

Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability

Year Ended December 31

(in thousands)

Noncontributory Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 426,083	422,530	410,799
Interest	2,346,798	2,256,737	2,167,432
Benefit changes	—	—	—
Differences between expected and actual experience	705,556	351,279	404,505
Assumption changes	406,158	—	386,554
Benefit payments	(1,766,122)	(1,662,640)	(1,565,046)
Refunds	(3,030)	(3,334)	(1,313)
Net change in total pension liability	2,115,443	1,364,572	1,802,931
Total pension liability — beginning	34,931,362	33,566,790	31,763,859
Total pension liability — ending (a)	37,046,805	34,931,362	33,566,790
Plan fiduciary net position			
Contributions — member	11,884	15,415	16,178
Contributions — employer	1,046,505	969,922	942,910
Net investment income	2,969,950	(1,833,570)	5,201,752
Benefit payments	(1,766,122)	(1,662,640)	(1,565,046)
Refunds	(3,030)	(3,334)	(1,313)
Administrative expense	(10,736)	(10,357)	(10,004)
Net transfers with affiliated systems	(6,005)	58,592	5,986
Net change in plan fiduciary net position	2,242,446	(2,465,972)	4,590,463
Plan fiduciary net position — beginning	32,602,563	35,068,535	30,478,072
Plan fiduciary net position — ending (b)	34,845,009	32,602,563	35,068,535
Net pension liability/(asset) — ending (a-b)	\$ 2,201,796	2,328,799	(1,501,745)
Plan fiduciary net position as a percentage of the total pension liability	94.1%	93.3%	104.5%
Projected covered payroll	\$ 3,392,657	3,360,198	3,361,940
Net pension liability/(asset) as a percentage of covered payroll	64.9%	69.3%	(44.7)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Noncontributory Retirement System						
2020	2019	2018	2017	2016	2015	2014
402,446	404,539	404,391	403,981	407,690	394,798	407,992
2,071,626	1,989,449	1,920,238	1,877,576	1,764,653	1,775,819	1,699,693
—	—	—	—	48,400	—	—
252,553	234,989	32,680	(84,234)	6,408	(188,166)	(204,823)
176,384	—	—	642,187	563,741	—	(157,921)
(1,488,627)	(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)
(2,338)	(3,127)	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)
1,412,044	1,228,867	1,034,329	1,586,838	1,602,209	856,308	698,939
30,351,815	29,122,948	28,088,619	26,501,781	24,899,572	24,043,264	23,344,325
31,763,859	30,351,815	29,122,948	28,088,619	26,501,781	24,899,572	24,043,264
16,385	11,730	14,602	17,285	16,308	17,020	13,587
912,525	888,078	858,444	854,255	831,631	813,449	772,420
3,430,989	3,499,188	(92,207)	2,987,282	1,783,911	366,748	1,419,053
(1,488,627)	(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)	(1,043,798)
(2,338)	(3,127)	(2,766)	(4,635)	(4,366)	(2,496)	(2,204)
(9,805)	(9,411)	(9,962)	(9,579)	(8,856)	(8,797)	(8,828)
(16,980)	(19,611)	13,035	(10,187)	(8,005)	33,648	30,467
2,842,149	2,969,864	(539,068)	2,586,384	1,426,306	95,925	1,180,697
27,635,923	24,666,059	25,205,127	22,618,743	21,192,437	21,096,512	19,915,815
30,478,072	27,635,923	24,666,059	25,205,127	22,618,743	21,192,437	21,096,512
1,285,787	2,715,892	4,456,889	2,883,492	3,883,038	3,707,135	2,946,752
96.0%	91.1%	84.7%	89.7%	85.3%	85.1%	87.7%
3,306,382	3,328,314	3,330,548	3,375,321	3,406,567	3,458,286	3,570,912
38.9%	81.6%	133.8%	85.4%	114.0%	107.2%	82.5%

Continued on page 94.

Utah Retirement Systems
Required Supplementary Information (Continued)

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

Year Ended December 31

	(in thousands)		
Contributory Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 2,026	2,433	2,786
Interest	81,565	82,901	85,305
Benefit changes	—	—	—
Differences between expected and actual experience	10,504	(7,940)	(21,487)
Assumption changes	2,786	—	10,667
Benefit payments	(96,216)	(94,365)	(91,712)
Refunds	(1,952)	(848)	(1,625)
Net change in total pension liability	(1,287)	(17,819)	(16,066)
Total pension liability — beginning	1,238,805	1,256,624	1,272,690
Total pension liability — ending (a)	1,237,518	1,238,805	1,256,624
Plan fiduciary net position			
Contributions — member	1,130	1,240	1,445
Contributions — employer	3,299	3,675	4,204
Net investment income	107,716	(70,701)	220,023
Benefit payments	(96,216)	(94,365)	(91,712)
Refunds	(1,952)	(848)	(1,625)
Administrative expense	(374)	(382)	(388)
Net transfers with affiliated systems	(3,136)	(69,481)	(20,349)
Net change in plan fiduciary net position	10,467	(230,862)	111,598
Plan fiduciary net position — beginning	1,216,375	1,447,237	1,335,639
Plan fiduciary net position — ending (b)	1,226,842	1,216,375	1,447,237
Net pension liability/(asset) — ending (a-b)	\$ 10,676	22,430	(190,613)
Plan fiduciary net position as a percentage of the total pension liability	99.1%	98.2%	115.2%
Projected covered payroll	\$ 18,977	26,521	26,782
Net pension liability/(asset) as a percentage of covered payroll	56.3%	84.6%	(711.7)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Contributory Retirement System						
2020	2019	2018	2017	2016	2015	2014
3,175	3,536	4,044	4,801	5,673	8,672	9,580
85,198	86,205	87,297	90,124	91,894	95,463	93,819
—	—	—	—	(45,057)	—	—
(5,463)	(12,817)	(17,249)	(24,990)	(13,801)	(15,289)	(22,839)
11,312	—	—	22,108	22,909	—	(4,233)
(89,890)	(88,162)	(86,795)	(84,759)	(83,447)	(81,390)	(77,015)
(1,753)	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)
2,579	(13,898)	(14,174)	5,671	(23,529)	6,241	(3,121)
1,270,111	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921
1,272,690	1,270,111	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800
1,728	1,950	2,455	2,675	3,420	4,771	5,461
4,759	5,433	6,027	7,946	8,188	11,719	12,954
154,367	163,935	(4,513)	155,949	97,693	21,251	87,577
(89,890)	(88,162)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)
(1,753)	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)
(406)	(408)	(454)	(457)	(446)	(478)	(494)
4,542	9,775	(26,286)	(1,177)	(1,895)	(41,558)	(38,004)
73,347	89,863	(111,037)	78,562	21,813	(86,900)	(11,954)
1,262,292	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945
1,335,639	1,262,292	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991
(62,949)	7,819	111,580	14,717	87,608	132,950	39,809
104.9%	99.4%	91.3%	98.9%	93.2%	89.9%	97.0%
30,748	34,317	39,279	45,177	53,615	82,426	90,623
(204.7)%	22.8%	284.1%	32.6%	163.4%	161.3%	43.9%

Continued on page 96.

Utah Retirement Systems
Required Supplementary Information (Continued)

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

Year Ended December 31

	(in thousands)		
Public Safety Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 79,409	73,905	74,554
Interest	344,468	331,631	320,715
Benefit changes	—	—	—
Differences between expected and actual experience	200,925	26,698	8,677
Assumption changes	65,813	—	61,108
Benefit payments	(252,716)	(241,776)	(233,672)
Refunds	(128)	(552)	(32)
Net change in total pension liability	437,771	189,906	231,350
Total pension liability — beginning	5,115,440	4,925,534	4,694,184
Total pension liability — ending (a)	5,553,211	5,115,440	4,925,534
Plan fiduciary net position			
Contributions — member	568	1,037	1,421
Contributions — employer	183,723	168,535	152,524
Net investment income	436,503	(267,352)	756,145
Benefit payments	(252,716)	(241,776)	(233,672)
Refunds	(128)	(552)	(32)
Administrative expense	(1,599)	(1,513)	(1,466)
Net transfers with affiliated systems	5,041	5,403	7,956
Net change in plan fiduciary net position	371,392	(336,218)	682,876
Plan fiduciary net position — beginning	4,769,175	5,105,393	4,422,517
Plan fiduciary net position — ending (b)	5,140,567	4,769,175	5,105,393
Net pension liability/(asset) — ending (a-b)	\$ 412,644	346,265	(179,859)
Plan fiduciary net position as a percentage of the total pension liability	92.6%	93.2%	103.7%
Projected covered payroll	\$ 339,221	313,938	325,616
Net pension liability/(asset) as a percentage of covered payroll	121.6%	110.3%	(55.2)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Public Safety Retirement System						
2020	2019	2018	2017	2016	2015	2014
77,899	78,229	80,296	78,272	78,843	75,352	76,681
305,221	291,647	280,149	269,818	249,722	248,980	236,803
—	—	—	—	—	—	—
72,199	34,291	1,441	(3,041)	9,358	(17,164)	(25,225)
(6,165)	—	—	118,370	110,373	—	(52,410)
(215,289)	(201,923)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)
(96)	(76)	(428)	(226)	(183)	(533)	(199)
233,769	202,168	173,044	290,323	283,605	151,248	90,887
4,460,415	4,258,247	4,085,203	3,794,880	3,511,275	3,360,027	3,269,140
4,694,184	4,460,415	4,258,247	4,085,203	3,794,880	3,511,275	3,360,027
557	856	895	793	830	905	835
150,512	150,467	147,101	145,814	147,099	141,024	135,588
496,725	502,657	(13,134)	421,917	249,027	50,654	194,222
(215,289)	(201,923)	(188,414)	(172,870)	(164,508)	(155,387)	(144,763)
(96)	(76)	(428)	(226)	(183)	(533)	(199)
(1,442)	(1,376)	(1,450)	(1,382)	(1,260)	(1,233)	(1,227)
7,364	5,512	6,982	5,926	6,701	4,023	2,746
438,331	456,117	(48,448)	399,972	237,706	39,453	187,202
3,984,186	3,528,069	3,576,517	3,176,545	2,938,839	2,899,386	2,712,184
4,422,517	3,984,186	3,528,069	3,576,517	3,176,545	2,938,839	2,899,386
271,667	476,229	730,178	508,686	618,335	572,436	460,641
94.2%	89.3%	82.9%	87.5%	83.7%	83.7%	86.3%
338,919	339,705	348,475	350,782	352,407	355,171	360,750
80.2%	140.2%	209.5%	145.0%	175.5%	161.2%	127.7%

Continued on page 98.

Utah Retirement Systems
Required Supplementary Information (Continued)

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

Year Ended December 31

	(in thousands)		
Firefighters Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 30,523	30,033	29,351
Interest	103,496	99,323	95,203
Benefit changes	800	—	—
Differences between expected and actual experience	28,171	4,788	5,996
Assumption changes	942	—	18,286
Benefit payments	(75,341)	(71,019)	(66,508)
Refunds	(195)	(370)	(176)
Net change in total pension liability	88,396	62,755	82,152
Total pension liability — beginning	1,533,404	1,470,649	1,388,497
Total pension liability — ending (a)	1,621,800	1,533,404	1,470,649
Plan fiduciary net position			
Contributions — member	19,696	19,269	18,985
Contributions — employer	6,074	6,473	7,499
Court fees and fire insurance premium tax	23,328	22,738	21,136
Net investment income	154,170	(94,373)	265,931
Benefit payments	(75,341)	(71,019)	(66,508)
Refunds	(195)	(370)	(176)
Administrative expense	(466)	(451)	(435)
Net transfers with affiliated systems	2,611	3,513	1,837
Net change in plan fiduciary net position	129,877	(114,220)	248,269
Plan fiduciary net position — beginning	1,685,243	1,799,463	1,551,194
Plan fiduciary net position — ending (b)	1,815,120	1,685,243	1,799,463
Net pension liability/(asset) — ending (a-b)	\$ (193,320)	(151,839)	(328,814)
Plan fiduciary net position as a percentage of the total pension liability	111.9%	109.9%	122.4%
Projected covered payroll	\$ 116,760	114,702	114,635
Net pension liability/(asset) as a percentage of covered payroll	(165.6)%	(132.4)%	(286.8)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Firefighters Retirement System						
2020	2019	2018	2017	2016	2015	2014
29,553	29,281	29,378	28,775	28,652	27,182	27,266
90,343	86,589	82,819	80,386	75,334	75,212	71,490
—	—	—	—	—	—	—
8,829	(437)	937	(9,216)	(5,525)	(8,259)	(15,077)
6,153	—	—	31,357	25,572	—	(20,372)
(62,842)	(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)
(159)	(255)	(132)	(511)	(466)	(528)	(293)
71,877	55,331	55,562	75,998	71,465	43,936	15,304
1,316,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024
1,388,497	1,316,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328
18,729	18,701	18,305	18,460	18,729	18,175	18,300
7,490	7,443	7,021	6,715	6,954	6,690	5,514
20,279	41,859	8,747	1,223	10,569	17,218	14,154
173,818	174,141	(4,509)	146,736	87,746	17,934	69,070
(62,842)	(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)
(159)	(255)	(132)	(511)	(466)	(528)	(293)
(425)	(405)	(427)	(408)	(374)	(371)	(370)
2,751	2,027	1,917	1,259	1,611	2,573	3,713
159,641	183,664	(26,518)	118,681	72,667	12,020	62,378
1,391,553	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661
1,551,194	1,391,553	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039
(162,697)	(74,933)	53,400	(28,680)	14,003	15,205	(16,711)
111.7%	105.7%	95.8%	102.4%	98.8%	98.6%	101.6%
114,458	113,330	113,587	112,953	112,322	111,133	111,305
(142.1)%	(66.1)%	47.0%	(25.4)%	12.5%	13.7%	(15.0)%

Continued on page 100.

Utah Retirement Systems
Required Supplementary Information (Continued)

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

Year Ended December 31

	(in thousands)		
Judges Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 6,920	6,667	6,309
Interest	19,983	19,008	18,415
Benefit changes	—	—	—
Differences between expected and actual experience	9,671	6,552	2,789
Assumption changes	(289)	—	2,928
Benefit payments	(18,620)	(17,609)	(18,600)
Refunds	—	—	—
Net change in total pension liability	17,665	14,618	11,841
Total pension liability — beginning	297,575	282,957	271,116
Total pension liability — ending (a)	315,240	297,575	282,957
Plan fiduciary net position			
Contributions — member	—	—	—
Contributions — employer	10,372	9,378	8,949
Court fees and fire insurance premium tax	1,605	1,335	1,354
Net investment income	23,938	(14,729)	41,716
Benefit payments	(18,620)	(17,609)	(18,600)
Refunds	—	—	—
Administrative expense	(92)	(88)	(85)
Net transfers with affiliated systems	1,474	1,990	4,563
Net change in plan fiduciary net position	18,677	(19,723)	37,897
Plan fiduciary net position — beginning	262,307	282,030	244,133
Plan fiduciary net position — ending (b)	280,984	262,307	282,030
Net pension liability/(asset) — ending (a-b)	\$ 34,256	35,268	927
Plan fiduciary net position as a percentage of the total pension liability	89.1%	88.1%	99.7%
Projected covered payroll	\$ 22,225	21,202	20,801
Net pension liability/(asset) as a percentage of covered payroll	154.1%	166.3%	4.5%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Judges Retirement System						
2020	2019	2018	2017	2016	2015	2014
6,144	6,054	5,682	5,325	5,023	4,794	4,895
17,675	16,649	15,697	14,866	14,064	14,136	13,641
—	—	—	—	—	—	—
548	7,615	7,872	809	1,995	171	2,602
3,431	—	—	13,067	2,885	—	(130)
(15,863)	(15,346)	(16,111)	(13,621)	(12,330)	(12,400)	(11,361)
—	—	—	—	—	—	—
11,935	14,972	13,140	20,446	11,637	6,701	9,647
259,181	244,209	231,069	210,623	198,986	192,285	182,638
271,116	259,181	244,209	231,069	210,623	198,986	192,285
—	—	—	—	—	—	317
8,646	8,500	8,091	7,563	7,382	6,555	5,627
1,410	1,536	1,518	1,477	1,470	1,653	1,486
27,391	27,775	(730)	23,435	13,820	2,842	11,068
(15,863)	(15,346)	(16,111)	(13,621)	(12,330)	(12,400)	(11,361)
—	—	—	—	—	—	—
(84)	(81)	(84)	(79)	(71)	(71)	(71)
2,340	2,339	4,403	4,090	1,600	1,334	1,092
23,840	24,723	(2,913)	22,865	11,871	(87)	8,158
220,293	195,570	198,483	175,618	163,747	163,834	155,676
244,133	220,293	195,570	198,483	175,618	163,747	163,834
26,983	38,888	48,639	32,586	35,005	35,239	28,451
90.0%	85.0%	80.1%	85.9%	83.4%	82.3%	85.2%
20,071	19,596	18,802	18,661	16,755	15,832	16,072
134.4%	198.4%	258.7%	174.6%	208.9%	222.6%	177.0%

Continued on page 102.

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>		
Utah Governors and Legislators Retirement Plan	2023	2022	2021
Total pension liability			
Service cost	\$ 55	52	46
Interest	868	872	892
Benefit changes	—	—	—
Differences between expected and actual experience	(26)	50	(144)
Assumption changes	10	—	114
Benefit payments	(1,058)	(1,010)	(1,036)
Refunds	—	—	—
Net change in total pension liability	(151)	(36)	(128)
Total pension liability — beginning	13,166	13,202	13,330
Total pension liability — ending (a)	13,015	13,166	13,202
Plan fiduciary net position			
Contributions — member	—	—	—
Contributions — employer	360	422	361
Court fees and fire insurance premium tax	—	—	—
Net investment income	1,097	(693)	2,042
Benefit payments	(1,058)	(1,010)	(1,036)
Refunds	—	—	—
Administrative expense	(4)	(4)	(4)
Net transfers with affiliated systems	15	(18)	7
Net change in plan fiduciary net position	410	(1,303)	1,370
Plan fiduciary net position — beginning	12,122	13,425	12,055
Plan fiduciary net position — ending (b)	12,532	12,122	13,425
Net pension liability/(asset) — ending (a-b)	\$ 483	1,044	(223)
Plan fiduciary net position as a percentage of the total pension liability	96.3%	92.1%	101.7%
Projected covered payroll	\$ 724	564	719
Net pension liability/(asset) as a percentage of covered payroll	66.7%	185.1%	(31.0)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Utah Governors and Legislators Retirement Plan						
2020	2019	2018	2017	2016	2015	2014
104	59	65	68	89	99	106
875	883	877	879	851	890	884
—	—	—	—	—	—	—
224	(54)	139	182	167	(105)	307
107	—	—	264	241	—	—
(1,023)	(1,012)	(978)	(973)	(941)	(904)	(909)
(10)	—	—	—	—	—	—
277	(124)	103	420	407	(20)	388
13,053	13,177	13,074	12,654	12,247	12,267	11,879
13,330	13,053	13,177	13,074	12,654	12,247	12,267
—	—	—	—	—	—	—
369	384	392	404	421	421	411
—	—	—	—	—	—	—
1,396	1,481	(41)	1,353	849	181	717
(1,023)	(1,012)	(978)	(973)	(941)	(904)	(909)
(10)	—	—	—	—	—	—
(4)	(4)	(5)	(5)	(4)	(5)	(5)
(17)	(42)	(51)	89	(12)	(20)	(14)
711	807	(683)	868	313	(327)	200
11,344	10,537	11,220	10,352	10,039	10,366	10,166
12,055	11,344	10,537	11,220	10,352	10,039	10,366
1,275	1,709	2,640	1,854	2,302	2,208	1,901
90.4%	86.9%	80.0%	85.8%	81.8%	82.0%	84.5%
757	639	639	722	799	943	928
168.4%	267.4%	413.1%	256.8%	288.1%	234.1%	204.8%

Continued on page 104.

Utah Retirement Systems
Required Supplementary Information (Continued)

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

Year Ended December 31

	(in thousands)		
Tier 2 Public Employees Contributory Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 235,367	200,266	167,468
Interest	104,661	82,921	64,608
Benefit changes	—	—	—
Differences between expected and actual experience	32,094	19,941	9,348
Assumption changes	87,861	—	25,384
Benefit payments	(4,005)	(2,602)	(1,982)
Refunds	(9)	—	—
Net change in total pension liability	455,969	300,526	264,826
Total pension liability — beginning	1,412,220	1,111,694	846,868
Total pension liability — ending (a)	1,868,189	1,412,220	1,111,694
Plan fiduciary net position			
Contributions — member	130	164	57
Contributions — employer	246,408	217,179	168,232
Court fees and fire insurance premium tax	—	—	—
Net investment income	128,147	(65,084)	155,495
Benefit payments	(4,005)	(2,602)	(1,982)
Refunds	(9)	—	—
Administrative expense	(451)	(345)	(269)
Net transfers with affiliated systems	—	1	—
Net change in plan fiduciary net position	370,220	149,313	321,533
Plan fiduciary net position — beginning	1,303,331	1,154,018	832,485
Plan fiduciary net position — ending (b)	1,673,551	1,303,331	1,154,018
Net pension liability/(asset) — ending (a-b)	\$ 194,638	108,889	(42,324)
Plan fiduciary net position as a percentage of the total pension liability	89.6%	92.3%	103.8%
Projected covered payroll	\$ 2,459,139	2,099,223	1,810,502
Net pension liability/(asset) as a percentage of covered payroll	7.9%	5.2%	(2.3)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Tier 2 Public Employees Contributory Retirement System						
2020	2019	2018	2017	2016	2015	2014
146,284	124,244	104,736	84,388	69,887	51,005	39,283
49,103	36,773	27,109	19,471	12,608	8,370	4,648
—	—	—	—	—	—	—
8,201	6,561	(1,727)	357	(1,917)	(4,982)	(4,577)
10,603	—	—	5,786	7,867	—	(1,385)
(1,397)	(965)	(692)	(417)	(316)	(333)	—
—	—	—	—	—	—	—
212,794	166,613	129,426	109,585	88,129	54,060	37,969
634,074	467,461	338,035	228,450	140,321	86,261	48,292
846,868	634,074	467,461	338,035	228,450	140,321	86,261
—	—	—	—	—	—	—
138,466	119,839	97,680	79,175	63,062	49,645	37,299
—	—	—	—	—	—	—
84,040	68,228	(1,454)	33,249	14,059	1,963	4,320
(1,397)	(965)	(692)	(417)	(316)	(333)	—
—	—	—	—	—	—	—
(207)	(152)	(119)	(82)	(51)	(30)	(16)
—	—	—	—	—	3	(2)
220,902	186,950	95,415	111,925	76,754	51,248	41,601
611,583	424,633	329,218	217,293	140,539	89,291	47,690
832,485	611,583	424,633	329,218	217,293	140,539	89,291
14,383	22,491	42,828	8,817	11,157	(218)	(3,030)
98.3%	96.5%	90.8%	97.4%	95.1%	100.1%	103.5%
1,609,102	1,380,488	1,171,543	996,965	822,196	637,560	492,882
0.9%	1.6%	3.7%	0.9%	1.4%	— %	(0.6)%

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>		
Tier 2 Public Safety and Firefighter Contributory Retirement System	2023	2022	2021
Total pension liability			
Service cost	\$ 54,564	42,714	35,061
Interest	17,735	13,626	10,200
Benefit changes	—	—	—
Differences between expected and actual experience	17,650	(2,131)	(880)
Assumption changes	24,251	—	3,983
Benefit payments	(191)	(42)	(37)
Refunds	(33)	(4)	—
Net change in total pension liability	113,976	54,163	48,327
Total pension liability — beginning	231,743	177,580	129,253
Total pension liability — ending (a)	345,719	231,743	177,580
Plan fiduciary net position			
Contributions — member	9,589	7,386	5,335
Contributions — employer	52,392	44,272	33,406
Court fees and fire insurance premium tax	—	—	—
Net investment income	22,971	(10,791)	23,686
Benefit payments	(191)	(42)	(37)
Refunds	(33)	(4)	—
Administrative expense	(79)	(54)	(40)
Net transfers with affiliated systems	—	—	—
Net change in plan fiduciary net position	84,649	40,767	62,350
Plan fiduciary net position — beginning	223,401	182,634	120,284
Plan fiduciary net position — ending (b)	308,050	223,401	182,634
Net pension liability/(asset) — ending (a-b)	\$ 37,669	8,342	(5,054)
Plan fiduciary net position as a percentage of the total pension liability	89.1%	96.4%	102.8%
Projected covered payroll	\$ 339,569	265,137	223,892
Net pension liability/(asset) as a percentage of covered payroll	11.1%	3.1%	(2.3)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Tier 2 Public Safety and Firefighter Contributory Retirement System

2020	2019	2018	2017	2016	2015	2014
29,998	24,849	13,998	10,763	8,164	5,466	3,579
7,350	4,811	3,199	2,133	1,274	746	379
—	2,537	—	—	—	—	—
2,133	1,839	621	(2)	425	220	50
(939)	—	—	1,924	803	—	(127)
(76)	(90)	—	(61)	(28)	(30)	—
—	—	—	—	—	—	—
38,466	33,946	17,818	14,757	10,638	6,402	3,881
90,787	56,841	39,023	24,266	13,628	7,226	3,345
129,253	90,787	56,841	39,023	24,266	13,628	7,226
2,343	—	55	—	—	—	—
25,020	18,197	14,295	11,126	8,488	6,221	4,365
—	—	—	—	—	—	—
11,645	8,958	(180)	3,989	1,591	199	404
(76)	(90)	—	(61)	(28)	(30)	—
—	—	—	—	—	—	—
(29)	(20)	(14)	(9)	(5)	(3)	(1)
—	—	—	—	—	(3)	2
38,903	27,045	14,156	15,045	10,046	6,384	4,770
81,381	54,336	40,180	25,135	15,089	8,705	3,935
120,284	81,381	54,336	40,180	25,135	15,089	8,705
8,969	9,406	2,505	(1,157)	(869)	(1,461)	(1,479)
93.1%	89.6%	95.6%	103.0%	103.6%	110.7%	120.5%
188,667	156,778	123,439	98,113	74,834	53,276	35,019
4.8%	6.0%	2.0%	(1.2)%	(1.2)%	(2.7)%	(4.2)%

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)		
Total All Retirement Systems	2023	2022	2021
Total pension liability			
Service cost	\$ 834,947	778,600	726,374
Interest	3,019,574	2,887,019	2,762,770
Benefit changes	800	—	—
Differences between expected and actual experience	1,004,545	399,237	408,804
Assumption changes	587,532	—	509,024
Benefit payments	(2,214,269)	(2,091,063)	(1,978,593)
Refunds	(5,347)	(5,108)	(3,146)
Net change in total pension liability	3,227,782	1,968,685	2,425,233
Total pension liability — beginning	44,773,715	42,805,030	40,379,797
Total pension liability — ending (a)	48,001,497	44,773,715	42,805,030
Plan fiduciary net position			
Contributions — member	42,997	44,511	43,421
Contributions — employer	1,549,133	1,419,856	1,318,085
Court fees and fire insurance premium tax	24,933	24,073	22,490
Net investment income	3,844,492	(2,357,293)	6,666,790
Benefit payments	(2,214,269)	(2,091,063)	(1,978,593)
Refunds	(5,347)	(5,108)	(3,146)
Administrative expense	(13,801)	(13,194)	(12,691)
Net transfers with affiliated systems	—	—	—
Net change in plan fiduciary net position	3,228,138	(2,978,218)	6,056,356
Plan fiduciary net position — beginning	42,074,517	45,052,735	38,996,379
Plan fiduciary net position — ending (b)	45,302,655	42,074,517	45,052,735
Net pension liability/(asset) — ending (a-b)	\$ 2,698,842	2,699,198	(2,247,705)
Plan fiduciary net position as a percentage of the total pension liability	94.4%	94.0%	105.3%
Projected covered payroll	\$ 6,689,272	6,201,485	5,884,887
Net pension liability/(asset) as a percentage of covered payroll	40.3%	43.5%	(38.2)%

Utah Retirement Systems
Required Supplementary Information *(Continued)*

Total All Retirement Systems						
2020	2019	2018	2017	2016	2015	2014
695,603	670,791	642,590	616,373	604,021	567,368	569,382
2,627,391	2,513,006	2,417,385	2,355,253	2,210,400	2,219,616	2,121,357
—	2,537	—	—	3,343	—	—
339,224	271,987	24,714	(120,133)	(2,890)	(233,574)	(269,582)
200,886	—	—	835,063	734,391	—	(236,578)
(1,875,007)	(1,764,328)	(1,670,644)	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)
(4,356)	(6,118)	(4,797)	(6,985)	(6,715)	(4,772)	(5,129)
1,983,741	1,687,875	1,409,248	2,104,038	2,044,561	1,124,876	853,894
38,396,056	36,708,181	35,298,933	33,194,895	31,150,334	30,025,458	29,171,564
40,379,797	38,396,056	36,708,181	35,298,933	33,194,895	31,150,334	30,025,458
39,742	33,237	36,312	39,213	39,287	40,871	38,500
1,247,787	1,198,341	1,139,051	1,112,998	1,073,225	1,035,724	974,178
21,689	43,395	10,265	2,700	12,039	18,871	15,640
4,380,371	4,446,363	(116,768)	3,773,910	2,248,696	461,772	1,786,431
(1,875,007)	(1,764,328)	(1,670,644)	(1,575,533)	(1,497,989)	(1,423,762)	(1,325,556)
(4,356)	(6,118)	(4,797)	(6,985)	(6,715)	(4,772)	(5,129)
(12,402)	(11,857)	(12,515)	(12,001)	(11,067)	(10,988)	(11,012)
—	—	—	—	—	—	—
3,797,824	3,939,033	(619,096)	3,334,302	1,857,476	117,716	1,473,052
35,198,555	31,259,522	31,878,618	28,544,316	26,686,840	26,569,124	25,096,072
38,996,379	35,198,555	31,259,522	31,878,618	28,544,316	26,686,840	26,569,124
1,383,418	3,197,501	5,448,659	3,420,315	4,650,579	4,463,494	3,456,334
96.6%	91.7%	85.2%	90.3%	86.0%	85.7%	88.5%
5,609,104	5,373,167	5,146,312	4,998,694	4,839,495	4,714,627	4,678,491
24.7%	59.5%	105.9%	68.4%	96.1%	94.7%	73.9%