

**TEACHERS' RETIREMENT
SYSTEM OF LOUISIANA**

JUNE 30, 2018

**ACTUARIAL VALUATION
(Revised December 7, 2018)**



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December 7, 2018

Board of Trustees
Teachers' Retirement System of Louisiana
Post Office Box 94123, Capitol Station
Baton Rouge, Louisiana 70804-9123

Dear Board Members:

This report is prepared for the Board of Trustees of Teachers' Retirement System of Louisiana (TRSL) to present the results of the actuarial valuation of assets and liabilities and funding requirements, as of June 30, 2018. The primary purpose of the report is to provide a measure of the plan's liability and funding levels and to determine the actuarially required contribution for fiscal year ending 2019 and the projected actuarially required contribution rate for fiscal year ending 2020. Note, the projected actuarially required contribution rate for fiscal year ending 2020, as reported in the valuation adopted by the Board on October 4, 2018 has been revised due the Board's adoption of a 7.55% discount rate effective June 30, 2019. Section IV provides disclosures of the Fiduciary Net Position and Net Pension Liabilities required by the Governmental Accounting Standards Board Statements 67/68. Results should not be relied upon for other purposes.

In preparing this valuation, we have relied upon the information provided by the System regarding plan provisions, plan membership, plan assets and other matters as detailed in this report. In particular, we have relied upon the Statements of Fiduciary Net Position and Changes in Fiduciary Net Position as audited by Duplantier, Hrapmann, Hogan & Maher LLP, Certified Public Accountants. We did not audit the data or plan assets but reviewed for reasonableness and consistency with prior year data. Our review concluded that the data is reasonable and consistent with the prior year's data.

The liabilities and normal costs shown herein have been estimated on the basis of the actuarial cost method specified in Louisiana Revised Statutes Title 11 Section 22(13). All actuarial assumptions have been adopted by the Board of Trustees and are reasonable and appropriate for the purposes of this valuation, unless otherwise stated herein. However, other sets of assumptions and methods could also be reasonable and could produce materially different results. Actual results may vary from the assumptions used to prepare the valuation.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as 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 and changes in plan provisions or applicable law. The scope of this report does not include an analysis of the range of such future measurements.

This report has been prepared in accordance with actuarial standards of practice, and to the best of our knowledge, fairly reflects the actuarial present value of accrued benefits of the Teachers' Retirement System of Louisiana.

Shelley is an Associate in the Society of Actuaries and Pat is a Fellow in the Society of Actuaries. Shelley and Pat are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,

FOSTER & FOSTER INC.



Shelley R. Johnson, ASA, MAAA



D. Patrick McDonald, FSA, EA, MAAA, FCA

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PRESENTATION OF VALUATION RESULTS

SUMMARY OF VALUATION RESULTS

		----- Prior Years -----	
	June 30, 2018	June 30, 2017	June 30, 2016
I. Membership Census			
Retirees	78,423	77,258	75,828
Actives	85,045	84,228	84,068
DROP	2,420	2,478	2,504
Terminated Vested	7,211	6,941	6,687
II. Annual Benefits	\$1,986,400,248	\$1,939,661,208	\$1,887,454,080
III. Current Payroll			
Regular Teachers, Lunch Plans	3,373,253,993	3,316,780,178	3,310,391,256
Higher Education	624,797,320	584,847,614	559,338,768
Total	3,998,051,313	3,901,627,792	3,869,730,024
IV. Market Value of Assets	21,046,702,165	19,513,345,675	17,537,950,955
Valuation Assets	20,319,561,584	19,210,425,004	18,254,321,142
V. Investment Yield			
Market Value (Total Assets)	11.15%	15.19%	1.02%
Market Value (Excl LaDROP Assets)	11.35%	15.55%	1.04%
Actuarial Value	9.48%	9.15%	6.67%
DROP	8.98%	8.65%	6.17%
VI. Experience Account	85,129,775	37,154,395	24,977,477
VII. Total Normal Cost	439,691,899	473,025,011	466,591,480
Total Normal Cost % of Payroll	11.00%	12.12%	12.06%
Employer Normal Cost % of Payroll	3.01%	4.14%	4.07%
VIII. Unfunded Actuarial Accrued Liability	10,552,318,323	10,552,198,909	11,018,080,836
IX. Funded Percentage	65.8%	64.5%	62.4%
X. Funding Requirements (Mid-year Pmt)			
1) Discount rate (Current Year)	7.65%	7.70%	7.75%
Discount rate (Next Year)	7.55%	7.65%	7.70%
2) Employee Contribution ¹	322,492,929	317,192,109	314,143,467
3) Employer Contribution	1,194,312,374	1,172,121,854	1,137,651,636
Aggregate Rate (Current Year) ²	26.4%	26.4%	25.8%
4) Projected Employer Contribution	1,191,113,503	1,211,871,889	1,199,029,516
Aggregate Rate (Next Year) ³	25.9%	26.5%	26.4%

The above funding requirements measure the cost of benefits that were in effect on June 30, 2018.

¹ Member Contributions: Regular and Higher Ed – 8.0%, Lunch Plan A – 9.10%, Lunch Plan B – 5.00%

² Reflects the restated aggregate employer contribution rate for the fiscal year following the valuation.

³ Reflects the projected aggregate employer contribution rate for fiscal year that begins one year after the valuation date.

PROJECTED CONTRIBUTION RATES BY PLAN

Act 716 of 2012 requires the employer contribution rate to be individually determined for each plan type as defined within the Act beginning with Fiscal Year 2012/2013. Per Act 95 of 2016, the Lunch Plan contribution requirements are consolidated with the Regular Teachers (K-12) employer contribution rate. The term “plan” refers to each employer group specified in the Act, rather than each plan referring to a separate plan of benefits. The normal cost portion of each plan’s employer contribution rate varies based upon that plan’s benefits, member demographics, and the rate contributed by employees. The shared UAL contribution rate is determined in aggregate for all plans. The UAL established for a specific plan or group of plans by specific legislation will be allocated entirely to that plan or those plans. The recommended employer rates by plan are as follows:

	Recommended Employer Rate for FY 2019/2020					
	Total Normal Cost Rate	Aggregate Employee Normal Cost Rate	Employer Normal Cost Rate	Administrative Expense Rate	Shared UAL Rate	Total Employer Contribution Rate
Regular Teachers, Lunch A & B	11.3%	7.9797%	3.3595%	0.45%	22.2%	26.0%
Higher Education	10.6%	8.0000%	2.6418%	0.45%	22.2%	25.3%
Aggregate Rate	11.2%	7.9829%	3.2473%	0.45%	22.2%	25.9%

The variation in normal cost by plan reflects differences in benefits, actuarial assumptions, and member demographics based on the entry age normal cost method.

CHANGES SINCE PRIOR VALUATION

The discount rate was reduced from 7.70% to 7.65%, effective July 1, 2018, in accordance with the Board’s adopted plan to reduce the discount rate to 7.50% in 0.05% annual increments. This change was anticipated in the prior valuation when determining the projected contribution requirements for Fiscal Year 2018/2019. **On November 1, 2018, the Board accelerated the discount rate reduction plan by one year and reduced the discount rate used to determine the projected contribution requirements for Fiscal Year 2019/2020 from 7.60% to 7.55%.**

CHANGE IN FUNDING REQUIREMENTS

The aggregate employer contribution rate established by the Public Retirement Systems' Actuarial Committee for the 2018/2019 plan year was 26.5%. The restated employer contribution rate determined by this valuation for the 2018/2019 plan year is 26.4%. Therefore, a minimal contribution surplus or deficit is expected next year.

Changes in the required contribution are generally the result of gains or losses resulting from actual experience differing from expected plan experience, expected changes in the UAL payment due to statutory requirements, and changes in actuarial assumptions or methods. Changes in the employer contribution rate are impacted by both the change in the total dollar required contribution and by the total aggregate payroll for active members.

The projected aggregate employer contribution rate decreased from 26.5% to 25.9% from Fiscal Year 2018/2019 to Fiscal Year 2019/2020. The reasons for the change are detailed below. The total of the items contributing to the contribution rate change may not exactly equal the actual contribution rate change due to rounding, and since the items impacting the rate are not additive and may overlap.

Section I
PRESENTATION OF VALUATION RESULTS

TRSL Actuarial Valuation
June 30, 2018

Normal Cost	
Demographic Shift	0.00%
Discount Rate Change (7.65% to 7.55%)	0.23%
Change in Other Assumptions	-1.25%
<u>Normal Cost Total Change</u>	-1.02%
UAL Payment	
Investment Experience Gain	-0.16%
Other Experience Gain	-0.19%
Experience Account Allocation (10 year amortization)	0.13%
Statutory UAL Payment Increase *	-0.83%
Contribution Variance Payment Change	0.01%
Discount Rate Change (7.65% to 7.55%)	0.41%
Change in Other Assumptions	1.11%
<u>Total UAL Payment Change</u>	0.48%
Payroll Change	-0.06%
Administrative Expenses	0.00%
<u>Total</u>	-0.60%
Actual Contribution Rate Change	-0.6%

* Includes the roll-off of the 2014 investment gain credit (+2.17%) and the projected impact of the reamortization of the OAB and EAAB (-3.00%)

CHANGE IN UNFUNDED ACCRUED LIABILITY

The plan's unfunded accrued liability (UAL) increased mainly due to the increases resulting from the change in the discount rate and other assumptions, offset by a reduction in principal following receipt of the prior year's UAL payment and an experience gain from investment and non-investment actuarial assumptions.

Unfunded Liability - June 30, 2017		\$ 10,552,198,909
Interest on Unfunded Liability	\$ 812,519,316	
Employer Amortization Payment	(1,045,692,251)	
Act 59 of 2018 Appropriation	(8,585,163)	
Contribution Variance Surplus	(61,466,736)	
Investment Experience Gain	(319,679,363)	
Experience Account Allocation	44,451,679	
Other Experience Gain	(109,431,563)	
Change in Other Assumptions	550,022,780	
Discount Rate Change (7.70% to 7.65%)	137,980,715	
<u>Total Change</u>		\$ 119,414
Unfunded Liability - June 30, 2018		\$ 10,552,318,323

PLAN EXPERIENCE

The actuarial assumptions represent the best estimate of future experience in order to properly fund benefits. The results of the actuarial valuation are dependent on the actuarial assumptions used. These assumptions, which are adopted by the Board of Trustees, are detailed in Appendix D of the valuation report. A gain or loss occurs if the actual experience differs from the prior year's projected plan measurements. The funding policy, in Appendix D, describes how investment and non-investment gains are amortized or allocated for other purposes.

Demographic and Salary Assumption Experience

Demographic assumptions include rates of retirement/DROP, rates at which members become disabled, turnover rates, mortality rates, and several other assumptions. Salary assumptions anticipate future salary increases. During the 2017/2018 plan year, the system incurred an experience gain of \$109,431,563 from plan experience differing from that anticipated by the demographic and salary assumptions. The experience gain includes a reduction for administrative expenses to the extent not directly funded. The gain is amortized over 30 years with level payments.

A breakdown of the non-investment experience gain/(loss) is provided below:

Active Member Decrements	(\$90,526,250)
Active Member Salaries	\$157,854,237
Inactive Mortality	\$32,593,912
Administrative Expenses	(\$29,064,944)
Other	\$38,574,608
Total Change	\$109,431,563

Investment Assumption Experience

The market value of assets and actuarial value of assets include funds from the DROP accounts created for members eligible for DROP after January 1, 2004, which are invested in money market accounts. The rate of return on the actuarial value of assets is determined for trust assets net of these accounts.

	Actuarial Value of Assets	Money Market DROP Accounts	Net Actuarial Value of Assets
Beginning Assets	19,250,178,299	421,400,830	18,828,777,469
Contributions	1,589,766,893	95,402,842	1,494,364,051
Benefits Payments and Expenses	2,197,108,376	155,358,487	2,041,749,889
Investment Income	1,764,639,455	5,293,354	1,759,346,101
Ending Asset Value	20,407,476,271	366,738,539	20,040,737,732
Net AVA Rate of Return			9.48%

For the plan year ending June 30, 2018, the System's actuarial rate of return of 9.48% exceeded the 7.70% discount rate, resulting in an investment experience gain of \$319,679,363. Investment experience losses are amortized over 30 years with level payments. Investment experience gains up to the threshold amounts, are allocated to the Original Amortization Base and Experience Account Allocation Base. The remaining gain is amortized over 30 years with level payments. One-half of the remaining gain is allocated to the experience account, up to the statutory cap, to be used to fund future permanent benefit increases, when granted by the legislature, and is amortized over ten years as a loss. The development of investment gains/losses and any resulting allocations are shown below:

Development of Investment Gain/(Loss)

A. Beginning Net Actuarial Value of Assets	\$ 18,828,777,469
B. Total Contributions	1,494,364,051
C. Benefits Payments and Expenses	2,041,749,889
D. Ending Net Actuarial Value of Assets	20,040,737,732
E. Investment Income (D - A - B + C)	1,759,346,101
Investment Rate of Return	9.48%
F. Expected Investment Income	1,439,666,738
Expected Rate of Return	7.70%
G. Investment Gain/(Loss) (E - F)	319,679,363

Current Allocation of Gain Threshold to OAB/EAAB

H. \$200,000,000 Indexed by AVA Increase	\$ 230,776,004
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Allocation of Investment Gain

I. Original Amortization Base (OAB) Credit (H * 1/2)	\$ 115,388,002
J. Experience Account Amortization Base (EAAB) Credit (H * 1/2)	115,388,002
K. 30-Year Amortized Gain (G - I - J)	88,903,359
L. 10-Year Amort. of Experience Account Credit (-K * 1/2)	(44,451,679)
M. Experience Account Credit (K * 1/2)	44,451,679
N. Total (I + J + K + L + M)	319,679,363

The historical geometric average rates of return on the total actuarial value of assets, net of investment expenses, for plan years ending June 30 are shown below. The discount rate reflects the expected return needed to fund regular plan benefits. The returns shown below are comparable to the discount rate plus returns expected to be allocated to the Experience Account and administrative expenses (when not directly funded), which is currently 8.05% for Fiscal Year 2018/2019 and 8.00% for Fiscal Year 2019/2020.

	Actuarial Rate of Return		Geometric Average
2013	13.41%	5 Year	9.92%
2014	13.14%	10 Year	5.87%
2015	11.26%	15 Year	7.58%
2016	6.67%	20 Year	6.57%
2017	9.15%	25 Year	7.82%
2018	9.48%	30 Year	8.26%

DROP accounts for members eligible for DROP prior to January 1, 2004 are credited with interest following termination of DROP at the System's actuarial rate of return less a 0.5% expense adjustment, but not below zero. The DROP interest rate for the period July 1, 2017 through June 30, 2018 after the expense adjustment is 8.98%. DROP accounts for members eligible for DROP after are January 1, 2004 are invested in money market accounts.

ACTUARIAL ASSETS/VALUATION ASSETS

The gross actuarial value of assets, developed in Section II, are determined based on the market value of assets, with gradual recognition of gains and losses relative to the discount rate over a five-year period in order to smooth the effects of short-term market volatility. Valuation assets are determined as the gross actuarial value of assets less the assets held in side-fund accounts. Valuation assets are used to determine the employer contribution rate (see Section III).

The side-fund accounts excluded from valuation assets are as follows:

Employer Credit Account: This account, established by Act 588 of 2004, accumulates the excess contributions based on the statutory minimum employer contribution rate of 15.5% over the actuarially required employer contribution (ARC), as restated in the current valuation. The minimum rate is not currently applicable, and the account continues to have a zero balance.

LSU Agriculture and Extension Service Fund: Participants of the LSU Agriculture and Extension Service receive supplemental benefits from TRSL equal to the difference between the TRSL benefit formula and the Federal Civil Service formula. The funding is recorded separately in the side-fund with assets co-mingled with the TRSL assets. The current balance is \$2,785,264.

Experience Account Fund: The account is used to fund permanent benefit increases for retirees. Fifty percent of any excess return above the statutory threshold will be credited to the Experience Account. The current year allocation is \$43,350,009. The account was credited with interest based on the System's actuarial return. The current balance is \$85,129,775.

LEGISLATIVE/PLAN CHANGES

Act 59 of 2018 provided a supplemental appropriation of \$8,585,163 to TRSL to be applied to the IUAL, which is a component of the Original Amortization Base.

The following provisions of Act 95 of 2016 will be implemented in future valuations, once certain triggers are met:

- Accelerates the implementation of the reduction in amortization period for most actuarial changes, gains, or losses from 30 years to 20 years. The 20-year amortization will begin once the funded ratio reaches 70%, rather than 85%, as previously required.
- Provides for re-amortization of the OAB with level-dollar payments to 2029 in Fiscal Year 2020/2021 or later, when such re-amortization results in annual payments that are not more than the next annual payment otherwise required under prior law.
- Provides that the net remaining liability of the OAB and EAAB shall be re-amortized after application of the hurdle payments in the Fiscal Year 2019/2020 and in every fifth fiscal year thereafter until the system is 80% funded

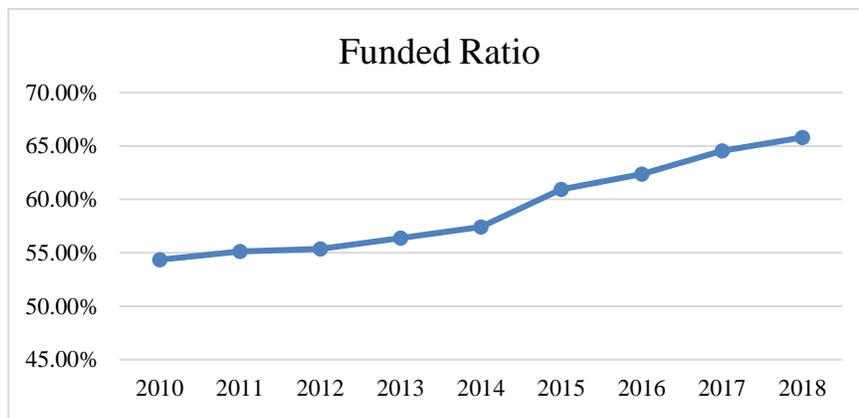
ACCELERATED REDUCTION OF OAB AND EAAB

Act 497 of 2009 established the OAB and EAAB and required the application of certain investment gains and contribution variance credits to these schedules. Act 399 of 2014 modified the provisions of Act 497 and specifies that until the System's funded ratio reaches 85%, the funds applied to these schedules will be used to pay off the schedules early, rather than to reduce employer contributions. Since 2009, \$474,232,407 has been applied to the OAB and \$754,566,995 has been applied to the EAAB. When combined with the surplus dollars appropriated to the System by the legislature, the result is acceleration of the payoff of the OAB to 2027, two years earlier than the 2029 payoff required by the State Constitution, and acceleration of the payoff of the EAAB by 2033, seven years earlier than the original pay-off date of 2040.

Per Act 94 of 2016, the projected OAB and EAAB payments for fiscal year 2019/2020 were determined by re-amortizing the schedules to their respective pay-off dates. A projection of future UAL and UAL payments based on the projected amortization schedules, after re-amortization, is shown in Appendix E. This projection assumes that the actuarially determined contributions will be paid when due and all actuarial assumptions will be realized.

FUNDED STATUS

The funded status is a measure of the plan’s assets relative to the plan’s obligations. The current funded ratio is 65.8%, as measured by the plan’s valuation assets divided by the total actuarial accrued liability, based on the asset valuation method, actuarial cost method, and actuarial assumptions described in Appendix D. The funded ratio reflects the change in the discount rate to 7.65%. The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s obligations and for assessing the amount of future contributions. This measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets. The financial crisis of 2008, and gradual recognition of the losses, resulted in a funded ratio of 54.4% in 2010. The chart below shows the recovery to date as exhibited by the steady increase in the funded ratio through June 30, 2018, based on the actuarial value of assets.



ASSETS/FINANCIAL SUMMARY
STATEMENT OF REVENUES AND EXPENSES

	----- Prior Years -----		
	June 30, 2018	June 30, 2017	June 30, 2016
<u>OPERATING REVENUES:</u>			
1. Contribution Income			
Member	\$ 337,928,752	\$ 328,541,240	\$ 330,773,316
Employer	1,110,943,147	1,037,915,514	1,066,521,193
Legis Appropriations	8,585,163	-	0
Other Appropriations	8,137	28,103	34,500
ORP - Unfunded	130,984,645	122,560,251	128,543,466
LSU Ag Center Coop. Ext.	1,873,303	1,754,855	1,830,995
Miscellaneous	(556,254)	536,662	995,292
TOTAL CONTRIBUTIONS	1,589,766,893	1,491,336,625	1,528,698,762
2. Investment Income			
Investments	2,177,985,187	2,650,391,172	216,567,366
Less Advisor Fees	(37,287,214)	(34,883,417)	(35,975,157)
TOTAL INVESTMENT INCOME	2,140,697,973	2,615,507,755	180,592,209
3. Total Revenues	3,730,464,866	4,106,844,380	1,709,290,971
<u>OPERATING EXPENSES:</u>			
1. General Administration ¹			
Depreciation Expense	29,064,944	17,762,132	17,025,314
	400,766	432,238	407,105
2. Benefits Paid			
Pension Benefits	2,116,953,537	2,061,454,295	1,999,272,395
LSU Ag Center Coop. Ext.	2,017,909	1,995,075	1,873,303
Refund of Contributions	48,671,220	49,805,920	49,141,575
TOTAL BENEFITS PAID	2,167,642,666	2,113,255,290	2,050,287,273
3. Total Expenses	2,197,108,376	2,131,449,660	2,067,719,692
<u>NET MARKET VALUE INCREASE:</u>	1,533,356,490	1,975,394,720	(358,428,721)

¹ The General Administration Operating Expense includes \$(24,005), \$586,166, and \$13,633,156 for 2016, 2017, and 2018, respectively for Other Post-Employment Benefits (OPEB), and \$1,773,559, \$2,807,080, and \$1,385,063 for 2016, 2017, and 2018 GASB 68 Pension Expense, respectively. The 2018 OPEB Expense includes a \$13,190,993 adjusting entry related to GASB 75 implementation.

**COMPARATIVE SUMMARY OF REVENUES BY SOURCE
AND EXPENSES BY TYPE**

Revenues by Source				
Fiscal Year	Members Contribution	Employer Contribution ¹	Investment Income	Total
2009	344,547,871	714,703,222	(3,287,852,517)	(2,228,601,424)
2010	347,114,632	726,567,699	1,289,304,693	2,362,987,024
2011	342,323,329	943,678,941	2,945,993,096	4,231,995,366
2012	333,908,454	1,084,637,731	(56,240,846)	1,362,305,339
2013	327,767,936	1,095,482,766	1,754,983,691	3,178,234,393
2014	326,007,091	1,218,017,295 ²	2,818,063,134	4,362,087,520
2015	324,920,644	1,267,129,097	445,160,167	2,037,209,908
2016	330,773,315	1,197,925,446	180,592,209	1,709,290,970
2017	328,541,240	1,162,795,385	2,615,507,755	4,106,844,380
2018	337,928,752	1,251,838,141	2,140,697,973	3,730,464,866

Expenses by Type				
Fiscal Year	Benefits	Refunds	Administrative Expenses	Total
2009	1,464,106,312	33,939,436	19,321,250	1,517,366,998
2010	1,532,526,141	40,210,177	19,100,619	1,591,836,937
2011	1,615,778,191	42,248,487	18,189,491	1,676,216,169
2012	1,682,528,254	49,139,028	18,864,917	1,750,532,199
2013	1,800,166,804	59,152,481	17,661,969	1,876,981,254
2014	1,877,113,902	57,652,124	17,522,895	1,952,288,921
2015	1,956,857,437	51,545,762	19,265,221	2,027,668,420
2016	2,001,145,698	49,141,575	17,432,419	2,067,719,692
2017	2,063,449,370	49,805,920	18,194,370	2,131,449,660
2018	2,118,971,446	48,671,220	29,465,710	2,197,108,376

¹ Includes Miscellaneous Contribution/Income in addition to direct employer contributions.

² Includes \$5,578,791 legislative appropriation from Act 55 of 2014.

STATEMENT OF ASSETS

ASSETS:	June 30, 2018	----Prior Years---	
		June 30, 2017	June 30, 2016
1. Short-term Assets			
Cash and Cash Equivalents	\$ 277,091,189	\$ 216,603,032	\$ 5,279,450
Short Term Securities	1,076,810,833	1,033,090,820	1,307,428,499
2. Bonds			
Domestic Bonds	2,371,403,311	1,913,773,495	1,828,132,715
International Bonds	1,278,291,190	1,568,601,507	1,413,994,202
3. Equities			
Domestic Equities	6,321,369,477	5,927,969,405	5,161,381,152
International Equities	3,635,793,802	3,465,254,946	3,166,197,700
4. Other Assets			
Alternative Investments	6,465,934,316	5,296,424,434	4,573,041,477
Property and Equipment	3,402,044	3,430,912	3,710,875
Receivables less Payables	(384,369,200)	84,413,700	76,602,964
Deferred Outflows less Deferred Inflows	975,203	3,783,424	2,181,921
TOTAL ASSETS - Market Value	21,046,702,165	19,513,345,675	17,537,950,955

ACTUARIAL VALUE OF ASSETS

The actuarial value of assets (AVA) is determined as the market value of assets (MVA) adjusted to gradually recognize investment gains and losses relative to the net assumed investment return, over a 5-year period in 20% increments. The actuarial value of assets is subject to Corridor Limits of 80% to 120% of the Market Value of Assets. The tables below show the development of the actuarial value of assets and the amount of deferred gains and losses to be recognized in future years.

Plan Year	Asset G/L	Deferred %	Deferred \$
2015	(923,787,158)	20%	(184,757,432)
2016	(1,185,490,155)	40%	(474,196,062)
2017	1,281,120,936	60%	768,672,562
2018	661,883,532	80%	529,506,826
			\$ 639,225,894
Market Value of Assets			\$ 21,046,702,165
Deferred Asset G/L			639,225,894
Preliminary Actuarial Value of Assets			\$ 20,407,476,271
CORRIDOR LIMITS			
Minimum = 80% of Market Value			\$ 16,837,361,732
Maximum = 120% of Market Value			25,256,042,598
Actuarial Value of Assets			\$ 20,407,476,271

Plan Year	Deferred Gain/(Loss)	Deferred Gain/(Loss) to be Recognized in Future Years			
		2019	2020	2021	2022
2015	(184,757,432)	(184,757,432)			
2016	(474,196,062)	(237,098,031)	(237,098,031)		
2017	768,672,562	256,224,188	256,224,187	256,224,187	
2018	529,506,826	132,376,707	132,376,706	132,376,707	132,376,706
	639,225,894	(33,254,568)	151,502,861	388,600,894	132,376,706

**SIDE ACCOUNTS AND
DEVELOPMENT OF VALUATION ASSETS**

	---- Prior Years ----		
	June 30, 2018	June 30, 2017	June 30, 2016
EMPLOYER CREDIT ACCOUNT¹:			
Prior Year Ending Balance	\$ -	\$ -	\$ -
+ Contributions	-	-	-
- Disbursements	-	-	-
+ Accumulated Interest	-	-	-
Account Balance - Year End	-	-	-
LSU AG/EXT SERVICE:			
Prior Year Ending Balance	\$ 2,598,899	\$ 2,535,804	\$ 2,360,090
+ Contributions	1,873,303	1,754,855	1,830,995
- Benefit Disbursements	2,017,909	1,995,075	1,873,303
+ Accumulated Interest	330,619	303,315	218,022
Account Balance - Year End	2,784,912	2,598,899	2,535,804
EXPERIENCE ACCOUNT FUND:			
Prior Year Ending Balance	\$ 37,154,395	\$ 24,977,477	\$ 226,356,559
+ Experience Account Allocation	44,451,679	9,891,500	-
- Benefit Disbursements	-	-	216,473,124
+ Accumulated Interest	3,523,701	2,285,418	15,094,042
Fund Balance - Year End	85,129,775	37,154,395	24,977,477
DEVELOPMENT OF VALUATION ASSETS:			
Actuarial Value of Assets	\$ 20,407,476,271	\$ 19,250,178,299	\$ 18,281,834,423
- Employer Credit Account	-	-	-
- LSU Ag/Ext Service Account	2,784,912	2,598,899	2,535,804
- Experience Account Fund	85,129,775	37,154,395	24,977,477
Valuation Assets	\$ 20,319,561,584	\$ 19,210,425,005	\$ 18,254,321,142

¹ The Employer Credit Account was created by ACT 588 of 2004.

**DEVELOPMENT OF COSTS,
LIABILITIES AND CONTRIBUTIONS**

Normal Costs and Accrued Liabilities are calculated in accordance with the Entry Age Normal cost method, based on the Provisions of the Plan as summarized in Appendix B and the Actuarial Assumptions outlined in Appendix D.

	June 30, 2018		---- Prior Year ---- June 30, 2017	
	<u>Dollar Amount</u>	<u>% of Salary</u>	<u>Dollar Amount</u>	<u>% of Salary</u>
Discount Rate	7.65%		7.70%	
I. Normal Costs				
Active Members				
a) Retirement Benefits	260,824,572	6.52%	305,135,968	7.82%
b) Disability Benefits	14,630,889	0.37%	14,558,297	0.37%
c) Survivor Benefits	5,803,964	0.15%	11,324,442	0.29%
d) Voluntary Termination	158,432,474	3.96%	142,006,304	3.64%
e) Total	<u>439,691,899</u>	11.00%	<u>473,025,011</u>	12.12%
II. Actuarial Accrued Liability				
a) Active Members				
1) Retirement Benefits	7,825,644,336		7,725,929,420	
2) Disability Benefits	175,693,735		146,890,693	
3) Survivor Benefits	76,338,252		137,955,169	
4) Voluntary Termination	<u>467,907,982</u>		<u>313,899,689</u>	
	8,545,584,305		8,324,674,971	
b) Retired and Inactive Members				
1) Regular Retirees	17,208,468,188		16,459,826,669	
2) Disability Benefits	478,522,212		455,327,086	
3) Survivors	1,160,517,476		1,105,159,843	
4) Vested Deferred ¹	377,615,212		327,107,035	
5) Contributions Refunded ²	147,388,316		135,466,985	
6) DROP Deferred Benefits	1,853,334,674		1,855,657,127	
7) DROP Account Balances	<u>1,100,449,524</u>		<u>1,099,404,197</u>	
	22,326,295,602		21,437,948,942	
c) Total	30,871,879,907		29,762,623,913	

¹ Includes pending Retirement/DROP applications.

² Includes terminated employee and rehired retiree contributions to be refunded.

Section III
DEVELOPMENT OF COSTS, LIABILITIES, AND CONTRIBUTIONS

TRSL Actuarial Valuation
June 30, 2018

	June 30, 2018	---- Prior Year ---- June 30, 2017
II. Actuarial Accrued Liability	30,871,879,907	29,762,623,913
Discount Rate	7.65%	7.70%
III. Valuation Assets	20,319,561,584	19,210,425,004
IV. Unfunded Actuarial Accrued Liability ¹	10,552,318,323	10,552,198,909
a) Change over prior year	119,414	(465,881,927)
b) Funded Percentage	65.8%	64.5%
V. Employer Contributions		
To Fund Current Plan Year ¹		
a) Employer Portion of Normal Cost	121,789,981	164,503,573
b) Administrative Expenses ²	18,500,000	0
c) Amortization Payments	1,054,022,393	1,004,883,456
d) Prior Contribution Variance	0	2,734,825
Total Required Contribution	1,194,312,374	1,172,121,854
Total Contribution Rate	26.4%	26.4%
PR SAC Approved rate ¹	26.4%	26.4%
Aggregate Employer Normal Cost Rate	3.0148%	4.1404%
VI. Projected Employer Contributions		
Discount Rate	7.55%	7.65%
To Fund Next Plan Year ¹		
a) Employer Portion of Normal Cost	133,581,324	174,935,810
b) Administrative Expenses ²	18,500,000	18,500,000
c) Amortization Payments	1,038,481,622	1,018,353,936
c) Prior Contribution Variance	550,557	82,143
Total Required Contribution	1,191,113,503	1,211,871,889
Total Contribution Rate	25.9%	26.5%
Projected Aggregate Employer Normal Cost Rate ³	3.2473%	4.2653%
VII. Current Payroll	3,998,051,313	3,901,627,792
Projected Payroll - Mid Year	4,039,796,674	3,973,145,635
Projected Payroll - Next Year	4,113,668,781	4,101,385,050
Optional Retirement Plan (ORP) Salary Adjustment Factor ⁴	1.13843	1.13883

¹ Dollar Amounts reflect estimated payments due mid-year on January 1st per Act 81. Constitutional Minimum is 11.8% without regard to the statutory minimum of 15.5%.

² Direct funding of administrative expenses begins in FY 2018/2019, per the provisions of Act 94 of 2016.

³ Normal costs, normal cost rates, and UAL payments projected for FY 2018/2019 and FY 2019/2020 were determined using a discount rate of 7.65% and 7.55%, respectively.

⁴ Amortization payments are paid as a percentage of plan member and ORP payroll. The ORP salary adjustment factor is used to convert amortization payments to percentage of payroll.

GASB STATEMENT NO. 67/68 REPORTING

The Governmental Accounting Standards Board Statements No. 67/68 establish financial reporting standards for state and local governmental pension plans and their plan sponsors that are administered through trusts or equivalent arrangements. The required actuarial disclosures are illustrated below. The Plan Fiduciary Net Position is the Market Value of Assets used for the funding valuation, excluding assets held for the LSU Agriculture and Extension Service. The Total Pension Liability was developed using the Entry Age Normal cost method.

SCHEDULE OF EMPLOYERS' NET PENSION LIABILITY

	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Total Pension Liability	\$ 30,871,936,837	\$ 29,762,623,913	\$ 29,272,401,978
Plan Fiduciary Net Position ¹	\$ 21,043,916,901	\$ 19,510,746,776	\$ 17,535,415,151
Employers' Net Pension Liability	\$ 9,828,019,936	\$ 10,251,877,137	\$ 11,736,986,827
Plan Fiduciary Net Position as a percentage of Total Pension Liability	68.2%	65.6%	59.9%
Covered Employee Payroll	\$ 3,998,051,313	\$ 3,901,627,792	\$ 3,869,730,024
Net Pension Liability as a percentage of Covered Payroll	245.8%	262.8%	303.3%

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year	Actuarial Determined Contribution	Contributions in Relation to Actuarial Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2009	697,190,561	741,595,487	(44,404,926)	3,912,326,326	19.0%
2010	904,382,657	755,446,587	148,936,070	3,977,819,262	19.0%
2011	1,086,319,774	980,393,924	105,925,850	3,902,646,534	25.1%
2012	1,120,095,898	1,127,265,199	(7,169,301)	3,808,760,594	29.6%
2013	1,149,134,132	1,137,733,532	11,400,600	3,726,325,750	30.5%
2014	1,218,397,771	1,258,687,418	(40,289,647)	3,764,954,727	33.4%
2015	1,212,285,929	1,303,570,582	(91,284,653)	3,815,648,662	34.2%
2016	1,177,993,580	1,242,445,786	(64,452,206)	3,869,730,024	32.1%
2017	1,188,962,275	1,204,634,319	(15,672,044)	3,901,627,792	30.9%
2018	1,227,397,115	1,288,863,851	(61,466,736)	3,998,051,313	32.2%

¹ Plan Fiduciary Net Position excludes side-fund assets held for the LSU Agriculture and Extension Service

**SCHEDULE OF CHANGES IN
EMPLOYERS' NET PENSION LIABILITY**

	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Total Pension Liability			
Service Cost	473,025,011	466,591,480	463,783,246
Interest	2,244,768,414	2,222,960,660	2,176,626,375
Changes of Benefit Terms	-	-	216,473,124
Diff. Between Expected and Actual	(130,859,239)	(223,202,835)	(181,620,615)
Changes of Assumptions	688,003,495	135,132,845	-
Retirement Benefits ¹	(2,116,953,537)	(2,061,454,295)	(1,999,272,395)
Refunds/Transfers of Member Contributions	(48,671,220)	(49,805,920)	(49,884,654)
Net Change in Total Pension Liability	<u>1,109,312,924</u>	<u>490,221,935</u>	<u>626,105,081</u>
Total Pension Liability - Beginning	<u>29,762,623,913</u>	<u>29,272,401,978</u>	<u>28,646,296,897</u>
Total Pension Liability - Ending (a)	<u>\$ 30,871,936,837</u>	<u>\$ 29,762,623,913</u>	<u>\$ 29,272,401,978</u>
Plan Fiduciary Net Position			
Employer Contributions ¹	1,201,829,353	1,122,277,562	1,157,901,123
Non-Employer Contributions	39,550,321	38,762,968	38,193,328
Employee Contributions	337,928,752	328,541,240	330,773,316
Net Investment Income ¹	2,137,541,062	2,612,231,923	177,422,752
Other Income	11,411,104	2,972,517	2,951,433
Retirement Benefits ¹	(2,116,953,537)	(2,061,454,295)	(1,999,272,395)
Refunds/Transfers of Member Contributions	(48,671,220)	(49,805,920)	(49,884,654)
Administrative Expense	(15,431,788)	(17,175,966)	(16,306,240)
Other Postemployment Benefit Expenses ²	(13,633,156)	(586,166)	24,005
Depreciation and Amortization Expenses	(400,766)	(432,238)	(407,105)
Accounting Principle Change	-	-	-
Net Change in Plan Fiduciary Net Position	<u>1,533,170,125</u>	<u>1,975,331,625</u>	<u>(358,604,437)</u>
Plan Fiduciary Net Position - Beginning	<u>19,510,746,776</u>	<u>17,535,415,151</u>	<u>17,894,019,588</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 21,043,916,901</u>	<u>\$ 19,510,746,776</u>	<u>\$ 17,535,415,151</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 9,828,019,936</u>	<u>\$ 10,251,877,137</u>	<u>\$ 11,736,986,827</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	68.2%	65.6%	59.9%
Covered Employee Payroll	\$ 3,998,051,313	\$ 3,901,627,792	\$ 3,869,730,024
Net Pension Liability as a Percentage of Covered Employee Payroll	245.8%	262.8%	303.3%

¹ Amounts shown exclude side-fund assets held for the LSU Agriculture and Extension Service and associated contributions and benefits.

² The 2018 OPEB Expense includes a \$13,190,993 adjusting entry related to GASB 75 implementation.

Actuarial Assumptions:

All assumptions used for purposes of GASB Statement 67/68 reporting requirements are described in Appendix D. Administrative expenses will be directly reflected in the employer pension expense in the year incurred in the Statement 67/68 reporting, rather than with an explicit reduction in the discount rate. A description of the discount rate used for GASB Statement 67/68 reporting is provided below.

Discount Rate:

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, and by adding expected inflation and an adjustment for the effect of rebalancing/ diversification. The resulting long-term geometrical nominal expected return is 8.07%. Best estimates of real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2018, are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return
Domestic Equity	4.01%
International Equity	4.90%
Domestic Fixed Income	1.36%
International Fixed Income	2.35%
Private Equity	8.39%
Other Private Assets	3.57%

The discount rate used to measure the total pension liability was 7.65 percent.

The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate:

The following presents the net pension liability calculated using the discount rate of 7.65%, and what the net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher.

	1% Decrease	Current Discount Rate	1% Increase
	6.65%	7.65%	8.65%
Employers' Net Pension Liability	13,019,747,254	9,828,019,936	7,135,631,690

The Schedule of Pension Amounts, that follows, provides employers with amounts to be recognized in the financial statements and note disclosures for GASB 68 reporting. In accordance with GASB Statement 68, changes in total pension liability due to differences between actual and expected experience and changes in assumptions are amortized over a period equal to the average of the expected remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees) determined as of the beginning of the measurement period. The current average remaining service life, when rounded up to the next higher whole number, remains at 5 years. Differences between projected and actual investment returns are amortized over a closed 5-year period.

SCHEDULE OF PENSION AMOUNTS

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	(10,251,877,137)	(1,685,398,924)	1,191,722,011	
Total Pension Liability Factors:				
Service cost	(473,025,011)			473,025,011
Interest	(2,244,768,414)			2,244,768,414
Changes in benefit terms	-			-
Differences between expected and actual experience	130,859,239	(130,859,239)	-	
Amortization of current year		26,171,848	-	(26,171,848)
Amortization of prior years		117,927,925	-	(117,927,925)
Changes in assumptions	(688,003,495)	-	688,003,495	
Amortization of current year		-	(137,600,699)	137,600,699
Amortization of prior years		-	(27,026,569)	27,026,569
Benefit payments	2,116,953,537			
Refunds/Transfers of Member Contributions	48,671,220			
Net Change in Total Pension Liability	(1,109,312,924)	13,240,534	523,376,227	2,738,320,920
Plan Fiduciary Net Position:				
Contributions - Employer	1,201,829,353			
Contributions - Non-Empl. Contributing Entities	39,550,321			
Contributions - Employees	337,928,752			(337,928,752)
Expected earnings on pension plan investments	1,478,398,163			(1,478,398,163)
Diff. between projected and actual investment earnings	659,142,899	(659,142,899)	-	
Amortization of current year		131,828,580	-	(131,828,580)
Amortization of prior years		581,652,931	(422,948,596)	(158,704,335)
Retirement Benefits	(2,116,953,537)			
Administrative Expense	(29,064,944)			29,064,944
Refunds/Transfers of Member Contributions	(48,671,220)			
Other	11,010,338			(11,010,338)
Net Change in Plan Fiduciary Net Position	1,533,170,125	54,338,612	(422,948,596)	(2,088,805,224)
Ending Balance	(9,828,019,936)	(1,617,819,778)	1,292,149,642	649,515,696

MEMBERSHIP DATA

TRSL provides the data for individual members of the system as of the valuation date. The validity of the results of any actuarial valuation is dependent upon the accuracy of the data provided. Our review of submitted data is limited to validation of reasonableness and consistency in several areas, such as age, service, salary, and current benefits. Our review includes checks for duplicate records and a comparison of the current year records to those submitted in prior years. Records identified as containing suspicious data were assigned values based on information from similar records or based on historical averages for similarly situated members. Suspicious data are not necessarily errors, but data which fall outside the normal parameters. Notwithstanding our efforts to review both census and financial data for apparent errors, we must rely upon the system's administrative staff and accountants to provide accurate information.

The data contained in this valuation is summarized on the following pages. The data summarized in the tables that follow serve as the basis for determining costs and liabilities. Salary data contained in the profiles and valuation report exceed the amount reported by internal audit for members with less than one year of service. In the valuation process, salaries are annualized for members with fractional service in the first year of employment. Disability retirees who have reached normal retirement eligibility requirements are considered regular retirees by TRSL but are classified as disability retirees for purposes of the actuarial valuation. Liabilities are calculated accordingly.

Active Members	2018		2017	
	Members	Avg. Salary	Members	Avg. Salary
Regular Teachers	71,986	45,043	71,458	44,531
Higher Education	9,633	62,883	9,186	61,466
Lunch Plan A	4	24,320	6	24,731
Lunch Plan B	1,138	19,612	1,121	18,898
Subtotal Actives	82,761	46,769	81,771	46,080
Post DROP	2,284	55,784	2,457	54,376
Total Active	85,045	47,011	84,228	46,322

Retired and Inactive Members	2018	2017
	Members	Members
Regular Retirees	66,760	65,749
Disability Retirees	4,248	4,280
Survivors	7,415	7,229
DROP Participants	2,420	2,478
Vested & Reciprocals	7,211	6,941
Inactive Non-Vested (Due Refunds)	22,364	20,980
Total Retired and Inactive	110,418	107,657
Total Members	195,463	191,885
Less Inactive Non-Vested (Due Refunds)	-22,364	-20,980
Total Active and Vested Inactive Members	173,099	170,905

MEMBER RECONCILIATION

	Active (Pre- DROP)	Active after DROP	Terminated Vested	In DROP	Retired, Disabled, Survivor	Total
June 30, 2017	81,771	2,457	6,941	2,478	77,258	170,905
Additions to Census						
Newly Hired Members	8,470					8,470
Change in Status						
New Regular Retirees	(1,559)		(183)		1,742	0
New Disability Retirees	(122)		(8)		130	0
New Survivors	(35)		(3)		38	0
Active to Terminated Vested	(1,334)		1,334			0
Active to DROP	(905)			905		0
Terminated Vested to Active	474		(474)			0
Disability to Active/TV	4				(4)	0
DROP to Active After DROP		399		(399)		0
Act aft DROP to Ret/Srv		(567)			567	0
Terminated Vested to DROP			(3)	3		0
DROP to Ret/Srv				(557)	557	0
Eliminated from Census						
Refunded or Due Refund	(3,946)		(391)			(4,337)
Deceased	(41)	(6)	(19)	(7)	(1,918)	(1,991)
No Further Survivor Ben Due					(14)	(14)
Data Revisions	(16)	1	17	(3)	67	66
June 20, 2018	82,761	2,284	7,211	2,420	78,423	173,099

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
ALL ACTIVE MEMBERS (PRE-DROP)

CELLS DEPICT - MEMBER COUNT
TOTAL SALARY

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35+	Total
< 25	783 \$32,959,670	1,086 \$43,536,807								1,869 \$76,496,477
25 - 29	1,194 \$49,365,496	5,241 \$220,283,901	1,182 \$54,748,147	5 \$165,141						7,622 \$324,562,685
30 - 34	978 \$42,828,553	3,937 \$164,421,474	3,753 \$178,263,488	1,149 \$57,494,515	2 \$64,295					9,819 \$443,072,325
35 - 39	856 \$36,933,232	3,355 \$139,364,286	2,927 \$135,711,915	3,869 \$198,254,287	1,074 \$59,306,622	2 \$59,453				12,083 \$569,629,795
40 - 44	607 \$25,968,134	2,543 \$100,955,846	2,211 \$103,228,301	2,709 \$131,982,510	3,181 \$179,047,758	760 \$45,217,617				12,011 \$586,400,166
45 - 49	500 \$21,218,314	2,002 \$80,516,921	1,900 \$83,110,378	2,366 \$107,399,042	2,275 \$120,629,352	2,750 \$163,156,208	752 \$47,237,073			12,545 \$623,267,288
50 - 54	393 \$16,097,231	1,558 \$59,548,542	1,467 \$62,171,243	1,945 \$81,644,061	1,820 \$84,609,196	1,713 \$91,214,707	2,027 \$122,695,287	98 \$6,786,481	1 \$42,000	11,022 \$524,808,748
55 - 59	279 \$11,482,345	1,200 \$46,187,870	1,144 \$47,522,474	1,539 \$63,836,117	1,657 \$71,838,007	1,666 \$78,662,799	330 \$17,565,557	117 \$8,184,859	21 \$1,321,592	7,953 \$346,601,620
60 - 64	182 \$7,561,426	714 \$29,229,456	700 \$28,283,894	934 \$39,388,943	908 \$40,912,927	1,018 \$48,134,637	318 \$16,714,316	113 \$7,277,572	98 \$8,400,940	4,985 \$225,904,111
65 - 69	56 \$2,641,470	250 \$9,894,156	272 \$12,903,983	352 \$16,917,387	307 \$15,870,476	312 \$15,111,450	290 \$14,882,455	94 \$6,930,082	84 \$7,993,296	2,017 \$103,144,755
70+	27 \$1,502,792	99 \$4,137,380	100 \$4,899,501	146 \$6,579,980	110 \$5,556,428	79 \$3,868,282	88 \$4,384,284	100 \$7,438,641	86 \$8,384,437	835 \$46,751,725
Total	5,855 \$248,558,664	21,985 \$898,076,639	15,656 \$710,843,324	15,014 \$703,661,983	11,334 \$577,835,061	8,300 \$445,425,153	3,805 \$223,478,972	522 \$36,617,635	290 \$26,142,265	82,761 \$3,870,639,696

AVERAGES --- Attained Age 44.39
Service Years 10.57
Active Salary \$46,769

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
ACTIVE - REGULAR K-12

CELLS DEPICT - MEMBER COUNT
TOTAL SALARY

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35+	Total
< 25	671 \$28,215,157	1,000 \$40,677,369								1,671 \$68,892,526
25 - 29	869 \$34,752,245	4,716 \$198,896,828	1,134 \$52,586,128	5 \$165,141						6,724 \$286,400,342
30 - 34	689 \$26,675,443	3,279 \$131,881,770	3,408 \$160,411,271	1,100 \$55,133,455	1 \$18,266					8,477 \$374,120,205
35 - 39	613 \$22,696,203	2,796 \$106,583,757	2,497 \$110,418,174	3,586 \$182,262,323	1,036 \$56,850,403	2 \$59,453				10,530 \$478,870,313
40 - 44	471 \$18,031,515	2,108 \$76,570,069	1,877 \$81,736,908	2,418 \$114,469,141	3,027 \$169,159,508	745 \$44,174,827				10,646 \$504,141,968
45 - 49	389 \$14,953,099	1,686 \$62,734,117	1,620 \$66,058,527	2,097 \$91,106,285	2,114 \$109,484,755	2,659 \$156,615,558	730 \$45,775,025			11,295 \$546,727,366
50 - 54	290 \$10,534,910	1,294 \$45,205,088	1,224 \$48,237,780	1,682 \$66,777,622	1,661 \$75,520,771	1,600 \$84,101,400	1,950 \$117,205,093	92 \$6,319,733	1 \$42,000	9,794 \$453,944,397
55 - 59	209 \$7,705,441	930 \$30,960,193	905 \$33,547,852	1,286 \$48,629,173	1,463 \$60,612,756	1,532 \$71,452,105	270 \$14,110,195	101 \$6,905,680	17 \$1,112,057	6,713 \$275,035,452
60 - 64	140 \$4,958,429	524 \$17,953,624	515 \$17,596,149	764 \$29,146,323	806 \$33,974,313	935 \$43,075,810	262 \$12,455,506	77 \$3,981,982	65 \$5,259,877	4,088 \$168,402,013
65 - 69	39 \$1,628,028	181 \$5,780,637	181 \$7,035,349	270 \$10,759,382	237 \$10,791,167	268 \$12,090,334	254 \$12,157,565	56 \$3,042,731	39 \$2,766,633	1,525 \$66,051,826
70+	15 \$474,134	64 \$1,981,572	67 \$2,304,423	93 \$3,298,369	71 \$2,720,600	59 \$2,504,744	66 \$2,736,175	56 \$2,481,877	32 \$1,385,747	523 \$19,887,641
Total	4,395 \$170,624,603	18,578 \$719,225,024	13,428 \$579,932,561	13,301 \$601,747,214	10,416 \$519,132,539	7,800 \$414,074,231	3,532 \$204,439,559	382 \$22,732,003	154 \$10,566,314	71,986 \$3,242,474,048

AVERAGES --- Attained Age 44.15
Service Years 10.89
Active Salary \$45,043

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
ACTIVE - HIGHER EDUCATION

CELLS DEPICT - MEMBER COUNT
TOTAL SALARY

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35+	Total
< 25	109 \$4,694,555	79 \$2,756,332								188 \$7,450,887
25 - 29	314 \$14,411,301	505 \$21,033,942	46 \$2,125,169							865 \$37,570,412
30 - 34	276 \$15,920,322	629 \$31,970,931	337 \$17,684,268	48 \$2,343,526	1 \$46,029					1,291 \$67,965,076
35 - 39	230 \$13,993,529	526 \$32,142,556	409 \$24,867,875	273 \$15,783,384	37 \$2,424,949					1,475 \$89,212,293
40 - 44	124 \$7,688,914	397 \$23,727,526	314 \$21,149,328	276 \$17,178,024	149 \$9,769,134	14 \$1,026,226				1,274 \$80,539,152
45 - 49	94 \$5,890,383	282 \$17,145,060	249 \$16,413,133	236 \$15,632,856	152 \$10,944,164	87 \$6,436,692	21 \$1,443,940			1,121 \$73,906,228
50 - 54	82 \$5,178,174	206 \$13,341,687	184 \$12,872,502	213 \$13,783,272	111 \$8,070,943	91 \$6,570,443	72 \$5,372,349	2 \$347,138		961 \$65,536,508
55 - 59	56 \$3,493,305	214 \$14,191,723	194 \$13,160,458	210 \$14,402,121	147 \$10,304,420	89 \$6,215,504	36 \$2,921,192	14 \$1,212,004	2 \$159,922	962 \$66,060,649
60 - 64	34 \$2,439,456	152 \$10,582,684	139 \$9,902,230	145 \$9,775,792	93 \$6,748,301	67 \$4,615,629	52 \$4,176,697	33 \$3,233,891	31 \$3,088,498	746 \$54,563,178
65 - 69	14 \$953,855	58 \$3,939,507	82 \$5,717,437	72 \$5,973,490	68 \$5,030,281	44 \$3,021,116	33 \$2,604,590	37 \$3,872,981	45 \$5,226,663	453 \$36,339,920
70+	12 \$1,028,658	31 \$2,090,364	29 \$2,525,647	49 \$3,211,529	37 \$2,800,111	20 \$1,363,538	21 \$1,630,266	44 \$4,956,764	54 \$6,998,690	297 \$26,605,567
Total	1,345 \$75,692,453	3,079 \$172,922,312	1,983 \$126,418,047	1,522 \$98,083,994	795 \$56,138,332	412 \$29,249,148	235 \$18,149,034	130 \$13,622,778	132 \$15,473,773	9,633 \$605,749,871

AVERAGES --- Attained Age 45.40
Service Years 8.31
Active Salary \$62,883

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
ACTIVE - LUNCH PLAN A

CELLS DEPICT -

MEMBER COUNT
TOTAL SALARY

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35+	Total
< 25										
25 - 29										
30 - 34										
35 - 39										
40 - 44										
45 - 49										
50 - 54										
55 - 59									1 \$24,426	1 \$24,426
60 - 64								1 \$16,378	1 \$29,657	2 \$46,035
65 - 69							1 \$26,817			1 \$26,817
70+										
Total							1 \$26,817	1 \$16,378	2 \$54,083	4 \$97,278

AVERAGES --- Attained Age 62.65
Service Years 35.33
Active Salary \$24,320

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
ACTIVE - LUNCH PLAN B

CELLS DEPICT - MEMBER COUNT
TOTAL SALARY

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35+	Total
< 25	3 \$49,957	7 \$103,106								10 \$153,063
25 - 29	11 \$201,950	20 \$353,131	2 \$36,850							33 \$591,931
30 - 34	13 \$232,788	29 \$568,773	8 \$167,949	1 \$17,534						51 \$987,044
35 - 39	13 \$243,501	33 \$637,973	21 \$425,866	10 \$208,580	1 \$31,270					78 \$1,547,190
40 - 44	12 \$247,705	38 \$658,251	20 \$342,065	15 \$335,345	5 \$119,116	1 \$16,564				91 \$1,719,046
45 - 49	17 \$374,832	34 \$637,744	31 \$638,718	33 \$659,901	9 \$200,433	4 \$103,958	1 \$18,108			129 \$2,633,694
50 - 54	21 \$384,148	58 \$1,001,767	59 \$1,060,961	50 \$1,083,167	48 \$1,017,482	22 \$542,864	5 \$117,845	4 \$119,610		267 \$5,327,844
55 - 59	14 \$283,599	56 \$1,035,954	45 \$814,164	43 \$804,823	47 \$920,831	45 \$995,190	24 \$534,170	2 \$67,175	1 \$25,187	277 \$5,481,093
60 - 64	8 \$163,541	38 \$693,148	46 \$785,515	25 \$466,828	9 \$190,313	16 \$443,198	4 \$82,113	2 \$45,321	1 \$22,908	149 \$2,892,885
65 - 69	3 \$59,587	11 \$174,012	9 \$151,197	10 \$184,515	2 \$49,028		2 \$93,483	1 \$14,370		38 \$726,192
70+		4 \$65,444	4 \$69,431	4 \$70,082	2 \$35,717		1 \$17,843			15 \$258,517
Total	115 \$2,241,607	328 \$5,929,303	245 \$4,492,716	191 \$3,830,775	123 \$2,564,190	88 \$2,101,774	37 \$863,562	9 \$246,476	2 \$48,095	1,138 \$22,318,498

AVERAGES --- Attained Age 51.48
Service Years 9.17
Active Salary \$19,612

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
DROP PARTICIPANTS

CELLS DEPICT -

MEMBER COUNT
TOTAL BENEFITS

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20+	Total
< 40										
40 - 44										
45 - 49	2 \$55,200									2 \$55,200
50 - 54	245 \$10,689,876	206 \$8,899,800	97 \$4,282,680	5 \$250,920						553 \$24,123,276
55 - 59	479 \$17,494,416	472 \$17,468,244	408 \$15,555,372	15 \$712,272						1,374 \$51,230,304
60 - 64	130 \$2,744,604	181 \$4,115,484	156 \$3,526,248	6 \$176,088						473 \$10,562,424
65 - 69	6 \$37,536	7 \$51,012	2 \$16,452							15 \$105,000
70 - 74	1 \$3,384	1 \$9,024								2 \$12,408
75 - 79	1 \$3,420									1 \$3,420
80 - 84										
85 - 89										
90+										
Total	864 \$31,028,436	867 \$30,543,564	663 \$23,380,752	26 \$1,139,280						2,420 \$86,092,032

AVERAGES --- Attained Age 57.05
Years Retired 1.31
Annual Benefit \$35,575

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
ACTIVE AFTER DROP

CELLS DEPICT - MEMBER COUNT
TOTAL BENEFITS
DROP BENEFITS

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20+	Total
< 44										
45 - 49										
50 - 54	18 \$782,311 \$726,564	5 \$277,502 \$188,268								23 \$1,059,813 \$914,832
55 - 59	199 \$8,636,070 \$7,552,716	167 \$10,290,235 \$6,631,116	70 \$4,853,427 \$3,229,764	41 \$2,986,017 \$1,986,156	31 \$1,719,714 \$1,114,992	16 \$718,956 \$485,664				524 \$29,204,419 \$21,000,408
60 - 64	158 \$4,659,160 \$3,522,324	144 \$7,048,661 \$3,728,268	127 \$7,325,212 \$4,286,256	120 \$6,517,733 \$3,881,184	81 \$4,430,555 \$2,757,720	288 \$19,232,055 \$11,130,240	8 \$455,566 \$236,448			926 \$49,668,942 \$29,542,440
65 - 69	8 \$145,614 \$44,568	6 \$369,756 \$139,500	47 \$2,443,020 \$928,392	56 \$2,304,889 \$940,344	61 \$2,813,351 \$1,258,104	258 \$14,689,980 \$6,946,368	100 \$7,755,063 \$3,538,092			536 \$30,521,673 \$13,795,368
70+			2 \$138,179 \$101,544	4 \$129,306 \$23,964	2 \$31,908 \$13,824	90 \$3,991,027 \$1,262,496	110 \$6,771,949 \$2,617,704	55 \$4,667,651 \$1,635,324	12 \$1,226,751 \$424,644	275 \$16,956,771 \$6,079,500
Total	383 \$14,223,155 \$11,846,172	322 \$17,986,154 \$10,687,152	246 \$14,759,838 \$8,545,956	221 \$11,937,945 \$6,831,648	175 \$8,995,528 \$5,144,640	652 \$38,632,018 \$19,824,768	218 \$14,982,578 \$6,392,244	55 \$4,667,651 \$1,635,324	12 \$1,226,751 \$424,644	2284 \$127,411,618 \$71,332,548

AVERAGES --- Attained Age 63.92
Post Drop Years 4.88
Active Salary \$55,784
Annual Benefit \$31,231

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
REGULAR RETIREES

CELLS DEPICT - MEMBER COUNT
TOTAL BENEFITS

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20+	Total
< 40										
40 - 44	34 \$774,084	21 \$426,432	8 \$142,392	2 \$50,592						65 \$1,393,500
45 - 49	96 \$2,320,416	97 \$2,389,056	80 \$1,723,836	60 \$1,374,888	66 \$1,365,948	105 \$2,172,096				504 \$11,346,240
50 - 54	163 \$5,671,224	128 \$3,902,052	111 \$3,087,792	110 \$2,831,784	105 \$2,419,272	384 \$8,641,212	69 \$1,098,600	2 \$19,836	1 \$1,416	1,073 \$27,673,188
55 - 59	624 \$21,840,732	565 \$21,444,948	434 \$16,160,544	433 \$15,779,796	377 \$13,078,344	713 \$20,497,548	381 \$6,922,632	117 \$1,526,388	1 \$8,028	3,645 \$117,258,960
60 - 64	823 \$21,991,236	916 \$25,185,432	871 \$25,954,992	882 \$27,922,668	1,091 \$36,474,156	3,644 \$126,916,368	1,158 \$25,419,156	641 \$9,000,204	239 \$2,486,160	10,265 \$301,350,372
65 - 69	485 \$12,287,376	603 \$16,196,376	742 \$20,586,696	813 \$22,036,248	970 \$26,891,376	5,236 \$158,813,700	4,752 \$149,243,916	1,034 \$21,130,272	1,020 \$13,644,552	15,655 \$440,830,512
70 - 74	126 \$3,966,156	188 \$6,103,428	216 \$5,797,356	296 \$8,990,448	380 \$11,285,160	2,913 \$82,010,412	4,872 \$131,429,088	3,173 \$90,313,872	1,511 \$23,998,668	13,675 \$363,894,588
75 - 79	42 \$989,532	57 \$1,826,556	61 \$2,247,612	85 \$2,442,396	88 \$3,099,816	821 \$25,148,232	2,175 \$53,531,148	3,280 \$81,307,716	3,136 \$75,739,980	9,745 \$246,332,988
80 - 84	6 \$190,212	9 \$177,108	9 \$441,108	21 \$648,156	18 \$438,372	176 \$6,273,624	603 \$17,623,752	1,455 \$33,862,536	4,119 \$95,222,604	6,416 \$154,877,472
85 - 89	3 \$228,624		1 \$13,740	7 \$287,664	4 \$82,680	42 \$1,368,384	121 \$4,050,456	365 \$9,568,740	3,281 \$70,384,020	3,824 \$85,984,308
90+						7 \$375,084	16 \$515,220	43 \$1,382,004	1,827 \$33,095,268	1,893 \$35,367,576
Total	2,402 \$70,259,592	2,584 \$77,651,388	2,533 \$76,156,068	2,709 \$82,364,640	3,099 \$95,135,124	14,041 \$432,216,660	14,147 \$389,833,968	10,110 \$248,111,568	15,135 \$314,580,696	66,760 \$1,786,309,704

AVERAGES --- Attained Age 71.54
Years Retired 13.34
Annual Benefit \$26,757

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
DISABILITY RETIREES

CELLS DEPICT - MEMBER COUNT
TOTAL BENEFITS

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20+	Total
< 40	6 \$98,760	9 \$159,024	11 \$159,984	5 \$85,788	2 \$33,396	5 \$70,908				38 \$607,860
40 - 44	12 \$287,208	16 \$307,008	10 \$190,956	7 \$112,128	12 \$244,008	27 \$419,868	5 \$55,248			89 \$1,616,424
45 - 49	19 \$432,216	19 \$437,184	28 \$699,888	22 \$530,400	17 \$337,560	40 \$727,704	22 \$257,400	7 \$61,044	1 \$9,528	175 \$3,492,924
50 - 54	26 \$446,196	45 \$768,324	37 \$613,296	37 \$790,344	23 \$396,432	93 \$1,693,728	51 \$633,228	21 \$215,880	8 \$71,520	341 \$5,628,948
55 - 59	34 \$532,776	41 \$583,212	61 \$1,006,848	42 \$632,760	27 \$427,236	150 \$2,295,672	77 \$950,916	62 \$623,244	34 \$357,288	528 \$7,409,952
60 - 64	16 \$240,972	33 \$472,668	37 \$511,404	34 \$519,708	48 \$718,416	173 \$2,488,512	166 \$2,066,016	136 \$1,614,888	102 \$962,832	745 \$9,595,416
65 - 69	2 \$18,072	10 \$136,620	11 \$130,044	15 \$227,160	14 \$232,308	136 \$2,033,148	220 \$2,678,052	149 \$1,636,560	223 \$2,724,552	780 \$9,816,516
70 - 74	1 \$13,500	4 \$54,588	3 \$46,632	9 \$136,116	2 \$30,840	38 \$544,068	153 \$1,812,288	193 \$1,957,188	280 \$3,041,256	683 \$7,636,476
75 - 79	1 \$5,256					5 \$76,536	18 \$245,652	110 \$1,118,760	325 \$3,277,140	459 \$4,723,344
80 - 84		1 \$10,428			1 \$11,484		5 \$43,728	17 \$169,620	234 \$2,333,508	258 \$2,568,768
85 - 89							1 \$6,456	2 \$12,600	107 \$1,146,372	110 \$1,165,428
90+								1 \$8,820	41 \$403,956	42 \$412,776
Total	117 \$2,074,956	178 \$2,929,056	198 \$3,359,052	171 \$3,034,404	146 \$2,431,680	667 \$10,350,144	718 \$8,748,984	698 \$7,418,604	1,355 \$14,327,952	4,248 \$54,674,832

AVERAGES --- Attained Age 66.12
Years Retired 15.41
Annual Benefit \$12,871

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
SURVIVOR BENEFITS

CELLS DEPICT - MEMBER COUNT
TOTAL BENEFITS

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20+	Total
< 40	23 \$255,168	40 \$539,244	36 \$344,040	35 \$353,004	28 \$351,660	86 \$901,176	45 \$478,260	19 \$132,312	5 \$58,512	317 \$3,413,376
40 - 44	16 \$180,648	9 \$72,192	7 \$91,344	6 \$63,540	6 \$88,596	35 \$527,892	18 \$266,280	9 \$116,772	4 \$46,884	110 \$1,454,148
45 - 49	18 \$290,556	22 \$290,724	22 \$325,716	18 \$202,584	18 \$206,112	61 \$876,696	41 \$538,920	20 \$232,020	19 \$220,884	239 \$3,184,212
50 - 54	16 \$305,544	22 \$344,172	18 \$274,392	21 \$278,364	19 \$215,628	68 \$1,131,852	51 \$520,560	36 \$508,200	24 \$276,264	275 \$3,854,976
55 - 59	28 \$494,316	28 \$526,908	31 \$571,368	20 \$355,956	21 \$309,324	103 \$1,413,636	69 \$878,244	51 \$649,848	35 \$560,520	386 \$5,760,120
60 - 64	33 \$815,508	45 \$1,004,604	38 \$731,520	38 \$934,164	50 \$950,388	175 \$3,008,604	103 \$1,914,024	58 \$771,900	71 \$814,764	611 \$10,945,476
65 - 69	65 \$1,779,564	55 \$1,402,428	59 \$1,583,532	52 \$1,250,952	56 \$1,797,024	221 \$5,432,520	126 \$2,742,552	97 \$1,775,592	120 \$1,606,644	851 \$19,370,808
70 - 74	85 \$2,221,644	83 \$2,292,060	61 \$1,785,396	78 \$1,745,376	67 \$1,827,828	242 \$5,406,144	193 \$4,365,000	135 \$2,808,912	173 \$2,545,116	1,117 \$24,997,476
75 - 79	80 \$2,002,248	91 \$2,211,000	73 \$1,838,664	58 \$1,553,376	64 \$1,648,680	248 \$5,985,672	184 \$4,030,524	132 \$2,950,404	234 \$4,126,140	1,164 \$26,346,708
80 - 84	58 \$1,459,896	71 \$1,691,748	80 \$1,728,972	68 \$1,633,920	65 \$1,646,508	224 \$5,062,524	206 \$4,341,768	136 \$2,797,416	261 \$4,514,532	1,169 \$24,877,284
85 - 89	35 \$738,132	42 \$835,260	40 \$610,296	33 \$775,260	33 \$608,424	162 \$2,777,256	116 \$2,389,200	88 \$1,710,012	180 \$3,277,188	729 \$13,721,028
90+	11 \$269,616	18 \$282,876	16 \$446,316	19 \$406,692	23 \$314,640	81 \$1,388,580	74 \$1,069,692	62 \$965,808	143 \$2,345,880	447 \$7,490,100
Total	468 \$10,812,840	526 \$11,493,216	481 \$10,331,556	446 \$9,553,188	450 \$9,964,812	1,706 \$33,912,552	1,226 \$23,535,024	843 \$15,419,196	1,269 \$20,393,328	7,415 \$145,415,712

AVERAGES --- Attained Age 71.44
Years Retired 11.20
Annual Benefit \$19,611

Appendix A
MEMBERSHIP DATA

TRSL Actuarial Valuation
June 30, 2018

TRSL MEMBERSHIP PROFILE
TERM-VESTED/RECIPROCAL

CELLS DEPICT -

MEMBER COUNT
TOTAL BENEFITS

VALUATION DATE 6/30/2018

Age/Years	<1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35+	Total
< 20										
20 - 24										
25 - 29			49 \$301,985							49 \$301,985
30 - 34		1 \$4,224	563 \$4,265,752	20 \$252,900						584 \$4,522,876
35 - 39		1 \$4,491	891 \$7,141,340	244 \$3,523,225	11 \$248,287					1,147 \$10,917,343
40 - 44		4 \$11,769	707 \$5,553,224	344 \$5,152,720	84 \$1,933,924	4 \$168,484				1,143 \$12,820,122
45 - 49	1 \$672	4 \$15,352	758 \$5,549,574	357 \$4,911,468	124 \$2,740,830	26 \$821,910	4 \$202,159			1,274 \$14,241,965
50 - 54		6 \$17,647	657 \$4,542,359	345 \$4,267,030	143 \$2,382,943	20 \$561,525	11 \$438,103	1 \$48,015		1,183 \$12,257,621
55 - 59		6 \$13,346	604 \$4,221,260	420 \$4,828,768	176 \$2,849,317	24 \$521,229	4 \$91,508	2 \$108,583		1,236 \$12,634,010
60 - 64		2 \$3,503	204 \$1,213,593	120 \$1,278,102	42 \$547,381	13 \$328,978	5 \$147,235			386 \$3,518,792
65 - 69	1 \$388	4 \$4,919	69 \$374,590	30 \$276,505	13 \$209,890	5 \$86,493	6 \$163,246	1 \$51,283		129 \$1,167,314
70+			33 \$170,066	24 \$185,344	9 \$72,821	6 \$169,561	2 \$65,390	4 \$98,026	2 \$66,894	80 \$828,101
Total	2 \$1,059	28 \$75,252	4,535 \$33,333,743	1,904 \$24,676,062	602 \$10,985,392	98 \$2,658,179	32 \$1,107,641	8 \$305,907	2 \$66,894	7,211 \$73,210,128

AVERAGES --- Attained Age 47.79
Service Years 9.52
Annual Benefit \$10,153

SUMMARY OF PLAN PROVISIONS

EFFECTIVE DATE:

August 1, 1936

EMPLOYER:

The State of Louisiana, the parish school board, the city school board, the State Board of Education, the State Board of Supervisors, University or any other agency of and within the State by which a teacher is paid.

ELIGIBILITY FOR PARTICIPATION:

Condition of employment for all teachers.

CREDITABLE SERVICE:

Service as a teacher while member of the system.

ADDITIONAL SERVICE:

1. Credit for service canceled by withdrawal of accumulated contributions may be restored by member by paying the amount withdrawn plus interest.
2. Service rendered in public school system of another state may be purchased at the actuarial cost of the additional retirement benefit, or at the member's option receive service credit based on the funds actually transferred.
3. Credit for service in non-public or parochial schools may be purchased at the actuarial cost of the additional retirement benefit, or at the member's option receive service credit based on the funds actually transferred.
4. Maximum of 4 years of credit for military service may be obtained for each member, contingent on payment of actuarial cost.
5. Credit for legislative service of former teacher, now legislator, may be purchased at the actuarial cost.
6. Conversion of Sick Leave to Membership Service: At retirement, or at death before retirement of member with surviving spouse or dependent or both who are entitled to benefits, unused accumulated sick leave will be added to membership service. Conversion of unused sick and annual leave cannot be used to obtain retirement eligibility. Leave accumulated after January 30, 1990, can be converted to a maximum one-year service credit. Leave is converted on the following basis:

Leave Earned Prior to 6/30/88	
Accumulated Sick Days	Fraction of Year Credit
25-45	0.25 year
46-90	0.50 year
91-135	0.75 year
136-180	1.00 year
181-225	1.25 years
226-270	1.50 years
271-315	1.75 years
316-360	2.00 years

Leave Earned After 6/29/88				Fraction of Year Credit
Accumulated Sick Days (by Member Classification)				
9 Month	10 Month	11 Month	12 Month	
10-18	11-20	12-22	13-24	0.1
19-36	21-40	23-44	25-48	0.2
37-54	41-60	45-66	49-72	0.3
55-72	61-80	67-88	73-96	0.4
73-90	81-100	89-110	97-120	0.5
91-108	101-120	111-132	121-144	0.6
109-126	121-140	133-154	145-168	0.7
127-144	141-160	155-176	169-192	0.8
145-162	161-180	177-198	193-216	0.9
163-180	181-200	199-220	217-240	1.0

EARNABLE COMPENSATION:

The compensation earned by a member for qualifying service.

FINAL AVERAGE COMPENSATION

For members whose first employment makes them eligible for membership in a Louisiana state retirement system on or after January 1, 2011, the average annual earnable compensation is the highest 60 successive months of employment. The average compensation for purposes of computing benefits cannot increase more than 15% per year.

For all other members, the average annual earnable compensation is the highest 36 successive months of employment; the average compensation for purposes of computing benefits cannot increase more than 10% per year.

Per R.S.11:892, if the maximum benefit accrual (100%) is reached, employee contributions are discontinued, average final compensation is not limited to the years for which employee contributions were made. Compensation is limited by the Internal Revenue Code Section 401(a)(17) compensation limit.

Includes workmen's compensation, and PIP's program in accordance with the following:

<u>Years of Participation</u>	<u>% of Earnings to be Included</u>
3	60%
4	80%
5	100%

However, if member completed at least two years and subsequently becomes disabled, he shall receive 40% of such earnings. If he has completed one year and becomes disabled, he shall receive 20% of such earnings.

ACCUMULATED CONTRIBUTIONS:

Sum of all amounts deducted from compensation of members.

EMPLOYEE CONTRIBUTIONS:

8% of earnable compensation. Prior to July 1, 1989, 7% of earnable compensation.

EMPLOYER CONTRIBUTIONS:

Determined in accordance with Louisiana Revised Statutes, Sections 11:102 and 11:102.2, which require the employer rate to be actuarially determined and set annually, based on the Public Retirement Systems' Actuarial Committee's recommendation to the Legislature.

NORMAL RETIREMENT ELIGIBILITY AND BENEFIT:

Retirement Eligibility:

1. Members whose first employment making them eligible for membership in one of the state systems occurred on or after July 1, 2015 are eligible for a regular retirement benefit at age 62 with five years of service credit. These members may also retire with an actuarial reduction with 20 years of service credit at any age.
2. Members whose first employment makes them eligible for membership in a Louisiana state retirement system on or after January 1, 2011 and before July 1, 2015 may retire with a 2.5% accrual rate after attaining age 60 with at least 5 years of service credit. Members are eligible for an actuarially reduced benefit with 20 years of service at any age.
3. For all other members:

If hired on or after July 1, 1999, members are eligible for a 2.5% accrual rate at the earliest of age 60 with five years of service, age 55 with 25 years of service, or at any age with 30 years of service. Members may retire with an actuarially reduced benefit with 20 years of service at any age.

If hired before July 1, 1999, members are eligible for a 2% accrual rate at the earliest of age 60 with five years of service, or at any age with 20 years of service and are eligible for a 2.5% accrual rate at the earliest of age 65 with 20 years of service, age 55 with 25 years of service, or at any age with 30 years of service.

Benefit:

Annuity which shall be the actuarial equivalent of accumulated employee contributions at retirement date, and annual pension, which, together with annuity, provides total allowance equal to the applicable accrual rate times final average compensation times years of creditable service (including unused sick leave). Members hired before June 30, 1986 receive an additional \$300 annual supplemental benefit (Act 608 of 1986).

1. Annual benefit may not exceed 100% of average earnable compensation.
2. For Members employed on or after July 1, 1999, the annual pension cannot exceed the maximum benefit provided under Section 415(b) of the Internal Revenue Code and related Federal Regulations as adjusted for inflation and form of benefit other than life annuity or qualified joint and survivor annuity.

POST RETIREMENT INCREASES:

The provisions regarding future permanent benefit increases (PBIs) were substantially changed by Act 399 of 2014. PBIs may be granted, if requested by the Board and approved with a two-thirds vote of both houses of the legislature, provided there are sufficient funds in the Experience Account to fully fund the increase on an actuarial basis.

Experience Account Credits/Debits: After allocation of the first \$200,000,000 to the unfunded accrued liability, the Experience Account is credited with up to 50% of the remaining excess investment income, up to a maximum balance as described below. The \$200,000,000 threshold is indexed based upon the increase in the actuarial value of assets. Excess investment income is investment income for the prior fiscal year in excess of the expected income based on the actuarial valuation rate for that fiscal year. Balances in the Experience Account accrue interest at the actuarial rate of return during the prior year. All credits are limited as follows:

If the system’s funded ratio is less than 80%, the Experience Account is limited to the reserve necessary to grant one PBI. If the funded ratio is at least 80%, the Experience Account is limited to the reserve necessary to fund two PBI’s. The Experience Account is debited for the increase in actuarial accrued liability resulting from the increases.

Permanent Benefit Increases: No increase can be granted if the legislature granted an increase in the preceding fiscal year, unless the system is 85% funded or greater. Additionally, PBIs are limited to the lesser of the increase in the Consumer Price Index, U.S. city average for all urban consumers (CPI-U) for the twelve-month period ending on the system’s valuation date, or by a percentage increase determined by the system’s funded ratio:

Funded Ratio	PBI Increase Limit
< 55%	0%
55% to <65%	1.5%
65% to <75%	2.0%
75% to <80%	2.5%
80% +	3.0%

Beginning July 1, 2015, any increase is limited to the first \$60,000 of a retiree's annual benefit, increased annually by the CPI-U for the 12-month period ending in June. If the actuarial rate of return for the prior plan year is less than 8.25%, regardless of the discount rate, the increase is limited to the lesser of 2% or the amount described above.

Eligibility Requirements: Benefits are restricted to those retirees who have attained age 60 and have been retired for at least one year. The minimum age of 60 for the receipt of a benefit increase does not apply to disability retirees.

DISABILITY RETIREMENT:

Eligibility:

Members whose first employment makes them eligible for membership in a Louisiana state retirement system on or after January 1, 2011 are eligible with 10 years of service credit. All other members are eligible with 5 years of service; certification of disability by medical board (medical examination required once in every year for the first 5 years of disability retirement, and once in every 3 years thereafter, until age 60 if first employment making member eligible for membership in a state retirement system occurred before July 1, 2015 or until age 62 otherwise).

Benefit: Act 572 of 1995

1. If ineligible for service retirement at disability, disability pension will be 2.5% of average compensation multiplied by years of service. Benefit is limited to 50% of average compensation and will not be less than the lesser of 40% of the state minimum salary for a beginning teacher with a bachelor's degree or 75% of average compensation.
2. Additional 50% of member's benefit payable if minor child is present, but total amount to family limited to 75% of final average compensation.
3. Member will become a regular retiree upon attainment of the earliest age for retirement eligibility as if the member continued in service, without further change in compensation. Benefit is based on years of creditable service but not less than the disability benefit. Benefit for minor children continue as long as the retiree has a minor child.
4. Upon death of a disability retiree, surviving spouse, married to retiree at least two years prior to death of the disability retiree, shall receive 75% of disability benefit. Upon death of an unmarried retiree with minor children, the benefit shall equal 50% of disability benefit.
5. Upon recovery of disability as determined by the board of trustees, upon advice of the medical board, members returning to active membership for at least three years, starting no later than one year after recovery, shall be credited with one year of service for each year disabled for purposes of establishing benefit eligibility, but not for computation of benefits.

SURVIVOR'S BENEFITS:

Eligibility and Benefit:

1. Surviving Spouse with minor children of an active member with 5 years of service with at least 2 years earned immediately prior to death; or a member with 20 years of service regardless of when earned or whether in active service at time of death will receive the greater of:

- A.) \$600 per month, or
 - B.) 50% of benefit that would have been payable upon service retirement at age 60 had member continued in service to age 60 without change in compensation. 50% of spouse's benefit payable for each minor child (up to two), with total benefit to family at least equal to the Option 2 accrued benefit based on actual service credit. Benefits to spouse cease upon remarriage and resume upon subsequent divorce or death of new spouse; however, if the member was eligible to retire or had reached age 55 on the date of his death, benefits shall not cease upon remarriage. When minor children are no longer present and the deceased member had at least 10 years of service, the spouse's benefit reverts to the Option 2 retirement benefit for the eligible spouse. If a deceased member had less than 10 years, then the spouse will receive a refund of any remaining member contributions and monthly survivor benefits will cease.
2. Surviving Spouse without minor children of an active member with 10 years of creditable service will receive the greater of:
 - A.) \$600 per month, or
 - B.) Option 2 equivalent of accrued benefit based on actual service. Spouse's benefit payable for life. Benefits to spouse cease upon remarriage and resume upon subsequent divorce or death of new spouse; however, if the member was eligible to retire on the date of his death, benefits shall not cease upon remarriage.
 3. Beneficiaries not eligible for survivor benefits described above will receive a lump-sum refund of the member's accumulated contributions.

REFUND OF CONTRIBUTIONS:

Members who terminate employment in all positions eligible for TRSL membership are entitled to a full refund of member contributions. If membership ceases due to death prior to retirement, accumulated member contributions are returnable to a designated beneficiary, if any; or to the member's estate.

TERMINATION WITH VESTED SERVICE:

Any member with credit for 5 years of service who withdraws from service may elect to leave accumulated contributions in system until age 60, when he may apply for retirement and begin receiving a retirement benefit based on the credits he had at date of withdrawal.

OPTIONAL FORMS OF BENEFIT:

In lieu of receiving normal retirement benefit, member may elect to receive actuarial equivalent of retirement allowance in a reduced form as follows:

- Option 1 - If a member dies before receiving present value of annuity in monthly payments, balance paid to designated beneficiary.
- Option 2 - Reduced retirement allowance, if member dies, to be continued to designated beneficiary for his lifetime.
- Option 3 - One-half of reduced retirement allowance, if member dies, to be continued to designated beneficiary for his lifetime.
- Option 4 - Other benefits of equal actuarial value may be elected with approval of the Board of Trustees.

Options 2A, 3A, 4A - Same as Options 2, 3, and 4, except that reduced benefit reverts to maximum if beneficiary predeceases retiree.

Automatic COLA Option – Members may choose an irrevocable election at retirement to receive an actuarially reduced benefit which increases 2.5% annually. The increase begins on the first retirement anniversary date, but not before the retiree attains age 55 or would have attained age 55 in the case of a surviving spouse. This option can be chosen in combination with the above options. (Per Act 270 of 2009, effective July 1, 2009.)

Initial Lump Sum Benefit Option - Members who did not participate in DROP may elect an actuarially reduced pension and receive a lump-sum equal to not more than 36 months of the maximum monthly pension.

DEFERRED RETIREMENT OPTION PLAN:

Instead of terminating employees and accepting a service retirement allowance, any member who has met the eligibility requirements described below may elect to participate in the Deferred Retirement Option Plan (DROP).

Normal Eligibility:

Members whose first employment making him eligible for membership in one of the state retirement systems occurred on or before December 31, 2010, and who is not covered by Lunch Plan A or Lunch Plan B and who has 30 years of service (YOS) at any age, 25 YOS at 55, or 20 YOS (exclusive of military service other than qualified military service as provided in 26 U.S.C. 414(u) earned on or after December 12, 1994), and is at least age 65 may elect to participate in DROP. A member with 10 YOS, exclusive of military service other than qualified military service as provided in 26 U.S.C. 414(u) earned on or after December 12, 1994, and who is at least age 60 may elect to participate in DROP, but all benefits payable at any time shall be calculated using only a 2% benefit formula.

Members whose first employment making him eligible for membership in one of the state retirement systems occurred between January 1, 2011 and June 30, 2015, and not in Lunch Plan A or Lunch Plan B, and who has 5 years of service at age 60 may participate in DROP.

Members whose first employment making him eligible for membership in one of the state retirement systems occurred on or before June 30, 2015, who has 30 years of service at age 55 or 10 years of service at age 60 may participate in DROP.

Members whose first employment making him eligible for membership in one of the state retirement systems occurred on or after July 1, 2015, who has at least 5 years of service at age 60 may participate in DROP.

An election to participate may only be made once, for a period not to exceed three years beginning within 60 days of reaching the eligibility described above.

Benefit:

Upon termination of employment, a participant will receive, at his option:

- (1) Lump sum payment (equal to the payments to the account)
- (2) A true annuity based upon his account, or
- (3) Other methods of payment approved by the Board of Trustees.

If a participant dies during the period of participation in the program, his account balance shall be paid to the beneficiary, or if none, to his estate in any form approved by the Board of Trustees.

If employment is not terminated at the end of DROP participation, payments into the account cease and account earns interest. The participant resumes active contributing membership and earns an additional retirement benefit based on additional service rendered. The method of computation of the additional benefit is subject to the following:

- (1) If additional service was less than the period used to determine Final Average Compensation, average compensation figure to calculate the additional benefit will be the same as used to calculate initial benefit.
- (2) If additional service was earned for a period greater than the number of months used to determine Final Average Compensation, the average compensation figure used to calculate the additional benefit will be based on compensation during the period of additional service.

DROP Accounts established prior to January 1, 2004, earn interest following termination of DROP at a rate 0.5% below the actuarial rate of the System's investment portfolio. DROP accounts established on or after January 1, 2004 are credited with money market rates.

**DESCRIPTION OF BENEFITS
FOR MERGED LSU EMPLOYEES**

GENERAL:

Eligibility for benefits is based on the eligibility requirements of the Teachers' plan, except for deaths and disabilities before 1984. All service, funded and non-funded, is used in determining eligibility.

Final Average Salary was the average of the three highest years, except for academic year employees who retired within three years after January 1, 1979. For this group, any salary used in the Final Average Salary calculation, which was earned before January 1, 1979, was increased by 2/9ths.

The Social Security breakpoint average, for service under the funded LSU plan, was frozen at the December 31, 1978 level. That is, the breakpoint average for funded service was calculated as of December 31, 1978 and kept constant. This produced the following breakpoint averages:

**Social Security Breakpoint Average
(for LSU funded service)**

<u>Calendar Year of Entry</u>	<u>Breakpoint Average</u>
1971 or before	13,400
1972	13,800
1973	14,600
1974	15,360
1975	15,900
1976	16,500
1977	17,100
1978	17,700

RETIREMENT BENEFITS:

Retirement benefits are calculated using LSU funded service with the LSU formula and service after December 31, 1978, with the Teacher's formula. Thus, the "funded" benefit is the sum of (1) 1.33% of final average salary under the Social Security breakpoint average plus 2.5% of final average salary over the Social Security breakpoint average, times years of "funded" service with LSU before December 31, 1978; (2) 2.5% (or 2% if total service less than 20 years) of final average salary for years since January 1, 1979; and (3) \$300.

SURVIVOR'S BENEFITS:

For deaths after 1983, the provisions of the Teachers' plan apply. However, the benefit is calculated using all service, funded and non-funded, then prorated by service between the funded and non-funded portions. Children's benefits are also prorated into the funded and non-funded portions.

DISABILITY BENEFITS:

For disabilities after 1983, the provisions of the Teachers' plan apply. However, the benefit is calculated using all service, then prorating by service between the funded and non-funded portions. Children's benefits are also prorated.

VESTING BENEFITS:

Benefits for terminated vested members was determined as outlined under "Retirement Benefits."

REFUND OF CONTRIBUTIONS:

Terminated members are allowed a refund of accumulated contributions as described by the Teachers' plan.

COOPERATIVE EXTENSION PERSONNEL:

The LSU employees are eligible for the supplemental benefit described in Section 700.2 of Act 643 of 1978. The benefit is equal to 1% for the first five years of service, 3/4% for the next five years, and 1/2% thereafter. The funded benefit is the benefit based on service after September 12, 1975.

OPTIONAL FORMS OF BENEFITS:

Retiring members may elect options as described by the Teachers' plan.

DEFERRED RETIREMENT OPTION PLAN:

Eligible members may participate under same requirements as described by the Teachers' plan.

DESCRIPTION OF BENEFITS
FOR MERGED SCHOOL LUNCH EMPLOYEES

EFFECTIVE DATE:

The School Lunch Employees' Retirement System was originally established on January 1, 1953.

On July 1, 1980, the School Lunch Employees' Retirement System was restructured. All individuals who become employed after July 1, 1980, shall become members of Plan A or Plan B as determined by the agreement in effect for each employer.

Plan A: Parishes which had withdrawn from Social Security coverage became known as Plan A parishes. Those participating in both the regular and the supplemental plan or only in the supplemental plan shall become members of Plan A.

Plan B: Parishes which had not withdrawn from Social Security coverage became known as Plan B parishes. Those participating only in the regular plan shall become members of Plan B.

Effective July 1, 1983 Plan A and Plan B were merged into TRSL.

CREDITABLE SERVICE:

Service as an employee while member of the system.

MILITARY SERVICE:

Maximum of 4 years of credit may be purchased.

ADDITIONAL CREDITABLE SERVICE:

Credit for service canceled by withdrawal of accumulated contributions may be restored by paying into system the amount withdrawn plus regular interest.

EMPLOYEE CONTRIBUTIONS:

Plan A: 9.10% of monthly earnings
Plan B: 5% of monthly earnings

EMPLOYER CONTRIBUTIONS:

Plan A and Plan B: Actuarial Required Amount (Effective July 1, 1989)

SCHOOL LUNCH PLAN A

RETIREMENT BENEFIT:

Members hired after June 30, 1983 earn regular Teachers' benefits. The benefit description below applies to members hired prior to July 1, 1983.

NORMAL RETIREMENT:

Eligibility:

1. Age 60 and 5 years of creditable service.
2. Age 55 and 25 years of creditable service.
3. 30 years of creditable service, regardless of age.

Benefit:

3% of average final compensation times years of creditable service.

Members of only the supplemental plan prior to July 1, 1980 who were age 60 or older at the time the member's employer terminated its agreement with the Department of Health, Education and Welfare, and who became a member of the retirement system because of this termination earned 1% of average final compensation plus \$2 per month for each year of service credited prior to July 1, 1980, plus 3% of average final compensation for each year of service credited after July 1, 1980.

Members hired before June 30, 1986 receive an additional \$300 annual supplemental benefit.

Benefits are limited to 100% of average final compensation.

DISABILITY RETIREMENT:

Eligibility:

Five years of creditable service; certification of disability by the State Medical Disability Board.

Benefit:

Normal retirement allowance if eligible; otherwise, an amount equal to the normal retirement allowance to which the member would have been entitled had he met eligibility requirements; provided the amount is subject to a minimum of 60% and a maximum of 100% of average final compensation, in the event no optional selection is chosen.

SURVIVOR'S BENEFITS:

Eligibility:

1. Surviving spouse with minor children of a member with 5 years of service credit with at least 2 years earned immediately prior to death, or 20 years of service credit regardless of when earned or whether the deceased member was in active service at the time of death.
2. Surviving spouse with no minor children of member with 10 or more years of service credit with at least 2 years earned immediately prior to death, or 20 years of service credit regardless of when earned or whether the deceased member was in active service at the time of death.
3. Beneficiary not eligible for 1 or 2.

Benefit:

1. Greater of:
 - A. \$600 per month, or
 - B. 50% of benefit that would have been payable upon retirement at age 60 had member continued in service to age 60 without change in compensation. 50% of spouse's benefit payable for each minor child (maximum two children), with total benefit to family at least equal to the Option 2 benefit. Accrued Benefit based on actual service credit. Benefits to spouse cease upon remarriage and will resume upon subsequent death or divorce of new spouse. When minor children are no longer present, spouse's benefit reverts to benefit in (2), if spouse is eligible for such benefit.
2. Greater of:
 - A. \$600 per month, or
 - B. Option 2 equivalent of accrued benefit based on actual service. Surviving spouse must have been married to the deceased member at least one year prior to death. If the member had not been eligible for retirement upon date of death, benefits to spouse cease upon remarriage, and resume upon subsequent death or divorce of new spouse.
3. Return of member's accumulated contributions.

SCHOOL LUNCH PLAN B

NORMAL RETIREMENT:

Eligibility:

1. Age 60 and 5 years of creditable service.
2. Age 55 and 30 years of creditable service.

Benefit:

Annual pension which provides total allowance equal to 2% of average final compensation times years of creditable service. Members hired before June 30, 1986 receive an additional \$300 annual supplemental benefit.

DISABILITY RETIREMENT:

Eligibility:

Five years of creditable service; certification of disability by the State Medical Disability Board.

Benefit:

Normal retirement allowance if eligible; otherwise 2% of average final compensation times years of creditable service; provided amount not less than 30%, nor more than 75% of average final compensation, in the event no optional selection is made.

SURVIVOR'S BENEFITS:

Eligibility: Twenty or more years of creditable service.

Benefit: Option 2 benefit.

SCHOOL LUNCH PLAN A and PLAN B

OPTIONAL FORMS OF BENEFIT:

Retiring members may elect options as described by the Teachers' plan.

RETURN OF CONTRIBUTIONS:

Should a member not eligible to retire cease to be an employee, he shall be paid the amount of his accumulated contributions upon demand. Should a member's death occur prior to retirement with no survivors eligible for benefits, his accumulated contributions are returnable to a designated beneficiary, if any; otherwise, to his estate.

TERMINATION WITH VESTED SERVICE:

Any member with credit for 5 years of service who withdraws from service may elect to leave accumulated contributions in system until his earliest normal retirement date, when he may apply for retirement and begin receiving a retirement benefit based on average final compensation and creditable service at date of withdrawal.

DEFERRED RETIREMENT OPTION PLAN:

Retiring members may elect options as described by the Teachers' plan.

FUNDING POLICY

TRSL's funding policy is established by Sections 102 and 102.2 of Title 11 of the Louisiana Revised Statutes. TRSL is funded by employee and employer contributions, as a percentage of payroll, plus investment earnings. The basic elements of the annual required contribution are the normal cost, which is the cost of benefits earned by current active employees that is allocated to the current year, plus amortization of the unfunded accrued liability (UAL). Act 55 of 2014, Section 1, appropriates a percentage of nonrecurring revenue in accordance with the Constitution Article VII, Section 10(D)(2)(b)(ii) and requires the funds to be used to reduce the Initial UAL (IUAL). The funds are used to reduce the Original Amortization Base (OAB), which includes the IUAL.

Per State constitutional provisions, the employer contribution rate cannot drop below 11.8%, without regard to employer credits, and without a corresponding adjustment to the employee contribution rate. Per statutory provisions, the employer contribution rate cannot drop below 15.5% until the UAL that existed on June 30, 2004 is fully funded. Amounts paid to the system due to the minimum will be accumulated in the employer credit account to be used exclusively to reduce any UAL created before July 1, 2004.

Employee contribution rates are fixed and established by statutes. Employer contributions are determined using the Entry Age Normal actuarial cost method, as required by statute, and actuarial assumptions regarding future plan experience, such as long-term expected investment rates of return, future salary increases, and demographic assumptions such as rates of retirement, termination, disability, and mortality. The actuarial assumptions utilized in this valuation can be found in Appendix D. The cost method is used to determine the normal cost, which is divided into the employee and employer portion, both expressed as a percentage of payroll. The cost method also determines the plan's total actuarial accrued liability. The UAL is determined as the total actuarial accrued liability less the plan's valuation assets, which are developed in Section II. The UAL changes annually due to gains or losses that develop as actual plan experience differs from that assumed by the actuarial assumptions, and if applicable, changes in benefits, or actuarial methods and/or assumptions. Statutes provide for the amortization of changes in the UAL.

Benefit changes resulting in an actuarial cost can only be enacted by a two-thirds vote of the legislature and must be paid within 10 years. Non-investment experience gains and losses and investment losses are amortized over 30 years with level payments. Investment gains are first allocated to the OAB and EAAB, without re-amortization, up to the \$200 million threshold amounts, indexed to increases in the actuarial value of assets, beginning June 30, 2016, as required by Act 399 of 2014. By not re-amortizing, gains applied to these schedules result in earlier pay-off of these schedules. One-half of any remaining gains are credited to the Experience Account up to the statutory cap. Any remaining gains are then amortized over 30 years with level payments. Beginning in 2016, the full investment gain remaining after the allocation to the OAB and EAAB will be amortized over 30 years, and any gains credited to the Experience Account will be amortized as an offsetting loss over a 10-year period. Once the fund attains a funded ratio of 70%, future gains or losses that would have otherwise been amortized over 30 years will be amortized over 20 years. The OAB will be re-amortized with level-dollar payments to 2029 in Fiscal Year 2020/2021 or later, when such re-amortization results in annual payments that are not more than the next annual payment otherwise required. If the System is less than 80% funded, the net remaining liability of the OAB and EAAB shall be re-amortized after application of the "threshold allocations" in Fiscal Year 2019/2020 and in every fifth fiscal year thereafter. Once the system attains an 80% funded ratio, the OAB and EAAB will be re-amortized following allocations of "threshold allocations" or contribution variance surpluses.

If aggregate payroll increases at the same rate as the percentage increase in total amortization payments, the employer contribution rate attributable to the amortization payments would maintain a level percentage of payroll. If future aggregate payroll increases at a higher rate than total amortization payments, the employer contribution rate will decrease. Future total UAL amortization payments for all current schedules and the annual percentage change are shown in Appendix E.

Employers pay the full required employer contribution rate, as recommended to the legislature by the Public Retirement Systems' Actuarial Committee (PRSAC). This rate is determined as the projected actuarially determined contribution divided by the projected payroll. The actual actuarially determined contribution and actual payroll will vary from the projected amounts, resulting in a contribution variance. Per statutory requirements, contribution surpluses through Fiscal Year 2039/2040 will be allocated to the EAAB and contribution deficits will be amortized over a five-year period with level payments.

The funding policy described above is consistent with the plan accumulating adequate assets to make benefit payments when due and improving the funded status of the plan by fully amortizing the unfunded accrued liability, assuming the actuarially determined contributions will be paid when due and all actuarial assumptions will be realized.

ACTUARIAL ASSUMPTIONS AND METHODS

ACTUARIAL COST METHOD:

Louisiana, R.S. 11:22, prescribes the Entry Age Normal cost method for funding valuation purposes. This cost method generally produces normal costs that are level as a percentage of the member's projected pay if the composition of the active group with regard to age, sex, and service is stable. Normal costs are attributed from the first period in which a member accrues benefits through all assumed exit ages until retirement.

ASSET VALUATION:

The market value of assets is adjusted to gradually recognize investment gains and losses relative to the discount rate, over a 5-year period in 20% increments. The adjusted asset value is subject to Corridor Limits of 80% to 120% of the Market Value of Assets.

ACCOUNTING DISCLOSURE:

The Statements of Fiduciary Net Position and Changes in Fiduciary Net Position provided by the accounting staff were the final drafts prior to publication. Should these Statements differ from the final audited report, a revised actuarial valuation will be issued, but only to the extent that any difference in reporting affects the employer's contribution rate or the yield to the Actuarial Value of Assets.

ADMINISTRATIVE EXPENSES:

Prior to July 1, 2018, administrative expenses were not explicitly assumed but rather funded in accordance with Louisiana R.S. 11:102, which by omission of language regarding the funding of administrative expenses precludes funding of these expenses by a direct allocation through the employer contribution rate. These expenses were instead funded through the employer rate as part of the total experience gain/loss which is amortized over a 30-year period. In accordance with Actuarial Standard of Practice Statement 27, (paragraph 3.8.3.e.), the investment return assumption was reduced by 10 basis points to reflect administrative expenses that are paid from plan assets and not otherwise recognized. Therefore, these expenses and the resulting experience losses were expected to be offset by long-term investment earnings.

Act 94 of 2016 requires direct funding of administrative expenses to begin in the first fiscal year in which the projected aggregate employer contribution rate does not increase, without regard to any changes in the board-approved actuarial valuation rate. The projected aggregate employer rate for Fiscal Year 2018/2019 met the requirements provided by Act 94. Therefore, the projected funding requirements beginning with Fiscal Year 2018/2019 include expected projected administrative expenses.

POST RETIREMENT BENEFIT INCREASES:

The actuarial accrued liability includes previously granted post-retirement benefit increases. Louisiana law pertaining to TRSL retiree benefit increases provides for the funding of future increases by requiring the automatic transfer of a portion of excess investment earnings to the Experience Account. The law does not provide for automatic benefit increases. Many conditions must be met before an increase can be granted, as described in the Post Retirement Increases section of the Summary of Plan Provisions in Appendix B of

this report. The legislature and governor have the ultimate authority as to whether a future increase will be granted. Since a portion of investment earnings will be used to fund these benefits, which are not accrued benefits of the plan, the accrued benefits are discounted using a net discount rate. The net discount rate is determined as the gross expected long-term return less investment and administrative expenses and the expected return used to provide for future retiree benefit increases. This adjustment is made in accordance with Actuarial Standards of Practice No. 27 regarding the selection of economic assumptions, which states that it is appropriate to adjust the economic assumptions to provide for plan provisions that are difficult to measure, such as gain-sharing provisions.

The adjustment for gain-sharing reflects TRSL's specific statutory provisions which require 50% of investment gains, determined using the actuarial value of assets, above the statutory threshold of \$200 million, indexed to increases in the actuarial value of assets. Transfers to the Experience Account are limited based upon the maximum balance of this account, which has been significantly decreased by Act 399 of 2014. The liabilities in this report were not developed to include future ad hoc retiree benefit increases. However, the assumptions include an adjustment to recognize that investment earnings will be allocated to the Experience Account to fund potential future increases, in accordance with Actuarial Standard of Practice No. 27 (paragraph 3.5.1).

ACTUARIAL ASSUMPTIONS:

Demographic and salary assumptions used in the valuation were adopted by the Board of Trustees following the most recent experience study, effective July 1, 2018. The study was based on an observation period of July 1, 2012-June 30, 2017. The Retirement System is required to conduct an experience study every five years, but the scope of such a study is not necessarily limited to a five-year period. The experience was reviewed separately for Regular Teachers, Higher Education, and the School Lunch Plans (Plan A and Plan B). The experience study report, dated March 1, 2018, provides further information regarding the rationale for these assumptions. The prior and revised rate tables are illustrated at the end of this appendix.

INFLATION ASSUMPTION:

The salary and expected investment earnings were developed using a 2.50% inflation assumption, as adopted by the Board of Trustees. This rate remained unchanged following the most recent Experience Study.

DISCOUNT RATE / INVESTMENT EARNINGS:

A discount rate of 7.65% was used for the June 30, 2018 valuation. The Board adopted a plan to reduce the discount rate in 0.05% increments beginning July 1, 2017. Therefore, the discount rate was reduced from 7.70% to 7.65%. The Board adopted a discount rate of 7.55%, rather than the originally planned 7.60%, to be used to determine the projected contribution requirements for Fiscal Year 2019/2020. Investment manager fees are treated as a direct offset to investment income.

June 30, 2018 Funding Valuation Assumptions: The discount rate for funding purposes reflects the assumed investment rate of return, net of investment expenses, and net of investment gains expected to be allocated to the Experience Account to fund future permanent benefit increases. Therefore, by excluding returns expected to be used for purposes other than funding plan benefits, the discount rate represents the expected returns to be used to fund regular plan benefits.

A long-term (30-year) average of approximately 40 basis points is assumed to be transferred to the Experience Account annually. Therefore, the gross expected return inherent in the valuation, which is the sum of the discount rate and investment returns expected to be allocated to the experience account, is 8.05%. The expected return inherent in the valuation is supported by capital market assumptions provided by the Board's investment consultants and by the average expected returns provided in the Horizon Actuarial Services Survey of Capital Market Assumptions, 2018 edition.

June 30, 2018 GASB Assumptions: A discount rate of 7.65% is used for GASB reporting purposes. Section IV of this report provides expected real rates of return by asset class. Using an inflation assumption of 2.50%, the corresponding long-term nominal rate of return is 8.07%, which supports the 7.65% long-term expected rate of return used for GASB reporting purposes.

MORTALITY ASSUMPTIONS:

The mortality tables for active, non-disabled retirees, and disabled retirees, were revised effective June 30, 2018, based on the most recent experience study.

Active Members Mortality Table: RP-2014 White Collar Employee tables for males and females, adjusted by 1.010 for males and by 0.997 for females.

Non-Disabled Retiree/Inactive Members: RP-2014 White Collar Healthy Annuitant tables for males and females, adjusted by 1.366 for males and by 1.189 for females.

Disability Retiree Mortality: RP-2014 Disability tables for males and females, adjusted by factors of 1.111 for males and by 1.134 for females.

The base tables for active members, non-disabled retirees, and disabled retirees are adjusted from 2014 to 2018 using the MP-2017 generational improvement table, with continued future mortality improvement projected using the MP-2017 generational mortality improvement tables.

DISABILITY ASSUMPTION:

Rates for total and permanent disability are based on attained age and were revised effective June 30, 2018, based on the most recent experience study.

RETIREMENT/DROP ASSUMPTION:

Eligibility for normal retirement benefits and DROP participation is based on age and service requirements that vary by plan. Retirement and DROP rates are developed in combination and include an age and service component. The rates were revised effective June 30, 2018, based on the most recent experience study.

TERMINATION ASSUMPTIONS:

Voluntary termination or withdrawal rates were revised effective June 30, 2018, based on the most recent experience study. Rates for Regular Teachers and Higher Education members are based on a combination of age and service. Rates for Lunch Plans A and B are based on service. For members terminating with vested benefits, it is assumed that 20% will elect to withdraw their accumulated employee contribution, and

80% will receive a benefit beginning at age 60.

SALARY GROWTH:

The rates of annual salary growth are based upon the member's years of service were revised effective June 30, 2018, based on the most recent experience study. The rates were developed as the inflation assumption plus the assumed real rates of wage growth, which include increases due to promotion and longevity (often called merit increases) which are generally service related. For valuation purposes, current salaries and projected future salaries are limited to the Section 401(a)(17) limit of the Internal Revenue Code, with future indexed increases.

CONVERTED LEAVE:

Converted Leave is assumed to increase the accrued benefit at retirement according to the following table, based on the most recent experience study. The reduction from the prior rates for regular teachers and the lunch plans to current rates shown below is due to statutory limits placed on the amount of leave earned after June 30, 1990 that can be converted to service credit. In the most recent experience study, higher education experience was reviewed independently from regular teachers. The study showed that higher education members convert significantly more leave to service credit at retirement.

	Prior Rates	Current Rates
Regular Teachers	1.5%	0.9%
Higher Education	1.5%	3.0%
Lunch Plans A & B	1.0%	0.9%

FAMILY STATISTICS:

The composition of the family is based on Current Population Reports published by the United States Census Bureau. Seventy-five percent of the membership is assumed to be married with the wife assumed to be three (3) years younger than the husband. Sample rates are as follows:

Member Age	Number of Minor Children	Years for Youngest Child to Attain Majority
25	1.2	17
30	1.4	15
35	1.7	13
40	1.7	10
45	1.4	8
50	1.1	4

**Prior Actuarial Assumptions, effective July 1, 2013
Regular Teachers**

AGE	DEATH RATES		DISABILITY RATES	TERMINATION RATES				RETIREMENT/DROP RATES			DUR	SALARY INCREASE
	MALE	FEMALE		< 1 YEAR	1-2 YEARS	2-3 YEARS	4+ YEARS	< 25 YOS	25-29 YOS	30+ YOS		
18	0.00020	0.00013	0.0000	0.200	0.200	0.095	0.180	0.000	0.000	0.000	0	0.0575
19	0.00021	0.00013	0.0000	0.200	0.200	0.095	0.180	0.000	0.000	0.000	1	0.0575
20	0.00021	0.00013	0.0000	0.200	0.200	0.095	0.180	0.000	0.000	0.000	2	0.0575
21	0.00023	0.00013	0.0000	0.200	0.200	0.095	0.180	0.000	0.000	0.000	3	0.0575
22	0.00024	0.00013	0.0000	0.200	0.200	0.095	0.180	0.000	0.000	0.000	4	0.0575
23	0.00026	0.00013	0.0001	0.200	0.200	0.095	0.180	0.000	0.000	0.000	5	0.0500
24	0.00027	0.00014	0.0001	0.200	0.200	0.095	0.180	0.000	0.000	0.000	6	0.0500
25	0.00029	0.00015	0.0001	0.180	0.126	0.095	0.090	0.000	0.000	0.000	7	0.0500
26	0.00033	0.00016	0.0001	0.180	0.126	0.095	0.060	0.000	0.000	0.000	8	0.0500
27	0.00034	0.00017	0.0001	0.190	0.126	0.095	0.060	0.000	0.000	0.000	9	0.0500
28	0.00035	0.00017	0.0001	0.190	0.126	0.095	0.055	0.000	0.000	0.000	10	0.0475
29	0.00036	0.00018	0.0001	0.190	0.126	0.095	0.053	0.000	0.000	0.000	11	0.0475
30	0.00039	0.00021	0.0001	0.190	0.120	0.109	0.053	0.000	0.000	0.000	12	0.0475
31	0.00044	0.00025	0.0003	0.190	0.120	0.109	0.050	0.000	0.000	0.000	13	0.0475
32	0.00050	0.00029	0.0003	0.190	0.120	0.109	0.045	0.000	0.000	0.000	14	0.0475
33	0.00056	0.00031	0.0003	0.190	0.120	0.109	0.045	0.000	0.000	0.000	15	0.0450
34	0.00062	0.00034	0.0003	0.190	0.120	0.109	0.045	0.000	0.000	0.000	16	0.0450
35	0.00068	0.00036	0.0006	0.180	0.117	0.095	0.040	0.000	0.000	0.000	17	0.0450
36	0.00074	0.00038	0.0010	0.180	0.117	0.095	0.040	0.000	0.000	0.000	18	0.0450
37	0.00080	0.00040	0.0007	0.180	0.117	0.095	0.040	0.000	0.000	0.000	19	0.0450
38	0.00083	0.00042	0.0007	0.180	0.117	0.095	0.040	0.050	0.000	0.000	20	0.0400
39	0.00086	0.00044	0.0011	0.180	0.117	0.095	0.040	0.040	0.000	0.000	21	0.0400
40	0.00088	0.00048	0.0011	0.165	0.123	0.090	0.037	0.040	0.000	0.000	22	0.0400
41	0.00091	0.00053	0.0013	0.165	0.123	0.090	0.037	0.025	0.000	0.000	23	0.0400
42	0.00095	0.00058	0.0016	0.165	0.123	0.090	0.037	0.025	0.000	0.000	24	0.0400
43	0.00099	0.00064	0.0016	0.165	0.123	0.090	0.037	0.025	0.000	0.000	25	0.0375
44	0.00103	0.00071	0.0016	0.165	0.123	0.090	0.040	0.025	0.000	0.000	26	0.0375
45	0.00109	0.00075	0.0022	0.163	0.099	0.090	0.040	0.025	0.020	0.000	27	0.0375
46	0.00114	0.00080	0.0022	0.163	0.099	0.090	0.040	0.025	0.020	0.000	28	0.0375
47	0.00119	0.00084	0.0022	0.163	0.099	0.090	0.040	0.025	0.020	0.000	29	0.0375
48	0.00124	0.00091	0.0022	0.163	0.099	0.090	0.040	0.030	0.020	0.700	30	0.0425
49	0.00130	0.00098	0.0022	0.163	0.099	0.090	0.040	0.030	0.020	0.600	31	0.0425
50	0.00136	0.00109	0.0025	0.175	0.112	0.090	0.040	0.030	0.050	0.300	32	0.0425
51	0.00152	0.00124	0.0025	0.175	0.112	0.090	0.040	0.030	0.170	0.600	33	0.0425
52	0.00161	0.00142	0.0025	0.175	0.112	0.090	0.040	0.030	0.280	0.600	34	0.0425
53	0.00176	0.00163	0.0030	0.175	0.112	0.090	0.040	0.100	0.280	0.500	35	0.0425
54	0.00193	0.00189	0.0030	0.175	0.112	0.090	0.040	0.150	0.450	0.400	36	0.0425
55	0.00224	0.00222	0.0040	0.175	0.106	0.090	0.040	0.150	0.750	0.300	37	0.0425
56	0.00267	0.00266	0.0050	0.175	0.106	0.090	0.040	0.150	0.330	0.200	38	0.0425
57	0.00306	0.00307	0.0055	0.155	0.106	0.090	0.040	0.150	0.250	0.200	39	0.0425
58	0.00352	0.00346	0.0055	0.200	0.106	0.090	0.040	0.250	0.250	0.200	40	0.0425
59	0.00397	0.00392	0.0055	0.200	0.106	0.090	0.040	0.250	0.300	0.200	41	0.0425
60	0.00451	0.00446	0.0055	0.200	0.106	0.090	0.040	0.250	0.300	0.200	42	0.0425
61	0.00526	0.00513	0.0050	0.200	0.106	0.090	0.040	0.150	0.300	0.200	43	0.0425
62	0.00600	0.00587	0.0050	0.200	0.106	0.090	0.040	0.150	0.220	0.250	44	0.0425
63	0.00704	0.00675	0.0050	0.200	0.106	0.090	0.040	0.150	0.170	0.150	45	0.0425
64	0.00793	0.00760	0.0035	0.200	0.106	0.090	0.040	0.200	0.200	0.300	46	0.0425
65	0.00895	0.00856	0.0035	0.200	0.106	0.090	0.040	0.200	0.200	0.300	47	0.0425
66	0.01039	0.00966	0.0020	0.200	0.106	0.090	0.040	0.200	0.200	0.300	48	0.0425
67	0.01159	0.01073	0.0020	0.200	0.106	0.090	0.040	0.200	0.200	0.200	49	0.0425
68	0.01256	0.01186	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.300	50	0.0425
69	0.01392	0.01311	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.300	51	0.0425
70	0.01522	0.01477	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.400	52	0.0425
71	0.01684	0.01598	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.200	53	0.0425
72	0.01870	0.01778	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.250	54	0.0425
73	0.02083	0.01927	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.250	55	0.0425
74	0.02323	0.02136	0.0020	0.200	0.106	0.090	0.040	0.200	0.300	0.250	56	0.0425

**Prior Actuarial Assumptions, effective July 1, 2013
Higher Education**

AGE	DEATH RATES		DISABILITY RATES	TERMINATION RATES				RETIREMENT/DROP RATES			DUR	SALARY INCREASE
	MALE	FEMALE		< 1 YEAR	1-2 YEARS	2-3 YEARS	4+ YEARS	< 25 YOS	25-29 YOS	30+ YOS		
18	0.00020	0.00013	0.0000	0.250	0.250	0.170	0.120	0.000	0.000	0.000	0	0.100
19	0.00021	0.00013	0.0000	0.250	0.250	0.170	0.120	0.000	0.000	0.000	1	0.100
20	0.00021	0.00013	0.0000	0.250	0.250	0.170	0.120	0.000	0.000	0.000	2	0.090
21	0.00023	0.00013	0.0000	0.250	0.250	0.170	0.120	0.000	0.000	0.000	3	0.080
22	0.00024	0.00013	0.0000	0.250	0.250	0.170	0.120	0.000	0.000	0.000	4	0.040
23	0.00026	0.00013	0.0001	0.250	0.250	0.170	0.120	0.000	0.000	0.000	5	0.070
24	0.00027	0.00014	0.0001	0.250	0.250	0.170	0.120	0.000	0.000	0.000	6	0.050
25	0.00029	0.00015	0.0001	0.250	0.250	0.170	0.120	0.000	0.000	0.000	7	0.070
26	0.00033	0.00016	0.0001	0.210	0.250	0.170	0.120	0.000	0.000	0.000	8	0.070
27	0.00034	0.00017	0.0001	0.210	0.220	0.170	0.120	0.000	0.000	0.000	9	0.045
28	0.00035	0.00017	0.0001	0.220	0.220	0.170	0.120	0.000	0.000	0.000	10	0.045
29	0.00036	0.00018	0.0001	0.240	0.220	0.170	0.120	0.000	0.000	0.000	11	0.045
30	0.00039	0.00021	0.0001	0.250	0.160	0.170	0.180	0.000	0.000	0.000	12	0.045
31	0.00044	0.00025	0.0001	0.220	0.178	0.170	0.100	0.000	0.000	0.000	13	0.045
32	0.00050	0.00029	0.0001	0.220	0.190	0.160	0.100	0.000	0.000	0.000	14	0.040
33	0.00056	0.00031	0.0001	0.190	0.170	0.150	0.120	0.000	0.000	0.000	15	0.040
34	0.00062	0.00034	0.0001	0.230	0.155	0.100	0.120	0.000	0.000	0.000	16	0.040
35	0.00068	0.00036	0.0001	0.220	0.175	0.130	0.120	0.000	0.000	0.000	17	0.040
36	0.00074	0.00038	0.0001	0.220	0.160	0.150	0.120	0.000	0.000	0.000	18	0.040
37	0.00080	0.00040	0.0001	0.220	0.108	0.150	0.120	0.000	0.000	0.000	19	0.040
38	0.00083	0.00042	0.0001	0.190	0.180	0.150	0.100	0.100	0.080	0.600	20	0.040
39	0.00086	0.00044	0.0001	0.190	0.140	0.150	0.100	0.100	0.080	0.600	21	0.040
40	0.00088	0.00048	0.0001	0.230	0.185	0.150	0.100	0.100	0.080	0.600	22	0.040
41	0.00091	0.00053	0.0001	0.165	0.108	0.150	0.100	0.100	0.080	0.600	23	0.040
42	0.00095	0.00058	0.0001	0.230	0.115	0.150	0.100	0.100	0.080	0.600	24	0.040
43	0.00099	0.00064	0.0001	0.155	0.168	0.150	0.100	0.070	0.080	0.600	25	0.040
44	0.00103	0.00071	0.0001	0.195	0.135	0.150	0.100	0.070	0.080	0.600	26	0.040
45	0.00109	0.00075	0.0001	0.190	0.116	0.150	0.100	0.070	0.080	0.600	27	0.035
46	0.00114	0.00080	0.0008	0.162	0.170	0.150	0.080	0.070	0.080	0.600	28	0.035
47	0.00119	0.00084	0.0008	0.210	0.140	0.150	0.090	0.070	0.080	0.600	29	0.035
48	0.00124	0.00091	0.0008	0.135	0.180	0.150	0.090	0.070	0.080	0.600	30	0.035
49	0.00130	0.00098	0.0008	0.135	0.125	0.150	0.090	0.070	0.080	0.600	31	0.035
50	0.00136	0.00109	0.0008	0.185	0.108	0.060	0.090	0.070	0.080	0.600	32	0.035
51	0.00152	0.00124	0.0008	0.145	0.070	0.050	0.090	0.070	0.160	0.600	33	0.035
52	0.00161	0.00142	0.0008	0.155	0.110	0.095	0.090	0.070	0.160	0.600	34	0.035
53	0.00176	0.00163	0.0008	0.220	0.130	0.125	0.090	0.070	0.160	0.600	35	0.035
54	0.00193	0.00189	0.0008	0.220	0.075	0.017	0.090	0.150	0.280	0.400	36	0.035
55	0.00224	0.00222	0.0008	0.200	0.104	0.140	0.090	0.150	0.350	0.200	37	0.035
56	0.00267	0.00266	0.0020	0.135	0.122	0.100	0.080	0.150	0.200	0.050	38	0.035
57	0.00306	0.00307	0.0020	0.250	0.055	0.140	0.080	0.150	0.130	0.050	39	0.035
58	0.00352	0.00346	0.0020	0.100	0.115	0.200	0.100	0.150	0.130	0.050	40	0.035
59	0.00397	0.00392	0.0005	0.100	0.210	0.125	0.080	0.150	0.130	0.050	41	0.035
60	0.00451	0.00446	0.0005	0.150	0.160	0.090	0.060	0.150	0.130	0.050	42	0.035
61	0.00526	0.00513	0.0005	0.150	0.160	0.090	0.060	0.120	0.120	0.120	43	0.035
62	0.00600	0.00587	0.0005	0.150	0.160	0.090	0.060	0.120	0.120	0.120	44	0.035
63	0.00704	0.00675	0.0005	0.150	0.160	0.090	0.060	0.120	0.120	0.120	45	0.035
64	0.00793	0.00760	0.0005	0.150	0.160	0.090	0.060	0.120	0.120	0.120	46	0.035
65	0.00895	0.00856	0.0005	0.150	0.160	0.090	0.060	0.120	0.160	0.200	47	0.035
66	0.01039	0.00966	0.0005	0.150	0.160	0.090	0.060	0.120	0.160	0.180	48	0.035
67	0.01159	0.01073	0.0005	0.150	0.160	0.090	0.060	0.120	0.160	0.180	49	0.035
68	0.01256	0.01186	0.0005	0.150	0.160	0.090	0.060	0.120	0.160	0.180	50	0.035
69	0.01392	0.01311	0.0005	0.150	0.160	0.090	0.060	0.120	0.160	0.280	51	0.035
70	0.01522	0.01477	0.0005	0.150	0.160	0.090	0.060	0.120	0.160	0.280	52	0.035
71	0.01684	0.01598	0.0000	0.150	0.160	0.090	0.060	0.120	0.160	0.200	53	0.035
72	0.01870	0.01778	0.0000	0.150	0.160	0.090	0.060	0.120	0.160	0.200	54	0.035
73	0.02083	0.01927	0.0000	0.150	0.160	0.090	0.060	0.120	0.160	0.200	55	0.035
74	0.02323	0.02136	0.0000	0.150	0.160	0.090	0.060	0.120	0.160	0.200	56	0.035

Prior Actuarial Assumptions, effective July 1, 2013
Lunch Plan A

AGE	DEATH RATES		DISABILITY RATES	RETIREMENT/DROP RATES		DUR	TERMINATION RATES	SALARY INCREASE
	MALE	FEMALE		< 30 YOS	>= 30 YOS			
18	0.00020	0.00013	0.0000	0.000	0.000	0	0.14	0.06
19	0.00021	0.00013	0.0000	0.000	0.000	1	0.14	0.06
20	0.00021	0.00013	0.0000	0.000	0.000	2	0.14	0.06
21	0.00023	0.00013	0.0000	0.000	0.000	3	0.14	0.06
22	0.00024	0.00013	0.0000	0.000	0.000	4	0.14	0.06
23	0.00026	0.00013	0.0000	0.000	0.000	5	0.14	0.06
24	0.00027	0.00014	0.0000	0.000	0.000	6	0.14	0.06
25	0.00029	0.00015	0.0000	0.000	0.000	7	0.14	0.06
26	0.00033	0.00016	0.0000	0.000	0.000	8	0.14	0.06
27	0.00034	0.00017	0.0000	0.000	0.000	9	0.14	0.06
28	0.00035	0.00017	0.0000	0.000	0.000	10	0.14	0.06
29	0.00036	0.00018	0.0000	0.000	0.000	11	0.14	0.06
30	0.00039	0.00021	0.0000	0.000	0.000	12	0.14	0.05
31	0.00044	0.00025	0.0001	0.000	0.000	13	0.14	0.05
32	0.00050	0.00029	0.0001	0.000	0.000	14	0.14	0.05
33	0.00056	0.00031	0.0001	0.000	0.000	15	0.14	0.06
34	0.00062	0.00034	0.0001	0.000	0.000	16	0.14	0.06
35	0.00068	0.00036	0.0001	0.000	0.000	17	0.14	0.07
36	0.00074	0.00038	0.0001	0.000	0.000	18	0.14	0.07
37	0.00080	0.00040	0.0001	0.000	0.000	19	0.14	0.04
38	0.00083	0.00042	0.0001	0.600	0.300	20	0.14	0.04
39	0.00086	0.00044	0.0001	0.600	0.300	21	0.14	0.04
40	0.00088	0.00048	0.0001	0.600	0.300	22	0.14	0.04
41	0.00091	0.00053	0.0001	0.600	0.300	23	0.14	0.06
42	0.00095	0.00058	0.0001	0.600	0.300	24	0.14	0.06
43	0.00099	0.00064	0.0001	0.600	0.300	25	0.14	0.04
44	0.00103	0.00071	0.0001	0.600	0.300	26	0.14	0.04
45	0.00109	0.00075	0.0001	0.600	0.300	27	0.14	0.04
46	0.00114	0.00080	0.0001	0.600	0.300	28	0.14	0.04
47	0.00119	0.00084	0.0001	0.600	0.300	29	0.14	0.04
48	0.00124	0.00091	0.0001	0.600	0.300	30	0.14	0.04
49	0.00130	0.00098	0.0100	0.600	0.300	31	0.14	0.04
50	0.00136	0.00109	0.0100	0.600	0.300	32	0.14	0.04
51	0.00152	0.00124	0.0100	0.600	0.300	33	0.14	0.04
52	0.00161	0.00142	0.0150	0.600	0.700	34	0.14	0.04
53	0.00176	0.00163	0.0175	0.600	0.700	35	0.14	0.04
54	0.00193	0.00189	0.0175	0.600	0.700	36	0.14	0.04
55	0.00224	0.00222	0.0175	0.800	0.700	37	0.14	0.04
56	0.00267	0.00266	0.0002	0.350	0.700	38	0.14	0.04
57	0.00306	0.00307	0.0002	0.350	0.700	39	0.14	0.04
58	0.00352	0.00346	0.0002	0.350	0.700	40	0.14	0.04
59	0.00397	0.00392	0.0002	0.600	0.700	41	0.14	0.04
60	0.00451	0.00446	0.0002	0.450	0.700	42	0.14	0.04
61	0.00526	0.00513	0.0002	0.200	0.500	43	0.14	0.04
62	0.00600	0.00587	0.0002	0.200	0.500	44	0.14	0.04
63	0.00704	0.00675	0.0002	0.350	0.500	45	0.14	0.04
64	0.00793	0.00760	0.0002	0.100	0.500	46	0.14	0.04
65	0.00895	0.00856	0.0002	0.100	0.500	47	0.14	0.04
66	0.01039	0.00966	0.0002	0.100	0.250	48	0.14	0.04
67	0.01159	0.01073	0.0002	0.200	0.250	49	0.14	0.04
68	0.01256	0.01186	0.0002	0.200	0.250	50	0.14	0.04
69	0.01392	0.01311	0.0000	0.200	0.250	51	0.14	0.04
70	0.01522	0.01477	0.0000	0.200	0.250	52	0.14	0.04
71	0.01684	0.01598	0.0000	0.200	0.250	53	0.14	0.04
72	0.01870	0.01778	0.0000	0.200	0.250	54	0.14	0.04
73	0.02083	0.01927	0.0000	0.200	0.250	55	0.14	0.04
74	0.02323	0.02136	0.0000	0.200	0.250	56	0.14	0.04

**Prior Actuarial Assumptions, effective July 1, 2013
Lunch Plan B**

AGE	DEATH RATES		DISABILITY RATES	RETIREMENT/DROP RATES	DUR	TERMINATION RATES	SALARY INCREASE
	MALE	FEMALE					
18	0.00020	0.00013	0.0000	0.00	0	0.100	0.055
19	0.00021	0.00013	0.0000	0.00	1	0.090	0.055
20	0.00021	0.00013	0.0000	0.00	2	0.080	0.055
21	0.00023	0.00013	0.0000	0.00	3	0.070	0.055
22	0.00024	0.00013	0.0000	0.00	4	0.060	0.055
23	0.00026	0.00013	0.0000	0.00	5	0.050	0.055
24	0.00027	0.00014	0.0000	0.00	6	0.050	0.055
25	0.00029	0.00015	0.0000	0.00	7	0.045	0.055
26	0.00033	0.00016	0.0000	0.00	8	0.045	0.055
27	0.00034	0.00017	0.0000	0.00	9	0.045	0.055
28	0.00035	0.00017	0.0000	0.00	10	0.045	0.055
29	0.00036	0.00018	0.0000	0.00	11	0.045	0.045
30	0.00039	0.00021	0.0000	0.00	12	0.040	0.045
31	0.00044	0.00025	0.0000	0.00	13	0.030	0.045
32	0.00050	0.00029	0.0000	0.00	14	0.030	0.045
33	0.00056	0.00031	0.0000	0.00	15	0.030	0.045
34	0.00062	0.00034	0.0000	0.00	16	0.050	0.050
35	0.00068	0.00036	0.0000	0.00	17	0.050	0.050
36	0.00074	0.00038	0.0010	0.00	18	0.050	0.050
37	0.00080	0.00040	0.0010	0.00	19	0.030	0.040
38	0.00083	0.00042	0.0010	0.00	20	0.040	0.040
39	0.00086	0.00044	0.0010	0.00	21	0.040	0.040
40	0.00088	0.00048	0.0050	0.00	22	0.040	0.040
41	0.00091	0.00053	0.0050	0.00	23	0.040	0.040
42	0.00095	0.00058	0.0050	0.00	24	0.040	0.040
43	0.00099	0.00064	0.0050	0.00	25	0.040	0.040
44	0.00103	0.00071	0.0050	0.00	26	0.040	0.040
45	0.00109	0.00075	0.0050	0.00	27	0.040	0.040
46	0.00114	0.00080	0.0050	0.00	28	0.040	0.040
47	0.00119	0.00084	0.0050	0.00	29	0.040	0.040
48	0.00124	0.00091	0.0050	0.00	30	0.040	0.040
49	0.00130	0.00098	0.0050	0.00	31	0.040	0.040
50	0.00136	0.00109	0.0130	0.00	32	0.040	0.040
51	0.00152	0.00124	0.0130	0.00	33	0.040	0.040
52	0.00161	0.00142	0.0130	0.00	34	0.040	0.040
53	0.00176	0.00163	0.0130	0.00	35	0.040	0.040
54	0.00193	0.00189	0.0130	0.00	36	0.040	0.040
55	0.00224	0.00222	0.0175	0.80	37	0.040	0.040
56	0.00267	0.00266	0.0175	0.80	38	0.040	0.040
57	0.00306	0.00307	0.0225	0.80	39	0.040	0.040
58	0.00352	0.00346	0.0225	0.80	40	0.040	0.040
59	0.00397	0.00392	0.0150	0.60	41	0.040	0.040
60	0.00451	0.00446	0.0050	0.50	42	0.040	0.040
61	0.00526	0.00513	0.0050	0.25	43	0.040	0.040
62	0.00600	0.00587	0.0050	0.25	44	0.040	0.040
63	0.00704	0.00675	0.0050	0.25	45	0.040	0.040
64	0.00793	0.00760	0.0010	0.25	46	0.040	0.040
65	0.00895	0.00856	0.0010	0.15	47	0.040	0.040
66	0.01039	0.00966	0.0010	0.15	48	0.040	0.040
67	0.01159	0.01073	0.0010	0.30	49	0.040	0.040
68	0.01256	0.01186	0.0010	0.45	50	0.040	0.040
69	0.01392	0.01311	0.0010	0.20	51	0.040	0.040
70	0.01522	0.01477	0.0010	0.20	52	0.040	0.040
71	0.01684	0.01598	0.0010	0.20	53	0.040	0.040
72	0.01870	0.01778	0.0010	0.20	54	0.040	0.040
73	0.02083	0.01927	0.0010	0.20	55	0.040	0.040
74	0.02323	0.02136	0.0010	0.20	56	0.040	0.040

Actuarial Assumptions, effective July 1, 2018
Regular Teachers

AGE	DISABILITY RATES	TERMINATION RATES				RETIREMENT/DROP RATES			DUR	SALARY INCREASE
		< 1 YEAR	1-2 YEARS	2-3 YEARS	4+ YEARS	< 25 YOS	25-29 YOS	30+ YOS		
18	0.0001	0.250	0.250	0.165	0.170	0.000	0.000	0.000	1	0.048
19	0.0001	0.250	0.250	0.165	0.170	0.000	0.000	0.000	2	0.039
20	0.0001	0.250	0.250	0.165	0.170	0.000	0.000	0.000	3	0.039
21	0.0001	0.250	0.250	0.165	0.170	0.000	0.000	0.000	4	0.039
22	0.0001	0.250	0.250	0.165	0.170	0.000	0.000	0.000	5	0.039
23	0.0001	0.180	0.200	0.165	0.170	0.000	0.000	0.000	6	0.037
24	0.0001	0.180	0.200	0.165	0.170	0.000	0.000	0.000	7	0.037
25	0.0001	0.180	0.135	0.165	0.090	0.000	0.000	0.000	8	0.037
26	0.0001	0.180	0.135	0.125	0.090	0.000	0.000	0.000	9	0.037
27	0.0001	0.180	0.135	0.122	0.090	0.000	0.000	0.000	10	0.037
28	0.0001	0.180	0.135	0.119	0.085	0.000	0.000	0.000	11	0.037
29	0.0001	0.180	0.135	0.116	0.080	0.000	0.000	0.000	12	0.037
30	0.0003	0.180	0.135	0.113	0.070	0.000	0.000	0.000	13	0.037
31	0.0003	0.180	0.135	0.110	0.070	0.000	0.000	0.000	14	0.034
32	0.0003	0.165	0.135	0.107	0.060	0.000	0.000	0.000	15	0.034
33	0.0003	0.165	0.135	0.104	0.060	0.000	0.000	0.000	16	0.034
34	0.0003	0.165	0.130	0.101	0.050	0.000	0.000	0.000	17	0.034
35	0.0007	0.165	0.130	0.098	0.050	0.000	0.000	0.000	18	0.034
36	0.0008	0.165	0.120	0.095	0.045	0.000	0.000	0.000	19	0.034
37	0.0009	0.165	0.120	0.095	0.045	0.000	0.000	0.000	20	0.034
38	0.0010	0.165	0.120	0.095	0.042	0.035	0.000	0.000	21	0.034
39	0.0011	0.165	0.120	0.092	0.042	0.035	0.000	0.000	22	0.034
40	0.0012	0.165	0.120	0.090	0.042	0.035	0.000	0.000	23	0.034
41	0.0013	0.165	0.120	0.090	0.042	0.035	0.000	0.000	24	0.034
42	0.0014	0.150	0.120	0.090	0.042	0.035	0.000	0.000	25	0.034
43	0.0015	0.150	0.120	0.090	0.042	0.035	0.000	0.000	26	0.034
44	0.0016	0.150	0.120	0.090	0.042	0.035	0.000	0.000	27	0.034
45	0.0019	0.150	0.120	0.090	0.042	0.035	0.020	0.000	28	0.034
46	0.0020	0.150	0.120	0.090	0.042	0.035	0.020	0.000	29	0.034
47	0.0022	0.150	0.120	0.090	0.042	0.035	0.020	0.000	30	0.034
48	0.0023	0.150	0.120	0.090	0.042	0.035	0.025	0.450	31	0.034
49	0.0025	0.150	0.120	0.090	0.042	0.035	0.025	0.450	32	0.034
50	0.0030	0.150	0.120	0.090	0.042	0.035	0.045	0.450	33	0.034
51	0.0035	0.150	0.120	0.090	0.042	0.035	0.140	0.600	34	0.034
52	0.0040	0.150	0.120	0.090	0.042	0.035	0.240	0.600	35	0.034
53	0.0045	0.150	0.120	0.090	0.042	0.040	0.240	0.450	36	0.034
54	0.0050	0.150	0.120	0.090	0.042	0.100	0.470	0.360	37	0.034
55	0.0050	0.150	0.120	0.090	0.042	0.180	0.760	0.270	38	0.034
56	0.0050	0.150	0.120	0.090	0.042	0.180	0.350	0.210	39	0.034
57	0.0050	0.150	0.120	0.090	0.042	0.180	0.310	0.220	40	0.034
58	0.0050	0.150	0.120	0.090	0.042	0.190	0.310	0.230	41	0.034
59	0.0050	0.150	0.120	0.090	0.100	0.235	0.250	0.230	42	0.034
60	0.0048	0.150	0.120	0.090	0.100	0.235	0.250	0.230	43	0.034
61	0.0046	0.150	0.120	0.090	0.100	0.145	0.250	0.230	44	0.034
62	0.0044	0.150	0.120	0.090	0.100	0.145	0.240	0.230	45	0.034
63	0.0042	0.150	0.120	0.090	0.100	0.145	0.220	0.210	46	0.034
64	0.0040	0.150	0.120	0.090	0.100	0.180	0.240	0.290	47	0.034
65	0.0034	0.150	0.120	0.090	0.100	0.250	0.235	0.270	48	0.034
66	0.0029	0.150	0.120	0.090	0.100	0.200	0.220	0.225	49	0.034
67	0.0024	0.150	0.120	0.090	0.100	0.200	0.220	0.225	50	0.034
68	0.0022	0.150	0.120	0.090	0.100	0.200	0.220	0.225	51	0.034
69	0.0020	0.150	0.120	0.090	0.100	0.200	0.220	0.225	52	0.034
70	0.0020	0.150	0.120	0.090	0.100	0.200	0.220	0.225	53	0.034
71	0.0020	0.150	0.120	0.090	0.100	0.200	0.220	0.225	54	0.034
72	0.0020	0.150	0.120	0.090	0.100	0.200	0.220	0.225	55	0.034
73	0.0020	0.150	0.120	0.090	0.100	0.200	0.220	0.225	56	0.034
74	0.0020	0.150	0.120	0.090	0.100	0.200	0.220	0.225	57	0.034

Actuarial Assumptions, effective July 1, 2018
Higher Education

AGE	DISABILITY RATES	TERMINATION RATES				RETIREMENT/DROP RATES			DUR	SALARY INCREASE
		< 1 YEAR	1-2 YEARS	2-3 YEARS	4+ YEARS	< 25 YOS	25-29 YOS	30+ YOS		
18	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	1	0.048
19	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	2	0.048
20	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	3	0.045
21	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	4	0.039
22	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	5	0.039
23	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	6	0.039
24	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	7	0.039
25	0.0000	0.230	0.250	0.170	0.250	0.000	0.000	0.000	8	0.039
26	0.0000	0.230	0.210	0.230	0.250	0.000	0.000	0.000	9	0.039
27	0.0000	0.230	0.210	0.220	0.200	0.000	0.000	0.000	10	0.036
28	0.0001	0.230	0.210	0.215	0.120	0.000	0.000	0.000	11	0.036
29	0.0001	0.230	0.210	0.210	0.120	0.000	0.000	0.000	12	0.036
30	0.0001	0.230	0.210	0.205	0.120	0.000	0.000	0.000	13	0.036
31	0.0001	0.230	0.180	0.200	0.120	0.000	0.000	0.000	14	0.036
32	0.0001	0.210	0.180	0.195	0.120	0.000	0.000	0.000	15	0.036
33	0.0001	0.210	0.180	0.190	0.120	0.000	0.000	0.000	16	0.036
34	0.0001	0.210	0.180	0.185	0.100	0.000	0.000	0.000	17	0.036
35	0.0002	0.210	0.180	0.180	0.100	0.000	0.000	0.000	18	0.036
36	0.0002	0.210	0.180	0.175	0.090	0.000	0.000	0.000	19	0.033
37	0.0002	0.195	0.180	0.170	0.090	0.000	0.000	0.000	20	0.033
38	0.0002	0.195	0.180	0.165	0.090	0.080	0.050	0.400	21	0.033
39	0.0003	0.195	0.180	0.160	0.080	0.080	0.050	0.400	22	0.033
40	0.0003	0.195	0.180	0.155	0.080	0.080	0.050	0.400	23	0.033
41	0.0004	0.195	0.200	0.153	0.080	0.080	0.050	0.400	24	0.033
42	0.0004	0.195	0.200	0.151	0.080	0.080	0.050	0.400	25	0.033
43	0.0005	0.195	0.200	0.149	0.080	0.070	0.050	0.400	26	0.033
44	0.0006	0.195	0.200	0.147	0.080	0.045	0.050	0.400	27	0.033
45	0.0007	0.195	0.200	0.145	0.080	0.045	0.050	0.400	28	0.033
46	0.0008	0.195	0.190	0.143	0.080	0.033	0.050	0.400	29	0.033
47	0.0008	0.195	0.180	0.141	0.080	0.033	0.050	0.400	30	0.033
48	0.0008	0.195	0.170	0.139	0.080	0.033	0.050	0.400	31	0.033
49	0.0008	0.195	0.160	0.137	0.080	0.033	0.050	0.400	32	0.033
50	0.0008	0.195	0.150	0.135	0.080	0.033	0.050	0.400	33	0.033
51	0.0008	0.195	0.140	0.133	0.080	0.033	0.100	0.500	34	0.033
52	0.0008	0.195	0.140	0.131	0.080	0.033	0.100	0.250	35	0.033
53	0.0008	0.195	0.140	0.129	0.080	0.033	0.100	0.250	36	0.033
54	0.0008	0.195	0.140	0.127	0.080	0.100	0.320	0.400	37	0.033
55	0.0008	0.195	0.140	0.125	0.080	0.125	0.500	0.155	38	0.033
56	0.0008	0.195	0.140	0.123	0.080	0.125	0.250	0.155	39	0.033
57	0.0008	0.195	0.140	0.121	0.080	0.100	0.200	0.155	40	0.033
58	0.0008	0.195	0.140	0.119	0.080	0.145	0.120	0.155	41	0.033
59	0.0006	0.195	0.140	0.117	0.080	0.160	0.135	0.155	42	0.033
60	0.0004	0.195	0.140	0.115	0.080	0.200	0.180	0.155	43	0.033
61	0.0003	0.195	0.140	0.115	0.080	0.120	0.150	0.155	44	0.033
62	0.0002	0.195	0.140	0.115	0.080	0.120	0.150	0.155	45	0.033
63	0.0001	0.195	0.140	0.115	0.080	0.080	0.150	0.155	46	0.033
64	0.0001	0.195	0.140	0.115	0.080	0.130	0.120	0.155	47	0.033
65	0.0001	0.195	0.140	0.115	0.080	0.180	0.165	0.155	48	0.033
66	0.0001	0.195	0.140	0.115	0.080	0.180	0.180	0.155	49	0.033
67	0.0001	0.195	0.140	0.115	0.080	0.140	0.100	0.155	50	0.033
68	0.0001	0.195	0.140	0.115	0.080	0.140	0.100	0.155	51	0.033
69	0.0001	0.195	0.140	0.115	0.080	0.140	0.160	0.155	52	0.033
70	0.0001	0.195	0.140	0.115	0.080	0.140	0.160	0.155	53	0.033
71	0.0001	0.195	0.140	0.115	0.080	0.140	0.160	0.155	54	0.033
72	0.0001	0.195	0.140	0.115	0.080	0.140	0.160	0.155	55	0.033
73	0.0001	0.195	0.140	0.115	0.080	0.140	0.160	0.155	56	0.033
74	0.0001	0.195	0.140	0.115	0.080	0.140	0.160	0.155	57	0.033

Actuarial Assumptions, effective July 1, 2018
Lunch Plans A and B

AGE	DISABILITY RATES	RETIREMENT/DROP RATES	DUR	TERMINATION RATES	SALARY INCREASE
18	0.0000	0.000	0	0.150	4.60%
19	0.0000	0.000	1	0.135	4.60%
20	0.0000	0.000	2	0.120	3.60%
21	0.0000	0.000	3	0.105	3.30%
22	0.0000	0.000	4	0.090	3.30%
23	0.0000	0.000	5	0.075	3.30%
24	0.0000	0.000	6	0.060	3.30%
25	0.0000	0.000	7	0.045	3.30%
26	0.0000	0.000	8	0.045	3.30%
27	0.0000	0.000	9	0.045	3.30%
28	0.0000	0.000	10	0.045	3.30%
29	0.0000	0.000	11	0.045	3.30%
30	0.0000	0.000	12	0.045	3.30%
31	0.0000	0.000	13	0.045	3.30%
32	0.0000	0.000	14	0.045	3.30%
33	0.0000	0.000	15	0.045	3.30%
34	0.0000	0.000	16	0.045	3.30%
35	0.0001	0.000	17	0.045	3.30%
36	0.0003	0.000	18	0.045	3.30%
37	0.0005	0.000	19	0.045	3.30%
38	0.0007	0.500	20	0.045	3.30%
39	0.0009	0.500	21	0.045	3.30%
40	0.0011	0.500	22	0.045	3.30%
41	0.0015	0.500	23	0.045	3.30%
42	0.0019	0.500	24	0.045	3.30%
43	0.0024	0.500	25	0.045	3.30%
44	0.0029	0.500	26	0.045	3.30%
45	0.0037	0.500	27	0.045	3.30%
46	0.0045	0.500	28	0.045	3.30%
47	0.0050	0.500	29	0.045	3.30%
48	0.0056	0.500	30	0.045	3.30%
49	0.0064	0.500	31	0.045	3.30%
50	0.0074	0.500	32	0.045	3.30%
51	0.0084	0.500	33	0.045	3.30%
52	0.0094	0.500	34	0.045	3.30%
53	0.0098	0.500	35	0.045	3.30%
54	0.0098	0.500	36	0.045	3.30%
55	0.0100	0.700	37	0.045	3.30%
56	0.0100	0.430	38	0.045	3.30%
57	0.0100	0.390	39	0.045	3.30%
58	0.0100	0.350	40	0.045	3.30%
59	0.0100	0.330	41	0.045	3.30%
60	0.0030	0.430	42	0.045	3.30%
61	0.0025	0.230	43	0.045	3.30%
62	0.0020	0.230	44	0.045	3.30%
63	0.0015	0.230	45	0.045	3.30%
64	0.0011	0.300	46	0.045	3.30%
65	0.0009	0.280	47	0.045	3.30%
66	0.0008	0.240	48	0.045	3.30%
67	0.0007	0.240	49	0.045	3.30%
68	0.0006	0.240	50	0.045	3.30%
69	0.0005	0.240	51	0.045	3.30%
70	0.0005	0.240	52	0.045	3.30%
71	0.0005	0.240	53	0.045	3.30%
72	0.0005	0.240	54	0.045	3.30%
73	0.0005	0.240	55	0.045	3.30%
74	0.0005	0.240	56	0.045	3.30%

Actuarial Assumptions, effective July 1, 2018
Mortality Tables

Active Member Mortality

Adjusted RP-2014 Base Table			Projected 2020 Table			Projected 2050 Table		
Age	Male	Female	Age	Male	Female	Age	Male	Female
20	0.000288	0.000137	20	0.000266	0.000132	20	0.000195	0.000099
30	0.000320	0.000183	30	0.000329	0.000190	30	0.000243	0.000142
40	0.000444	0.000333	40	0.000462	0.000346	40	0.000357	0.000267
50	0.001194	0.000927	50	0.001115	0.000889	50	0.000849	0.000679
60	0.003321	0.002054	60	0.003312	0.002093	60	0.002448	0.001567

Non-Disabled Retiree Mortality

Adjusted RP-2014 Base Table			Projected 2020 Table			Projected 2050 Table		
Age	Male	Female	Age	Male	Female	Age	Male	Female
50	0.003776	0.002468	50	0.003525	0.002367	50	0.002685	0.001807
60	0.007137	0.004626	60	0.007118	0.004714	60	0.005261	0.003530
70	0.016941	0.012549	70	0.016409	0.011871	70	0.012455	0.009030
80	0.050961	0.036168	80	0.048168	0.034546	80	0.035915	0.025595
90	0.172376	0.119146	90	0.164979	0.115535	90	0.125508	0.088364

Disabled Mortality

Adjusted RP-2014 Base Table			Projected 2020 Table			Projected 2050 Table		
Age	Male	Female	Age	Male	Female	Age	Male	Female
30	0.008794	0.003405	30	0.009051	0.003535	30	0.006678	0.002650
40	0.012218	0.006185	40	0.012703	0.006419	40	0.009821	0.004966
50	0.022659	0.013503	50	0.021153	0.012952	50	0.016114	0.009884
60	0.029557	0.019277	60	0.029479	0.019645	60	0.021788	0.014709
70	0.044824	0.031982	70	0.043417	0.030254	70	0.032955	0.023015
80	0.085120	0.069215	80	0.080455	0.066111	80	0.059989	0.048982

AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
June 30, 2018 (7.65% discount rate)

Date	Description	Notes	Amtz. Period	Initial Liability	Years Remain	Remaining Balance	Mid-Year Payment
2018	OAB	Note 1	11	1,865,658,900	11	1,865,658,900	282,605,097
2018	EAAB	Note 2,3	22	3,212,415,138	22	3,212,415,138	364,395,689
2018	2009 Experience G/L		21	2,649,671,932	21	2,649,671,932	248,135,823
2018	2010 Experience G/L		22	1,041,795,143	22	1,041,795,143	95,724,314
2018	2011 Experience G/L		23	(161,187,360)	23	(161,187,360)	(14,555,880)
2018	2012 Experience G/L		24	117,430,241	24	117,430,241	10,437,714
2018	2013 Experience G/L		25	(235,227,303)	25	(235,227,303)	(20,607,080)
2018	2013 Assump/Method Chg		25	800,613,800	25	800,613,800	70,137,746
2018	2014 Investment Experience		1	(97,884,609)	1	(97,884,609)	(101,559,704)
2018	2014 Assump/Method Change		26	1,391,743,126	26	1,391,743,126	120,314,857
2018	2014 Other Experience G/L		26	(155,613,842)	26	(155,613,842)	(13,452,667)
2018	2015 Experience G/L		27	(365,419,456)	27	(365,419,456)	(31,207,645)
2018	2016 Experience G/L		28	26,099,311	28	26,099,311	2,204,147
2018	2017 DR Change		29	133,872,677	29	133,872,677	11,190,233
2018	2017 Experience G/L		29	(214,968,532)	29	(214,968,532)	(17,968,924)
2018	2017 Experience Acct Allocation		9	9,198,905	9	9,198,905	1,398,683
2018	2018 DR Change		30	137,980,715	30	137,980,715	11,425,078
2018	2018 Assump Change		30	550,022,780	30	550,022,780	45,542,980
2018	2018 Change in Liability		30	(198,334,922)	30	(198,334,922)	(16,422,526)
2018	2018 Experience Acct Allocation		10	44,451,679	10	44,451,679	6,284,458
Total Outstanding Balance						10,552,318,323	\$ 1,054,022,393
Employers Credit Balance							
2018	2014 Contribution Variance	Note 3	-	-	-	-	-
2018	2015 Contribution Variance	Note 3	-	-	-	-	-
2018	2016 Contribution Variance	Note 3	-	-	-	-	-
2018	2017 Contribution Variance	Note 3	-	-	-	-	-
2018	2018 Contribution Variance	Note 3	-	-	-	-	-
Total Credit Balance						\$ -	\$ -
Total Unfunded Actuarial Accrued Liability						\$ 10,552,318,323	\$ 1,054,022,393

See UAL Amortization Schedule Notes within this Appendix.

AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
Projected June 30, 2019 (7.55% discount rate)

Date	Description	Notes	Amtz. Period	Initial Liability	Years Remain	Remaining Balance	Mid-Year Payment
2019	OAB	Note 1	10	1,715,166,249	10	1,715,166,249	223,172,330
2019	EAAB	Note 2,3	21	3,080,087,905	21	3,080,087,905	286,329,410
2019	2009 Experience G/L		20	2,594,919,708	20	2,594,919,708	246,378,482
2019	2010 Experience G/L		21	1,022,174,170	21	1,022,174,170	95,022,784
2019	2011 Experience G/L		22	(158,415,810)	22	(158,415,810)	(14,445,748)
2019	2012 Experience G/L		23	115,584,054	23	115,584,054	10,356,354
2019	2013 Experience G/L		24	(231,841,415)	24	(231,841,415)	(20,441,916)
2019	2013 Assump/Method Chg		24	789,089,675	24	789,089,675	69,575,597
2019	2014 Investment Experience		0	-	0	-	
2019	2014 Assump/Method Change		25	1,373,379,375	25	1,373,379,375	119,325,066
2019	2014 Other Experience G/L		25	(153,560,551)	25	(153,560,551)	(13,341,997)
2019	2015 Experience G/L		26	(360,994,702)	26	(360,994,702)	(30,944,558)
2019	2016 Experience G/L		27	25,809,006	27	25,809,006	2,185,135
2019	2017 DR Change		28	132,503,564	28	132,503,564	11,091,606
2019	2017 Experience G/L		28	(212,770,054)	28	(212,770,054)	(17,810,552)
2019	2017 Experience Acct Allocation		8	8,451,424	8	8,451,424	1,393,989
2019	2018 DR Change		29	136,682,205	29	136,682,205	11,322,321
2019	2018 Assump Change		29	544,846,623	29	544,846,623	45,133,368
2019	2018 Change in Liability		29	(196,468,431)	29	(196,468,431)	(16,274,822)
2019	2018 Experience Acct Allocation		9	41,331,823	9	41,331,823	6,261,051
2019	2019 DR Change (to 7.55%)		30	294,890,939	30	294,890,939	24,193,722
Total Outstanding Balance						\$ 10,560,865,757	\$ 1,038,481,622
Employers Credit Balance							
2019	2015 Contribution Variance	Note 3	-	-	-	-	-
2019	2016 Contribution Variance	Note 3	-	-	-	-	-
2019	2017 Contribution Variance	Note 3	-	-	-	-	-
2019	2018 Contribution Variance	Note 3	-	-	-	-	-
2019	2019 Contribution Variance	Note 3	5	2,306,984	5	2,306,984	550,557
Total Credit Balance						\$ 2,306,984	\$ 550,557
Total Unfunded Actuarial Accrued Liability						\$ 10,563,172,741	\$ 1,039,032,179

See UAL Amortization Schedule Notes within this Appendix.

UAL Amortization Schedule Notes

Act 497 of 2009 consolidated all schedules established prior to 2009 into two amortization schedules, the Original Amortization Base (OAB) and the Experience Account Amortization Base (EAAB). The OAB consists of the outstanding balance of the Initial Unfunded Accrued Liability and schedules with negative outstanding balances. The outstanding balance of this schedule was credited with funds from the Initial UAL account, excluding the subaccount of this fund, and the balance of the Employer Credit Account. The OAB payment schedule is prescribed by statute, as described in Note 1 below. The EAAB consists of the 2004 schedule and all remaining schedules. The outstanding balance of this schedule was credited with the balance of funds from the Initial UAL subaccount, which were transferred from the Employee Experience Account on June 30, 2009. The EAAB payment schedule is prescribed by statute, as described in Note 2 below.

All schedules were re-amortized effective July 1, 2018, using a discount rate of 7.65%. Projected July 1, 2019 schedules are based on a 7.55% discount rate and include the re-amortization of the OAB and EAAB to the originally statutory pay-off dates, per Act 94 of 2016.

Note 1: Act 497 of 2009 created the Original Amortization Base, effective July 1, 2010, which combined the following schedules: 1993-1996, 1998-2000, and 2005-2008. The combined balance was reduced by applying funds from the IUAL Fund, excluding the subaccount of this fund. In addition to regular payments and contribution variance credits, the schedule was reduced by investment gains up to the annual “thresholds” created by Act 497 of 2009 and Act 399 of 2014. The schedule was credited appropriations from Act 55 of 2014, Act 56 of 2015 and Act 59 of 2018. Future payments will increase by 2.0% until paid off in or before 2029.

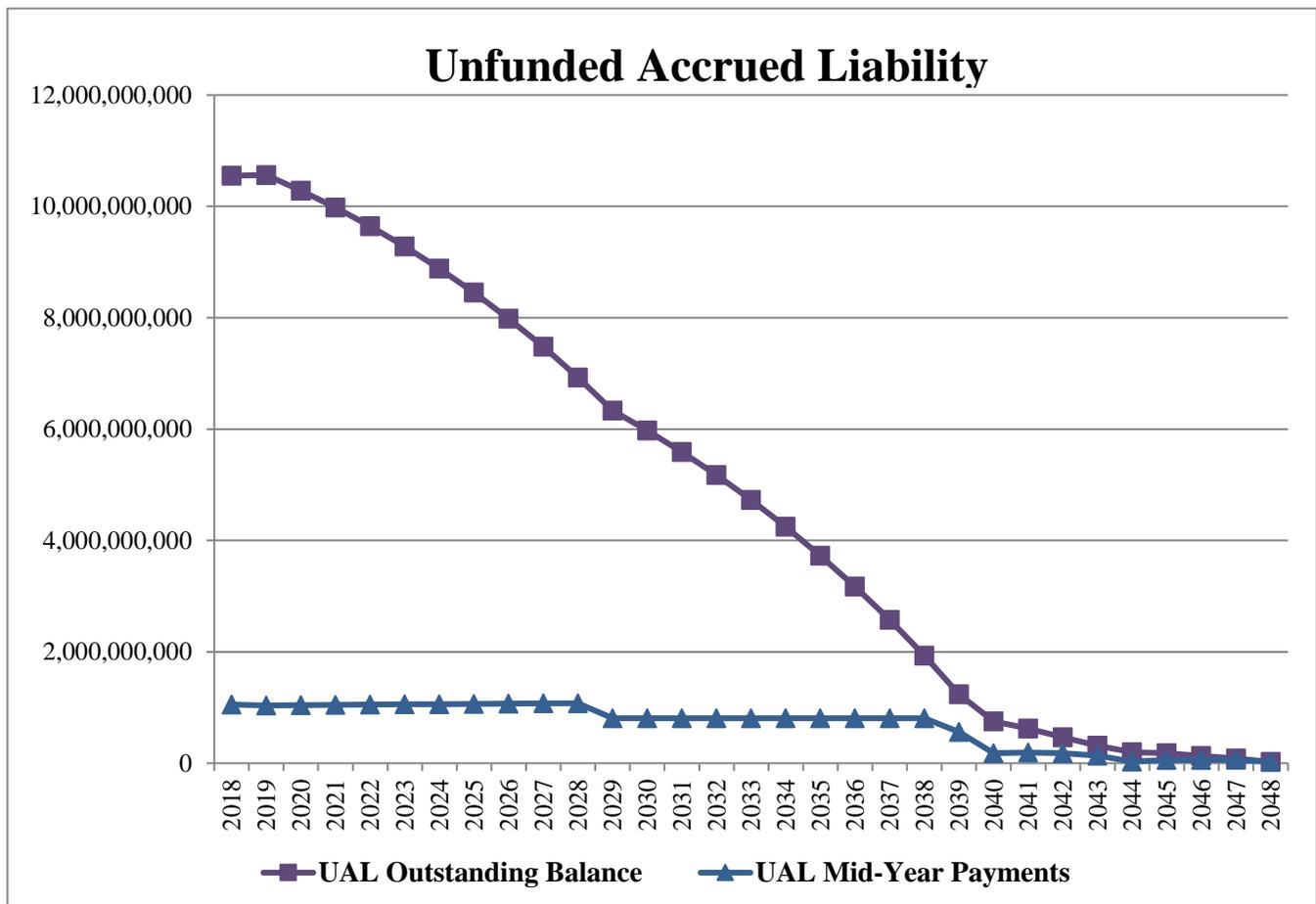
Note 2: Act 497 of 2009 created the Experience Account Amortization Base, which combined the following schedules: 1997, 2001-2003, 2004 (the liability resulting from Act 588 of 2004 which zeroed out the Experience Account), and 2008. The combined balance was reduced by applying funds from the subaccount of the IUAL Fund, which were transferred from the Experience Account on June 30, 2009. In addition to regular payments and contribution variance credits, the schedule was reduced by investment gains up to the annual “thresholds” created by Act 497 of 2009 and Act 399 of 2014. Future payments will be level until paid off in or before 2040.

Note 3: The 2012 contribution variance surplus of \$7,169,301 was used to reduce and re-amortize the EAAB, per Act 497 of 2009. The 2014, 2015, 2016, 2017, and 2018 contribution variance surpluses of \$40,289,648, \$91,284,653, \$64,452,206, \$15,672,044, and \$61,466,736 respectively, were used to reduce the EAAB, per Act 399 of 2014.

UAL Outstanding Balance and Payment Schedule
Based on June 30, 2019 Projected UAL Schedules*

FY Beginning	UAL Outstanding Balance (Millions)	UAL Mid-Year Payments (Millions)	Payment % Change	FY Beginning	UAL Outstanding Balance (Millions)	UAL Mid-Year Payments (Millions)	Payment % Change
2018	10,552	1,054	0.0%	2034	4,247	808	0.0%
2019	10,563	1,039	-1.4%	2035	3,730	808	0.0%
2020	10,283	1,043	0.4%	2036	3,174	808	0.0%
2021	9,977	1,048	0.4%	2037	2,576	808	0.0%
2022	9,644	1,053	0.4%	2038	1,933	808	0.0%
2023	9,280	1,057	0.4%	2039	1,241	561	-30.5%
2024	8,884	1,062	0.4%	2040	753	180	-67.9%
2025	8,454	1,067	0.5%	2041	623	194	8.0%
2026	7,986	1,072	0.5%	2042	469	184	-5.3%
2027	7,478	1,075	0.3%	2043	313	135	-26.7%
2028	6,927	1,074	-0.1%	2044	197	29	-78.6%
2029	6,336	808	-24.8%	2045	182	60	107.1%
2030	5,976	808	0.0%	2046	133	58	-3.7%
2031	5,590	808	0.0%	2047	84	64	11.7%
2032	5,174	808	0.0%	2048	23	24	-62.4%
2033	4,728	808	0.0%	2049	0	0	-100.0%

* Based on projected 2019 schedules to show UAL payments after re-amortization of the OAB and EAAB.



Components of Original Amortization Base
(Dollar amounts in millions)

	Annual Outstanding Balance					Annual Payments				
	Employer					Employer				
	IUAL	Other Schedules	IUAL Acct	Credit Account	Total OAB	IUAL	Schedules	IUAL Acct	Credit Account	Total OAB
2018	5,578.5	(3,272.6)	(351.9)	(88.2)	1,865.7	845.0	(495.7)	(53.3)	(13.4)	282.6
2019	5,128.5	(3,008.7)	(323.6)	(81.1)	1,715.2	861.9	(505.6)	(54.4)	(13.6)	288.3
2020	4,626.6	(2,714.2)	(291.9)	(73.2)	1,547.3	879.1	(515.7)	(55.5)	(13.9)	294.0
2021	4,068.4	(2,386.7)	(256.7)	(64.3)	1,360.7	896.7	(526.1)	(56.6)	(14.2)	299.9
2022	3,449.2	(2,023.5)	(217.6)	(54.5)	1,153.6	914.7	(536.6)	(57.7)	(14.5)	305.9
2023	2,764.1	(1,621.6)	(174.4)	(43.7)	924.4	932.9	(547.3)	(58.9)	(14.8)	312.0
2024	2,007.6	(1,177.8)	(126.7)	(31.7)	671.4	951.6	(558.3)	(60.0)	(15.0)	318.3
2025	1,173.8	(688.6)	(74.1)	(18.6)	392.6	970.6	(569.4)	(61.2)	(15.4)	324.6
2026	256.6	(150.5)	(16.2)	(4.1)	85.8	266.2	(156.2)	(16.8)	(4.2)	89.0
2027	-	-	-	-	-	-	-	-	-	-
2028	-	-	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-	-	-

This table has changed from previously published tables due to legislative appropriation allocated to the IUAL and the change in discount rate from 7.70% to 7.65%. Note, the OAB will be re-amortized on June 30, 2019 to 2029, the originally scheduled payoff date of the IUAL.

GLOSSARY

Accrued Benefit – The pension benefit that an individual has earned as of a specific date based on the provisions of the plan and the individual's age, service, and salary as of that date.

Actuarial Accrued Liability – Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the actuarial present value of benefits attributable to service credit earned (or accrued) as of the valuation date.

Actuarial Present Value of Benefits – Amount which, together with future interest, is expected to be sufficient to pay all benefits to be paid in the future, regardless of when earned, as determined by the application of a particular set of actuarial assumptions; equivalent to the actuarial accrued liability plus the present value of future normal costs attributable to the members.

Actuarial Assumptions – Assumptions as to the occurrence of future events affecting pension costs. These assumptions include rates of investment earnings, changes in compensation, rates of mortality, withdrawal, disablement, and retirement as well as statistics related to marriage and family composition.

Actuarial Cost Method – A method of determining the portion of the cost of a pension plan to be allocated to each year; sometimes referred to as the "actuarial funding method." Each cost method allocates a certain portion of the actuarial present value of benefits between the actuarial accrued liability and future normal costs.

Actuarial Equivalence – Series of payments with equal actuarial present values on a given date when valued using the same set of actuarial assumptions.

Actuarial Present Value - The amount of funds required as of a specified date to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payments between the specified date and the expected date of payment.

Actuarial Value of Assets – The value of cash, investments, and other property belonging to the pension plan as used by the actuary for the purpose of the actuarial valuation. This may correspond to market value of assets, or some modification using an asset valuation method to reduce the volatility of asset values.

Actuarially Reduced – The method of adjusting a benefit received at an early date or paid in a form other than the lifetime of the member so that the expected total cost to the retirement system is equivalent to the cost if the benefit did not begin until later, or was paid for the lifetime of the member.

Asset Gain (Loss) – That portion of the actuarial gain attributable to investment performance above (below) the expected rate of return in the actuarial assumptions.

Amortization – Paying off an interest-discounted amount with periodic payments of interest and (generally) principal, as opposed to paying off with a lump sum payment.

Amortization Payment – That portion of the pension plan contribution designated to pay interest and reduce the outstanding principal balance of unfunded actuarial accrued liability. If the amortization payment is less than the accrued interest on the unfunded actuarial accrued liability the outstanding principal balance will increase.

GLOSSARY

Contribution Variance – The difference between actuarially required contribution and the actual amount received based upon a projected contribution rate. Results in an increase or decrease to future required contributions.

Discount Rate – The interest rate used in developing present values to reflect the time value of money.

Decrements – Events which result in the termination of membership such as retirement, disability, withdrawal, or death.

Employer Normal Cost – Portion of the normal cost, excluding administrative expenses, not paid by employee contributions.

Entry Age Normal (EAN) Funding Method – A standard actuarial funding method whereby each member's normal costs (service costs) are generally level as a percentage of pay from entry age until retirement. The annual cost of benefits is comprised of the normal cost plus an amortization payment to reduce the UAL.

Experience Gain (Loss) – The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities during the period between two valuation dates. It is a measurement of the difference between actual and expected experience and may be related to investment earnings above (or below) those expected or changes in the liability due to fewer (or greater) than expected numbers of retirements, deaths, disabilities, or withdrawals, or variances in pay increases relative to assumed pay increases. The effect of such gains (or losses) is to decrease (or increase) future costs.

Experience Account Amortization Base (EAAB) – Amortization base created in 2010 by Act 497 of 2009. Consolidated and re-amortized schedules created in the following valuation years, which existed prior to Act 497: 1997, 2001-2003, 2004 (the liability resulting from Act 588 of 2004 which zeroed out the Experience Account), and 2008. The new combined balance was credited with funds from the sub-account of the IUAL Fund, which were transferred from the Experience Account on June 30, 2009. See Note 2 in Appendix D for additional details.

Funded Ratio – A measure of the ratio of the actuarial value of assets to liabilities of the system. Typically, the assets used in the measure are the actuarial value of assets as determined by the asset valuation method adopted by the Board of Trustees; the liabilities are determined using the actuarial funding method specified by Louisiana statute. Thus, the funded ratio depends not only on the financial strength of the plan but also on the asset valuation method used to determine the assets and on the actuarial cost method used to determine the liabilities.

Governmental Accounting Standards Board (GASB) – Governmental agency that sets the accounting standards for state and local government operations.

Market Value of Assets (MVA) – The value of assets as they would trade on an open market.

Normal Cost – Computed differently under different funding methods, generally that portion of the actuarial present value of benefits allocated to the current plan year.

Original Amortization Base (OAB) – Amortization base created in 2010 by Act 497 of 2009. Consolidated and re-amortized schedules created in the following valuation years, which existed prior to Act 497: 1993 (Initial Unfunded Accrued Liability), 1993 (Change in Liability), 1994-1996, 1998-2000, and 2005-2008. See Note 1 in Appendix D for additional details.

GLOSSARY

Permanent Benefit Increase – An increase in specified current retiree benefits authorized by statutes.

Projected Benefits – The benefits expected to be paid in the future based on the provisions of the plan and the actuarial assumptions. The projected values are based on anticipated future advancement in age and accrual of service as well as increases in salary paid to the participant.

Projected Unit Credit (PUC) Funding Method – A standard actuarial funding method whereby the actuarial present value of projected benefits of each individual is accumulated from the participant's attained age to anticipated retirement. The portion attributable to current year benefit accruals is called the normal cost. The actuarial present value of future benefits in proportion to service accrued on the date of valuation is called the actuarial accrued liability. The annual cost of benefits is comprised of the normal cost plus an amortization payment to reduce the unfunded actuarial accrued liability.

Public Retirement Systems' Actuarial Committee (PRSAC) – A committee created by state law within the Louisiana Department of the Treasury to ensure orderly and consistent strategies for continuing development and growth that will attain and maintain the soundness of the public retirement systems, plans and funds and to report all findings and recommendations to the House and Senate committees on retirement and the Joint Legislative Committee on the Budget.

Side-Fund Assets – Assets held in the trust for purposes other than for paying the accrued benefits or administrative expenses of the plan.

Unfunded Actuarial Accrued Liability (UAAL or UAL) – The excess of the actuarial accrued liability over the valuation assets; sometimes referred to as "unfunded past service liability". UAL increases (decreases) each time an actuarial loss (gain) occurs and when new benefits are added without being fully funded initially.

Valuation Assets – The actuarial value of assets less side-fund assets; represents the portion of the actuarial value of assets available to pay the accrued benefits of the plan.

Vested Benefit – Benefits that the members are entitled to regardless of employment status.