

# Required Supplementary Information

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

Year Ended December 31

(in thousands)

	2020	2019	2018	2017	2016	2015
<b>Total pension liability</b>						
Service cost	\$ 402,446	404,539	404,391	403,981	407,690	394,798
Interest	2,071,626	1,989,449	1,920,238	1,877,576	1,764,653	1,775,819
Benefit changes	—	—	—	—	48,400	—
Difference between actual and expected experience	252,553	234,989	32,680	(84,234)	6,408	(188,166)
Assumption changes	176,384	—	—	642,187	563,741	—
Benefit payments	(1,488,627)	(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)
Refunds	(2,338)	(3,127)	(2,766)	(4,635)	(4,366)	(2,496)
<b>Net change in total pension liability</b>	<b>1,412,044</b>	<b>1,228,867</b>	<b>1,034,329</b>	<b>1,586,838</b>	<b>1,602,209</b>	<b>856,308</b>
<b>Total pension liability — beginning</b>	<b>30,351,815</b>	<b>29,122,948</b>	<b>28,088,619</b>	<b>26,501,781</b>	<b>24,899,572</b>	<b>24,043,264</b>
<b>Total pension liability — ending (a)</b>	<b>31,763,859</b>	<b>30,351,815</b>	<b>29,122,948</b>	<b>28,088,619</b>	<b>26,501,781</b>	<b>24,899,572</b>
<b>Plan fiduciary net position</b>						
Contributions — member	16,385	11,730	14,602	17,285	16,308	17,020
Contributions — employer	912,525	888,078	858,444	854,255	831,631	813,449
Court fees and fire insurance tax	—	—	—	—	—	—
Net investment income	3,430,989	3,499,188	(92,207)	2,987,282	1,783,911	366,748
Benefit payments	(1,488,627)	(1,396,983)	(1,320,214)	(1,248,037)	(1,184,317)	(1,123,647)
Refunds	(2,338)	(3,127)	(2,766)	(4,635)	(4,366)	(2,496)
Administrative expense	(9,805)	(9,411)	(9,962)	(9,579)	(8,856)	(8,797)
Net transfers with affiliated systems	(16,980)	(19,611)	13,035	(10,187)	(8,005)	33,648
<b>Net change in plan fiduciary net position</b>	<b>2,842,149</b>	<b>2,969,864</b>	<b>(539,068)</b>	<b>2,586,384</b>	<b>1,426,306</b>	<b>95,925</b>
<b>Plan fiduciary net position — beginning</b>	<b>27,635,923</b>	<b>24,666,059</b>	<b>25,205,127</b>	<b>22,618,743</b>	<b>21,192,437</b>	<b>21,096,512</b>
<b>Plan fiduciary net position — ending (b)</b>	<b>30,478,072</b>	<b>27,635,923</b>	<b>24,666,059</b>	<b>25,205,127</b>	<b>22,618,743</b>	<b>21,192,437</b>
<b>Net pension liability/(asset) — ending (a-b)</b>	<b>\$ 1,285,787</b>	<b>2,715,892</b>	<b>4,456,889</b>	<b>2,883,492</b>	<b>3,883,038</b>	<b>3,707,135</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>96.0%</b>	<b>91.1%</b>	<b>84.7%</b>	<b>89.7%</b>	<b>85.3%</b>	<b>85.1%</b>
<b>Projected covered payroll</b>	<b>\$ 3,306,382</b>	<b>3,328,314</b>	<b>3,330,548</b>	<b>3,375,321</b>	<b>3,406,567</b>	<b>3,458,286</b>
<b>Net pension liability/(asset) as a percentage of covered payroll</b>	<b>38.9%</b>	<b>81.6%</b>	<b>133.8%</b>	<b>85.4%</b>	<b>114.0%</b>	<b>107.2%</b>

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

Noncontributory Retirement System		Contributory Retirement System							
2014	2013	2020	2019	2018	2017	2016	2015	2014	2013
407,992	441,320	3,175	3,536	4,044	4,801	5,673	8,672	9,580	10,997
1,699,693	1,646,213	85,198	86,205	87,297	90,124	91,894	95,463	93,819	93,750
—	23,123	—	—	—	—	(45,057)	—	—	721
(204,823)	(208,501)	(5,463)	(12,817)	(17,249)	(24,990)	(13,801)	(15,289)	(22,839)	(20,520)
(157,921)	—	11,312	—	—	22,108	22,909	—	(4,233)	—
(1,043,798)	(974,684)	(89,890)	(88,162)	(86,795)	(84,759)	(83,447)	(81,390)	(77,015)	(74,158)
(2,204)	(2,454)	(1,753)	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
698,939	925,017	2,579	(13,898)	(14,174)	5,671	(23,529)	6,241	(3,121)	8,868
23,344,325	22,419,308	1,270,111	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921	1,304,053
24,043,264	23,344,325	1,272,690	1,270,111	1,284,009	1,298,183	1,292,512	1,316,041	1,309,800	1,312,921
13,587	14,208	1,728	1,950	2,455	2,675	3,420	4,771	5,461	6,376
772,420	710,933	4,759	5,433	6,027	7,946	8,188	11,719	12,954	12,874
—	—	—	—	—	—	—	—	—	—
1,419,053	2,588,981	154,367	163,935	(4,513)	155,949	97,693	21,251	87,577	169,510
(1,043,798)	(974,684)	(89,890)	(88,162)	(86,795)	(84,761)	(83,447)	(81,390)	(77,015)	(74,158)
(2,204)	(2,454)	(1,753)	(2,660)	(1,471)	(1,613)	(1,700)	(1,215)	(2,433)	(1,922)
(8,828)	(8,329)	(406)	(408)	(454)	(457)	(446)	(478)	(494)	(480)
30,467	(42,277)	4,542	9,775	(26,286)	(1,177)	(1,895)	(41,558)	(38,004)	33,094
1,180,697	2,286,378	73,347	89,863	(111,037)	78,562	21,813	(86,900)	(11,954)	145,294
19,915,815	17,629,437	1,262,292	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945	1,136,651
21,096,512	19,915,815	1,335,639	1,262,292	1,172,429	1,283,466	1,204,904	1,183,091	1,269,991	1,281,945
2,946,752	3,428,510	(62,949)	7,819	111,580	14,717	87,608	132,950	39,809	30,976
87.7%	85.3%	104.9%	99.4%	91.3%	98.9%	93.2%	89.9%	97.0%	97.6%
3,570,912	3,705,771	30,748	34,317	39,279	45,177	53,615	82,426	90,623	98,023
82.5%	92.5%	(204.7)%	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)*

	2020	2019	2018	2017	2016	2015
<b>Total pension liability</b>						
Service cost	\$ 77,899	78,229	80,296	78,272	78,843	75,352
Interest	305,221	291,647	280,149	269,818	249,722	248,980
Benefit changes	—	—	—	—	—	—
Difference between actual and expected experience	72,199	34,291	1,441	(3,041)	9,358	(17,164)
Assumption changes	(6,165)	—	—	118,370	110,373	—
Benefit payments	(215,289)	(201,923)	(188,414)	(172,870)	(164,508)	(155,387)
Refunds	(96)	(76)	(428)	(226)	(183)	(533)
<b>Net change in total pension liability</b>	<b>233,769</b>	<b>202,168</b>	<b>173,044</b>	<b>290,323</b>	<b>283,605</b>	<b>151,248</b>
<b>Total pension liability — beginning</b>	<b>4,460,415</b>	<b>4,258,247</b>	<b>4,085,203</b>	<b>3,794,880</b>	<b>3,511,275</b>	<b>3,360,027</b>
<b>Total pension liability — ending (a)</b>	<b>4,694,184</b>	<b>4,460,415</b>	<b>4,258,247</b>	<b>4,085,203</b>	<b>3,794,880</b>	<b>3,511,275</b>
<b>Plan fiduciary net position</b>						
Contributions — member	557	856	895	793	830	905
Contributions — employer	150,512	150,467	147,101	145,814	147,099	141,024
Court fees and fire insurance tax	—	—	—	—	—	—
Net investment income	496,725	502,657	(13,134)	421,917	249,027	50,654
Benefit payments	(215,289)	(201,923)	(188,414)	(172,870)	(164,508)	(155,387)
Refunds	(96)	(76)	(428)	(226)	(183)	(533)
Administrative expense	(1,442)	(1,376)	(1,450)	(1,382)	(1,260)	(1,233)
Net transfers with affiliated systems	7,364	5,512	6,982	5,926	6,701	4,023
<b>Net change in plan fiduciary net position</b>	<b>438,331</b>	<b>456,117</b>	<b>(48,448)</b>	<b>399,972</b>	<b>237,706</b>	<b>39,453</b>
<b>Plan fiduciary net position — beginning</b>	<b>3,984,186</b>	<b>3,528,069</b>	<b>3,576,517</b>	<b>3,176,545</b>	<b>2,938,839</b>	<b>2,899,386</b>
<b>Plan fiduciary net position — ending (b)</b>	<b>4,422,517</b>	<b>3,984,186</b>	<b>3,528,069</b>	<b>3,576,517</b>	<b>3,176,545</b>	<b>2,938,839</b>
<b>Net pension liability/(asset) — ending (a-b)</b>	<b>\$ 271,667</b>	<b>476,229</b>	<b>730,178</b>	<b>508,686</b>	<b>618,335</b>	<b>572,436</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>94.2%</b>	<b>89.3%</b>	<b>82.9%</b>	<b>87.5%</b>	<b>83.7%</b>	<b>83.7%</b>
<b>Projected covered payroll</b>	<b>\$ 338,919</b>	<b>339,705</b>	<b>348,475</b>	<b>350,782</b>	<b>352,407</b>	<b>355,171</b>
<b>Net pension liability/(asset) as a percentage of covered payroll</b>	<b>80.2%</b>	<b>140.2%</b>	<b>209.5%</b>	<b>145.0%</b>	<b>175.5%</b>	<b>161.2%</b>

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							
2014	2013	2020	2019	2018	2017	2016	2015	2014	2013
76,681	81,736	29,553	29,281	29,378	28,775	28,652	27,182	27,266	29,577
236,803	229,965	90,343	86,589	82,819	80,386	75,334	75,212	71,490	70,259
—	—	—	—	—	—	—	—	—	—
(25,225)	(29,228)	8,829	(437)	937	(9,216)	(5,525)	(8,259)	(15,077)	(13,083)
(52,410)	—	6,153	—	—	31,357	25,572	—	(20,372)	—
(144,763)	(137,486)	(62,842)	(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
(199)	(467)	(159)	(255)	(132)	(511)	(466)	(528)	(293)	(106)
90,887	144,520	71,877	55,331	55,562	75,998	71,465	43,936	15,304	41,900
3,269,140	3,124,620	1,316,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024	957,124
3,360,027	3,269,140	1,388,497	1,316,620	1,261,289	1,205,727	1,129,729	1,058,264	1,014,328	999,024
835	1,258	18,729	18,701	18,305	18,460	18,729	18,175	18,300	18,325
135,588	128,744	7,490	7,443	7,021	6,715	6,954	6,690	5,514	3,494
—	—	20,279	41,859	8,747	1,223	10,569	17,218	14,154	11,285
194,222	350,563	173,818	174,141	(4,509)	146,736	87,746	17,934	69,070	125,685
(144,763)	(137,486)	(62,842)	(59,847)	(57,440)	(54,793)	(52,102)	(49,671)	(47,710)	(44,747)
(199)	(467)	(159)	(255)	(132)	(511)	(466)	(528)	(293)	(106)
(1,227)	(1,161)	(425)	(405)	(427)	(408)	(374)	(371)	(370)	(355)
2,746	4,676	2,751	2,027	1,917	1,259	1,611	2,573	3,713	1,302
187,202	346,127	159,641	183,664	(26,518)	118,681	72,667	12,020	62,378	114,883
2,712,184	2,366,057	1,391,553	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661	853,778
2,899,386	2,712,184	1,551,194	1,391,553	1,207,889	1,234,407	1,115,726	1,043,059	1,031,039	968,661
460,641	556,956	(162,697)	(74,933)	53,400	(28,680)	14,003	15,205	(16,711)	30,363
86.3%	83.0%	111.7%	105.7%	95.8%	102.4%	98.8%	98.6%	101.6%	97.0%
360,750	365,998	114,458	113,330	113,587	112,953	112,322	111,133	111,305	110,741
127.7%	152.2%	(142.1)%	(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)*

	2020	2019	2018	2017	2016	2015
<b>Total pension liability</b>						
Service cost	\$ 6,144	6,054	5,682	5,325	5,023	4,794
Interest	17,675	16,649	15,697	14,866	14,064	14,136
Benefit changes	—	—	—	—	—	—
Difference between actual and expected experience	548	7,615	7,872	809	1,995	171
Assumption changes	3,431	—	—	13,067	2,885	—
Benefit payments	(15,863)	(15,346)	(16,111)	(13,621)	(12,330)	(12,400)
Refunds	—	—	—	—	—	—
<b>Net change in total pension liability</b>	<b>11,935</b>	<b>14,972</b>	<b>13,140</b>	<b>20,446</b>	<b>11,637</b>	<b>6,701</b>
<b>Total pension liability — beginning</b>	<b>259,181</b>	<b>244,209</b>	<b>231,069</b>	<b>210,623</b>	<b>198,986</b>	<b>192,285</b>
<b>Total pension liability — ending (a)</b>	<b>271,116</b>	<b>259,181</b>	<b>244,209</b>	<b>231,069</b>	<b>210,623</b>	<b>198,986</b>
<b>Plan fiduciary net position</b>						
Contributions — member	—	—	—	—	—	—
Contributions — employer	8,646	8,500	8,091	7,563	7,382	6,555
Court fees and fire insurance tax	1,410	1,536	1,518	1,477	1,470	1,653
Net investment income	27,391	27,775	(730)	23,435	13,820	2,842
Benefit payments	(15,863)	(15,346)	(16,111)	(13,621)	(12,330)	(12,400)
Refunds	—	—	—	—	—	—
Administrative expense	(84)	(81)	(84)	(79)	(71)	(71)
Net transfers with affiliated systems	2,340	2,339	4,403	4,090	1,600	1,334
<b>Net change in plan fiduciary net position</b>	<b>23,840</b>	<b>24,723</b>	<b>(2,913)</b>	<b>22,865</b>	<b>11,871</b>	<b>(87)</b>
<b>Plan fiduciary net position — beginning</b>	<b>220,293</b>	<b>195,570</b>	<b>198,483</b>	<b>175,618</b>	<b>163,747</b>	<b>163,834</b>
<b>Plan fiduciary net position — ending (b)</b>	<b>244,133</b>	<b>220,293</b>	<b>195,570</b>	<b>198,483</b>	<b>175,618</b>	<b>163,747</b>
<b>Net pension liability/(asset) — ending (a-b)</b>	<b>\$ 26,983</b>	<b>38,888</b>	<b>48,639</b>	<b>32,586</b>	<b>35,005</b>	<b>35,239</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>90.0%</b>	<b>85.0%</b>	<b>80.1%</b>	<b>85.9%</b>	<b>83.4%</b>	<b>82.3%</b>
<b>Projected covered payroll</b>	<b>\$ 20,071</b>	<b>19,596</b>	<b>18,802</b>	<b>18,661</b>	<b>16,755</b>	<b>15,832</b>
<b>Net pension liability/(asset) as a percentage of covered payroll</b>	<b>134.4%</b>	<b>198.4%</b>	<b>258.7%</b>	<b>174.6%</b>	<b>208.9%</b>	<b>222.6%</b>

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							
2014	2013	2020	2019	2018	2017	2016	2015	2014	2013
4,895	4,537	104	59	65	68	89	99	106	100
13,641	12,924	875	883	877	879	851	890	884	860
—	—	—	—	—	—	—	—	—	—
2,602	(569)	224	(54)	139	182	167	(105)	307	(233)
(130)	—	107	—	—	264	241	—	—	—
(11,361)	(10,189)	(1,023)	(1,012)	(978)	(973)	(941)	(904)	(909)	(892)
—	—	(10)	—	—	—	—	—	—	—
9,647	6,703	277	(124)	103	420	407	(20)	388	(165)
182,638	175,935	13,053	13,177	13,074	12,654	12,247	12,267	11,879	12,044
192,285	182,638	13,330	13,053	13,177	13,074	12,654	12,247	12,267	11,879
317	—	—	—	—	—	—	—	—	—
5,627	4,990	369	384	392	404	421	421	411	252
1,486	1,498	—	—	—	—	—	—	—	—
11,068	20,130	1,396	1,481	(41)	1,353	849	181	717	1,346
(11,361)	(10,189)	(1,023)	(1,012)	(978)	(973)	(941)	(904)	(909)	(892)
—	—	(10)	—	—	—	—	—	—	—
(71)	(66)	(4)	(4)	(5)	(5)	(4)	(5)	(5)	(4)
1,092	3,186	(17)	(42)	(51)	89	(12)	(20)	(14)	19
8,158	19,549	711	807	(683)	868	313	(327)	200	721
155,676	136,127	11,344	10,537	11,220	10,352	10,039	10,366	10,166	9,445
163,834	155,676	12,055	11,344	10,537	11,220	10,352	10,039	10,366	10,166
28,451	26,962	1,275	1,709	2,640	1,854	2,302	2,208	1,901	1,713
85.2%	85.2%	90.4%	86.9%	80.0%	85.8%	81.8%	82.0%	84.5%	85.6%
16,072	15,195	757	639	639	722	799	943	928	390
177.0%	177.4%	168.4%	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)*

	2020	2019	2018	2017	2016	2015
<b>Total pension liability</b>						
Service cost	\$ 146,284	124,244	104,736	84,388	69,887	51,005
Interest	49,103	36,773	27,109	19,471	12,608	8,370
Benefit changes	—	—	—	—	—	—
Difference between actual and expected experience	8,201	6,561	(1,727)	357	(1,917)	(4,982)
Assumption changes	10,603	—	—	5,786	7,867	—
Benefit payments	(1,397)	(965)	(692)	(417)	(316)	(333)
Refunds	—	—	—	—	—	—
<b>Net change in total pension liability</b>	<b>212,794</b>	<b>166,613</b>	<b>129,426</b>	<b>109,585</b>	<b>88,129</b>	<b>54,060</b>
<b>Total pension liability — beginning</b>	<b>634,074</b>	<b>467,461</b>	<b>338,035</b>	<b>228,450</b>	<b>140,321</b>	<b>86,261</b>
<b>Total pension liability — ending (a)</b>	<b>846,868</b>	<b>634,074</b>	<b>467,461</b>	<b>338,035</b>	<b>228,450</b>	<b>140,321</b>
<b>Plan fiduciary net position</b>						
Contributions — member	—	—	—	—	—	—
Contributions — employer	138,466	119,839	97,680	79,175	63,062	49,645
Court fees and fire insurance tax	—	—	—	—	—	—
Net investment income	84,040	68,228	(1,454)	33,249	14,059	1,963
Benefit payments	(1,397)	(965)	(692)	(417)	(316)	(333)
Refunds	—	—	—	—	—	—
Administrative expense	(207)	(152)	(119)	(82)	(51)	(30)
Net transfers with affiliated systems	—	—	—	—	—	3
<b>Net change in plan fiduciary net position</b>	<b>220,902</b>	<b>186,950</b>	<b>95,415</b>	<b>111,925</b>	<b>76,754</b>	<b>51,248</b>
<b>Plan fiduciary net position — beginning</b>	<b>611,583</b>	<b>424,633</b>	<b>329,218</b>	<b>217,293</b>	<b>140,539</b>	<b>89,291</b>
<b>Plan fiduciary net position — ending (b)</b>	<b>832,485</b>	<b>611,583</b>	<b>424,633</b>	<b>329,218</b>	<b>217,293</b>	<b>140,539</b>
<b>Net pension liability/(asset) — ending (a-b)</b>	<b>\$ 14,383</b>	<b>22,491</b>	<b>42,828</b>	<b>8,817</b>	<b>11,157</b>	<b>(218)</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>98.3%</b>	<b>96.5%</b>	<b>90.8%</b>	<b>97.4%</b>	<b>95.1%</b>	<b>100.2%</b>
<b>Projected covered payroll</b>	<b>\$ 1,609,102</b>	<b>1,380,488</b>	<b>1,171,543</b>	<b>996,965</b>	<b>822,196</b>	<b>637,560</b>
<b>Net pension liability/(asset) as a percentage of covered payroll</b>	<b>0.9%</b>	<b>1.6%</b>	<b>3.7%</b>	<b>0.9%</b>	<b>1.4%</b>	<b>(0.0)%</b>

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							
2014	2013	2020	2019	2018	2017	2016	2015	2014	2013
39,283	29,318	29,998	24,849	13,998	10,763	8,164	5,466	3,579	2,151
4,648	2,351	7,350	4,811	3,199	2,133	1,274	746	379	159
—	(119)	—	2,537	—	—	—	—	—	(7)
(4,577)	(4,459)	2,133	1,839	621	(2)	425	220	50	106
(1,385)	—	(939)	—	—	1,924	803	—	(127)	—
—	—	(76)	(90)	—	(61)	(28)	(30)	—	—
—	—	—	—	—	—	—	—	—	—
37,969	27,091	38,466	33,946	17,818	14,757	10,638	6,402	3,881	2,409
48,292	21,201	90,787	56,841	39,023	24,266	13,628	7,226	3,345	936
86,261	48,292	129,253	90,787	56,841	39,023	24,266	13,628	7,226	3,345
—	—	2,343	—	55	—	—	—	—	—
37,299	25,743	25,020	18,197	14,295	11,126	8,488	6,221	4,365	2,451
—	—	—	—	—	—	—	—	—	—
4,320	4,017	11,645	8,958	(180)	3,989	1,591	199	404	316
—	—	(76)	(90)	—	(61)	(28)	(30)	—	—
—	—	—	—	—	—	—	—	—	—
(16)	(6)	(29)	(20)	(14)	(9)	(5)	(3)	(1)	—
(2)	3	—	—	—	—	—	(3)	2	(3)
41,601	29,757	38,903	27,045	14,156	15,045	10,046	6,384	4,770	2,764
47,690	17,933	81,381	54,336	40,180	25,135	15,089	8,705	3,935	1,171
89,291	47,690	120,284	81,381	54,336	40,180	25,135	15,089	8,705	3,935
(3,030)	602	8,969	9,406	2,505	(1,157)	(869)	(1,461)	(1,479)	(590)
103.5%	98.8%	93.1%	89.6%	95.6%	103.0%	103.6%	110.7%	120.5%	117.6%
492,882	353,227	188,667	156,778	123,439	98,113	74,834	53,276	35,019	20,215
(0.6)%	0.2%	4.8%	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)

	2020	2019	2018	2017
<b>Total pension liability</b>				
Service cost	\$ 695,603	670,791	642,590	616,373
Interest	2,627,391	2,513,006	2,417,385	2,355,253
Benefit changes	—	2,537	—	—
Difference between actual and expected experience	339,224	271,987	24,714	(120,133)
Assumption changes	200,886	—	—	835,063
Benefit payments	(1,875,007)	(1,764,328)	(1,670,644)	(1,575,533)
Refunds	(4,356)	(6,118)	(4,797)	(6,985)
<b>Net change in total pension liability</b>	<b>1,983,741</b>	<b>1,687,875</b>	<b>1,409,248</b>	<b>2,104,038</b>
<b>Total pension liability — beginning</b>	<b>38,396,056</b>	<b>36,708,181</b>	<b>35,298,933</b>	<b>33,194,895</b>
<b>Total pension liability — ending (a)</b>	<b>40,379,797</b>	<b>38,396,056</b>	<b>36,708,181</b>	<b>35,298,933</b>
<b>Plan fiduciary net position</b>				
Contributions — member	39,742	33,237	36,312	39,213
Contributions — employer	1,247,787	1,198,341	1,139,051	1,112,998
Court fees and fire insurance tax	21,689	43,395	10,265	2,700
Net investment income	4,380,371	4,446,363	(116,768)	3,773,910
Benefit payments	(1,875,007)	(1,764,328)	(1,670,644)	(1,575,533)
Refunds	(4,356)	(6,118)	(4,797)	(6,985)
Administrative expense	(12,402)	(11,857)	(12,515)	(12,001)
Net transfers with affiliated systems	—	—	—	—
<b>Net change in plan fiduciary net position</b>	<b>3,797,824</b>	<b>3,939,033</b>	<b>(619,096)</b>	<b>3,334,302</b>
<b>Plan fiduciary net position — beginning</b>	<b>35,198,555</b>	<b>31,259,522</b>	<b>31,878,618</b>	<b>28,544,316</b>
<b>Plan fiduciary net position — ending (b)</b>	<b>38,996,379</b>	<b>35,198,555</b>	<b>31,259,522</b>	<b>31,878,618</b>
<b>Net pension liability/(asset) — ending (a-b)</b>	<b>\$ 1,383,418</b>	<b>3,197,501</b>	<b>5,448,659</b>	<b>3,420,315</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>96.6%</b>	<b>91.7%</b>	<b>85.2%</b>	<b>90.3%</b>
<b>Projected covered payroll</b>	<b>\$ 5,609,104</b>	<b>5,373,167</b>	<b>5,146,312</b>	<b>4,998,694</b>
<b>Net pension liability/(asset) as a percentage of covered payroll</b>	<b>24.7%</b>	<b>59.5%</b>	<b>105.9%</b>	<b>68.4%</b>

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%