



Florida Retirement System Pension Plan

GASB 67 Disclosure as of June 30, 2020 Measurement Date
Fiscal Year: July 1, 2019 to June 30, 2020

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Certification

Actuarial computations presented in this report under Statement No. 67 of the Governmental Accounting Standards Board are for purposes of assisting the Florida Department of Management Services in fulfilling its financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for fiscal year July 1, 2019 to June 30, 2020. The reporting date for determining plan assets and obligations is June 30, 2020. The calculations enclosed in this report have been made on a basis consistent with our understanding of the plan provisions. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security or meeting employer funding requirements.

In preparing this report, we relied, without audit, on information as of June 30, 2019 and June 30, 2020 furnished by the Florida Department of Management Services. This information includes, but is not limited to, statutory provisions, member census data, and financial information. Please note that this report is based on the June 30, 2020 assets for the program as reported to us by the Florida State Board of Administration. Please see Milliman's funding valuation report to be published in December 2020 for more information on the plan's participant group as of July 1, 2020 as well as a summary of the plan provisions and a summary of the actuarial methods and assumptions used for funding purposes.

We performed a limited review of the census and financial information used directly in our analysis and have found them to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

Certification

Milliman's work is prepared solely for the internal use and benefit of the Florida Department of Management Services. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan Sponsor's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Plan; and (b) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

The valuation results were developed using models intended for valuations that use standard actuarial techniques.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



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Overview of GASB 67 and GASB 68

In 2012, the Governmental Accounting Standards Board (GASB) released GASB Statements No. 67 and 68 for public pension plans and participating employers. GASB Statements No. 67 and 68 substantially revised the accounting requirements previously mandated under GASB Statements No. 25 and 27. The most notable change is the distinct separation of funding from financial reporting. The Annual Required Contribution (ARC) has been eliminated under GASB 67 and 68 and is no longer relevant for financial reporting purposes.

GASB 67 applies to financial reporting for public pension plans. Under GASB 67, enhancements to the financial statement disclosures are required, along with certain required supplementary information.

GASB 68 governs the specifics of accounting for public pension plan obligations for participating employers. GASB 68 requires a liability for pension obligations, known as the Net Pension Liability, to be recognized on the balance sheets of participating employers. Changes in the Net Pension Liability will be immediately recognized as Pension Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

Relationship Between Valuation Date and Measurement Date

Relationship Between Valuation Date and Measurement Date

The Valuation Date is July 1, 2020. This is the date as of which the actuarial valuation is performed. The Measurement Date is June 30, 2020.

Schedule of Employer Contributions

Fiscal Year Ending June 30	Actuarially Determined Contribution ¹	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll ²	Contribution as a % of Covered Payroll
2011	\$3,680,042,000	\$3,050,684,000	\$629,358,000	\$25,668,958,000	11.88%
2012	1,962,816,000	1,185,310,000	777,506,000	24,476,272,000	4.84%
2013	2,091,343,000	1,388,656,000	702,687,000	24,553,693,000	5.66%
2014	2,190,424,344	2,190,424,344	0	24,723,565,000	8.86%
2015	2,438,084,925	2,438,084,925	0	32,726,034,000	7.45%
2016	2,438,659,458	2,438,659,458	0	33,214,217,000	7.34%
2017	2,603,246,196	2,603,246,196	0	33,775,800,000	7.71%
2018	2,849,919,659	2,849,919,659	0	34,675,000,000	8.22%
2019	3,100,721,573	3,100,721,573	0	35,571,200,000	8.72%
2020	3,322,556,872	3,322,556,872	0	36,898,200,000	9.00%

¹ For fiscal years prior to 2013-14 the Annual Required Contribution (ARC) under GASB Statement No. 27 is shown.

² For the fiscal years ending 2014 and before, covered payroll shown includes Pension Plan actives and members in DROP, but excludes the payroll for Investment Plan members and other payroll on which only statutory UAL rates are charged. For the fiscal years ending 2015 and later, covered payroll shown includes the payroll for Investment Plan members and other payroll on which only statutory UAL rates are charged.

Actuarial Methods and Assumptions Used for Funding Policy

The following actuarial methods and assumptions were used in the July 1, 2020 funding valuation. Please see the actuarial valuation report for funding purposes to be published in December 2020 for further details.

Valuation Timing	Actuarially determined contribution rates for a given plan year are calculated in the valuation conducted as of the beginning of the preceding plan year (e.g., rates for the 2021-2022 plan year are calculated in the 7/1/2020 actuarial valuation).
Actuarial Cost Method	Individual Entry Age
Amortization Method	Level percent
Level percent or level dollar	Closed, layered
Closed, open, or layered periods	Effective July 1, 2020: New bases are amortized over 25 years
Amortization period	Bases established prior to July 1, 2020: amortized over 30 years
2019 actuarial cost method change	Amortized over 30 years as level percentage of Tier I pay
Payroll growth rate	3.25%
Asset Valuation Method	5 years
Smoothing period	Asymptotic
Recognition method	80% - 120% of fair market value
Corridor	
Inflation	2.40%
Salary Increases	Varies by membership class and length of service; details in funding actuarial valuation report
Investment Rate of Return¹	7.00%
Cost of Living Adjustments	3% for pre-July 2011 benefit service; 0% thereafter
Retirement Age	Varies by tier, membership class, age, and sex; details in funding actuarial valuation report
Turnover	Varies by membership class, length of service, age, and sex; details in funding actuarial valuation report
Mortality	PUB-2010 base table varies by member category and sex, projected generationally with Scale MP-2018, details in funding actuarial valuation report

¹The 7.00% return was chosen by the 2020 FRS Actuarial Assumption Conference, and differs from the 6.80% investment return assumption that is used as the discount rate for GASB calculations in this report.

Statement of Fiduciary Net Position

	June 30, 2019	June 30, 2020
Assets		
Cash and cash equivalents	\$94,879,899	\$92,971,920
State treasury investment pool	66,298,067	89,988,582
Total cash and cash equivalents	161,177,966	182,960,502
Investments:		
Certificates of deposit	324,979,952	0
U.S. government and federally guaranteed obligations	13,968,173,821	14,837,162,295
Federal agencies	8,366,295,579	8,169,760,858
Commercial paper	3,121,322,011	1,127,835,571
Repurchase agreements	800,000,000	800,000,000
International bonds and notes	2,057,939,983	2,448,364,263
Bonds and Notes	7,386,905,434	9,023,624,503
Real estate contracts	12,095,896,850	11,996,482,760
International Equity commingled	8,401,272,966	7,089,844,630
Short-term investment funds	54,943,837	238,806,404
Domestic equity / domestic equity commingled	48,025,526,283	48,275,740,394
Alternative investments	27,783,999,898	28,780,594,468
International equity	32,463,860,373	31,129,942,791
Other Investments	115,326,012	58,858,200
Total investments	164,966,442,999	163,977,017,137
Receivables:		
Contributions receivable	238,365,049	242,580,979
Pending investment sales	2,641,277,407	1,073,649,505
Forward contracts receivable	0	0
Other receivables	573,482,897	502,665,008
Total receivables	3,453,125,353	1,818,895,492
Security lending collateral	505,785,354	1,830,473,633
Prepaid items; furniture & equipment net accumulated depreciation	8,223,250	5,959,911
Total assets	169,095,695,524	167,815,306,675
Deferred outflows: other postemployment benefits	880,765	2,585,859
Liabilities		
Accrued DROP liability ¹	265,705,863	298,095,791
Obligations under security lending agreements	537,065,576	1,846,481,670
Pending investment purchases	4,137,778,151	3,657,895,833
Pending spot for trades payable	93,326,040	98,021,145
Other liabilities and payables	485,434,115	326,483,708
Total liabilities	5,519,309,745	6,226,978,147
Deferred inflows: other postemployment benefits	2,599,725	3,547,870
Deferred inflows: pension amounts	0	19,101,237
Fiduciary Net Position		
Held in trust for pension benefits	\$163,574,666,819 ²	\$161,568,265,280

¹ Per our understanding, the accrued DROP liability represents lump sum DROP exit payments made early in the subsequent plan year for members exiting the DROP on or shortly before the asset measurement date.

² Reflects restatement of beginning net position at July 1, 2019.

Statement of Changes in Fiduciary Net Position

	June 30, 2019	June 30, 2020
Additions		
Member contributions	\$752,813,534	\$748,454,881
Employer contributions	3,100,721,573	3,322,556,872
Total contributions	3,853,535,107	4,071,011,753
Transfers from the Investment Plan	83,626,975	89,899,880
Investment income (loss):		
Interest	909,591,092	932,380,689
Dividends	1,923,999,086	1,729,371,995
Net increase in fair value of investments	4,395,369,953	470,277,998
Securities lending income	68,288,813	38,258,989
Net real estate operating income	488,096,289	499,900,219
Other investment income	2,249,710,115	2,292,420,576
Less investment expenses:		
Direct investment expense	591,470,518	614,069,961
Securities lending expense	37,154,592	10,684,413
Net investment income	9,406,430,238	5,337,856,092
Other income	4,009,994	2,052,214
Total additions	13,347,602,314	9,500,819,939
Deductions		
Benefit payments ¹	10,367,804,874	10,906,559,331
Transfers to the Investment Plan	565,045,212	560,218,195
Refunds of member contributions	18,326,135	18,887,939
Administrative expenses	19,580,485	21,556,013
Total deductions	10,970,756,706	11,507,221,478
Net increase (decrease)	\$2,376,845,608	(\$2,006,401,539)

Net position restricted for pensions

Beginning of year	\$161,196,880,609	\$163,574,666,819 ³
End of year	\$163,573,726,217 ²	\$161,568,265,280

¹ Includes transfers to other funds and general revenue-funded benefit payments net of general revenue contributions.

² As reported in June 30, 2019 GASB 67 Disclosure Report.

³ Reflects restatement of beginning net position at July 1, 2019.

Money-Weighted Rate of Return

Fiscal Year Ending June 30	Net Money-Weighted Rate of Return
2014	17.57%
2015	3.77%
2016	0.57%
2017	13.59%
2018	9.28%
2019	5.98%
2020	3.35%

Calculation of Money-Weighted Rate of Return

The money-weighted rate of return considers the changing amounts estimated as invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. Cash flows are estimated on a monthly basis and are assumed to occur at the beginning of each month. Cash inflows are netted with cash outflows, resulting in a net cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

	Net External Cash Flows	Periods Invested	Period Weight	Net External Cash Flows with Interest
Beginning value - July 1, 2019	\$163,574,666,819	12	1.00	\$169,047,031,857
Monthly net external cash flows:				
July	(612,192,487)	12	1.00	(632,673,292)
August	(612,192,487)	11	0.92	(631,009,911)
September	(612,192,487)	10	0.83	(629,143,835)
October	(612,192,487)	9	0.75	(627,489,734)
November	(612,192,487)	8	0.67	(625,839,981)
December	(612,192,487)	7	0.58	(623,989,194)
January	(612,192,487)	6	0.50	(622,348,645)
February	(612,192,487)	5	0.42	(620,712,409)
March	(612,192,487)	4	0.33	(618,876,786)
April	(612,192,487)	3	0.25	(617,249,678)
May	(612,192,487)	2	0.17	(615,626,848)
June	(612,192,487)	1	0.08	(613,806,264)
Ending value - June 30, 2020				161,568,265,280
Money-weighted plan rate of return			3.35% ¹	

¹The money-weighted plan rate of this return is an estimate using estimated level monthly net external cash flows. It can differ from the more precise return calculated by the Florida State Board of Administration.

Long-Term Expected Rate of Return

The long-term expected rate of return assumption of 6.8% used in GASB discount rate calculations consists of two building block components: 1) a long-term average annual inflation assumption of 2.4% as most recently adopted in October 2020 by the FRS Actuarial Assumption Conference; 2) an inferred real (in excess of inflation) return of 4.3%, which is consistent with the 4.27% real return capital market outlook model developed during 2020 by the outside investment consultant to the Florida State Board of Administration. Geometrically combining those building blocks using the formula $(1 + .024) \times (1 + .0430) - 1$ generates an expected nominal return of 6.8%. In our opinion, both building block components and the overall 6.8% return assumption are reasonable and appropriate per Actuarial Standards of Practice.

For reference, the table below contains a summary of Milliman's in-house assumptions for each of the asset classes in which the plan was invested at that time based on the long-term target asset allocation. Each asset class assumption is based on a consistent set of underlying assumptions, and includes an adjustment for the 2.4% inflation assumption. The Milliman assumptions are not based on historical returns, but instead are based on a forward-looking capital market economic model. The table differs from the model output listed in more detail on slide 60 of Milliman's presentation to the 2020 FRS Actuarial Assumption Conference on October 8, 2020 in that the summary below reflects the inflation assumption of 2.4% adopted by the Conference.

Asset Class	Policy Allocation*	Annual Arithmetic Return	Compound Annual (Geometric) Return	Annual Standard Deviation
Cash Equivalents	1.0%	2.2%	2.2%	1.2%
Fixed income	19.0%	3.0%	2.9%	3.5%
Global equity	54.2%	8.0%	6.7%	17.1%
Real estate	10.3%	6.4%	5.8%	11.7%
Private equity	11.1%	10.8%	8.1%	25.7%
Strategic investments	4.4%	5.5%	5.3%	6.9%
Assumed inflation - mean			2.4%	1.7%

*Summarized current target allocation policy, as provided to us by Aon Hewitt Investment Consulting via email on September 17, 2020.

Depletion Date Projection

In order to determine if the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, we have prepared a depletion date projection using the following techniques and assumptions:

- Current active members contribute the required employee contribution amounts.
- The employer contributes the actuarially determined contribution amounts based on the 7.00% investment rate of return assumption selected by the 2020 FRS Actuarial Assumption Conference.
- Benefit payments are projected based on the actuarial assumptions and the current plan provisions.
- Members are assumed to receive pay increases, terminate, retire, become disabled, die, and so forth according to the actuarial assumptions used for the July 1, 2020 valuation.
- Terminating and retiring members are replaced in a manner such that the proportions of Pension Plan and Investment Plan payroll modify gradually to 50% and 50% over a thirty-year timeframe that began in 2018 when the default plan changed from the FRS Pension Plan to the FRS Investment Plan.
- All cash flows are assumed to occur on average halfway through the year.
- In the depletion date test's projections, the actual return achieved each year on invested assets is 6.80%.
- The funding policy used to determine actuarially determined contributions does not change.
- The actuarial assumptions do not change.

Projection of Payroll Measures

Fiscal Year Ending June 30	Current Member Non-DROP PP Payroll	Future Member Non-DROP PP Payroll	Total Member Non-DROP PP Payroll	Payroll for Statutory UAL Rate Contributions	DROP PP Payroll
2021	\$24,163,419,648	\$376,339,352	\$24,539,759,000	\$37,873,510,000	\$2,364,441,000
2022	23,857,139,853	1,075,255,291	24,932,395,144	39,168,839,465	2,441,285,333
2023	23,251,406,125	2,079,907,341	25,331,313,466	40,441,826,748	2,520,627,106
2024	22,691,424,734	3,045,189,748	25,736,614,482	41,756,186,117	2,602,547,487
2025	22,142,455,091	4,005,945,223	26,148,400,313	43,113,262,166	2,687,130,280
2026	21,589,891,343	4,976,883,375	26,566,774,718	44,514,443,186	2,774,462,014
2027	21,039,571,173	5,952,271,941	26,991,843,114	45,961,162,590	2,864,632,030
2028	20,474,191,744	6,949,520,860	27,423,712,604	47,454,900,374	2,957,732,571
2029	19,899,176,790	7,963,315,215	27,862,492,005	48,997,184,636	3,053,858,879
2030	19,307,643,850	9,000,648,027	28,308,291,878	50,589,593,137	3,153,109,293
2031	18,700,555,299	10,060,669,248	28,761,224,548	52,233,754,914	3,255,585,345
2032	18,059,123,376	11,162,280,764	29,221,404,140	53,931,351,948	3,361,391,868
2033	17,384,207,809	12,304,738,797	29,688,946,607	55,684,120,887	3,470,637,104
2034	16,694,387,675	13,469,582,078	30,163,969,752	57,493,854,815	3,583,432,810
2035	15,993,033,460	14,653,559,808	30,646,593,268	59,362,405,097	3,699,894,376
2036	15,290,103,636	15,846,835,124	31,136,938,761	61,291,683,263	3,820,140,944
2037	14,570,396,961	17,064,732,820	31,635,129,781	63,283,662,969	3,944,295,524
2038	13,843,150,010	18,298,141,848	32,141,291,857	65,340,382,015	4,072,485,129
2039	13,146,063,851	19,509,488,676	32,655,552,527	67,463,944,431	4,204,840,895
2040	12,487,719,748	20,690,321,619	33,178,041,367	69,656,522,625	4,341,498,225
2041	11,858,174,499	21,850,715,530	33,708,890,029	71,920,359,610	4,482,596,917
2042	11,244,850,532	23,003,381,738	34,248,232,270	74,257,771,297	4,628,281,317
2043	10,686,486,449	24,109,717,537	34,796,203,986	76,671,148,864	4,778,700,459
2044	10,157,406,011	25,195,537,239	35,352,943,250	79,162,961,202	4,934,008,224
2045	9,648,415,943	26,270,174,399	35,918,590,342	81,735,757,441	5,094,363,492
2046	9,103,619,748	27,389,668,040	36,493,287,787	84,392,169,558	5,259,930,305
2047	8,493,496,747	28,583,683,645	37,077,180,392	87,134,915,069	5,430,878,040
2048	7,830,869,047	29,839,546,231	37,670,415,278	89,966,799,809	5,607,381,576
2049	7,109,256,226	31,163,885,697	38,273,141,923	92,890,720,802	5,789,621,478
2050	6,328,055,959	33,188,963,077	39,517,019,035	95,909,669,229	5,882,255,421

Projection of Payroll Measures

Fiscal Year Ending June 30	Current Member Non-DROP PP Payroll	Future Member Non-DROP PP Payroll	Total Member Non-DROP PP Payroll	Payroll for Statutory UAL Rate Contributions	DROP PP Payroll
2051	\$5,516,224,881	\$35,285,097,272	\$40,801,322,154	\$99,026,733,478	\$5,976,371,508
2052	4,732,454,187	37,394,910,937	42,127,365,124	102,245,102,317	6,071,993,452
2053	4,058,388,365	39,438,116,125	43,496,504,490	105,568,068,142	6,169,145,347
2054	3,420,363,286	41,489,777,600	44,910,140,886	108,999,030,356	6,267,851,673
2055	2,881,903,294	43,487,817,171	46,369,720,465	112,541,498,843	6,368,137,300
2056	2,428,388,391	45,448,347,989	47,876,736,380	116,199,097,555	6,470,027,496
2057	2,036,808,219	47,395,922,094	49,432,730,313	119,975,568,226	6,573,547,936
2058	1,697,342,614	49,341,951,433	51,039,294,048	123,874,774,193	6,678,724,703
2059	1,403,191,080	51,294,880,025	52,698,071,104	127,900,704,355	6,785,584,299
2060	1,149,631,572	53,261,126,844	54,410,758,415	132,057,477,246	6,894,153,647
2061	931,024,372	55,248,083,691	56,179,108,064	136,349,345,257	7,004,460,106
2062	743,086,104	57,261,842,972	58,004,929,076	140,780,698,977	7,116,531,468
2063	588,317,710	59,301,771,561	59,890,089,271	145,356,071,694	7,230,395,971
2064	459,532,119	61,376,985,053	61,836,517,172	150,080,144,024	7,346,082,307
2065	353,616,138	63,492,587,842	63,846,203,980	154,957,748,705	7,463,619,623
2066	270,630,479	65,650,575,131	65,921,205,609	159,993,875,538	7,583,037,537
2067	203,495,764	67,860,149,028	68,063,644,792	165,193,676,493	7,704,366,138
2068	150,959,981	70,124,753,266	70,275,713,247	170,562,470,979	7,827,635,996
2069	110,694,966	72,448,978,962	72,559,673,928	176,105,751,286	7,952,878,172
2070	79,940,968	74,837,922,362	74,917,863,331	181,829,188,203	8,080,124,223
2071	56,513,988	77,296,179,901	77,352,693,889	187,738,636,819	8,209,406,210
2072	39,099,806	79,827,556,634	79,866,656,440	193,840,142,516	8,340,756,710
2073	26,595,906	82,435,726,869	82,462,322,775	200,139,947,148	8,474,208,817
2074	17,528,299	85,124,819,966	85,142,348,265	206,644,495,430	8,609,796,158
2075	11,193,480	87,898,281,103	87,909,474,583	213,360,441,531	8,747,552,897
2076	6,690,522	90,759,841,985	90,766,532,507	220,294,655,881	8,887,513,743
2077	3,894,553	93,712,550,261	93,716,444,814	227,454,232,197	9,029,713,963
2078	2,091,214	96,760,138,056	96,762,229,270	234,846,494,744	9,174,189,386
2079	1,041,807	99,905,959,915	99,907,001,722	242,479,005,823	9,320,976,417
2080	510,654	103,153,468,624	103,153,979,277	250,359,573,512	9,623,908,150

Projection of Payroll Measures

Fiscal Year Ending June 30	Current Member Non-DROP PP Payroll	Future Member Non-DROP PP Payroll	Total Member Non-DROP PP Payroll	Payroll for Statutory UAL Rate Contributions	DROP PP Payroll
2081	\$219,554	\$106,506,264,050	\$106,506,483,604	\$258,496,259,651	\$9,936,685,165
2082	67,604	109,967,876,717	109,967,944,321	266,897,388,090	10,259,627,433
2083	8,712	113,541,893,799	113,541,902,512	275,571,553,203	10,593,065,324
2084	2,256	117,232,012,087	117,232,014,343	284,527,628,682	10,937,339,948
2085	245	121,042,054,564	121,042,054,809	293,774,776,614	11,292,803,496
2086	0	124,975,921,591	124,975,921,591	303,322,456,854	11,659,819,609
2087	0	129,037,639,042	129,037,639,042	313,180,436,702	12,038,763,747
2088	0	133,231,362,311	133,231,362,311	323,358,800,895	12,430,023,569
2089	0	137,561,381,586	137,561,381,586	333,867,961,924	12,833,999,335
2090	0	142,032,126,488	142,032,126,488	344,718,670,686	13,251,104,313
2091	0	146,648,170,599	146,648,170,599	355,922,027,483	13,681,765,203
2092	0	151,414,236,143	151,414,236,143	367,489,493,377	14,126,422,572
2093	0	156,335,198,818	156,335,198,818	379,432,901,911	14,585,531,306
2094	0	161,416,092,779	161,416,092,779	391,764,471,224	15,059,561,073
2095	0	166,662,115,795	166,662,115,795	404,496,816,538	15,548,996,808
2096	0	172,078,634,558	172,078,634,558	417,642,963,076	16,054,339,204

Projection of Crossover Test-Eligible Contributions

Fiscal Year Ending June 30	Current Non-DROP Member		UAL Contributions		DROP	Net NC	Total Test-Eligible Contributions
	Member Contributions	Employer Normal Cost Contributions	Blended Statutory UAL Rate	Statutory UAL Rate Contributions	Payroll Normal Cost Contributions	Contributions from Future Employees ¹	
2021	\$724,902,589	\$1,778,215,722	4.78%	\$1,810,353,778	\$166,220,202	(\$1,768,795)	\$4,477,923,497
2022	715,714,196	1,731,281,423	5.65%	2,213,039,430	176,504,930	(5,053,700)	4,831,486,278
2023	697,542,184	1,688,123,251	5.90%	2,386,067,778	181,780,594	(9,775,565)	4,943,738,243
2024	680,742,742	1,647,423,014	6.12%	2,555,478,590	186,708,510	(14,312,392)	5,056,040,465
2025	664,273,653	1,606,804,905	6.33%	2,729,069,495	191,749,909	(18,827,943)	5,173,070,019
2026	647,696,740	1,565,322,166	6.54%	2,911,244,584	196,884,697	(23,391,352)	5,297,756,836
2027	631,187,135	1,523,610,996	6.74%	3,097,782,359	202,110,644	(27,975,678)	5,426,715,456
2028	614,225,752	1,480,393,425	6.93%	3,288,624,596	207,459,659	(32,662,748)	5,558,040,684
2029	596,975,304	1,436,174,152	7.12%	3,488,599,546	212,912,527	(37,427,582)	5,697,233,948
2030	579,229,316	1,390,455,753	7.31%	3,698,099,258	218,490,707	(42,303,046)	5,843,971,988
2031	561,016,659	1,343,338,655	7.59%	3,964,541,998	224,189,614	(47,285,145)	6,045,801,780
2032	541,773,701	1,293,444,820	7.69%	4,147,320,965	230,017,196	(52,462,720)	6,160,093,962
2033	521,526,234	1,240,837,446	7.86%	4,376,771,902	235,951,892	(57,832,272)	6,317,255,202
2034	500,831,630	1,187,019,012	8.03%	4,616,756,542	241,997,324	(63,307,036)	6,483,297,472
2035	479,791,004	1,132,250,884	8.20%	4,867,717,218	248,198,846	(68,871,731)	6,659,086,221
2036	458,703,109	1,077,363,177	9.14%	5,602,059,850	254,567,707	(74,480,125)	7,318,213,718
2037	437,111,909	1,021,179,449	9.30%	5,885,380,656	261,135,962	(80,204,244)	7,524,603,733
2038	415,294,500	964,446,706	9.46%	6,181,200,139	267,880,415	(86,001,267)	7,742,820,493
2039	394,381,916	910,035,688	9.61%	6,483,285,060	274,829,249	(91,694,597)	7,970,837,315
2040	374,631,592	858,632,937	9.76%	6,798,476,608	282,059,653	(97,244,512)	8,216,556,279
2041	355,745,235	809,505,571	5.95%	4,279,261,397	289,602,841	(102,698,363)	5,631,416,681
2042	337,345,516	761,698,000	6.12%	4,544,575,603	297,454,786	(108,115,894)	5,832,958,011
2043	320,594,593	718,362,840	5.74%	4,400,923,945	305,602,576	(113,315,672)	5,632,168,282
2044	304,722,180	677,803,011	5.90%	4,670,614,711	314,162,766	(118,419,025)	5,848,883,643
2045	289,452,478	639,394,728	5.53%	4,519,987,387	323,136,728	(123,469,820)	5,648,501,501
2046	273,108,592	599,541,296	5.78%	4,877,867,400	332,532,688	(128,731,440)	5,954,318,537
2047	254,804,902	556,388,354	4.88%	4,252,183,855	342,348,089	(134,343,313)	5,271,381,888
2048	234,926,071	510,677,859	4.41%	3,967,535,872	352,595,482	(140,245,867)	4,925,489,416
2049	213,277,687	461,924,807	3.91%	3,632,027,183	363,282,629	(146,470,263)	4,524,042,044
2050	189,841,679	410,002,226	3.62%	3,471,930,026	368,429,515	(155,988,126)	4,284,215,319

¹Reflects the net effect of a 6.21% employer normal cost rate contribution being made for future members using the 7.00% assumption adopted by the 2020 FRS Actuarial Assumption Conference, compared to the employer normal cost rate of 6.68% of payroll for those members under the 6.80% discount rate used in the GASB crossover test.

Projection of Crossover Test-Eligible Contributions

Fiscal Year Ending June 30	Current Non-DROP Member		UAL Contributions		DROP	Net NC	Total Test-Eligible Contributions
	Member Contributions	Employer Normal Cost Contributions	Blended Statutory UAL Rate	Statutory UAL Rate Contributions	Payroll Normal Cost Contributions	Contributions from Future Employees ¹	
2051	\$165,486,746	\$356,647,329	3.04%	\$3,010,412,698	\$373,708,202	(\$165,839,957)	\$3,740,415,018
2052	141,973,626	305,459,503	2.99%	3,057,128,559	379,167,612	(175,756,081)	3,707,973,218
2053	121,751,651	261,464,006	2.95%	3,114,258,010	384,798,841	(185,359,146)	3,696,913,362
2054	102,610,899	220,050,924	2.91%	3,171,871,783	390,593,619	(195,001,955)	3,690,125,270
2055	86,457,099	185,111,939	2.87%	3,229,941,017	396,545,560	(204,392,741)	3,693,662,875
2056	72,851,652	155,714,712	2.83%	3,288,434,461	402,646,231	(213,607,236)	3,706,039,821
2057	61,104,247	130,384,914	2.80%	3,359,315,910	408,891,723	(222,760,834)	3,736,935,960
2058	50,920,278	108,472,317	2.77%	3,431,331,245	415,275,604	(231,907,172)	3,774,092,273
2059	42,095,732	89,539,577	2.74%	3,504,479,299	421,792,582	(241,085,936)	3,816,821,255
2060	34,488,947	73,255,482	2.71%	3,578,757,633	428,441,103	(250,327,296)	3,864,615,870
2061	27,930,731	59,246,149	2.69%	3,667,797,387	435,216,849	(259,665,993)	3,930,525,123
2062	22,292,583	47,222,766	2.69%	3,787,000,802	442,117,692	(269,130,662)	4,029,503,181
2063	17,649,531	37,333,310	2.69%	3,910,078,329	449,141,854	(278,718,326)	4,135,484,698
2064	13,785,964	29,109,977	2.69%	4,037,155,874	456,289,689	(288,471,830)	4,247,869,674
2065	10,608,484	22,355,896	2.69%	4,168,363,440	463,559,943	(298,415,163)	4,366,472,600
2066	8,118,914	17,071,889	2.69%	4,303,835,252	470,953,704	(308,557,703)	4,491,422,056
2067	6,104,873	12,805,464	2.69%	4,443,709,898	478,472,194	(318,942,700)	4,622,149,728
2068	4,528,799	9,473,003	2.69%	4,588,130,469	486,115,560	(329,586,340)	4,758,661,491
2069	3,320,849	6,928,301	2.69%	4,737,244,710	493,884,869	(340,510,201)	4,900,868,527
2070	2,398,229	4,991,454	2.69%	4,891,205,163	501,781,744	(351,738,235)	5,048,638,355
2071	1,695,420	3,521,905	2.69%	5,050,169,330	509,807,097	(363,292,046)	5,201,901,707
2072	1,172,994	2,432,940	2.69%	5,214,299,834	517,962,327	(375,189,516)	5,360,678,579
2073	797,877	1,653,334	2.69%	5,383,764,578	526,248,881	(387,447,916)	5,525,016,754
2074	525,849	1,088,820	2.69%	5,558,736,927	534,668,522	(400,086,654)	5,694,933,464
2075	335,804	695,232	2.69%	5,739,395,877	543,223,067	(413,121,921)	5,870,528,060
2076	200,716	415,546	2.69%	5,925,926,243	551,914,615	(426,571,257)	6,051,885,863
2077	116,837	241,898	2.69%	6,118,518,846	560,745,249	(440,448,986)	6,239,173,844
2078	62,736	129,897	2.69%	6,317,370,709	569,717,173	(454,772,649)	6,432,507,866
2079	31,254	64,725	2.69%	6,522,685,257	578,832,648	(469,558,012)	6,632,055,872
2080	15,320	31,712	2.69%	6,734,672,527	597,644,709	(484,821,303)	6,847,542,965

¹Reflects the net effect of a 6.21% employer normal cost rate contribution being made for future members using the 7.00% assumption adopted by the 2020 FRS Actuarial Assumption Conference, compared to the employer normal cost rate of 6.68% of payroll for those members under the 6.80% discount rate used in the GASB crossover test.

Projection of Crossover Test-Eligible Contributions

Fiscal Year Ending June 30	Current Non-DROP Member		UAL Contributions		DROP Payroll Normal Cost	Net NC Contributions from Future Employees ¹	Total Test-Eligible Contributions
	Member Contributions	Employer Normal Cost Contributions	Blended Statutory UAL Rate	Statutory UAL Rate Contributions			
2081	\$6,587	\$13,634	2.69%	\$6,953,549,385	\$617,068,162	(\$500,579,441)	\$7,070,058,327
2082	2,028	4,198	2.69%	7,179,539,740	637,122,877	(516,849,021)	7,299,819,823
2083	261	541	2.69%	7,412,874,781	657,829,371	(533,646,901)	7,537,058,053
2084	68	140	2.69%	7,653,793,212	679,208,825	(550,990,457)	7,782,011,788
2085	7	15	2.69%	7,902,541,491	701,283,112	(568,897,656)	8,034,926,969
2086	0	0	2.69%	8,159,374,089	724,074,813	(587,386,831)	8,296,062,071
2087	0	0	2.69%	8,424,553,747	747,607,245	(606,476,903)	8,565,684,089
2088	0	0	2.69%	8,698,351,744	771,904,480	(626,187,403)	8,844,068,821
2089	0	0	2.69%	8,981,048,176	796,991,376	(646,538,493)	9,131,501,058
2090	0	0	2.69%	9,272,932,241	822,893,596	(667,550,994)	9,428,274,842
2091	0	0	2.69%	9,574,302,539	849,637,637	(689,246,402)	9,734,693,775
2092	0	0	2.69%	9,885,467,372	877,250,861	(711,646,910)	10,051,071,323
2093	0	0	2.69%	10,206,745,061	905,761,514	(734,775,434)	10,377,731,141
2094	0	0	2.69%	10,538,464,276	935,198,763	(758,655,636)	10,715,007,403
2095	0	0	2.69%	10,880,964,365	965,592,723	(783,311,944)	11,063,245,143
2096	0	0	2.69%	11,234,595,707	996,974,486	(808,769,582)	11,422,800,610

¹Reflects the net effect of a 6.21% employer normal cost rate contribution being made for future members using the 7.00% assumption adopted by the 2020 FRS Actuarial Assumption Conference, compared to the employer normal cost rate of 6.68% of payroll for those members under the 6.80% discount rate used in the GASB crossover test.

Projection of Fiduciary Net Position

Fiscal Year Ending June 30	Projected Beginning Fiduciary Net Position	Projected Test-Eligible Contributions	Projected Payments for Current PP Members	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2021	\$161,568,265,280	\$4,477,923,497	\$11,235,570,961	\$21,556,013	\$10,760,660,533	\$165,549,722,336
2022	165,549,722,336	4,831,486,278	11,746,926,830	21,987,133	11,026,122,877	169,638,417,527
2023	169,638,417,527	4,943,738,243	12,275,791,217	22,426,876	11,290,222,274	173,574,159,951
2024	173,574,159,951	5,056,040,465	12,934,100,478	22,875,413	11,539,593,817	177,212,818,342
2025	177,212,818,342	5,173,070,019	13,704,504,744	23,332,922	11,765,173,179	180,423,223,874
2026	180,423,223,874	5,297,756,836	13,560,473,076	23,799,580	11,992,466,931	184,129,174,984
2027	184,129,174,984	5,426,715,456	13,865,049,217	24,275,572	12,238,598,806	187,905,164,457
2028	187,905,164,457	5,558,040,684	14,354,225,036	24,761,083	12,483,399,261	191,567,618,283
2029	191,567,618,283	5,697,233,948	14,854,247,415	25,256,305	12,720,379,687	195,105,728,199
2030	195,105,728,199	5,843,971,988	15,342,408,217	25,761,431	12,949,553,692	198,531,084,231
2031	198,531,084,231	6,045,801,780	15,855,276,008	26,276,660	13,172,076,526	201,867,409,870
2032	201,867,409,870	6,160,093,962	16,353,437,558	26,802,193	13,386,109,750	205,033,373,831
2033	205,033,373,831	6,317,255,202	16,856,754,509	27,338,237	13,589,819,556	208,056,355,844
2034	208,056,355,844	6,483,297,472	17,336,796,111	27,885,001	13,784,881,927	210,959,854,131
2035	210,959,854,131	6,659,086,221	17,834,447,138	28,442,701	13,971,556,461	213,727,606,975
2036	213,727,606,975	7,318,213,718	18,312,250,866	29,011,555	14,165,827,276	216,870,385,548
2037	216,870,385,548	7,524,603,733	18,722,069,112	29,591,787	14,372,733,405	220,016,061,787
2038	220,016,061,787	7,742,820,493	19,094,266,655	30,183,622	14,581,490,141	223,215,922,143
2039	223,215,922,143	7,970,837,315	19,399,953,279	30,787,295	14,796,483,300	226,552,502,185
2040	226,552,502,185	8,216,556,279	19,693,910,207	31,403,041	15,021,757,624	230,065,502,841
2041	230,065,502,841	5,631,416,681	19,918,108,377	32,031,101	15,166,695,013	230,913,475,057
2042	230,913,475,057	5,832,958,011	20,030,051,774	32,671,723	15,227,353,355	231,911,062,926
2043	231,911,062,926	5,632,168,282	20,085,054,600	33,325,158	15,286,635,409	232,711,486,859
2044	232,711,486,859	5,848,883,643	20,084,971,928	33,991,661	15,348,314,148	233,789,721,060
2045	233,789,721,060	5,648,501,501	20,073,391,323	34,671,494	15,415,320,389	234,745,480,133
2046	234,745,480,133	5,954,318,537	19,962,232,484	35,364,924	15,494,256,035	236,196,457,296
2047	236,196,457,296	5,271,381,888	19,867,670,631	36,072,223	15,573,246,726	237,137,343,057
2048	237,137,343,057	4,925,489,416	19,773,399,571	36,793,667	15,628,812,523	237,881,451,758
2049	237,881,451,758	4,524,042,044	19,739,794,525	37,529,540	15,667,110,953	238,295,280,689
2050	238,295,280,689	4,284,215,319	19,758,672,304	38,280,131	15,686,600,021	238,469,143,594

Projection of Fiduciary Net Position

Fiscal Year Ending June 30	Projected Beginning Fiduciary Net Position	Projected Test-Eligible Contributions	Projected Payments for Current PP Members	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2051	\$238,469,143,594	\$3,740,415,018	\$19,749,042,928	\$39,045,734	\$15,680,559,566	\$238,102,029,515
2052	238,102,029,515	3,707,973,218	19,724,207,715	39,826,649	15,655,341,438	237,701,309,807
2053	237,701,309,807	3,696,913,362	19,682,026,939	40,623,182	15,629,133,208	237,304,706,256
2054	237,304,706,256	3,690,125,270	19,563,422,265	41,435,645	15,605,903,408	236,995,877,024
2055	236,995,877,024	3,693,662,875	19,277,416,728	42,264,358	15,594,585,591	236,964,444,403
2056	236,964,444,403	3,706,039,821	18,789,820,252	43,109,645	15,609,167,711	237,446,722,038
2057	237,446,722,038	3,736,935,960	18,372,247,473	43,971,838	15,656,959,774	238,424,398,460
2058	238,424,398,460	3,774,092,273	17,795,362,194	44,851,275	15,743,975,846	240,102,253,111
2059	240,102,253,111	3,816,821,255	17,182,568,776	45,748,300	15,879,991,192	242,570,748,481
2060	242,570,748,481	3,864,615,870	16,559,413,513	46,663,266	16,070,286,014	245,899,573,585
2061	245,899,573,585	3,930,525,123	15,919,611,355	47,596,532	16,320,245,714	250,183,136,535
2062	250,183,136,535	4,029,503,181	15,257,161,644	48,548,462	16,636,990,790	255,543,920,400
2063	255,543,920,400	4,135,484,698	14,579,978,106	49,519,432	17,027,713,802	262,077,621,363
2064	262,077,621,363	4,247,869,674	13,894,267,306	50,509,820	17,498,694,472	269,879,408,382
2065	269,879,408,382	4,366,472,600	13,200,078,341	51,520,017	18,056,396,445	279,050,679,070
2066	279,050,679,070	4,491,422,056	12,505,220,154	52,550,417	18,707,457,920	289,691,788,474
2067	289,691,788,474	4,622,149,728	11,812,181,029	53,601,425	19,458,600,825	301,906,756,573
2068	301,906,756,573	4,758,661,491	11,124,513,954	54,673,454	20,316,779,900	315,803,010,556
2069	315,803,010,556	4,900,868,527	10,445,167,349	55,766,923	21,289,198,627	331,492,143,439
2070	331,492,143,439	5,048,638,355	9,777,060,788	56,882,261	22,383,343,267	349,090,182,011
2071	349,090,182,011	5,201,901,707	9,122,500,684	58,019,907	23,607,024,196	368,718,587,324
2072	368,718,587,324	5,360,678,579	8,483,587,954	59,180,305	24,968,431,180	390,504,928,824
2073	390,504,928,824	5,525,016,754	7,862,685,007	60,363,911	26,476,161,536	414,583,058,196
2074	414,583,058,196	5,694,933,464	7,261,362,868	61,571,189	28,139,265,219	441,094,322,823
2075	441,094,322,823	5,870,528,060	6,681,297,894	62,802,613	29,967,301,116	470,188,051,491
2076	470,188,051,491	6,051,885,863	6,123,384,838	64,058,665	31,970,396,515	502,022,890,366
2077	502,022,890,366	6,239,173,844	5,588,984,294	65,339,838	34,159,299,439	536,767,039,516
2078	536,767,039,516	6,432,507,866	5,078,968,767	66,646,635	36,545,422,191	574,599,354,172
2079	574,599,354,172	6,632,055,872	4,594,132,606	67,979,568	39,140,905,979	615,710,203,849
2080	615,710,203,849	6,847,542,965	4,135,254,058	69,339,159	41,958,995,121	660,312,148,718

Projection of Fiduciary Net Position

Fiscal Year Ending June 30	Projected Beginning Fiduciary Net Position	Projected Test-Eligible Contributions	Projected Payments for Current PP Members	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2081	\$660,312,148,718	\$3,740,415,018	\$3,702,881,484	\$70,725,942	\$48,343,470,693	\$708,622,427,003
2082	708,622,427,003	3,707,973,218	3,297,431,307	72,140,461	51,912,014,934	760,872,843,386
2083	760,872,843,386	3,696,913,362	2,919,197,763	73,583,270	55,733,923,237	817,310,898,951
2084	817,310,898,951	3,690,125,270	2,568,336,417	75,054,936	59,843,377,407	878,201,010,274
2085	878,201,010,274	3,693,662,875	2,244,778,185	76,556,035	64,252,560,317	943,825,899,246
2086	943,825,899,246	3,706,039,821	1,948,260,898	78,087,155	68,982,459,295	1,014,488,050,309
2087	1,014,488,050,309	3,736,935,960	1,678,327,514	79,648,898	74,044,254,639	1,090,511,264,497
2088	1,090,511,264,497	3,774,092,273	1,434,338,777	81,241,876	79,472,530,240	1,172,242,306,356
2089	1,172,242,306,356	3,816,821,255	1,215,473,804	82,866,714	85,291,875,352	1,260,052,662,445
2090	1,260,052,662,445	3,864,615,870	1,020,736,080	84,524,048	91,528,395,301	1,354,340,413,487
2091	1,354,340,413,487	3,930,525,123	848,965,624	86,214,529	98,196,463,112	1,455,532,221,569
2092	1,455,532,221,569	4,029,503,181	698,857,940	87,938,820	105,310,505,216	1,564,085,433,207
2093	1,564,085,433,207	4,135,484,698	568,984,914	89,697,596	112,928,068,757	1,680,490,304,152
2094	1,680,490,304,152	4,247,869,674	457,821,778	91,491,548	121,083,487,464	1,805,272,347,964
2095	1,805,272,347,964	4,366,472,600	363,772,381	93,321,379	129,813,091,717	1,938,994,818,522
2096	1,938,994,818,522	4,491,422,056	371,047,829	95,187,806	139,152,606,272	2,082,172,611,215

Net Pension Liability

Net Pension Liability	June 30, 2019	June 30, 2020
Total pension liability	\$198,012,334,000	\$204,909,739,000
Fiduciary net position	163,573,726,217	161,568,265,280
Net pension liability	34,438,607,783	43,341,473,720
Fiduciary net position as a % of total pension liability	82.61%	78.85%
Covered payroll	35,571,200,000	36,898,200,000
Net pension liability as a % of covered payroll	96.82%	117.46%

The total pension liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions below. The total pension liability is calculated using the Individual Entry Age Normal cost allocation method.

Discount Rate

Discount rate	6.90%	6.80%
Long-term expected rate of return, net of investment expense	6.90%	6.80%
Municipal bond rate	N/A	N/A

The plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees if future experience follows assumptions and the Actuarially Determined Contribution (ADC) is contributed in full each year. Therefore, the discount rate for calculating the total pension liability is equal to the long-term expected rate of return. The 6.8% rate of return assumption used in the June 30, 2020 calculations in Milliman's professional opinion is reasonable and appropriate per Actuarial Standard of Practice Number 27 (ASOP 27).

Other Key Actuarial Assumptions

The actuarial assumptions that determined the total pension liability as of June 30, 2020 were based on the results of an actuarial experience study for the July 1, 2013 - June 30, 2018 experience observation period.

Valuation date	July 1, 2019	July 1, 2020
Measurement date	June 30, 2019	June 30, 2020
Inflation	2.60%	2.40%
Salary increases including inflation	3.25%	3.25%
Mortality	PUB-2010 base table varies by member category and sex, projected generationally with Scale MP-2018*	PUB-2010 base table varies by member category and sex, projected generationally with Scale MP-2018*
Actuarial cost method	Individual Entry Age	Individual Entry Age

* See July 1, 2020 Actuarial Valuation Report for funding purposes for details

Changes in Net Pension Liability

Changes in Net Pension Liability	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of June 30, 2019	\$198,012,334,000	\$163,574,666,819 ¹	\$34,437,667,181
Changes for the year:			
Service cost	2,647,456,150		2,647,456,150
Interest on total pension liability	13,458,929,163		13,458,929,163
Effect of plan changes	0		0
Effect of economic/demographic gains or losses	448,646,272		448,646,272
Effect of assumptions changes or inputs	1,738,139,000		1,738,139,000
Benefit payments ²	(11,395,765,585)	(11,395,765,585)	0
Employer contributions		3,322,556,872	(3,322,556,872)
Member contributions		748,454,881	(748,454,881)
Net investment income		5,339,908,306	(5,339,908,306)
Administrative expenses		(21,556,013)	21,556,013
Balances as of June 30, 2020	204,909,739,000	161,568,265,280	43,341,473,720

¹ Reflects restatement of beginning net position at July 1, 2019.

² Benefit payments shown above include outbound transfers to the Investment Plan and returns of contributions, net of \$89,899,880 inbound transfers from the Investment Plan, plus general revenue-funded benefit payments net of general revenue contributions.

Sensitivity Analysis

The following presents the net pension liability of the Pension Plan, calculated using the discount rate of 6.80%, as well as what the Pension Plan's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (5.80%) or one percentage point higher (7.80%) than the current rate.

	1% Decrease 5.80%	Current Discount Rate 6.80%	1% Increase 7.80%
Total pension liability	\$230,777,315,000	\$204,909,739,000	\$183,305,027,000
Fiduciary net position	<u>161,568,265,280</u>	<u>161,568,265,280</u>	<u>161,568,265,280</u>
Net pension liability	69,209,049,720	43,341,473,720	21,736,761,720

Schedule of Changes in Net Pension Liability and Related Ratios ¹

(in 1,000s)

	Fiscal Year Ending June 30				
	2020	2019	2018	2017	2016
Total Pension Liability					
Service cost	\$2,647,456	\$2,523,070	\$2,423,987	\$2,073,754	\$2,132,906
Interest on total pension liability	13,458,929	13,194,902	12,847,930	12,484,167	12,109,114
Effect of plan changes	0	11,404	0	92,185	32,310
Effect of economic/demographic gains or (losses)	448,646	247,482	554,811	1,412,462	980,192
Effect of assumption changes or inputs	1,738,139	1,585,626	2,235,654	10,398,344	1,030,667
Benefit payments	<u>(11,395,766)</u>	<u>(10,867,549)</u>	<u>(10,377,575)</u>	<u>(9,859,319)</u>	<u>(10,624,925)</u>
Net change in total pension liability	6,897,405	6,694,935	7,684,807	16,601,593	5,660,264
Total pension liability, beginning	<u>198,012,334</u>	<u>191,317,399</u>	<u>183,632,592</u>	<u>167,030,999</u>	<u>161,370,735</u>
Total pension liability, ending (a)	<u><u>204,909,739</u></u>	<u><u>198,012,334</u></u>	<u><u>191,317,399</u></u>	<u><u>183,632,592</u></u>	<u><u>167,030,999</u></u>
Fiduciary Net Position					
Employer contributions	\$3,322,557	\$3,100,722	\$2,849,920	\$2,603,246	\$2,438,659
Member contributions	748,455	752,814	746,370	744,839	710,717
Investment income net of investment expenses	5,339,908	9,410,440	13,955,233	18,801,917	820,582
Benefit payments	(11,395,766)	(10,867,549)	(10,377,575)	(9,859,319)	(10,624,925)
Administrative expenses	<u>(21,556)</u>	<u>(19,580)</u>	<u>(20,178)</u>	<u>(18,340)</u>	<u>(18,507)</u>
Net change in plan fiduciary net position	(2,006,402)	2,376,846	7,153,770	12,272,342	(6,673,473)
Fiduciary net position, beginning	<u>163,574,667</u> ³	<u>161,196,881</u>	<u>154,043,110</u> ²	<u>141,780,921</u>	<u>148,454,394</u>
Fiduciary net position, ending (b)	<u><u>161,568,265</u></u>	<u><u>163,573,726</u></u> ³	<u><u>161,196,881</u></u>	<u><u>154,053,263</u></u> ²	<u><u>141,780,921</u></u>
Net pension liability, ending = (a) - (b)	\$43,341,474	\$34,438,608 ³	\$30,120,518	\$29,579,329 ²	\$25,250,078
Fiduciary net position as a % of total pension liability	78.85%	82.61%	84.26%	83.89%	84.88%
Covered payroll ⁴	\$36,898,200	\$35,571,200	\$34,675,000	\$33,775,800	\$33,214,217
Net pension liability as a % of covered payroll	117.46%	96.82%	86.87%	87.58% ²	76.02%

¹ This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported. Amounts shown in exhibit are rounded to the nearest thousand. As such, sums may differ from amounts displayed due to rounding.

² There was a restatement of the fiduciary net position at June 30, 2017. The 2017 ending FNP is before restatement; the 2018 beginning FNP is after restatement.

³ There was a restatement of the fiduciary net position at June 30, 2019. The 2019 ending FNP is before restatement; the 2020 beginning FNP is after restatement.

⁴ For the fiscal years ending 2015 and later, covered payroll shown includes the payroll for Investment Plan members and other payroll on which only statutory UAL rates are charged.

Florida Retirement System Pension Plan

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Schedule of Changes in Net Pension Liability and Related Ratios ¹
(in 1,000s)

	Fiscal Year Ending June 30				
	2015	2014	2013	2012	2011
Total Pension Liability					
Service cost	\$2,114,047	\$2,256,738	N/A	N/A	N/A
Interest on total pension liability	11,721,563	11,489,921	N/A	N/A	N/A
Effect of plan changes	0	0	N/A	N/A	N/A
Effect of economic/demographic gains or (losses)	1,620,863	(448,818)	N/A	N/A	N/A
Effect of assumption changes or inputs	0	1,256,045	N/A	N/A	N/A
Benefit payments	(10,201,501)	(8,714,251)	N/A	N/A	N/A
Net change in total pension liability	5,254,972	5,839,635	N/A	N/A	N/A
Total pension liability, beginning	156,115,763	150,276,128	N/A	N/A	N/A
Total pension liability, ending (a)	161,370,735	156,115,763	N/A	N/A	N/A
Fiduciary Net Position					
Employer contributions	\$2,438,085	\$2,190,424	N/A	N/A	N/A
Member contributions	698,304	682,507	N/A	N/A	N/A
Investment income net of investment expenses	5,523,287	22,812,286	N/A	N/A	N/A
Benefit payments	(10,201,501)	(8,714,251)	N/A	N/A	N/A
Administrative expenses	(18,074)	(18,352)	N/A	N/A	N/A
Net change in plan fiduciary net position	(1,559,898)	16,952,615	N/A	N/A	N/A
Fiduciary net position, beginning	150,014,292	133,061,677	N/A	N/A	N/A
Fiduciary net position, ending (b)	148,454,394	150,014,292	N/A	N/A	N/A
Net pension liability, ending = (a) - (b)	\$12,916,341	\$6,101,471	N/A	N/A	N/A
Fiduciary net position as a % of total pension liability	92.00%	96.09%	N/A	N/A	N/A
Covered payroll ²	\$32,726,034	\$24,723,565	N/A	N/A	N/A
Net pension liability as a % of covered payroll	39.47%	24.68%	N/A	N/A	N/A

¹ This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported. Amounts shown in exhibit are rounded to the nearest thousand. As such, sums may differ from amounts displayed due to rounding.

² For the fiscal year ending 2014, covered payroll shown includes Pension Plan actives and members in DROP, but excludes the payroll for Investment Plan members and other payroll on which only statutory UAL rates are charged. For the fiscal years ending 2015 and later, covered payroll shown includes the payroll for Investment Plan members and other payroll on which only statutory UAL rates are charged.

Florida Retirement System Pension Plan

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Glossary

Actuarially Determined Contribution	A target contribution to a defined benefit pension plan for the reporting period, determined based on the funding policy and the most recent actuarial measurement available when the contribution for the reporting period was adopted.
Deferred Inflows/Outflows of Resources	Portion of changes in net pension liability that is not immediately recognized in pension expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.
Discount Rate	Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of: <ol style="list-style-type: none">1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.2) The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Fiduciary Net Position	Equal to market value of assets.
Long-Term Expected Rate of Return	Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.
Money-Weighted Rate of Return	The internal rate of return on pension plan investments, net of investment expenses.
Municipal Bond Rate	Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
Net Pension Liability	Total pension liability minus the plan's fiduciary net position.
Projected Benefit Payments	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and expected future service.
Service Cost	The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year by the cost allocation method.
Total Pension Liability	The portion of actuarial present value of projected benefit payments that is attributable to past periods of member service using the individual entry age cost allocation method based on the requirements of GASB 67 and 68.