Assumption changes	—	61,108	(6,165)
Benefit payments	(241,776)	(233,672)	(215,289)
Refunds	(552)	(32)	(96)
Net change in total pension liability	189,906	231,350	233,769
Total pension liability — beginning	4,925,534	4,694,184	4,460,415
Total pension liability — ending (a)	5,115,440	4,925,534	4,694,184
<b>Plan fiduciary net position</b>			
Contributions — member	1,037	1,421	557
Contributions — employer	168,535	152,524	150,512
Net investment income	(267,352)	756,145	496,725
Benefit payments	(241,776)	(233,672)	(215,289)
Refunds	(552)	(32)	(96)
Administrative expense	(1,513)	(1,466)	(1,442)
Net transfers with affiliated systems	5,403	7,956	7,364
Net change in plan fiduciary net position	(336,218)	682,876	438,331
Plan fiduciary net position — beginning	5,105,393	4,422,517	3,984,186
Plan fiduciary net position — ending (b)	4,769,175	5,105,393	4,422,517
Net pension liability/(asset) — ending (a-b)	\$ 346,265	(179,859)	271,667
Plan fiduciary net position as a percentage of the total pension liability	93.2%	103.7%	94.2%
Projected covered payroll	\$ 313,938	325,616	338,919
Net pension liability/(asset) as a percentage of covered payroll	110.3%	(55.2)%	80.2%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Public Safety Retirement System						
2019	2018	2017	2016	2015	2014	2013
78,229	80,296	78,272	78,843	75,352	76,681	81,736
291,647	280,149	269,818	249,722	248,980	236,803	229,965
—	—	—	—	—	—	—
34,291	1,441	(3,041)	9,358	(17,164)	(25,225)	(29,228)
—	—	118,370	110,373	—	(52,410)	—
(201,923)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
(76)	(428)	(226)	(183)	(533)	(199)	(467)
202,168	173,044	290,323	283,605	151,248	90,887	144,520
4,258,247	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140	3,124,620
4,460,415	4,258,247	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140
856	895	793	830	905	835	1,258
150,467	147,101	145,814	147,099	141,024	135,588	128,744
502,657	(13,134)	421,917	249,027	50,654	194,222	350,563
(201,923)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)	(137,486)
(76)	(428)	(226)	(183)	(533)	(199)	(467)
(1,376)	(1,450)	(1,382)	(1,260)	(1,233)	(1,227)	(1,161)
5,512	6,982	5,926	6,701	4,023	2,746	4,676
456,117	(48,448)	399,972	237,706	39,453	187,202	346,127
3,528,069	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184	2,366,057
3,984,186	3,528,069	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184
476,229	730,178	508,686	618,335	572,436	460,641	556,956
89.3%	82.9%	87.5%	83.7%	83.7%	86.3%	83.0%
339,705	348,475	350,782	352,407	355,171	360,750	365,998
140.2%	209.5%	145.0%	175.5%	161.2%	127.7%	152.2%

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**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	(in thousands)		
<b>Firefighters Retirement System</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 30,033	29,351	29,553
Interest	99,323	95,203	90,343
Benefit changes	—	—	—
Differences between expected and actual experience	4,788	5,996	8,829
Assumption changes	—	18,286	6,153
Benefit payments	(71,019)	(66,508)	(62,842)
Refunds	(370)	(176)	(159)
Net change in total pension liability	62,755	82,152	71,877
Total pension liability — beginning	1,470,649	1,388,497	1,316,620
Total pension liability — ending (a)	1,533,404	1,470,649	1,388,497
<b>Plan fiduciary net position</b>			
Contributions — member	19,269	18,985	18,729
Contributions — employer	6,473	7,499	7,490
Court fees and fire insurance premium tax	22,738	21,136	20,279
Net investment income	(94,373)	265,931	173,818
Benefit payments	(71,019)	(66,508)	(62,842)
Refunds	(370)	(176)	(159)
Administrative expense	(451)	(435)	(425)
Net transfers with affiliated systems	3,513	1,837	2,751
Net change in plan fiduciary net position	(114,220)	248,269	159,641
Plan fiduciary net position — beginning	1,799,463	1,551,194	1,391,553
Plan fiduciary net position — ending (b)	1,685,243	1,799,463	1,551,194
Net pension liability/(asset) — ending (a-b)	\$ (151,839)	(328,814)	(162,697)
Plan fiduciary net position as a percentage of the total pension liability	109.9%	122.4%	111.7%
Projected covered payroll	\$ 114,702	114,635	114,458
Net pension liability/(asset) as a percentage of covered payroll	(132.4)%	(286.8)%	(142.1)%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Firefighters Retirement System						
2019	2018	2017	2016	2015	2014	2013
29,281	29,378	28,775	28,652	27,182	27,266	29,577
86,589	82,819	80,386	75,334	75,212	71,490	70,259
—	—	—	—	—	—	—
(437)	937	(9,216)	(5,525)	(8,259)	(15,077)	(13,083)
—	—	31,357	25,572	—	(20,372)	—
(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
(255)	(132)	(511)	(466)	(528)	(293)	(106)
55,331	55,562	75,998	71,465	43,936	15,304	41,900
1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024	957,124
1,316,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024
18,701	18,305	18,460	18,729	18,175	18,300	18,325
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
174,141	(4,509)	146,736	87,746	17,934	69,070	125,685
(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
(255)	(132)	(511)	(466)	(528)	(293)	(106)
(405)	(427)	(408)	(374)	(371)	(370)	(355)
2,027	1,917	1,259	1,611	2,573	3,713	1,302
183,664	(26,518)	118,681	72,667	12,020	62,378	114,883
1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661	853,778
1,391,553	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661
(74,933)	53,400	(28,680)	14,003	15,205	(16,711)	30,363
105.7%	95.8%	102.4%	98.8%	98.6%	101.6%	97.0%
113,330	113,587	112,953	112,322	111,133	111,305	110,741
(66.1)%	47.0%	(25.4)%	12.5%	13.7%	(15.0)%	27.4%

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**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	(in thousands)		
	2022	2021	2020
<b>Judges Retirement System</b>			
<b>Total pension liability</b>			
Service cost	\$ 6,667	6,309	6,144
Interest	19,008	18,415	17,675
Benefit changes	—	—	—
Differences between expected and actual experience	6,552	2,789	548
Assumption changes	—	2,928	3,431
Benefit payments	(17,609)	(18,600)	(15,863)
Refunds	—	—	—
Net change in total pension liability	14,618	11,841	11,935
Total pension liability — beginning	282,957	271,116	259,181
Total pension liability — ending (a)	297,575	282,957	271,116
<b>Plan fiduciary net position</b>			
Contributions — member	—	—	—
Contributions — employer	9,378	8,949	8,646
Court fees and fire insurance premium tax	1,335	1,354	1,410
Net investment income	(14,729)	41,716	27,391
Benefit payments	(17,609)	(18,600)	(15,863)
Refunds	—	—	—
Administrative expense	(88)	(85)	(84)
Net transfers with affiliated systems	1,990	4,563	2,340
Net change in plan fiduciary net position	(19,723)	37,897	23,840
Plan fiduciary net position — beginning	282,030	244,133	220,293
Plan fiduciary net position — ending (b)	262,307	282,030	244,133
Net pension liability/(asset) — ending (a-b)	\$ 35,268	927	26,983
Plan fiduciary net position as a percentage of the total pension liability	88.1%	99.7%	90.0%
Projected covered payroll	\$ 21,202	20,801	20,071
Net pension liability/(asset) as a percentage of covered payroll	166.3%	4.5%	134.4%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Judges Retirement System						
2019	2018	2017	2016	2015	2014	2013
6,054	5,682	5,325	5,023	4,794	4,895	4,537
16,649	15,697	14,866	14,064	14,136	13,641	12,924
—	—	—	—	—	—	—
7,615	7,872	809	1,995	171	2,602	(569)
—	—	13,067	2,885	—	(130)	—
(15,346)	(16,111)	(13,621)	(12,330)	(12,400)	(11,361)	(10,189)
—	—	—	—	—	—	—
14,972	13,140	20,446	11,637	6,701	9,647	6,703
244,209	231,069	210,623	198,986	192,285	182,638	175,935
259,181	244,209	231,069	210,623	198,986	192,285	182,638
—	—	—	—	—	317	—
8,500	8,091	7,563	7,382	6,555	5,627	4,990
1,536	1,518	1,477	1,470	1,653	1,486	1,498
27,775	(730)	23,435	13,820	2,842	11,068	20,130
(15,346)	(16,111)	(13,621)	(12,330)	(12,400)	(11,361)	(10,189)
—	—	—	—	—	—	—
(81)	(84)	(79)	(71)	(71)	(71)	(66)
2,339	4,403	4,090	1,600	1,334	1,092	3,186
24,723	(2,913)	22,865	11,871	(87)	8,158	19,549
195,570	198,483	175,618	163,747	163,834	155,676	136,127
220,293	195,570	198,483	175,618	163,747	163,834	155,676
38,888	48,639	32,586	35,005	35,239	28,451	26,962
85.0%	80.1%	85.9%	83.4%	82.3%	85.2%	85.2%
19,596	18,802	18,661	16,755	15,832	16,072	15,195
198.4%	258.7%	174.6%	208.9%	222.6%	177.0%	177.4%

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**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	(in thousands)		
<b>Utah Governors and Legislators Retirement Plan</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 52	46	104
Interest	872	892	875
Benefit changes	—	—	—
Differences between expected and actual experience	50	(144)	224
Assumption changes	—	114	107
Benefit payments	(1,010)	(1,036)	(1,023)
Refunds	—	—	(10)
Net change in total pension liability	(36)	(128)	277
Total pension liability — beginning	13,202	13,330	13,053
Total pension liability — ending (a)	13,166	13,202	13,330
<b>Plan fiduciary net position</b>			
Contributions — member	—	—	—
Contributions — employer	422	361	369
Court fees and fire insurance premium tax	—	—	—
Net investment income	(693)	2,042	1,396
Benefit payments	(1,010)	(1,036)	(1,023)
Refunds	—	—	(10)
Administrative expense	(4)	(4)	(4)
Net transfers with affiliated systems	(18)	7	(17)
Net change in plan fiduciary net position	(1,303)	1,370	711
Plan fiduciary net position — beginning	13,425	12,055	11,344
Plan fiduciary net position — ending (b)	12,122	13,425	12,055
Net pension liability/(asset) — ending (a-b)	\$ 1,044	(223)	1,275
Plan fiduciary net position as a percentage of the total pension liability	92.1%	101.7%	90.4%
Projected covered payroll	\$ 564	719	757
Net pension liability/(asset) as a percentage of covered payroll	185.1%	(31.0)%	168.4%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Utah Governors and Legislators Retirement Plan						
2019	2018	2017	2016	2015	2014	2013
59	65	68	89	99	106	100
883	877	879	851	890	884	860
—	—	—	—	—	—	—
(54)	139	182	167	(105)	307	(233)
—	—	264	241	—	—	—
(1,012)	(978)	(973)	(941)	(904)	(909)	(892)
—	—	—	—	—	—	—
(124)	103	420	407	(20)	388	(165)
13,177	13,074	12,654	12,247	12,267	11,879	12,044
13,053	13,177	13,074	12,654	12,247	12,267	11,879
—	—	—	—	—	—	—
384	392	404	421	421	411	252
—	—	—	—	—	—	—
1,481	(41)	1,353	849	181	717	1,346
(1,012)	(978)	(973)	(941)	(904)	(909)	(892)
—	—	—	—	—	—	—
(4)	(5)	(5)	(4)	(5)	(5)	(4)
(42)	(51)	89	(12)	(20)	(14)	19
807	(683)	868	313	(327)	200	721
10,537	11,220	10,352	10,039	10,366	10,166	9,445
11,344	10,537	11,220	10,352	10,039	10,366	10,166
1,709	2,640	1,854	2,302	2,208	1,901	1,713
86.9%	80.0%	85.8%	81.8%	82.0%	84.5%	85.6%
639	639	722	799	943	928	390
267.4%	413.1%	256.8%	288.1%	234.1%	204.8%	439.2%

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**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	(in thousands)		
<b>Tier 2 Public Employees Contributory Retirement System</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 200,266	167,468	146,284
Interest	82,921	64,608	49,103
Benefit changes	—	—	—
Differences between expected and actual experience	19,941	9,348	8,201
Assumption changes	—	25,384	10,603
Benefit payments	(2,602)	(1,982)	(1,397)
Refunds	—	—	—
Net change in total pension liability	300,526	264,826	212,794
Total pension liability — beginning	1,111,694	846,868	634,074
Total pension liability — ending (a)	1,412,220	1,111,694	846,868
<b>Plan fiduciary net position</b>			
Contributions — member	164	57	—
Contributions — employer	217,179	168,232	138,466
Court fees and fire insurance premium tax	—	—	—
Net investment income	(65,084)	155,495	84,040
Benefit payments	(2,602)	(1,982)	(1,397)
Refunds	—	—	—
Administrative expense	(345)	(269)	(207)
Net transfers with affiliated systems	1	—	—
Net change in plan fiduciary net position	149,313	321,533	220,902
Plan fiduciary net position — beginning	1,154,018	832,485	611,583
Plan fiduciary net position — ending (b)	1,303,331	1,154,018	832,485
Net pension liability/(asset) — ending (a-b)	\$ 108,889	(42,324)	14,383
Plan fiduciary net position as a percentage of the total pension liability	92.3%	103.8%	98.3%
Projected covered payroll	\$ 2,099,223	1,810,502	1,609,102
Net pension liability/(asset) as a percentage of covered payroll	5.2%	(2.3)%	0.9%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Tier 2 Public Employees Contributory Retirement System						
2019	2018	2017	2016	2015	2014	2013
124,244	104,736	84,388	69,887	51,005	39,283	29,318
36,773	27,109	19,471	12,608	8,370	4,648	2,351
—	—	—	—	—	—	(119)
6,561	(1,727)	357	(1,917)	(4,982)	(4,577)	(4,459)
—	—	5,786	7,867	—	(1,385)	—
(965)	(692)	(417)	(316)	(333)	—	—
—	—	—	—	—	—	—
166,613	129,426	109,585	88,129	54,060	37,969	27,091
467,461	338,035	228,450	140,321	86,261	48,292	21,201
634,074	467,461	338,035	228,450	140,321	86,261	48,292
—	—	—	—	—	—	—
119,839	97,680	79,175	63,062	49,645	37,299	25,743
—	—	—	—	—	—	—
68,228	(1,454)	33,249	14,059	1,963	4,320	4,017
(965)	(692)	(417)	(316)	(333)	—	—
—	—	—	—	—	—	—
(152)	(119)	(82)	(51)	(30)	(16)	(6)
—	—	—	—	3	(2)	3
186,950	95,415	111,925	76,754	51,248	41,601	29,757
424,633	329,218	217,293	140,539	89,291	47,690	17,933
611,583	424,633	329,218	217,293	140,539	89,291	47,690
22,491	42,828	8,817	11,157	(218)	(3,030)	602
96.5%	90.8%	97.4%	95.1%	100.1%	103.5%	98.7%
1,380,488	1,171,543	996,965	822,196	637,560	492,882	353,227
1.6%	3.7%	0.9%	1.4%	— %	(0.6)%	0.2%

Continued on page 106.

**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	<i>(in thousands)</i>		
<b>Tier 2 Public Safety and Firefighter Contributory Retirement System</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 42,714	35,061	29,998
Interest	13,626	10,200	7,350
Benefit changes	—	—	—
Differences between expected and actual experience	(2,131)	(880)	2,133
Assumption changes	—	3,983	(939)
Benefit payments	(42)	(37)	(76)
Refunds	(4)	—	—
Net change in total pension liability	54,163	48,327	38,466
Total pension liability — beginning	177,580	129,253	90,787
Total pension liability — ending (a)	231,743	177,580	129,253
<b>Plan fiduciary net position</b>			
Contributions — member	7,386	5,335	2,343
Contributions — employer	44,272	33,406	25,020
Court fees and fire insurance premium tax	—	—	—
Net investment income	(10,791)	23,686	11,645
Benefit payments	(42)	(37)	(76)
Refunds	(4)	—	—
Administrative expense	(54)	(40)	(29)
Net transfers with affiliated systems	—	—	—
Net change in plan fiduciary net position	40,767	62,350	38,903
Plan fiduciary net position — beginning	182,634	120,284	81,381
Plan fiduciary net position — ending (b)	223,401	182,634	120,284
Net pension liability/(asset) — ending (a-b)	\$ 8,342	(5,054)	8,969
Plan fiduciary net position as a percentage of the total pension liability	96.4%	102.8%	93.1%
Projected covered payroll	\$ 265,137	223,892	188,667
Net pension liability/(asset) as a percentage of covered payroll	3.1%	(2.3)%	4.8%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

## Tier 2 Public Safety and Firefighter Contributory Retirement System

2019	2018	2017	2016	2015	2014	2013
24,849	13,998	10,763	8,164	5,466	3,579	2,151
4,811	3,199	2,133	1,274	746	379	159
2,537	—	—	—	—	—	(7)
1,839	621	(2)	425	220	50	106
—	—	1,924	803	—	(127)	—
(90)	—	(61)	(28)	(30)	—	—
—	—	—	—	—	—	—
33,946	17,818	14,757	10,638	6,402	3,881	2,409
56,841	39,023	24,266	13,628	7,226	3,345	936
90,787	56,841	39,023	24,266	13,628	7,226	3,345
—	55	—	—	—	—	—
18,197	14,295	11,126	8,488	6,221	4,365	2,451
—	—	—	—	—	—	—
8,958	(180)	3,989	1,591	199	404	316
(90)	—	(61)	(28)	(30)	—	—
—	—	—	—	—	—	—
(20)	(14)	(9)	(5)	(3)	(1)	—
—	—	—	—	(3)	2	(3)
27,045	14,156	15,045	10,046	6,384	4,770	2,764
54,336	40,180	25,135	15,089	8,705	3,935	1,171
81,381	54,336	40,180	25,135	15,089	8,705	3,935
9,406	2,505	(1,157)	(869)	(1,461)	(1,479)	(590)
89.6%	95.6%	103.0%	103.6%	110.7%	120.5%	117.6%
156,778	123,439	98,113	74,834	53,276	35,019	20,215
6.0%	2.0%	(1.2)%	(1.2)%	(2.7)%	(4.2)%	(2.9)%

Continued on page 108.



**Utah Retirement Systems**  
**Required Supplementary Information** (Continued)

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

Year Ended December 31

	(in thousands)		
<b>Total All Retirement Systems</b>	2022	2021	2020
<b>Total pension liability</b>			
Service cost	\$ 778,600	726,374	695,603
Interest	2,887,019	2,762,770	2,627,391
Benefit changes	—	—	—
Differences between expected and actual experience	399,237	408,804	339,224
Assumption changes	—	509,024	200,886
Benefit payments	(2,091,063)	(1,978,593)	(1,875,007)
Refunds	(5,108)	(3,146)	(4,356)
Net change in total pension liability	1,968,685	2,425,233	1,983,741
Total pension liability — beginning	42,805,030	40,379,797	38,396,056
Total pension liability — ending (a)	44,773,715	42,805,030	40,379,797
<b>Plan fiduciary net position</b>			
Contributions — member	44,511	43,421	39,742
Contributions — employer	1,419,856	1,318,085	1,247,787
Court fees and fire insurance premium tax	24,073	22,490	21,689
Net investment income	(2,357,293)	6,666,790	4,380,371
Benefit payments	(2,091,063)	(1,978,593)	(1,875,007)
Refunds	(5,108)	(3,146)	(4,356)
Administrative expense	(13,194)	(12,691)	(12,402)
Net transfers with affiliated systems	—	—	—
Net change in plan fiduciary net position	(2,978,218)	6,056,356	3,797,824
Plan fiduciary net position — beginning	45,052,735	38,996,379	35,198,555
Plan fiduciary net position — ending (b)	42,074,517	45,052,735	38,996,379
Net pension liability/(asset) — ending (a-b)	\$ 2,699,198	(2,247,705)	1,383,418
Plan fiduciary net position as a percentage of the total pension liability	94.0%	105.3%	96.6%
Projected covered payroll	\$ 6,201,485	5,884,887	5,609,104
Net pension liability/(asset) as a percentage of covered payroll	43.5%	(38.2)%	24.7%

**Utah Retirement Systems**  
**Required Supplementary Information** *(Continued)*

Total All Retirement Systems						
2019	2018	2017	2016	2015	2014	2013
670,791	642,590	616,373	604,021	567,368	569,382	599,736
2,513,006	2,417,385	2,355,253	2,210,400	2,219,616	2,121,357	2,056,481
2,537	—	—	3,343	—	—	23,718
271,987	24,714	(120,133)	(2,890)	(233,574)	(269,582)	(276,487)
—	—	835,063	734,391	—	(236,578)	—
(1,764,328)	(1,670,644)	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
(6,118)	(4,797)	(6,985)	(6,715)	(4,772)	(5,129)	(4,949)
1,687,875	1,409,248	2,104,038	2,044,561	1,124,876	853,894	1,156,343
36,708,181	35,298,933	33,194,895	31,150,334	30,025,458	29,171,564	28,015,221
38,396,056	36,708,181	35,298,933	33,194,895	31,150,334	30,025,458	29,171,564
33,237	36,312	39,213	39,287	40,871	38,500	40,167
1,198,341	1,139,051	1,112,998	1,073,225	1,035,724	974,178	889,481
43,395	10,265	2,700	12,039	18,871	15,640	12,783
4,446,363	(116,768)	3,773,910	2,248,696	461,772	1,786,431	3,260,548
(1,764,328)	(1,670,644)	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)	(1,242,156)
(6,118)	(4,797)	(6,985)	(6,715)	(4,772)	(5,129)	(4,949)
(11,857)	(12,515)	(12,001)	(11,067)	(10,988)	(11,012)	(10,401)
—	—	—	—	—	—	—
3,939,033	(619,096)	3,334,302	1,857,476	117,716	1,473,052	2,945,473
31,259,522	31,878,618	28,544,316	26,686,840	26,569,124	25,096,072	22,150,599
35,198,555	31,259,522	31,878,618	28,544,316	26,686,840	26,569,124	25,096,072
3,197,501	5,448,659	3,420,315	4,650,579	4,463,494	3,456,334	4,075,492
91.7%	85.2%	90.3%	86.0%	85.7%	88.5%	86.0%
5,373,167	5,146,312	4,998,694	4,839,495	4,714,627	4,678,491	4,669,560
59.5%	105.9%	68.4%	96.1%	94.7%	73.9%	87.3%